Spokane Tribe of Indians

P.O. Box 100 • Wellpinit, WA 99040 • (509) 458-6500

September 16, 2103

Dear Chair Bradbury

On behalf of the Spokane Tribe of Indians ("Tribe"), please accept the attached recommendations for amendments to the Columbia River Basin Fish and Wildlife Program ("Program"). The Tribe is fully committed to protecting the fishing, hunting, gathering and subsistence use rights that are guaranteed to it by Executive Order and statute. Additionally, the Tribe is striving to see that its federally approved water quality standards are met and maintained in its waters that are impacted by the Federal Columbia River Power System ("FCRPS"). The Tribe prepared the attached recommendations with protecting its rights, and also with the following goal of the Northwest Power Act ("Act") as guides.

> to protect, mitigate and enhance the fish and wildlife, including related spawning grounds and habitat, of the Columbia River and its tributaries, particularly anadromous fish which are of significant importance to the social and economic well-being of the Pacific Northwest and the Nation and which are dependent on suitable environmental conditions substantially obtainable from the management and operation of the Federal Columbia River Power System and other power generating facilities on the Columbia River and its tributaries.

16 U.S.C. § 839(6). Along with these guides, the Tribe has taken its experiences and frustrations it has had over the past two years trying to fund projects that will help meet the Act's and the Tribe's goals. Accordingly, the Tribe's recommendations focus on those aspects of the Program and Subbasin Plans that have not been implemented and/or ignored by the Council and the Administrator.

Additionally, over the past two years the Tribe's staff has attended many Northwest Power and Conservation Council ("Council") meetings sometimes to listen, and other times to present and describe the unmet fish and wildlife needs in the areas above Grand Coulee Dam. Unfortunately, at these meetings the Tribe has heard again and again that there is no funding available for expansion of our current projects as well as implementation of any new projects, unless they are associated with the Administrator's accords. More troubling still is a statement that we began to hear repeated by the Administrator's representatives that the Program and its funding are mature and fully implemented . These comments are very troubling to the Tribe for several reasons.

First, as the Council is well aware, the Administrator has committed significant funding through the accords which is helping many areas in the Region work towards the goals of the Act. However, very little of this funding is being spent where the FCRPS's greatest impacts and unmet needs are located: above Grand Coulee Dam. These comments by the Administrator's representatives about program maturity indicate that for these needs above Grand Coulee Dam to be met, the funds will need to come from reductions in current projects throughout the Region. This is very concerning because it appears to be setting up a dividing line in the River between those needs above Grand Coulee and those below.

Additionally, for the whole River to be protected, enhanced, and mitigated for the impacts of the FCRPS it will need to be treated as one River with all areas receiving appropriate funding levels. Otherwise, the result will be parties fighting over an arbitrary level of funding that the Administrator deems to rise to the level of maturity.

Second, these declarations of maturity have not been accompanied by any reasoning beyond the dollars spent to date. The Act requires that the Administrator use funds consistent with the Program. In the Tribe's view, the only entity within this statutory scheme able to determine or declare that the Program is mature is the Council. Accordingly, through this letter the Tribe requests that given the significant impacts this declared "maturity" could have on the Program that the Council request further information from the Administrator and perform a review of the Administrators actions pursuant to 16 U.S.C. § 839b(i).

In closing, the Tribe's amendment recommendations are consistent with the Act and the subbasin plans adopted in 2000 and 2009, as well as the management goals and objectives as set forth by the Spokane Tribe. The recommendations primarily focus on the needs of pursuing anadromous mitigation and passage above Grand Coulee Dam. There is significant anadromous habitat in the Upper Columbia Basin that could help in providing resiliency in the anadromous fish populations, but until these measures are adopted and funded the Act's goal of protecting, mitigating and enhancing the habitat of the Columbia River and its tributaries will fail to be achieved. Additionally, the funding of passage at various "blocked" facilities as being implemented on the Skagit, the Lewis, Deschutes and Willamette Rivers indicates to the Tribe that now is the time to begin this work of the two dams blocking Anadromous Fish runs from reaching our waters. Further, the Program will fail to meet the Act's requirements that it "be designed to deal with the river and its tributaries as a system." 16 U.S.C. § 839b(h)(1)(A).

Should you have any questions or clarifications regarding these recommendations, please do not hesitate to reach out to the Tribe's Director of Natural Resources, B.J. Kieffer at 509-626-4427. Additionally, if there are any problems presented by the Tribe's recommendations, please reach out to us as required by Section 839b(h)(7) and attempt to resolve those concerns.

Sincerely,

Rudy Peone
Chairman

Cc: B.J. Kieffer, Director, Spokane Tribal Natural Resources Department
Ted Knight, Attorney for the Spokane Tribe of Indians

RESOLUTION

Spokane Resolution 2013 -412

APPROVAL FOR THE DEPARTMENT OF NATURAL RESOURCES TO SUBMIT THE SPOKANE TRIBE OF INDIANS AMENDMENTRECOMMENDATIONS TO THE NORTHWEST POWER AND CONSERVATION COUNCIL FOR ADOPTION INTO THE 2014 FISH AND WILDLIFE PROGRAM

WHEREAS, the Spokane Tribal Council is the duly constituted governing body of the Spokane Tribe by authority of the Constitution of the Spokane Tribe; and

WHEREAS, under the Constitution of the Tribe, the Spokane Tribal Council is charged with the duty of protecting the health, security and general welfare of the Spokane Tribe and all Reservation residents; and

WHEREAS, the Council recognizes the need to protect, mitigate and enhance the impacts associated with the Federal Columbia River Power System, and

WHEREAS, the Department of Natural Resources is charged with the duty of providing recommendations to the Tribal Business Council associated with the Northwest Power and Conservation Council's Columbia River Basin Fish and Wildlife Program, and

WHEREAS, DNR Staff have developed Amendment recommendations for submission to the Northwest Power and Conservation Council (NPCC) and

WHEREAS, DNR Staff is approved to submit the Spokane Tribe of Indians recommended Amendments to the NPCC for their formal adoption into the 2014 Fish and Wildlife Program. And

NOW THEREFORE, BE IT HEREBY RESOLVED by the Spokane Tribal Business Council meeting in Special Session this 16th day of September, 2013, that the Spokane Tribal Council does hereby approve and authorize signature authority to the Tribal Council Chairman or his designated representative.

Certification

The foregoing was duly enacted by the Spokane Tribal Business Council on the16th day of September, 2013, by the vote of 3 for, 0 against, and 0 abstaining under authority contained in Article VIII of the Constitution of the Spokane Indians ratified by the Spokane Tribe on November 22, 1980.

Rudy Peone, Chairman
Spokane Tribal Business Council

ANADROMOUS FISH PASSAGE
Spokane Tribe of Indians

Council will include the following guidance language in the Program:
The Spokane Tribe of Indians is inextricably connected to the anadromous resources of the Columbia River. Historical estimated annual consumption of salmon and steelhead by the Spokane Tribe utilizing the habitat above Grand Coulee dam was 2.44 million pounds (Scholz et al 1985) with an additional undetermined amount harvested for use in trade. An estimated 4,000 to 5,600 tribal fisherman, from various tribes, congregated at key fishing sites in the United States portion of the Upper Columbia basin above Grand Coulee Dam.

The construction of Grand Coulee Dam in 1942 blocked access of anadromous fish to the upper portions of the Columbia River. The importance of the anadromous species to the tribes is far reaching. The loss affected indigenous peoples in many ways including economic, emotional, spiritual and ceremonial losses, dietary impacts, social exchange effects, and lost traditional skills, language, and knowledge. Current day initiatives have re-invigorated the linkages by way of sharing the resources of the Upper Columbia basin that are currently accessible to anadromous species.

To continue in a direction that increases accessibility of anadromous species to native peoples, the Spokane Tribe of Indians continue to pursue the goal of re-establishing anadromous in habitats above Grand Coulee Dam. The Northwest Power and Conservation Council's Fish and Wildlife Program has referred to the area above Grand Coulee Dams as the "blocked area." The Spokane Tribe of Indians recommends reference to this area be changed to "Habitats above Grand Coulee Dams." Fish passage into their historic range will involve a phased approach and the Spokane Tribe of Indians recommends the following:

Phase I- Bonneville Power Administration within 60 days of the adoption and implementation of the 2014 program will provide $250,000.00 dollars in start-up funds for an anadromous fish program with the Spokane Tribe of Indians.

