BONNEVILLE POWER ADMINISTRATION

Chief Joseph Hatchery Program
Record of Decision
March 2010

Summary

The Bonneville Power Administration (BPA) has decided to fund the Proposed Action of the Chief Joseph Hatchery Program (hatchery program) as described in the Chief Joseph Hatchery Program Environmental Impact Statement (DOE/EIS-0384, November 2009). The Proposed Action, which was recommended for BPA funding by the Northwest Power and Conservation Council (Council), is in the Columbia Cascade ecological province of Washington State.

BPA prepared the Chief Joseph Hatchery Program EIS and this Record of Decision (ROD) pursuant to the process specified in the National Environmental Policy Act (NEPA, P.L. 91-190), regulations of the Council on Environmental Quality (40 CFR Part 1505), and Implementing Procedures of the Department of Energy (DOE) (57 FR 15122; April 24, 1992); and under the authorities of the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act, 16 U.S.C. § 839 et seq). The U. S. Army Corps of Engineers (USACE) is a federal cooperating agency under NEPA; the Confederated Tribes of the Colville Reservation (Colville Tribes) are the project sponsors and will own and operate the Chinook salmon production program and hatchery facilities. The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries); the U. S. Fish and Wildlife Service; the State of Washington's Department of Fish and Wildlife; other managers of habitat, fisheries, and hatcheries in Washington; and the general public that was identified as interested or potentially affected by the project were consulted during the development of the EIS. BPA is issuing this ROD for its actions only; the USACE will issue its own separate ROD.

Since the hatchery program originated through the 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 the 2008 Biological Opinion for operation of the FCRPS and a 2008 Columbia Basin Fish Accords Memorandum of Agreement that was signed by BPA, the USACE, and the Colville Tribes. Under the agreement, BPA agreed to make capital funds available to construct the proposed hatchery subject to Council's review and meeting all legal compliance conditions (including NEPA), and the USACE agreed to support the planning, design and construction of the hatchery. Congress, in its 2009 Energy and Water appropriations act, P. L. 111-8, approved BPA's planned expenditure of capital funds for "hatchery production facilities to supplement Chinook salmon below Chief Joseph Dam in Washington."

The hatchery program would be one more element of a continuing effort by BPA, the Colville Tribes, USACE 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

River and Okanogan River subbasins. This program responds directly to a need to mitigate for effects to Upper Columbia River summer/fall Chinook salmon and Upper Columbia River spring Chinook salmon. Spring Chinook are listed under the Endangered Species Act (ESA) as threatened, but are considered extinct in the Okanogan subbasin. One goal of this project is to reestablish upper Columbia River spring Chinook salmon as a naturally reproducing population in the Okanogan subbasin.

Council Review Process

Since 2003, the Colville Tribes, BPA, and others have planned and prepared all the documents required for the Council's three-step project review process.[1]

The proposed hatchery program was introduced to the Council via the Chief Joseph Dam Hatchery Master Plan (May 2004) (Step 1 submittal). In March 2005 the Council completed the Step 1 review of the Master Plan and recommended the project to BPA for funding Step 2 – preliminary design, environmental analysis, and value engineering review.

In November 2007 the Colville Tribes submitted the Step 2 package to the Council for review. The Independent Scientific Review Panel (ISRP) provided a preliminary review of the Step 2 package in March 2008, which included requests for more information and modeling results among other recommendations. In July 2008 the Colville Tribes responded to the ISRP's preliminary review. Additional information requests and responses continued until April 2009 when the ISRP recommended to the Council that the project "Meets Scientific Review Criteria."

The Colville Tribes will make a final presentation to the Council in May 2010. The project will enter the construction phase (Step 3) upon final approval by the USACE which is expected in August 2010.

