

Supplement Analysis
for the
Columbia River Basin Tributary Habitat Restoration
(DOE/EA-2126/SA-13)

Lower Fry Meadow Restoration Project
BPA project number 2008-604-00
BPA contract number 76913 REL 28

Bonneville Power Administration
Department of Energy



Introduction

In December 2020, Bonneville Power Administration (BPA) and the Bureau of Reclamation (BOR) completed the Columbia River Basin Tributary Habitat Restoration Programmatic Environmental Assessment (DOE/EA 2126) (Programmatic EA). The Programmatic EA analyzed the potential environmental impacts of implementing habitat restoration actions in the Columbia River Basin and its tributaries.

Consistent with the Programmatic EA, this Supplement Analysis (SA) analyzes the effects of the Lower Fry Meadow Restoration Project, which would implement many of the specific restoration actions assessed in the Programmatic EA in the Potlatch Watershed in Latah County, Idaho. The goal of the project is to improve spawning, summer rearing, and overwintering habitat for Endangered Species Act (ESA)-listed steelhead (*Oncorhynchus mykiss*) in a 1.2-mile-long reach of the East Fork Potlatch River. This SA analyzes the site-specific impacts of the Lower Fry Meadow Restoration Project (project) to determine if the project is within the scope of the analysis considered in the Programmatic EA. It also evaluates whether the proposed project presents significant new circumstances or information relevant to environmental concerns that were not addressed by the EA. The findings of this SA determine whether additional National Environmental Policy Act (NEPA) analysis is needed pursuant to 40 Code of Federal Regulations (CFR) § 1502.9(d).

Proposed Activities

BPA proposes to fund Idaho Fish and Game (IDFG) to implement a habitat restoration and floodplain improvement project on privately-owned land along a 1.2-mile-long segment of East Fork Potlatch River in Latah County, Idaho (Figure 1).

As the East Fork Potlatch River enters this reach, it leaves a wide floodplain wet-meadow complex and enters an incised single-thread channel that has been documented to be deepening over the past ten years. This incision prevents lateral flooding and creates degraded habitat with a lowered water table. A project implemented in 2013 at the same site focused on realigning the mainstem East Fork Potlatch using bank revetment logs without addressing the active channel incision. Lessons learned from more recently completed projects that were largely comprised of channel spanning wood have shown positive response.