Phase II -- Bonneville Power Administration will provide funding within 180 days of the adoption and implementation of the 2014 program for Phase I studies in the period covered by this Program to investigate scientific-based feasibility of upstream and downstream passage options for anadromous species, investigations to determine project timelines, appropriate potential donor stocks, evaluation of existing quantity, quality and capacity of habitat in the upper basin, simulate hydro operations, and assess socio-economic implications of different hydrograph scenarios. Develop stakeholder and regulatory support for passage and associated communication plans.

Phase III - Utilizing information gained through Phase I, Bonneville Power Administration will fund salmon reintroduction and interim fish passage facilities at Grand Coulee Dam or additional studies and/or alternatives that are necessary to advance the fish passage planning process.

Phase IV- Bonneville Power Administration will fund the construction of permanent juvenile and adult passage facilities and propagation facilities necessary to reintroduce anadromous species above Grand Coulee Dam. Continue to inventory, record, implement, and maintain priority habitat improvements and habitats above the blocked area for the reintroduction of anadromous fish.

Phase V- Bonneville Power Administration will fund the monitor, evaluate, and adaptive management of the reintroduction efforts and will implement additional habitat and hydro-related infrastructure improvements as necessary.

ANADROMOUS FISH LOSS MITIGATION

Spokane Tribe of Indians

The current program addresses the policy of Resident Fish Substitution. We recommend that this policy be amended for the next program. The intent being that the program continues as one of its highest priorities the mitigation efforts in habitats above Grand Coulee Dam. The "Compilation of Salmon and Steelhead Losses in the Columbia River Basin" (March 1986; NPCC 2009, Appendix E) provided an analysis of the contribution of the hydropower system to salmon and steelhead losses (see Council documents 87-15, 87-15A and 87-15B) that was based on data from 1976. Based on this information, the Council addressed the extent to which resident fish, wildlife, habitat and substitutions should be used to mitigate losses of anadromous fish production in these areas. However, current Program actions are inadequate and have not met mitigation requirements resulting from the avoidable losses that have occurred since the construction of Grand Coulee Dam to present.

Anadromous fish losses that have occurred in the Spokane Tribe's usual and accustomed areas must be mitigated for in these areas pursuant to the Program's Resident Fish Substitution Policy. The "Compilation of Salmon and Steelhead Losses in the Columbia River Basin" and the "Numerical Estimates of Hydropower-related Losses," first adopted in the Council's 1987 Fish and Wildlife Program are the starting points for the Council's approach regarding substitution.

The Spokane Tribe recommends including the following Principles guiding mitigation requirements for anadromous fish losses in all Spokane Tribe's usual and accustomed areas resulting from development and operation of Grand Coulee Dam. The Principles were developed and adopted by NWPCC in the Inter-Mountain Provincial Plan and carried forward to 2005 and 2009. These include:

- Investigate reintroduction of anadromous fish into habitat areas above Grand Coulee Dam.
- Restore and increase the abundance of native resident fish species throughout their historic ranges when original habitat conditions exist or can be feasibly restored or improved.
- Develop and increase opportunities for consumptive and nonconsumptive resident fisheries for native, introduced, wild, and hatchery-reared stocks that are compatible with the continued persistence of native resident fish species and their restoration to near their historic abundance.
- When full mitigation by improving the abundance of native fish species is not feasible, manage non-native fish to maximize use of available existing and improved habitats, while complementing state and local regulations, in order to provide a subsistence- and sport-fishing resource, without adversely affecting native fish populations.

- When mitigation using fish cannot be accomplished, alternatives using wildlife will be considered.

The council will include the following guidance language in the Program:
--Change name of "Resident Fish Substitution Policy" to "Anadromous Fish Loss Mitigation Policy"

The council will include the following guidance language in the Program:
-- Anadromous fish losses (NPCC 2005, Appendix E) in the Spokane Tribe's usual and accustomed areas habitat above Grand Coulee Dam will be mitigated for in those areas. The program has an "Anadromous Fish Substitution Policy" for areas in which anadromous fish have been extirpated. The following actions are necessary to address anadromous fish losses and mitigation requirements in the area above Grand Coulee Dam:

- Council will direct the Administrator, the Bureau of Reclamation, the Army Corps of Engineers and any other appropriate Federal agencies to fund anadromous fish reintroduction efforts with the Spokane Tribe consistent with the timeframes adopted by the council in the Intermountain Provincial Plan:
  - Habitat surveys within the usual and accustomed area of the Spokane Tribe of Indians
  - Feasibility studies for the reintroduction of anadromous in habitats above Grand Coulee Dam

- Council will direct the Administrator, the Bureau of Reclamation, the Army Corps of Engineers and any other appropriate Federal agencies to restore native resident fish species (subspecies, stocks and populations) to near historic abundance throughout their historic ranges where original habitat conditions exist and where habitats can be feasibly restored.
- The Administrator and the Council will administer and increase opportunities for consumptive and non-consumptive resident fisheries for native, wild, and hatchery-reared stocks that are compatible with the continued persistence of native resident fish species and their restoration to near historic abundance (includes intensive fisheries within closed or isolated systems).
- Council will direct the Administrator, the Bureau of Reclamation, the Bureau of Land Management, the Army Corps of Engineers and any other appropriate Federal agencies to fund and provide access to anadromous fish resources based on recommendations from the Spokane Tribe of Indians.

Council will include the following implementation language in the Program:
-- Blocked habitat: Where habitat for a target population is blocked and therefore there are no opportunities to rebuild the target population by improving its opportunities for growth and survival in other parts of its life history, then the biological objective will be to provide a substitute. In the case of wildlife, where the habitat is inundated,

substitute habitat would include setting aside and protecting land elsewhere that is home to a similar ecological community. For fish, substitution would include an alternative source of harvest (such as a hatchery stock) or a substitution of a resident fish species as a replacement for an anadromous species.

Council will include the following guidance language in the Program:
-- Anadromous fish loss mitigation: Mitigation in areas blocked to salmon and steelhead by the development and operation of the hydropower system has historically been inadequately funded. Flexibility in approach is needed to develop a program that provides mitigation for anadromous fish loss where in-kind mitigation cannot occur. The "Compilation of Salmon and Steelhead Losses in the Columbia River Basin" and the "Numerical Estimates of Hydropower-related Losses" contained in the Council Program (NPCC 1987, 1994, 1995, 2000, 2005) Technical Appendix E is the starting place for the Council's approach regarding anadromous fish loss mitigation.--

RESIDENT FISH MITIGATION

Spokane Tribe of Indians

Resident fish and resident fish habitat loss has occurred in the Spokane Tribe's usual and accustomed areas as a result of the construction and continual operation of Grand Coulee Dam. These losses must be mitigated for in these areas. The current program address's mitigation for resident fish populations that are impacted through historical and continuing hydro-system operations.

Council will ensure the following guidance language in the Program be maintained and implemented: **(Section 7, Page 22)**

7. Resident Fish Mitigation
The habitat, artificial production, harvest, and hydrosystem protection and mitigation strategies set forth above address effects on both anadromous and resident fish. There are additional considerations that apply particularly to resident fish mitigation in those areas of the Program that have completed quantitative resident fish loss assessments and where land acquisitions are a primary tool for mitigation. These considerations, similar to the mitigation strategies that address wildlife losses, include:

a. Resident Fish Mitigation and Crediting
Resident fish loss assessments resulting from the construction of hydroelectric facilities have generally been quantified in terms of acres or stream miles of key habitat for focal species inundated or blocked. Such losses are most effectively mitigated by acquiring interests in real property for the primary purpose of preserving, enhancing, restoring, and/or creating fish and wildlife habitat equal to the quantity and quality of habitat lost. In areas where construction and inundation losses have been assessed and quantified by the appropriate agencies

and tribes, mitigation should occur through the acquisition of appropriate interests in real property at a minimum ratio of 1:1 mitigation to lost distance or area.

b. Resident Fish Mitigation Settlement Agreements
BPA should fund resident fish mitigation via habitat acquisitions that take place through long-term agreements that have clear objectives, a plan for action over time, a committed level of funding that provides a substantial likelihood of achieving and sustaining the stated mitigation objectives, and provisions to ensure effective implementation with periodic monitoring and evaluation. Resident fish mitigation agreements should include:

- Measurable objectives, including the estimated resident fish habitat losses addressed by acquisitions.
- Demonstration of consistency with the policies, objectives and strategies in the Council's program.
- A committed level of funding that provides a substantial likelihood of achieving and sustaining the stated mitigation objectives.
- Adequate funding for Operation and Maintenance.
- When possible, protection for riparian habitat that can benefit both fish and wildlife, and protection for high quality native habitat and species of special concern, including endangered, threatened, or sensitive species.
- Sufficient funding to demonstrate a substantial likelihood of achieving and sustaining the resident fish mitigation objectives.
- Resident fish mitigation agreements may include the protection of un-degraded or less degraded habitat or, in appropriate circumstances may include protection and improvement of degraded habitat when necessary for effective mitigation. In the latter case, any mitigation agreements with Bonneville should include sufficient funding to enhance, restore, and create habitat functions and values for the target species of resident fish on acquired lands that are degraded.

c. Management Plan and Operation and Maintenance Funding
Resident fish mitigation measures shall include a management plan adequate to sustain the habitat values for the life of the project. Resident fish mitigation measures shall include sufficient funding for operation and maintenance over the long term to demonstrate a substantial likelihood of achieving and sustaining the mitigation objectives.

