
PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Develop A Fish & Wildlife Management Plan For The Owyhee Basin,
D.V.I.R.

BPA project number: 20040

Contract renewal date (mm/yyyy): **Multiple actions?**

Business name of agency, institution or organization requesting funding

Shoshone-Paiute Tribes of the Duck Valley Indian Reservation

Business acronym (if appropriate) Sho-Pai Tribes - DVIR

Proposal contact person or principal investigator:

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NPPC Program Measure Number(s) which this project addresses

Section (§) 2.1; §2.1A.1 ; §2.2A ; §2.2E6; §2.2F1; §2.2H; §7.1B; §7.1C; §8.5C; §10.1;
§10.1A; §10.1E; §10.1E1; §10.2; §10.2A.2; §10.2B; §10.3E9; §10.5; §10.5B; §10.5B1;
§10.5B2; §10.8C (all); §11.1; §11.2D; §11.3A; §11.3C; §11.3G; §11.5; §11.5A.

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

FERC relicensing considerations of the Hells Canyon Complex relative to the 1999
FCRPS (Hydropower Operations) Biological Opinion, NMFS ; ; USFWS listing of bull
trout under ESA; USFWS status review of redband trout pursuant to ESA listing

Other planning document references

CBFWA-Resident Fish Managers (1997) Multi-Year Implementation Plan
Federal MOA on Bonneville Power Administration Fish & Wildlife restoration funding
Department of Energy / BPA Tribal Policy
State of Idaho and State of Nevada Fish Management Plans affecting the Owyhee Basin
Independent Scientific Group (1996) Return to the River / (1997) Review of Columbia
Basin Fish and Wildlife Program
NPPC Regional Multi-Species Framework Project/Process/Documents

Short description

Develop a long-term fish & wildlife strategic plan for the Owyhee Basin, including an annual Shoshone-Paiute implementation plan -- needed to provide an adaptive management framework for all fish, wildlife, and watershed restoration efforts on the DVIR.

Target species

Redband trout; bull trout; introduced trout species (e.g., rainbow, cutthroat, brook) for put and take fisheries; other resident fish species comprising the native community; anadromous salmonids (reintroduction/off-site mitigation).

Section 2. Sorting and evaluation

Subbasin

Owyhee

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 checked="" type="checkbox"/> Wildlife	<input type="checkbox"/> Multi-year (milestone-based evaluation) <input type="checkbox"/> Watershed project evaluation	<input checked="" type="checkbox"/> Watershed councils/model watersheds <input type="checkbox"/> Information dissemination <input type="checkbox"/> Operation & maintenance <input type="checkbox"/> New construction <input checked="" type="checkbox"/> Research & monitoring <input checked="" type="checkbox"/> Implementation & management <input checked="" type="checkbox"/> Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

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

Project #	Project title/description
20536	Develop Management Plan & Assess Fish & Wildlife Of The Owyhee Basin, DVIR
20040	Develop a Fish & Wildlife Management Plan for the Owyhee Basin, DVIR
20041	Develop a Fish & Wildlife Conservation Law Enforcement Plan, DVIR
20094	Fish Assess Resident Fish Stocks Of The Owyhee Basin, DVIR
9701100	Enhance and Protect Habitat and Riparian Areas on DVIR
	Implement Fishery Stocking Program Consistent with Native Fish Conservation

20092	Inventory Wildlife Species & Populations Of The Owyhee Basin, DVIR
20093	Evaluate the Feasibility for Anadromous Fish Reintroduction in the Owyhee

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
9701100	Enhance and Protect Habitat & Riparian Areas on the Duck Valley Indian Res	Habitat enhancement is a critical need for comprehensive fish & wildlife management of the Owyhee Basin DVIR
9501500	Lake Billy Shaw Wetlands Catch & Release Fishery O&M	A new BPA- funded reservoir was completed in 1998 on the DVIR -- the development of its fisheries needs to be integrated within a comprehensive fish management plan.
8815600	Stocking Fish in Lakes and Streams on the Duck Valley Indian Reservation	Stocking of hatchery trout in reservoirs and streams has been implemented for many years to provide fisheries and economic benefits to the DVIR -- this program needs to be re-evaluated & integrated in the rationale of a comprehensive fish management plan.
9500600	Shoshone-Bannock/Shoshone-Paiute Joint Culture Facility	A BPA-funded fish culture facility is being developed to provide trout production to supplement fisheries on Duck Valley and Fort Hall reservations. Its operation should be coordinated with the comprehensive Owyhee Basin resident fish management plan.

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
	New Project -- Not Applicable	

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	1. Coordinate parks management, habitat & watershed restoration, fisheries enhancement, conservation enforcement, and wildlife mitigation for the DVIR under a unified strategic plan framework.	a	Incorporate parks management actions, and habitat & watershed restoration projects into the overall management plan.
		b	Incorporate fisheries enhancement projects into the overall management plan.
		c	Incorporate conservation enforcement projects into the overall management plan.
		d	Incorporate wildlife mitigation projects into the overall management plan.
		e	Integrate the various components of the overall management plan into a five-year strategic plan.
2	2. Promote cooperation with other tribal, local, state, regional, and federal entities to maximize fish & wildlife enhancement opportunities and the cost-effectiveness of overall natural resource restoration efforts on the DVIR.	a	Coordinate with other relevant fish & wildlife management entities through the CBFWA processes.
		b	Coordinate with USFWS and NMFS relative to ESA issues.
		c	Coordinate with NPPC and BPA relative to regional planning processes such as the Multi-species Framework and Council Fish & Wildlife Program amendment.
3	3. Incorporate monitoring & evaluation (M&E) on an individual project and overall programmatic basis to manage the Shoshone-Paiute Tribes' watershed, fish & wildlife restoration efforts utilizing the principles of adaptive management.	a	Develop a habitat & watershed restoration monitoring and evaluation plan and incorporate it into the overall M&E plan.

