

**BONNEVILLE POWER ADMINISTRATION  
NATIONAL ENVIRONMENTAL POLICY ACT  
RECORD OF DECISION**

**Lyle Falls Fish Passage Project**

**SUMMARY**

The Bonneville Power Administration (BPA) has decided to fund modifications to the existing Lyle Falls Fishway on the lower Klickitat River in Klickitat County, Washington. In addition to improving fish passage to the upper part of the Klickitat River watershed, the modifications will facilitate collection and monitoring of biological information for future fishery management and enhance opportunities for adult salmonids to access and utilize habitat in the upper Klickitat River. This decision implements the Proposed Action and Preferred Alternative identified in the Lyle Falls Fish Passage Project (Lyle Falls) EIS (DOE/EIS-0397, November 2008). BPA was the lead agency in preparing the Lyle Falls EIS; the Confederated Tribes and Bands of the Yakama Nation (Yakama Nation), the U.S. Forest Service (USFS), and the Washington Department of Fish and Wildlife (WDFW) were cooperating agencies.

Funding will be provided to the Yakama Nation for reconstructing and lengthening the fishway, modifying the ladder entrance to facilitate fish access, upgrading the adult trapping facility, improving fisheries monitoring capabilities by adding a PIT-tag detector and a video monitoring system, constructing a permanent storage and maintenance building, providing electrical service to the new facility, and improving road access. These improvements will facilitate migration for spring and fall Chinook salmon, coho salmon, steelhead trout, Pacific lamprey, and bull trout. The primary benefits will be to fall Chinook and coho salmon.

Enhancing fish passage past the falls will enable greater numbers of anadromous fish to reach habitat suitable for fish production. In increasing fish production in the Klickitat River, the project will contribute to an increase in fish production in the Columbia River Basin. The project will also help BPA fulfill its Federal Columbia River Power System off-site mitigation responsibilities under the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act), and its responsibilities under the Endangered Species Act (ESA).

This Record of Decision (ROD) provides the rationale for BPA's decision, establishes environmental commitments and mitigation measures that will be implemented, and authorizes project sponsors to proceed with construction of the project, in accordance with statutory and contractual obligations.

**BACKGROUND**

In accordance with the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act) 16 U.S.C. 839 et seq., Section 4(h) (10) (A), BPA is responsible for protecting, mitigating and enhancing fish and wildlife affected by the development, operation,

and management of the federal hydroelectric facilities on the Columbia River and its tributaries, from which it markets power. While the fish passage issues at Lyle Falls were not caused by BPA or the hydroelectric facilities, this project will help BPA meet its mitigation responsibilities and increase overall salmonid production in the Columbia Basin by enhancing fish passage into the Klickitat subbasin. Additionally, BPA has specific duties to protect and conserve listed threatened and endangered species under the Endangered Species Act (ESA), and to avoid destroying or adversely modifying their critical habitat. BPA must also uphold its share of the Federal government's tribal treaty and trust responsibilities to the Columbia River Basin Indian tribes, specifically as they pertain to fish and wildlife.

Under the Northwest Power Act, the Northwest Power and Conservation Council (Council) develops a Columbia River Basin Fish and Wildlife Program (Fish and Wildlife Program). The Program is intended in part to help guide BPA's fish and wildlife mitigation actions. BPA enlists the Council to periodically solicit projects intended to help BPA meet its share of the Fish and Wildlife Program's measures and objectives through an open and public process. The Council conducts a review of project proposals and makes recommendations for BPA to fund selected projects from its annual fish and wildlife program budget. The Council accomplishes its review of the proposals with the assistance of an Independent Scientific Review Panel (ISRP). The Council fully considers the ISRP's evaluation in making its final project recommendations to BPA. The Yakama Nation submitted the Lyle Falls Fish Passage Project to the Council as part of its Klickitat River Anadromous Fisheries Master Plan (Master Plan).

The lower 10.8 miles of the Klickitat River are designated as a recreational river segment under the National Wild and Scenic Rivers Act (NWSRA). The USFS administers this portion of the Klickitat River and its corridor. Lyle Falls is a series of natural cascading waterfalls within this reach of the river. They are located about 2.2 miles upstream of the confluence of the Klickitat and Columbia rivers near Lyle, Washington. The falls historically prevented some upstream migrating fish from reaching the upper reaches of the Klickitat River watershed, particularly in late summer and early fall when river flows are low. In the early 1950s, WDFW constructed a fishway to provide a fish bypass around the falls and enable upstream passage for all adult anadromous fish under a wide range of flow conditions. The fishway did not function effectively and an attraction flow system, installed in 1960, did not work. An evaluation by the Yakama Nation, which operates the fishway, confirmed that the existing fishway does not function properly, particularly during low flows. The fishway also does not comply with fish passage standards and guidelines established by the National Marine Fisheries Service (NMFS) and WDFW. In March 2006, the Council recommended BPA fund the preparation of an EIS on fish passage and monitoring at Lyle Falls, while responding to ISRP comments on the Master Plan. The Master Plan has been resubmitted and approved by the Council.

### **Fish and Wildlife Implementation Plan EIS**

In response to fish and wildlife administration issues that were identified in its Business Plan EIS (Business Plan EIS, DOE/EIS-0183, June 1995, and Business Plan ROD, August 15, 1995), BPA developed the Fish and Wildlife Implementation Plan (FWIP) EIS (DOE/EIS-0312, April 2003). In the FWIP ROD (October 31, 2003), BPA adopted a comprehensive and consistent policy (PA 2002) to guide the implementation and funding of the agency's fish and wildlife mitigation and recovery efforts under existing statutes and policies. PA 2002 focuses on enhancing fish and

wildlife habitat, modifying hydroelectric power operations and structures, and reforming hatcheries to both increase populations of listed fish stocks and provide long-term harvest opportunities (FWIP EIS, Section 3A). On a programmatic level, the FWIP EIS addresses the environmental impacts of projects such as the Lyle Falls Fish Passage Project. The Lyle Falls EIS addresses the site-specific environmental impacts of the proposed project. The Lyle Falls Fish Passage Project is consistent with PA 2002 and is, therefore, tiered to the FWIP EIS and ROD.

