Supplement Analysis
for the
Columbia River Basin Tributary Habitat Restoration EA
(DOE/EA - 2126/SA-25)

Lostine Wetland and Side Channel Complex Project
BPA project number 1992-026-01

Bonneville Power Administration
Department of Energy

Introduction

In December 2020, Bonneville Power Administration (Bonneville) 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 *Lostine Wetland and Side Channel Complex Project* that would implement some of the specific restoration actions assessed in the Programmatic EA in the Lostine River in Wallowa County, Oregon. The project objectives are to increase in-stream habitat diversity; increase floodplain connectivity; and improve riparian and floodplain vegetative diversity for the benefit of Endangered Species Act (ESA)-listed species.

The SA was prepared to analyze the site-specific impacts of the *Lostine Wetland and Side Channel Complex 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 in the EA. The findings of this supplement analysis 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 Action

Bonneville proposes to fund the Nez Perce Tribe (NPT) to implement the *Lostine Wetland and Side Channel Complex Project*, which would be located roughly 2 miles southeast of Wallowa, Wallowa County, Oregon. The project would extend for approximately 0.34 mile of the Lostine River and 0.28 mile of the Wallowa River and associated left bank floodplain.

Originating from the Minam Lake and the Eagle Cap wilderness on the southwest edge of the Wallowa Mountains, the Lostine River flows north to the confluence with the Wallowa River which feeds the Grande Ronde River. The Lostine River has been heavily impacted by channelization and levees to accommodate agriculture practices that have disconnected floodplains, decreased channel widths, reduced off-channel rearing areas, eliminated most riparian vegetation and functional wetlands, and

ultimately, has resulted in fish population declines. The project reach of the Lostine River is a pool-riffle and gravel-bed channel, mostly confined by a cobble levee with little access to the floodplain. Consequently, low-velocity side channels and alcove areas are sparse and fragmented. The area adjunct to the river consist of forested riparian area, degraded floodplains and wetlands, a relic side-channel, areas of reed canary grass (RCG) mono-cultures, and surrounding agriculture land. The project area is no longer used for agriculture and easements are in place to protect restoration efforts.

The project would occur on 28 acres of private land and would be comprised of floodplain and wetland activation, constructing habitat features from large wood material (LWM) structures, and vegetation management. Work element details are as following actions:

Floodplain Activation: Three existing inactive flow paths serving as pilot channels and a proposed alcove adjacent to the main channel would be inundated by breaching the cobble channel levee to create flow inlet and outlets. An excavator would be used to breach the levee and grade the pilot channels and alcove where necessary. The inlets and outlets would vary in size with widths from 100-250 feet and depths of roughly 3 feet. Combined, approximately 800 cubic yards (CY) would be excavated. Excavated material would be used in other project components or removed from the site. Temporary work zone isolation structures would be placed only around the proposed channel inlets and outlets along the levee. Fish salvage in accordance with NMFS guidelines[1] would be performed if necessary, and the work zone would be dewatered. Normal flow and passage through the mainstem of the river would continue with only minor disturbances along the levee. Upon completion, an additional 5 acres of the floodplain would be inundated.

Habitat Improvement (LWM): While work isolation structure are still in place, an excavator would be used to place and embed 34 pieces of LWM 30-40 feet long. The wood would arranged into 8 apex jams that are 5-10 feet long and 19 vertical post arrays. LWM structures would be placed in the proposed pilot channels, floodplain, and gravel bars in the mainstem. If water diversions are needed for placement of in channel LWM, work zone isolation structures would be placed only around each LWM structure. There would be no channel-spanning diversions, flow and passage would continue with minor impacts. Larger pieces would be embedded as much as 5 feet, and piles would be driven approximately 5-10 feet deep. Wood structures would be backfilled and buried with excavated material.

Vegetation Management: Approximately 3,000 square feet (0.06 acres) of RCG sod would be scalped with an excavator, removed from the site, then the area would be replanted with native species capable of competing with RCG. About 2.6 acres of lower wetland and the riparian zone would be replanted with a variety of native tree cuttings and mixed grass seed. Additionally, 4.4 acres of wetland and upland zones, include staging and access area, would be seeded and mulched with mixed seed and cuttings where appropriate. All areas disturbed such as access routes, pilot channels, and LWM structures would be revegetated.

