The SHOSHONE-BANNOCK TRIBES

FORT HALL INDIAN RESERVATION
PHONE (208) 478-3700
FAX # (208) 237-0797

FORT HALL BUSINESS COUNCIL
P.O. BOX 306
FORT HALL, IDAHO 83203

Filed Electronically: June 12, 2008

Mark Walker,
851 SW 6th Ave, Suite 1100,
Portland OR 97204

Re: Shoshone-Bannock Tribes' comments to the proposed amendments for the Columbia River Basin Fish and Wildlife Program.

The Shoshone-Bannock Tribes (Tribes) submit the following comments to the Northwest Power and Conservation Council (NPCC) amendments to the Columbia River Basin Fish and Wildlife Program (F&W Program). The Tribes, as a member of the Columbia Basin Fish and Wildlife Authority (CBFWA), endorse the recommendations submitted as a package from the CBFWA members.

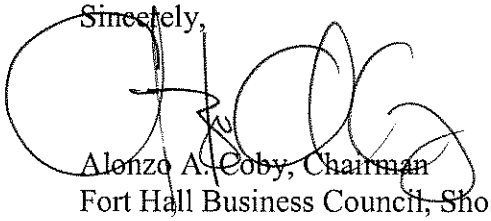
The Tribes and CBFWA submitted recommendations for long-term, basin wide solutions to mitigate the impacts to fish and wildlife from the operation of hydroelectric facilities in the Columbia River Basin. The Tribes are actively engaged in holistic management, encompassing the entirety of species needs, without losing focus on particular limiting factors. A comprehensive recovery program would have components for facility improvements, but the majority of efforts must focus on off-site mitigation. NPCC F&W Program should implement the goals, objectives and strategies offered by the Tribes and various stakeholders to this process. It should be the highest priority for the NPCC to unify those unique interests and concerns into a single, comprehensive vision for the future.

The Tribes recommend the NPCC incorporate the attached Tribal projects into the F&W Program to protect, preserve and enhance fish and wildlife. Effective natural resource planning should provide for long term projects that encompass the necessary goals and objectives for species recovery and enhancement. The purpose for this submission is to secure adequate long-term funding for those fish and wildlife projects that fit within the goals and objectives of the F&W Program.

The Tribes look forward to continuing this dialogue with the NPCC for the benefit of fish and wildlife across the Columbia River Basin. For further technical questions please contact, Chad Colter, Director, Fish and Wildlife Department (208) 239-4553 or for

policy discussion please contact Claudeo Broncho, Fish and Wildlife Policy Representative, (208) 239-4563.

Sincerely,



Alonzo A. Coby, Chairman
Fort Hall Business Council, Shoshone-Bannock Tribes

Project Summaries

Idaho Supplementation Studies Project # 198909800

The Idaho Salmon Supplementation (ISS) Studies addresses critical uncertainties associated with hatchery supplementation of Chinook salmon *Oncorhynchus tshawytscha* populations (i.e. effects on productivity, persistence, establishment, advantages of localized broodstocks) in Idaho (Bowles and Leitzinger 1991). The ISS program also addresses questions identified in the Supplementation Technical Work Group Five Year Work Plan (STWG 1988), defines the potential role of supplementation in managing Idaho's anadromous fisheries, and evaluates its usefulness as a recovery tool for salmon populations in the Snake River basin (Bowles and Leitzinger 1991).

The ISS initially identified two goals: 1) assess the use of hatchery Chinook salmon to increase natural populations in the Salmon River and Clearwater River subbasins, and 2) evaluate the genetic and ecological impacts of hatchery Chinook salmon on naturally reproducing Chinook salmon populations. In response to these goals, ISS addresses four objectives: 1) monitor and evaluate the effects of supplementation on presmolt and smolt numbers and spawning escapement of naturally produced Chinook salmon; 2) monitor and evaluate changes in the productivity and genetic composition of naturally spawning target and adjacent populations following supplementation activities; 3) determine which supplementation strategies (broodstock and release stage) provide the most rapid and successful response in natural production without adverse effects on productivity; and 4) develop supplementation recommendations (Bowles and Leitzinger 1991).

The ISS program is a cooperative research project involving the Idaho Department of Fish and Game (IDFG), the Nez Perce Tribe (NPT), the Shoshone-Bannock Tribes (SBT), and the United States Fish and Wildlife Service (USFWS). The Bonneville Power Administration (BPA) provides funding for the project. Each agency is responsible for data collection on a subset of the study streams across the Clearwater River and Salmon River subbasins as developed in the original study design (Bowles and Leitzinger 1991). Data collected include estimates of escapement for natural and supplementation origin adults, biological data from salmon carcasses, juvenile production in treatment and control streams, juvenile passive integrated transponder (PIT) tag interrogations at detection facilities throughout the Columbia River basin, supplementation treatments, and stray rates of general production hatchery adults into study streams.

Results derived from the Idaho Supplementation Studies will address key uncertainties associated with supplementation of natural populations of listed Chinook salmon and help address RPA's identified in the FCRPS draft Biological Opinion and issues related to the Endangered Species Act.

Snake River Sockeye Salmon Habitat/Limnological Research Project # 199107100

In March 1990, the Shoshone-Bannock Tribes petitioned the National Marine Fisheries Service (NMFS) to list Snake River sockeye salmon (*Oncorhynchus nerka*) as endangered. Snake River sockeye salmon were officially listed as endangered in November 1991 under the Endangered Species Act (56 FR 58619). In 1991, the Snake River Sockeye Salmon Habitat and Limnological Research Project was implemented. This project is part of an interagency effort to prevent the extinction of the Redfish Lake stock of Snake River sockeye salmon. The Shoshone-Bannock Tribal goal for this project is two tiered: The immediate goal is to increase the population of Snake River sockeye salmon while preserving the unique genetic characteristics of the Evolutionarily Significant Unit (ESU). The Tribes long term goal is to maintain a viable population that warrants delisting and provides Tribal harvest opportunities.

The Bonneville Power Administration (BPA) provides funding for this interagency recovery. Collaborators in the recovery effort include the National Oceanic and Atmospheric Administration (NOAA), the Idaho Department of Fish and Game (IDFG), the University of Idaho (UI), and the Shoshone-Bannock Tribes (SBT).

Project tasks include: 1) monitor limnological parameters of the Sawtooth Valley lakes to assess lake productivity; 2) conduct lake fertilization in Redfish, Pettit, and Alturas lakes; 3) reduce the number of mature kokanee spawning in Fishhook and Alturas Lake creeks; 4) monitor, evaluate, and enumerate sockeye salmon smolt migration from Pettit and Alturas lakes; 5) monitor spawning kokanee escapement and estimate fry recruitment in Fishhook and Alturas lakes; 6) conduct sockeye and kokanee salmon population surveys; 7) evaluate potential competition and predation between stocked juvenile sockeye salmon and a variety of fish species in Redfish, Pettit, and Alturas lakes; and 8) assist IDFG with captive broodstock production activities.

In addition to on-going tasks, the Shoshone-Bannock Tribes seek additional program funding to: 1) modify the Pettit Lake Creek weir to accommodate flow conditions during the entire Snake River sockeye salmon smolt migration period; 2) design, purchase, and implement kokanee salmon weirs to manage spawning escapement and recruitment of non-native intraspecific competitors in Alturas Lake Creek and Fishhook Creek; 3) utilize existing Snake River sockeye salmon critical habitat through potential re-introductions; 4) and support an SBSTOC trap and haul program proposal that would, under certain environmental conditions, trap and haul adult Snake River sockeye salmon migrants from Lower Granite Dam to the Sawtooth Valley.

On-going project tasks, and additional tasks mentioned herein, will directly address specific goals and objectives outlined in the FCRPS Biological Opinion and the Endangered Species Act.

Salmon River Habitat Enhancement Project # 199405000

The Salmon River Habitat Enhancement (SRHE) projects overall goals are to recover Chinook salmon and steelhead in the Columbia River Basin, focusing primarily on the Salmon River Basin. In accordance with the 1994 and 2000 Columbia River Basin Fish and Wildlife Program goals and objectives, the SRHE project has been continually rebuilding healthy, naturally producing fish and wildlife populations by protecting and restoring habitats and the biological systems within. The SRHE incorporates ecological habitat-forming process prior to project implementation in accordance to the FWP Scientific Principle #4, thus providing appropriate habitat management on the ecosystem through detailed monitoring and evaluation of past project enhancement efforts.

The SRHE project addresses several objectives from the 2000 FWP, under HABITAT and Appendix D involving Provisional Statement of Biological Objectives for environmental characteristics at the Basin level. Specific objectives are incorporated into the SRHE projects;

1. Protect the areas and ecological functions that are at present relatively productive for fish and wildlife populations to provide a base for expansion of healthy populations as we rehabilitate degraded habitats in other areas.
    - Allow for the expansion of productive populations by habitat restoration actions to connect weak populations to stronger populations and to each other.
    - Allow for recovery of depleted and listed populations to at least the point of self-sustainability and a low probability of extinction.
    - Allow for an increase in number, complexity and range of multi-species fish and wildlife assemblages and communities.

2. Protect and restore freshwater habitat for all life history stages of the key species. Protect and increase ecological connectivity between aquatic areas, riparian zones, floodplains and uplands.
    - Increase in connections between rivers and their floodplains, side channels and riparian zones.
    - Manage riparian areas to protect aquatic conditions and form a transition to floodplain terrestrial areas and side channels.
    - Identify, protect and restore the functions of key alluvial river reaches.
    - Reconnect tributary habitats to protected or restored mainstem habitats, especially in area of productive mainstem populations.

3. Allow patterns of water flow to move more than at present toward the natural hydrographic patterns in terms of quantity, quality and fluctuation.
    - Habitat restoration may be framed in the context of measured trends in water quality.
    - Allow for seasonal fluctuations in flow. Stabilize daily fluctuations.
    - Increase in correspondence between water temperatures and the naturally-occurring regimes of temperatures throughout the basin.