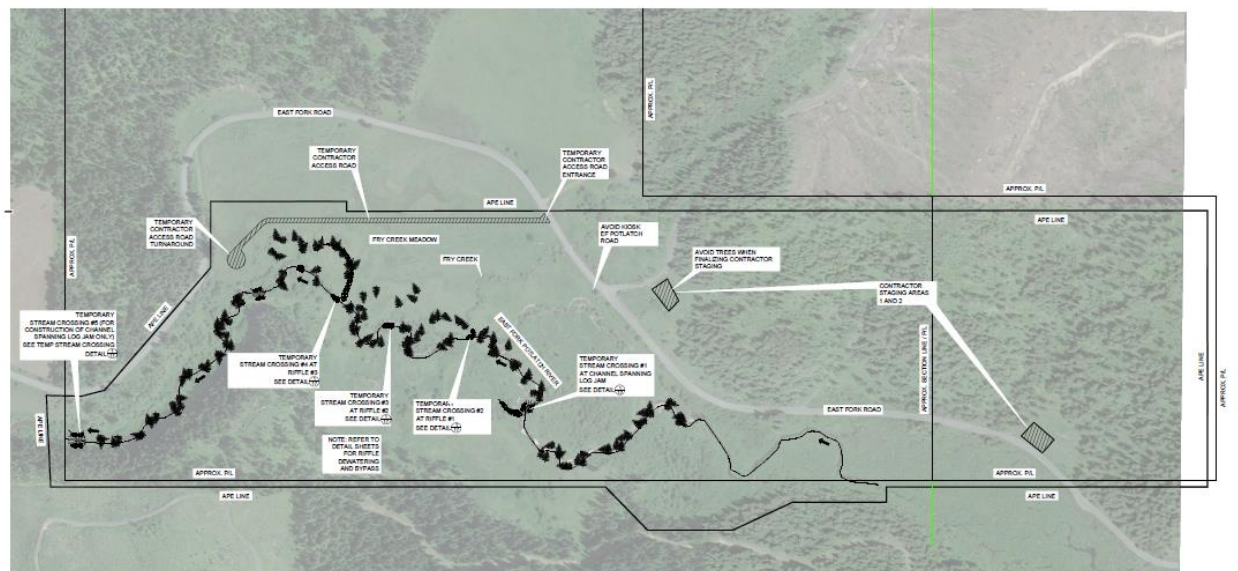


Figure 1: Lower Fry Meadow Restoration Project Design

The Lower Fry Meadow design follows similar engineering and natural process principles with minimal excavation and return of natural channel scour/deposition and lateral flow processes caused by large trees.

Project components would include channel-spanning, unanchored large trees and large wood jams, constructed riffles, and excavation to reconnect relic channels. These components would collectively provide bank roughening, cover, connectivity between pool habitats, overwintering and summer rearing habitat; slow velocities; promote floodplain connectivity and connect 0.2 miles of off-channel habitat; and increase total habitat availability.

All in-stream work and off-channel excavation would occur in late August and September during low precipitation and low flow channel conditions to minimize disturbance and sedimentation and allow greater ease of installation, within the specified local in-stream work window. Five temporary stream crossings would be created to protect water quality and minimize the area of equipment disturbance during construction. Temporary access routes through the site would be created by grading and compacting the soil. These routes would be obliterated following construction, decompacted and reseeded if necessary to encourage revegetation. Staging and work areas would be developed to minimize disturbance to existing vegetation and soils, and would be located greater than 150 feet from the river. Work space isolation would be conducted by placing large sand bags or similar coffer dam material around the site. Block nets would be set above and below the isolated construction zones. Electrofishing would be used to salvage any remaining fish, though survey data shows that juvenile steelhead density in the project area is currently low due to lack of existing habitat.

Individual trees would be strategically felled by a sawyer from the heavily timbered area on both sides of the river to increase roughness and mimic natural wood inputs. Wood loading would be installed in ways to maximize the wood/water interface at base flows and submerge trees to the extent possible. Three log jams would be created by strategically placing large logs with rootwads spanning the channel wetted width and intertwining additional trees that connect into trees located on the bank for additional stability. Tree length would be almost double the bankfull channel width and would be laid in a pattern to encourage additional racking of naturally occurring debris.

Cobble/rock riffles would be constructed using native or imported rock material sized to withstand bedload movement and graded into a natural-like gradual riffle crest with a smooth run down the back side. Constructed riffles are used to create pools and backwater, cause streamflow to move laterally into side channels and lateral habitat. The constructed riffles would be located directly downstream where side channels exist to promote lateral water movement, floodplain inundation, and a much wider saturated landscape. For the Lower Fry Meadow project, the riffles would be also used in combination with minor excavation (260 cubic yards) that would re-open remnant lateral side channels that have since been cut off due to past channel incision and deposition.

The existing riparian condition in this reach is characterized by an established alder community that exists only along the existing stream corridor. Alder clumps would be salvaged for replanting post-construction. IDFG would apply a native grass and forb seed mix to all areas that remain disturbed post construction in spring 2022. Additional plantings and adaptive management measures (such as wood structure maintenance, additional wood or slash placement on existing structures, and vegetation planting and management activities) would be implemented for up to 10 years post-construction.

Funding the proposed activities fulfills commitments under the 2020 National Marine Fisheries Service Columbia River System Biological Opinion (2020 NMFS CRS BiOp). These actions would also support BPA's commitments to the State of Idaho under the 2020 Columbia River Fish Accord Extension agreement, while also supporting ongoing efforts to mitigate for effects of the Federal Columbia River Power System on fish and wildlife in the mainstem Columbia River and its tributaries pursuant to the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act) (16 U.S.C. (USC) 839 et seq.).