		b	Develop a fisheries restoration monitoring and evaluation plan and incorporate it into the overall M&E plan.
		c	Develop a conservation enforcement monitoring and evaluation plan and incorporate it into the overall M&E plan.
		d	Develop a wildlife mitigation monitoring and evaluation plan and incorporate it into the overall M&E plan.
		e	Integrate the results from the various M&E components into an adaptive management feedback loop for annual revision of the five-year strategic plan.
4	4. Manage the natural resources (parks, habitat, fish & wildlife) of the DVIR for long-term self-sustainability in order to achieve a healthy Owyhee Basin ecosystem and maximize the benefits to the Shoshone-Paiute Tribal members and society as a whole.	a	Use the DVIR fish & wildlife strategic planning effort to develop an annual project implementation plan.
		b	Engage the regional (CBFWA/NPPC/BPA) fish & wildlife project selection and funding processes in order to implement the DVIR watershed & habitat, fisheries, and wildlife projects and achieve restoration goals.

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	1/2000	12/2004			40.00%
2	1/2000	12/2004			10.00%
3	1/2000	12/2004			25.00%
4	1/2000	12/2004			25.00%
				Total	100.00%

Schedule constraints

Successful implementation of this project is subject to concurrent funding of the umbrella project -- ShopaiGD1.doc

Completion date

2004

Section 5. Budget

FY99 project budget (BPA obligated): \$0

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel	Director / Fishery & Wildlife Biologists (0.17 FTE)	% 36	8,000
Fringe benefits	@30%	% 11	2,400
Supplies, materials, non-expendable property	none	% 0	
Operations & maintenance	none	% 0	
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	none	% 0	
NEPA costs	none	% 0	
Construction-related support	none	% 0	
PIT tags	# of tags: none	% 0	
Travel	to attend regional and tribal coordination meetings for staff and consultant	% 11	2,500
Indirect costs	@26.6%	% 15	3,431
Subcontractor	fisheries consultant	% 27	6,080
Other		% 0	
TOTAL BPA FY2000 BUDGET REQUEST			\$22,411

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount (\$)
	None is identified at this time -- one possible future source is USFWS sport fisheries restoration (Federal Aid)	% 0	

		%0	
		%0	
		%0	
Total project cost (including BPA portion)			\$22,411

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	\$23,083	\$23,776	\$24,489	\$25,224

Section 6. References

Watershed?	Reference
<input type="checkbox"/>	{refer to umbrella proposal ShopaiGD1.doc}
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	

PART II - NARRATIVE

Section 7. Abstract

A comprehensive fish & wildlife management plan is needed as an adaptive management framework for all fish, wildlife, and watershed restoration efforts on the Duck Valley Indian Reservation (DVIR), Owyhee Basin. The Hells Canyon Complex completely blocked anadromous fish migrations into the Owyhee Basin since 1958; this eliminated a major component of the food resources and economic base of the Shoshone & Paiute tribes inhabiting the basin. Furthermore, the extirpation of anadromous fish significantly reduced the productivity of the native resident fish and upset the balance of the wildlife community. The vision of the Shoshone-Paiute Tribes is to achieve a healthy Owyhee River watershed -- which supports naturally sustainable fish & wildlife communities. In order to achieve this vision we will pursue alternative strategies: (1) an aggressive mitigation program of watershed restoration, native/non-native resident fish enhancement & substitution, and wildlife mitigation; and (2) exploring all means to circumvent the current barriers to anadromous fish migration in the mid-Snake River and re-introduce appropriate stocks into the Owyhee Basin. As part of the strategic planning, the Tribe will develop an annual implementation plan for specific projects, encompassing: habitat & watershed, anadromous & resident fish, and wildlife restoration. Specific measurable objectives and outcomes for the individual projects will be presented in terms of restoration of habitat units, increased fish & wildlife production & survival, and increased economic benefits to the Tribe. Many sections of the Council's program support the Shoshone-Paiute's comprehensive restoration approach, including specific measures in §2, §7, §8, §10, and §11.

Section 8. Project description

a. Technical and/or scientific background

The entire Owyhee Basin – encompassing the Duck Valley Indian Reservation (DVIR) -- is classified as a “*Blocked Area*” in the NPPC Fish and Wildlife Program (NPPC 1995; Section 10.8). The Owyhee Basin is in the upper Snake River Basin -- upstream from the Hells Canyon Complex that has completely blocked anadromous fish migrations for over 40 years (Hells Canyon Dam 1967; Oxbow Dam 1961; Brownlee Dam 1958). Prior to hydropower development the Owyhee Basin supported a large diverse community of native anadromous and resident fish populations. The complete extirpation of anadromous fish stocks from this area reduced the native salmonid species assemblage and greatly impacted the culture, religion and livelihood of the Shoshone and Paiute tribes that were dependent upon the once abundant anadromous fish resource. Resident fish and wildlife species in the subbasin were also impacted through lost productivity (absence of nutrient component attributable to anadromous fish) and habitat degradation relating to land-use practices (agriculture, grazing, logging, mining and municipal development) facilitated by hydropower development in the region.

The **vision** of the Shoshone-Paiute Tribes of Idaho & Nevada is to achieve a healthy Owyhee River watershed within the Columbia River ecosystem -- which supports viable, genetically diverse and naturally sustainable fish & wildlife communities. To the extent possible, the Tribe desires to restore all species and stocks of native fish & wildlife to their historic habitats within the Duck Valley Indian Reservation. If dams and other anthropogenic impacts make full restoration of resident fish, anadromous fish, wildlife or other natural resources impossible at this time, the Tribe seeks long-term compensation for these losses, including mitigation and substitution¹.

As stated in the provisional Shoshone-Paiute Tribes Fishery Management Plan (letter from Guy Dodson Sr. to Bonneville Power Administration dated February 28, 1997), it is the wish of the Tribe to:

- “Preserve, protect and perpetuate such wildlife and provide for the citizens of the reservation to continued supplies of such wildlife for hunting, fishing, and trapping.”
- “Provide the continued supplies of fish and fishing opportunities for our tribal members for their subsistence, cultural, and economic needs”.