- Significantly reduce watershed erosion where human activities have accelerated sediment inputs.

4. Increase energy and nutrient connections within the system to increase productivity and expand biological communities.

5. Allow for biological diversity to increase among and within populations and species to increase ecological resilience to environmental variability.
   - Expand the complexity and range of habitats to allow for greater life history and between species diversity.
   - Manage human activities to minimize artificial selection or limitation of life history traits.
   - Restore habitat and access to habitat that establishes life history diversity is a priority.

6. Increase genetic connections and gene flow within the ecological system to facilitate development, expansion and protection of population structures.
   - Increase the abundance and range of existing habitats and populations.
   - Expand and connect existing habitat pocket to facilitate development of resilient population structures for aquatic communities.

7. Enhance the natural expression of biological diversity in salmon and steelhead populations to accommodate mortality and environmental variability in the ocean.

8. Accept significant variation in the productivity, capacity and life-history diversity for any particular population over any particular time period, as part of the normal environmental condition. A measure of whether key ecological functions have increased sufficiently will be whether the system can accept normal environmental variation without collapse of the fish and wildlife population and community structure.

As a continuation of the SRHE project, our evaluation to date has included both physical and biological parameters. Information on the physical characteristics of the stream, stream substrate, streambank, and riparian community is collected. Biological monitoring includes data on fish, invertebrates and vegetation. In addition to monitoring and evaluation of the habitat enhancement areas, the project continues to pursue new enhancement efforts and research, where appropriate, throughout the Salmon River basin to protect and restore anadromous fish habitat.

Funding has been allocated for the SRHE project through FY2009 for ongoing monitoring (O&M) evaluations. To pursue new enhancement efforts and research in the Salmon River basin this project will need a substantial increase in budget. Overall, the SRHE program intends to sustain healthy, naturally producing fish and wildlife populations by protecting and restoring habitats and the biological systems within.

Slate Creek Habitat Enhancement

This project is located in the East Fork Salmon River/White Clouds Management Area 3, tributary to the Salmon River. Although there is limit data on Slate Creek, Streamnet (2005) lists Chinook salmon and steelhead use in the lower 42% for spawning and rearing and bull trout use in the lower 73% miles year round. It is believed redband and cutthroat trout utilize habitats within the mainstem of Slate Creek.

The watershed has been substantially altered through grazing, mining, agricultural development and associated roads. Other than Yankee Fork, no watershed in the vicinity has had a more active disturbance history, from both natural and man-made disturbances, than has Slate Creek. Two substantial floods are documented in the last 50 years affecting headwater tributaries and the mainstem, and most of the watershed has been altered with mining and/or grazing (Forest Service 2003d). Although no quantitative habitat data was found, the Forest Service (Forest Service 2003d) had qualitatively evaluated Slate Creek Watershed

To meet the fish and riparian habitat objective, a multi- phased plan has been developed to minimize impacts and eliminate barriers, provide biologically sufficient flow, and improve stream and riparian habitat. The following phases have been identified:

Phase 1: Monitoring & Evaluation

- Flow measurements
- Redd counts, Spring & Fall season
- Habitat Access: Physical barriers (unscreened irrigation diversions)
- Habitat Elements: substrate embeddedness, Large woody debris, pool frequency, pool quality, off channel habitat, refugia
- Water Quality: Temperature, Sediment, Chemical Contaminants & Nutrients
- Channel condition & Dynamics: width/depth ratio, streambank condition, floodplain connectivity
- Flow/Hydrology: road density and location, disturbance history, riparian conservation areas, disturbance regime, Integration of species and habitat conditions
- Reclamation: Assess and develop plans to address tailings which impose potential risk to stream channel

Phase 2: Conservation Efforts on Private lands

- Transfer or consolidation of water rights, points of diversions
- Improve water conveyance through pipes and sprinklers
- Administer water rights under state law
- Screen points of diversion
- Bank stability
- Minimize grazing activity next to and on stream: ie. fencing

Phase 3: Habitat improvement and additional flow augmentation

- Improve riparian habitat condition
- Restore channel function and in-stream habitat condition
- Improving water conveyance as necessary
- Improve rearing habitat

The Slate Creek proposal project will help identify and fill data gaps to help ensure the survival and reestablish habitat for historical anadromous and residential fish populations.

Projects will be developed for all phases for enhancement. The Tribes are currently proposing an easement agreement on properties where impacts are at large. This will facilitate development and implementation of projects that will meet the enhancement objective, while providing viable data on anadromous and residential fish population.

Smiley Creek Enhancement Project

Smiley Creek is an 11.4-mile-long tributary to the upper Salmon River. Smiley Creek has two named tributaries including Mill Gulch (3.4 miles long) and Sawmill Canyon (1.9 miles long), plus an additional 21.3 miles of unnamed tributaries.

The upper headwater area of the drainage has experienced heavy impacts from patented mining development during the past century from the Vienna, Solace, and Webfoot mines. Other historical use of this area has included livestock grazing from sheep and cattle and timber harvesting (Forest Service 2004b).

To meet the fish and riparian habitat objective, a multi- phased plan has been developed to minimize impacts and eliminate barriers, provide biologically sufficient flow, and improve stream and riparian habitat. The following phases have been identified:

Phase 1: Monitor & Evaluation
- Sediment levels and turbidity
- Assess streambank stability
- Flow measurement
- Core sampling
- Fish density
- Assess upland vegetation

Phase 2: Culvert
- Place new culverts for perennial flows

Phase 3: Minimize unauthorized roads
- Install fence or sign along marsh areas to control motor access

Phase 4: Water Rights
- Improve water diversion

- Fish screen
- Address water pumps used by private land owners
- Improve water levels

Phase 5: Upland stabilization
- Rehabilitate upland using native vegetation

Yankee Fork Pond Series 1 Restoration/Reconnect Project

The Yankee Fork Salmon River (YFSR), a major tributary to the upper Salmon River, is an important spawning and rearing system for anadromous salmonids, steelhead, bulltrout and native resident fish populations. Extensive unconsolidated and unvegetated dredge tailings have increased sedimentation of spawning gravels and rearing pools and reduced riparian vegetation (Richards et al. 1989). The project proposes pond series 1 (788 meters) for habitat enhancement efforts to increase spawning and rearing for Chinook and steelhead. The listed status of this population, and project goals identified herein, provide a direct tie to RPA's identified in the draft FCRPS Biological Opinion.

The current capacity of pond series 1 provides an excessive area of rearing habitat (71%) and a minimal of 29% of spawning habitat. In addition, access to current pond has been posed as a fish barrier; a five foot culvert has prevented negation for spawning and rearing Chinook. Project proposes a multi-phase approach:

Phase 1:
- Acquisition of easement
- Consultation (design, monitor and evaluation)
- Coordinate efforts amongst various entities
- Assessment of developed plans

Phase 2: Culvert or Bridge
- Replacing culvert with a bottomless culvert and/or bridge, this will advise for a fish-friendly passage.
- Road improvement

Phase 3: Action
- Implement plan of action according to suitable approach for habitat enhancement efforts.

Phase 4: M & E
- Conduct monitoring and evaluation of environmental and biological responses to improved habitat.

The project will help ensure spawning, rearing and survival of historical anadromous and residential fish populations.

Panther Creek Coordination & Restoration Project

Panther Creek is a large tributary to the Salmon River which historically supported substantial runs of Chinook salmon and steelhead. In the late 1800's mining activity at the Blackbird Mine site within Blackbird Creek, a tributary to Panther Creek, began and peaked in the late 1940s-1950s. Contamination from copper and other hazardous mining effluent caused a loss of Chinook salmon and steelhead habitat and eliminated Snake River spring/summer Chinook salmon and steelhead from Blackbird Creek and Panther Creek by the early 1960's. The National Oceanic and Atmospheric Association (NOAA) has implemented a Biological Restoration and Compensation Plan for Panther Creek which includes a hatchery operations plan, smolt survival plan, and a performance monitoring plan (DARP 1998).

The Tribes would like to establish a review panel to coordinate the health and success of Panther Creek due to the impact mining has had within the last century. In addition, due to the high volume of traffic and use, the Tribes suggest culvert replacement in various areas within the drainage. Implement habitat assessment on private lands, consistent with easement agreement, leasing of water rights and diversions.

Regulatory assessment and evaluation will help ensure the health and production of historic anadromous and residential fish populations. Project will monitor to minimize degradation and impact on Panther Creek while securing the health and success of the drainage to near historic levels.

Yankee Fork Salmon River Dredge Tailings Restoration Project # 200205900

The Yankee Fork Salmon River (YFSR) is located in Central Idaho and is one of the larger watersheds within the Upper Salmon River Basin. The river lies in the Salmon-Challis National Forest east of Stanley, Idaho. The Yankee Fork contributes to the Upper Salmon River with diverse habitats, the availability of low gradient stream channel reaches, aquatic productivity, and a remnant spawning and rearing population, this contributes to make the Yankee Fork an important site for Spring Chinook, Steelhead and other native species within this system. The Tribes are especially concerned about the Spring Chinook run in the Yankee Fork Salmon River. There is a need to increase numbers of anadromous fish to promote recovery. The Yankee Fork Dredged reaches are in need of restoration for these endangered species to spawn and rear.

Dredge mining in the early 1900's has severely altered ten kilometers of the stream, eliminating much of the natural meander pattern, associated instream habitat, and riparian vegetation and their functions. The existing stream-floodplain complex consists of unconsolidated and unvegetated dredge tailings that offer little habitat for both aquatic and terrestrial species. The historic floodplain has been severely altered and the Yankee Fork Salmon River can no longer access the floodplain causing an interruption of natural and nutritional fluxes. Therefore, it is important to this system, that the floodplain is

restored back to near natural conditions. This will be done by redistributing tailing piles away from the river and letting the Yankee Fork flow naturally.