Council will include the following guidance language in the Program:

d. Bonneville will fund and implement a Predator Management Program for Lake Roosevelt. This program will be implemented within 60 days following the adoption of the 2014 program and will include efforts similar to the Northern Pikeminnow Sport Reward fishery Bonneville Power Administration funds to partially mitigate for the impact of the Columbia River hydroelectric system on salmon or mechanical removal similar to efforts by the CCT in the Sanpoil River.

Predators (walleye, bass, etc) eat millions of native fish, salmonid and sturgeon juveniles each year in Lake Roosevelt. The goal of the program is not to eliminate walleye, but rather to reduce the population size and curtail the number of larger older fish. Creating a balance with the number of these predators in Lake Roosevelt will enhance the success of the artificial and natural production in Lake Roosevelt.

WILDLIFE
Spokane Tribe of Indians

The Spokane Tribe of Indians has endured approximately 72 years of losses and impacts to terrestrial resources and their habitats associated with the construction, inundation, and operation of Grand Coulee Dam. While, efforts have been made to address these losses and impacts the Spokane Tribe of Indians remains without full mitigation.

SUBBASIN PLAN IMPLEMENTATION

The region invested a substantial amount of time and finances into the subbasin planning process. Although this process was a high priority at the time, the subbasin plans remain less than fully implemented. The Spokane Tribe of Indians supports fully integrated subbasin plan implementation operational losses.

WILDLIFE OPERATIONS AND MAINTENANCE FUNDING

The Council shall retain measures in the Program that support the adequate long-term funding of Wildlife Mitigation, Operation, and Maintenance projects. Adequate and long-term funding of Wildlife O&M was a focus of past Fish & Wildlife Programs. The Spokane Tribe of Indians supports the following funding principles:

- BPA will provide "*adequate funding*" to maintain, protect, and/or enhance habitat units (HU's) that have been acquired and/or shall be acquired to mitigate wildlife habitat losses. "*Adequate funding*" shall further be identified as the necessary monetary requirement to complete all approved actions identified by the Tribes at a reasonable rate of implementation. Project sponsors shall use the "*1998 CBFWA Wildlife Managers: Guidelines for Enhancement, Operation, and Maintenance Activities for Wildlife Mitigation Projects*", the "*2007-4 IEAB Task 116: Investigation of Wildlife O&M Costs*", and past project expenditures to assist with determining the appropriate actions & funding levels;
- Spokane Tribe of Indians will retain flexibility to use unspent funding in subsequent years. Project sponsors shall be able to work directly with BPA staff to determine how unspent funding can be used within the project that result from unforeseen circumstances such as weather events or fire. This flexibility shall provide Project Managers with benefits to conduct costs measure savings that can go back into the project; and
- BPA will provide funding consistent with approved (between sponsor and BPA) site specific management plans.

MONITORING AND EVALUATION

The Spokane Tribe of Indians recommends retention of measures in the Program that support annual wildlife monitoring and evaluation activities on lands that are acquired as partial mitigation for the construction and inundation losses for Grand Coulee Dam.

BPA will continue to fund the Upper Columbia United Tribes Wildlife Monitoring and Evaluation Program (UWMEP). UWMEP assess the effectiveness of management activities on Tribal mitigation properties by comparing the habitat cover type on permanent sample sites to that on reference sites. The monitoring and evaluation requirements of approximately 70,000 acres of Tribal mitigation lands are completed under UWMEP. The UWMEP has garnered ISRP support for its existing scope as well as support for an expanded reach into the region.

OPERATIONAL LOSSES

BPA will fund an operational losses assessment of impacts to usual and accustomed area of the Spokane Tribe of Indians. Losses associated with Grand Coulee Dam have yet to be assessed despite the compounding ecological impacts associated with the operations. Timelines for completing the assessment of operational impacts (2008) and developing mitigation plans (2010) as established in the subbasin plans have passed. The subbasin plans have an established timeline of 2015 for the implementation of the initial mitigation associated with operational assessments.

The Council shall direct BPA to provide adequate funding for a terrestrial operational loss assessment, an operational loss mitigation plan, and implementation of projects as partial mitigation for operational losses associated with Grand Coulee Dam. These recommendations follow those described in the subbasin plans.

ANADROMOUS FISH MITIGATION POLICY

Historically, a large proportion of the Tribe's diet was supported by the Columbia Basins bountiful anadromous fish runs. Following the 1941 completion of Grand Coulee Dam, the anadromous fish runs were extirpated from the upper reaches of the Columbia River. The end of the upper Columbia River anadromous fish runs forced Tribal members to shift from a diet rich in salmon to one comprised of a greater proportion of upland species. During this transition it was the forest that provided habitat for large mammals, including elk and deer, upon which the Tribe relied heavily (Grant et al. 1994).

One way to begin to address the lack of mitigation efforts made for the loss of anadromous fish resources is to mitigate with terrestrial subsistence species. The anadromous fish mitigation policy (formerly the resident fish substitution policy) will allow for the funding of projects aimed at expanding the availability of terrestrial subsistence species which have been more heavily relied upon by the Tribe since the extirpation of anadromous resources. Terrestrial subsistence species improvement project will include but not be limited to habitat acquisition, research, augmentation, development of

management plans and other actions that will aide in the expansion of subsistence resources.

Grant, F.R., T.C. Catton, K. Schneid, and A.S. Newell. 1994. A forest and a tribe in transition: a history of the Spokane Indian Reservation forest. Historical Research Associates, Inc.

UPPER COLUMBIA ECOREGIONAL MONITORING AND EVALUATION
Spokane Tribe of Indians

The Council will include in the Program the following Upper Columbia Ecoregional Monitoring and Evaluation language:

--The Upper Columbia Ecoregion requires a robust, well-funded monitoring and evaluation and data management programs to ensure that long-term anadromous, resident fish and wildlife projects are achieving the established biological benchmarks over time. The strategy relies on 1) adequate funding for long-term monitoring and evaluation elements; 2) proper linkages to data sharing and data management; and 3) investments in appropriate infrastructure.

1. BPA will provide adequate funding for long-term based monitoring and evaluation elements- Funding should be available to provide the core programs and projects with the resources necessary to adaptively manage resources toward the achievement of biological outcomes. Consistent with funding allocation priorities and principles, project level monitoring and evaluation funding should be reasonably funded and not capped. It should be based on the needs of long-term biologically-based outcomes.

2. BPA will fund data assimilation efforts within the Upper Columbia Ecoregion. Proper linkages to data sharing and data management must be established- Data sharing and data management has been elevated as an important topic to improve decision making relative to fish and wildlife within the Columbia River Basin. Several efforts have been initiated over the years focusing on consolidating data from the tribal, federal and state agencies.

3. BPA will fund appropriate tribal infrastructure-
The Upper Columbia managers do not have robust fish and wildlife information and technology (IT) support and most biologists are not well trained in database administration, function, or operations. Require BPA to bridge this gap by adequately funding improvements to the tribal technological infrastructure. This infrastructure will enable communication within both the ecoregional and regional (Columbia River Basin) data management infrastructure.--

FUTURE PROJECT SOLICITATIONS AND ISRP SCIENCE REVIEWS

Spokane Tribe of Indians

We recommend that the Council alter the ISRP review of Program related projects so that future **solicitations** target only new actions and/or research.

We also recommend a modified scientific review structure for ongoing projects with longstanding support and investment. For example hatchery operations and maintenance projects will be reviewed using monitoring and evaluation reporting and ISRP interaction to assure that implementation is on the adaptive management path. Science review would occur within timelines logically associated with hatchery operations (every 4 to 6 years) and will either confirm existing directions or offer new alternatives based upon the information and data collected and presented via project/program monitoring and evaluation. Other examples include that of wildlife operations and maintenance and long term habitat restoration and enhancement projects. Wildlife O&M reviews would be similar to the hatchery example and would occur on a timeline of 4 to 5 years. Long-term habitat enhancement and restoration projects would be reviewable on 5 to 7 year intervals.