## **ALTERNATIVES**

BPA considered two alternatives, the No Action Alternative and the Proposed Action. The Proposed Action is the agency's Preferred Alternative.

### **No Action Alternative**

Under the No Action alternative, the existing fishway and current operational practices would not be changed from the present condition or management practices. The existing fishway would continue to be out of compliance with federal and state fish passage guidelines. Fish would continue to migrate downstream via the falls and to pass upstream via the existing inefficient ladder and falls. The sediment and rock would continue to accumulate, reducing flow into the ladder and impeding fish exiting into the river. Periodic river dredging would continue in the vicinity of the fishway exit to deepen the area where fish re-enter the river channel. Adult fish returning to the Klickitat River would continue to be monitored by physically handling individual fish. No features would be constructed to improve the ability to enumerate, collect, and monitor fish data, and no new storage building would be constructed. The private road to the fishway would remain a rough track.

### **Proposed Action**

The Proposed Action (Preferred Alternative) includes modifying the Lyle Falls fishway and improving fish data collection, sampling, and monitoring capabilities at the existing facility. The upstream end of the existing fish ladder will be extended 330 feet by constructing a concrete fish transportation channel to a point where the new water supply intake and fish exit structure will be established. At the interface of the new and existing segments of the ladder, a new attraction flow pipeline will be constructed and will pass through a new 10-foot by 15-foot flow control structure. A new attraction water supply intake will be integrated into a new fish exit at the upstream end of the modified ladder. Trashracks across the 25-foot-wide opening will preclude entry of debris.

Modifications to a new fish ladder entrance will include three new ladder steps, a flow diffusion outlet for the new attraction water supply, and two internal resting pools. The existing framework of the downstream ladder entrance will be retained, but the area within the entrance pool will be deepened and enlarged. The fishway entrance portal will be expanded based on energy dissipation needs, the velocity of water in the ladder steps, and to accommodate the additional attraction flow.

Attraction flows will be diverted into a 48-inch-diameter pipe located at the new upstream fish ladder exit structure to a new stilling chamber adjacent to the downstream ladder entrance pool. The fishway will be hydraulically self-regulating and flow volumes will be controlled manually

only under certain management conditions. The existing fish sorting bay within the ladder will be replaced by a new sampling bay and the new water entrance will enable biologists to more easily control flows into the fish collection and sorting area. A new fish diverter, crowder, brail and sorting platform will be installed. Portable fish sorting facilities will be moved on site when needed and will include an electric pump-operated false weir and Denil fishway, and sorting flumes for selecting individual fish and returning non-selected fish to the river. The improved fish enumeration facility will also include a Passive Interrogative Transponder (PIT) tag detection station, a fish video monitoring device, a coded-wire tag detection system, and an infrared video system.

A 24-foot by 40-foot drive-through equipment storage building with roll-up doors will be constructed about 20 vertical feet upslope from the existing fish ladder, out of the active flood channel. This new building will replace the existing metal storage building that is currently adjacent to the fishway. A new transformer will be installed on an existing overhead Klickitat Public Utility District power pole to provide a power source to the fish ladder. The service will be 240 volts and 100 amps, delivered via a 225-foot-long buried line from the power pole to the maintenance building and then extending to the fishway.

The primary access road improvements will be along an existing 0.2-mile-long unpaved, primitive road that extends from Klickitat County's Fisher Hill Road to the project site. Approximately six inches of crushed rock will be placed over the existing access surface to provide all-weather single-lane access. A temporary haul road will also be constructed for heavy equipment and machinery to access the various areas of the fishway during construction. At the completion of construction, the temporary access road will be decommissioned.

### **Alternatives Eliminated from Detailed Study**

Three additional alternatives—constructing a new East Bank Fishway and demolishing the existing fishway, building a new fishway, and modifying the waterfall--were considered, but eliminated from further review because they were technically, environmentally, and/or economically infeasible.

### **Environmentally Preferable Alternative**

The Council on Environmental Quality (CEQ) NEPA regulations require that an agency's ROD identify which alternative(s) from its EIS is considered to be the environmentally preferable alternative (40 CFR 1505.2(b)). The Proposed Action, which incorporates the Mitigation Action Plan, is considered to be the environmentally preferable alternative. The Proposed Action will require surface disturbance, in-water work, peripheral physical and chemical river effects, auditory effects, and other effects summarized in Table 1. However, the Proposed Action will also provide properly functioning year-round adult fish passage, complying with current fish passage standards and criteria, provide modern facilities to collect, monitor, and enumerate biological information, provide effective monitoring of fishery management actions, and provide fish access to under-utilized spawning and rearing habitat in the upper Klickitat River. As described in the EIS, there are no significant adverse environmental issues associated with the Proposed Action, and there will be a very low risk of long-term residual damage to natural or environmental resources. Therefore, the long-term overall benefits outweigh the short-term

drawbacks, and the Proposed Action is considered to be the environmentally preferable alternative.

### **Environmental Analysis**

The environmental effects of the Proposed Action alternative are summarized and compared against the environmental effects of the No Action alternative in Table 1. The Proposed Action incorporates mitigation measures.