Environmental Effects

The typical effects associated with the environmental disturbances are described in Chapter 3 of the Programmatic EA, and are incorporated by reference and summarized in this document. Below is a description of the potential site-specific effects of the Lower Fry Meadow Restoration Project, and an assessment of whether these effects are consistent with those described in the Programmatic EA.

1. Fish and Aquatic Species

ESA-listed steelhead and critical habitat are present within the project area, though data from previous IDFG electrofishing surveys and snorkeling surveys in this reach show that densities of juvenile steelhead are extremely low due to lack of rearing habitat and holding water. Movement, sounds, and vibrations of human and mechanical activity during construction would disturb fish and temporarily displace them from their preferred habitat for as long as that movement, sound, and vibration are present. Consultation on potential effects of the project on ESA-listed species was completed under BPA's programmatic Fish and Wildlife Habitat Improvement Program (HIP4) biological opinion. HIP conservation measures would be applied during project implementation. Overall, short term impacts to fish and aquatic species would be low, consistent with the analysis in the Programmatic EA, Section 3.3.1.2.1 (Short-Term Effects to Fish and Aquatic Species from Construction Activities).

Implementation of the project would result in long-term beneficial effects to fish and aquatic species from increased stream complexity, enhanced riparian cover and protection along the East Fork Potlatch, increased available floodplain access and flows, and expected reduction in summer water temperatures.

These beneficial effects are consistent with the analysis in the Programmatic EA found in Section 3.3.1.2.2 (Effects to Fish and Aquatic Organisms unique to the Categories of Action).

Overall, project impacts would be consistent with, and potentially less than, those impacts described in the Programmatic EA Section 3.3.1.3 (Effects Conclusion for the Proposed Action on Fish and Aquatic Species), which describes low impacts to fish and aquatic species after considering moderate short-term adverse effects from construction and beneficial long-term effects.

2. Water Resources

Project construction would temporarily expose, displace, reconfigure, or compact earth through the use of mechanized equipment, riffle construction, and engineered log jam development along the East Fork Potlatch River. Small amounts of sediment could be released for short periods of time during log jam and riffle construction and placement, and at temporary stream crossings. Impacts would be minimal because mitigation measures designed to minimize sedimentation, erosion and spills (further detailed in the Programmatic EA Section 2.4 (Mitigation Measures and Design Criteria) would be applied. The anticipated amount of sedimentation, erosion and spills that would impact water quality would be low, and is consistent with the analysis in the Programmatic EA in Section 3.3.2 (Water Resources). Project implementation would have no impact on water quantity.

The project would result in a long-term decrease in unnatural sediment inputs by halting ongoing bank erosion and incision in the project reach, and by increasing sediment storage potential with increased floodplain access. The project is expected to result in a long-term reduction in stream temperatures from improved stream form, an increase in instream habitat structure, and increased riparian vegetative cover and protection. These long-term beneficial effects are consistent with those described in the Programmatic EA.

The Programmatic EA, Section 3.3.2.2 (Environmental Consequences for Water Resources), describes overall low impacts to water quality after considering moderate short-term adverse effects during construction and beneficial long-term effects of the project. The project would be consistent with these effects.

3. Vegetation

No State or ESA-listed plant species are present within the project area. Short-term moderate impacts to vegetation would occur during project mobilization and temporary access road construction. Approximately 2 acres of existing vegetation would be removed, graded, or trampled to provide temporary site access. Temporary access roads would require a graded surface, depending on site conditions, and construction-related disturbance to riparian areas would be minimized to the extent practicable, leaving as much vegetation undisturbed as possible. Riparian vegetation such as willows and shrubs would be salvaged and replanted in the disturbed areas to improve bank stability and facilitate site revegetation. After construction, temporary access roads would be removed, decompacted, and reseeded with native grasses and forbs. Additional seeding and planting may occur in the 3 to 5 years following construction if natural revegetation needs supplementation. Increased floodplain inundation would improve vegetation diversity and density in the long-term.