New projects

There has been limited opportunity for new project proposals and no new projects have been funded since the LRWSRI in 2007. Additionally, no new projects have been afforded to non-accord agencies. The program has recognized funding commitments already made by Bonneville and the other federal agencies to accords for long term project funding. However, the program also recognizes that those commitments must not come at the expense of sufficient funding for other Program priorities. For the Program areas that do not yet carry Bonneville funding commitments, the Council will work with Bonneville and the project sponsors to estimate multi-year implementation budgets and secure funding commitments that assure adequate funding for these implementation plans.

Non-accord agencies have not been afforded the opportunity given to accord agencies to propose new projects. This has made it impossible for the Spokane Tribe of Indians to complete the objectives within the subbasin plan.

Council will include the following guidance language in the Program directing BPA to fund new projects for non-accord agencies:

- The Council will create and immediately implement a review process for non-accord agencies to propose new projects.

- Council will direct Bonneville Power Administration to fund new projects beginning 60 days immediately following the adoption of the 2014 program.

- The Council will stipulate that the new projects will be for areas located above Chief Joseph and Grand Coulee Dams.

MAINSTEM FLOW AND SPILL REQUIREMENTS FOR STORAGE RESERVOIRS IDENTIFIED IN THE IMPLEMENTATION OF THE BIOP.

Spokane Tribe of Indians

For actions implemented by the FCRPS to meet flow and spill requirements identified in the draft Biological Opinion and final Biological Opinion on the FCRPS, the Spokane Tribe strongly recommends that the Program include measures to offset or mitigate for impacts related to these hydro operations. The areas that should be included for consideration are impacts to fish, wildlife, water quality, and cultural resources.—

Council will include the following guidance language in the Biological Objectives of the Program:

- The Council should state in the Program that it will actively encourage the Environmental Protection Agency to utilize the regulatory tools it has been granted by statute to protect against the impacts of the FCRPS;[1] and

- The Council should recommend, support and fund implementation actions to reduce toxic contaminants in the water to meet tribal, state and federal water quality standards. The federal action agencies should partner with and support tribal, federal, state, and regional agencies' efforts to monitor toxic contaminants in the mainstem Columbia and its tributaries, and Snake rivers and evaluate whether these toxic contaminants adversely affect anadromous or resident fish important to this Program. If so, implement actions to reduce these toxic contaminants or their effects if doing so will provide survival benefits for fish in mitigation of adverse effects caused by the hydropower system, and provide for safer fish consumption by humans. In particular, investigate whether exposure to toxics in the mainstem, combined with the stress associated with dam passage, leave juvenile salmon more susceptible to disease and result in increased mortality or reduced productivity.

Council will ensure the following guidance language in the Program be maintained and implemented:

Operate Grand Coulee Dam from July through December consistent with the following considerations:

- Subject to in-season management, draft Lake Roosevelt to the target elevations of 1,278 or 1,280 feet by the end of August. As specified in Washington's *Columbia*

[1] In 2010 during the development of the Dissolved Oxygen TMDL for the Spokane River, EPA stated the following in their approval letter for the TMDL: "The elevated SOD in the Spokane Arm is a legacy of the accumulation of oxygen-demanding pollutants in sediment. Sediment accumulation is, in turn, caused by the hydrologic regime created by Grand Coulee dam." Page 36, available at http://www.ecy.wa.gov/programs/wq/tmdl/spokaneriver/dissolved_oxygen/SpokDOtmdl-EPAapproval052010.pdf (last visited September 5, 2013). The Council Program should support and projects address water quality problems caused by the operation of the FCRPS.

River Basin Water Management Program, by the end of August Lake Roosevelt may be drafted by an additional 1.0 foot in non-drought years and by about 1.8 feet in drought years. As much as possible within current operating constraints, manage the reservoir and dam discharges to minimize fluctuations and ramping rates and produce steady flows across each season and each day.

- From September through December, attempt to maximize water retention times and protect kokanee access spawning. Federal action agencies, fish and wildlife managers, and others should consult within the in-season management process to determine how to provide the biological benefits above while meeting biological opinion requirements, including chum flows, and operating to protect flows for the Hanford Reach.

- Two high priorities for Grand Coulee through the year should be to contribute to the establishment and protection of the necessary spawning and rearing conditions in the Hanford Reach described above and to refill by the end of June, subject to in-season management. Summer and fall operations should be consistent with these priorities.

Period	Minimum Elevation	Water Retention Time
January	1,270 ft above sea level	45 days
February	1,260	40 days
March-April 15	1,250	30 days
April 16	1,255	30 days
May	1,265	35 days
June	Fill to 1,290	40-60 days or maximum historically achievable for each month.

The Council will incorporate ISAB recommendations for addressing hydrosystem impacts on Upper Columbia River White Sturgeon:

- Develop a credible white sturgeon habitat model for the UCR to quantify habitat throughout the year in conjunction with mainstem hydrosystem operations

- Identify the specific aspects of hydrosystem operations, such as duration of fluctuations in water releases and of water levels, that affect natural spawning, reproduction, growth and survival of larval and juvenile fishes, and overall recruitment success of white sturgeon in the UCR

- Investigate the potential impacts of trace element contamination of UCR sediments on the quality of critical white sturgeon habitat throughout the UCR from Lake Roosevelt upstream to the International Border.

Rationale: White Sturgeon in the Upper Columbia River (UCR) are a considered a 'Species at Risk' by the Canadian federal government, are a species of active research for the Washington Department of Fish and Wildlife (WDFW), and are the focus of a recent UCR White Sturgeon Recovery Plan developed by US and Canada entities. That plan highlights a number of issues as contributing to poor white sturgeon populations and greatly diminished natural recruitment, including but not limited to, habitat diversity, flow regulation, water temperature, water clarity, total dissolved gas (TDG), contaminants, food availability, fish community alteration, predation, exploitation and incidental catch. Selected topics have benefited from recent studies by USGS, US EPA, WDFW, and the Colville and Spokane Tribes, but issues such as habitat diversity, flow regulation effects, temperature and elevated trace-element concentrations in bed sediments are in need of research. Specific to the UCR, the physical habitat for various life stages of white sturgeon have not been characterized or quantified, nor has the potential for trace-element contaminants to compromise critical habitats.

The amount, distribution and complexity of benthic substrates in Lake Roosevelt are currently unknown. Various life stages of white sturgeon are known to utilize and benefit from particular habitat types in the lower Columbia River, but similar understanding is not available for the UCR. Proper characterization of habitat availability would benefit fisheries managers in estimating what a sustainable population size should be. Substrate size, location and complexity (as substrate diversity) are key variables currently lacking characterization. Recent additions of detailed bathymetry of the Lake Roosevelt pool and lower portions of the UCR provided by US Bureau of Reclamation, and LiDAR (light detection and ranging) are key tools ready for application in developing a white sturgeon habitat model.

Superimposed on a habitat model for the UCR are the multiple lines of evidence that indicate trace element contamination in the sediments of the UCR may be a critical habitat stressor to the reproductive success of white sturgeon in the reach between Lake Roosevelt and the International Border. Preliminary evidence suggest that hydrosystem controlled conditions in the mainstem river play a controlling factor on exposure of white sturgeon to dissolved trace elements mobilized from river bed sediments.

PROGRAM FUNDING ALLOCATION LANGUAGE
Spokane Tribe of Indians

The Program has underserved the Upper Columbia River due to the absence of anadromous fish and a geographically uninformed resident fish funding strategy. Developing a set of geographical objectives is a critical step toward addressing this inequity and fulfilling the Program's existing vision. Funding priorities across the Columbia River Basin should then be developed to be consistent with those objectives.

Include in the Program the following funding allocation language:

I. Set forth the Program's general funding priorities:
   a. Protect, mitigate, and enhance fish and wildlife that have been affected by the hydropower system but underserved by the Program due to its predominant focus on endangered species and Bi-Op requirements;
   b. Areas with the highest proportion of unmitigated construction and inundation losses (fish, wildlife, habitat, and temporally related losses) including specific priority for off-site/out-of-kind compensation mitigation opportunities towards immitigable impacts;
   c. Adequate project O&M funding for ongoing long-term projects (i.e., wildlife properties, fish hatcheries, etc.);
   d. Long-term settlement agreements (i.e., Montana wildlife settlement, Willamette wildlife settlement, etc.);
   e. Loss assessments and mitigation for un-quantified impacts (e.g., operational impacts);
   f. Data management;
   g. Research, Monitoring, and Evaluation;
   h. Regional coordination;
   i. Improving Program efficiencies; and
   j. Updates to Subbasin Plans consistent with subbasin planning guidance and stakeholder participation.

