

Supplement Analysis
for the
Columbia River Basin Tributary Habitat Restoration
(DOE/EA-2126/SA-45)

Shitike Creek Headworks Fish Passage Project
BPA project number 2008-301-00
BPA contract number 89827

Bonneville Power Administration
Department of Energy



Introduction

In December 2020, Bonneville Power Administration (BPA) 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 Shitike Creek Headworks Fish Passage Project (Project) that would implement some of the specific restoration actions assessed in the Programmatic EA in Shitike Creek on the Confederated Tribes of Warm Springs Reservation in Wasco County, Oregon. The objective is to address a passage barrier and improve habitat of Endangered Species Act (ESA)-listed steelhead (*Oncorhynchus mykiss*) and bull trout (*Salvelinus confluentus*), and non-ESA-listed, culturally important Pacific lamprey (*Entosphenus tridentatus*). This SA analyzes the site-specific impacts of the 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 Programmatic 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) and 10 CFR § 1021 *et seq.*

Proposed Activities

BPA is proposing to fund the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWS) to implement the Project. The Project would disturb approximately four acres and is located on CTWS property 4 miles northwest of Warm Springs, Wasco County, Oregon (Figure 1). Access is available to the project site via Shitike Creek Road. Project construction is anticipated to occur during 2024.



Figure 1. Shitike Creek Headworks Fish Passage Project Location.

The Project would address a fish passage blockage, habitat simplification, and lack of floodplain connectivity due to a former water supply intake diversion structure (headworks) for the community of Warm Springs. This headworks structure was built on Shitike Creek in the mid-1960s and was later partially removed in 1983. To address the fish passage blockage, habitat simplification, and lack of floodplain connectivity, the Project would remove the remaining headworks structure and other anthropogenic features (including fill, road and parking areas, and power poles), create a new main channel (600 feet), create a perennial side channel (550 feet), and install 20 large woody debris (LWD) structures.

Prior to July 1, the project would prepare the site with flagging/staking; acquire, haul, stage, and remove some materials; and construct the realigned main channel and floodplain leaving earth plugs in place at upstream and downstream ends. Temporary off-road access within the construction site would be identified and flagged, and any mitigation measures applied, if needed. Logs would be locally purchased.

The new main channel and associated LWD structures and floodplain would be constructed in the existing floodplain and would be completed without instream work. Earthwork within the wetted channel would only occur during the in-water work window (July 1 - August 10). At this time the new main channel would be activated and the existing channel isolated from active flow. Fish would be salvaged from the work area and immediately released upstream. The headworks structure would be removed and filled as necessary. The former main channel would be filled to become a new side channel and floodplain with LWD structures.

The addition of LWD structures in the main and side channels are intended to increase pool frequency and quality; retain mobile sediment and wood; create hydraulic diversity and dissipate energy; provide sediment sorting, and provide cover. The LWD structures would be partially buried into the bank to reduce the risk to downstream infrastructure.

The Project would require use of heavy machinery to complete earthwork, including removal of the existing headworks structure and associated concrete materials, excavation and fill for the main channel, side channel, and floodplain, and installation of LWD structures and boulders. Approximately 12,000 cubic yards (CY) of material would be excavated from the channel and floodplain to create the main and side channels and their adjacent floodplains. Approximately 2,100 CY of excavation spoils would be placed as channel and floodplain fill, including fill for the headworks removal. Approximately 2,500 CY of excavation spoils would be placed as LWD ballast. The remaining 7,500 CY would be utilized to create floodplain topography or placed with excess material at the designated spoil locations outside the floodplain. It is anticipated that all of the material encountered during project excavation would be composed of silt, sand, gravel, cobbles, angular riprap, and large boulders, with the exception of the non-natural material removal. Non-natural materials, including concrete, roadway material, and other debris would be removed from the floodplain and hauled to an approved off-site disposal location. Natural alluvial materials would be reused for the channel and floodplain fill and LWD structure backfill; angular riprap would also be used for LWD structure ballast.