The effects of using construction equipment and manually working in and along the East Fork Potlatch River are consistent with the analysis in the Programmatic EA Section 3.3.3 (Vegetation). The analysis concludes that although the effects on vegetation from construction actions may be moderate in the

short term, there would be long-term beneficial effects of increased riparian habitats and restored or improved vegetative conditions. Thus, the overall effects of this project would be moderate.

4. Wetlands and Floodplains

All impacts to wetlands and floodplains would be temporary, short-term, and resolved as soon as practicable. About 200 linear feet of emergent wetlands would be disturbed by excavation of the remnant side channels (approximately 60 cubic yards). However, the project would result in increased inundation and improved conditions for approximately 1 acre of wetlands. IDFG received a joint permit from Idaho Department of Water Resources, Idaho Department of Lands and the US Army Corps of Engineers (Permit No. S86-20072) as required by Section 10 of the Rivers and Harbors Act of 1899 and Section 401 and 404 of the Clean Water Act. IDFG would construct the project pursuant to the conditions of the permit, such as constructing during low flow periods to minimize turbidity and isolating the work area.

In the long-term, the project would increase wetland acreage and improve floodplain conditions. Added in-stream roughness and wood placement would slow stream flows and increase floodplain inundation potential. Additionally, wetland quality would improve due to the restoration of natural flow patterns and the replacement of invasive species with native plants. With greater floodplain connectivity at the site, it is anticipated that wetland hydrology would improve, which could expand the wetland area, and re-establish native vegetative communities.

Flow redirection from channel-spanning log jams would facilitate more natural lateral movement and sinuosity within the stream channel, which would slow water velocities, facilitate more effective connection between the channel and the floodplain, and provide for more efficient sediment movement and retention in the floodplain. Impacts to wetlands and floodplains are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 – Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.4 (Effects to Resources by Resource Type – Wetlands and Floodplains). Consistent with the Programmatic EA, there would be long-term beneficial effects from increased connectivity between the existing East Fork Potlatch River channel and its floodplain.

5. Wildlife

No State or ESA-listed terrestrial species are known to exist within the proposed project area. Local wildlife may be temporarily disturbed by sound and movement caused by human presence. Due to the minimal excavation in this project design, habitat disturbance from vegetation removal would be minor other than three remnant side channel connections, about 200 linear feet. The trees for the log jams would be selectively harvested on-site with minimal mechanical machinery, through the use of a sawyer using saws and a chain/winch system. Mobile species such as birds and small mammals may be temporarily displaced during construction and vegetation removal, but could return once activity has moved or ceased. Smaller, less mobile species could lose habitat and be harassed, harmed, or killed during construction activity.

Long-term, the proposed project would restore habitats beyond existing conditions. Long-term benefits include increased plant species richness and diversity from the current alder monoculture, increased habitat structural diversity, increased habitat heterogeneity, and increased extent of riparian habitat.

Impacts to wildlife are consistent with the Tributary Habitat EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.5 (Effects to Resources by Resource Type – Wildlife). The analysis concludes that the short-term effects on small wildlife species

may be moderate to high for individuals that are harmed or killed by construction activities, but effects would be comparatively minor for larger animals that may only be displaced from habitats rendered unsuitable for occupancy for a period of time. The long-term effects on wildlife populations, however, would be beneficial from the increased habitat quality and carrying capacity resulting from the project. The overall effects of this project would be low to moderate and consistent with those evaluated in the Programmatic EA.

6. Geology and Soils

Project construction activities, including vegetation clearing, grading, and soil compaction by heavy equipment, would temporarily increase localized soil erosion potential and degrade soil structure. Impacts would be mitigated by use of erosion and sediment control devices, and post-construction site restoration activities (site de-compaction and re-seeding).

