

BONNEVILLE POWER ADMINISTRATION
Mid-Columbia Coho Restoration Program
RECORD OF DECISION

Summary. The Bonneville Power Administration (BPA) has decided to implement the Proposed Action of the Mid-Columbia Coho Restoration Program as described in the Mid-Columbia Coho Restoration Program Final Environmental Impact Statement (DOE/EIS-0425) issued in March of 2012.

The Proposed Action is for BPA to fund the Confederated Tribes and Bands of the Yakama Nation (Yakama Nation) to transition the current Mid-Columbia Coho Restoration Program from its feasibility phase to a comprehensive program to restore naturally spawning populations of coho salmon in harvestable numbers to the Wenatchee and Methow river basins in north central Washington State. Construction of a new small hatchery on the Wenatchee River in Chelan County, and construction and use of acclimation facilities in natural settings in Chelan and Okanogan counties are included in this proposal. To accomplish this goal, the Yakama Nation would build on the results of feasibility studies and broodstock development activities conducted since 1996 by releasing up to 2.16 million smolts from up to 24 acclimation sites, primarily in upstream tributaries in both basins. Currently, there are too few natural or semi-natural acclimation sites in upstream areas of these basins to accommodate the increased numbers of smolts required to “jump-start” the natural production process.

BPA prepared the Mid-Columbia Coho Restoration Program EIS and this Record of Decision (ROD) pursuant to the process specified in the National Environmental Policy Act (NEPA), regulations of the Council on Environmental Quality (40 CFR Part 1505), Implementing Procedures of the Department of Energy (10 CFR Part 1021), and under the authorities of the Pacific Northwest Electric Power Planning and Conservation Act, 16 U.S.C. §§ 839 et seq.

The Yakama Nation manages the current coho broodstock development program in the Wenatchee and Methow basins, in cooperation with Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service (USFWS), Chelan County Public Utility District and Grant County Public Utility District. The Yakama Nation and Okanogan County (Washington State Environmental Policy Act lead agency) are cooperating agencies for the EIS.

These entities, as well as the National Marine Fisheries Service (NMFS) and other managers of habitat, fisheries, and hatcheries in north central Washington and the lower Columbia River, participated actively in development of the Proposed Action, and, along with other interested and affected agencies, organizations, and individuals, were consulted during the development of the EIS. BPA is issuing this ROD only for its own actions.

Because the coho restoration program originated through the Northwest Power and Conservation Council’s (Council’s) Columbia River Basin Fish and Wildlife Program, BPA will fund the Proposed Action pursuant to its authority under the Northwest Power Act to protect, mitigate, and enhance fish affected by the Federal Columbia River Power System (FCRPS). The Proposed Action will also help BPA respond to a 2008 Columbia Basin Fish Accords Memorandum of Agreement that was signed by BPA, the U.S. Army Corps of Engineers, the Bureau of Reclamation, and the Yakama Nation (among other Columbia River treaty tribes).

Under the agreement, BPA agreed to make funds available to implement the program subject to the Council's review and to meeting all legal compliance conditions (including NEPA).

The program would be one more element of a continuing effort by BPA, the Yakama Nation and other partners and cooperators to protect and manage anadromous fish populations and mitigate for effects of the FCRPS in the waters of the upper middle Columbia region. Implementing this program will enable the Yakama Nation to meet the goal of the Tribal Anadromous Fish Restoration Plan (*Wy-Kan-Ush-Mi Wa-Kish-Wit*) to restore a culturally important species to naturally reproducing populations in harvestable numbers.

Proposed Action. The Proposed Action is for BPA to provide funding to the Yakama Nation to expand its efforts to reintroduce coho into the Wenatchee and Methow basins in Washington State through the Mid-Columbia Coho Restoration Program. This funding will allow the program to transition from experimental to full implementation to reintroduce coho into the basins. The program builds on the feasibility studies and broodstock development activities that have been ongoing since 1996. The Proposed Action will support activities that provide sufficient smolt release numbers in multiple tributaries throughout both basins to disperse returning coho adults in suitable habitat and to encourage establishment of a self-sustaining, naturally reproducing population by approximately 2028.