The goal of the Yankee Fork Salmon River Floodplain Restoration Project is to restore natural river channel characteristics, floodplain function, hydraulic and sediment regimes, and aquatic habitat within the dredged reach of the YFSR, to create a system that is self sustaining. Restoring the river to natural conditions will create a healthy, functioning riparian community that will help benefit the enlisted spring Chinook salmon, Steelhead salmon, other native fishes and wildlife, also to help restore cultural significance, within this system by improving habitat conditions. While the expected outcomes include benefits to anadromous salmonids, especially Spring Chinook salmon, and other native fishes through a healthy, functioning floodplain and riparian community, and increase in spawning and rearing habitat for salmonids, also create in stream habitat diversity and upslope stability. The project does not plan on removing all the dredge tailings within the YFSR, due to the large volume of rock piles and the high expense of the removal; therefore, we are concentrating on the dredge tailing along the river. By removing the dredge tailings along the river it will have access to its floodplain. And we would like to reconnect Jerry's Creek and Silver Creek, two tributaries that have not accessed the river since 1950's. Included in the plans are to also reconnect ponds to the river, there is ground water within these ponds that would help benefit the river with cooler waters.

Vision

Restoring the Yankee Fork Salmon River, historically a major Chinook salmon producer, to natural conditions will create a healthy functioning riparian community providing numerous benefits to Chinook salmon, Steelhead, other native fishes, wildlife, and the Shoshone Bannock Tribes.

Snake River Spring Chinook salmon have used the Yankee Fork and its tributaries for spawning and rearing long before European settlements entered the Upper Salmon basin watershed. The Shoshone Bannock and other tribes used the Salmon River and the Yankee Fork Salmon River to fish and hunt, historically, currently, and hopefully in the future. An example of the Native Americans using these areas is the Bannock; every summer the Bannock would travel to the Yankee Fork Salmon River and camp at the mouth of Ramey Creek to harvest Chinook salmon. The Yankee Fork Salmon River is an exclusive and common use area for the Shoshone Bannock and other Tribes. To help keep the fish run adequate for future uses the YFRP plans to complete various tasks to help restore the Yankee Fork dredged reaches.

Continue baseline data for three more years

> Plan on gathering sediment transport and continue working the discharge rating curve. These data points will help determine what rehabilitation techniques will be the most successful in the long term. A ground survey of the existing ponds will be conducted to fill in the missing data gaps.

Environmental site characterization with the dredged reaches of the Yankee Fork

This site characterization will help determine the extent of the contaminants left by the dredging in the early 1900's.

Working with external stakeholders, Simplot and technical team throughout the project

Keeping everyone involved will help the projects success of restoration and will help answer questions and have input throughout the restoration processes. Will continue working with Simplot to secure an easement throughout the dredged areas of the Yankee Fork Salmon River. Will involve Simplot throughout the projects duration to help with restoration and Summer 2008 there will be a Technical Advisory Team will be put together to help determine what will best fit the restoration project and ensure the progress of the planning, restoration, and monitoring and evaluation phases. This team will consist of a geomorphologist, hydrologist, fish biologist, ecologist, and a botanist.

Comparison between fish abundance and food availability

The Idaho state university ecology departments has completed the M& E plan and want to continue working with the Tribes on completing a study within the Yankee Fork Salmon River on comparing the fish abundance to food availability. This can be accomplished by June 2009. This study will help determine if there is enough food available within the dredged portions of the Yankee fork. Planning process to select the best fit pilot project, permitting process, and analyze the baseline data to determine what would be the most successful restoration plan. The work will be completed by the current graduate student that has been working M&E.

Planning process to select the best fit pilot project, permitting process, and analyze the baseline data to determine what would be the most successful restoration plan

The pilot project will be selected, the permitting process will begin and then construction in 2010 with two years to monitor and evaluate. Once success is determined the complete six miles with then be finalized in drawings to be constructed. Once the engineer designs are complete the permitting process will begin for the remainder of six miles. The project will be done in section miles and constructed each year starting in 2012-2015. Once each section is complete monitoring and evaluation will begin.

Monitoring and evaluation will begin once construction is complete at each section

M & E will follow the Idaho State University Ecology Departments Monitoring and evaluation plan they have provided to the Tribes. This M & E plan will be implemented once construction is complete and evaluated over several year spans to determine the success of the restoration plan. This will take several years due to the life cycle of the Chinook salmon of 3-5 years.

Vegetative planting where needed and Minor reconstruction of structures

There will be vegetative planting within structures and along the floodplain. These plantings will be native plants that are throughout the system and will be used to secure structures and to jumpstart the vegetative process within a

floodplain. It seems to never fail to flood once a structure is complete and due to this, there are some minor adjustments that will be needed. These minor adjustments will be due to flooding before the grass or vegetation has grown in for stabilization. This funding will be included within the proposal.

Finalize the success of the project; the M & E will be analyzed and aerial photography
Once M&E is complete, the data will be analyzed to determine success of the program, also with observations of fish using the constructed sites throughout the dredge reaches we can use the YFRP as an example for future dredge tailings projects. Aerial photography will be taken at the end of the project to see the before and after effects of restoration.

Habitat Improvement/Enhancement –Fort Hall, Idaho Project # 199201000

The primary goal of the Resident Fisheries Program (RFP) is to restore, enhance, and protect Fort Hall Indian Reservation (Reservation) streams so they can support native fish populations at historic levels. Streams on the Reservation have been negatively affected (i.e. loss of riparian vegetation, downcutting, and lateral scouring of stream banks) by a variety of sources, including, livestock grazing; American Falls Reservoir construction and operations; and the 1976 Teton Dam collapse. Cattle, bison, and horses have been present on the Reservation since the early 1800's. Damage to stream banks from years of unrestricted grazing continues to be a problem on Reservation streams. In addition, rapid flooding and drafting of American Falls Reservoir in conjunction with seasonal freeze-thaw cycles is a cause of stream bank failures on lowland Reservation streams. Negative impacts from stream bank failures include widened channels; a reduction in riparian vegetation and in-stream cover; increased summer water temperatures; and deposition of fines on critical spawning and rearing substrates.

In 1992, the RFP, by combining Bonneville Power Administration and Bureau of Indian Affairs projects, began large-scale, low-tech, habitat restoration projects on the Reservation. Restoration was directed at stabilizing eroding banks, deepening and narrowing stream channels, and restoring diversity to the spring-stream biota with in-stream structures. Restoration efforts were originally focused on Clear Creek, a heavily impacted Reservation stream. The RFP has also directed efforts toward other Reservation streams, including, Spring; Diggie and Big Jimmy creeks. The primary focus of restoration has changed over the course of the project, in particular, less reliance on in-stream structures and more reliance on exclosure fencing, bank sloping and re-vegetation and natural healing processes.

Southern Idaho Wildlife Mitigation Project # 199505702

The Shoshone Bannock Tribes- Southern Idaho Wildlife Mitigation (SBT-SIWM) program is an ongoing program of the Northwest Power and Conservation Council (NPCC) Columbia Basin Fish and Wildlife (CBFW) Program. In 1980, Congress recognized the significance of the declines in fish and wildlife populations throughout the

Columbia basin caused by hydropower development and passed the Pacific Northwest Electric Power Planning and Conservation Act (Public Law 96-501). The act established the Northwest Power and Conservation Council (NPCC) and directed it to prepare the CBFW Program to protect, and enhance fish and wildlife habitats to mitigate for these declines.

To mitigate for wildlife habitat losses caused by hydropower development CBFW Program outlined a process using the habitat evaluation procedure (HEP; USFWS 1980a) to estimate losses and measure mitigation gains from protection and enhancement programs (NPCC 1994, 2000). Habitat is assessed using Habitat Suitability Index models (HSI) for a subset of representative species. HSI values are then used to estimate habitat units (HU) by multiplying the HSI by the amount of habitat lost.

The Southern Idaho Wildlife Mitigation Program was created to mitigate for habitat losses associated with hydropower development in southern Idaho. The Shoshone-Bannock Tribes signed on to the program in 1997 in a MOA with BPA (BPA and SBT 1997). SBT-SIWM has focused on habitat losses associated with the the Upper Snake Province (USP) caused by hydropower development. In the USP habitat losses were identified at 37,070 HU for the Palisades Dam (Sather-Blair and Preston 1985) and 10,503 HU for the Minidoka Dam (Martin and Meuleman 1989). To date, SBT-SIWM has protected 8,441 acres and mitigated for 14,916 HU's.

To achieve mitigation goals, SIWM protects and enhances targeted habitat types through fee-title acquisitions, conservation easements and other enhancement opportunities. SIWM also performs ongoing operations and management (O+M) to maintain and enhance project lands. Monitoring habitat health is an integrated part of O+M to allow for adaptive management. In addition, SIWM works collaboratively with other fish and wildlife management agencies, subbasin work groups, and federal land managers in the region. Coordination efforts have included site tours of proposed acquisitions, agency review of planned acquisitions/enhancements (rated according to modified ISRP project review criteria), review of management plans (prior to CBFWA review), and meetings with SIWM managers and other interested entities where each entity summarizes accomplishments and prepares presentations on acquisitions/ enhancements, coordinates M&E plan development, and reviews HU allocation.

SBT-SIWM performs ongoing operations and management (O+M) to maintain and enhance project lands according to CBFWA guidelines (1998). SBT has primary O+M responsibility for two of the projects; Soda Springs Hills and Rudeen Ranch. O+M has includes fence construction and signage to control OHV use and exclude cattle, planting previously cultivated agricultural fields with native plant species, and noxious weed control. Monitoring habitat health and wildlife populations is an integrated part of O+M to allow for future adaptive management. Habitat monitoring focuses on both long-term habitat change and effectiveness monitoring of vegetation treatments. Wildlife population monitoring focuses on species of concern identified in the relevant HEP's (mule deer, ruffed grouse, and bald eagles). In addition, SIWM works collaboratively with other fish and wildlife management agencies, subbasin work groups, and federal

land managers in the region in efforts to protect wildlife habitats and populations both on acquired lands and in the USP as a whole.