After August 10 any remaining earthwork outside of the wetted channel would be completed, and approximately 2.7 acres would be seeded or planted with native vegetation.

These actions would support conservation of ESA-listed species considered in the 2020 ESA consultations with National Marine Fisheries Service and United States Fish and Wildlife Service on the operation and maintenance of the Columbia River System and BPA's commitments to the CTWS under the 2008 Columbia Basin Fish Accords Memorandum of Agreement that were reaffirmed in the subsequent amendments to the Columbia River Fish Accord Extension Agreement with CTWS and others. The project also supports 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, 16 U.S.C. 839 *et seq.*

Environmental Effects

The implementation of the Project would require the use of heavy equipment for staging, hauling, excavation, and installation of LWD structures. All of these restoration actions during construction would disturb and displace soil in and along the stream; damage vegetation; create noise and vehicle emissions; stress fish, and temporarily increase vehicle traffic and human activity in the project area. The typical effects associated with the environmental disturbances created by these actions are described in Chapter 3 of the Programmatic EA, and summarized in this document.

Below is a description of the potential site-specific effects of the Shitike Creek Headworks Fish Passage Project, and an assessment of whether these effects are consistent with those described in the Programmatic EA. This project is designed to improve both aquatic and riparian habitats for the long

term, so the adverse effects from soil and vegetation disturbance, and from human and mechanical activity, as detailed below, would be short-term only.

1. Fish and Aquatic Species

The effects of using mechanized equipment and manually working in and along Shitike Creek are consistent with the analysis in Section 3.3.1 of the Programmatic EA (“Fish and Aquatic Species”). Section 3.3.1.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Fish and Aquatic Species”) describes overall low impacts to fish and aquatic species after considering moderate short-term adverse effects and beneficial long-term effects.

Shitike Creek supports ESA-listed Mid-Columbia River steelhead and bull trout and bull trout designated critical habitat. Non-listed Chinook salmon (*Oncorhynchus tshawytscha*) and Oregon Conservation Strategy species Pacific lamprey also occur in Shitike Creek. Consultation with National Marine Fisheries Service and the U.S. Fish and Wildlife Service (Services) on the effects of this project on these ESA-listed species was completed under BPA’s programmatic Fish and Wildlife Habitat Improvement Program. The Services concluded that the project would likely adversely affect these species and their critical habitat in the short term, but would not likely result in jeopardy to the continued existence of these species or result in destruction or adverse modification of their critical habitat.

The short-term adverse effects of the project would expose, displace, reconfigure, or compact earth through the use of mechanized equipment within and along Shitike Creek, and create conditions where sediment would be released for a short period of time following construction activities. The amount of sediment anticipated by the project would be moderate because there would be instream excavation, dewatering, and reintroduction of flows over newly exposed soils and gravels. However, mitigation measures as detailed in the Programmatic EA, Appendix B for work area isolation and fish salvage would be applied, minimizing these impacts. The sediment inputs would be consistent with the amounts evaluated in Section 3.3.1.2.1 of the Programmatic EA (“Short-Term Effects to Fish and Aquatic Species from Construction Activities”).

The work area isolation, fish salvage, dewatering, and instream construction activity would displace fish from the work area until stream flow is introduced to the work area. Small aquatic organisms that could not be practically salvaged would likely not survive. The newly constructed instream environment would be re-colonized by fish and other aquatic organisms with nearly all fish likely returning in a matter of hours to days, and full returns likely following the seasonal flushing flows. The anticipated amount of activity and the level of aquatic species disturbance, however, is consistent with the analysis in Sections 3.1.3.1 and 3.3.1.2.1 of the Programmatic EA (“Dewatering for Instream Work” and “Short-Term Effects to Fish and Aquatic Species from Construction Activities,” respectively). Specifically, those sections of the Programmatic EA disclosed direct, harmful, and sometimes fatal impacts to aquatic species, including displacement of fish from their preferred habitat during periods of movement, sounds, and vibrations from human and mechanical activity. The project’s long-term beneficial effects include creation of more complex habitats through the addition of meanders, pools, and woody streamside vegetation to the stream and adjacent riparian areas; and the enhancement of instream habitat complexity over time by providing large wood structures, and overhanging vegetation (tree transplants). These beneficial effects are consistent with the analysis in Section 3.3.1.2.2 of the Programmatic EA (“River, Stream, Floodplain, and Wetland Restoration and Channel Reconstruction (Category 2) Effects on Aquatic Species”).