The Proposed Action will allow the implementation of the following activities:

- Release of up to 2.16 million coho smolts in both basins, with release numbers gradually decreasing as specific goals are reached for natural-origin adult escapement and proportions of natural-origin and hatchery-origin fish in the broodstock.
- Construction and/or use of 24 acclimation sites in the Wenatchee and Methow basins, distributed throughout ten tributaries in the Wenatchee and six tributaries in the Methow basin.
- Construction of a small new hatchery occupying 1.5 acres at the George (Natapoc) site on the Wenatchee River just downstream of Lake Wenatchee. This site was identified as the backup hatchery site in the EIS, and will replace the originally proposed Dryden hatchery site.
- Continued use of hatcheries, incubation, and broodstock collection facilities used in the existing program.
- A comprehensive monitoring and evaluation program.

Construction activities are limited to the small new hatchery at the George (Natapoc) site; a few new or modified acclimation ponds; and new wells, intake structures, and/or water delivery or discharge pipes or channels at a small number of acclimation sites.

Background

In 1996, BPA began funding the Yakama Nation to study the feasibility of reintroducing coho to the mid-Columbia region. BPA analyzed the effects of implementing those studies in the Mid-Columbia Coho Reintroduction Feasibility Project Final Environmental Assessment (EA), completed in April 1999 (DOE/EA-1282). Supplemental Analyses (DOE/EA-1282/SA-01, -02, -03, and -04) were prepared to analyze effects of additional activities and facilities proposed for the studies.

The feasibility goals have been met: a local coho broodstock has been developed, and a total of 1.5 million smolts are acclimated and released in the two basins annually, with little or no impact

to sensitive species identified during monitoring studies of those releases. In 2011, approximately 31,000 coho adults passed Rock Island Dam, the closest mainstem Columbia River dam downstream from the Wenatchee River mouth.

The Yakama Nation prepared an initial Master Plan in 2006 based on the results of the feasibility studies; numerous federal, state, and tribal fish and wildlife experts contributed to its development. The Master Plan developed the approach and biological rationale for building on the feasibility studies to ultimately establish a naturally reproducing, self-sustaining population of coho. In 2009, the Council and its Independent Science Review Panel reviewed the revised Master Plan. The Yakama Nation then further revised the Master Plan in response to their comments, and in March of 2010, the Council recommended that BPA fund the Tribe to proceed with Step 2 of the 3-step process¹. The Yakama Nation most recently presented information regarding the Mid-Columbia Coho Reintroduction Program to the Council in April 2012. Since then, the tribe has been finalizing the Master Plan and responding to the Independent Science Review Panel's comments. The tribe intends to submit the final Master Plan to the Council in late 2012, in time for scientific review and Council consideration prior to hatchery construction, which will begin in 2014 or later.

BPA needed to respond to the Council's recommendation and decide whether to provide additional funding to the Yakama Nation. BPA issued a Notice of Intent on July 22, 2009, to prepare an EIS. The draft EIS, based on the proposal in the revised Master Plan, was issued for public review in June 2011. Changes were made in response to comments, particularly related to water quality impacts of acclimation at Leavenworth National Fish Hatchery and to the definition and impacts of the No Action Alternative. The Final EIS was issued in March of 2012. The only comments received on the Final EIS were from the Environmental Protection Agency (EPA). The EPA's comments were positive, and acknowledged the changes made to the water quality analysis and the other explanations provided in BPA's responses to EPA's comments.

Scope of Decision. This decision authorizes BPA to implement the Proposed Action as described in the Final EIS, subject to certain conditions.

Since publication of the Final EIS, several acclimation sites have been removed from the Proposed Action; however, the need, purposes, and goals presented in the Final EIS have not changed, nor have the locations of the majority of the project sites. Biological Assessments were submitted to NMFS and USFWS in December 2011 and February 2012, respectively, to initiate the Endangered Species Act (ESA) Section 7 consultation process. The assessments were based on the sites identified in the Final EIS. Due to the subsequent uncertainty about which sites will be used, consultations with these agencies have been delayed, except for the Gold Creek acclimation site in the Methow basin. It is expected, however, that any terms, conditions, and conservation measures included in the Biological Opinions on the remaining sites will fall within the range of alternatives and impacts addressed in the Final EIS. In the event they do not, BPA will follow Council on Environmental Quality regulations in dealing with new information or changed circumstances.

¹ The Council uses a three-step process to review major projects. Generally, the project review step process is as follows: Step 1 - conceptual planning, represented primarily by master plan development and approval; Step 2 - preliminary design and cost estimation, and independent scientific and environmental review (NEPA, ESA, etc.); and Step 3 - final design review prior to construction and operation.