SBT-SIWM was created specifically to implement projects in southern Idaho to accomplish the goals for wildlife protection, mitigation, and enhancement outlined in the CBFW Program mandated by the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Public Law 96-501) establishing the NPCC and directing it to prepare a program to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of hydroelectric projects in the Columbia River system. SBT SIWM is consistent with and fully justified by the CBFW Program and Upper Snake Subbasin Management Plan as demonstrated below.

SBT SIWM was created to meet the objectives for wildlife mitigation outlined in the Fish and Wildlife Program (NPCC 2000):

- Quantify wildlife losses caused by the construction, inundation, and operation of the hydropower projects.
- Develop and implement habitat acquisition and enhancement projects to fully mitigate for identified losses.
- Coordinate mitigation activities throughout the basin and with fish mitigation and restoration efforts, specifically by coordinating habitat restoration and acquisition with aquatic habitats to promote connectivity of terrestrial and aquatic areas.
- Maintain existing and create habitat values
- Monitor and evaluate habitat and species responses to mitigation actions.

The wildlife objectives set forth in the 2000 Fish and Wildlife Program were also used as the basis for the management plan developed in the Upper Snake Province Assessment (NPCC 2004). The overall goal of the USP management plan is to protect and enhance aquatic and terrestrial habitats, species assemblages, and ecological functions in the USP to mitigate for the adverse effects to fish and wildlife caused by the development and operation of the hydrosystem. The vision for the USP Plan is to enhance, establish, maintain, and protect a healthy ecosystem that supports a diversity of aquatic and terrestrial species and will offer a diverse array of ecological environments that have been altered or lost. Such conditions will provide for the diverse social, cultural, tribal, and economic needs as established by treaty and law including recovery of Federally listed and State and Tribal sensitive species.

The USP assessment lists limiting factors that describe the source of ecological disruption to individual focal habitats and focal species and provide a framework for creating specific, measurable biological objectives and strategies to remedy the factors (NPCC 2004). SIWM was created to address the goals and vision of the USP management plan by protecting and enhancing habitat to address these limiting factors.

In addition, Water quantity and quality is a limiting factor for listed anadromous fish species downstream in the Lower Snake and Columbia Rivers. SBT-SIWM would help remedy this situation by protecting important habitats in the Upper Snake River.

Research has shown that healthy ecosystems provide important water storage and release functions and improve water quality.

As an ongoing program funding has been allocated through FY2009 through the NCCP Planning Process. The proposed budget for FY2007-FY2009 is $1.6 million capital and $380,000 O&M per year. In order to complete mitigation as required by the CBFW Program a large budget increase will be necessary.

The current capital budget is too small to purchase the amount of habitat that must be protected on a yearly basis in order to complete mitigation. A preliminary estimate of costs to complete mitigation in the upper snake province alone was approximately $50 million. A capital budget of $5million dollars per year for FY2010-2017 is proposed in order to protect the necessary amounts of habitat.

In addition as the amount of habitat protected by SBT-SIWM increases it will be necessary to increase the O&M budget to allow for management and habitat improvement projects. Starting in FY2010 an O&M budget of $550,000 increasing by $50,000 per year to a total of $900,000 in FY2017 is proposed. This budget will allow for increases in staff; and administrative, monitoring, and habitat management programs. Staff increases will include additional full time biologists and technicians, and funding for contract or partial funding of tribal staff; statistician, hydrologist, and administrative support. Monitoring of both wildlife population and habitat will be necessary in order to undertake adaptive management of protected lands. An increase in funds for habitat management, in addition to the increase for staff and monitoring programs, will allow for adaptive management and an increased habitat enhancement program.

[6]Yankee Fork Supplementation Program

In US v. Oregon, the Parties agree to initiate a chinook salmon and steelhead smolt supplementation program. The Shoshone-Bannock Tribes (SBT) fish supplementation activities are designed to supplement natural populations in a manner that will improve salmon and steelhead viability. SBT objectives of supplementation activities are to: 1) increase abundance of chinook salmon and steelhead; 2) increase spatial structure of chinook salmon and steelhead; 3) increase genetic diversity and long-term fitness of chinook salmon and steelhead; 4) increase productivity of chinook salmon and steelhead; and 5) increase knowledge of fishery management and hatchery supplementation.

Chinook

The SBT, Idaho Fish and Game, and NOAA-Fisheries determined Yankee Fork as an acceptable watershed to initiate a supplementation program in conjunction with Sawtooth Fish Hatchery (SFH). SFH will provide both interim and long-term spawning, egg incubation, and juvenile rearing for the Yankee Fork Chinook Salmon Supplementation Project (YFCSS), until a weir and adult facility is constructed on Yankee Fork.

The YFCSS will release chinook salmon supplementation smolts for purposes of increasing adult returns, meeting broodstock requirements, harvest mitigation, and recovery in the Yankee Fork. In order to achieve the adult return goal, survival from smolt-to-adult should be greater than 0.26%.

The Tribes will implement monitoring and evaluation of the chinook salmon supplementation. The Tribes will use DNA parentage analysis in Yankee Fork to determine whether F2 adults are produced.

Steelhead

Annually, SBT will coordinate the release 440,000 steelhead smolts in the Yankee Fork Salmon River. Returning adults are spawned at both the Sawtooth Fish and Pahsimeroi Fish Hatcheries. Eyed eggs will be transferred to and steelhead smolts reared at the Hagermann National and Magic Valley Fish Hatcheries. Monitor and evaluation will be designed to evaluate, through DNA parentage analysis, survival of smolt releases in Yankee Fork. Trapping will incur in Yankee Fork to collect broodstock for the steelhead smolt program, chinook salmon supplementation project, and the stream-side incubation program.

[7]Steelhead Streamside Incubator (SSI) Program

In US v. Oregon, the parties agree to implement the steelhead SSI program. Annually, one million hatchery steelhead eyed eggs, obtained from returning adults to Sawtooth and Pahsimeroi Fish Hatcheries, are incubated in stream-side incubators in five Upper Salmon tributaries (Morgan Creek, Panther Creek, Indian Creek, Basin Creek, and Yankee Fork). Eggs are incubated with spring or river water and fry volitionally emigrate into the stream closely mimicking natural production.

The Yankee Fork Salmon River (YFSR), a major tributary to the upper Salmon River, is an important spawning and rearing system for anadromous salmonids, as well an important traditional use area for the Shoshone-Bannock Tribes. Based on the population delineations and viability criteria from the Interior Columbia Basin Technical Recovery Team, the Yankee Fork is underutilized by anadromous species. The Shoshone-Bannock Tribes developed supplementation activities designed to improve viability of natural populations of steelhead to support harvest and improve abundance, productivity, spatial structure, and genetic diversity.

Adult steelhead are trapped, spawned, tissue sampled, and incubated at the Sawtooth Fish Hatchery. Once eggs reach the eye-up stage, they are randomized and incubated separately in five stream-side incubators in the YFSR. Eyed-eggs are incubated in river water to ensure natural hatch timing. Three-pass removal electrofishing studies are conducted in twenty-one randomly, stratified reaches throughout the YFSR to collect genetic tissue samples and preliminary density and population estimates. Tissue samples from both 0+ and 1+ age *Oncorhynchus mykiss* are transferred to the Abernathy Fish Technology Center for full parental genotyping to identify hatchery-origin fish outplanted

as eggs in the YFSR. Genetic parentage analysis will evaluate the relative abundance of hatchery-origin and natural-origin juvenile steelhead in the YFSR. Relative abundance will be measured as the proportion of parr produced from streamside incubators relative to natural-origin parr encountered in the sample. Proportions will be scaled by the estimated number of eggs planted or produced naturally, and the corresponding egg-to-hatch survival rates.

[8]South Fork Salmon River Supplementation Program

In US v. Oregon the parties agree to implement the South Fork Salmon River Supplementation Program. The SBT will utilize hatch-boxes to incubate 300,000 eyed summer run chinook salmon eggs to closely mimic natural production and release fry into Dollar Creek, a tributary of the South Fork Salmon River. Hatchery adults trapped at the South Fork Salmon River satellite facility and adults are spawned from the entire run in an attempt to increase survival of the most fit individuals. Success is determined through enumerating dead eggs to estimate fry produced, although, little is known about the success of fry survival. However, juveniles from the egg-box program will experience natural selection, therefore, producing increasing fit hatchery fish. Future monitor and evaluation studies will include electrofishing to estimate fish densities and fry survival, and pairing Dollar Creek with a control stream to document changes in fish densities.

[9]Panther Creek Chinook Salmon Re-introduction

Once abundant, chinook salmon are now classified as extirpated in Panther Creek, Idaho. As a result, the Shoshone-Bannock Tribes (Tribes) Fisheries Department has initiated planning to implement a large-scale hatchery re-introduction program. Planning for this hatchery would commence with FY 2008 funding and include the development of a Hatchery Genetics Management Plan (HGMP) and a feasibility plan which includes engineering, design, and construction costs. Meanwhile, the Tribes would determine the existing population size, genetics, and applicable information for determining the best available stock for re-introduction.

In 1991, NOAA-Fisheries classified Panther Creek chinook salmon as an extirpated population (ICTRT 2005). However, extirpated chinook salmon populations when re-established, can contribute to overall ESU abundance, productivity, and diversity. The ICTRT (2005, 2006) viability criteria recommend that all Major Population Groups (MPGs) in the ESU must be viable before the ESU can be considered at low risk of extinction and a candidate for delisting. Panther Creek is located within the Upper Salmon MPG; one population must be highly viable, five populations must be viable, and four must be maintained. Re-introduction of chinook salmon in Panther Creek will mitigate the risk of catastrophic loss, can provide connectivity between currently occupied populations and contribute to other natural interactions between populations. In addition, the Upper Salmon River MPG would be closer to recovery should re-introduction of chinook salmon occur in Panther Creek.

