
PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Consumptive Sturgeon Fishery-Hells Canyon And Oxbow Reservoirs

BPA project number: 20135
Contract renewal date (mm/yyyy): 1/1999 **Multiple actions?**

Business name of agency, institution or organization requesting funding
Nez Perce Tribe

Business acronym (if appropriate) NPT

Proposal contact person or principal investigator:

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NPPC Program Measure Number(s) which this project addresses

Measure 10.4A.5 calls for Bonneville Power Administration to "...fund an evaluation of a put-and-take consumptive sturgeon fisheries in Hells Canyon and Oxbow Reservoir..."

FWS/NMFS Biological Opinion Number(s) which this project addresses

Other planning document references

Section 6.6.6.1.A of the Resident Fish Multi-Year Implementation Plan (CBFWA 1997) addresses the need to provide fishery opportunities for white sturgeon in the Upper Snake River subregion to the maximum extent allowable by existing habitat capacity of mainstem reservoirs given reductions caused by hydropower development and operations.

Short description

Provide fishery opportunities for white sturgeon in Oxbow and Hells Canyon reservoirs to mitigate for loss of white sturgeon fisheries in Columbia and Snake River basins due to hydropower development and operations.

Target species
White Sturgeon

Section 2. Sorting and evaluation

Subbasin
Upper Snake

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
<input type="checkbox"/> Anadromous fish <input checked="" type="checkbox"/> Resident fish <input type="checkbox"/> Wildlife	<input checked="" type="checkbox"/> Multi-year (milestone-based evaluation) <input type="checkbox"/> Watershed project evaluation	<input type="checkbox"/> Watershed councils/model watersheds <input type="checkbox"/> Information dissemination <input type="checkbox"/> Operation & maintenance <input type="checkbox"/> New construction <input type="checkbox"/> Research & monitoring <input checked="" type="checkbox"/> Implementation & management <input type="checkbox"/> Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description
	N/A

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
9700900	Evaluation of white sturgeon in the Snake River	Monitors movement and impacts of augmented fish on Hells Canyon Reach population.
8806400	Kootenai River White Sturgeon Study and Aquaculture	Provides technical support on aquaculture of white sturgeon.
8605000	White Sturgeon Productivity Status and Habitat Requirements	Provides information dealing with the assessment of productivity and habitat requirements of white sturgeon, genetic variation in the basin, and identifies potential donor

		populations.

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1999	Development of white sturgeon management and augmentation plans for Hells Canyon and Oxbow reservoirs	(see objective 1a)
1999	Identification of source(s) for the white sturgeon needed to meet stocking objectives	(see objectives 2a and 2b)
1999	Begin pilot white sturgeon augmentation to evaluate fishery potentials in Hells Canyon and Oxbow reservoirs	(see objective 1b)

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Develop put-and-take fisheries providing an annual harvest of at least 250 white sturgeon > 90 cm in length in both Hells Canyon and Oxbow Reservoirs.	a	Develop initial augmentation plans for Hells Canyon and Oxbow Reservoirs which outline methods for evaluation and monitoring of potential fisheries.
		b	Release of white sturgeon in one or both reservoirs.
		c	Monitor growth, condition, survival and catch/exploitation rates of released fish.
		d	Evaluate fisheries and refine stocking rates based on evaluation of survival, growth, condition, and catch rates/exploitation rates from the previous stockings.
2	Identify a source for white sturgeon to meet stocking needs.	a	Assess the capacity at the current NPT white sturgeon facility and at alternative spawning and rearing facilities.
		b	Determine whether white sturgeon

			can be transferred from existing populations in the Snake and/or Columbia Rivers to Oxbow and Hells Canyon reservoirs without impacting the donor population.
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Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	1/1999	5/1999	1a- Development of management plan in cooperation with other regional agencies	Management Plan	0.00%
	10/1999		1b- Augment sturgeon populations in reservoirs	on going-- anticipate yearly augmentation	30.00%
	5/2000		1c- Monitor	on going-- quarterly evaluation of fishery potential	60.00%
	2/2000		1d- Refine and evaluate management plan based on monitoring data	on going -- until populations and harvest stabilizes	10.00%
2	1/1999	1/2000	2a - Assess sources of hatchery sturgeon	Source of hatchery fish for augmentation needs	0.00%
	1/1999	1/2000	2b- Assess potential for transferring fish from donor populations	Source of wild fish for augmentation needs	0.00%
				Total	100.00%