The Final EIS analyzed a primary hatchery site at Dryden and a backup hatchery site (George/Natapoc) in the Wenatchee basin, and 24 primary acclimation sites in both basins. In addition, the impacts of several backup sites in each basin were evaluated in the Final EIS, in case some primary sites should prove infeasible. The program purposefully works only with willing property owners and does not acquire sites through condemnation. Since publication of the Final EIS, several owners requested that primary or backup acclimation sites on their property be removed from consideration. In addition, other sites, including the original primary hatchery site, became infeasible for a variety of reasons. As a result the following sites are not proposed to be used at this time:

- The primary hatchery site at Dryden Dam in the Wenatchee basin.
- Wenatchee basin primary acclimation sites: Chikamin and Minnow on the Chiwawa River.
- Wenatchee basin acclimation backup site: Scheibler on Chumstick Creek.
- Methow basin primary acclimation sites: Mason and Pete Creek Pond on the Chewuch River and Twisp Weir on the Twisp River.

The George (recently renamed Natapoc) backup hatchery site, which the EIS examined, will replace the Dryden hatchery site in the Proposed Action. In order to maintain the project goal of improving the geographic distribution of the reintroduced coho, the acclimation sites will be replaced with backup sites identified and analyzed in the Final EIS, or new sites in the same tributaries. Currently, two of the Methow basin backup sites are now identified as primary sites: Chewuch Acclimation Facility (Chewuch AF) and Methow Salmon Recovery Foundation Chewuch (MSRF Chewuch) on the Chewuch River. Any new sites proposed will be subject to further environmental analysis.

The Mid-Columbia Coho Reintroduction Program will be implemented in stages. The first stage will be excavation of excess silt from the existing Gold Creek ponds in the Methow basin in summer 2012, to prepare for their use as an acclimation site in 2013. In a letter dated June 21, 2012, the USFWS concurred with BPA's determination of "may affect, not likely to adversely affect" for bull trout at the Gold Creek site. NMFS also concurred with the finding for the Gold Creek ponds excavation in a letter dated July 5, 2012. The letter stated that all effects of the proposed first stage actions are not likely to adversely affect ESA-listed species and ESA-designated critical habitats.

The second stage would be construction of other Methow basin sites in summer of 2013 for acclimation in spring of 2014. Construction and use of the Wenatchee basin sites, including the new hatchery, would follow a year or two later. Construction on these sites will not occur until consultations with NMFS and USFWS and any other necessary environmental compliance has been completed. For instance, additional NEPA compliance would be necessary for any new replacement acclimation sites not addressed in the Final EIS. BPA has already begun developing a memorandum of understanding with the US Department of Agriculture Forest Service to guide preparation of an Environmental Assessment for a site on Eightmile Creek in the Methow basin. Similarly, BPA will confer and coordinate with the Yakama Nation to complete the Council's the 3-step process and secure the Council's recommendation prior to constructing the George/Natapoc hatchery facility. Given the nature of the Mid-Columbia Coho Reintroduction Program and related funding requests, BPA expects to revisit its NEPA compliance regularly to ensure that each step in each stage of the coho program fully complies with the law.

BPA's decision to fund the Mid-Columbia coho restoration program does not represent a final decision on the future use of the Mitchell Act hatcheries that NMFS is currently addressing programmatically in its "Environmental Impact Statement to Inform Columbia River Basin Hatchery Operations and the Funding of Mitchell Act Hatchery Programs." The Proposed Action supports activities that include continued use of two lower Columbia River hatcheries, Willard National Fish Hatchery and Cascade Hatchery, for rearing juvenile coho. NMFS issued a draft EIS in 2010 that includes an alternative that eliminates funding for Mitchell Act hatcheries such as Willard and Cascade. It has not yet issued a Final EIS or Record of Decision. If all Mitchell Act funding for Cascade and/or Willard hatcheries is terminated, BPA could use its own funding as needed to continue to rear a portion or all of the maximum 2.16 million mid-Columbia coho production for this reintroduction project at these hatcheries, consistent with the 2008 Accord agreement and federal appropriations law. Given this funding flexibility, BPA's decision in this ROD will not prejudice or preempt NMFS' decision regarding its EIS on the Mitchell Act hatcheries. Until NMFS finishes its programmatic hatchery EIS and issues a final decision, the Mid-Columbia Coho Restoration Program will continue to use Cascade and Willard hatcheries as proposed in the Final EIS.