**Table 1. No Action and Proposed Action Comparison of Effects**

	No Action Alternative	Proposed Action
<b>Overview</b>		
Fish Passage Compliance	Continued lack of fish passage effectiveness; current fishway will continue to be out of compliance with current fish passage standards and guidelines.	Will optimize ease of passing fish given the onsite conditions; will comply with current fish passage standards and guidelines.
Administrative	Operational practices will not change.	Improvements to fishway will more effectively attract fish through ladder and improve fish data collection.
	Storage building will continue to be threatened during very high flow events.	New equipment storage building will be 20+ feet higher in elevation from current building and farther away from flood threats.
Modernization of Facility	No features to be constructed to improve ability to collect, monitor, and enumerate fish data.	Will contain modern features to collect, monitor, and enumerate fish data.
<b>Environmental Resource</b>		
Geology and Soils	Continued need to periodically dredge deposited sediment from the fishway exit.	Up to 1.6 acres of basalt and soils will be disturbed (excavated) during construction to build the modified fishway; no sediment deposits expected and therefore, no ongoing dredging.
Water Resources	From 4.5% (at low flow) to 2.9% (at high flows) of river flow will continue to be diverted through the ladder, affecting a 200-foot-long reach of the Klickitat River.	From 26.7% (at low flow) to 8.6% (at high flow) of river flow will be diverted through the ladder, affecting a 475-foot-long reach of the Klickitat River.
	Turbidity will increase during periodic instream dredging of fishway exit and bedload stored in the river channel will be disrupted.	Construction of the modified ladder will temporarily dewater a 1,500-sq.ft. area of river. A cofferdam will reduce potential water quality effects from work in this area. Sediment detention tanks will filter water from construction areas prior to release back to the Klickitat River. New fishway exit location will reduce or eliminate need to remove accumulated bedload from river. No long-term effects on water quality from ladder operation.

	No Action Alternative	Proposed Action
	The current configuration will continue to allow gravel and debris to accumulate at the trashracks and inside the ladder, increasing maintenance requirements and decreasing the depth in the ladder and fishway exit, which impairs passage at lower flows.	New fishway design will prevent gravel accumulation at the trashracks and inside the ladder.
Fisheries	Upstream migration of some fish (fall Chinook, coho salmon, and Pacific lamprey) will continue to be impaired, particularly during high and low flow conditions.	Upstream migration of fish, primarily fall Chinook and coho, and possibly lamprey, will be improved.
	Poor passage conditions will continue to depress reproductive success of some salmon and steelhead due to delays in migration and fallback.	Improved passage conditions and escapement of fall Chinook and coho could increase competition between spring Chinook and steelhead, and between coho and fall Chinook. However, due to different spawning habitat requirements and different spawn timing, these competitive effects are expected to be minimal.
	Nutrient enrichment from salmon carcasses will be unchanged. This basin is nutrient and prey-limited, factors contributing to low productivity; fish production not likely to change.	Will enable more salmonids to reach the upper Klickitat River and will increase primary productivity and nutrients available to aquatic organisms; will likely increase overall fish production.
	Population monitoring of fish from this site will continue to be difficult due to condition and functionality of existing facilities. Fish stress and mortality from handling will continue at current levels.	Basin fisheries management will benefit from improved monitoring capabilities. Monitoring stress and mortality will be reduced as PIT-tag and video monitoring capabilities will greatly reduce fish handling.
	Fish harvest opportunities will continue at approximately current levels.	Overall Klickitat subbasin harvest opportunities, including commercial, subsistence, recreational and ceremonial, will increase as escapement and resultant productivity increase. There is potential for some slight decrease in harvest at the immediate fishway site.
	Lamprey will continue to avoid the fish ladder as an upstream passage route.	The modified fishway will be designed to be favorable for lamprey passage; i.e., rounded corners/edges.
Vegetation and Wildlife	Vegetation around the margins of the ladder, parking area, and informal camping sites will continue to be disturbed at approximately the same levels as the present. The entire project site experiences frequent minor human disturbance, such as by subsistence fishers and their families, as well as biologists checking fish data.	Construction will displace up to 1.6 acres of grasses, forbs, scattered shrubs and several pine and oak trees. About 0.65 acres will be revegetated. Ongoing disturbance will be similar to current levels.

	No Action Alternative	Proposed Action
	Ladder operations and active tribal fishing will continue to contribute some level of disturbance to wildlife that might be present.	Noise during two summer construction seasons may reduce use by some animals. Construction will be timed to avoid critical osprey nesting and hatchery periods (April 1 – June 30). Disturbance during ladder operations will be similar to current conditions.
Threatened and Endangered Species	Upstream passage and associated population levels for mid-Columbia River steelhead and bull trout will be unchanged from current conditions. There are no other ESA-listed species that will be affected.	Improved passage conditions will benefit steelhead populations and potentially could aid migratory bull trout. There are no other ESA-listed species that will be affected.
Wetland and Floodplains	The 1,350-sq.ft. wetland within a project area high flow channel will be undisturbed.	The 1,350-sq.ft. wetland will not be affected by project construction or operations because it is in an isolated location without hydraulic connection to the fishway.
	Floodplain conditions will be unaffected.	The modified fishway will be within the active 100-year flood elevation; however, water will flow through the structure with a negligible addition of mass to the floodway.
	Equipment storage container is seasonally moved out of the active floodway to a location still within the FEMA-designated flood zone.	The permanent equipment storage and workshop building and material deposited from site excavation will be outside of the active floodway, but within the FEMA-designated flood zone. There will be no measurable restriction in high flow passage.
Cultural Resources	Uses associated with a National Register-eligible tribal cultural property will continue as they currently do.	Construction will occur within a National Register-eligible tribal cultural property, temporarily displacing certain traditional activities, such as subsistence fishing at up to 3 dip net sites adjacent to the existing fish ladder entrance.
	Any effects on cultural resource will continue as they are currently.	The State Historic Preservation Officer concurred with BPA's determination that the proposed project will have no adverse effect on historic properties.
	Access road users crossing the National Register-eligible railway corridor (now a Rail-to-Trail conversion) will be limited primarily to Yakama Nation tribal members who fish in the area and Yakama Nation and WDFW biologists managing the fish ladder.	Construction vehicles and workers using a developed access road will cross a National Register-eligible railway corridor.