Schedule constraints

Availability of sturgeon stocks/sizes/ages, and/or the identification of donor populations may delay the release of fish in 1999 and the subsequent evaluation and monitoring of growth, survival, and carrying capacity of the reservoirs.

Completion date

Development of management plan will be completed by 2000. Evaluation of potential of fisheries completed by 2001. Implementation of final augmentation and monitoring plan if approved by the Council beginning in 2001 and continued as an on going task.

Section 5. Budget

FY99 project budget (BPA obligated): \$250,000

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel	2 FTEs - Project Biologist, Technician	%28	70,000
Fringe benefits	20%	%6	14,000
Supplies, materials, non-expendable property	Fish / sampling gear / office supplies / field trailer	%24	60,000
Operations & maintenance	GSA vehicles / boat operation /office expenses	%14	34,200
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		%0	
NEPA costs		%0	
Construction-related support		%0	
PIT tags	# of tags: 2000	%2	5,800
Travel	to field site / field per diems / other	%3	8,000
Indirect costs	23 %	%23	58,000
Subcontractor		%0	
Other		%0	
TOTAL BPA FY2000 BUDGET REQUEST			\$250,000

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount (\$)
N/A		%0	
		%0	
		%0	
		%0	
Total project cost (including BPA portion)			\$250,000

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	\$250,000	\$250,000	\$250,000	\$150,000

Section 6. References

Watershed?	Reference
<input type="checkbox"/>	Columbia Basin Fish and Wildlife Authority. 1997 Draft multi-year implementation plan for resident fish protection, enhancement, and mitigation in the Columbia River Basin. CBFWA. Planning Document. Potland,OR.
<input type="checkbox"/>	Nielsen, L.A. and D.L. Johnson. 1983. Fisheries Techniques. American Fisheries Society. Bethesda, MD.
<input type="checkbox"/>	Northwest Power Planning Council. 1994. Columbia River Basin Fish and Wildlife Program. Report 94-48. Portland, OR.
<input type="checkbox"/>	

PART II - NARRATIVE

Section 7. Abstract

Measure 10.4A.5 of the NPPC Fish and Wildlife Program calls for Bonneville Power Administration to “...fund an evaluation of a put-and-take consumptive sturgeon fisheries in Hells Canyon and Oxbow Reservoir, and assess the production capacity at existing Nez Perce Tribe sturgeon rearing facility.” White sturgeon were once abundant throughout the Columbia River Basin and in the Upper Snake River subregion. However, numbers have been drastically reduced. The development and operation of mainstem dams on the Columbia and Snake Rivers have modified natural flow regimes, reduced spawning habitat, and blocked migration. Historically the Nez Perce people harvested white sturgeon in the Snake River for subsistence purposes. However, because of the lack of white sturgeon, subsistence harvest by the Nez Perce has been severely limited. There is no known natural production of white sturgeon in Hells Canyon and Oxbow reservoirs. The goal of this program is to develop and implement a fishery augmentation program to restore subsistence harvest of white sturgeon in Hells Canyon and Oxbow Reservoirs to partially mitigate for losses of white sturgeon in these and other reaches of the Snake River. Although flow and habitat limit white sturgeon spawning in these reservoirs, conditions are suitable for rearing. Increasing numbers of white sturgeon in these impoundments through fisheries augmentation we believe can once again provide harvest opportunities. We propose augmenting the white sturgeon remaining in Oxbow and Hells Canyon Reservoirs with hatchery production and/or natural production transferred from a Snake or Columbia River donor population. Augmentation would provide an annual harvest of approximately 250 white sturgeon greater than 90 cm in both Hells Canyon and Oxbow reservoirs (500 total) for both tribal and non-tribal fishers.