Long-term improvement to soils is expected once disturbed surfaces are re-seeded and riparian plantings are established and stabilize the soil surface. Long-term improvement to sediment transport and floodplain access within the project reach would restore natural sediment-forming processes.

Impacts to geology and soils are consistent with the Tributary Habitat EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.6 (Effects to Resources by Resource Type – Geology and Soils). The analysis concludes that the effects of the project on geology and soils would be moderate to high in the short-term, but with implementation of mitigation measures and the long-term benefits, the overall effects would be low. The overall effects of this project would be consistent with those evaluated in the Programmatic EA.

7. Transportation

The project area would be accessed via an existing road, East Fork Road, which runs along the northern boundary of the project area and loosely parallels the East Fork Potlatch River. Off-road access within the construction site for large wood placement and riparian plantings would be via temporary access routes developed during project mobilization. Five temporary stream crossings would be used for access at the locations of the log jams and constructed riffles to minimize in-stream impacts. Staging areas established within the project area would allow for traffic to continue to utilize East Fork Road during construction. While vehicles transporting workers and equipment to the project site would share local roads with other traffic, there would be no other temporary or permanent effects to existing roads, such as closures or relocations. Hydraulic analysis conducted for the project has shown that the extent of increased inundation would not affect East Fork Road.

Impacts to transportation are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.7 (Effects to Resources by Resource Type – Transportation). The analysis concludes that, although project actions may impact roads for a short period, the overall effect on transportation would be low. The overall effects of this project would be consistent with those evaluated in the Programmatic EA.

8. Land Use and Recreation

The project is located on private undeveloped property and is not accessible to the public. The underlying private landowner supports the project and a temporary construction agreement between IDFG and landowner would be signed prior to construction. The underlying land use would not change as a result of the project. The adjoining property is owned by Idaho Department of Lands who have

affirmed their support for the project and the increased inundation that would occur as a result of project activities.

Impacts to land use and recreation are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.8 (Effects to Resources by Resource Type – Land Use and Recreation). The analysis concludes that land use practices underlying project sites would not be changed for most projects. Some small acreages along stream course areas may revert from agricultural uses back to the wetland and riparian conditions from which they historically were converted. The overall effects of this project on land uses and recreation are expected to be low to moderate and would be consistent with those evaluated in the Programmatic EA.

9. Visual Resources

The proposed project is not within a visually sensitive area. The project area is adjacent to a public road, East Fork Potlatch Road, and is visible to traffic. The land surrounding the project is predominantly forested lands used for timber production. There is a single residence about 0.5 mile down the road and the town of Bovill, population 250, is 1.5 miles to the northwest of the project site. During project implementation, the visual quality of the project area would decrease temporarily from construction activities adding vehicles and equipment. However, ground disturbance would be limited to the excavation of 200 linear feet of remnant side channels. The improved floodplain area would be seeded and planted with native woody riparian vegetation, resulting in a more natural-looking environment.

Impacts to visual resources are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.9 (Effects to Resources by Resource Type – Visual Resources). The analysis concludes that the effects on scenic values from the project would be low. The overall effects of this project on visual resources are expected to be low and would be consistent with those evaluated in the Programmatic EA.

10. Air Quality, Noise, and Public Health and Safety

Impacts to air quality from construction equipment exhaust and dust emissions would be temporary and localized in nature and would not have long-term impacts on air quality. Implementation of this project is not expected to generate long-term or short-term violations of state air quality standards.

The project would temporarily elevate ambient noise levels at the construction site. However, the proposed actions would not be near any population center or noise sensitive receptors, thus they would not have any potential to directly impact the public, other than when sharing the roads when workers travel to and from the work site. Long-term change to noise levels is not expected to result from the proposed project.

Short-term construction and restoration activities would not increase risk to workers and the public during construction. Adequate signage and other routine safeguards for worker and public safety would be used to minimize risk to public safety.