Alternatives Considered. In addition to the Proposed Action, the No Action Alternative was considered in reaching this decision. This alternative was evaluated in detail in the Final EIS. In the No Action Alternative, BPA would fund the Mid-Columbia Coho Reintroduction Project through September 30, 2018, as the agency is committed to doing under the 2008 Columbia Basin Fish Accords with the Three Treaty Tribes (one of which is the Yakama Nation). Under the No Action Alternative, BPA would continue funding the existing program at existing facilities, at no greater than existing production levels, at the same level of annual funding as of Fiscal Year 2011 (approximately \$1.9 million annually), with an annual inflation adjustment of 2.5 percent. Currently 1.5 million smolts are acclimated annually and released from a limited number of sites in the two basins. This alternative is unlikely to establish a self-sustaining, naturally reproducing population.

Chapter 2 of the Final EIS describes each alternative, as well as alternatives considered but eliminated from detailed consideration.

Environmental Impacts and Mitigation Measures. BPA, the Yakama Nation, and other project designers and reviewers developed mitigation measures to reduce the short-term and long-term environmental and social impacts of the Mid-Columbia Coho Restoration Program through project design and consultation with regulatory entities. Mitigation measures from the Final EIS are presented in the attached Mitigation Action Plan. The following summarizes the anticipated impacts of the Mid-Columbia Coho Restoration Program as presented in the final EIS.

- There would be minor, localized impacts from phosphorus in discharges from the operation of proposed new acclimation and hatchery facilities, but modeling and analysis show that the maximum possible impact from all facilities would be undetectable downstream, including in sections of the Wenatchee River that are water quality limited.
- Water withdrawals for surface or groundwater at a few sites will have little or no effect on other surface water uses or water rights.
- Fish other than coho, including spring Chinook, summer steelhead, and/or bull trout listed under the ESA, would be displaced from up to 1.53 acres of currently accessible habitat in

both basins for 6 weeks to 7 months annually until 2028. In some cases, effects would be offset by creation of new habitat onsite or nearby.

- There could be incidental take of bull trout at Chiwawa Weir if operations are extended to allow trapping of adult coho. If a new smolt trap is installed on the Little Wenatchee River, there could be incidental take of spring Chinook or bull trout; environmental compliance would be completed when an exact location is proposed.
- The risk of predation on and competition with ESA-listed fish by naturally produced coho is largely unknown, although studies of coho predation and competition during the feasibility phase showed little effect, partly due to the rapid migration of smolts and the use of different microhabitats by the various species. ESA-listed populations will be monitored and changes evaluated through an extensive, statistically robust monitoring and evaluation program to determine if increasing numbers of coho cause adverse effects.
- The addition of coho carcasses from adults that have returned to spawn at the onset of winter might provide more marine-derived nutrients and improve over-winter survival for all species. Juvenile and adult coho would provide prey for fish-eating predators, and their presence could improve the ecological balance of the system.
- A slight reduction in potential spotted owl habitat at the Tall Timber acclimation site is possible; a qualified biologist will confirm the presence or absence of nests in any trees needing removal. Designated and proposed critical habitats are not likely to be adversely affected.
- Some wildlife near work sites could be temporarily displaced or disturbed during construction, but operations are not expected to noticeably disturb wildlife because all sites currently experience human activity.
- A small amount of native and non-native vegetation, including some riparian habitat, could be removed or disturbed at sites requiring construction. No ESA-listed or other sensitive plant species would be affected. Disturbed areas would be replanted with native vegetation as appropriate.
- Construction could cause some short-term erosion and instream turbidity, but Best Management Practices, as discussed in greater detail in the Mitigation Action Plan accompanying this ROD, will be used to limit these impacts.
- Construction of the hatchery site at the George (Natapoc) site could require significant work in wetlands for the pipelines, pump station, intake structure, and well. The other hatchery facilities including the ponds, raceways, and buildings would be located in uplands. Placement of the pipelines would result in temporary impacts to approximately 45,000 square feet (one acre) of wetland. Construction of the well, intake structure, and pump station would permanently impact approximately 1,075 square feet (0.03 acres) of wetland. One primary acclimation site in the Methow basin (Newby) would require a minor amount of work in a wetland. Mitigation measures outlined in the Mitigation Action Plan would minimize impacts, and all activities in wetlands will comply with the Clean Water Act and other laws as well as any permit conditions.
- In the Wenatchee basin, the George (Natapoc) hatchery site, one primary acclimation site (Tall Timber) and one backup site (Squadroni) require work in floodplains; in the Methow basin, three primary sites (Newby, MSRF Chewuch, and Chewuch AF) and one backup site (Utlely) require work in floodplains. Work in the floodplains would include pipeline installation, intakes and pump stations, and pond excavation. No other buildings or above-ground structures will be placed in floodplains. Because sites of necessity must be close to

rivers or streams in order for smolts to volitionally migrate, alternatives are limited. However, flood elevations would not change, new ponds would add a small amount of flood storage, and mitigation measures as described in the Mitigation Action Plan would minimize impacts. The project will comply with the Clean Water Act and other laws, applicable floodplain protection standards, and permit conditions.