Section 8. Project description

a. Technical and/or scientific background

This project represents an extremely rare and unique opportunity to create a tribal and non-tribal consumptive fishery for white sturgeon with virtually no impact to naturally spawning populations. The use of hatchery production or the transfer of natural production from a donor population to create a consumptive white sturgeon fishery would provide the first non-tribal harvest of white sturgeon in the project area since 1970. If successful augmentation of the Oxbow and Hells Canyon Reservoir populations would provide an estimated annual harvest of at least 250 white sturgeon greater than 90 cm in both reservoirs for both tribal and non-tribal fishers.

Fishing for white sturgeon in Idaho has been limited to catch-and-release since 1970 due to depressed populations. Development of the hydropower system has created impoundments throughout the basin that have altered habitat and the movement of white sturgeon and their principal food sources. As a result, it is hypothesized: 1) that natural production of white sturgeon is less than what it was before development and operation of the hydropower system, 2) that white sturgeon rearing habitat in many areas is underseeded because of the reduction in spawning habitat caused by the hydropower system development and operations, 3) that white sturgeon production can be significantly enhanced by some combination of spawning and rearing habitat restoration and supplementation, and 4) that naturally spawning white sturgeon populations can be preserved and optimum rates of production can be restored while concurrently maintaining conservative tribal and recreational fishing opportunities (CBFWA 1997).

Natural production of white sturgeon in Hells Canyon and Oxbow Reservoirs is absent due to dam and reservoir construction and operation. Current surveys of the status of the remaining white sturgeon in Oxbow and Hells Canyon Reservoirs found no fish in Oxbow Reservoir and only a few in Hells Canyon Reservoir (personal communication; Ken Lepla, Idaho Power Co.). The fish recovered from Hells Canyon Reservoir were identified as older fish trapped in the pool by the dams in the 1970s, and those stocked in 1991 and 1994 by IDFG. Although the fish were in good condition there was no evidence that successful spawning has occurred in the reservoirs. This suggests that although natural production is no longer occurring in the reservoirs, favorable conditions for sturgeon growth (rearing) is available. Thus, white sturgeon production in these impoundments would be significantly enhanced by supplementation.

Traditionally, the Nez Perce People harvested white sturgeon for subsistence purposes. However, subsistence fishing has been severely limited as a result of low sturgeon numbers. Catch-and-release fishing does not serve the subsistence and cultural needs of the Nez Perce Tribe. We feel that with augmentation, subsistence harvest of white sturgeon in Hells Canyon and Oxbow Reservoirs can be restored and will partially mitigate for losses of white sturgeon in other reaches of the Snake River.

The Northwest Power Planning Council's Fish and Wildlife Program under section 10.4 acknowledges the impacts of hydropower on white sturgeon populations in the Columbia and Snake River basins (NPPC 1995). To mitigate for the resulting losses the Council has enabled the Nez Perce Tribe in coordination with Idaho Department of Fish and Game (IDFG), and Oregon Department of Fish and Wildlife (ODFW) and other appropriated state agencies and tribes to evaluate a put-and-take consumptive white sturgeon fishery in Hells Canyon and Oxbow Reservoirs. The Council hypothesizes that with augmentation, subsistence harvest in Hells Canyon and Oxbow Reservoirs can be

restored and will partially mitigate for losses of white sturgeon in these and other reaches of the Snake River.