	No Action Alternative	Proposed Action
Air, Noise, Health and Safety	Air quality, noise levels, and public health and safety will be unchanged from current conditions.	Dust and emissions will be introduced by machinery, equipment, vehicles, and other commotion during the construction periods. Fugitive dust on the access road will be reduced by a new gravel surface. Machinery and equipment will generate noise during the construction periods. Measures will be taken to protect the public during construction and blasting, including placement of warning signs on the river above the ladder exit and on the Klickitat Trail. Workers will be posted on the trail and river during blasting to provide warnings.
	Biologists will continue to collect fisheries data from within a ladder chamber.	Remote monitoring measures will replace much of what now must be done from inside the ladder. Biological fisheries data still will be collected, and the new chamber will be designed for safer and more convenient human access.
Aesthetics	The USFS Visual Quality Objectives (VQO) of "Moderate" scenic integrity will continue to be an unachievable standard from a few viewpoints. From other key viewpoints, such as the Klickitat Trail, the fishway will not be visible and the standard will be maintained. Although the ladder is visible from very few locations, from these perspectives it appears to meet a "low" to "unacceptably low" standard due to the extremely altered setting.	The modified fishway also will be visible from very few locations. Similar to existing conditions, from these locations, it will not achieve the VQO of "Moderate" scenic integrity. From other key viewpoints, such as the Klickitat Trail, the fishway will not be visible and the VQO standard will be maintained. Trail users will be aware of the deposition of a large quantity of basalt, a visual effect that will lessen over time as vegetation takes hold. Structural changes will be most apparent to boaters and tribal fishers.
Land Use, Transportation, Recreation	Land use consistent with current conditions.	Fishway modifications will be an expansion of a current use and will conform to existing land use regulations.
	Vehicle use in the area will continue at current levels.	Temporary increases in vehicle traffic will occur during the two-season construction period. Upon completion, traffic levels are expected to return to current conditions.
	Recreational use of the Klickitat Trail is expected to increase and boating above the project site is reported to be growing. The reach upstream of the ladder is reported to be a portage point for kayaks.	Recreation will be unaffected. During construction, very brief interruptions will be experienced along the Klickitat Trail due to access road use and periodic blasting charges. Kayak take-out will have to occur away from active construction areas in the vicinity of the new fish exit structure, an approximately 8 week effect. Boating take-out could resume upon

	No Action Alternative	Proposed Action
		completion of this component. The few kayakers that might run the Lyle Falls reach will be precluded from doing so during modifications to the downstream ladder entrance, also for approximately 8 weeks.
Road Access	Existing access road will continue to be rough and unimproved. Tribal allotment holder can lock gate currently.	Access road will be graded and rock deposited to enable machinery during construction; access road will be improved largely to accommodate heavy equipment and machinery. Other access will be restored post-construction. Access road will need to remain open for construction workers during the construction periods(s).
Socioeconomics	Employment levels associated with operation and maintenance of the fishway and biological monitoring/sampling will continue at levels similar to current conditions.	Project construction will generate about 10 to 12 temporary construction jobs over two summer seasons. In addition, secondary employment associated with construction will contribute to between 22 and 26 jobs.

## **PUBLIC INVOLVEMENT**

Early in the development of the EIS, BPA solicited input from potentially interested or affected publics (federal, state and local agencies; organizations; Indian tribes; individuals; and interest groups) to help determine what issues and alternatives should be studied in the EIS. BPA established a web site at [http://www.efw.bpa.gov/environmental\\_services/Document\\_Library/Lyle\\_Falls/](http://www.efw.bpa.gov/environmental_services/Document_Library/Lyle_Falls/) to inform interested individuals about the proposed fishway modification project.

On June 26, 2006, BPA published a Notice of Intent to prepare an EIS in the Federal Register (71FR36329). BPA also mailed out a scoping letter to about 105 potentially interested and affected persons, agencies, tribes, and organizations. This letter provided information about the proposed project, gave notice of the scoping period and BPA's intent to prepare an EIS, provided contact information, and requested comments on issues to be addressed in the EIS. The letter also invited people to attend a project site visit on July 11, 2006, and a public meeting, also on July 11, 2006, in Lyle, Washington. Information about the project was also advertised in the Goldendale, Washington; White Salmon, Washington; and The Dalles, Oregon newspapers.

The formal scoping period for the EIS extended between June 26 and July 27, 2006. BPA received 6 scoping letters during the scoping period. Eighteen people attended the public scoping meeting, where additional comments were received. All oral and written comments received during scoping were used to formulate relevant issues to be addressed in the Draft EIS.

In March 2008, the Draft EIS was sent to potentially interested or affected parties for review and comment; about 250 Draft EISs were distributed. On March 28, 2008, a Notice of Availability of the Draft EIS was published in the Federal Register (73FR16672). The Draft EIS was also posted on the BPA web site. BPA set a 45-day public review and comment period, ending May 12, 2008. BPA also held a public meeting at the Lyle Community Center on April 16, 2008 in Lyle, Washington to explain the project and Draft EIS and to accept comments; 14 people attended. To reach out specifically to the tribal community, and in accordance with Executive Order 13175, BPA also invited the affected tribes to participate in government-to-government consultation for this project, to address any concerns they might have pertaining on the project. Letters were sent to the Yakama Nation, Confederated Tribes of the Warm Springs Reservation of Oregon, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce Tribe.

BPA received 16 comment letters on the Draft EIS. These letters, along with comments received at the Draft EIS public meeting, comprised 94 comments on the Draft EIS. These comments were addressed in the abbreviated Final EIS, which was made available for public review and sent to interested and affected parties in December 2008. The Notice of Availability of the Final EIS was published in the Federal Register (73FR74171) on December 5, 2008.

## **RATIONALE FOR DECISION**

BPA has analyzed the environmental impacts of the Proposed Action and the No Action alternatives, and has considered public comments received on the Draft EIS. In making its decision, BPA also considered how well the alternatives would meet the following purposes identified for this project in the EIS:

- Provide properly functioning and effective year-round adult fish passage facilities that would be consistent with current state and federal fish passage standards and criteria;
- Provide more efficient facilities to collect, monitor, and enumerate biological information that could provide a foundation for effectively monitoring success of fishery management actions in the subbasin; and
- Enhance opportunities for adult salmonids to access the upper Klickitat River and make use of abundant, available, and underutilized spawning and rearing habitat and provide nutrient enhancement to the watershed.

BPA believes that implementation of the Proposed Action alternative will best meet all of the project purposes.