The Shoshone-Paiute Tribe vision is consistent with that of Columbia Basin resident fish managers: the **vision** of resident fish managers is to achieve a healthy Columbia River ecosystem which supports viable and genetically diverse resident fish species.

The Upper Columbia River fish managers have further defined two alternative visions for the currently Blocked Area above Chief Joseph and Grand Coulee dams – that

¹ Mitigation and substitution are described in the NPPC (1995) fish & wildlife program (the reader should also refer to Attachment II).

incorporate both anadromous fish and resident fish & wildlife restoration. A concept paper incorporating these goals was submitted to the NPPC sponsored Multi-species Regional Framework process in November 1998 (Kalispel et al. 1998). Likewise, the Shoshone-Paiute tribe believes that -- if resident fish & wildlife mitigation measures in the Upper Snake and Owyhee basins are insufficient to restore meaningful biological benefits to the DVIR and socioeconomic & cultural benefits to the Shoshone-Paiute Tribes -- then reintroduction of anadromous salmonids into the Owyhee Basin must be reconsidered. Therefore we propose the following fish & wildlife restoration goals and strategies for our Reservation, the Owyhee Basin, and the upper Snake River.

Goal #1. Development of a stable, locally adapted Upper Snake River ecosystem capable of naturally producing sustainable resident fish & wildlife populations and harvest, equal to the level of historical (pre-dam) conditions, and/or

Goal #2. Re-introduction of anadromous salmon and steelhead runs above the Hells Canyon Complex to restore anadromous fish, resident fish & wildlife abundance and harvest to historical levels.

Two alternative strategies are proposed to accomplish these goals:

1. A comprehensive mitigation program of wildlife mitigation, native resident fish restoration and native/non-native fish substitution; i.e., continuation and enhancement of the policies, goals and objectives documented in the Power Planning Council's 1995 Fish & Wildlife Program and the Columbia Fish & Wildlife Authority's (1997) Multi-Year Implementation Plan.
2. Develop adult and juvenile anadromous fish passage capabilities -- exploring all possible engineering, technological, and societal means -- to circumvent the current barriers to anadromous salmon & steelhead migration at Hells Canyon Complex. Concurrently re-introduce fish species and stocks into the Owyhee basin that genetically and behaviorally resemble the assemblages present before the construction of the Upper Snake River dams.

Strategic planning and funding of mitigation & enhancement projects is essential to achieve the resource management goals of the Shoshone-Paiute Tribes. A comprehensive fishery management plan -- based on an integrated natural resources framework -- is needed to accomplish the Tribe's vision. Furthermore, adequate funding from BIA, BPA, Federal Aid for Sport Fisheries Restoration and other sources will be essential for the development of a viable natural resources management program on the Duck Valley Indian Reservation.

The Shoshone-Paiute Tribes are in general agreement with management principles stated in the resident fish Multi-year Implementation Work Plan (MYIP, CBFWA-RFM 1997):

- We recognize the importance of managing fish species assemblages in the Owyhee River Basin within an ecological framework, rather than just single species/waters.
- We also giving special consideration to native fish populations that are sensitive to artificial perturbations or listed under the ESA, e.g., redband trout and bull trout.

- We will be focus on ecosystem management over the next five years, including the development of a fisheries and watershed management plan for the Owyhee Basin.

The Shoshone-Paiute Tribe has received relatively little BPA-funding for mitigation and enhancement of resident fish & wildlife to date, i.e., about \$2.0 million during 1984-98. The major areas of funding for fish & wildlife enhancement on the Duck Valley Indian Reservation have been:

- Purchase of trout (pass-through to other entities) -- \$794,401
- Lake Billy Shaw reservoir feasibility studies -- \$494,591
- Owyhee River habitat restoration -- \$703,000

In addition, BPA funded construction costs for Lake Billy Shaw Dam and a joint culture facility with the Shoshone-Bannock Tribes at the Fort Hall Reservation. These projects are reviewed in more detail in the umbrella proposal (ShopaiGD1.doc) along with a comprehensive integrated approach for FY 2000 and the future.

The components of a watershed, fish & wildlife restoration plan relevant to the Owyhee Basin include:

- ◆ Assessment of anadromous fishes losses
- ◆ Mitigation and substitution of native/non-native resident fish
- ◆ Assessment of wildlife populations and implementation of long-term wildlife mitigation and restoration
- ◆ Restoration of fish & wildlife habitats contributing to overall watershed restoration
- ◆ Contribution of sub-basin restoration towards the health of the Columbia Basin ecosystem
- ◆ Monitoring & evaluation of progress towards goals, and adaptive management of future actions

b. Rationale and significance to Regional Programs

The Owyhee Basin “umbrella proposal” (refer to ShopaiGD1.doc) describes a cost-effective way to achieve the goals and objectives of the Council’s Fish & Wildlife Program and the Columbia Basin Fish & Wildlife Authority’s Multi-Year Implementation Plan (MYIP; CBFWA-RFM 1997) – with respect to the Owyhee River Basin. This sub-proposal (ShopaiGD2.doc) describes the comprehensive natural resources management plan that is needed for the Duck Valley Indian Reservation -- in order to ensure that mitigation called for by the Power Act is realized for losses caused by the Federal Columbia River Power System (FCRPS) development and operation. Many sections of the Council’s program support the Shoshone-Paiute’s comprehensive mitigation & enhancement approach, including: §2.1A; §2.2A, §2.2H, §2.2E6, §7.1C, §7.10K, §8.5C, §10.1A, §10.1E, §0.2A1, §10.2B, §10.3E.9, §10.5B, §10.8C, and §11.2D. These sections include specific measures for watershed restoration and resident fish & wildlife mitigation for anadromous fish losses above the Hells Canyon Complex that are summarized below:

§ 2.1: Systemwide Goal: A healthy Columbia River Basin.

§ 2.1A: Assess ecological health of Columbia River Basin.