II. Set forth the following Program funding priority:
   a. Allocate at least 45% of Program funding for the geographic area above Chief Joseph and Grand Coulee Dams (where 40% of documented losses have occurred and nearly 50% of the federal system's electricity is produced), while providing adequate funding for the area above Wells Dam in order to close the largest ESA gap for recovery; or
   b. Allocate all resident fish funding to the habitats above Chief Joseph and Grand Coulee dams Upper Columbia and other blocked areas until resident fish harvest opportunities in these areas are commensurate with the combined anadromous and resident fish harvest allowed elsewhere in the Basin, and fund anadromous fish substitution projects from the anadromous allocation below Wells Dam.

III. Make the following changes in the 2009 Program, section VIII.D.2.b:
   a. Insert the following sentence as the first bullet: "Protect land, habitat, and water from a 'top-down' approach, prioritizing headwater habitats in the Upper Columbia and Snake Rivers.";
   b. Change the language following what is currently the second bullet to read: "Enhance ecosystem function and species diversity over the long term in highly perturbed and novel ecosystems";
   c. Delete the text following the first bullet in the second bulleted list;
   d. Delete the first sentence following the second bulleted list and change the last sentence in that paragraph to: "The fund will not be used for a proposed acquisition if strong and compelling evidence is presented by both Council members from that state through an established objections process."

Council will include in the Program the following long term funding allocation language:
--Past Program language, measures, amendment recommendations, Spokane Tribe of Indians planning efforts, and a 2006 Memorandum of Understanding between the Spokane Tribe of Indians and BPA recognize and support the development of broader fiscal and project implementation horizons. The Spokane Tribe of Indians has consistently provided Program recommendations in the form of 10 year planning since 1994. Based upon the benefits of these unimplemented recommendations, we recommend that the Council direct BPA to enter into negotiations with the Spokane Tribe of Indians to complete a ten-year implementation agreement. This will implement critical strategies and measures within the Program that would address mitigation obligations in the Spokane Tribe in their usual and accustomed area.--

Include in the Program the Spokane Tribe of Indians 10-year Implementation Plan:
--The Spokane Tribes' 10-year plan to implement the NPCC adopted Upper Columbia and Spokane subbasin plans to address the prioritized biological objectives, measures and limiting factors.

Aquatic measures
1. Artificially produce sufficient genetically appropriate native and focal species to fulfill management and harvest needs by continuing to operate and maintain/improve Spokane Tribal, Sherman Creek, and Ford Trout Hatcheries, and the Lake Roosevelt Net-Pens to collectively produce kokanee salmon, rainbow trout, and redband trout for release into Lake Roosevelt. This will include the cost of 100% marking all hatchery fish released into Lake Roosevelt as identified by the Independent Scientific Review Panel (ISRP). Coordinate decisions on hatchery production, stocking and outplanting locations through a committee consisting of representatives from the Spokane Tribe of Indians, the Confederated Tribes of the Colville Reservation, and the Washington Department of fish and Wildlife. Upper Columbia Subbasin Objectives 1A5, 2A2, 2C1; Spokane Subbasin Objectives 2C1, 2C3).

2. As partial mitigation for anadromous fish losses, BPA will fund a cooperative project among the Spokane Tribe of Indians, Confederated Colville Tribes and the Washington Department of Fish and Wildlife to monitor and evaluate the Lake Roosevelt biota to assess the effectiveness and impacts of artificial production measures, the effects of exotic introductions, and the impacts of reservoir operations. (Upper Columbia Subbasin Objectives 1A1, 1A5, 2A1, 2A2, 2C1; Spokane Subbasin Objectives 1A1, 1A2, 1B2, 2A1, 2A2, 2C1,).

Complete annual assessments of the efficacy of the Lake Roosevelt Artificial Production Program by conducting a year-round reservoir-wide creel survey and completing annual assessments of kokanee returns and redband trout recruitment as identified in the 2008 Lake Roosevelt Fisheries Guiding Document. (Upper Columbia Subbasin Objectives 1A1, 2A2, 2C1; Spokane Subbasin Objectives 1B2, 2A1, 2A2, 2C1)

Assess factors limiting fish communities in Lake Roosevelt through evaluation of hydro-operation impacts, non-native fish impacts and restoration/enhancement activities effects on native and hatchery fish. Complete assessments via fisheries surveys using electrofishing, gill netting, trawling and other appropriate methodologies to collect fisheries population, life history, diet and other suitable metrics data. (Upper Columbia Subbasin Objectives 1A1, 1B2, 2A1, 2A2; Spokane Subbasin Objectives: 1A1, 1B2, 2A1, 2A2).

Assess factors limiting fish communities in Lake Roosevelt through evaluation of hydro-operation impacts, non-native fish impacts and restoration/enhancement activities on the lower trophic levels in Lake Roosevelt, and ultimately native and hatchery fish. Complete assessments via water quality, hydrology and productivity surveys to determine physical, chemical, and biological effects. (Upper Columbia Subbasin Objectives 1A1, 1A2, 1B2; Spokane Subbasin Objectives 1A1, 1B2, 1B7)

Conduct mark-recapture studies of the artificial production program to determine release strategies that maximize harvest and adult returns. (Upper Columbia Subbasin Objectives 1A1, 2A2, 2C1; Spokane Subbasin Objectives 1B2, 2A1, 2A2, 2C1).

Monitor and map the availability of fish/riparian habitat and effects of habitat restoration measures in Lake Roosevelt and tributaries at various lake elevations to determine habitat availability at changing lake levels. Address habitat limiting factors by implementing vegetation enhancements, seeding, and natural and artificial structures. (Upper Columbia Subbasin Objectives 1A1, 1A2, 1B2; Spokane Subbasin Objectives 1A1, 1B1, 1B2, 1B7)

Assess genetic distribution of redband trout and other native species in the intermountain province in coordination with fisheries co-managers (Upper Columbia Subbasin Objectives 1C1, 2A1; Spokane Subbasin Objective 1C1, 2A1).

Update the Lake Roosevelt Fisheries Guiding Document. Contents should include management actions and direction, and guide evaluation and research work to ensure projects are an adaptive management tool that will improve understanding of the factors affecting Lake Roosevelt, leading to better management decision-making in the future. (Upper Columbia Subbasin Objectives 1A2, 1A3, 2A1, 2A2, 2C1; Spokane Subbasin Objectives 1B2, 1B7, 1C3, 1C4, 2A2, 2A3, 2C2, 2C3).

3. As partial mitigation for resident fish losses, fund a cooperative project among the Spokane Tribe of Indians, Confederated Colville Tribes and the Washington Department of Fish and Wildlife to complete a baseline assessment of white sturgeon populations and associated habitats in Lake Roosevelt from Grand Coulee Dam to the international border, including the Spokane Arm of Lake Roosevelt. (Upper Columbia Subbasin Objectives 1A1, 1B2, 2A2, 2C1; Spokane Subbasin Objectives 1A1, 1C3, 2A, 2C2)

Conduct baseline population assessments to monitor hatchery and wild sturgeon populations (size, abundance of age classes, age/length frequency, recruitment rate, mortality, distribution and migration patterns, life history, habitat use, etc.), environmental factors limiting sturgeon abundance, and effectiveness of recovery measures. (Upper Columbia Subbasin Objectives 1A1, 1B2, 2A2, 2C1; Spokane Subbasin

Objectives 1A1, 1C3, 2A1, 2C2)

Implement recovery measures based on knowledge gained through assessments, limiting factors workshops, Upper Columbia White Sturgeon Recovery Initiative Plans and Lake Roosevelt sturgeon recovery plans. (Upper Columbia Subbasin Objectives 1A1, 1B2, 2A2, 2C1; Spokane Subbasin Objectives 1A1, 1C3, 2A1, 2C2)

Continue interim hatchery production, including 100% PIT-tagging of hatchery sturgeon and 100% PIT-tagging and sonic tagging of broodstock collected in the upper Columbia River. (Upper Columbia Subbasin Objectives 1A1, 1B2, 2A2, 2C1; Spokane Subbasin Objectives 1A1, 1C3, 2A1, 2C2)

