**Supplement Analysis**
for the
**Columbia River Basin Tributary Habitat Restoration**
**(DOE/EA - 2126/SA-66)**

**Meacham Creek RM 10 Project**
**BPA project number 1987-100-01**
**BPA contract number 96398**

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 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 proposed Meacham Creek RM 10 Project that would implement some of the specific restoration actions assessed in the Programmatic EA in Meacham Creek located in Umatilla County, Oregon. The Project is intended to improve instream habitat for Endangered Species Act (ESA)-listed Middle Columbia steelhead (*Oncorhynchus mykiss*) and bull trout (*Salvelinus confluentus*), and other non-ESA-listed fish by improving channel morphology, instream hydrologic processes, and floodplain connection.

This SA also evaluates whether the proposed Project presents substantial new circumstances or information about the significance of the adverse effects that bear on the analysis that were not addressed by the Programmatic EA. The findings of this SA determine whether additional National Environmental Policy Act (NEPA) analysis is needed under 10 C.F.R. § 1021 *et seq*.

## Proposed Activities

The Project area encompasses 105 acres of channel, streambank, and floodplain between RM 9.1 and RM 10.1 on Meacham Creek, just downstream of the confluence of Camp Creek in Umatilla County in Oregon, exclusively on USFS-managed land, but adjacent to private property. In addition, the Union Pacific Railroad railway and access road runs down the east edge of the valley and parallel to the river corridor. There are four levees constructed from local basalt rock with no mortar and covered with vegetation. Each is approximately 400 to 800 feet in length and 10 to 25 feet wide. The levees were constructed between the 1970s to the 1980s in response to the 1964 flood.

The 114,000-acre Meacham Creek Watershed (Hydrologic Unit Code 1707010302) is in northeast Oregon, twenty-three miles east of Pendleton, in Umatilla County, Oregon. Meacham Creek is a 37-mile-long major tributary of the Umatilla River that drains portions of the Blue Mountains starting at approximately 3,600 feet above sea level, and flowing northerly, entering the Umatilla River near RM 79 at an elevation of approximately 1,800 feet. There is a long history of channel alterations and straightening in Meacham Creek to accommodate road, highway, and railway construction, and to improve property for agricultural and rural residential development. Logging occurred historically within the Project area and within the

Meacham 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 cross the creek, fill from driveways and buildings in the floodplain, floodplain clearing for agricultural and rural residential development, and channel alterations to improve agricultural lands.

Aquatic and floodplain complexity would be enhanced through the addition of 239 individual pieces of large wood associated with large woody debris (LWD) structures listed below. Complexity would be enhanced along one mile of main and side channel and approximately 105 acres of floodplain. Proposed activities include excavation and fill of the channel and floodplain; installation of large wood; removal of levees; and gravel augmentation within the existing channel and floodplain. None of the levee removals would need approval for the modifications by the United States Army Corps of Engineers under Section 408 of the Rivers and Harbors Act of 1899. The proposed construction sequence is provided below.

Floodplain and Uplands Work: Prior to July 1

- Construction staking, flagging of sensitive areas, contractor submittals, etc.;
- Mobilize equipment and materials to site and site preparation;
- Clear and grub proposed temporary access roads;
- Install and monitor temporary erosion and sediment controls (TESC);
- Separate and stockpile earth, rock, and woody materials in the staging areas;
- Excavate spur levee for additional staging and access routes;
- Excavate levees; and
- Construct floodplain LWD structures.

In-Water Work Window: July 1 – August 15

- Install block nets and salvage fish;
- Install temporary water crossings;
- Install and monitor TESC;
- Install work area isolation and dewater work areas;
- Excavate levees for gravel augmentation areas;
- Construct LWD structures; and
- Remove temporary water crossings.

After In-Water Work Window: August 16 to December 15

- Conduct final grading outside of wetted areas;
- Grade and subsoil compacted temporary access roads;
- Remove work area isolation;
- Remove block nets;
- Remove TESC;
- Complete any excavation and fill remaining above ordinary high water;
- Seeding, mulching, and planting;
- Site cleanup and demobilization;
- Revegetate Project area; and
- Complete plantings in the fall of 2025.