We believe that the augmentation of Hells Canyon and Oxbow Reservoirs would pose minimal risk to remaining wild white sturgeons and other native fish populations. The supplementation of the population with hatchery produced fish would cause minimal risks to naturally spawning populations downstream from Hells Canyon and upstream from Brownlee dams. Regional co-managers and sturgeon experts have indicated that, from the standpoint of white sturgeon, these reservoirs are closed systems. Interactions with naturally producing wild sturgeon populations either upstream or downstream from the project area are not anticipated. During intensive surveys in 1997 and 1998 in the Hells Canyon Reach directly below Hells Canyon Dam no hatchery fish stocked in Hells Canyon Reservoir were detected (personal communication, Ken Lepla, Idaho Power Co.).

In addition, at the proposed stocking densities we do not anticipate a major impact on other native species that have co-evolved with white sturgeon. Historically, white sturgeon densities in these reaches far exceeded current levels and proposed stocking densities are low relative to historical levels. These two reservoirs constitute former riverine ecosystems that have been dramatically altered through hydropower development. Populations of stocked exotic species (bass, crappies, etc.) have increased in response to these alterations. We believe the magnitude of these disturbances dwarfs potential impacts that may be associated with the reintroduction and maintenance of a native species.

b. Rationale and significance to Regional Programs

The Northwest Power Council's Fish and Wildlife Program under section 10.4 acknowledges the impacts of hydropower on white sturgeon populations in the Columbia and Snake River basins (NPPC 1995). To mitigate for the resulting losses measure 10.4A.5 of the Council's calls for Bonneville Power Administration to:

“...fund an evaluation of a put-and-take consumptive sturgeon fishery in Hells Canyon and Oxbow reservoirs. The study may include the production of test fish at the existing Nez Perce Tribe sturgeon rearing facility.”

The impacts of hydropower development on white sturgeon is also addresses by the Columbia River Fish and Wildlife Authority's Resident Fish Multi-Year Implementation Plan (CBFWA 1997). Section 6.6.6.1.A of the plan addresses the need to:

“Provide fishery opportunities for white sturgeon to the maximum extent allowable by existing habitat capacity of mainstem reservoirs given reductions caused by hydropower development and operations.”

c. Relationships to other projects

A number of BPA programs address the impacts of hydropower on white sturgeon in the Columbia River basin. These projects have found that a number of white sturgeon populations have been severely impacted and fishing opportunities reduced. The development of alternative white sturgeon fishing opportunities through augmentation may reduce the pressures on impacted populations.

Sturgeon work throughout the basin is highly cooperative. As a member of the Columbia River Sturgeon Cooperators Group the Tribe will continue to work with and in cooperation with other BPA projects. For example:

The *White Sturgeon Productivity Status and Habitat Requirements* BPA Project # 8605000 is designed as a cooperative effort among the agencies involved in restoration and enhancement of white sturgeon populations in the Columbia and Snake River basins. Current tasks include the identification and evaluation of approaches to supplement recruitment and rebuild populations, the assessment of Columbia and Snake River sturgeon genetics, and the evaluation of transplantation as a tool to augment declining sturgeon stocks. Information derived from this project will be used to identify suitable donor populations, determine augmentation densities, identify potential genetic risks to other populations, and devise methodologies for assessing the success of the program. We will be working closely with a number of the 8605000 researchers in our cooperative effort with the IDFG and ODFW while developing a management plan for the augmentation of Oxbow and Hells Canyon Reservoirs.

The *Evaluation of Rebuilding the White Sturgeon Population in the Snake River (L. Granite to Hells Canyon dams)* BPA Project #9700900 is assessing the Snake River white sturgeon population between Hells Canyon and Lower Granite Dams. Although we do not anticipate the migration of augmented sturgeon into the Hells Canyon Reach below the dam potential impacts of the augmentation of Hells Canyon Reservoir on the Hells Canyon Reach white sturgeon populations will be monitored by this project.