Project implementation would begin July, 2022, with all in-water work to be completed by August 15, 2022. This project would require the use of an excavator, vibrating plate compactors, tracked skid-steer, 4 wheelers, water pumps, and dump trucks for constructing the pilot channels and alcoves, channel shaping, installing the LWM structures, backfilling, and removing and planting vegetation within the

[1] NMFS. 2011. Anadromous salmonid passage facility design. Northwest Region. Available online at: https://www.fisheries.noaa.gov/resource/document/anadromous-salmonid-passage-facility-design

channels and across the floodplain. The project would improve habitat and passage for ESA-listed Chinook salmon, sockeye salmon, coho salmon, steelhead, and bull trout. This project fulfills commitments under the 2020 National Marine Fisheries Service (NMFS) Columbia River System Biological Opinion and would support conservation of ESA-listed species considered in the 2020 ESA consultation with the US Fish and Wildlife Service on the operation and maintenance of the Columbia River System. This project also supports 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 (Northwest Power Act) (16 U.S.C. (USC) 839 *et seq*.).

The environmental effects of these types of restoration actions were evaluated in the Programmatic EA as discussed below.

Environmental Effect

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 handled 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 Lostine Wetland and Side Channel 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 the Lostine River and the Wallowa River are consistent with the analysis in the Programmatic EA, Section 3.3.1, Fish and Aquatic Species. The Programmatic EA, Section 3.3.1.3, 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.

Four species listed under the ESA are present in the project area: spring/summer Chinook salmon, steelhead, coho salmon, and bull trout. Consultation on the effects of this project on these species was completed under Bonneville's programmatic Fish and Wildlife Habitat Improvement Program (HIP4) consultation with the conclusion 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 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 the Lostine River and Wallowa River, and likely 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 the Programmatic EA at Section 3.3.1.2.1, 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 the work area is re-watered. Much of the main channel would be accessible to fish, as channel diversion structures would only be constructed along proposed side channel inlets and outlets. Small aquatic organisms that could not be practicably salvaged would likely be destroyed. The newly constructed in-stream environment would be re-colonized by fish and other aquatic organisms with near-full recovery likely in a matter of weeks, and full recovery likely following the first seasonal flushing flows. The anticipated amount of activity and the level of aquatic species disturbance, however, is consistent with the analysis in the Programmatic EA found at Section 3.1.3.1, Dewatering for Instream Work and 3.3.1.2.1, Short-Term Effects to Fish and Aquatic Species from Construction Activities, where direct, harmful, and sometimes fatal impacts to aquatic species are disclosed; and that movement, sounds, and vibrations of human and mechanical activity are discussed as likely to disturb fish and displace them from their preferred habitat for as long as that movement, sound, and vibration are present.

The project would offer long-term beneficial effects through the development of habitat complexity. Habitat complexity actions include, constructing preferential flow paths and breaching levees to reconnect the floodplain, planting vegetation which would stabilize the floodplain and reduce long-term sediment inputs and improve water quality, and assembling LWM structures in-stream and along the floodplain to increase juvenile salmonid rearing habitat. These beneficial effects are consistent with the analysis in the Programmatic EA found at Section 3.3.1.2.2.2, River, Stream, Floodplain, and Wetland Restoration and Channel Reconstruction (Category 2) Effects on Aquatic Species.

2. **Water Resources**

The effects of using mechanized equipment and manually working in and along the Lostine River and the Wallowa River are consistent with the analysis in the Programmatic EA in Section 3.3.2, Water Resources. The Programmatic EA, Section 3.3.2.3, 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. There would be no effect to water quantity, as this project would have no water withdrawals.

Overall, this project would create short-term, localized, sediment inputs from the rewatering of restored side channels and floodplains. As in the Programmatic EA, this is a short-term effect which would be lessened by the application of mitigation measures for work-area isolation (Appendix B in Programmatic EA), by minimization of areas to be impacted, by location of refueling areas, by use of non-toxic hydraulic fluids, and by revegetation when actions are complete.

The long-term effects of this project, however, would be a decreased potential for unnatural sediment inputs, an increased potential of the floodplain and wetlands to effectively manage its sediment loads, and a reduction of stream temperatures from improved stream form, instream habitat structure, and increased riparian vegetative cover. These long-term beneficial effects are consistent with those described in the Programmatic EA, and the level of effect on water quality for the mid to long term would be low.

3. **Vegetation**

The effects of using mechanized equipment in and along the Lostine River and the Wallowa River are consistent with the analysis in the Programmatic EA, Section 3.3.3, Vegetation. The Programmatic EA, Section 3.3.3.3, 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 designated critical habitats are present, however, according to the U.S. FWS's Information for Planning and Consultation (IPaC)[2] the MacFarlane's Four-o'clock and the Spalding Catchfly, both threatened species, may be present. There are no documented occurrences of any special-status plant species on or near the project site and presence is highly unlikely due to the site's degraded condition, monoculture of reed canary grass, and lack of associated species. If either species were found, efforts would be made to avoid disturbance. The proposed actions would have no effect on ESA-listed or special-status species.