§ 2.1A1: Explore methods to assess trends in ecosystem health.

§ 2.2A: Support native species in native habitats.

§ 2.2H: The need to learn from implementation (monitoring & evaluation).

§ 2.2E6: Criteria for establishing constraints on hydroproject operations, including (a) protection and rebuilding of weak native fish stocks and resident fish substitutions, (b) protection of tribal rights to fish at usual and accustomed fishing places and ceded areas.

§ 7.1B: Conserve genetic diversity

§ 7.1C: Collection of population status, life history and other data on wild and naturally spawning populations.

§ 7.10K: Passage into historic habitat.

§ 7.10K1: Where appropriate, determine the feasibility of providing passage above blockages to habitat caused by human development activities. Appropriate habitat includes areas where weak stocks are habitat limited and, therefore, would benefit from additional habitat.

§ 8.5C: Law enforcement and public education.

§ 10.1: Resident fish goal – The program goal for resident fish emphasizes the long-term sustainability of native fish in native habitats where possible. Use strategies of mitigation & substitution.

§ 10.1A: Principles for resident fish management strategies {watershed management, ecosystem diversity, productivity and stability, conservation of natural diversity of resident fish stocks}:

§ 10.1E: Project Implementation and selection

- Documentation of resident fish losses attributable to the FCRPS;
- adaptive management principles, and appropriate monitoring and evaluation efficacy;
- coordination with fish and wildlife agencies and tribes;
- compliance with the Program policies;
- achievement of biological results;
- assessment of trade-offs with anadromous fish and wildlife activities;
- **development of a management plan with sound biological objectives;**
- consultation and coordination with interested parties;
- estimated costs and a schedule for implementation and evaluation; and
- fulfillment of standards of the Northwest Power Act.

§ 10.1E1: Implementation of identified resident fish projects by 2006.

§10.2: Production and watershed principles.

§10.2A1: Address resident fish as well as anadromous fish in developing a plan for genetic diversity as called for in measure 7.1.D.1.

§ 10.2A.2: Address potential impacts on resident fish, where such impacts exist, in developing basinwide guidelines to minimize genetic and ecological impacts of hatchery fish on wild and naturally spawning species as called for in measure 7.2A.1.

§ 10.2B: Comprehensive Watershed Management

Good habitat is important for resident fish, just as it is for anadromous fish. The degraded condition of resident fish habitat in the Columbia River Basin often rivals that of anadromous fish. For this reason, the program provisions noted in § 7.7 (Cooperative

Habitat Protection and Improvement with Private Landowners) should also apply to resident fish.

§ 10.3E.9: Acquire or construct a trout production facility and operate and maintain the facility for the production of native trout species for stocking on the Fort Hall Indian Reservation and elsewhere. Assess opportunities for joint production strategies with the Shoshone-Paiute Tribes, including the training of tribal members in fish culture.

§ 10.5: Bull trout and other native salmonid mitigation.

§ 10.5B: Study and Evaluate Native Salmonid Populations Above Hells Canyon Dam

§ 10.5B.1: In consultation with the Idaho Department of Fish and Game, Oregon Department of Fish and Wildlife, Shoshone-Bannock Tribes, Shoshone-Paiute Tribes and Burns Paiute Tribe, fund an investigation of the life history, habitat needs and threats to persistence of native salmonids upstream of Hells Canyon Dam in the Snake River and its tributaries.

§ 10.5B.2: In consultation with the Idaho Department of Fish and Game, Oregon Department of Fish and Wildlife, Shoshone-Bannock Tribes, Shoshone-Paiute Tribes and Burns Paiute Tribe, fund the initiation of a comprehensive genetic sampling program for native salmonids upstream of Hells Canyon Dam in the Snake River and its tributaries.

§ 10.8: Resident fish substitutions.

Salmon and steelhead probably never will be able to return to some areas of the basin because of blockages by dams. These include the areas above Chief Joseph and Grand Coulee dams and the Hells Canyon Complex, as well as other smaller blocked areas. In its analysis of the contribution of the hydropower system to salmon and steelhead losses, the Council has addressed the extent to which resident fish substitutions should be used to mitigate losses of salmon and steelhead production in these areas.

The Council has concluded that: 1) mitigation in blocked areas is appropriate where salmon and steelhead were affected by the development and operation of the hydroelectric projects; 2) to treat the Columbia River and its tributaries as a system, resident fish substitutions are reasonable for lost salmon and steelhead in areas where in-kind mitigation cannot occur; and 3) flexibility in approach is needed to develop a program that complements the activities of the fish and wildlife agencies and tribes and is based on the best available scientific knowledge. For substitution purposes, resident fish may include landlocked anadromous fish (e.g., white sturgeon, kokanee and coho), as well as traditionally defined resident fish species.

§ 10.8A: Resident Fish Substitutions Policy

The substitution of resident fish to make up for losses of anadromous fish in areas now permanently blocked to salmon and steelhead reflects the Council's resolve to address complex, long-term problems. Historical records show that the Columbia River Basin Indian tribes relied extensively on salmon and steelhead, and the permanent loss of these resources has had incalculable impacts on tribal economies, cultures and religions. Historically, the Council approved projects in the areas above Chief Joseph/Grand Coulee, and in the blocked areas above Hell's Canyon Dam.

§ 10.8C: Resident Fish Substitution Projects Above Hells Canyon Dam

The following resident fish substitution activities and projects in the blocked area above Hells Canyon Dam will partially mitigate for salmon and steelhead losses incurred in this blocked area as a result of the construction and operation of hydropower projects in the Columbia River Basin.

Shoshone-Paiute Tribes:

§ 10.8C.1: Annually stock catchable and fingerling trout of the appropriate stocks in Duck Valley Indian Reservation lakes and streams.

§ 10.8C.2: Review Duck Valley Indian Reservation surface water and groundwater suitability for resident fish production facilities. Initiate a comprehensive genetic sampling program of the redband trout in Owyhee Basin. Based on results of these studies, develop and implement strategies to protect wild redband trout populations from potential impacts caused by hatchery programs.