EIS and Public Involvement Process

Proposed Action. The elements of the Proposed Action were described in the Chief Joseph Hatchery Program Draft EIS, May 2007 (DOE/EIS-0384), which was available for public review and comment through June 2007. The final EIS released in November 2009 contains the responses to comments on the draft EIS (Appendix C) and updates, minor technical corrections and some clarifications of information in the draft EIS. Two subsequent letters of comment were

[1] The Council uses a three-step process to provide an orderly way to develop hatcheries and other large capital construction projects. Linking environmental review (i.e., NEPA, NHPA, ESA, etc.) and funding commitments to specific phases has allowed the project sponsor and the Council to move from the conceptual to final design in steps, avoiding over-commitment of resources at the early stages. Generally, the project review step process is as follows: Step 1 - conceptual planning, represented under the program 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. (Three-Step Review Process as approved by Northwest Power Planning Council on October 18, 2001. Available at: http://www.nwcouncil.org/library/2001/2001-29.pdf. Accessed February 3, 2010.)

received on the final EIS and have been addressed by letter of response with no changes to the proposed action or EIS analysis. The comment and response letters are available on the project Website: http://www.efw.bpa.gov/environmental_services/Document_Library/Chief_Joseph/

The Proposed Action consists of the following elements needed to manage a program to produce 2.0 million summer/fall Chinook salmon juveniles and 0.9 million spring Chinook salmon juveniles annually:

- A fish hatchery will be constructed on the Columbia River adjacent to and just downstream of Chief Joseph Dam. Water to the hatchery will come from three sources: Rufus Woods Lake, a relief tunnel that collects seepage from the abutment of Chief Joseph Dam, and a well field. Potable water will come from the same well field supplying the hatchery and will be conveyed in the same buried pipeline. Electric power for the facilities will be provided by Nespelem Valley Electric Cooperative, whose lines span the hatchery site. Sanitary sewer treatment for the hatchery complex site will be a new on-site septic drain field disposal system. A housing area for critical hatchery employees will be developed upland of the Lake Woods Golf Course. All fish production program and hatchery employees will be hired and managed by the Colville Tribes.

- Chinook salmon that are incubated and reared at the hatchery will be released directly into the Columbia River or transported to several ponds along the Okanogan River and Omak Creek for final rearing, acclimation and release. Two new ponds will be constructed (Riverside and Omak); three existing ponds currently serving a double purpose as irrigation settling ponds and fish acclimation ponds will be improved to function better (Ellisforde, Bonaparte and Tonasket); and one existing acclimation pond will receive minor upgrades (St. Mary's Pond).

- A comprehensive monitoring and evaluation plan will be developed to evaluate program success and inform adaptive management. The plan will be coordinated with other existing programs and forums to share information and integrate with other monitoring and evaluation efforts in this and other subbasins of the Columbia Cascade Province and the Columbia River Basin.

Construction under 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, weed management, fire prevention, and work-hour and noise restrictions. The Proposed Action incorporates special measures such as retaining as much native vegetation as possible, landscaping with native plants, erecting buildings reflective of local character, and shielding of facility lighting. Instream structures will meet applicable NOAA Fisheries and U. S. Fish and Wildlife Service fish passage design requirements, and construction will be managed to accommodate and reduce impacts on existing fish production and fish use of the affected waters. Instream work will occur behind temporary cofferdams or other appropriate water diversions and comply with applicable regulations and permits. Hatchery and pond water discharge will also comply with applicable regulations and permit standards.

Alternatives Considered. In addition to the Proposed Action, the No Action Alternative was considered in reaching this decision. In the No Action Alternative, BPA would not fund the Proposed Action and current activities and existing trends with area salmon populations would continue.

Chapter 2 of the final EIS describes the Proposed Action and the No Action Alternative in detail, as well as some other alternatives eliminated from further consideration. Appendix D in the final EIS expands the discussion of alternatives that were eliminated from consideration. Chapter 3 of the final EIS gives detailed information on the difference in effects of the Proposed Action and No Action Alternative, which is summarized in Table 2-2 and Table 2-3 of the final EIS.