This project is anticipated to have impacts similar to those described in the Programmatic EA. Constructing pilot channels, alcove, LWM structures, and removing large areas of reed canary grass would impact vegetation at the project site. Staging, stockpiling, and access routes would have minimal impact as most of these areas are denuded and compacted with little vegetation The Programmatic EA in Section 3.3.3.2, Environmental Consequences for Vegetation, evaluated constructed features that could disturb over 50 acres, but the vegetated area impacted by these actions would likely be only about 7 acres All impacted areas would be would be replanted with native trees clippings, shrubs, and mixed grass seed, and vegetation would be salvaged when possible. Impacts to vegetation would include trampling of vegetation by mechanized equipment and human foot traffic (from which the vegetation would be anticipated to recover well); by the cutting of willow, sedge, and cottonwood branches to revegetate the riparian area (from which all species are anticipated to recover fully), and scalping areas to remove reed canary grass. This level of effect would be moderate, consistent with those described in the Programmatic EA.

4. **Wetlands and Floodplains**

The effects of using mechanized equipment in and along the Lostine River and the Wallowa River are consistent with the analysis in the Programmatic EA, Section 3.3.4, Wetlands and Floodplains. The Programmatic EA, Section 3.3.4.3, 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.

This project is anticipated to have impacts similar to those described in the Programmatic EA. With this project, there would be short-term adverse effects to floodplains and wetlands, as there would be acres of earthmoving (for which Clean Water Act Section 401 certification and 404 permit have been issued), levee removal, installation of LWM structures, and increased inundation within the stream channel, floodplain and wetlands. Consistent with the Programmatic EA, there would be long-term beneficial effects from implementation of this project. The project would enhance stream structure and channel complexity, increase juvenile salmon rearing habitat, reconnect the floodplain, improve groundwater exchange, and would increase the amount and quality of wetlands in the project area. This level of

[2] U.S. FWS's Information for Planning and Consultation (IPaC): https://ipac.ecosphere.fws.gov/location/index

effect would be low after considering short-term adverse effects and beneficial long-term effects, as is stated in the Programmatic EA.

5. **Wildlife**

The effects of using mechanized equipment and manually working in and along the Lostine River and the Wallowa River are consistent with the analysis in the Programmatic EA, Section 3.3.5, Wildlife. The Programmatic EA, Section 3.3.5.3, 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. According to IPaC and the International Wolf Center, the gray wolf, a threatened species, has been documented within a five mile radius of the project area. Encounters at the project site would be highly unlikely as gray wolves are nocturnal and generally avoid human populated areas. The proposed actions are not expected to affect any special-status species, and therefore a no effect determination was made.

The short-term effects from this project would be consistent with those analyzed in the Programmatic EA. The actions of humans and machines in this area would temporarily displace wildlife from their preferred haunts and prevent them from reoccupying the site until construction activities has ceased. It would take a couple of years for the transplanted and newly planted vegetation to provide the increased wildlife habitat value intended. Over time, the habitat values along the Lostine River and the small portion of the Wallowa River would be improving over its pre-project condition, with increasing woody vegetation diversity and abundance, with the capability to support more wildlife and higher species diversity. 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 the Lostine River and the Wallowa River are consistent with the analysis in the Programmatic EA, Section 3.3.6, Geology and Soils. The Programmatic EA, Section 3.3.6.3, 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 the impacts described in the Programmatic EA. Removing selected levees, constructing pilot channels, alcoves, installation of LWM structures and vegetation removal would require excavation and would cause soil displacement, compaction, and the mixing of soil horizons. The Programmatic EA in Section 3.3.3.2, Environmental Consequences for Vegetation, evaluated construction actions that could disturb “generally less than 20 acres at any one site”, but with some “exceeding 50 acres”. The area impacted by this action would likely be only about 0.32 acres from excavation, and up 7 acres of minor disturbances, such as, planting or accessing the site Design criteria, mitigation measures, and best management practices would all be applied as described in the Programmatic EA, Section 2.4, 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, but it does have the capacity to maintain and improve soil properties and functions as it restores hydrologic function and vegetative conditions within the floodplain. The level of effect would be moderate, consistent with the effect level described in the Programmatic EA.

7. **Transportation**

The effects of the Lostine Wetland and Side Channel Restoration project are consistent with the analysis in the Programmatic EA, Section 3.3.7, Transportation. The Programmatic EA, Section 3.3.7.3, Effects Conclusion for the Proposed Action on Transportation, describes low impacts to transportation.