Specifically, these actions would result in:

1) Excavation of about 11,500 cubic yards (CY) of floodplain alluvium to remove four levees that are approximately 400 to 800 feet in length and 10 to 25 feet wide;
2) Relocation and shaping fill of about 11,500 CY of excavation materials into seven gravel augmentation areas within the floodplain; and
3) Installation of LWD, including 32 LWD structures (12 accumulation jam structures, nine bank structures, and 11 channel bleed-through structures).

Although work is expected to be completed in fall 2025, there may be additional work, as needed, to manage issues identified after construction that would be addressed in accordance with the Project's adaptive monitoring and management plan.[1]

BPA would fund the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) to implement the Project in partnership with US Forest Service (USFS), National Oceanic Atmospheric Administration (Pacific Coastal Salmon Recovery Fund), Oregon Water Enhancement Board, and the Environmental Protection Agency. Bonneville funding of the proposed activities supports conservation of ESA-listed species considered in the 2020 National Marine Fisheries Service and U.S. Fish and Wildlife Service 2020 Columbia River System Biological Opinions. They also support Bonneville's commitments to the CTUIR in the 2008 Columbia River Fish Accords Memorandum of Agreement, as amended, 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. §§ 839 *et seq*.).

**Environmental Effects**

The typical environmental impacts associated with the Project are described in Chapter 3 of the Programmatic EA. Implementation of this Project would require the use of heavy equipment for staging, hauling, and excavation, and placement of large wood structures. 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. Below is a description of the potential site-specific impacts of the Meacham Creek RM 10 Project and an assessment of whether these impacts 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 Meacham 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.

Bull trout and steelhead are ESA-listed species that are present within the Project area. Consultation on the Project's effects on these species was completed by US Forest Service under their Aquatic Restoration Biological Opinion II (FS-0606-237-21). No other aquatic species listed under the ESA, or other state-listed or sensitive aquatic 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 Meacham 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

[1] Tetra Tech. 2023. Meacham RM 10-11 In=Stream Design and Construction Oversight 100% Implementation Plan; Attachment 3 – Adaptive Management and Monitoring Plan.

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 existing habitat during periods of movement, sounds, and vibrations from human and mechanical activity. The Project's long-term beneficial effects include the 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 3.3.1.2.2.2 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 and floodplain habitat complexity. These beneficial effects are consistent with the analysis in Section 3.3.1.2.2.2 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 adverse in the short term and beneficial in the long term. 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 Meacham 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 describes no impact to water quantity.

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 monitoring. One long-term effect of the Project, however, would be an increased floodplain connectivity associated with improved water quality and habitat for 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. This Project would not involve water withdrawals; however, there may be the potential for increased recharge of groundwater as the floodplain regains functionality. Overall, this would likely be a low effect to water quantity.

3. **Vegetation**

The effects of using mechanized equipment and manually working in and along Meacham 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 impact vegetation consistent with or less than those described in the Programmatic EA. There would be no large-scale earthmoving with its associated vegetative loss. Project implementation, including excavation activities, structure installation, and establishment of staging areas and access routes would have moderate short-term impacts on vegetation. The Project would directly impact approximately 2 acres of vegetation, which is much less than is described in the Programmatic EA in Section 3.3.3.2, "Environmental Consequences for Vegetation," which evaluated constructed features that could disturb up to 50 acres. Impacts to vegetation would be limited to some damage or elimination of herbaceous vegetation by construction equipment and human foot traffic (from which the vegetation would be anticipated to recover quickly naturally and via replanting). This level of effect would be low to moderate.

