

Supplement Analysis
for the
Columbia River Basin Tributary Habitat Restoration
(DOE/EA-2126/SA-27)

Neal Creek Phase 2 Habitat Enhancement Project
BPA project number 1998-021-00
BPA contract number 89662

Bonneville Power Administration
Department of Energy



Introduction

In December 2020, Bonneville Power Administration (BPA) and the Bureau of Reclamation 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 Neal Creek Phase 2 project (Project), which would implement some of the specific restoration actions assessed in the Programmatic EA in Neal Creek in Hood River County, Oregon. The objective is to address the limited amount of spawning and rearing habitat for the benefit of Endangered Species Act (ESA)-listed steelhead trout (*Oncorhynchus mykiss*) and coho salmon (*O. kisutch*). This SA analyzes the site-specific impacts of the Project to determine if it 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) and 10 CFR § 1021 *et seq.*

Proposed Activities

BPA is proposing to fund the Confederated Tribes of the Warm Springs Reservation to implement the Project in partnership with Hood River Watershed Group. The Project area would span multiple private properties in Hood River County, Oregon (Figure 1). There is a long history of channel alterations and straightening in Neal Creek to accommodate road and highway construction, railroad corridors, and to improve property for agricultural and rural residential development. Logging occurred historically within the Project area and within the Neal Creek basin, and logging within the watershed continues to this day. Impacts from past land management activities and development in the Project area include roads that bisect the floodplain and bridge the creek, fill from driveways and buildings in the 100-year floodplain, floodplain clearing for agricultural and rural residential development, and channel alterations to improve agricultural lands.

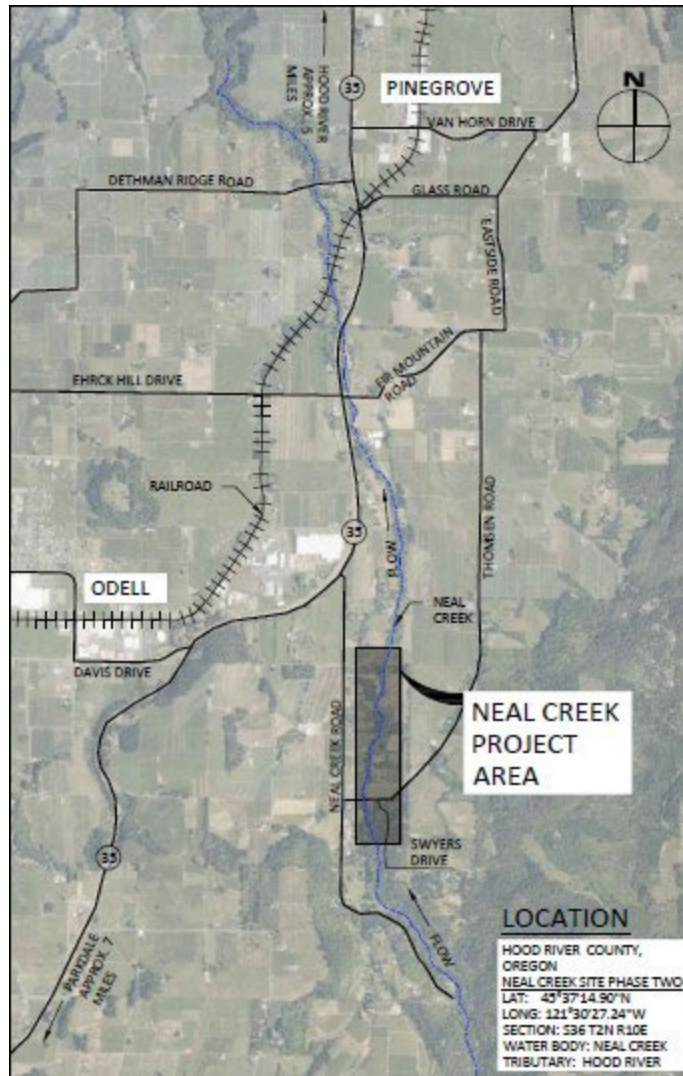


Figure 1. Neal Creek Project Location.

Primary Project elements include side channel construction, alcove construction, large wood structures, and native riparian revegetation in disturbed areas post-construction. All of these elements are designed to support floodplain connectivity and increase instream habitat complexity for all life stages of steelhead trout and coho salmon.