Public Involvement. BPA published a Notice of Intent to Prepare an Environmental Impact Statement on August 2, 2005 in the Federal Register (70 FR 44347). BPA issued the Chief Joseph Hatchery Program Draft Environmental Impact Statement in May 2007. A public comment period for the draft EIS was open until June 27, 2007. BPA held public hearings on the draft EIS at Okanogan, Washington on June 6, 2007 and at Chief Joseph Dam near Bridgeport, Washington on June 7, 2007. Meeting attendance was light, and comments were few and mostly in favor of the hatchery program. During the comment period, 10 comment letters were submitted. BPA published reproductions of the comment letters and responded to the comments in the final EIS (Appendix C) issued in November 2009. A NOA of the final EIS was published in the Federal Register on November 27, 2009 (74 FR 62305). Two additional letters of comment were received from the City of Bridgeport and the Environmental Protection Agency after the final EIS was released. These letters and BPA's responses to them may be viewed at the project Web site:
http://www.efw.bpa.gov/environmental_services/Document_Library/Chief_Joseph/

These letters expressed concerns with a lack of information in the final EIS regarding specific water quality issues that are of special interest to each commenting entity. BPA's letters of response attempted to focus the water quality effects discussions relative to these specific concerns. The comments and BPA's responses resulted in no new information or difference in circumstances that would changes the Proposed Action, other alternatives, or the more general EIS analysis and conclusions.

In addition, after the final EIS was released, the USACE requested clarification from BPA and the Colville Tribes on whether a fish weir being studied for construction on the Okanogan River would be a connected action such that the CJHP EIS should evaluate its effects. The weir is a separate, stand-alone project. The weir would be a tool for monitoring fish population status and trends, and would evaluate the effectiveness of mitigation actions, manage escapement of fish to the spawning grounds, and allow selective harvest. As such, the weir could proceed to construction with or without the CJHP. Similarly, the CJH design and plan for operations do not require the weir, although if built the weir would provide an additional tool for hatchery effectiveness monitoring and stock management. The detailed explanation that BPA and the Tribes provided the Corps showing how the weir and hatchery have independent utility and are not connected actions may be viewed at the project website link provided above.

Environmentally Preferred Alternative. In the short term, the No Action Alternative is the environmentally preferable alternative because it would only have impacts that are already occurring. No construction or operational impacts would occur; current management practices would continue. Over the long term, the No Action Alternative would not likely increase the Upper Columbia River Chinook salmon populations in the Okanogan River subbasin since they are considered extirpated. The Proposed Action is considered the environmentally preferred alternative over the long term because it will improve the Upper Columbia River Chinook salmon situation in the Okanogan River and upper middle Columbia River subbasins, and help protect, mitigate, and enhance fish affected by the FCRPS in the Columbia River Basin.

Environmental Effects of the Proposed Action and Mitigation. BPA, the Colville Tribes, and other project designers and reviewers minimized short-term and long-term environmental and social impacts of the Proposed Action through project design, consultation with regulatory entities, and development of mitigation measures. Mitigation measures from the final EIS are presented in the attached Mitigation Action Plan. All practicable means to avoid or minimize environmental harm are adopted. The following summarizes the anticipated impacts of the Proposed Action as presented in the final EIS.

- The greatest potential impact (favorable and adverse) from the Proposed Action will be to fish. Implementation will provide facilities to produce summer/fall and spring Chinook salmon smolts to aid in the enhancement of these populations in the Okanogan River and Columbia River. Although there will be minor, temporary, adverse effects to fish in the area during construction, no substantial long-term adverse impacts to fish populations or aquatic habitat are expected.

- The anticipated benefits to Chinook salmon populations will support the Colville Tribes' goal of enhancing adult fish returns in and near the reservation for ceremonial and subsistence purposes, thereby supporting tribal culture and customs tied to salmon.

- Adverse effects to cultural resources at one pond site will be mitigated as stipulated in a Memorandum of Understanding among BPA, the Colville Tribes, and the Colville Tribal Historic Preservation Officer. If cultural resource evidence is found at other construction sites, work or activity will be stopped until the materials can be professionally assessed.