[10]Lemhi River Chinook Salmon Supplementation Program

In US v. Oregon the parties agree to determine the feasibility of initiating the Lemhi River Chinook Salmon Supplementation Program. The ICTRT (2005, 2006) viability criteria recommend that all Major Population Groups (MPGs) in the ESU must be viable before the ESU can be considered at low risk of extinction and a candidate for delisting. In the Upper Salmon MPG, five populations must reach viability criteria, one of which must meet highly viable. The Lemhi River has been chosen by the ICTRT (2006) as one population that must meet the viability criteria as it provides important connectivity to other MPGs, as a large, downstream population and historically may have supported summer chinook production.

As a result, the Shoshone-Bannock Tribes (Tribes) Fisheries Department has initiated planning to implement a hatchery supplementation program in the Lemhi River. Planning for this hatchery would commence with FY 2008 funding and include the development of a Hatchery Genetics Management Plan (HGMP) and a feasibility plan which includes engineering, design, and construction costs. Meanwhile, the Tribes would determine the existing population size, genetics, and applicable information for determining the best available stock for re-introduction. Initiation of this project would promote recovery and production of the ESU and help in achieving an ESU standard where the population is no longer at risk or needs protection.

[11]Chinook Salmon and Steelhead Harvest Management

The Shoshone-Bannock Tribes exercise their right to hunt for Snake River Spring/Summer chinook salmon and Snake River steelhead under inherent rights and the Fort Bridger Treaty of July 3, 1868 (15 Stat 673). The Tribes, working in concurrence with NOAA-Fisheries through the adoption of Tribal Resources Management Plans (TRMPs), will recommence fisheries in respect of the Fort Bridger Treaty and honor the current listings and status of the Snake River chinook salmon and steelhead.

Under said completed TRMPs, the SBT will develop adult escapement estimates for natural and hatchery origin chinook salmon and steelhead, apply escapement estimates to abundance-based sliding scale harvest rate frameworks and develop population specific harvest targets, monitor and evaluate salmon and steelhead fisheries, determine total abundance of salmon and steelhead for each fishery management area, monitor life history characteristics for each species, and communicate relevant findings to NOAA-Fisheries and other sources.

Monitoring and evaluation will include collecting information from redd counts, tributary juvenile abundance and smolt emigration, hatchery rack jack and adult returns, dam counts, visual observations, and catch per unit effort though on the ground creel surveys. This harvest management program will pair with the population status/trend program to

utilize dual frequency identification sonar (DIDSON) acoustic imaging techniques to accurately and precisely monitor and assess chinook salmon and steelhead abundance in several basin tributaries.

[12]Salmon River Nutrient Supplementation Program

Pacific salmon and steelhead once contributed large amounts of marine-derived carbon, nitrogen, and phosphorus to freshwater ecosystems in the Pacific Northwest (PNW) of the United States of America (California, Oregon, Washington, and Idaho). Declines in historically abundant anadromous salmonid populations represent a significant loss of returning nutrients across a large spatial scale.

Healthy populations of salmon that once provided annual nutrient subsidies to otherwise nutrient impoverished environments remain depressed or have been extirpated (Levy, 1997). Currently, Pacific salmon occupy approximately 40% of their historic range (Nehlsen, Williams, & Lichatowich, 1991) and contribute just 6-7% of the marine-derived nutrients historically delivered to PNW rivers and streams (Gresh et al., 2000). Consequently, many forested streams of the region are now characterized as ultra-oligotrophic (Welsh, Jacoby, & May, 1998), a condition of low nutrient concentrations suggested to result from a combination of parent geology and low numbers of returning salmon (Ambrose, Wilzbach, & Cummins, 2004). In the upper Salmon River basin of central Idaho, the paucity of returning adult salmon and catchment scale nutrient deficits may constrain freshwater productivity and effectively limit efforts to recover salmon and steelhead populations throughout the PNW. Thomas et al. (2003) estimated that 25-50% of Idaho streams are nutrient limited and Achord, Levin, & Zabel (2003) found evidence of density-dependent mortality at population sizes well below historical levels, suggesting nutrient deficits as a limiting factor capable of reducing stream rearing carrying capacities.

In a recent analysis, Scheuerell et al. (2005) examined phosphorus-transport dynamics by spring/summer Chinook salmon (*Oncoryhnchus tshawytscha*) in the Snake River basin and estimated that over the past 40 years <2% of historical marine-derived phosphorus reached natal streams. Moreover, observations of variable density-dependent mortality at low spawning densities could lead to a net nutrient export from freshwater ecosystems, as more nutrients leave as smolts than are returned as adults (Moore &, Schindler, 2004). Given contemporary anadromous production, hydrosystem conditions, low smolt-to-adult returns (SAR), and ocean productivity trends, conservation efforts could be stymied by a lack of available nutrients to freshwater rearing habitat in the Salmon River basin (Achord et al., 2003; Thomas et al., 2003).

Recently, the Shoshone Bannock Tribes conducted studies evaluating the stream food web response to a salmon carcass analog treatment in two central Idaho streams. Results have been published in Freshwater Biology (Kohler et al., 2007). Our study illustrated that periphyton chlorophyll *a* and AFDM and macroinvertebrate biomass were significantly higher in stream reaches treated with salmon carcass analogs. Enriched

stable isotope ($\delta^{15}N$) signatures were observed in periphyton and macroinvertebrate samples collected from treatment reaches in both treatment streams, indicating trophic transfer from salmon carcass analogs to consumers. Densities of ephemerellidae, elmidae, and brachycentridae were significantly higher in treatment reaches. Our results suggest that salmon carcass analog addition successfully increased periphyton and macroinvertebrate biomass with no detectable response in streamwater nutrient concentrations. Correspondingly, no change in nutrient limitation status was detected based on dissolved inorganic nitrogen to soluble reactive phosphorus ratios (DIN/SRP) and nutrient diffusing substrata experiments. Salmon carcass analogs appear to effectively increase freshwater productivity.

Recent analyses by Achord et al. (2003), Thomas et al. (2003), Scheuerell et al. (2005) and Kohler et al. (2007) in the Snake River basin highlight the importance of marine-derived nutrients to freshwater productivity and the survival of threatened stocks of Pacific salmon. Pearson et al. (2007) documented direct consumption of carcass analog material by rainbow/steelhead trout (*Oncorhynchus mykiss*), cutthroat trout (*Oncorhynchus clarki*), and juvenile Chinook salmon and increased growth rates of rainbow trout in the Yakama River basin, Washington; and Wipfli et al. (2004) documented an increase in stream-resident salmonid condition, lipid levels, and stream channels. Decreased freshwater productivity, and correspondingly diminished carrying capacities, may represent important limiting factors in what often appears to be otherwise pristine habitat. In the absence of abundant anadromous salmon and steelhead populations, nutrient enhancement may help to restore freshwater productivity affected by a severe lack of marine-derived nutrients and help promote restoration efforts aimed at increasing naturally spawning populations of salmon and steelhead.

We propose a large scale nutrient enhancement program that aims to increase freshwater productivity and corresponding growth rates and survival of salmon and steelhead in the Salmon River basin using salmon carcass analogs, or, if not available, inorganic nutrients. Salmon carcass analog(s) (SCA) developed by Pearsons et al. (2007) contain similar complements of nutrients and carbon-based compounds (rare earth elements) as naturally returning salmon; therefore, their effect on stream food webs is hypothesized to mimic natural enrichment pathways. Salmon carcass analogs are pasteurized to create a pathogen free product that slowly releases nutrients and particulates similar to naturally decomposing salmon and are easy to store, transport, and distribute.

Benefits include direct consumption by juvenile salmonids (Pearsons et al., 2007 in press). Other advantages include the ability to produce large amounts of SCA for dispersal into areas where hatchery carcass placement or inorganic nutrient application is unwarranted due to access (i.e. roadless areas), availability (lack of hatchery returns), or potential pathogen and contaminant issues (fish pathogens and heavy metals). Pearsons et al. (2007) suggest that SCA could be produced using unused fish parts recycled from commercial fisheries. Large scale production costs of SCA are not available at this time; however, the development and production details have been published and the benefits over alternative nutrient enhancement methods outlined. Readers are referred to Pearsons

et al. (2007) for a detailed discussion of the development, production, and benefits of SCA.

Nutrient enhancement methods proposed herein include SCA and/or inorganic nutrients (carbon, nitrogen, phosphorus). Stream food web response- focusing on salmon and steelhead growth and survival- will be evaluated using multiple treatment and reference streams; response variables will be compared to non-treated reference streams and to upstream reaches in treatment streams. The program will adopt an adaptive management strategy, guided by effectiveness monitoring and evaluation of response variables to nutrient enhancement. Information will be shared via annual progress reports and results will be submitted to peer-reviewed journals for publication.

[13]Chinook Salmon and Steelhead Adult Population Status/Trend

This project will provide an accurate long term abundance data set of adult chinook salmon and steelhead abundance and productivity monitoring in several basin tributaries for examination of trends at the population level and for recovery metric monitoring. The adult abundance performance measure is necessary for assessing whether ESA listed chinook salmon and steelhead meet recovery thresholds, is a candidate for delisting under the Endangered Species Act, or need further conservation actions.

In order to properly manage chinook salmon and steelhead in the Salmon River Basin, estimates of adult escapement, juvenile production, and survival must be improved. Current management relies upon expanded redd counts to estimate adult chinook salmon abundance and there are no estimates for adult steelhead escapement upon which to base management. Understanding that redd count information is inherently highly variable, accurate and precise measurement of adult escapement will be accomplished using dual frequency identification sonar (DIDSON) acoustic imaging techniques. The SBT propose to install a minimum of 12 DIDSON units to monitor and assess chinook salmon and steelhead abundance in several basin tributaries. Abundance and productivity information will provide increasingly accurate harvest management, population growth of the two species, and assess whether habitat improvement or enhancement projects are working.

[14]Upper Salmon Reconnect/Restoration

The upper Salmon River Chinook population is part of the Snake River spring/summer Chinook ESU and is one of eight extant populations in the Upper Salmon River MPG. This project proposes to address habitat enhancement measures that would increase Chinook salmon productivity. The listed status of this population, and project goals identified herein, provide a direct tie to RPA's identified in the draft FCRPS Biological Opinion.