The project’s long-term beneficial effects include the enhancement of instream habitat complexity over time. These beneficial effects are consistent with the analysis in Section 3.3.1.2.2 of the Programmatic EA (“River, Stream, Floodplain, and Wetland Restoration and Channel Reconstruction (Category 2) Effects on Aquatic Species”). The effects to fish species from Project activities would be moderate in the

short term and beneficial in the long term. Taken together, the overall effects on fish from Project activities would therefore be low, consistent with the Programmatic EA.

2. Water Resources

The effects of using mechanized equipment and manually working in and along Shitike Creek are consistent with the analysis in Section 3.3.2 of the Programmatic EA (“Water Resources”). Section 3.3.2.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Water Resources”) describes overall low impacts to water quality after considering moderate short-term adverse effects and beneficial long-term effects from restored floodplain function and removal of nonnative materials from the site to increase the quality of water prior to entering the creek. Section 3.3.2.2.1 of the Programmatic EA analyzes effects on water quantity. There would be little to no effect to overall water quantity as a result of these Project activities. The proposed floodplain is not expected to store enough water to substantially impact hydrology. The Project activities would cause minor changes to the existing hydrology in Shitike Creek.

Overall, this project would create short-term, localized, sediment inputs from introducing stream flows onto exposed gravels. This would be a temporary impact that may last a few hours. As described in the Programmatic EA, this impact would be lessened by the application of mitigation measures such as slow, or metered placement of materials and close monitoring. One long-term effect of the project, however, would be an increased potential for the river to maintain flows conducive for passing all life stages of salmonids. The short-term adverse effects and long-term beneficial effects are consistent with those described in the Programmatic EA.

3. Vegetation

The effects of using mechanized equipment and manually working in and along Shitike Creek are consistent with the analysis in Section 3.3.3 of the Programmatic EA (“Vegetation”). Section 3.3.3.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Vegetation”) describes overall moderate impacts to vegetation after considering moderate short-term adverse effects and beneficial long-term effects. No ESA-listed or other sensitive plant species are present within the Project area.

The Project is anticipated to have impacts consistent with those described in the Programmatic EA. Vegetation, dominated by juniper, sagebrush and weedy plants, along access routes and at excavation locations would be crushed by heavy machinery and construction, and all impacted sites would be planted or seeded. Section 3.3.3.2 of the Programmatic EA (“Environmental Consequences for Vegetation”) evaluated constructed features that could disturb more than 50 acres, but the area impacted by this action would be about four acres. This level of effect would be moderate, as contemplated by the Programmatic EA.

4. Wetlands and Floodplains

The effects of using mechanized equipment and manually working in and along the Shitike Creek are consistent with the analysis in Section 3.3.4 of the Programmatic EA (“Wetlands and Floodplains”). Section 3.3.4.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Wetlands and Floodplains”) describes overall low impacts to wetlands and floodplains after considering short-term adverse effects and beneficial long-term effects.

The Project is anticipated to have impacts similar to those described in the Programmatic EA. Specifically, there would be short-term (i.e., weeks-long) adverse effects to floodplains due to earthwork. Consistent with the Programmatic EA, Project implementation would also have long-term beneficial effects. It would create conditions in this stream reach with increased connectivity to the floodplain and more diverse wetland vegetative conditions. These would increase the amount of wetlands in the Project area. Appropriate Clean Water Act permitting would be obtained by CTWS prior

to any waterbody disturbance. This level of effect would be low after considering short-term adverse effects and beneficial long-term effects, as stated in the Programmatic EA and any mitigation measures requested as part of the Clean Water Act permitting would be followed .