- Some wildlife near work sites may be displaced or disturbed during construction and during facility operations. Some wildlife may benefit from feeding on adult salmon carcasses found in the waters after spawning, or smolts released from facilities.

- No jurisdictional wetlands will be affected (EO 11990). Water quality effects would be limited by standards within National Pollutant Discharge Elimination System permits, Clean Water Act section 404 permits, and Clean Water Act section 401 certifications.

- BPA has completed consultation with NOAA Fisheries and U. S. Fish and Wildlife Service under Section 7 of the Endangered Species Act. BPA submitted a Biological Assessment (BA) for the project to the agencies in May 2006. U. S. Fish and Wildlife Service responded by letter in June 2006 concurring with effects determinations for

species under their purview and offered three conservation recommendations regarding bull trout. NOAA Fisheries responded with a Biological Opinion (BO) in July 2008 concurring with effects determinations for anadromous fish. The BO included several Reasonable and Prudent Measures and Terms and Conditions to protect ESA-listed species and their critical habitat. The BO also addressed Essential Fish Habitat under the Magnuson-Stevens Fisheries Conservation and Management Act and included several specific conservation recommendations. All the conservations recommendations, and the Reasonable and Prudent Measures and Terms and Conditions are made part of the Proposed Action and are shown in the attached Mitigation Action Plan.

- No ESA-listed plant species occur at any project sites. Some native and non-native vegetation will be lost, including minor amounts of riparian habitat near facility water intakes and outfalls. All sites will be replanted with and managed for native species to the extent practicable.

- Short-term erosion could occur during construction, but Best Management Practices will be used to control it.

- Water regimes may be altered during extreme low flows in the Okanogan River where withdrawals for fish acclimation ponds will occur. The effect on instream beneficial uses will be minor or nonexistent because the entire river reach incurs extreme low flows until the flows naturally recover when the winter snowpack melts.

- Facilities will be constructed within the Okanogan River floodplain at Omak and Riverside pond sites. The ponds could be inundated in a 100-year flood event, but little damage and little effect on downstream flood dynamics are expected. Locating these ponds to avoid floodplains is impractical because the ponds need to be close to the river to facilitate quick and safe emigration of juvenile salmon (EO 11988). Moreover, it is essential that ponds be located to use the river waters for acclimation and imprinting of salmon smolts so that as adults returning from the ocean, they would return to the Okanogan River in the vicinity of the ponds to spawn.

- Aesthetic effects will be limited, although some visitors to the hatchery area (Chief Joseph Dam Visitor Orientation Area and associated trail, Bridgeport State Park, and Lake Woods Golf Course) and some residents near the new acclimation ponds may be affected, especially during construction. After construction, hatchery facilities will likely be accepted as part of the built environment at each site, and existing recreation areas will for the most part retain their pre-construction character.

- Project facilities will be built following applicable zoning and permitting requirements.

- There will be minor impacts to recreation visitors at the Chief Joseph Dam Visitor Orientation Area and nearby trail, Bridgeport State Park, and Lake Woods Golf Course. Long-term benefits will occur through opening the hatchery's visitor center and as Chinook stocks recover sufficiently in the Okanogan subbasin for viewing and fishing.

- Impacts to transportation resulting from construction vehicles will be temporary. Some roads will be paved or improved as part of the project.

- The Proposed Action will increase employment, especially during construction. About 500 to 560 jobs will be supported in the construction phase while 8 to 15 long-term jobs will result for the project's operation and maintenance. Increased adult salmon returns over time may provide another economic benefit locally, if fishing is allowed.

- Impacts to air quality and climate change (through greenhouse gas emissions) will be minor and short term during construction.

- Noise will be increased temporarily during construction.

- Any increased demand for public services (fire, hospital, etc.) will be minor and temporary.