Side channel construction: There are two side channel construction sites in the Project area. A total length of 640 feet of side channels would be excavated. The proposed side channel alignments are both located on river right in the downstream half of the Project area. Proposed alignments are situated within the existing 100-year floodplain with channel elevations that allow flow at base flow. The upstream side channel discharges into a low elevation area in the floodplain with no direct outlet to Neal Creek. Large wood would be installed throughout the high flow channel alignments to provide stability, gravel sorting, pool scour, and cover habitat.

Alcove Habitat Construction: Two off-channel alcoves would be created. One on river right near the upstream end of the Project site and one on river left midway through the Project reach. These features would be created through excavation which would create pool length and depth to maximize perennial hydraulic refuge in the form of holding and rearing habitat off the main flow of the channel. Additional

wood would be added to provide cover habitat in the alcove and feature stability. The alcove downstream of Thomsen Road would receive discharge from an orchard. The alcove upstream of Thomsen Road is located near the base of an ephemeral stream and near the toe of the valley slope.

Large Wood Structures: Large wood would be used throughout the Project site to directly create habitat, drive habitat-forming processes, and create desired hydraulic conditions such as increased floodplain roughness. There are a total of 11 large wood structures proposed in the main channel and designed to interact directly with Neal Creek from low flow to flood stage. These structures all would be partially buried in the stream bank with root wads extending into the channel. There are two primary configurations used: root wads oriented perpendicular to flow and upstream-facing root wads. The perpendicular root wads would serve to constrict the channel, drive pool scour, sort gravel, and provide cover. Upstream-facing root wads would provide these same functions but are designed more to split flow into side channels or onto the floodplain. Large wood would be placed in constructed side channels to provide cover and habitat, roughness on the banks, and localized pool scour. Large wood would be placed for hydraulic roughness on the floodplain along access routes near the channel. Approximately 89 logs would be locally purchased for use in the various large wood structures and excavation materials would be used as ballast for the wood structures.

Riparian Revegetation: All areas within the disturbance footprints of the work at all sites would be seeded and planted with native riparian vegetation following construction. Weed-free straw would be used to cover areas of bare soil.

Construction would be expected to occur as early as mid-July 2022 and may last up to four weeks; any instream construction, fish salvage, or work isolation would occur during the in-water work window, which is July 15 to August 31. Access to the project would be via existing roads. Off-road access within the construction site would be via temporary access routes developed during Project mobilization.

These actions would support conservation of ESA-listed species considered in the 2020 ESA consultations with National Marine Fisheries Service on the operation and maintenance of the Columbia River System and BPA's commitments to the Confederated Tribes of the Warm Springs Reservation of Oregon under the 2020 Columbia River Fish Accord Extension agreement, while also supporting ongoing efforts to mitigate for effects of the FCRPS on fish and wildlife in the mainstem Columbia River and its tributaries pursuant to the Pacific Northwest Electric Power Planning and Conservation Act of 1980, 16 U.S.C. 839 *et seq.*

Environmental Effects

Implementation of this Project would require the use of heavy equipment for staging, hauling, and excavation, and placement of large wood 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 are incorporated by reference and summarized in this document.

Below is a description of the potential site-specific effects of the Project, and an assessment of whether these effects are consistent with those described in the Programmatic EA. Because the Project is designed to improve both aquatic and riparian habitats for the long term, adverse effects from soil and vegetation disturbance and human and mechanical activity would be short-term effects only.

1. Fish and Aquatic Species

The effects of using mechanized equipment and manually working in and along Neal 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.

Steelhead trout and coho salmon are ESA-listed species and present within the Project area. Consultation on the Project’s effects on these species was completed under BPA’s Programmatic Fish and Wildlife Habitat Improvement Program (HIP) consultation, which 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 species or destruction or adverse modification of their critical habitat. No other wildlife species listed under the ESA or other state-listed or sensitive wildlife species are present within the Project area.

In the short term, the Project would expose, displace, reconfigure, or compact earth through the use of mechanized equipment within and along Neal Creek and likely create conditions where sediment would be released for a short period of time following construction activities. Only a moderate amount of sediment is anticipated to be released by the Project because there would be instream excavation, dewatering, and reintroduction of flows over newly exposed soils and gravels. However, mitigation measures detailed in Appendix B of the Programmatic EA 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 it is re-watered. Small aquatic organisms that could not be practically salvaged would likely be destroyed. The newly constructed in-stream 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 with 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 pools and woody vegetation to the stream and adjacent riparian areas and the enhancement of in-stream 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 in-stream habitat complexity. 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 Neal 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. Section 3.3.2.2.1 of the Programmatic EA analyzes effects on water quantity. There would be no effect to overall water quantity as a result of these Project activities. The Project activities would cause minor changes to the existing hydrology in Neal Creek.