4. Sturgeon are disappearing in the first year of life in the upper Columbia River. Limiting factors are under investigation under the Lake Roosevelt Sturgeon Recovery Project, but a sturgeon hatchery is necessary to conserve the remaining population. As partial mitigation for fish losses, fund completion of the Northwest Power and Conservation Council's 3-step process and plan development for a dedicated conservation sturgeon hatchery for Lake Roosevelt and the upper Columbia River. Upon successful completion of the 3-step process, complete construction of a conservation white sturgeon hatchery, and begin operation and maintenance phase, including continuation of the marking program and development of a genetic management plan to protect remaining genetic diversity of the population. (Upper Columbia Subbasin Objectives 1A5, 2A1, 2A2, 2C1; Spokane Subbasin Objectives 1C3, 2C2)

5. Support objectives to assess feasibility for anadromous fish reintroductions above Grand Coulee Dam (Upper Columbia Subbasin 1B1, 2A1, 2A2, 2D1, 2D2; Spokane Subbasin Objectives 2D1, 2D2)

6. In cooperation with the Northwest Power and Conservation Council, Bonneville Power Administration, Bureau of Reclamation, and others, develop hydro- operations at Grand Coulee Dam that are consistent with mainstem objectives and will reduce entrainment and drawdown impacts on rainbow trout, redband trout, kokanee salmon and other species of interest in Lake Roosevelt. This measure was identified by the Independent Scientific Review Panel as critical to development of a functional kokanee population in Lake Roosevelt. Also, support implementation of water quality strategies that benefit the upper Columbia River and its tributaries, including alternative reservoir operation scenarios if appropriate. As an interim measure, until interested parties can come to agreement on hydro-operations, operate Grand Coulee Dam as recommended by the Northwest Power and Conservation Council's Mainstem Amendments to the Columbia River Basin Fish and Wildlife Program (2003) and the Draft Biological Opinion (2007). (Upper Columbia Subbasin Objectives 1A1, 1B2; Spokane Subbasin Objectives: 1A1)

7. As partial mitigation for anadromous fish losses enhance fish populations and restore riparian habitats of streams and lakes on or adjacent to the Spokane Indian Reservation. Conduct riparian habitat restoration and increase channel complexity to address limiting factors in Lake Roosevelt and tributaries. Address habitat limiting factors by

implementing vegetation enhancements, seeding, and placement of natural and artificial structures. Initial plans include passage/habitat improvements for adfluvial rainbow trout and kokanee (eg. eliminate 10 migration barriers, reduce embeddedness by 25 percent, increase average canopy cover to 60 percent, introduce 100 pieces of large organic debris per mile (short term), manage vegetation to promote large organic debris in the future (long-term) and increase sinuosity to provide habitat diversity). Monitor reservoir and tributaries to assess effectiveness and determine if interim targets are achieved. (Upper Columbia Subbasin Objectives 1A1, 1A2, 1A3, 1B1, 1B2, 1B6; Spokane Subbasin Objectives 1A1, 1B1, 1B2, 1B7, 2A1, 2A3, 2C3)

8. Minimize negative impacts to native species from nonnative species by using appropriate methods to remove nuisance species (gill net, electrofish, fishing regulations, bounties or other appropriate methodologies). All or a combination of methodologies may be implemented while fisheries managers determine the most appropriate method for Lake Roosevelt. Monitor reservoir and tributaries to assess effectiveness and determine if interim targets are achieved. Upper Columbia Subbasin Objectives1B2, 2C1; Spokane Subbasin Objectives 1A1, 1A2, 1B2, 2A2, 2A3)

9. Assist with funding coordination amongst entities around Lake Roosevelt and in adjacent systems. Includes at a minimum the Lake Roosevelt Fisheries Evaluation Program (science group), Lake Roosevelt Management Team, the Lake Roosevelt Hatchery Coordination Team, and transboundary water quality groups. (Upper Columbia Subbasin Objectives 1A4, 1B2, 2C1; Spokane Subbasin Objectives 1C3, 1B7, 2C3).

10. Assess current status of mussel populations in the Spokane Arm and the Columbia River adjacent to the Spokane Indian Reservation. (Upper Columbia Subbasin Objectives 1A1; Spokane Subbasin Objectives 1A1, 1C1, 1C2).

Terrestrial measures

11. Complete mitigation for the construction and inundation losses of wildlife habitat, as defined in the Wildlife Protection, Mitigation and Enhancement Planning for Grand Coulee Dam (Final Report 1986). (Upper Columbia Subbasin Objectives 1A1 through 1A9, 2C2; Spokane Subbasin Objectives 1A1 through 1A9; 2B3).

12. Conduct annual Operation & Maintenance (consistent with the CBFWA Wildlife Operation, Maintenance, and Enhancement Guidelines) activities on lands that are acquired as partial mitigation for the construction and inundation losses for Grand Coulee Dam. (Upper Columbia Subbasin Objectives 1A strategy a, c; Spokane Subbasin Objectives 1A10, 1A11).

13. Conduct annual Wildlife Monitoring & Evaluation activities on lands that are acquired as partial mitigation for the construction and inundation losses for Grand Coulee Dam.

(Upper Columbia Subbasin Objectives 1A strategy a, c, and Research, Monitoring & Evaluation Plan; Spokane Subbasin Objectives 1A10, 1A11, Research, Monitoring & Evaluation Plan).

14. Implement as partial mitigation a Sharp-tailed Grouse Restoration Project on the Spokane Indian Reservation. (Upper Columbia Subbasin Objectives 1A8 strategy a, b, c, 2A2; Spokane Subbasin Objectives 1A8 and 2A2).

15. Conduct a terrestrial operation loss assessment for Grand Coulee Dam, develop an operational loss mitigation plan, and implement projects as partial mitigation for the operational losses. (Upper Columbia Subbasin Objectives 1B1 and 1B; Spokane Subbasin Objectives 1B1 through 1B3).

SPOKANE TRIBE OF INDIANS								
							Current Actions	
Province (by sub-basin)	Project Detail	Project Type	Past Investment	Prioritized Biological Objectives	Prioritized Limiting Factors	Strategies and Actions/ Measures	Identified Metrics	Current Status relative to Objectives (1-10) E=Ecology M=Management K=Knowledge
Intermountain-Upper Columbia, Spokane	Spokane Tribal Hatchery (1991-046-00), Partially mitigates for Grand Coulee Dam - Resident Fish Substitution. Raise salmonids for recreational and subsistence purposes.	Ongoing - ISRP reviewed - was given qualified funding for 2007-09 based on outcomes of addressing ISRP comments/concerns about kokanee production success.	Past Investment = $2.5 million Capital - 1990.	Maintain, restore and enhance subsistence species to provide for harvestable surplus. Upper Columbia Subbasin Objectives 1A5, 2A2, 2C1 Spokane Subbasin Objectives 2C1, 2C3	Hydro-operations (dam construction-lost anadromous fish)	Artificially produce sufficient genetically appropriate native and focal species to fulfill management and harvest needs through maintaining/improving existing AP programs including WDFW Sherman Creek Hatchery and LRDA Net Pen Projects.	750K RBT (triploid), 450K KOK Includes cost of 100% marking all hatchery fish as identified by ISRP requirements.	M=5, Hatchery objectives are perpetual
Intermountain-Upper Columbia, Spokane, SanPoil	Lake Roosevelt Fisheries Evaluation Project (1994-043-00). Partial mitigation for Grand Coulee Dam - Resident Fish Substitution. Monitoring and evaluation of artificial production program, hydropower impacts and status of native fish populations..	Ongoing - ISRP reviewed and identified for full funding 2007-09		Evaluate artificial production program effectiveness and impacts. Upper Columbia Subbasin Objectives 2A1, 2A2, 2C1 Spokane Subbasin Objectives 1B2, 2A1, 2A2, 2C1	Hydro-operations (dam construction-lost anadromous fish)	Continue annual assessment of hatchery fish released into Lake Roosevelt (includes assessment of kokanee salmon, rainbow trout and redband trout programs).	Annual reservoir-wide creel, kokanee returns and redband trout recruitment following experiments outlined in Sept 2008 Lake Roosevelt Fisheries Guiding Document	M=5
				Evaluate hydro-operation impacts on artificial production program and implement strategies to reduce. Upper Columbia Subbasin Objectives 1A1, 1B2 Spokane Subbasin Objectives 1A1	Hydro-operations (general) - we know hydro-operations negatively impact the Lake Roosevelt fishery through entrainment, drawdown impacts and potentially in other ways. As identified by the ISRP, we are required to develop strategies to address these impacts.	Develop plans to reduce entrainment and drawdown impacts on kokanee salmon, rainbow trout, redband trout and other species. Work with Bonneville Power Administration, Bureau of Reclamation, the Northwest Power and Conservation Council, and others to develop hydro-operations at Grand Coulee Dam that will benefit kokanee in Lake Roosevelt (as identified as a requirement by the Independent Science Review Panel).	Complete plan development with input from NPCC, BPA, USBOR, the Lake Roosevelt managers, and other interested parties.	M=6
				Evaluate hydro-operation impacts on native fish and implement strategies to reduce. This work will heavily overlap with assessments of impacts on the artificial production program (identified above). Upper Columbia Subbasin Objectives 1A1, 2A2 Spokane Subbasin Objectives 1A1, 2A1, 2A1, 2A2, 2C1	Assess operations impacts on fish to identify limiting factors.	Develop & implement plans to reduce impacts - includes annual fisheries and productivity monitoring to assess operations effects on fish in Lake Roosevelt. Methodologies will be based on plans developed with biostatistician as identified by ISRP.	Develop annual fisheries and productivity monitoring plans.	M=6
				Monitoring of on-the-ground projects implemented to help restore/protect the Lake Roosevelt Fishery (expand stable littoral zones, implement nutrient enrichment, predator reduction, habitat improvements in the Spokane Arm, Hawk Creek, and	Hydro-operations (e.g., entrainment, drawdown impacts), oligotrophication, predators, loss of habitat.	Assess effects of seeding project (pilot & potential larger scale)	Incorporate into annual Lake Roosevelt monitoring program. Complete under the guidance of a	K=0
						Assess predator reduction project for effectiveness.	biostatistician to formulate the most cost efficient program to answer relevant	K=0

