

Supplement Analysis
for the
Columbia River Basin Tributary Habitat Restoration
Programmatic Environmental Assessment
(DOE/EA 2126/SA-06)

Lolo Creek Bank Project
Bonneville project number 1996-077-02
Bonneville contract number 87084

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 *Lolo Creek Bank Project*, which would install a rock barb and two engineered log jams contained within a 300-foot-long reach of log revetments with willow and cottonwood plantings along the right bank of Lolo Creek 700 feet upstream of its confluence with the Clearwater River. The project's objectives are to stem lateral migrations of Lolo Creek that threaten adjacent and downstream infrastructure while providing instream habitat benefits for ESA-listed salmonids. This SA analyzes the site-specific impacts of the *Lolo Creek Bank Project* to determine if the project is within the scope of the analysis considered in the Programmatic EA. It also evaluates whether the proposed project presents significant new circumstances or information relevant to environmental concerns that were not addressed by the EA. The findings of this SA determine whether additional National Environmental Policy Act (NEPA) analysis is needed pursuant to 40 Code of Federal Regulations (CFR) § 1502.9(d).

Proposed Action

The *Lolo Creek Bank Project* would be located on private land within the boundaries of the Nez Perce Indian Reservation in the lowest reach of Lolo Creek, just above its confluence with the Clearwater River in Township 35 North, Range 2 East, Section 13, approximately 8.5 miles southeast of Orofino, Idaho, and 1.4 miles southeast of Greer, Idaho. The project site is within a narrow, sparsely forested canyon near the mouth of Lolo Creek. The north face of the canyon is steep, but the south face, above the right bank where the project is located, is gently sloping. Lolo Creek broadens out in this location, but is artificially narrowed at its mouth by a railroad crossing. This narrowing has caused excess sediment to accumulate in the channel, forcing it to move laterally in both directions, necessitating this bank-stabilization action. The Proposed Action would use rock, log, and vegetative structures to achieve the desired bank protection results while also providing migrating adult salmonid holding habitat, summer rearing habitat for juvenile salmonids, and higher stream velocities sufficient to route Lolo Creek's sediment naturally into the Clearwater River.

The *Lolo Creek Bank Project* would install one bank barb (constructed from 100 cubic yards of 40-inch minus clean angular rock), two engineered log jams (ELJs) (each composed of up to 25 logs up to 40 feet in length with minimum trunk diameters between 8 and 18 inches with and without rootwads), all within a 300-foot-long log revetment (composed of 125 logs with minimum trunk diameters of 8 inches placed in a horizontal crisscross fashion). Three-hundred sixty willow bundles, willow whips, containerized willow plants, and cottonwood poles would be placed, planted, woven, or driven into the revetment, log jams, and bank barb. Six-hundred sixty cubic

yards of river gravels, cobbles, and boulders would be excavated from an island at the project site to use as fill and ballast for the revetment logs and the ELJs.

The implementation of these actions requires redirecting Lolo Creek (using temporary coffer dams of bulk bags filled with gravel) into bypass channels south of, and down the middle of, the island, thereby isolating the instream work area from creek flows. This work area would be dewatered after all fish and other aquatic species were herded or captured and relocated from the isolated area. The work would require the use of an excavator, dump truck and log truck to place the coffer dam (using bulk bags) into place; dig and shape the bypass channels; excavate and stockpile the rock and gravel from the island; construct the rock barb, log jams, land log revetment; re-contour around the finished structures; reshape the island into the desired long-term condition; and slowly remove the bulk bags to re-water the work area. The site-specific work area for this action would be about two acres in size. The project would take about six weeks to complete. The work would be completed within the Idaho Department of Fish and Game-established instream work window of July 15 through August 30.

To minimize impacts to fish, aquatic species, and water quality, the construction area would be dewatered by re-routing Lolo Creek down a natural channel along its left bank on the other side of the island from the project site. Creeks flows would also be directed down a channel constructed down the middle of the island by the removal of cobbles and gravel that would be used for project construction. The island itself would be a source of willows for transplanting, and ultimately reshaped to allow Lolo Creek to hydrologically function efficiently with the project's completed features. Fish and other aquatic species would be salvaged from the dewatered construction area.

This Proposed Action fulfills commitments under the 2020 National Marine Fisheries Service Columbia River System Biological Opinion, and supports conservation of Endangered Species Act-listed species considered in the 2020 Endangered Species Act consultation with the US Fish and Wildlife Service on the operation and maintenance of the Columbia River System.