5. Wildlife

The effects of using mechanized equipment and manually working in and along the Shitike Creek are consistent with the analysis in Section 3.3.5 of the Programmatic EA (“Wildlife”). Section 3.3.5.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Wildlife”) describes overall low impacts to wildlife after considering short-term adverse effects and beneficial long-term effects. ESA-listed gray wolf may be present within Wasco County, but suitable habitat is not located within or near the Project site, and the Project would thus have no effect on gray wolf. No other ESA-listed, state-listed, or other sensitive wildlife species are present within the Project area.

The Project’s short-term effects would be consistent with, though less than, those analyzed in the Programmatic EA. There would be approximately four acres of disturbance, whereas the Programmatic EA evaluated disturbances of 50 acres or more. The actions of humans and machines in this area would temporarily displace wildlife from their preferred locations and prevent them from reoccupying the site until construction activity has ceased, at which point that habitat would be more hydrologically diverse but vegetatively similar. This level of effect would be low after considering short-term adverse effects and beneficial long-term effects, as stated in the Programmatic EA.

6. Geology and Soils

The effects of using mechanized equipment and manually working in and along Shitike Creek are consistent with the analysis in Section 3.3.6 of the Programmatic EA (“Geology and Soils”). Section 3.3.6.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Geology and Soils”) describes moderate impacts to geology and soils.

This project is anticipated to have impacts consistent with those described in the Programmatic EA. Staging, hauling, and constructing large wood structures along Shitike Creek would cause soil displacement, compaction, and the mixing of soil horizons. The Programmatic EA considered actions that could disturb 50 acres or more at any one site. The area impacted by this action would likely be only about four acres. Design criteria, mitigation measures, and best management practices would all be applied as described in Section 2.4 of the Programmatic EA (“Mitigation Measures and Design Criteria”) to minimize impacts and maintain long-term productivity of soils.

The project does not specifically target soils for restoration or enhancement (as it does fish habitat and hydrologic functions), but the proposed actions could result in maintaining and improving soil properties and functions as hydrologic function is restored within the floodplain, and the riparian plant community is reestablished. The level of effect would be moderate, consistent with the effect level described in the Programmatic EA.

7. Transportation

The effects of this project in and along Shitike Creek are consistent with the analysis in Section 3.3.7 of the Programmatic EA (“Transportation”). Section 3.3.7.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Transportation”) describes low impacts to transportation.

Only the headworks driveway and parking area would be decommissioned. This project, though adjacent to Shitike Creek Road, would not impact any roads, neither open or closed, nor public or private. No roads would be closed; none would be temporarily blocked; none would be relocated. No work would be conducted from the highway or its shoulders. As part of the project, vehicles

transporting workers and equipment to project sites would be sharing local roads with other traffic during construction. This level of impact would be low, as is stated in the Programmatic EA.

8. Land Use and Recreation

There would be no effect on land use or recreation from this proposed project. Land uses would not change, nor would public recreational opportunity on this private land be diminished, given that the lands are not open to public use. This level of effect is consistent with that described in Section 3.3.8.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Land Use and Recreation”), which states that land use practices underlying Project sites would not be changed for most projects.

9. Visual Resources

The effects of the proposed project in and along Shitike Creek would be consistent with the analysis in Section 3.3.9 of the Programmatic EA (“Visual Resources”). Section 3.3.9.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Visual Resources”) describes low impacts to visual resources.

The proposed restoration actions are immediately adjacent to Shitike Creek Road, which ends at the project site, and some activities would be readily visible to travelers along this route. As described in Section 3.3.9.2 of the Programmatic EA (“Environmental Consequences for Visual Resources”), Project-related construction would accordingly result in some short-term visual impacts, including some disturbance that detracts from the view and the visible presence of newly planted grasses, forbs, and shrubs. However, these visual impacts would last for only a few weeks during staging, construction, and replanting. When construction is complete, the river would gradually appear less disturbed as the newly-planted seeded grasses and forbs grow. The removal of the headworks infrastructure would also immediately contribute to a more natural appearance of the project area. Within a year or two, the matured vegetation would provide the same natural scenery that can be seen elsewhere along this road. This level of impact would be low, as stated in the Programmatic EA.