§ 10.8C.3: Evaluate alternative sources of catchable and fingerling resident fish.

§ 10.8C.4: Analyze feasibility of developing an additional lake fishery at Coyote Sink. Submit feasibility study with recommendations to the Council. Implement upon Council approval of recommendations.

§ 10.8C.5: Implement, monitor and evaluate resident fish habitat improvement and protection measures at the Duck Valley Indian Reservation. Include the following habitat protection and improvement measures: 1) management recommendations for reservoir pool levels; 2) reservoir rehabilitation measures for non-game fish and aquatic vegetation control; 3) reservoir inlet and outlet screening; 4) improvement of recreational fishing sites; 5) stream riparian zone restoration by planting vegetation, fencing overgrazed areas and stream bank stabilization; and 6) base-line water quality survey to assess contaminants that may affect trout populations.

§ 10.8C.6: Acquire or construct a trout production facility and operate and maintain the facility for the production of trout for stocking on the Duck Valley Indian Reservation and elsewhere. Assess opportunities for joint production strategies with the Shoshone-Bannock Tribe, including the training of tribal members in fish culture.

§ 10.8C.7: Bonneville -- Fund the Shoshone-Paiute Tribe projects listed above.

§ 11.1: Wildlife Program goal: Fully mitigate for wildlife losses from hydropower in the Columbia River basin

§ 11.2D: Mitigation plans and agreements.

- Have measurable objectives, e.g, specific number of habitat units.
- Where practical, mitigate losses in-place, in-kind.
- Protect or enhance natural ecosystems and species diversity over the long term.
- Address special wildlife losses in areas that formerly had salmon and steelhead runs that were eliminated by hydroelectric projects (for example, societal and tribal wildlife losses).

§ 11.3A: Identify measures based on losses.

§ 11.3C: Develop statements of habitat losses and gains due to hydropower operation.

§ 11.3G: Develop long term agreements for all wildlife mitigation.

§ 11.5: Monitor and evaluate wildlife efforts at non-federal projects (e.g., Hells Canyon Complex).

§ 11.5A: Mitigation considerations in dam licensing decisions. (e.g., FERC).

The Shoshone-Paiute's fish & wildlife management plan for the DVIR portion of the Owyhee will be designed to integrate closely with the ongoing planning efforts including the MYIP and the regional framework. Documentation of a comprehensive and internally consistent resident fish & wildlife framework for the Owyhee Basin is a

necessary and logical step in order to integrate with the overall Columbia Basin Multi-Species Framework that is currently under development.

c. Relationships to other projects

An overall description of project inter-relationships is provided in the “*umbrella*” proposal form – ShopaiGD1.doc. Specific projects relating to this sub-proposal – “*Develop Management Plan & Assess Fish & Wildlife Of The Owyhee Basin, DVIR*” -- are summarized in this section. The following BPA-funded projects are ongoing during FY1999-2000 for resident fish mitigation and enhancement on the DVIR.

Project 9701100 “Enhance and Protect Habitat & Riparian Areas on the Duck Valley Indian Reservation” [NPPC measure 10.8C.5] Our habitat project is essential in locating, protecting, and monitoring natural springs on the Duck Valley Indian Reservation. We are also collecting water quality data along with stream survey of species of invertebrates and fish. These data will be useful in completing our watershed assessment. We are also going to attempt to get comparable data from Nevada Department of Wildlife to supplement the upper Owyhee River watershed assessment.

Project 9501500 “Lake Billy Shaw Wetlands Catch & Release Fishery O&M” [NPPC measure 10.8C; 10.8C4] A new BPA-funded dam was completed in 1998 on the DVIR and Lake Billy Shaw will begin filling in 1999 -- the development of its fisheries needs to be integrated within a comprehensive fish management plan. We will collect water quality data in Billy Shaw Reservoir and the influent canal. We also will collect basic fisheries information from the lake and canal. In addition, we will monitor domestic and test well for water quality (TMDL). We will plant trees and native vegetation along riparian areas around reservoir and feed canal and monitor for plant growth and riparian disturbance.

Project 8815600 “Stocking Fish in Lakes and Streams on the Duck Valley Indian Reservation” [NPPC measure 10.8C1; 10.8C3] Trout stocking in reservoirs and streams on the DVIR has been ongoing since 1988. The Shoshone-Paiute Tribe considers this program a high priority in order to help sustain our tribal members and mitigate for the losses of anadromous fish in the Owyhee River. In the past, the USFWS developed annual stocking plans and provided hatchery rainbow trout. However at present, it is essential to re-evaluate the fish stocking strategy to ensure that the genetic diversity of native salmonid species is not compromised and to incorporate production from the Tribal joint culture facility constructed at the Fort Hall Reservation (see below).

Project 9500600 “Shoshone-Bannock/Shoshone-Paiute Joint Culture Facility” [NPPC measure 10.8C3; 10.8C6] A BPA-funded fish culture facility is being developed to provide trout production to supplement fisheries on Duck Valley and Fort Hall reservations. Its operation should be coordinated with the comprehensive Owyhee Basin

resident fish management plan -- including Lake Billy Shaw fishery development and conservation of genetic diversity of native trout populations.

Additional projects are proposed for FY 2000 -- under an umbrella proposal (ShopaiGD1.doc) -- that are relevant to the development of this Fish & Wildlife Management Plan for the Owyhee Basin:

Develop a Fish & Wildlife Conservation Law Enforcement Plan, DVIR (ShopaiGD3.doc)

This project will support the put-and-take fishery implementation -- by developing a Conservation Enforcement Plan, including a review of fishing regulations and proposal for a systematic creel survey.

Assess Resident Fish Stocks Of The Owyhee Basin, DVIR (ShopaiGD4.doc)

This project will conduct a systematic resident fish species inventory & stock assessment in the Owyhee River Basin, DVIR component. One component of the work will be to design a sampling strategy and protocol to evaluate the genetic composition and possible introgression of native trout populations on the DVIR. This project will be essential to evaluate past impacts of fish stocking practices and indicate what habitats can be stocked with hatchery trout without impacting native trout populations.