The *Kootenai River White Sturgeon Study and Aquaculture* BPA 8806400 program has been operating and maintaining a white sturgeon hatchery and is currently providing technical assistance and training to NPT personnel. In addition, the knowledge we gain regarding post-release growth, condition, and survival in Hells Canyon and Oxbow reservoirs may aid their efforts to recovery of the Kootenai River white sturgeon.

d. Project history (for ongoing projects)

The project is scheduled to begin in 1999. A detailed management plan will be completed during the first year of the project which will outline implementation, evaluation, and monitoring of the augmentation program designed to provide an annual harvest of at least 250 white sturgeon 90 cm in length in both Hells Canyon and Oxbow Reservoir. A source for white sturgeon to meet annual harvest goals will also be identified.

Per Northwest Power Planning Council Program measure 10.4A.5, this plan will be developed in coordination with the appropriate state agencies and tribes, including IDFG and ODFW. Prior to implementation the plan will be submitted for Council review and approval. A pilot test augmentation is proposed for the first year if fish are available.

Information from the monitoring of this augmentation will be used to evaluate the potential for developing white sturgeon fisheries.

e. Proposal objectives

Objective 1) Develop a put-and-take fishery providing an annual harvest of at least 250 white sturgeon > 90 cm in length in each Hells Canyon and Oxbow Reservoirs.

Assumptions: Carrying capacity of Hells Canyon and Oxbow Reservoirs is underutilized due to loss of spawning habitat. Excess capacity to rear sturgeon is available. Although water quality has been affected by anthropomorphic sources of nutrients, stable white sturgeon abundances, biomass, age composition and angler success rates can be maintained. Effective post-release monitoring and evaluation of augmented white sturgeon will provide information about growth and survival needed to optimize project benefits.

Hypotheses: Post-release instantaneous natural mortality (M) would be near 0.13, as identified for sturgeon below Hells Canyon Dam (Lukens 1985). Instantaneous fishing mortality (F) would be at least 0.70. Total instantaneous mortality (Z) would be 0.83. Annual growth of post-release sturgeon would average at least 6 cm. Rearing conditions in Hells Canyon Reservoir can support an average annual population of about 530 sturgeon from 95 cm to 125 cm.

Task 1.1 Develop plans for Hells Canyon and Oxbow Reservoirs which outline the implementation, evaluation, and monitoring of the augmentation of white sturgeon to provide an annual harvest of at least 250 white sturgeon 90 cm in length in both Hells Canyon and Oxbow reservoirs. This plan will be developed in consultation with appropriate agencies, including the IDFG and ODFW.

Product: Fishery augmentation plan for Hells Canyon and Oxbow Reservoirs.

Task 1.2 Release white sturgeon in one or both reservoirs. Initial augmentation of white sturgeon is proposed for the summer of 1999 following recommendations of the management plan developed for Hells Canyon and Oxbow Reservoirs (see Task 1.1). Fish maybe obtained from commercial sources and/or transplanted from a suitable donor population. Sources for white sturgeon will be identified during the spring of 1999. We propose that at least initially 900 white sturgeon representing three or more age classes per reservoir are stocked. Numbers and age/size classes will be partially dependent on availability of stocks, but will reflect projected age compositions generated by population modeling. The actual numbers of fish, size classes, and source of fish stocked will reflect recommendations outlined in the Hells Canyon and Oxbow Reservoirs management plan.

Product: White sturgeon fisheries in Oxbow and/or Hells Canyon reservoirs.

Task 1.3 Monitor growth, condition, and survival of released fish and exploitation rate. All fish will be marked prior to release with a PIT tag, and additional

external marks (scute removal in patterns reflecting the year of release). The fisheries will be intensively monitored and evaluated (i.e., harvest, effort, catch /exploitation rates; Nielsen and Johnson 1983). Length, weight and associated structural indices will be monitored from the creel and/or direct sampling (Nielsen and Johnson 1983). Direct sampling, if needed will start three months after release, fish will be recaptured (using setlines, gill nets) and growth and condition determined from length and weight measurements. To assess habitat availability and use spatial and temporal distributions of the fish will be monitored using sonic/radio telemetry (Nielsen and Johnson 1983).