Overall, the Project would create localized short-term sediment inputs from reintroducing 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 to keep sediment below 50 Nephelometric Turbidity Units as much as possible. 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, and the overall effects on water quality would be low.

3. Vegetation

The effects of using mechanized equipment and manually working in and along Neal 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 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 five 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 Neal 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, as there would be about five acres of earthmoving. 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 and quality of wetlands in the Project area. Appropriate Clean Water Act permitting would be obtained 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.

5. Wildlife

The effects of using mechanized equipment and manually working in and along the Neal 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. Hood

River County has the potential to contain ESA-listed northern spotted owl (*Strix occidentalis caurina*) and critical habitat (USFWS Information for Planning and Consultation (IPaC), 2022), but suitable habitat is not located within or near the Project site, and the Project would thus have no effect on ESA-listed wildlife species. 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 five 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 Neal 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.

The Project is anticipated to have impacts consistent with those described in the Programmatic EA. Staging, hauling, and constructing large wood structures along Neal 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 five 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. The level of effect would be moderate, consistent with the effect level described in the Programmatic EA.

7. Transportation

The Project's effects in and along Neal 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.

The Project, though adjacent to Thomsen Road, would not impact any private or public roads, either open or closed. No roads would be closed, temporarily blocked, or relocated, nor would any work be conducted from the highway or its shoulders. Access to the Project would be obtained via existing roads, and vehicles transporting workers and equipment to Project sites would share local roads with other traffic during construction, which would last less than four weeks. This level of impact would be low, as stated in the Programmatic EA.

8. Land Use and Recreation

There would be no effect on land use or recreation from the Project. Land uses would not change, nor would public recreational opportunity on this private land be diminished, given that the lands are not even 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 Project’s effects in and along Neal 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 Thomsen Road, 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. 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 Project’s effects in and along Neal 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. In the short term, although landowners immediately adjacent to the Project may hear some construction noise during the few weeks of construction activities, this would only occur during normal working hours, while residents of the small town of Odell, Oregon—located approximately two miles from the Project area—would be too far away for construction-related noise, dust, or exhaust to affect them. In the longer term, the Project would not result in any new sources of emissions or noise. Although some potential safety impacts are anticipated from workers sharing roads when travelling to and from work sites and from visual distractions that construction work may create for passing motorists on the nearby Thomsen Road, the Project has no 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 stated in the Programmatic EA.

11. Cultural Resources

The Project’s effects 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.

BPA conducted a cultural resource survey and consulted with the Oregon State Historic Preservation Office (SHPO), the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Confederated Tribes of the Yakama Nation with respect to potential Project impacts on such resources in the Project’s vicinity. Based on the results of that survey, BPA determined that the Project would have no adverse effect on historic resources. The Oregon SHPO concurred with this assessment on July 22, 2022. BPA did not receive a response from the other parties that it consulted during this process.

12. Socioeconomics and Environmental Justice

The effects of this restoration project along Neal 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.

As described in the Programmatic EA, the Project would not require additional permanent employees nor would it require individuals to leave or relocate to the local area. There would also be no effect on housing available for local populations, as the Project would not displace people or eliminate residential suitability of lands in or near the Project area. 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 the Project and its impacts are limited to the private lands on which they are located, with no anticipated offsite effects that could impact environmental justice populations elsewhere.

13. Climate Change

The effects of the Project in and along Neal Creek are consistent with the analysis 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 that would be involved, temporary emissions associated with Project construction are anticipated to be well below the Environmental Protection Agency’s reporting threshold of 25,000 metric tons of carbon. The Project would thus have a low level of greenhouse gas production and its contributions to climate change would be correspondingly minimal, consisting of 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 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 Neal Creek Phase 2 Habitat Enhancement 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 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

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Concur:

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NEPA Compliance Officer

Date: July 25, 2022

References

National Marine Fisheries Service (NMFS). 2020. Endangered Species Act Section 7(a)(2) Biological Opinion, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Fish and Wildlife Habitat Improvement Program (HIP 4) in Oregon, Washington and Idaho (NMFS# WCRO-2020-00102). Portland, Oregon. May 7, 2020.

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