This project is located on private land 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. The most effect the proposed restoration actions would have on transportation would be that 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 stated in the Programmatic EA.

8. **Land Use and Recreation**

There would be no effect on land use or recreation from this proposed project. The land was enrolled in a permanent conservation easement with the Wallowa Land Trust in 2004 and land uses would not change; and public recreational opportunity on this private land (of which there is none because the lands are not open to public use) would not change. This level of effect is consistent with those described in the Programmatic EA at Section 3.3.8.3, 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 the Lostine River and the Wallowa River are consistent with the analysis in the Programmatic EA, Section 3.3.9, Visual Resources. The Programmatic EA, Section 3.3.9.3, Effects Conclusion for the Proposed Action on Visual Resources, describes low impacts to visual resources.

The proposed restoration actions are immediately adjacent to Oregon State Highway 82, and all activities would be readily visible to travelers along this route. As described in the Programmatic EA, Section 3.3.9.2, Environmental Consequences for Visual Resources, there would be short-term visual impacts. The construction actions that produce bare soils would be highly visible and likely detract from the otherwise pastoral scenery elsewhere along this highway until the newly planted grasses, trees, and shrubs begin to visually restore the setting. This visible effect would last only a few weeks between late-July and mid-August. When construction is complete, the river would appear natural and the project site would look like a plowed or mowed field for the remainder of the construction year, or until the seeded grasses sprout. Full vegetation recovery would be likely in the following years, and the entire area would again provide the pastoral scenery as seen elsewhere along this highway. 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 the Lostine River and the Wallowa River are consistent with the analysis in the Programmatic EA, Section 3.3.10 Air Quality, Noise, and Public Health and Safety. The Programmatic EA, Section 3.3.10.3, 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.

The project area is rural, approximately 2 miles from the nearest town; Wallowa, OR; 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 highway might pose to passing motorists. This project has no potential to impact public safety infrastructure (e.g. roads, telecommunications) or place a burden on emergency services (police, fire, ambulance). This level of impact would be low, as stated in the Programmatic EA.

11. **Cultural Resources**

The effects of this project are consistent with the analysis in the Programmatic EA, Section 3.3.11, Cultural Resources. The Programmatic EA, Section 3.3.11.3, Effects Conclusion for the Proposed Action on Cultural Resources, describes low impacts to cultural resources; potential effects would be appropriately resolved through the Section 106 consultation process under the National Historic Preservation Act.

A cultural resource survey was conducted, and consultations with the Oregon State Historic Preservation Office, the Nez Perce Tribe, and the Confederated Tribes of the Umatilla Indian Reservation were completed February 4, 2021 for the project's area of potential effect. No comments were received following the 30 day consultation period. Therefore, It was determined that the proposed project would result in no historic properties affected.

12. **Socioeconomics and Environmental Justice**

The effects of the Lostine Wetland and Side Channel Complex Project are consistent with the analysis in the Programmatic EA, Socioeconomics and Environmental Justice, Section 3.3.10. The Programmatic EA, Section 3.3.10.3, Effects Conclusion for the Proposed Action on Socioeconomics and Environmental Justice, describes low impacts to socioeconomics and environmental justice.

As described in the Programmatic EA, the project would not generate a requirement for additional permanent employees, and it would not require individuals to leave the local area, or relocate within 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 restoration project sites. 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 such populations elsewhere.

13. **Climate Change**

The effects of the Lostine Wetland and Side Channel Complex Project are consistent with the analysis in the Programmatic EA Section 3.3.10, Climate Change. The Programmatic EA, Section 3.3.10.3, Effects Conclusion for the Proposed Action on Climate Change, describes low impacts to climate change.

Due to the short duration of construction activities and the relatively small number of construction vehicles and helicopters, temporary emissions associated with project construction activities are anticipated to be well below the Environmental Protection Agency's reporting threshold of 25,000 metric tons of carbon. Therefore, 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. These greenhouse gas 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 effects on climate change would be low, which is consistent with the Programmatic EA.

Findings

Bonneville finds that the types of actions and the potential impacts related to the proposed Lostine Wetland and Side Channel Complex Project were 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 and 40 CFR §1502.9(d). Therefore, no further NEPA analysis or documentation is required.

/s/ Lindsey Arotin
Lindsey Arotin
Environmental Protection Specialist

Concur:

/s/ Sarah T. Biegel for Date: *July 12, 2022*
Katey Grange
NEPA Compliance Officer