Product: Data on survival, growth, and condition of the fish, and also spatial and temporal distributions will be used to assess reservoir carrying capacity.

Task 1.4 Refine management plans and stocking rates based on evaluation of survival, growth rates, condition, and catch rates/exploitation from the pilot stocking and fishery programs in Hells Canyon and Oxbow Reservoirs. Evaluate potential of the fisheries.

Product: Assessment of current and future fish stocking needs. Based on this information, and in consultation with IDFG and ODFW, fish stocking plans for the following years will be refined to optimize project benefits.

Objective 2) Identify a supply source for white sturgeon stocking.

Assumptions: White sturgeon spawned and reared in a hatchery, and/or transplanted from donor populations (without impacting the donor populations) can provide viable a consumptive fisheries in Hells Canyon and Oxbow Reservoirs. The emigration out of the reservoirs will be minimal and will not pose a risk to natural spawning sturgeon populations downstream from Hells Canyon Dam.

Hypotheses: The current NPT white sturgeon rearing facility has sufficient available capacity to spawn and produce the white sturgeon needed to stock Hells Canyon and Oxbow Reservoirs. This production is sufficient to achieve production goals, or an alternative source can be identified to provide enough fish to maintain a viable consumptive put-and-take fisheries in Hells Canyon and Oxbow Reservoirs. White sturgeon can be transferred from existing populations in the Snake and/or Columbia Rivers without affecting recruitment in the donor population.

Task 2.1 Assess the capability of the current NPT white sturgeon facility and/or alternative sites to spawn and rear white sturgeon to meet augmentation needs.

Product: Identify production sources (NPT white sturgeon production facility, and/or other production facilities) to stock Hells Canyon and Oxbow reservoirs to maintain an annual harvest of at least 250 white sturgeon greater than 90 cm in length.

Task 2.2 Determine whether white sturgeon can be transferred from existing populations in the Snake or Columbia Rivers to Oxbow and Hells Canyon Reservoirs without affecting impacting donor population. Identify populations of

white sturgeon with high recruitment of young and limited population growth. Assess whether a successful transplanting program can be developed to stock Hells Canyon and Oxbow Reservoirs with no significant impact to the donor population.

Product: Identify stocking needs for Hells Canyon and Oxbow Reservoirs to maintain a per reservoir annual harvest of at least 250 white sturgeon greater than 90 cm in length, and determine how stocking needs may be met using transplanted naturally produced fish.

f. Methods

A detailed management plan will be formulated during the first year of the project. The plan will outline the implementation, evaluation, and monitoring of the proposed augmentation program designed to provide an annual harvest of at least 250 white sturgeon 90 cm in length in both Hells Canyon and Oxbow Reservoir. Per Northwest Power Planning Council Program measure 10.4A.5 this plan will be developed in coordination with the appropriate state agencies and tribes, including IDFG and ODFW. A pilot augmentation of 900 fish per reservoir is proposed for 1999 to collect data to evaluate the potential of the fisheries, and refine stocking and management plan. However, prior to implementation the plan will be submitted for Council review and approval.

Specifics on methodologies at this time are tentative. The implementation section of the plan will include an analysis of: 1) existing reservoir conditions/limitations and an estimate of carrying capacity, 2) relative stocking densities, 3) preferred size or age structure of fish stocked, 4) stocking strategies, and 5) sources of appropriate sturgeon stocks needed to meet the project goal. Additional needs for the plan may be identified by regional managers. The implementation plans will also consider the life history and biology of the white sturgeon. The evaluation and monitoring section of the plan will fully address the methodologies to assess the success and effects of the program. All fish will be marked prior to release with a PIT tag, and possibly an external tag and/or external mark, so changes in individual can be tracked. The monitoring plan will identify the 1) specific parameters (i.e., weight, length, conditions, growth, etc.) that will be tracked to evaluate the program, 2) sampling design, and 3) methods for statistical and biological evaluation. It is also likely that only a small proportion of the fish stocked will actually be recaptured. The number of fish stocked initially will need to be high enough to allow statistical confidence in evaluations of growth and condition estimated from our recapture data. How this information will be used to revise future stocking rates and optimize benefits will also be identified.