### **Fish Passage Facilities**

Lyle Falls has been identified as a major obstacle preventing some species of salmon from reaching upstream spawning areas in the Klickitat subbasin. Fish passage facilities installed at Lyle Falls in the 1950's are only marginally effective. A Yakama Nation study confirmed the existing fishway does not function properly and does not comply with federal and state fish passage criteria. The No Action alternative would maintain the status quo, i.e., the fishway would not provide functional and effective year-round fish passage, and the fishway would remain out of compliance with established design and velocity criteria. The fishway is too short; fish exit into rapids, causing some fish to fall back below the falls. The fishway is too steep with poor energy dissipation between weirs, limiting passability at higher flows. The current configuration allows gravel and debris to accumulate at the trashracks and inside the ladder, increasing maintenance requirements and decreasing the depth in the ladder and fishway exit, impairing passage at lower flows. There is also limited attraction flow.

Under the Proposed Action alternative, the modified fishway will meet established design and velocity standards. The transportation channel will be long enough so the fish will exit into a deep pool in the Klickitat River. Fall back will be eliminated. The water in the ladder will be deep enough for fish orientation. There will be increased attraction flow at velocities compliant with current standards. In addition, because of the rounded corners, Pacific lamprey will be more likely to use the new fishway. Modification of the fishway will improve passage conditions over a wider range of flows and reduce passage delay for all migrating species.

### **Modern Collection Facilities**

Under the No Action alternative, adult fish returning to the Klickitat River would continue to be monitored by physically handling individual fish. In order to collect or sample fish, the biologists must climb into the fishway. Fish enumeration would continue to occur in a sorting bay. The sorting bay would be dewatered; the returning fish would then be crowded into a small area, netted, and slid into tubes. The fish would be examined and marked in the submerged tubes. Scientific knowledge about Klickitat River fisheries would continue to be limited and relatively imprecise.

The Proposed Action will greatly reduce hands-on monitoring. There will be a new sorting bay within the transportation channel. Fish-sorting facilities will allow biologists to visually identify fish and shunt them back to the river or to a holding area for additional sampling. This system will cause much less stress to the fish and will be much safer for the biologists, who will not have to climb down into the fishway itself. A video monitoring system will allow fish to be tracked with much less handling. The PIT-tag detection system will increase the monitoring capability of the fisheries managers and make precise estimates of smolt-to-adult survival routine. In addition, the new sampling bay will be available for future broodstock collection.

### **Access to Habitat**

Lack of access to potential habitat, is a major factor limiting the anadromous salmonid production potential of the Klickitat subbasin. Upstream passage through the existing inefficient fishway is estimated to be available 48 percent of the time by spring Chinook salmon, 14 percent of the time by fall Chinook salmon, 41 percent of the time by steelhead trout, and 31 percent of the time by coho salmon. Populations of fall Chinook and coho salmon are especially affected by the poor passage conditions in the late summer and early fall. Depressed productivity of Klickitat salmon and steelhead would continue to contribute to nutrient deficiency, a major limiting factor for salmonids in the subbasin.

Under the Proposed Action, upstream migration will be improved. Salmonids will have access to habitat that previously was only sporadically available. With the new fishway, upstream passage will be available 95 percent of the time for spring Chinook, 96 percent of the time for fall Chinook, 98 percent of the time for steelhead, and 94 percent of the time for coho salmon. There will also be an opportunity for migratory bull trout to colonize the Klickitat subbasin, expanding their distribution and helping meet recovery objectives. Nutrient enrichment from decaying carcasses will increase in the Klickitat River above Lyle Falls, increasing primary aquatic productivity. In addition, passage and natural production of lamprey will be improved; the naturally high glacial sediment in the basin provides good rearing conditions for juvenile lamprey.

Table 2, below, compares the No Action alternative and the Proposed Action alternative against the project purposes identified in the EIS.

**Table 2. Comparison of Alternatives Against Project Purposes**

Decision Factor	No Action Alternative	Proposed Action
Provide properly functioning and effective year-round adult fish passage facilities, consistent with current fish passage standards and criteria.	Existing ladder does not meet WDFW and NMFS criteria for numerous components.	Modified fish ladder would meet state and federal criteria at flows between 550 and 4,000 cubic feet per second.
Provide more efficient facilities to collect, monitor, and enumerate biological data as a foundation for future fishery management in the subbasin.	The existing sampling bay allows hands-on monitoring of upstream migrants with limited data collection capability.	Monitoring would be performed with less handling of fish. PIT-tag detection and video monitoring capabilities would be added. Basin fisheries management would benefit from enhanced data collection capabilities.
Enhance opportunities for adult salmonids to access the upper Klickitat River and use the spawning and rearing habitat available there.	Upstream migration of anadromous fish, either by jumping the falls or using the ladder, is impaired from 17 to 86% of the time, depending on the run. Percentages of time passage is estimated to be possible via the falls under current conditions are spring Chinook, 83%; fall Chinook, 14%; steelhead, 63%, and coho, 48%	Upstream migration of anadromous fish would be improved. Percentages of time passage is estimated to be possible via the modified ladder are spring Chinook, 95%; fall Chinook, 96%; steelhead, 98%; and coho, 94%.

## MITIGATION

All mitigation measures described in the Draft EIS and updated in the Final EIS have been adopted. These mitigation measures, which are listed in the attached Mitigation Action Plan, represent all practicable means to avoid or minimize environmental harm from the Lyle Falls Fish Passage Project. The Yakama Nation, with assistance by various entities, will be responsible for the execution of all mitigation measures. The Yakama Nation will also implement any additional measures that may be required through permitting processes with Federal, state, and local agencies.

## PUBLIC AVAILABILITY

This ROD will be distributed to all interested parties and affected persons and agencies. A Notice of Availability of this ROD will be published in the Federal Register. Copies of the Lyle Falls Fish Passage Project EIS and additional copies of this ROD (including the Mitigation Action Plan) are available from BPA's Public Information Center, P.O. Box 3621, Portland, Oregon, 97208-3621. 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/Lyle\\_Falls/](http://www.efw.bpa.gov/environmental_services/Document_Library/Lyle_Falls/).