- Construction noise could disturb residents or recreational users of sites intermittently for one day to four months during the summer construction season, depending on the site. This will be mitigated through the implementation of work-hour restrictions.
- Construction activity could slightly and temporarily increase the amount of dust in the air, which would be mitigated through the use of dust control measures.
- There would be minor increases in employment, and increased numbers of coho would create the potential for terminal, mainstem, and ocean tribal, commercial, and sport harvest.
- An incremental amount of greenhouse gases would be emitted during construction and hatchery operation, which would add to global climate change, but energy efficiency considerations in project design would make this contribution insignificant at local and global scales.

Mitigation measures described in the Draft EIS and updated in the Final EIS are adopted and presented in the attached Mitigation Action Plan. Construction activities connected with the Proposed Action will comply with applicable regulatory requirements, permits, and guidance for protection of the environment and human well-being and safety, and will incorporate Best Management Practices such as erosion and dust control, waste management, and work-hour and noise restrictions. The construction activities incorporate special measures such as retaining as much native vegetation, including mature trees, as possible and restoring any disturbed areas, including wetlands, with native plants. Special measures to minimize potential impacts to floodplains are also adopted. New water supply intakes will meet NMFS screening requirements. Instream work will occur behind temporary cofferdams or other appropriate water diversions during the in-water work periods and will comply with applicable regulations and permits.

Once constructed, hatchery and acclimation pond water discharge will comply with applicable regulations and standards, including existing Total Maximum Daily Loads in the Wenatchee River. Nets used to enclose coho during acclimation in existing natural water bodies will allow upstream or downstream passage by ESA-listed fish in waters they currently occupy or use; expanded in-channel ponds could create additional habitat. Pumps or generators used at a few sites will be muffled to meet Washington State noise standards.

Decision Factors. In making its decision, BPA considered how well each alternative met its purposes as described in Section 1.2 and evaluated in Table 2-13 of the EIS.

- **Develop a locally adapted, self-sustaining, naturally spawning coho stock that occupies its historical habitat in the Wenatchee and Methow river basins.** By providing funding for expanding coho distribution into natural production areas of the basins, model results indicate that a locally adapted, self-sustaining, naturally spawning coho stock has an excellent chance of being established. Without funding to expand into natural production areas, such a stock is unlikely to be established and the majority of fish returning to the basins would be hatchery fish.

- **Support efforts to mitigate for effects of the Federal Columbia River Power System (FCRPS) on fish and wildlife in the mainstem Columbia River and its tributaries pursuant to the Pacific Northwest Electric Power Planning and Conservation Act of 1980.** While both alternatives would support the mitigation effort, the Proposed Action would use BPA funding to support the long-term goal of a program designated as a high-priority mitigation project in the Council’s Fish and Wildlife Program.
- **Assist in carrying out commitments related to proposed hatchery actions that are contained in the 2008 Columbia Basin Fish Accords Memorandum of Agreement with the YN and others.** The Proposed Action would meet the maximum funding commitment for coho reintroduction made to the Yakama Nation in the Columbia Basin Fish Accords MOA; the No Action Alternative would meet only base funding commitments.
- **Minimize harm to natural or human resources, including species listed under the Endangered Species Act.** The impacts of the alternatives, as presented in the final EIS in Chapter 3 and as summarized above and in Table 3-1 of the final EIS, show that direct, indirect, and cumulative impacts of the Proposed Action to natural and human resources would for the most part be minor, localized, and short-term. Mitigation measures adopted as described in the attached Mitigation Action Plan and permit conditions developed by other agencies will further limit potential impacts, including those to wetlands and ESA-listed species. Naturally spawning populations of coho could provide ecological benefits to many species and could aid in the recovery of listed species. While the No Action Alternative would avoid construction impacts and potential risks to ESA-listed species and could thus be viewed as environmentally preferred, the low numbers of naturally produced coho under this alternative would not provide the other expected ecological benefits; therefore, BPA considers the Proposed Action the environmentally preferred alternative.