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

The effects of the proposed project in and along Shitike Creek would be consistent with the analysis in Section 3.3.10 of the Programmatic EA (“Air Quality, Noise, and Public Health and Safety”). Section 3.3.10.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Air Quality, Noise, and Public Health and Safety”) describes low impacts to air quality, noise, and public health and safety. This project is about four miles from Warm Springs, Oregon, which is too far for noise, dust, or exhaust from construction activities to affect the residents during the few weeks of construction activities; and no long-term source of emissions or noise would be created. Impacts to safety would come from workers sharing the roads when travelling to and from work sites; and the visual distraction that construction work so close to the Shitike Creek Road might pose to passing motorists. There is no need for electrical utility service past the site and removal of two existing power poles prior to construction would require coordination with Pacific Power, and would not impact current electrical service to customers. This Project has little potential to impact public safety infrastructure (e.g., roads, telecommunications equipment, etc.) or to burden emergency services (e.g., police, fire, and emergency medical services). This level of impact would be low, as is stated in the Programmatic EA.

11. Cultural Resources

The effects of this project are consistent with the analysis in Section 3.3.11 of the Programmatic EA (“Cultural Resources”). Section 3.3.11.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Cultural Resources”) describes low impacts to cultural resources, with any potential effects

being amenable to resolution through the Section 106 consultation process under the National Historic Preservation Act.

A cultural resource survey was conducted, and consultation with the CTWS and the CTWS Tribal Historic Preservation Office was completed for the area potentially affected by the project. The results of that survey and consultation were that the project would have no adverse effect to historic properties. The consultation period ended September 6, 2023 without comment from CTWS or the CTWS Tribal Historic Preservation Office.

12. Socioeconomics and Environmental Justice

The effects of this restoration project along Shitike Creek would be consistent with the analysis in Section 3.3.10 of the Programmatic EA (“Socioeconomics and Environmental Justice”). Section 3.3.10.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Socioeconomics and Environmental Justice”) describes low socioeconomic and environmental justice impacts.

Consistent with the effects described in the Programmatic EA, the project would not generate a requirement for additional permanent employees nor would it require individuals to leave the local area, or relocate to it. There would be no effect on housing available for local populations. This project would not displace people or eliminate residential suitability of lands being restored, or from lands near it. The project would generate short-term employment for those directly implementing the restoration actions and would provide small short-term cash inputs to local businesses for fuel, equipment, and meals. This degree of effect would be low.

There are no environmental justice populations present that could be affected, as this project and its impacts are limited to the private lands on which they are located, and no offsite effects are anticipated that could impact environmental justice populations elsewhere.

13. Climate Change

The effects of this project in and along Shitike Creek are consistent with the analysis in in Section 3.3.10 of the Programmatic EA (“Climate Change”). Section 3.3.10.3 of the Programmatic EA (“Effects Conclusion for the Proposed Action on Climate Change”) describes low impacts on climate change.

Due to the short duration of construction and the relatively small number of construction vehicles, temporary emissions associated with project construction, the project would have a low level of greenhouse gas production and would have a low contribution to climate change from short-term emissions from motorized equipment operations during implementation of the restoration actions. Further, these emissions 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 riparian wetlands, and the potential for decreased water temperatures from improved instream and riparian habitat conditions. The overall contribution to climate change and greenhouse gas production would be low, which is consistent with the Programmatic EA.

Findings

BPA finds that the types of actions and the potential impacts related to the proposed Shitike Creek Headworks Fish Passage Project 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 Programmatic EA’s Proposed Action and no significant new circumstances or information relevant to environmental concerns bearing on the Programmatic EA’s Proposed Action or its impacts within the meaning of 10 CFR § 1021.314 and 40 CFR §1502.9(d). Therefore, no further NEPA analysis or documentation is required.

/s/ Israel Duran

Israel Duran
Environmental Protection Specialist

Concur:

Katey Grange
NEPA Compliance Officer