Impacts to air quality, noise, and public health and safety are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.10 (Effects to Resources by Resource Type – Air Quality, Noise, and Public Health and Safety). The analysis concludes that the effects of noise from the project on the human environment would be low and that the effects of the restoration program on air quality, public health, and safety

would be low. The overall effects of this project would be consistent with those evaluated in the Programmatic EA.

11. Cultural Resources

BPA conducted National Historic Preservation Act (NHPA) Section 106 consultation with the Idaho State Historic Preservation Office (SHPO), Nez Perce Tribe, and the Coeur d'Alene Tribe. IDFG conducted a background search and cultural resource survey. No historic properties were identified within the Area of Potential Effect nor have historic properties previously been found within one mile of the APE. BPA made a determination of no effect to historic properties on July 22, 2021. The Nez Perce Tribe responded in agreement with the report results and conclusions on July 22, 2021. SHPO concurrence was received on August 12, 2021. No further comments were received. In the unlikely event that cultural material is inadvertently encountered during the implementation of this project, BPA would require that work be halted in the vicinity of the finds until they can be inspected and assessed by a professional archaeologist.

Impacts to cultural resources are consistent with the Tributary Habitat EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.11 (Effects to Resources by Resource Type – Cultural Resources). That is, the effect on cultural resources from the project would be low because cultural resources would be avoided during project construction. The overall effects of this project would be consistent with those evaluated in the Programmatic EA.

12. Socioeconomics and Environmental Justice

The project would result in small, temporary, beneficial impacts to socioeconomics by providing jobs for construction workers, and by creating short-term beneficial economic effects for local businesses in smaller communities through purchases of food, fuel, lodging, and materials associated with construction and restoration actions. It would not require individuals to leave the local area, or relocate within it. There would therefore be no effect on housing available for local populations. This project would not displace people or eliminate residential suitability from lands being restored or from lands near restoration project sites. The project would not displace residents or degrade residential suitability; nor would it cause changes to the tax base.

Impacts to socioeconomics and environmental justice are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.13 (Effects to Resources by Resource Type – Socioeconomics and Environmental Justice). The analysis concludes that effects to the socioeconomics of the Columbia River Basin as a whole with the implementation of the project would be low due to the small scale and dispersed nature of the projects. Overall, no permanent adverse effects to populations where environmental justice would be a consideration are expected. The overall effects of this project would be consistent with those evaluated in the Programmatic EA.

13. Climate Change

The project would have a negligible effect on climate change from short-term emissions during implementation of the restoration actions. The project would have a low level of effect on climate change from short-term emissions from motorized equipment operations during implementation of the restoration actions. Due to the short duration of construction (approximately one month) and the relatively small number of construction vehicles, temporary emissions associated with project construction are anticipated to be well below EPA's reporting threshold of 25,000 metric tons of carbon

dioxide equivalent per year during construction. Any impact would be offset to some degree by the ameliorating effects of restored floodplain function such as increased water table inputs, increased carbon sequestration in expanded and improved wetland habitats, and decreased water temperatures from improved instream and riparian habitat conditions. The overall effects on climate change would be low.

Impacts to climate change are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.14 (Effects to Resources by Resource Type – Climate Change). The analysis concludes that the overall effects of this project on climate change would be low.

Findings

BPA finds that the types of actions and the potential impacts related to the proposed Lower Fry Meadow Restoration Project have been examined, reviewed, and consulted upon and are similar to those analyzed in the Columbia River Basin Tributary Habitat Restoration Programmatic Environmental Assessment (DOE/EA-2126) and Finding of No Significant Impact. There are no substantial changes in the EA's Proposed Action and no significant new circumstances or information relevant to environmental concerns bearing on the EA's Proposed Action or its impacts within the meaning of 10 CFR § 1021.314(c)(1) and 40 CFR §1502.9(d). Therefore, no further NEPA analysis or documentation is required.

/s/ Carolyn Sharp

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Concur:

/s/ Katey C. Grange

Katey C. Grange

NEPA Compliance Officer

Date: August 23, 2021