In addition to these BPA’s purposes, BPA also considered the Yakama Nation’s objectives described in Section 1.2 and evaluated in Table 2-13 of the EIS:

- **Increase the abundance of Mid-Columbia coho salmon to numbers sufficient to sustain a mainstem and terminal harvest in most years.** By funding an increase in coho production for a limited period and expanding coho distribution into natural production areas, the Proposed Action is expected to increase coho numbers sufficiently to sustain harvests by 2028. The No Action Alternative would not allow for increased production and expanded distribution, so numbers of natural coho produced are unlikely to be sufficient to sustain harvests.
- **Maintain consistency with the visions and goals of other regional and tribal plans.** The Proposed Action would be consistent with subbasin plans by restoring coho as part of an ecologically balanced system, and would be consistent with tribal plans by restoring natural production of coho to rivers that support the historical cultural and economic practices of the tribes. These conditions would not be met by the No Action Alternative.
- **Maintain consistency with the coho production objectives specified in the 2008-20017 *United States v. Oregon* Fish Management Agreement for the Wenatchee and**

Methow basins. Both the Proposed Action and the No Action Alternative would be consistent with U.S. v. Oregon production goals.

Decision. BPA has decided to implement, in stages, the Mid-Columbia Coho Restoration Program in the Wenatchee and Methow basins of Washington State. In addition, BPA adopts the Mitigation Action Plan attached to this ROD. The Mitigation Action Plan includes all practicable measures to avoid or minimize impacts identified in the EIS. The Mid-Columbia Coho Restoration Program is consistent with the Council's Columbia River Basin Fish and Wildlife Program. Funding this program will help mitigate for the effects of the FCRPS on fish and wildlife by restoring coho populations to rivers and subbasins where they had been extirpated and by helping to restore the ecological balance in those subbasins.

The Proposed Action meets the purposes stated in the Final EIS and satisfies the decision factors listed above better than the No Action Alternative. The project supports the Yakama Nation's long-term goal to return salmon to the rivers and to provide new opportunities for harvest for commercial, sport, tribal, and non-tribal fishers.

The No Action Alternative would not have the environmental impacts associated with hatchery construction or expanded acclimation; however, the No Action alternative does not meet the long-term goal of restoring sustainable populations of naturally reproducing coho salmon to the upper middle Columbia region.

BPA has considered the impacts of the activities that would occur as a result of selecting the Proposed Action, including construction, operations, the monitoring and evaluation program, and mitigation measures. Having considered the descriptive information and effects analysis described in detail in the EIS, the comments on the draft EIS and their responses, BPA finds that the long-term benefits of the Proposed Action outweigh the potential and mostly short-term adverse environmental impacts.

Public Availability. This ROD will be available to all interested parties and affected persons and agencies. It is being sent to all stakeholders who requested a copy. Copies of the Mid-Columbia Coho Restoration Program EIS and additional copies of this ROD are available from BPA's Public Information Center, P.O. Box 3621, Portland, Oregon, 97208.

Copies of these documents may also be obtained by using BPA's nationwide toll-free document request line: 1-800-622-4520, or by accessing BPA's project website:

http://efw.bpa.gov/environmental_services/Document_Library/Mid-Columbia_Coho_Restoration_Project/.

Issued in Portland, Oregon on July 19, 2012.

/s/ Anita J. Decker
Anita J. Decker
Acting Administrator and
Chief Executive Officer