## CONCLUSION

Upon consideration of the entire record, including public comments received, BPA has decided to fund the Lyle Falls fishway project. The fishway will be modified and expanded, and fish data collection, sampling, and monitoring capabilities at the existing facility will be enhanced. All mitigation measures identified are adopted. The project best meets the project purposes and is the environmentally preferable alternative. The project is also consistent with the policy direction BPA selected to guide the implementation and funding of the agency's fish and wildlife mitigation and recovery efforts.

Issued in Portland, Oregon.

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

February 20, 2009  
Date

# MITIGATION ACTION PLAN

## Lyle Falls Fish Passage Project

Bonneville Power Administration  
Confederated Tribes and Bands of the Yakama Nation  
Washington Department of Fish and Wildlife  
U.S. Forest Service

February 2009

This Mitigation Action Plan identifies measures that are intended to avoid, reduce, or eliminate potential negative effects from the construction and operation of the Lyle Falls Fish Passage Project on the lower Klickitat River in Klickitat County, Washington. The mitigation measures were presented in the Lyle Falls Fish Passage Project Draft EIS (DOE/EIS-0397, March 2008) that was distributed to the public for review and comment and updated in the Lyle Falls Fish Passage Project Final EIS (November 2008). These mitigation measures are part of Bonneville Power Administration's Proposed Action.

The mitigation measures, grouped by resource, are presented in table form on the following pages. The measures described are required to be implemented by the responsible party and at the times indicated in the table. Additional measures may be required through permitting processes with Federal, state, and local agencies.

### Key to abbreviations used in the Mitigation Action Plan:

ACOE	U.S. Army Corps of Engineers
BMP	Best Management Practice
OSHA	Occupational Safety and Health Administration
NMFS	National Marine Fisheries Service
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife
WDOE	Washington Department of Ecology



Mitigation Measure	Responsible Party	Time of Implementation
<b>Geology and Soils Measures</b>		
Use controlled minimal blasting to limit disturbance to surrounding rocks during blasting and excavation for the fishway.	Yakama Nation in coordination with contractor	During construction
Compile aquatic protection measures, including monitoring of potential blasting effects, in a plan for pre-construction approval by WDFW.	Yakama Nation in coordination with project biologists, engineers and WDFW	Prior to construction
Prepare and implement an erosion and sediment control plan that minimizes physical site disturbance by containing excavated materials, dewatering the excavated areas, treating water pumped from excavations, and stabilizing materials in the spoil disposal area.	Yakama Nation in coordination with engineer and contractor	Prior to and during construction
Place fencing around the external limits of the construction site to prevent unnecessary disturbance outside of the work areas.	Yakama Nation in coordination with contractor	Prior to and during construction
Install silt fences along the river and around the soil disposal area to contain any eroded materials.	Contractor	During construction
Limit the length of fishway being excavated at a given time.	Yakama Nation in coordination with contractor	During construction
Pump water that may flow into the excavations to one of the three self-contained settling tanks to remove sediment.	Yakama Nation in coordination with contractor	During construction
Armor, cover, and/or revegetate the soil disposal pile during and following construction.	Yakama Nation in coordination with contractor	During construction
Comply with the requirements of state and federal permits governing erosion control and water quality protection.	Yakama Nation in consultation with WDFW, WDOE, Klickitat County, ACOE	During construction
<b>Water Resource Protection Measures</b>		
Develop and implement appropriate BMPs during construction	Yakama Nation in coordination with engineer and contractor and WDFW, USFWS, WDOE	Prior to and during construction
Follow the dewatering guidelines established by WDOE to ensure that water quality is protected while the cofferdam is placed, removed, and in use.	Yakama Nation in coordination with contractor	During construction
Ensure that chemicals and fuels are not released into the work area.	Yakama Nation in coordination with contractor	During construction
Ensure that appropriate BMPs are implemented during instream work to eliminate or reduce turbidity to the greatest extent practicable.	Yakama Nation in coordination with contractor	During construction
Ensure that appropriate BMPs are implemented during upland work to eliminate or reduce erosion to the greatest extent practicable.	Yakama Nation in coordination with contractor	During construction
Ensure that all conditions set forth in construction permits to protect water quality are followed.	Yakama Nation in coordination with contractor	During construction

Mitigation Measure	Responsible Party	Time of Implementation
<b>Fisheries Protection Measures</b>		
Adhere to the WDFW instream work window for all in-water work in order to avoid disturbance when the majority of juvenile salmon and steelhead will be moving past the project site.	Yakama Nation in coordination with contractor	During construction
Minimize in-water work effects on fish through controlled blasting and erosion control measures, and by implementing BMPs to limit water quality degradation during construction.	Yakama Nation in coordination with contractor	During construction
Use cofferdams to temporarily isolate the area required to construct the new fish ladder exit structure.	Yakama Nation in coordination with contractor	During construction
Prohibit construction at night in order to allow fish to migrate without disturbance over the falls.	Yakama Nation in coordination with contractor	During construction
Provide a qualified fish biologist or natural resource specialist during dewatering of work areas to conduct salvage operations for any fish that become stranded in the dewatered zone.	Yakama Nation in coordination with biologist and contractor	During construction
Ensure that the final design of the new fishway complies, and is consistent with Anadromous Salmonid Passage Facility Design (NMFS Northwest Region, February 2008)	Yakama Nation in consultation with engineers and NMFS	During design and prior to construction
Compile aquatic protection measures, including monitoring of potential blasting effects, in a monitoring and operations plan for pre-construction approval by WDFW.	Yakama Nation in coordination with contractor	During construction
Address maintenance requirements for the attraction water screen, transportation channel, and the auxiliary flow diffuser in the final fishway design documents.	Yakama Nation in coordination with engineer	Prior to construction
<b>Vegetation Protection Measures</b>		
Install temporary fencing around the small wetland area to prevent accidental disturbance during construction.	Yakama Nation in coordination with contractor	Prior to construction
Place trees felled to clear areas for construction along the margins of the site to provide cover for birds, reptiles and small mammals.	Yakama Nation in consultation with WDFW and contractor	During construction
Consult with WDFW regarding steps to relocate the existing osprey nest platform prior to March 1 in the year of construction, including 1) installing an alternative nest pole and platform farther upstream on the Klickitat River, away from the project site and potential noise disturbance caused by project construction; or installing a platform on an existing power pole, if one is suitably situated and Klickitat Public Utility District agrees, moving nest materials from the existing platform to the new platform, and installing nest deterrent device(s) at the existing platform; 2) monitoring osprey use of both structures in March and April to determine whether/where the pair is nesting; and 3) removing the nest deterrent device(s) from the existing nest platform following completion of construction, and outside the breeding season (i.e., between October 1 and March 1).	Yakama Nation in consultation with NMFS and engineers	Prior to construction