Environmental Effects

These actions would disturb and displace soil in and along Lolo Creek; reshape Lolo Creek's right bank, streambed, and island within the work area; and disrupt gravels and expose soil that would be carried downstream as sediment when streamflows are reintroduced to the work area after isolation. Lolo Creek would be forded by an excavator up to four times. The project would damage vegetation; create noise and vehicle emissions; and temporarily increase vehicle traffic and human activity in the project area. These actions and the typical effects associated with the environmental disturbances created by them are consistent with those described in Chapter 3 of the Programmatic EA at Sections 3.1, "*Effects Common to Construction Activities*", Section 3.2.7.1, "*Irrigation and Water Delivery Modifications*". These sections are incorporated by reference and summarized in this document below.

Below is a description of the potential site-specific effects of the *Lolo Creek Bank 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 an excavator in and along Lolo Creek 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.

Snake River Basin steelhead (part of the Clearwater River Major Population Group) and bull trout, both listed as threatened under the Endangered Species Act, are present in the project area. Consultation on the effects of this project on these species was completed under the "*Programmatic Biological Opinion for Habitat Restoration Projects in Idaho*" consultation (NMFS No: WCR-2014-832, and USFWS 01E1FW00-2014-F-0456) with the conclusion that the project would likely adversely affect ESA-listed salmonids 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 critical habitat.

The short-term adverse effects of the Proposed Action would expose, displace, reconfigure, or compact earth through the use of mechanized equipment within and along Lolo Creek, 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 Proposed Action 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 moderate 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. 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 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 3.3.1.2.1, "*Short-Term Effects to Fish and Aquatic Species from Construction Activities*", where harm to fish and aquatic species from dewatering is detailed; and movement, sounds, and vibrations of human and mechanical activity would disturb fish and displace them from the project temporarily.

The Proposed Action's beneficial effects include the stabilization of the right bank, thereby eliminating an annual source of unnatural sediment inputs to Lolo Creek and the Clearwater River; and the development of holding habitat for migrating adult salmonids and rearing habitat for juvenile fish at this location in Lolo Creek. 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 an excavator in and along Lolo Creek 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 with this project, as it proposes no water withdrawals.

Overall, this project would create short-term, localized, sediment inputs from the impacts of mechanized equipment in and along Lolo Creek in the process of constructing the rock barb, the two ELJs, and the log revetment. The restoration action would likely disturb, on average, about 300 feet of stream bank (the Programmatic EA evaluated actions that would disturb hundreds of feet of river bank), and the sediment produced from these restoration actions is not anticipated to be greater than what occurs naturally during annual, natural, high flow events. As in the Programmatic EA, these are short-term effects which would be lessened by the application of mitigation measures such as, work-area isolation, protection of existing vegetation, minimization of areas to be impacted, and revegetation when the project is complete. The long-term effects of this project, however, would be a decreased potential for bank erosion with unnatural sediment inputs to the creek and river; an increased potential for this section of Lolo Creek to effectively transport its sediment loads to the Clearwater River, 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, Section 3.3.2.2.2, "*Effects on Water Quality*".

3. Vegetation

The effects of using an excavator in and along Lolo Creek 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 plant species listed under the Endangered Species Act or sensitive plant species are present within this project area.

This project is anticipated to have less impact than that described in the Programmatic EA. The scale of activity and effect for the *Lolo Creek Bank Project* is smaller (2 acres) than the larger projects described in the Programmatic EA (up to 50 acres), but, there would be intensive earthmoving with its associated vegetative loss within those 2 acres. The constructed features in this project would totally restructure 300 lineal feet of stream bank and entirely reshape the ½ acre island, where most of its willows would likely be transplanted to the bank. Essentially all vegetation within this project area would be affected, but the total area is small (only 2 acres), and the site would be planted

with native willows and cottonwoods; and hydroseeded upon completion. This level of effect would be moderate and consistent with that discussed in the Programmatic EA in Section 3.3.3.2, “*Environmental Consequences for Vegetation*”.

4. Wetlands and Floodplains

With this project, there would be no adverse effects to floodplains and wetlands since there are no such features within the 2-acre project area. The stream bank is a steep, denuded, bank; and the island is, in essence, a gravel bar with no wetland features or floodplain function. There would be no effect to wetlands or floodplains with this project.