Decision Factors

The factors that were considered when deciding to fund the Proposed Action included:

- The ability of each alternative to meet the need for mitigating for FCRPS effects on fish and wildlife;

- The alternative's consistency with the Council's Columbia River Basin Fish and Wildlife Program;

- The impacts of the alternatives as presented in the final EIS in Chapter 3 and as summarized above and in Table 2-3 of the final EIS, and the comments received on the draft and final EISs regarding the following environmental aspects/resources: fish and aquatic habitat; wildlife; vegetation and wetlands; geology and soils; hydrology, floodplains and water quality; land use, recreation and transportation; socioeconomics; cultural resources; air, climate change, noise and public safety; and cumulative effects.

- How well the alternatives met four special project purposes (EIS Section 1.1, and summarized in Table 2-2):

    1. Ability to increase abundance, distribution and diversity of naturally spawning Upper Columbia River summer/fall Chinook within their historic Okanogan habitat and in the Columbia River between the Okanogan River and Chief Joseph Dam. As well as helping to protect the species and mitigate for the FCRPS, the proposal is integrated with and complementary to the myriad of other local and regional fishery improvement efforts (habitat improvements, fish passage, water rights programs, harvest controls, etc.) in these waters.

2. Operation of the FCRPS, particularly Chief Joseph Dam, must remain unaffected by the proposal (e.g., spill, timing, dissolved gases, etc.). Power system operational flexibility must not be diminished or otherwise adversely affected.

3. The action must not adversely affect populations listed under the ESA (e.g., through mixed stock harvest, reducing productivity, or otherwise) such that it creates a greater mitigation, protection or recovery burden on BPA. The proposal must not be contrary to FCRPS biological opinions, ESA recovery objectives, or the Hatchery Scientific Review Group findings on federal hatcheries (http://www.hatcheryreform.us/hrp/summary/welcome_show.action).

4. The Colville Tribes, as project sponsors, want to produce adequate adult summer/fall and spring Chinook salmon returns to support a tribal ceremonial and subsistence fishery. BPA supports this goal to augment anadromous fish populations so as to enhance the potential for tribal ceremonial and subsistence harvests and a recreational fishery for the general public, even though BPA has no authority to permit or regulate harvest.

Decision

As Administrator of the Bonneville Power Administration (BPA), I have decided to fund the Chief Joseph Hatchery Program in the Columbia Cascade ecological province of Washington State. The Proposed Action was recommended to BPA for funding by the Northwest Power and Conservation Council and is consistent with the Council's Columbia River Basin Fish and Wildlife Program. Providing funding for the construction of the Proposed Action will help mitigate for the effects of the FCRPS on fish and wildlife by enhancing Chinook populations below Chief Joseph Dam in the Okanogan River subbasin and upper middle Columbia River subbasin, and by complementing other on-going salmon protection and mitigation measures.

The Proposed Action best meets the need for action and project purposes stated in the final EIS and satisfies the decision factors listed above better than the No Action Alternative. The FCRPS will not be adversely affected, including operation of Chief Joseph Dam. ESA-protected species and recovery objectives will not be adversely affected. And, the project supports the Colville Tribes' customs and culture tied to salmon.

The No Action Alternative would not have the environmental impacts associated with construction; however, this alternative does not address the immediate need to mitigate for impacts to Upper Columbia River Chinook salmon.

I considered the impacts of the Proposed Action in its entirety, including construction, operations, maintenance, adaptive management through monitoring and evaluation, and mitigation measures. Having considered the descriptive information and effects analysis described in detail in the EIS and the responses to comments on the draft and final EISs, I find 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 Chief Joseph Hatchery 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 Web site: http://www.efw.bpa.gov/environmental_services/Document_Library/Chief_Joseph/

Issued in Portland, Oregon.