**Mid-Columbia Coho Restoration Program
Mitigation Action Plan
July 2012**

Resource	Implementation plans, monitoring, mitigation	Responsibility and project phase
General	Facility design and construction will meet all applicable permit regulations (except for the Gold Creek site, all designs and permits are in development at this time). Construction will incorporate industry standard Best Management Practices (BMPs) for erosion control, hazardous material handling, waste management, water quality control, dust control, weed management, fire prevention, and work hour and noise considerations. Site design will incorporate measures such as retaining riparian vegetation and landscaping with native plants.	Yakama Nation Design and construction
	All work will comply with applicable regulations and permits [Joint Aquatic Resources Permit Application (JARPA)/Clean Water Act, National Pollutant Discharge Elimination System (NPDES), Floodplain Development, Shoreline Management, Hydraulic Permit Application (HPA), ground and surface water right permits, etc.]	Yakama Nation Design and construction
Water Quality	Small numbers of coho smolts will be acclimated and released from multiple sites to dilute the nutrient loads in streams.	Yakama Nation Design and operations
	Ponds with flow rates that are higher than those used in constructed regional fish facilities will be used so that there is substantial dilution of nutrients in the discharges.	Yakama Nation Design
	Smolts will be acclimated in large, natural ponds; their higher water volumes provide greater dilution of fish feed and wastes and buffer nutrient loading to the receiving stream.	Yakama Nation Design and operations
	Fish food that minimizes phosphorus concentrations in discharges will be used. Phosphorus levels in fish food will be below 1.42% (highly digestible).	Yakama Nation Operations
	Sediments will be periodically removed from some acclimation ponds to eliminate potential long-term accumulation of nutrients.	Yakama Nation Operations
	Water from the George/Natapoc hatchery site will be treated in accordance with the Natapoc Hatchery Discharge Treatment Plan to be finalized in consultation with the Washington Department of Ecology as part of the water quality permitting process.	Yakama Nation Design
Surface and Ground-water Rights	Groundwater sources will be placed where local impacts to surface water that are caused by ground-water level changes in aquifers that are in hydraulic continuity with surface water are minimized.	Yakama Nation Design
	Groundwater withdrawals will be located as close as possible to the surface water body and as far from existing senior groundwater users as feasible to reduce the size and magnitude of the drawdown cone from the site.	Yakama Nation Design
	Disturbance of the stream or side channel bottom will be minimized to the maximum extent possible to reduce the potential impacts to the hydraulic continuity between the surface water and shallow groundwater.	Yakama Nation Construction

Resource	Implementation plans, monitoring, mitigation	Responsibility and project phase
Surface and Ground-water Rights	Surface water withdrawals will be located where existing senior rights, including in-stream flow rights, will not be impacted.	Yakama Nation Design
Fish and Aquatic Habitat	Construction, operations and maintenance (O&M), and monitoring and evaluation activities (M&E) shall comply with all terms and conditions of Incidental Take Permits issued by the National Marine Fisheries Service (NMFS) and US Fish and Wildlife Service (USFWS) for this program. The Yakama Nation will notify BPA and the appropriate agency immediately of any excess take of listed fish and will follow that agency's subsequent direction. Monitoring reports will be submitted to NMFS and USFWS annually.	Yakama Nation and BPA Construction and operations
	Instream structures and screens will meet applicable NMFS and USFWS design requirements.	Yakama Nation Design
	Timing and methods of construction will be coordinated with resource agencies to minimize disturbance to Endangered Species Act (ESA)-listed species and life-stages. All in-water work window restrictions will be observed.	Yakama Nation Construction
	In-water construction areas will be isolated by the placement of cofferdams at the inlet and outlet consisting of gravel-filled bags and plastic sheeting to prevent water and fish from entering the work area. Qualified fish biologists will capture and safely move food fish, game fish, and other fish life from the impounded area as it becomes de-watered. The pond(s) will be dewatered using screened pumps, after fish have been removed and before excavation begins.	Yakama Nation Construction
	Discharge of sediment will be limited or prevented by implementing these measures: <ul style="list-style-type: none"> • A temporary barrier will be used to prevent backwater from entering the work area. • Before release of water flow to the project area, any sediment-laden water will be pumped out of the project area and will not be allowed to flow back into surface streams. • When flow is returned to the active channel, the sediment plume will not be visible above background turbidity 150 feet downstream of the project. • New water channels will be lined with gravel and rock. • New ponds will be filled slowly to avoid suspending and mobilizing sediments. • Banks will be restored and replanted, trees will be avoided, and any habitat structures that must be moved (large rocks or large woody debris) will be re-installed immediately up- or downstream of the disturbance as feasible. 	Yakama Nation Construction
	The USFWS Best Management Practices to Minimize Adverse Effects to Pacific Lamprey will be followed.	Yakama Nation Construction
	Barrier nets will be used at acclimation sites where ESA-listed fish are not found to minimize premature escape of coho salmon.	Yakama Nation Operations