Evaluations of the movement and distribution of a sample of the fish released using radio and sonic tags have also been proposed. This information may provide information on how and what portions of the reservoirs are being used. If this study is under taken, a study design that considers sampling size, field protocol and analysis will be developed.

g. Facilities and equipment

Project personnel initially will be stationed at the NPT Department of Fisheries Resources field office in Orofino, ID. The Orofino field station provides office space, storage buildings, and a fenced compound to secure vehicles, boats and trailer. Also available at the NPT fisheries field office in Enterprise, OR.

Field and office equipment needed for initial augmentation is available from other NPT Fisheries Projects being funded under the BPA Umbrella Agreement. Operational cost for vehicles (GSA) is included in yearly budget projections. The first year the budget included the costs for a computer lease. The second year the budget includes the cost for a trailer to house personnel during the field season at remote reservoir sites.

In 1995 NPT entered into an agreement with the Public Utility District of Asotin County (PUD) to use the facility and existing water resources at the PUD facility in Clarkston Heights to raise a white sturgeon. Currently the facility houses the offices and equipment of the White Sturgeon Research Program. The potential production capacity at this site will be investigated the first year of the project to determine if the Clarkston facility can produce the white sturgeon needed to meet the needs of the Hells Canyon and Oxbow consumptive white sturgeon fisheries programs.

h. Budget

Budget justifications presented in section reflect costs to evaluate, implement, and monitor the consumptive white sturgeon fisheries at Oxbow and Hells Canyon Reservoirs and meet harvest objectives.

Personnel/Fringe– Currently the project is structured to supports 2 full time employees (1 Project Leader, 1 Technician). The Project Leader is responsible for overseeing, managing, and supervising the development of the white sturgeon fisheries in Hells Canyon and Oxbow Reservoirs. They will as 1) coordinator among regional and national fisheries agencies, 2) prepare scientific and technical reports including the generation and submission of quarterly and annual reports to BPA and management plans, and 3) supervise and participate in field operations. The field technician will carry out field tasks (i.e., collected fish data, stock fish, conduct creel surveys), computerize data and other supporting tasks under the supervision of Project Leader.

Supplies/Materials– Included in this line items are costs of general supplies and materials needed to augment and monitor the fisheries. Costs include general office supplies, expendable field sampling materials, fish, and a field trailer to house personnel at remote reservoir sites.

Operation & Maintenance-- Include is operation and maintenance costs of two GSA vehicles, boat gas used to monitor the fisheries, and office expenses. If possible boats needed to sample and track fish will be borrowed from other BPA NPT fisheries projects. If this is not possible, a budget modification may be done, and a boat rather than a trailer purchased in 2000.

Travel– Costs under this item include primarily travel expenses accrued to and from the site to conduct fieldwork and field per diem. Also, included are projected cost for the project leader and technician to attend region meetings and training.

Indirect costs– Indirect costs, tribal overhead is fixed yearly based on projected tribal administrative and accounting costs. This amount is controlled through an agreement between the Nez Perce Tribe and BPA.

Section 9. Key personnel

Project Leader/Fisheries Biologist (Full Time)

Vacant – Position to be filled in 1999

Technician (12 Month):

Vacant – Position to be filled in 1999

Section 10. Information/technology transfer

Information collected will be analyzed and presented in quarterly and annual reports to BPA and as peer-reviewed journal article, and at regional and national scientific meetings, BPA reviews, and Columbia River Sturgeon Cooperators Group meetings as deemed appropriate.

Congratulations!