Inventory Wildlife Species & Populations of the Owyhee Basin, DVIR (ShopaiGD7.doc)

This project will design and implement an inventory of all wildlife species present, estimate abundances of bird & mammal populations, and quantify habitat units on the Duck Valley Indian Reservation. It will be essential to identify and prioritize wildlife mitigation opportunities.

Evaluate the Feasibility for Anadromous Fish Reintroduction in the Owyhee (ShopaiGD8.doc)

This project will evaluate the feasibility of reintroducing anadromous salmon and steelhead into the Upper Snake River and Owyhee River Basin – above the Hells Canyon Complex – and develop alternatives for utilization of anadromous fishes by the Shoshone-Paiute Tribe.

The proposed overall Fish & wildlife management plan, proposed for FY2000, complements the ongoing work by providing a management plan and framework to integrate watershed enhancement projects with fish and wildlife assessment and fishery management projects. A clear need exists to formulate a artificial production and supplementation plan (aspects of Projects 8815600, 9501500, and 9500600) – within the framework of a comprehensive Owyhee Basin management plan – that provides fishery opportunities and is compatible with conservation and enhancement of native resident fish populations. Sub-projects proposed for FY2000 (eg., the fish stock assessment and wildlife inventory) will provide a scientific basis for developing the Owyhee Basin fish & wildlife management plan and monitoring long-term trends. The conservation enforcement plan supports fisheries management goals & objectives; furthermore it

specifically supports M&E efforts of the fish stocking program via collecting creel survey data on reservoir fisheries.

d. Project history (for ongoing projects)

New Project – Not Applicable

e. Proposal objectives

The overall goal of the Shoshone-Paiute habitat & watershed, fish, and wildlife management plan project for the Owyhee Basin is to develop a comprehensive restoration plan for the Duck Valley Indian Reservation. This plan will drive the implementation of BPA-funded mitigation projects on our Reservation, but it will also serve to identify other sources of funding and promote cooperative arrangements with other private & governmental entities -- in order to maximize the overall cost-effectiveness of our basin-wide DVIR restoration program.

The Objectives of the comprehensive fish & wildlife management plan for the Owyhee Basin, Duck Valley Indian Reservation (DVIR) are:

1. Coordinate parks management, habitat & watershed restoration, fisheries enhancement, conservation enforcement, and wildlife mitigation for the DVIR under a unified strategic plan framework.
2. Promote cooperation with other tribal, local, state, regional, and federal entities to maximize fish & wildlife enhancement opportunities and the cost-effectiveness of overall natural resource restoration efforts on the DVIR.
3. Incorporate monitoring & evaluation (M&E) on an individual project and overall programmatic basis to manage the Shoshone-Paiute Tribes' watershed, fish & wildlife restoration efforts utilizing the principles of adaptive management.
4. Manage the natural resources (parks, habitat, fish & wildlife) of the DVIR for long-term self-sustainability in order to achieve a healthy Owyhee Basin ecosystem and maximize the benefits to the Shoshone-Paiute Tribal members and society as a whole.

This project will generate two major products each year:

- (1) an update of the DVIR habitat & watershed, fish, and wildlife Five-year Strategic Plan, including an annual implementation plan for individual restoration projects; and,
- (2) in conjunction with the “umbrella project”, it will implement the overall M&E component and produce an annual report that summarizes the progress on the individual projects, clearly shows linkages among the implementation projects, and describes measurable biological results derived from the overall DVIR Habitat, Parks, Fish & Game mitigation & enhancement program.

f. Methods

The proposed DVIR natural resources Management Plan is a central piece of the comprehensive “umbrella” approach (described in ShopaiGD1.doc). The umbrella project will incorporate two related approaches to achieve an integrated fish & wildlife management plan and project implementation based on scientific principles.

- ◆ First, develop an internally consistent and comprehensive Shoshone-Paiute strategic plan for the restoration of fish, wildlife, and watershed resources on the Duck Valley Indian Reservation.
- ◆ Second, coordinate with state, regional, and federal planning processes (e.g., Idaho & Nevada fish management plans, NPPC Fish & Wildlife Program, Multi-Species Framework, ESA recovery plans, etc.) to develop a management framework that maximizes opportunities cooperative efforts and successful restoration of the Owyhee ecosystem.

The Shoshone-Paiute Tribes have initiated a comprehensive management plan for all species and all stocks of fish -- for all streams, lakes and watersheds within their management authority on the DVIR. The first step in this planning process is to develop a comprehensive management framework that will be:

- Based on a sound scientific conceptual foundation²;
- Consistent, to the extent possible, with various the basin-wide Tribal salmon restoration plan WY-KAN-USH-MI WA-KISH-WIT, *The Spirit of the Salmon* and the CBFWA anadromous and resident multi-year implementation plans (MYIP 1998);
- Coordinated with the Northwest Power Planning Council’s Columbia Basin Fish & Wildlife Program, and the federal ESA recovery plans; and
- Structured to integrate individual plans for all species and stocks of fish.

The **vision** of the Shoshone-Paiute Tribes of Idaho & Nevada is to achieve a healthy Owyhee River watershed within the Columbia River ecosystem -- which supports viable, genetically diverse and naturally sustainable fish & wildlife communities. To the extent possible, the Tribe’s goal is to restore all species and stocks of native fish & wildlife to their historic habitats within the Duck Valley Indian Reservation. A comprehensive fishery management plan – based on an integrated framework is needed to accomplish these visions and goals. A fishery management plan has the following elements: vision, goals, objectives, strategies, and actions.

Definition of Strategic Planning Terms

Action Plans: Detailed descriptions of how strategies will be implemented on an operational basis (*Manageware*, State of Louisiana 1996).