4. **Wetlands and Floodplains**

The effects of using mechanized equipment and manually working in and along Meacham 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, including the associated wetlands, as there would be earthmoving and levee removal. 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 by the CTUIR prior to any actions that may discharge to regulated waterbodies. 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 Meacham 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. Gray wolf (*Canis lupus*), an ESA-listed endangered species, and monarch butterfly (*Danaus plexippus*), an ESA candidate species and a state Conservation Status Species have the potential to occur in Umatilla County (Information for Planning and Consultation, 2025). 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 less than those analyzed in the Programmatic EA. 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. After construction, the 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 Meacham 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. Levee removal and staging, hauling, and constructing large wood structures along Meacham Creek would cause soil displacement, compaction, and the mixing of soil horizons. Design criteria, mitigation measures, and best management practices, such as use of mulching, mats, and straw wattles for erosion control, 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 beneficial effect would be moderate, consistent with the effect level described in the Programmatic EA.

7. **Transportation**

The Project's effects in and along Meacham 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 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**

The effects of the proposed Project in and along Meacham Creek are consistent with the analysis in the Programmatic EA, Section 3.3.8, "Land Use and Recreation." The Programmatic EA, Section 3.3.8.3, states that overall effects on land uses and recreation would be low to moderate.

There would be no long-term effect on land use or recreation from the Project. Land uses would not change, but public recreational opportunities at this location would be impacted from short-term displacement of recreational users from the immediate project area. There are other recreational opportunities in the areas to serve as alternatives during the displacement. 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 restoration actions.

9. **Visual Resources**

The Project's effects in and along Meacham 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 Meacham Creek 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 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 Meacham 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 Duncan, 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. The removal of the levees would not impact neighboring landowners nor infrastructure and there are spur dikes outside the Project area to provide flood control. Although some potential safety impacts are anticipated from workers sharing roads when travelling to and from work sites, the Project would have low potential impacts to public safety infrastructure (e.g., roads, telecommunications equipment, etc.) and emergency services (e.g., police, fire, and emergency medical services) given the implementation of best management practices. 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 reviewed a cultural resource survey and consulted with the Oregon State Historic Preservation Office (SHPO), the Confederated Tribes of the Warms Springs Reservation of Oregon, and the Confederated Tribes of the Umatilla Indian Reservation 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; it is recommended that a monitor be present during ground disturbing activities. The Oregon SHPO concurred with this assessment on June 18, 2024. 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 Meacham Creek would be consistent with the analysis in Section 3.3.13 of the Programmatic EA ("Socioeconomics and Environmental Justice"). Section 3.3.13.3 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.

The Project is located exclusively on USFS-managed land and adjacent to private property. The Project's impacts are limited to the 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 Meacham Creek are consistent with the analysis in Section 3.3.14 of the Programmatic EA ("Climate Change"). Section 3.3.14.3 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 activities and the relatively small number of vehicles and equipment involved, Project-related greenhouse gas emissions are anticipated to be low. This minimal contribution to climate change would be offset to some degree by the increased functioning of the floodplain including increased water table inputs, increased carbon sequestration in expanded and improved wetland habitats, and potentially decreased water temperatures from improved instream and riparian habitat conditions.

**Findings**

Bonneville Power Administration finds that the types of actions and the potential impacts related to the proposed Meacham Creek RM 10 Project are similar to those analyzed in the Columbia River Basin Tributary Habitat Restoration (DOE/EA - 2126) and Finding of No Significant Impact. There are no substantial changes in the EA's Proposed Action and no substantial new circumstances or information about the significance of the adverse effects that bear on the analysis in the EA's Proposed Action or its impacts within the meaning of 10 CFR § 1021.314 and 40 CFR § 1502.9.[2] Therefore, no further NEPA analysis or documentation is required.

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Katey Grange
NEPA Compliance Officer

[2] BPA is aware that the Council on Environmental Quality (CEQ), on February 25, 2025, issued an interim final rule to remove its NEPA implementing regulations at 40 C.F.R. Parts 1500–1508. Based on CEQ guidance, and to promote completion of its NEPA review in a timely manner and without delay, in this SA BPA is voluntarily relying on the CEQ regulations, in addition to DOE's own regulations implementing NEPA at 10 C.F.R. Part 1021, to meet its obligations under NEPA, 42 U.S.C. §§ 4321 *et seq*.