/s/Stephen J. Wright
Stephen J. Wright
Administrator and
Chief Executive Officer

March 18, 2010
Date

Chief Joseph Hatchery Program
Mitigation Action Plan
March 2010

Resource (s)	Implementation plans, monitoring, mitigation	Responsibility and Timing
General	Project design and construction will meet all environmental requirements of the hatchery land lease agreement, the easements for the hatchery water pipeline and well field and all applicable permit regulations (all are in development at this time). Construction will incorporate industry standard Best Management Practices (BMPs) such as erosion control, hazardous material handling, waste management, water quality control, dust control, weed management, fire prevention, and work hour and noise considerations. Site design and construction will incorporate measures such as retaining riparian vegetation, landscaping with native plants, shielding facility lighting, and providing for public safety.	**Colville Tribes, BPA, & U. S. Army Corps of Engineers** **Design phase and during construction**
	At existing pond sites, construction will be staged to accommodate on-going irrigation and fish rearing operations and reduce environmental impacts.	**BPA** **During construction**
	To control noise, construction will be restricted to daytime hours (i.e. typically 7 a.m. to 7 p.m.). Contractors will be required to muffle equipment.	**BPA** **During construction**
Fish and Aquatic Habitat	Construction, operations & maintenance (O & M), monitoring and evaluation (M & E) shall comply with all terms and conditions of the Incidental Take Permit applied to this project by NOAA Fisheries Biological Opinion (NMFS 2008, pp. 96-102). Monitoring reports will be submitted to NOAA and U. S. Fish and Wildlife Service annually.	**Colville Tribes & BPA** **During construction and long-term operations**
	Instream structures and screens will meet applicable NOAA Fisheries and U. S. Fish and Wildlife Service design requirements.	**BPA** **During construction and long-term operations**

Resource (s)	Implementation plans, monitoring, mitigation	Responsibility and Timing
	Instream work will be performed to comply with applicable regulations and permits (Joint Aquatics Resource Permit Application (JARPA)/Clean Water Act (CWA), National Pollutant Discharge Elimination System (NPDES), Floodplain Development, Shoreline Management, etc.), and would be conducted within the regulatory agency('s) specified work window.	**BPA** **During construction**
	Water pumped out of instream work areas would be routed through a settling basin (or similar sediment treatment device) prior to discharge back into the river.	**BPA** **During construction**
	During dewatering of in-water construction areas, qualified fish biologists will remove fish from cofferdam locations and transport them back to the river at a safe distance from the construction area.	**Colville Tribes** **During construction**
	Sedimentation and erosion control measures, such as silt fencing, straw bales, and covering exposed soils with plastic sheeting, jute matting or mulching to minimize erosion, shall be used to prevent sediment from entering waterways and wetland habitats.	**BPA** **During construction**
	Construction contracts will stipulate that all heavy equipment should use synthetic hydraulic oil. Equipment will be maintained to prevent fluid leaks and would be serviced outside the riparian corridor.	**BPA** **Before and during construction**
	Disturbance to riparian vegetation will be the minimum necessary to achieve construction objectives, minimize habitat alteration and control erosion and sedimentation.	**BPA** **During construction**
	A comprehensive Monitoring and Evaluation (M & E) plan will be developed that will annually collect necessary data to assess program risks and benefits. The M & E plan will be designed to function with the recently initiated Okanogan Baseline M & E Program. M & E shall be conducted without harming ESA-listed species.	**Colville Tribes & BPA** **Concurrent with construction & long-term operations**
	Chinook salmon released into the Okanogan River and Columbia River shall be based on monitored effects to the listed species in the Okanogan River.	**Colville Tribes** **Long-term operations**

Resource (s)	Implementation plans, monitoring, mitigation	Responsibility and Timing
	The diversion reaches on the Okanogan River (between the intake and outfall) will be monitored during extreme low flow periods to determine if Omak and Riverside pond's water withdrawals have harmful effects to any nearby redds. Contingency measures will be implemented as necessary.	**Colville Tribes** **Long-term operations**
Wildlife, Plants and Terrestrial Habitat	Leave snags, perch trees and riparian vegetation when practicable. Retain or landscape with native vegetation as much as possible to provide wildlife habitat.	**Colville Tribes & BPA** **During construction and long-term maintenance**
	Minimize disturbance of riparian vegetation to the amount necessary to achieve construction objectives while limiting the effects of erosion, sedimentation and habitat alteration.	**BPA** **During construction**
	Control noxious weeds on the project sites in accordance with the Okanogan County Noxious Weed Control Board.	**Colville Tribes & BPA** **During construction and long-term operations**
	Re-establish native plants in temporarily disturbed sites.	**BPA** **During construction**
Geology, Soils, Site Productivity	A grading plan and a temporary erosion and sedimentation control plan will be developed before site work begins to ensure earthwork impacts are minimized. Cut and fill volumes will be balanced to the extent feasible within each site to reduce the need for either imported or exported soil.	**BPA** **Before and during construction**
	Clearing limits would be identified on all construction drawings and established with silt fences or orange construction fencing.	**BPA** **Before construction**