Resource	Implementation plans, monitoring, mitigation	Responsibility and project phase
Fish and Aquatic Habitat	Where ESA-listed fish are known to occupy nearby habitat, seine nets will be used at acclimation sites to partition off a portion of a water body while allowing free upstream and downstream passage of ESA-listed fish to available habitat. In areas where emergent spring Chinook or bull trout fry could be present, use of fine seine mesh to exclude fry from enclosed areas will reduce predation. Seines will be installed in a manner that excludes fry from the coho acclimation area by moving out from the bank to encapsulate the rearing area. The enclosed area would be snorkeled to verify that no ESA-listed fish are present before hatchery coho are added.	Yakama Nation Operations
	Seine or barrier nets will be removed when coho reach a size that ensures most are ready to migrate to reduce interactions with other fish.	Yakama Nation Operations
	Populations of sensitive fish species will be monitored to establish baseline levels. As the coho project moves into the natural production phases, ESA-listed and other sensitive fish populations will continue to be monitored to determine if their numbers are decreasing. If so, the Yakama Nation will initiate studies to determine if the decreasing numbers are due to predation or competition by naturally produced coho. If studies indicate that coho are adversely affecting listed fish, the program will be modified in consultation with regulatory agencies and other parties as appropriate.	Yakama Nation and BPA Operations
Wildlife, Plants, and Terrestrial Habitat	Project features such as new ponds and side channels will be designed to be as natural as possible and in most cases are in areas where forested habitat will not be cleared or removed.	Yakama Nation Design and construction
	Few if any large trees will be removed to avoid or minimize direct effects to tree-nesting bat species or birds such as diurnal raptors, owls, woodpeckers, and passerines.	Yakama Nation Design and construction
	If large trees must be removed at the Tall Timber acclimation site, a qualified biologist will confirm the presence or absence of spotted owl nest activity in the trees; if any nesting activity is found, BPA will reinitiate consultation with USFWS.	Yakama Nation and BPA Design and construction
	Large pumps and generators will be enclosed in noise-muffling structures to eliminate disturbance to wildlife.	Yakama Nation Design and construction

Resource	Implementation plans, monitoring, mitigation	Responsibility and project phase
Wetlands	Sites will be designed to avoid clearing and grading wetlands to the greatest extent possible.	Yakama Nation Design and construction
	All conditions included in construction permits will be met.	Yakama Nation Design and construction
	Disturbed wetlands and wetland buffers will be re-vegetated with native vegetation. Wetland mitigation measures developed through the WDOE permit process will be followed.	Yakama Nation Construction
	Staging areas for construction will be located outside wetland buffers and re-vegetated with native vegetation as necessary.	Yakama Nation Construction
Floodplains	Use of as many existing ponds as possible for fish acclimation and release will avoid construction in floodplains.	Yakama Nation and BPA Design
	Compensatory storage will be incorporated in the project design where above-ground facilities are located within a floodplain.	Yakama Nation Design
	Infrastructure will be buried below grade, not in elevated road prisms, preventing diversion or rerouting of floodwaters.	Yakama Nation Design and Construction
	Spoil materials will be removed and disposed in uplands or at off-site locations outside the floodplain.	Yakama Nation Construction
Visual Quality	Areas of disturbance will be minimized to the greatest extent possible. Upon completion of facility construction, all disturbed areas will be seeded with native grasses or planted with native vegetation, where appropriate.	Yakama Nation Design and construction
Recreation, Public Health and Safety, Climate Change	All construction activity will be limited to normal workday hours of 8:00 a.m. to 5:00 p.m., Monday through Friday.	Yakama Nation Construction
	All pumps and generators will be installed in sound-enclosures and will be maintained within state-approved environmental noise regulations.	Yakama Nation Construction and operations
	Cleared vegetation or other debris will not be burned. All such material will be transported to an approved landfill.	Yakama Nation Construction
	Water supplies and dust suppression equipment will be employed at all sites requiring excavation or road improvement to ensure that dust does not create visibility problems on nearby roads and highways and does not become a nuisance to neighbors.	Yakama Nation Construction
	To reduce greenhouse gas emissions, gravity-flow water supplies and existing ponds will be used wherever possible.	Yakama Nation Design
	Project staff will be encouraged to use measures that minimize vehicle and equipment emissions, including driving techniques, prompt maintenance, and carpooling and shuttle vans.	Yakama Nation Construction and operations

Resource	Implementation plans, monitoring, mitigation	Responsibility and project phase
Recreation, Public Health and Safety, Climate Change	Propane generators at all sites will be used as soon as they are feasible to minimize greenhouse gas emissions.	Yakama Nation Operations
	A plan to recycle or salvage non-hazardous construction and demolition debris will be developed and implemented.	Yakama Nation Construction
	Locally sourced supplies will be used as much as possible.	Yakama Nation Construction and operations
Cultural Resources	At all sites, implement BPA's Inadvertent Discovery Protocol to stop work, and to protect and assess any incidental finds of cultural resources.	BPA Construction
	In consultation with the Washington Department of Archaeology and Historic Preservation, the Yakama Nation, and the Confederated Tribes of the Colville Reservation, BPA would develop a mitigation plan for any significant cultural resources identified during construction or operation in any of the project areas where impacts cannot be avoided.	BPA Construction and operations