Habitat restoration measures proposed include, but are not limited to: 1) eliminating diversions and reconnecting tributaries; 2) developing alternative irrigation methods by re-negotiating or eliminating scenic easements; 3) acquisition of conservation easements; 4) leasing of water rights; 5) develop long term strategies with land owners to improve overall habitat in upper Salmon River Basin, such as in fencing in Beaver Creek to restore riparian habitat.

[15]Valley Creek Habitat Enhancement Project

The Valley Creek Chinook population is part of the Snake River spring/summer Chinook ESU and is one of eight extant populations in the Upper Salmon River MPG. This project proposes to address habitat enhancement measures that would increase Chinook salmon productivity. The listed status of this population, and project goals identified herein, provide a direct tie to RPA's identified in the draft FCRPS Biological Opinion.

Habitat enhancement measures proposed include, but are not limited to: 1) fencing to keep cattle out of the riparian area and streambed; 2) riparian re-vegetation in denuded areas; 3) acquisition of conservation easements; 4) leasing of water rights; 5) and tributary re-connects.

[16]Elk Creek Diversions Project

The Elk Creek Diversions project is located in the Salmon River system, with particular emphasis to Elk Creek, Valley Creek, Idaho. The affected lands lay exclusively within the Sawtooth National Recreation Area in Custer County, Idaho. The project includes the design and construct of a fish-friendly diversion hard-point at Elk Creek 1 diversion with the fish passage, engineering and hydrology personnel from the NMFS, BOR, SNRA, IDFG, and Custer County Soil and Water Conservation Service. The project will entail landowner approval, SNRA scenic attributes, NOAA fish passage guidelines, BOR, and Tribal guidelines.

Presently, push-up dams are constructed annually, creating a fish passage impediment and potential barrier to Elk Creek, which is a significant producer of Snake River spring/summer chinook and steelhead. The push-up dam stretches across the full width of Elk Creek and has no plunge pool to allow fish passage. The diversion already has a regulating head gate and juvenile fish bypass system installed and running.
Fish passage will be highly improved with a v-shaped sloped diversion hard-point consisting of one or two plunge pools. Access to six miles of Elk Creek habitat will be improved for chinook salmon, steelhead, bull trout, and cutthroat trout.

Tribal staff will consult and secure landowner approval to remove the existing structure at Elk Creek 2 diversion and replace with a well and pump located near the point of delivery. An approved work window will be negotiated with NOAA-Fisheries for removing the existing diversion structure and rehabilitating native vegetation. Tribal

staff will also work with engineering and hydrology personnel from the NMFS, BOR, SNRA, IDFG, and Custer County Soil and Water Conservation Service to develop a pump to provide water delivery for the landowner.

Elk Creek 2 diversion takes 6 cfs to deliver about 2 cfs to the landowner. The diversion is used to supply water to ponds located at the MBarM Ranch located near Valley Creek. The diversion consists of a concrete dam, head gate, and ditch. The dam has a notch for adult fish passage that is a potential velocity barrier at high flows. The ditch is cut in a sagebrush flat valley where most of the flow is lost. There is a juvenile fish friendly bypass system installed (roller pump screen) and head gate.

This project is needed to increase flow and fish passage to Elk Creek while providing the landowner with more water. Currently less that 1/3 of the diverted water will make it to the ranch to supply water for the ponds and lawns. This problem could easily be fixed by installing a pump to supply water to the ponds and therefore leaving more water for fish in Elk Creek.

Expected benefits of the project: By improving connectivity and decreasing fragmented habitat, fish production will likely increase in Elk Creek. Access will improve for Chinook Salmon, steelhead, bull trout, and cutthroat trout to the productive Elk Meadows located at the top of Elk Creek. Underutilized tributary habitat would lead to an overall increase in salmonid production. Increased flows would lead to cooler water temperatures and increase fish habitat.

[17]Warm Springs Creek Culvert Replacement Project

In 2003, the Sawtooth National Recreation Area and USFS completed a culvert inventory on all the culverts on public lands. The inventory was completed to determine habitat that may have potential fish barriers or needs improvements. The Warm Springs culvert at the Robinson Bar Ranch was considered the highest priority when considering the quantity of habitat influenced and the number of species involved. Snake River spring/summer chinook, steelhead, and bull trout heavily utilize Warm Springs Creek as spawning, holding, rearing, and passage habitat. The culvert is believed to be a barrier during some flows and/or life stages.

The Shoshone-Bannock Tribes propose to replace the Robinson Bar Ranch culvert with a fish passable bottomless culvert. Fish passage, connectivity, and fragmented habitat will be improved upon completion of the Warm Spring Creek culvert. The SBT will provide monitoring and evaluation of environmental and biological responses to improved fish riparian habitat. Seasonal spawning ground surveys would be completed for chinook salmon, steelhead, and bull trout. Fish density and species composition would also be collected by snorkeling or electrofishing.

[18]Beaver Creek Riparian Restoration Project

Stream banks devoid of vegetation are unstable, erode, and widen stream channels. Restoring, enhancing, and protecting streams can increase water quality and habitat for salmon and steelhead. Beaver Creek, near the main Salmon River headwaters, is an area of prime importance to spring chinook salmon rearing and spawning. Under this project, the Shoshone-Bannock Tribes propose to construct riparian protection/restoration fencing and plant vegetation (primarily willows and shrubs) on approximately one mile of Beaver Creek to increase natural production in historical high spawning and rearing locations.

[19]East Fork South Fork Glory Hole Project

This project will consist of removing the fish passage barrier above Glory Hole on the East Fork South Fork Salmon River. The barrier is a result of mining activity with the Stibnite Mine near Yellowpine, Idaho in the 1930's and 40's diverting the river around the pit. The pit was established in the middle of the river and is currently now a cascade of boulders preventing upstream fish passage. With increased runs into the South Fork Salmon River over the past decade, hatchery outplantings of adult Snake River chinook salmon into areas above the Glory Hole barrier have been accomplished through cooperative efforts of the Idaho Fish and Game, National Marine Fisheries Service, Nez Perce Tribe, and Shoshone-Bannock Tribes. The adult outplants have resulted in successful spawning and juvenile fish production, and the removal of the adult fish barrier will allow returning progeny of those outplants to return to the re-opened area and supplement natural production.

[20]Genetic Stock Identification Program

Genetic Stock Identification (GSI) methods have proven to be effective in determining the proportion of stock origin in several mixed stock fisheries (Shaklee et al. 1999, Beacham et al. 2006). However, few studies have been able to determine the extent of overlap among life history types and furthermore, estimating escapement. Current assignment of Chinook salmon to spring, summer and fall by date of passage is to some extent arbitrary. Within each life history type, making accurate and precise estimate at the population level with further enhance recovery efforts. This project includes collecting known Chinook salmon samples at the population level (i.e. improve GSI baseline) and sampling unknown Chinook salmon at Lower Granite Dam over the entire length of the run on a weekly basis for genetic analysis to determine stock composition and provide in-season abundance estimates at the population level.

Population genetic methods and statistical assignment models taking advantage of the power of microsatellite techniques which have advanced dramatically in recent years, and estimates of stock composition is now possible using Bayesian or Maximum Likelihood methods (Kalinowski 2003). The GAPS consortium has created a standardized microsatellite baseline of 110 Chinook salmon populations from throughout the species'

range on the coast of North America. Of the 110 baseline populations, 24 are from the Columbia River Basin and at least 30 more populations will be added in 2006 (S. Naurum pers. comm.). The baseline will serve as a tool for GSI to determine the origin of unknown samples from mixture samples.

[21]Snake River Fall Chinook Harvest Management

The Shoshone-Bannock Tribes exercise their right to hunt for Snake River fall chinook salmon under inherent rights and the Fort Bridger Treaty of July 3, 1868 (15 Stat 673). Historically, large populations of fall chinook salmon were found upstream to Salmon Falls, however, currently the ICTRT (2006) has classified the upstream Marsing Reach and Salmon Falls populations as extirpated. On July 10, 2000 Congress passed 50 CFR 223 which allows a tribal government to submit a Tribal Resources Management Plan (TRMP) with the intent of exempting the tribes' harvest of protect species from the Endangered Species Act (ESA).

As a result, the Shoshone-Bannock Tribes (Tribes) Fisheries Department will develop a TRMP for the take of listed Snake River fall chinook salmon. The Tribes, through this TRMP, will recommence fisheries in respect of the Fort Bridger Treaty and honor the current listing and status of the Snake River fall chinook ESU. Under the said completed TRMP, the SBT will develop adult escapement estimates for fall chinook salmon, apply escapement estimates to abundance-based sliding scale harvest rate frameworks and develop population specific harvest targets, monitor and evaluate fall chinook salmon fisheries, determine total abundance of salmon for the fishery management area, monitor life history characteristics, and communicate relevant findings to NOAA-Fisheries and other sources.

Monitoring and evaluation will include collecting information from redd counts, tributary juvenile abundance and smolt emigration, hatchery rack jack and adult returns, dam counts, visual observations, and catch per unit effort though on the ground creel surveys.

[22]Snake River Sockeye Salmon Transport Program

In March 1990, the Shoshone-Bannock Tribes petitioned the National Marine Fisheries Service (NMFS) to list Snake River sockeye salmon (*Oncorhynchus nerka*) as endangered. Snake River sockeye salmon were officially listed as endangered in November 1991 under the Endangered Species Act (56 FR 58619). The Shoshone-Bannock Tribal goal for this project is two tiered: The immediate goal is to increase the population of Snake River sockeye salmon while preserving the unique genetic characteristics of the Evolutionarily Significant Unit (ESU). The Tribes long term goal is to maintain a viable population that warrants delisting and provides Tribal harvest opportunities.