Resource (s)	Implementation plans, monitoring, mitigation	Responsibility and Timing
	Temporary sediment ponds will be used as a first step in grading and will be made functional before any additional soil disturbance occurs.	**BPA** **During construction**
	During clearing, grading and construction activities, all exposed areas at final grade or remaining bare for any period of time will be protected from erosion using weed-free straw mulch, plastic covering or a similar method.	**BPA** **During construction**
Hydrology, Floodplains and Water Quality	Equipment operated instream or beside the river will use synthetic hydraulic oil. All equipment will be free of petroleum, hydraulic or fuel leaks and will be serviced outside the riparian corridor.	**BPA** **During construction**
	Water quality monitoring will be conducted as specified by JARPA/CWA and NPDES permits (permit applications in process). Reports will be submitted as required to regulatory agencies (Washington Department of Ecology & U. S. Environmental Protection Agency).	**Colville Tribes & BPA** **During construction and long-term operations**
	At all sites, construction, O & M, and M & E shall comply with stipulations of JARPA/CWA permits, Shoreline Management Permits, zoning or rezoning conditions, and Floodplain Development permits.	**Colville Tribes & BPA** **During construction and long-term operations**
Cultural Resources	A qualified archaeologist will monitor construction activity at Omak and Riverside ponds as stipulated by the Memorandum of Understanding (in progress) among the Colville Tribes and BPA for National Historic Preservation Act Section 106 mitigation.	**Colville Tribes & BPA** **During construction**
	At sites other than Omak and Riverside ponds, implement BPA's Inadvertent Discovery Protocol to stop work, and to protect and assess any incidental finds.	**Colville Tribes & BPA** **During construction**

Resource (s)	Implementation plans, monitoring, mitigation	Responsibility and Timing
Aesthetics	Plant and maintain native species for facility landscaping and to screen structures from public view.	**Colville Tribes & BPA** **During construction and long-term maintenance**
	Construct and maintain buildings that incorporate materials, colors, and architectural styles reflective of local character.	**Colville Tribes & BPA** **During construction and long-term maintenance**
	Shield exterior lighting to direct light down, not off-site.	**BPA** **During construction**
Land Use, Recreation, Transportation, and Public Safety	Meet conditions of the local zoning ordinances for the applicable zoning permits or rezoning requirements at the hatchery site, employee housing area, and Riverside and Omak ponds.	**Colville Tribes & BPA** **During construction and long-term maintenance**
	Allow for safe passage and/or traffic control on all roads and trails in the vicinity of project sites where public traffic might be impeded.	**BPA** **During construction**
	Fire prevention measures will be implemented such as training of staff, on-site first aid and emergency preparedness kits, equipment inspections and routine maintenance, water sources and fire extinguishers in homes and other proposed facilities.	**Colville Tribes & BPA** **During construction and long-term operations**
	Post safety signs around construction sites and access roads as needed.	**BPA** **During construction**

Resource (s)	Implementation plans, monitoring, mitigation	Responsibility and Timing
	Establish a communication plan between the construction contractor, construction oversight contractor, BPA and hatchery manager/operator to identify, discuss and mediate for unanticipated safety related issues, and to communicate that information to local residents.	**Colville Tribes & BPA** **Before construction**
Air Quality	Implement dust abatement as necessary at all project sites.	**BPA** **During construction**