				potentially other locations). Upper Columbia Subbasin Objectives 1A1, 1A2, 1B2 Spokane Subbasin Objectives 1A1, 1B1, 1B2, 1B7, 2A1, 2A2, 2A3		Assess habitat improvements in the Spokane Arm, Hawk Creek and other potential locations.	fisheries questions.	K=0

				Maintain coordination amongst entities around Lake Roosevelt and adjacent systems. Includes coordination to work with appropriate parties to reduce mainstem Columbia River TDG to < 110%. Upper Columbia Subbasin Objectives 1A4, 1B2 Spokane Subbasin Objectives 1B7, 2C3	Multi-agency management area and project coordination.	Maintain LRFEP, LR Mgmt Team, & LR Hatchery Coord. Team working groups. Coordinate with Transboundary Gas Group	Coordinate and participate in fisheries managers and other types of meetings as necessary.	M=5
Intermountain - Upper Columbia, Spokane, San Poil	Lake Roosevelt Sturgeon Recovery Project (1995-027-00). Recovery of resident population(s) of white sturgeon in the upper Columbia River.	Ongoing - ISRP reviewed - was given qualified funding for 2007-09 based on outcomes of addressing ISRP comments regarding interim conservation artificial production. ISRP comments will be addressed through the Lake Roosevelt Conservation Sturgeon Hatchery 3-Step Project (2007-372-00).		Determine genetic distribution of native focal species (white sturgeon, etc.), identify limiting factors, and develop strategies to address limiting factors. (i.e.. reduce predation on white sturgeon). Upper Columbia Subbasin Objectives 1A1, 1B2, 2A2, 2C1 Spokane Subbasin Objectives 1A1, 1C3, 2A1, 2C2	Hydro-operations (flow, water quality, habitat)	Monitor upper Columbia River sturgeon for factors limiting recruitment to the population (predation, flow, food availability, turbidity, substrate, etc.)	Assess limiting factors identified through workshops to determine individual and combined impacts. Continue baseline population assessments to monitor population and recovery measures.	K=5
						Develop and implement recovery measures based on knowledge gained through limiting factors workshops, UCWSRI plans, and Lake Roosevelt sturgeon recovery plans.	Implement recovery measures identified through coordinated assessment efforts.	M=3
						Continue interim hatchery production - track hatchery fish to estimate survival of planted family groups and track broodstock to evaluate impacts and maintain genetics database.	100% PIT-tag hatchery white sturgeon released into the recovery area (up to 4500/yr) and 100% PIT-tag/Sonic-tag adult broodstock released back into the upper Columbia River. Maintain monitoring and telemetry programs to track tagged sturgeon.	M=5
				Coordination (Develop technical/policy groups). Upper Columbia Subbasin Objectives 1B2, 2C1 Spokane Subbasin Objectives 1C3, 2C3	Multi-agency management area and project coordination.	Develop technical/ policy groups to coordinate with other researchers and managers on white sturgeon issues in the upper Columbia River recovery area (in U.S. and Canada).	Coordinate/participate in the Upper Columbia White Sturgeon Recovery Initiative meetings, Lake Roosevelt managers meetings, etc.	M=5 Ongoing for life of project due to inter-organizational nature of work.
Intermountain - Upper Columbia, Spokane	Lake Roosevelt Sturgeon Conservation Hatchery - 3-Step (2007-372-00).	Ongoing - ISRP reviewed - qualified funding in 08-09 - future funding based on outcomes in 2008.		Maintain, restore & enhance wild populations of native fish & subsistence species to provide for harvestable surplus. Upper Columbia Subbasin Objectives 1A5, 2A1, 2A2, 2C1 Spokane Subbasin Objectives 1C3, 2C2	Sturgeon are disappearing in the 1st year of life in the upper Columbia River. Limiting factors are under investigation under project # 1995-027-00. A sturgeon hatchery is needed to prevent the population from disappearing.	Complete the Northwest Power and Conservation Council's 3-Step process and plan development for a dedicated conservation sturgeon hatchery for Lake Roosevelt and the upper Columbia River.	Complete the NPCC 3-Step Process.	K/M=9

Intermountain - Upper Columbia, Spokane	Construction of Lake Roosevelt Sturgeon Conservation Hatchery	New Project - dependent upon outcome of 3-Step Process (Project # 2007-372-00)		Maintain, restore & enhance wild populations of native fish & subsistence species to provide for harvestable surplus. Upper Columbia Subbasin Objectives 1A5, 2A2, 2C1 Spokane Subbasin Objectives 1C3, 2C2	Sturgeon are disappearing in the 1st year of life in the upper Columbia River. Limiting factors are under investigation under project # 1995-027-00. A sturgeon hatchery is needed to prevent the population from disappearing.	Build Lake Roosevelt White Sturgeon Conservation Hatchery	Complete construction of conservation sturgeon hatchery.	M=0
Intermountain - Upper Columbia, Spokane	Operations and Maintenance of Lake Roosevelt Sturgeon Conservation Hatchery - Includes completion of HGMP.	New Project - dependent upon outcome of 3-Step Process (Project # 2007-372-00)		Maintain, restore & enhance wild populations of native fish & subsistence species to provide for harvestable surplus. Upper Columbia Subbasin Objectives 1A5, 2A2, 2C1 Spokane Subbasin Objectives 1C3, 2C2	Sturgeon are disappearing in the 1st year of life in the upper Columbia River. Limiting factors are under investigation under project # 1995-027-00. A sturgeon hatchery is needed to prevent the population from disappearing.	Begin Operation & Maintenance phase of conservation sturgeon hatchery, including continuation of marking program to identify hatchery-produced fish and broodstock.	Begin Operation & Maintenance phase of conservation sturgeon hatchery. PIT tag 100% of juvenile sturgeon released. Sonic tag & 100% PIT tag broodstock.	M=0
		HGMP - Lake Roosevelt Sturgeon Conservation Hatchery		Protect genetic integrity of native fish. Upper Columbia Subbasin Objectives 2A1, 2C1 Spokane Subbasin Objectives 1C3, 2C2	Development of conservation sturgeon hatchery for Lake Roosevelt and the upper Columbia River - minimize &/or prevent negative hatchery fish impacts.	Develop and implement hatchery genetic management plans to maintain genetic diversity of wild stocks in hatchery produced fish.	Complete HGMPs for white sturgeon in the upper Columbia River.	M=2
Intermountain - Upper Columbia, Spokane	PILOT - Seeding and Fertilization in Lake Roosevelt to improve habitat and food resources.	New Project - Pilot project to assess potential of seeding large flats dewatered in the spring. Fertilization of associated coves will also be assessed to determine effects on habitat and food resources within the reservoir.		Expand stable littoral zones in Lake Roosevelt / Begin implementation of habitat strategies for native fish. Upper Columbia Subbasin Objectives 1A1, 1A2, 1A3, 1B2, 1B6 Spokane Subbasin Objectives 1A1, 1A2, 1B2, 1B7, 2A3	Productivity, Habitat availability, Predation	Use vegetation enhancements/seeding. Monitoring of project effectiveness will be incorporated into monitoring program developed for Lake Roosevelt.	Pilot - Plant grass/millet or other appropriate vegetation over 20-40 1 ha test quadrants.	E/M=0
Intermountain - Upper Columbia, Spokane	LARGE SCALE - Seeding and Fertilization in Lake Roosevelt to improve habitat and food resources.	New Project - implementation dependant upon favorable outcome of pilot project. Pilot will assist with determination of appropriate plants, areas, etc.		Expand stable littoral zones in Lake Roosevelt / Begin implementation of habitat strategies for native fish. Upper Columbia Subbasin Objectives 1A1, 1A2, 1A3, 1B2, 1B6 Spokane Subbasin Objectives 1A1, 1A2, 1B2, 1B7, 2A3	Productivity, Habitat availability, Predation	Use vegetation enhancements/seeding to improve habitat and productivity for fish in Lake Roosevelt. Monitoring of project effectiveness will be incorporated into monitoring program developed for Lake Roosevelt.	Plant appropriate vegetation 10 ft below full pool to annual lowest level [cover 5% of total acreage available - percentage to be based on pilot study assessments].	E/M=0
Intermountain - Upper Columbia, Spokane, San Poil	Remove non-native predators using established methods.	New Project - implementation of project is based on Independent Scientific Review Panel's recommendation that reduction of predators is necessary to continue the Lake Roosevelt kokanee salmon artificial production program.		Minimize negative impacts (competition, predation, introgression) to native species from nonnative species/stocks. Upper Columbia Subbasin Objectives 1B2, 2C1 Spokane Subbasin Objectives 1A1, 1A2, 1B2, 2A2, 2A3	Predation	Use appropriate methods to remove nuisance species (co-managers need to assess most appropriate method for Lake Roosevelt - bounty program, commercial netting, electrofish, etc. We will continue to try liberalization of current fishing regulations initially to control populations). Monitoring of project effectiveness will be incorporated into monitoring programs developed for Lake Roosevelt.	Gill net, electrofish, and/or hook and line where large groups congregate (areas currently known) &/or use of a bounty program. All or a combination of methods may be used initially while managers determine most appropriate method for Lake Roosevelt.	M=0