Conservation efforts have been stymied by high migration corridor adult mortality. In a recent paper published in *Ecology of Freshwater Fish* titled 'Temperature-mediated *en route* migration mortality and travel rates of endangered Snake River sockeye salmon (Keefer et al. 2007), late-season mortality above Lower Granite Dam (LGD) was strongly associated with water temperatures near tolerance thresholds (21-24 °C).

A trap and haul program concept has been initiated by the Stanley Basin Sockeye Technical Oversight Committee (SBSTOC) cooperators to address high migration corridor mortality rates observed above LGD. The Shoshone-Bannock Tribes, as part of the SBSTOC, support this effort. The herein proposed project description represents a similar program intended to support the already initiated trap and haul program concept, or a safety net in case the currently proposed trap and haul program does not materialize.

Objectives include trapping adult sockeye salmon from LGD (when migratory corridor water temperature conditions indicate the potential for high mortality), and hauling them to the Sawtooth Valley lakes for volitional spawning and/or captive spawning in hatchery facilities. Currently, survival rates of migrating adult sockeye salmon from LGD to the Stanley Basin averaged 31% (range 0-67%) (1991-1999) without correcting for potential uncounted fish (Keefer et al. 2007). An effective trap and transport program would significantly reduce this mortality rate, directly addressing specific goals and objectives outlined in the FCRPS Biological Opinion.

[23]Snake River Sockeye Salmon Migration and Transport Survival Studies

This project proposes to PIT tag sufficient numbers of migrating Snake River sockeye salmon smolt to accurately estimate survival rates in the migratory corridor and identify factors affecting those rates. Specific attention will focus on in-river vs. barge transport survival. Furthermore, factors affecting variable survival rates will be evaluated to identify FCRPS mitigation measures that may improve the survival of migrating juvenile Snake River sockeye salmon. Evaluation of PIT tag data will be conducted through the Shoshone-Bannock Tribes Fisheries Department and the Fish Passage Center. The Fish Passage Center's comparative survival studies (CSS) provide an appropriate framework for evaluating migratory corridor survival of Snake River sockeye salmon, provided enough fish are marked with PIT tags. Sockeye will be tagged at three out-migrant traps below Redfish, Pettit, and Alturas lakes and before any smolt releases from the Sawtooth Valley.

In March 1990, the Shoshone-Bannock Tribes petitioned the National Marine Fisheries Service (NMFS) to list Snake River sockeye salmon (*Oncorhynchus nerka*) as endangered. Snake River sockeye salmon were officially listed as endangered in November 1991 under the Endangered Species Act (56 FR 58619). The Shoshone-Bannock Tribal goal for this project is two tiered: The immediate goal is to increase the population of Snake River sockeye salmon while preserving the unique genetic characteristics of the Evolutionarily Significant Unit (ESU). The Tribes long term goal is to maintain a viable population that warrants delisting and provides Tribal harvest

opportunities. Identifying factors affecting survival rates in the migratory corridor for Snake River sockeye salmon will directly address specific goals and objectives outlined in the FCRPS Biological Opinion and the Endangered Species Act.

[24]Crystal Springs Hatchery

In 1992, a feasibility study was completed (CH2M Hill) outlining options for production potential of the Crystal Springs Hatchery on the Fort Hall Reservation. In 1996, a master plan (Montgomery-Watson) was written which outlined program requirements and three possible sites for construction of a new hatchery. The most suitable site was selected based on these findings, and in 1998, an Environmental Assessment (EA FONSI) (BPA) was completed for phases I and II of the project and included a cultural resources review (Emerson and Boreson 1997). The Northwest Power Planning Council approved the project in 1998 after an Independent Scientific Review. Water quality and quantity were monitored at the proposed hatchery site (Houghland Farms) and the property was purchased by BPA in 1998.

The Shoshone-Bannock Tribes propose to develop the Crystal Springs Hatchery facility to rear Yellowstone Cutthroat trout (*Oncorynchus clarki*) and endangered Snake River sockeye salmon (*Oncorynchus nerka*). Production goals will be dictated by available water flow; however, tentative goals include the production of 1,000,000 Snake River sockeye smolt equivalents and 8,000 catchable Yellowstone Cutthroat trout.

This project will specifically address RPA's outlined in the FCRPS and Upper Snake River Basin Biological Opinions.

Hatcheries which perpetuate sensitive species, such as Yellowstone cutthroat, would benefit watersheds identified in Upper Snake Province Subbasin Inventory and Assessments, and also meet objectives identified in the Upper Snake Province Subbasin Plan.

In March 1990, the Shoshone-Bannock Tribes petitioned the National Marine Fisheries Service (NMFS) to list Snake River sockeye salmon (*Oncorhynchus nerka*) as endangered. Snake River sockeye salmon were officially listed as endangered in November 1991 under the Endangered Species Act (56 FR 58619). The Shoshone-Bannock Tribes goal for this project is two tiered: The immediate goal is to increase the population of Snake River sockeye salmon, while preserving the unique genetic characteristics of the Evolutionarily Significant Unit (ESU); the Tribes long term goal is to maintain a viable population that warrants delisting and provides Tribal harvest opportunities. Fulfilling these goals would provide an opportunity to directly benefit a listed species, a primary goal outlined in the FCRPS Biological Opinion.

[25]Upland Habitat Enhancement

The Upper Snake Habitat Program (USHP) is a proposed program to improve habitat quality in the Upper Snake. The goals of the USHP would be to improve water quantity and quality for listed anadromous fish downstream and to meet the habitat and wildlife objectives set forth in the management plan developed in the Upper Snake Province Assessment (NPCC 2004).

Achievement of these goals would be accomplished through the protection and enhancement of habitats in the Upper Snake River Basin. USHP would 1). protect habitat through fee-title acquisitions and conservation easements; 2). perform O&M to maintain and enhance existing habitats on project lands and; 3). work collaboratively with other fish and wildlife management agencies, subbasin work groups, and federal land managers in the region to develop and implement habitat enhancement projects on non-project lands in accordance with the goals of the program. USHP would work collaboratively with fisheries habitat programs in order to better protect and enhance riparian habitats and further program goals.

Water quantity and quality is a limiting factor for listed anadromous fish species downstream in the Lower Snake and Columbia Rivers. USHP would help remedy this situation by protecting important habitats in the Upper Snake River. Research has shown that healthy ecosystems provide important water storage and release functions and improve water quality.

To achieve increases in water quantity and quality for downstream listed anadromous fish, USHP would protect habitat through fee-title acquisitions and conservation easements. USHP would also perform O&M to maintain and enhance existing habitats on project lands. Finally, USHP would also work collaboratively with other fish and wildlife management agencies, subbasin work groups, and federal land managers in the region to develop and implement habitat enhancement projects on non project lands in accordance with the goals of the program.

USHP is also designed to meet the the habitat and wildlife objectives set forth in the management plan developed in the Upper Snake Province (USP) Assessment (NPCC 2004). The overall goal of the USP management plan is to protect and enhance aquatic and terrestrial habitats, species assemblages, and ecological functions in the USP to mitigate for the adverse effects to fish and wildlife caused by the development and operation of the hydrosystem. The vision for the USP Plan is to enhance, establish, maintain, and protect a healthy ecosystem that supports a diversity of aquatic and terrestrial species and will offer a diverse array of ecological environments that have been altered or lost. Such conditions will provide for the diverse social, cultural, tribal, and economic needs as established by treaty and law including recovery of Federally listed and State and Tribal sensitive species.

The USP assessment lists limiting factors that describe the source of ecological disruption to individual focal habitats and focal species and provide a framework for creating

specific, measurable biological objectives and strategies to remedy the factors (NPCC 2004). USHP will address the goals and vision of the USP management plan by protecting and enhancing habitat to address these limiting factors.

To achieve its goals, USHP would protect habitat through fee-title acquisitions and conservation easements. USHP would also perform O&M to maintain and enhance existing habitats on project lands. USHP would also work collaboratively with other fish and wildlife management agencies, subbasin work groups, and federal land managers in the region to develop and implement habitat enhancement projects on non-project lands in accordance with the goals of the program. Monitoring wildlife populations and habitat health as well as basic research is an integrated part of O&M to allow for adaptive management.

A capital budget of $2.5 million dollars per year for FY2010-2017 is proposed in order to protect habitat and fund habitat enhancement projects. In addition, as the amount of habitat protected increases it will be necessary to increase the O&M budget to allow for management and habitat improvement projects. Starting in FY2009 an O&M budget of $200,000 increasing by $50,000 per year to a total of $600,000 in FY2017 is proposed. This budget will allow for an increase in staff; and administrative, monitoring, and habitat management programs. Staff increases will include additional full time biologists and technicians, and funding for contract or partial funding of tribal staff; statistician, hydrologist, and administrative support. Monitoring of both wildlife population and habitat will be necessary in order to undertake adaptive management of protected lands. An increase in funds for habitat management, in addition to the increase for staff and monitoring programs, will allow for adaptive management and habitat improvements to occur.

[26]Upper Snake Water Quality/Quantity Enhancement

In a December 7, 2007 counsel of record letter from the honorable judge James A. Redden to the legal participants in Nat'l Wildlife Fed, n v. Nat'l Marine Fisheries Serv. And American Rivers v. NOAA Fisheries, Judge Redden expressed concerns that the draft Biological Opinion for the Federal Columbia River Power System (FCRPS) and the Upper Snake River Basin fail to satisfy the biological and legal requirements of the Endangered Species Act (ESA). He has suggested that additional mitigation actions will be needed for the final BiOp to meet his approval and warned that "A flawed opinion could result in a permanent court injunction directing the defendants -NOAA, the U.S. Army Corps of Engineers and the Bureau of Reclamation- to implement additional spill and flow augmentation measures, to obtain water from the upper Snake and Columbia Rivers, or to implement reservoir drawdowns to enhance in-river flows." The Judge goes on to state that "Federal Defendants do not appear to be seriously considering any deviation from status quo operations in the Upper Snake River."