<b>Mitigation Measure</b>	<b>Responsible Party</b>	<b>Time of Implementation</b>
Before any ground disturbing activities occur, a rare plant and noxious weed survey must be conducted within 100 feet of all potentially disturbed areas. Provide results to the Yakama Nation, WDFW, USFS, and Klickitat County Noxious Weed Board.	Yakama Nation in coordination with contractor	Prior to and during construction
Follow construction timing restrictions to reduce potential disturbance of the nearby osprey nest.	Yakama Nation in coordination with contractor	During construction
Conduct a systematic rare plant survey on probable disturbed areas prior to beginning construction.	Yakama Nation in coordination with botanist, WDFW, USFS and Klickitat County and contractor	During construction
Dispose of excavated reed canary grass in a manner that prevents reestablishment	Yakama Nation in consultation with WDFW and contractor	During construction
Minimize the area of soils exposed at any one time to reduce dust that can bury native plants	Yakama Nation in consultation with WDFW and contractor	During construction
Use flagging and fencing to protect oak trees adjacent to the ladder footprint that are to be retained.	Yakama Nation in consultation with WDFW and contractor	During construction
Provide temporary revegetation if construction activity takes place in two seasons, as proposed.	Yakama Nation in consultation with WDFW and contractor	During construction
Avoid disposing excavated materials or other debris in high flow channel.	Yakama Nation in consultation with WDFW and contractor	During construction
Place excavated materials in disposal area in a manner that matches existing contour.	Yakama Nation in consultation with WDFW and contractor	During construction
Stockpile felled trees on site.	Yakama Nation in consultation with WDFW and contractor	During construction
Consult with WDFW and Yakama Nation to identify appropriate revegetation species, using within-watershed sources of seeds or live plant material wherever possible	Yakama Nation in coordination with botanist, WDFW, USFS and Klickitat County and contractor	After construction
In developing a revegetation plan, emphasize replanting Oregon white oak and ponderosa pine to replace those lost or disturbed during construction.	Yakama Nation in coordination with botanist	After construction
Use certified weed-free seed mixes and mulches.	Yakama Nation in coordination with botanist	After construction
Use natural tackifiers if necessary to reduce wind removal of loose mulch.	Yakama Nation in coordination with botanist	After construction
Develop standards and methods and a monitoring schedule for measuring the success of revegetation and identify measures to be implemented if standards are not met, including measures for controlling noxious weeds.	Yakama Nation in coordination with botanist	After construction
Develop a schedule for monitoring and maintenance of revegetated areas.	Yakama Nation in coordination with botanist	After construction

<b>Mitigation Measure</b>	<b>Responsible Party</b>	<b>Time of Implementation</b>
Plant Oregon white oak and ponderosa pine at a 5:1 ratio to replace those lost or disturbed during construction, using local stock (e.g., Milestone Nursery in Lyle or Yakama Tribal nursery), and monitor and maintain for 3 years following construction.	Yakama Nation in coordination with botanist	After construction
When all rock has been deposited at the spoil disposal area, place weed-free soil or sand in the crevices to facilitate establishment of grasses and forbs that are common in the adjacent boulder field.	Yakama Nation in coordination with botanist	After construction
If pre-construction rare plant surveys indicate the presence of rare species within the work area, consult with the Yakama Nation, WDFW, and USFS to identify and implement appropriate protective measures (e.g., flagging, temporary fencing, placement of boulders around rare plant populations, or relocation).	Yakama Nation in consultation with WDFW and contractor	After construction
If weeds are documented and treated, monitor treatment effectiveness for 3 years following construction, and re-treat as needed, consistent with the Revegetation Plan (see below).	Yakama Nation in consultation with WDFW and contractor	After construction
If extensive weed populations are documented, work should proceed from “clean” areas into weedy areas, if possible.	Yakama Nation in consultation with WDFW and contractor	After construction
Wash all equipment entering the work area to minimize the risk of transporting weed seeds and propagules.	Yakama Nation in consultation with WDFW and contractor	After construction
<b>Wildlife Protection Measures</b>		
Maintain clean work areas with proper litter control and sanitation in order to prevent wildlife attraction.	Yakama Nation in coordination with engineer	Prior to construction
Dispose human refuse in containers that can be sealed and protected from wildlife.	Yakama Nation in consultation with NMFS and engineers	Prior to construction
Conduct a western gray squirrel nest survey in suitable habitat within 400 feet of any areas that will be disturbed by construction; if nesting is documented, consult with the Yakama Nation and WDFW to identify and implement appropriate protection measures.	Yakama Nation in coordination with contractor	Prior to construction
<b>Wetlands and Floodplains Protection Measures</b>		
Limit the profile of instream structures to affect the least surface area within the floodplain.	Yakama Nation in coordination with USFS and contractor	During design and construction
Allow unimpeded flow of water through the Klickitat River channel.	Yakama Nation in coordination with contractor	During construction and operation
<b>Cultural Resource Protection Measures</b>		
Retain a qualified cultural resources specialist to monitor the site during ground disturbing activities to ensure that tribal members have access to the area, examine newly disturbed soils, and inspect work sites for potential cultural resource materials.	Yakama Nation	During construction
Limit construction access to existing and improved road grades to the greatest extent possible.	Yakama Nation in coordination with contractor	During construction
Exercise extreme caution near interment areas and advise construction workers to respect these areas.	Yakama Nation in coordination with contractor	During construction