² The Independent Science Group defines the term conceptual foundation is defined as “a set of scientific theories, principles and assumptions which in aggregate describe how a salmonid producing ecosystem functions. The conceptual foundation determines how information is interpreted, what problems are identified and as a consequence it also determines the range of appropriate solutions” (ISG 1996).

Biological Objectives (Science Review Team, SRT, August 16, 1996): Measurable objectives that are adopted by the Northwest Power Planning Council and incorporated into its Fish & Wildlife Program -- and thereby constitute legal standards.

Conceptual Foundation (Independent Scientific Group 1996):

“A conceptual foundation is a set of scientific principles and assumptions that can give direction to management activities, including restoration programs, such as the FWP. A conceptual foundation determines how information is interpreted, determines what problems (e.g., limitations on fish production) are identified, and as a result, establishes the range of appropriate solutions (Lichatowich et al. 1996). Because it influences the interpretation of information, the conceptual foundation can be a powerful element of management and restoration plans and it can determine the success or failure of these plans. ... Unfortunately, salmon management and restoration plans rarely contain an explicitly described conceptual foundation. The Fish and Wildlife Program is no exception.”

Ecological objectives³ for the implementation work plans (Science Review Team, SRT, August 16, 1996):

Ecological objectives define the type of biological and physical changes or conditions needed to achieve the management objective. Ecological objectives are based on a conceptual foundation that reflects current understanding of the ecology of the Columbia River Basin. The conceptual foundation is subject to modification as knowledge improves. This in turn can result in modification of objectives and actions. Again, this is a hierarchical system that defines ecological objectives at the Basin, subregional and subbasin level ... Ecological objectives should describe an ecosystem that is consistent with the management objectives. This could include habitat characteristics, correction of identified problems, and biological conditions such as survival changes, diversity and productivity. Ideally, ecological objectives should be quantitative indices relating to needed survival changes, return per spawner or other quantitative indices of ecological change. However, it is unlikely in the near term that such quantitative indices will be available. At this point, simply a qualitative assessment of ecological change or condition needed to meet specific management objectives may be all that is possible in many cases. These would be sufficient to establish an overall framework with explicit links between objectives, needed change and actions.

Ecosystem: An ecological community, including all organisms and the abiotic environment, considered as a unit (Swartzman and Kaluzny 1987)⁴.

Goals: The general end purposes toward which the effort is directed (*Manageware*, State of Louisiana 1996). Goals represent broad policy direction; e.g., improve migration conditions and survival conditions of listed fish (NMFS Draft Recovery Plan).

³ The term “*Ecological Objective*” was suggested by the SRT rather than “*Biological Objective*” for two reasons. First, it avoids the legal problem of whether these are “Biological Objectives” in the sense of the Northwest Power Act. Second, it shifts the focus from simply getting a number of fish back through mechanistic solutions, to obtaining an ecological condition that is consistent with a certain condition characterized by a salmon, resident fish and wildlife condition defined by the management objective.

⁴ *Ecological Simulation Primer* (p 335).

Management objectives (Science Review Team, SRT, August 16, 1996): “Management objectives should describe the direction and purpose of fish and wildlife recovery efforts. They should address the question of why recovery programs consist of a given set of strategies and actions. They describe the desired biological state for the watershed in regard to ecosystem characteristics, defining species and management actions. Watershed in this context refers to the Columbia River Basin (including the mainstem rivers as a system), subregions of the Basin (e.g. the Snake River Basin, mid-Columbia, lower Columbia) and individual subbasins. These are hierarchically nested such that there should be vertical consistency between individual subbasin objectives, subregional objectives and management objective for the entire Basin. Different management objectives and ecological relationships can be accommodated by simply moving up or down levels from the Basin to the subbasin levels. Development of management objectives will be an iterative process that cycles between what is desired for watersheds and what is possible given ecological, social and economic constraints.”

Mission: A broad, comprehensive statement of the management entities’ purpose (*Manageware*, State of Louisiana 1996).

Objectives: Specific and measurable targets for accomplishment (*Manageware*, State of Louisiana 1996). Objectives represent a more specific measurable target, and help define the purpose of setting the goal; e.g., achieve a 20% reduction in smolt mortality by year 2000 (NMFS Draft Recovery Plan).

Philosophies: The core values of the co-management entities, i.e., how we carry out the mission (*Manageware*, State of Louisiana 1996).

Strategies: The methods to accomplish goals and objectives (*Manageware*, State of Louisiana 1996). Strategies are ways to achieve goals and objectives, e.g., alter hydropower operations to mimic more natural river flows (NMFS Draft Recovery Plan).

Tasks (see Action Plans): The specific actions that must be done to achieve an objective using the chosen strategy.

Vision: A compelling conceptual image of the desired future (*Manageware*, State of Louisiana 1996). For example, NMFS’ Vision for (Snake River salmon) Recovery⁵: “We envision an ecosystem that functions to sustain naturally reproducing populations of native fish, and provides social, cultural, and economic benefits to the nation.”

Scientific Foundation

Knowledge derived from science is the basis or “**foundation**” for the regional fish & wildlife restoration program. The various disciplines of science (i.e., ecology, fisheries science, wildlife science, hydrology, etc.) work together to form the unifying basis upon which the program can be built (Figure 1). Where important gaps in knowledge exist (i.e., critical uncertainties), explicit assumptions must be made to facilitate progress in the

⁵ The vision is not expected to be achievable within a short time period.

in the short term -- but for long term solutions, research should be conducted to gather needed additional scientific knowledge to better understand system dynamics.