Improving water quality and quantity in the Upper Snake River Basin would directly benefit 13 listed stocks of salmon and steelhead that migrate through the FCRPS. It

would also demonstrate to Judge Redden that additional mitigation measures are being proposed for the Upper Snake River Basin.

The Shoshone Bannock Tribes have a significant interest in improving water quality and quantity in the Upper Snake River Basin. We propose achievable mitigation measures, under a watershed scale perspective, that aim to directly and indirectly improve water quality/quantity in the Upper Snake River Basin. These measures, once implemented, will directly benefit 13 listed stocks of salmon and steelhead in the FCPRS and help to achieve Clean Water Act and Tribal Treaty Trust objectives.

Specific measures include, but are not limited to: 1) leasing storage water rights (water marketing from the Tribes); 2) improving irrigation, delivery, and return systems; 3) supporting regionally appropriate crop production (i.e. drought tolerant species); 4) supporting the States efforts to develop and implement TMDL's in water quality impaired aquatic systems; 5) developing additional measures to address point and non-point source pollution; 6) supporting the CRP program to maintain and increase acreage maintained as habitat; 7) improving riparian, wetland, and upland habitats through habitat and water rights acquisition, conservation easements, and habitat enhancement; 8) and protecting and enhancing headwater streams through habitat and water rights acquisition, conservation easements, grazing and forestry management, and habitat enhancement.

[27]Upper Snake Native Plant Restoration

Wetlands plants are critical to the stabilization of stream banks. Stream banks devoid of vegetation are unstable and slough off and widen channels. Wetlands plants such as sedges and rushes are highly rizohmonous. These species that have high densities of root mass hold the stream bank together during high flow and fluctuation events. This project directly addresses limiting factors identified in the subbasin plan for the Upper Snake Province for water quality. Restoring, enhancing, and protecting streams can increase water quality and habitat for native assemblages of species. Also, the project addresses habitat variables for listed species (snails) identified in the BA. Costs for start-up will include purchase and construction of nursery facilities and equipment and seed collection in the first 1-2 years. Propagation and out-planting on reservation and off-reservation areas will identified throughout project.

[28] Endangered Snake River Sockeye salmon re-introduction into Yellowbelly Lake

The designated critical habitat for Snake River sockeye salmon includes five nursery rearing lakes in the Sawtooth Valley, ID: Redfish, Pettit, Alturas, Stanley, and Yellowbelly lakes (Federal Register/Vol. 58, No. 247, 1993). Currently, only Redfish, Pettit, and Alturas lakes are being utilized for Snake River sockeye salmon recovery efforts. Yellowbelly Lake is the only critical lake rearing habitat that does not have a non-native kokanee salmon population. Kokanee salmon are intra-specific competitors for a common zooplankton food resource and serve to diminish the carrying capacity of

the majority of Sawtooth Valley lakes for Snake River sockeye salmon rearing. In many years, Yellowbelly Lake exhibits the highest total zooplankton biomass relative to the other Sawtooth Valley lakes designated as critical habitat. In short, it is ideal habitat for rearing endangered Snake River Sockeye salmon. The Shoshone Bannock Tribes propose to introduce 10,000 to 15,000 Snake River Sockeye salmon parr (and/or eyed-egg equivalents) annually into Yellowbelly Lake. Monitoring and evaluation will include smolt survival estimates using PIT tags, pelagic fish population monitoring using hydroacoustic surveys and/or gill net efforts, limnological sampling and zooplankton monitoring, and spawning ground surveys to evaluate residual populations that will likely occur following re-introduction.

[29] Utes Ladies Tress ESA Presence/Absence Assessment

The Tribes identified the presence of limited populations of an ESA listed, endangered botanical species on the Fort Hall Bottoms. The Ute's Ladies Tress has been limited by the construction and inundation of hydroelectric facilities. This proposal will allow for a complete assessment of the Presence/Absence of the Ute's Ladies Tress, identify critical habitat, and implement a resource management plan. A feasibility study will also be performed on botanical propagation through horticulture facilities located on the Fort Hall Reservation.

BPA Tier	Project ID # & Narrative Footnote #	Project Title	Status	Province	ISRP Review	Criteria	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
1	198909800	Idaho Supplementation Studies	Ongoing	Mountain Snake	Yes	ESA Anadromous	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ 1,800,000
1	199107100	Snake River Sockeye Salmon Habitat and Limnological Monitoring	Ongoing	Mountain Snake	Yes	ESA Anadromous	$ 365,000	$ 365,000	$ 365,000	$ 425,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 5,020,000
1	199405000	Salmon River Habitat Enhancement	Ongoing	Mountain Snake	Yes	ESA Anadromous	$ 245,000	$ 245,000	$400,000	$510,000	$785,000	$1,225,000	$1,050,000	$900,000	$1,150,000	$850,000	$850,000	$ 8,210,000
1	200205900	Yankee Fork Salmon River Dredge Tailings Restoration Project	Ongoing	Mountain Snake	Yes	ESA Anadromous	$ 395,000	$ 1,035,000	$ 2,015,000	$ 2,015,000	$ 315,000	$ 425,000	$ 2,765,000	$ 2,265,000	$ 2,265,000	$ 2,275,000	$ 275,000	$ 16,045,000
1	199201000	Habitat Imprvmnt/Enhnmnt- Fort Hall, Idaho	Ongoing	Upper Snake	Yes	Resident Fish	$ 245,805	$ 295,641	$ 283,718	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 4,825,164
1	199505702	Southern Idaho Wildlife Mitigation	Ongoing	Upper Snake	Yes	Wildlife	$ 395,000	$ 380,000	$ 380,000	$ 550,000	$ 600,000	$ 650,000	$ 700,000	$ 750,000	$ 800,000	$ 850,000	$ 900,000	$ 6,955,000
1	199505702	Southern Idaho Wildlife Mitigation Capital	Ongoing	Upper Snake	Yes	Wildlife	$ 1,670,000	$ 1,655,000	$ 1,655,000	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 44,980,000
1	6	Yankee Fork Supplementation Program (YFSP)	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 4,000,000	$ 700,000	$ 700,000	$ 700,000	$ 700,000	$ 8,400,000
1	7	Steelhead Streamside Incubator (SSI) Program	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 150,000	$ 500,000	$ 250,000	$ 300,000	$ 700,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 3,900,000
1	8	South Fork Salmon River Supplementation Program	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 150,000	$ 200,000	$ 200,000	$ 200,000	$ 300,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 1,850,000
1	9	Panther Creek Chinook Salmon Re-introduction	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 7,000,000	$ 700,000	$ 700,000	$ 700,000	$ 700,000	$ 11,400,000
1	10	Lemhi River Chinook Salmon Supplementation Program	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 7,000,000	$ 700,000	$ 700,000	$ 700,000	$ 700,000	$ 11,400,000
1	11	Chinook Salmon and Steelhead Harvest Management	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 400,000	$ 1,200,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 5,800,000
1	12	Salmon River Nutrient Supplementation Program	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 300,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 4,300,000
1	13	Chinook Salmon and Steelhead Adult Population Status/Trend	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 300,000	$ 800,000	$ 700,000	$ 700,000	$ 700,000	$ 700,000	$ 700,000	$ 700,000	$ 700,000	$ 6,000,000
1	14	Upper Salmon Reconnect/Restoration	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 120,000	$ 200,000	$ 200,000	$ 200,000	$ 400,000	$ 400,000	$ 200,000	$ 200,000	$ 200,000	$ 2,120,000
1	15	Valley Creek Hab. Enhancement Project	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 100,000	$ 175,000	$ 600,000	$ 100,000	$ 200,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 1,575,000
1	16	Elk Creek Diversions	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 100,000	$ 100,000	$ 200,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 500,000
1	17	Warm Springs Creek Culvert Replacement Project	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 100,000	$ 100,000	$ 200,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 500,000
1	18	Beaver Creek Riparian Restoration Project	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 100,000	$ 100,000	$ 200,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ 500,000
1	19	EFSF Glory Hole Project	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 100,000	$ 300,000	$ 300,000	$ 300,000	$ 1,000,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 2,800,000
1	20	Genetic Stock Identification Program	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 2,700,000
1	21	Snake River Fall Chinook Harvest Management	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 300,000	$ 500,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 350,000	$ 3,250,000
1	22	Snake River Sockeye Salmon Transport Program	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 150,000	$ 300,000	$ 250,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 1,300,000
1	23	Snake River Sockeye Salmon Migration and Transportation Survival Studies	New	Mountain Snake	no	ESA Anadromous	$ -	$ -	$ 100,000	$ 250,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 1,050,000
1	24	Crystal Springs Hatchery	New	Mountain Snake Upper Snake	no no	ESA Anadromous Resident Fish	$ -	$ -	$ 500,000	$ 300,000	$ 500,000	$ 500,000	$ 4,000,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 7,500,000
1	25	Upland Habitat Enhancement	New	Upper Snake	no	ESA Anadromous	$ -	$ -	$ 200,000	$ 200,000	$ 250,000	$ 300,000	$ 350,000	$ 400,000	$ 450,000	$ 500,000	$ 550,000	$ 3,200,000
1	26	Upper Snake Water Quality/Quantity Enhancement	New	Upper Snake	no	ESA Anadromous	$ -	$ -	$ 300,000	$ 500,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 21,800,000
1	27	Upper Snake Native Plant Restoration	New	Upper Snake	no	ESA Anadromous	$ -	$ -	$ 200,000	$ 300,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 3,300,000
1	28	Sockeye Re-introduction/Yellowbelly	New	Mountain Snake	no	ESA Anadromous			$ 150,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 1,750,000
2	29	Utes Ladies Tress Status Assessment	New	Upper Snake	no	ESA	$ -	$ -	$ 70,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 870,000
							$ 3,615,805	$ 4,275,641	$ 10,788,718	$ 17,625,000	$ 18,600,000	$ 18,350,000	$ 41,815,000	$ 20,665,000	$ 20,815,000	$ 20,625,000	$ 18,725,000	$ 195,600,164