<b>Mitigation Measure</b>	<b>Responsible Party</b>	<b>Time of Implementation</b>
Add crushed rock to the Lyle Falls access road to provide a more stable surface for existing users and construction vehicles and to protect Native American interment area.	Yakama Nation in coordination with contractor	Prior to construction
Preclude use of the historic railroad corridor for construction or operation access.	Yakama Nation in coordination with contractor	During construction and operation
Coordinate with those who traditionally fish adjacent to the existing ladder. Identify construction activities that could present potentially dangerous settings for fishing, and provide the timing and extent of disruption to those fishers.	Yakama Nation in consultation with tribal members	Prior to and during construction
Vehicular use of the Klickitat Trail is specifically forbidden under Washington State Parks and Recreation Commission and USFS management regulations.	Yakama Nation in coordination with engineer and contractor	Prior to and during construction
<b>Air Quality, Noise, Human Health, and Public Safety Protection Measures</b>		
Apply dust abatement treatments to the unpaved roadway accessing the project site.	Yakama Nation in coordination with contractor	During construction
Apply abatement measures to prevent the generation of wind-borne dust if soils are stockpiled as discussed in the DEIS.	Yakama Nation in coordination with contractor	During construction
Use blasting mats, sand or crushed rock to cover excavation sites during blasting activities to reduce the generation of sound and contain the dispersion of rock, soil, and fugitive dust.	Yakama Nation in coordination with contractor	During construction
Exclude all unauthorized personnel from entry at active worksites including excavation, spoil disposal and construction.	Yakama Nation in coordination with contractor	During construction
Provide portable restrooms and debris collection during construction.	Yakama Nation in coordination with contractor	During construction
Post signs on the Klickitat Trail throughout construction to warn users of vehicle crossings where the trail and access road intersect as well as at adjacent trailheads at Fisher Hill and Pitt.	Yakama Nation in coordination with contractor	During construction
Coordination will be undertaken with those that traditionally fish adjacent to the existing ladder. Construction activities that could present potentially dangerous settings for fishing will be identified, and the timing and extent of disruption will be presented to those fishermen.	Yakama Nation in consultation with NMFS and USFWS and coordination with engineer and construction contractor	Prior to and during construction
Post signs upstream of the project area on the Klickitat River to inform kayakers of construction. Develop an outreach plan in coordination with the USFS to inform this user group of construction activities.	Yakama Nation in coordination with engineer contractor and USFS	Prior to and during construction
Require the contractor to follow OSHA safety regulations for blasting. These regulations require displaying signage warning the public about the blasting zone, using loud warning signals to indicate the commencement of blasting, and stationing of flagmen on public routes immediately adjacent to the blast zone during blasting operations to prevent accidental intrusion of the public into the blast zone.	Yakama Nation in coordination with contractor	During construction
Retain the non-functioning attraction flow pipeline on the existing ladder.	Yakama Nation in coordination with engineer and contractor	During construction

<b>Mitigation Measure</b>	<b>Responsible Party</b>	<b>Time of Implementation</b>
Install safety ladders to access the fish sorting area within the fishway structure.	Yakama Nation in coordination with engineer and contractor	During construction
<b>Aesthetic Protection Measures</b>		
Specify the new equipment storage building be brown with a dark, non-reflective roof to reduce the visual contrast.	Yakama Nation in coordination with engineers	During design
Direct motion sensor-activated exterior lighting for the new building to achieve security objectives while limiting stray ambient light.	Yakama Nation	During design
Use a color additive in the concrete placed on the surface of the new fish transportation channel and fishway exit/water supply intake to reduce visual contrast with the adjacent native rock.	Yakama Nation in coordination with engineer and contractor	During construction
Minimize impacts to the aesthetic qualities by using native basalt boulders where needed for structural protection.	Yakama Nation in consultation with WDFW and contractor	During construction
Paint the existing auxiliary water supply pipeline a dark color to match the adjacent concrete.	Yakama Nation in coordination with contractor	During construction
Implement a vegetation protection plan to reduce potential construction damage to vegetation.	Yakama Nation in coordination with contractor	During construction
Develop a landscape management plan to reduce the visual contrast of the equipment storage building from the Klickitat Trail and the State Highway 142 overlook.	Yakama Nation in consultation with engineers and USFS	Prior to construction
Place weed-free sand or soil in crevasses of the excavated rock at the soil disposal site adjacent to the Klickitat Trail to facilitate revegetation using within-watershed sources of seeds.	Yakama Nation in coordination with contractor	During construction
Shape the rock disposal pile to appear as natural as possible. Retain and place larger rock across the top of the pile. Final pile configuration shall be approved by the USFS and WDFW.	Yakama Nation in coordination with USFS, WDFW and construction contractor	During construction
<b>Land Use, Transportation, and Recreation Protection Measures</b>		
Construct a turn-out along the access road to improve safety for existing road users and to reduce conflicts with construction vehicles.	Yakama Nation in coordination with engineer and contractor	Prior to construction
Clear vegetation along access road to improve sight lines and allow safe passage of vehicles in opposite directions.	Yakama Nation in coordination with contractor	Prior to construction
Install safety signage at the intersection of the Klickitat Trail and the access road as well as at nearby trail access points at Fisher Hill and Pitt to reduce conflicts between trail users and construction traffic.	Yakama Nation in coordination with contractor	Prior to construction
Use flaggers as needed at the intersection of the Klickitat Trail and the access road on days when blasting will occur. Also post warnings on the river bank upstream of the work area cautioning boaters of construction. Outreach to boaters before construction begins. If necessary, position a flagger upstream prior to blasting.	Yakama Nation in coordination with USFS, engineer and contractor	During construction
Prohibit any use of the Klickitat Trail for vehicular access during construction; include the stipulation in the construction documents.	Yakama Nation in coordination with contractor	Prior to and during construction