Intermountain - Spokane	Spokane Tribe Fish Habitat Enhancement Project	New - will require ISRP review.		Restore connectivity for salmonid habitats as appropriate - Provide harvest opportunities that support subsistence and sport angler harvest. Upper Columbia Subbasin Objectives 1B1, 2A2 Spokane Subbasin Objectives 1B1, 2A1, 2C3	Hydro-operations (dam construction-lost anadromous fish) - off-site mitigation.	Enhance streams and lakes on the Spokane Tribe Reservation.	Restore passage from Spokane Arm to tributaries (1-2 streams)	E/M=0
						Monitor and evaluate water quality, productivity, habitat and fish communities.	Complete project monitoring and evaluation	M=0
Intermountain - Spokane	Lake Roosevelt Fish Habitat Enhancement Project	New Project - will require ISRP review.		Begin implementation of habitat strategies for addressing identified limiting factors for all focal species and native fisheries. Limiting factors will be determined through the evaluation programs already in effect on Lake Roosevelt (eg. Lake Roosevelt Fisheries Evaluation Program). Upper Columbia Subbasin Objectives 1A1, 1B2 Spokane Subbasin Objectives 1B1, 1B2, 2A1, 2A3, 2C3	Suitable Habitat Availability	Conduct riparian habitat restoration and increase channel complexity to address known limiting factors.	Increase littoral habitat complexity using natural and artificial structures where feasible.	M=0
Intermountain-Upper Columbia, Spokane, SanPoil	Feasibility Study - Reintroduction of Anadromous Salmon above Grand Coulee Dam	New Project - will require ISRP review.		Evaluate feasibility of anadromous fish reintroductions above Grand Coulee Dam. Upper Columbia Subbasin Objectives 1B1, 2A1, 2A2, 2D1, 2D2 Spokane Subbasin Objectives 2D1, 2D2	Dam construction blocked anadromous fish passage.	Expand Chinook & steelhead range & habitat wherever possible	Conduct study to assess feasibility of passage at Grand Coulee Dam.	K/M=0
Intermountain-Upper Columbia, Spokane	Mussel Assessment - Spokane Arm of Lake Roosevelt & Columbia River Adjacent to the Spokane Indian Reservation.	New Project - will require ISRP review.		Continue to evaluate hydropower impacts to native and focal species. Upper Columbia Subbasin Objectives 1A1 Spokane Subbasin Objectives 1A1, 1A2, 1C1, 1C2	Habitat degradation (drawdown effects), water quality impacts and loss of salmonid host (loss of anadromous fish)	Assess current status of mussel population in the Spokane Arm and the Columbia River adjacent to the Spokane Indian Reservation.	Complete assessment via SCUBA &/or snorkel surveys, sediment sampling and other appropriate methods.	K=0
Intermountain-Spokane & Upper Columbia	Spokane Tribe of Indians Wildlife Mitigation Project - 1998-003-00 WILDLIFE PROJECT (Grand Coulee Dam construction and inundation impacts)	Ongoing - ISRP reviewed; request 5 year ISRP review to access monitoring results and management direction to date	$1.36 M - expense	Spokane Subbasin Objective 1A1-1A6, 1A8-1A10. Upper Columbia Subbasin Objective 1A1-1A6, 1A8-1A9.	No maintenance or enhancement of habitat would result in decreasing HU's on mitigation lands.	Maintain and Enhance wildlife values, HUs, for the life of the project on existing & newly acquired mitigation lands through adequate long-term Operations and Maintenance funding.	Maintain and/or increase HUs annually on acquired lands through O&M activities.	E/M-4

Intermountain-Spokane & Upper Columbia	Spokane Tribe of Indians Wildlife Mitigation Project - (formerly Blue Creek Winter Range) 1991-062-00 Complete land acquisitions to meet the identified HEP losses related to Grand Coulee Dam construction & inundation losses. (Project may not be needed depending on the results of HEP Analysis of the FY2007 land acquisitions).	Ongoing - ISRP review 2006; Review to determine current status of available HU credits.	$10.77 million - capital $272K - expense	Spokane Subbasin Objective 1A1-1A6, 1A8-1A9. Spokane Subbasin Objective 1A1-1A6, 1A8-1A9.	Acquire the necessary habitat to meet the HU requirements for mitigation of the Grand Coulee Dam Construction & Inundation Wildlife Losses as identified in Appendix C, Table 11-4 of the CRB 2000 Fish & Wildlife Program.	Acquire through fee title acquisition the necessary acres of habitat to meet the remaining HUs needed for complete mitigation.	Remaining HUs needed for mitigation.	E/M-9
Intermountain - Spokane & Upper Columbia	UCUT Wildlife Monitoring & Evaluation Project (UWMEP) - Project will conduct Wildlife M&E efforts for the 5 UCUT Tribes on a regional scale for consistensy and adequate effort.	ISRP reviewed individual Project M&E planning in 2006; Project will be a regional Wildlife M&E effort not previously conduct in the Columbia River Basin.		Spokane Objective 1A11: Evaluate effectiveness of mitigation by monitoring & evaluating species and habitat responses to mitigation actions. Upper Columbia Objective 1A: Strategy C: Evaluate effectiveness of mitigation by monitoring and evaluating species and habitat responses to mitigation actions.	Unknown status of the species response to activities been conducted on mitigation sites.	UCUT Wildlife Monitoring	M&E	E/M-3
Intermountain - Spokane & Upper Columbia	Spokane Tribe of Indians: Grand Coulee Dam Operational & Secondary Wildlife Loss Assessment Project; Loss Assessment will cover 7 miles of the Columbia River and 23 miles of the Spokane River that defines the the west and south boundaries of the Spokane Indian Reservation, respectively.	New Project - needs to go through solicitation and ISRP review		Spokane Objective 1B1: Assess and mitigate the operational effects of the Grand Coulee Project. Upper Columbia Objective 1B1: Quantitatively assess operational impacts of the Grand Coulee Project on terrestrial resources by year 2008.	Unknown status of impact	Complete and implement study design	Measured Loss Assessment (undetermined crediting format).	K-0
				Spokane Objective 1B2-3: Develop mitigation plan for operational effects by year 2010; Implement initial mitigation plan by 2015, incorporating an ongoing revision and review cycle and adequate O&M funding. Upper Columbia Objective 1B2: Develop mitigation plan by year 2010 and implement initial mitigation by year 2015.	To be determined by assessment.	To be determined.	Metrics yet to be determined.	