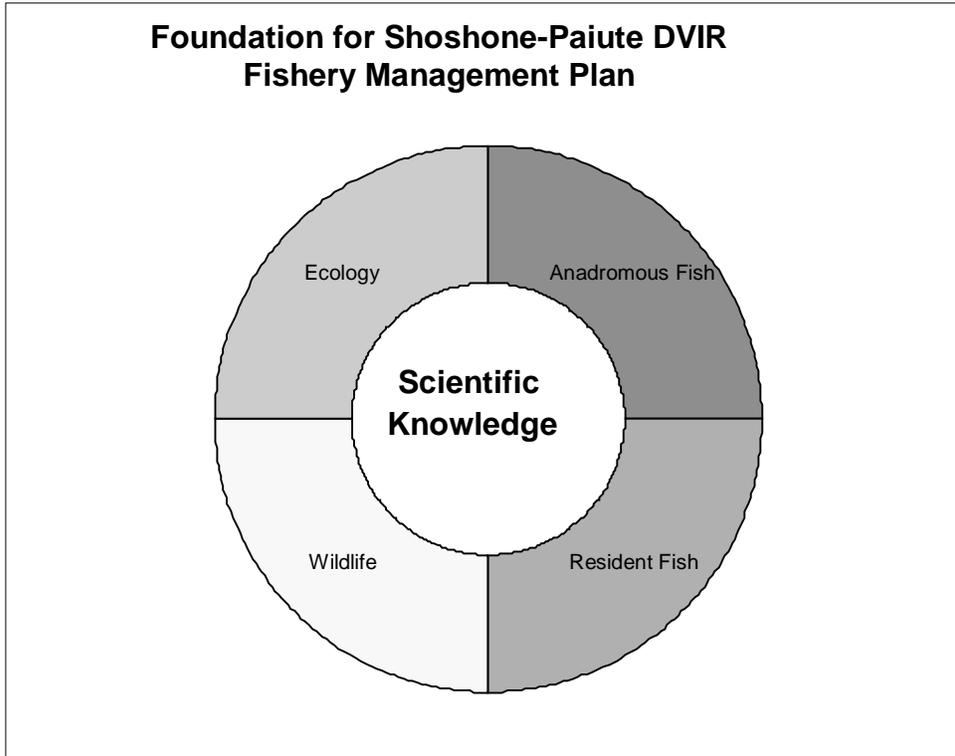


Figure 1. Scientific foundation for the Shoshone-Paiute Fishery Management Plan encompasses various disciplines within natural resources management.

The planning elements (i.e., vision, goals, objectives, strategies, action plans) comprise the structure or “**framework**” built on the foundation of scientific knowledge (Figure 2). Under the unifying vision we have four primary restoration Goals corresponding to its main elements: 1. Ecosystem; 2. Anadromous fish; 3. Resident fish; 4. Wildlife. Under each goal, there would be several measurable Objectives, and under each objective a set of numerous Strategies, etc. -- thus the pyramidal shape of the framework illustrated below.

A monitoring and evaluation (M&E) plan will be an integral part of the DVIR fish & wildlife framework; and M&E will be incorporated into individual projects. Principles of adaptive management will be applied to make adjustments to the planning / implementation cycle and to help re-shape strategic plan in an iterative fashion (Figure 2).



Figure 2. Hierarchical strategic planning framework with a scientific foundation.

Past fish management strategies will be re-evaluated with respect to the Columbia Basin Multi-Species Framework and the scientific conceptual foundation proposed by the ISG (1996) and being documented by the Framework Ecological Working Group (1998). The following bullets summarize the management strategies proposed for FY2000 Owyhee Basin fish, wildlife and habitat restoration.

- ◆ Assessment of anadromous fishes losses;
- ◆ Assessment of current resident fish species composition population status;
- ◆ Mitigation and substitution of native/non-native resident fish;
- ◆ Reestablishment of anadromous fish runs and fisheries above the Hells Canyon Complex – into the Owyhee Basin;
- ◆ Assessment of current wildlife populations and quantification of their habitats;
- ◆ Implementation of long-term wildlife mitigation and restoration;
- ◆ Planning and implementation of a Conservation Enforcement program to support watershed protection and fish & wildlife management goals & objectives;
- ◆ Restoration of fish & wildlife habitats on the DVIR -- contributing to overall watershed restoration of the Owyhee Basin
- ◆ Contribution of sub-basin restoration towards the health of the Columbia Basin ecosystem; and,
- ◆ Monitoring & evaluation of progress towards goals, and adaptive management of future actions.

The anticipated result of the comprehensive subbasin-wide approach is achievement of measurable biological objectives specified by individual restoration projects in cost-

effective manner. The major factor that would limit success of the ongoing fish and habitat restoration projects in the Owyhee Basin is the lack of a comprehensive management plan that is integrated with various regional planning processes. Furthermore, in the development of a holistic fish, wildlife & watershed restoration plan for the DVIR, the Shoshone-Paiute Tribes will be seeking opportunities in the future with cooperative and cost-share arrangements with private landowners and relevant local, state, and federal agencies.

g. Facilities and equipment

Refer to the “umbrella project” (ShopaiGD1.doc) for a description of *facilities and equipment*.

h. Budget

The personnel category \$8,000 is for the Director and Fisheries, Wildlife, and Habitat Restoration Project leaders to coordinate on integrated management planning (2 person-months total). This relatively low level of effort is dependent upon the Director’s time being primarily covered in the umbrella project budget and the Project leaders time for the development of individual component management plans being covered under their respective projects (proposed and ongoing).

Fringe benefits (\$2,400) are based on a 30% rate.

The Travel category is \$2,500 for coordination meetings among Shoshone-Paiute staff and consultants and cooperating agencies. It does not include travel for regional meetings covered in the umbrella proposal.

The Indirect Costs of \$3,431 are based on 26.6% of the subtotal categories – excluding subcontracting.

The subcontractor category (\$6,080) is for senior-level fish & wildlife consultant to provide consulting services relative synthesizing the elements of the DVIR strategic plan (80 hours *\$76). This relatively low level of effort is contingent upon funding of the umbrella project which covers individual project development and design of the overall M&E program for the various projects.

Section 9. Key personnel

Refer to the “umbrella project” (ShopaiGD1.doc) for a resumes of *key personnel*.

Section 10. Information/technology transfer

Refer to the “umbrella project” (ShopaiGD1.doc) for a description of proposed *information and technology transfer* media and methods.

Congratulations!