5. Wildlife

The effects of using an excavator in and along Lolo Creek 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. No wildlife species listed under the Endangered Species Act or sensitive wildlife species are present within this project area.

The short-term effects from this project in Lolo Creek would be consistent with those analyzed in the Programmatic EA, because the planned restoration actions would have short-term adverse effects with beneficial long-term effects. The project area is small, and provides minimal riparian habitat for wildlife in its current condition, being a denuded stream bank and gravel-bar island. It provides some foraging value for wildlife, but no nesting or other cover values. These habitat values would be entirely destroyed, then rebuilt by this project in a six week period. Wildlife would be displaced from the site for about six weeks, then would have the opportunity to return to similar, non-vegetated, habitat conditions that existed before. But over the next couple of years, the willows and cottonwoods would begin to dominate the river bank providing riparian nesting, foraging, and habitat values that were not previously there. This level of effect, over time, would be low, as is stated in the Programmatic EA.

6. Geology and Soils

The effects of using an excavator in and along Lolo Creek are consistent with the analysis in the Programmatic EA, Section 3.3.6, “*Geology and Soils*”. The Programmatic EA, Section 3.3.6, “*Effects Conclusion for the Proposed Action on Geology and Soils*”, describes moderate impacts to geology and soils.

This project is anticipated to have a similar level of impact on soils as was described in the Programmatic EA. The scale of activity and effect for the *Lolo Creek Bank Project* is smaller (2 acres) than the larger projects described in the Programmatic EA (up to 50 acres), but there would be intensive earthmoving with its associated soil displacement, horizon-mixing, and soil compaction within those two acres. The constructed features in this project would totally restructure 300 lineal feet of stream bank and entirely reshape the 0.5-acre island. All soils and gravels within this project area would be impacted. The total area, however, is small (only 2 acres), and thus the overall level of effect would be moderate and consistent with those discussed in the Programmatic EA in Section 3.3.3.2, “*Environmental Consequences for Geology and Soils*”.

7. Transportation

The effects of this project in and along Lolo Creek 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 adjacent to, but not on, or along, a publicly traveled roadway. It is across the Clearwater River from State Highway 12, but it is less than 150 feet from the moderately traveled Lolo Creek Road. The project site, however, is down a steep bank from that road, and construction actions would have no effect on traffic flow or road conditions. 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.

8. Land Use and Recreation

The effects of this project in and along Lolo 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, “*Effects Conclusion for the Proposed Action on Land Use and Recreation*”, describes low impacts to land uses and recreation opportunity.

There would be no effect on land use, and minimal effect on recreation from this proposed project. Land uses would not change, and public recreational opportunity on the private lands at this location would be affected for a six-week period. There is recreational access available, and recreational opportunity (fishing primarily) would be eliminated for the six-week duration of construction activities. This level of effect is consistent with that 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 overall effects on land uses and recreation would be low to moderate.

9. Visual Resources

The effects of the proposed project in and along Lolo Creek 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 project site is visible from the Lolo Creek Road. Construction activities would be highly visible for the six-week construction period. The project, however, would add no unnatural feature to the landscape, appearing instead much like natural rock, log, and island features on a creek of this size. As the completed project matures, willow and cottonwood vegetation would soften the landscape from its current, and likely post-project, bare-earth condition. There would be no large-scale soil or vegetation disturbance (as was assessed for some projects in the Programmatic EA) since only 2 acres would be affected, and changes to the visual landscape would thus be minor, and undetectable to most viewers. This level of impact would be low, as is stated in the Programmatic EA.

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

The effects of manually working in and along Lolo Creek 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 3.3.9.3, “*Effects Conclusion for the Proposed Action on Visual Resources*”, describes low impacts to visual resources.

The proposed bank and island reconstruction in and along Lolo Creek is far from any major population center or public use area, and the road accessing the site and would be closed to public vehicle access during the construction period. The project would thus have no potential to directly impact the public, other than when sharing the roads when workers travel to and from work sites. Air quality and noise would be affected by operations and emissions from the heavy equipment to be used, but this would be very short-term, too far from any population area to be heard or seen, and consistent with the highway noise from State Highway 12 across the Clearwater River from the project area. No restoration action proposed has 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 is stated in the Programmatic EA.

11. Cultural Resources

The effects of this action in Lolo Creek 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 because cultural resources would either be avoided by project construction, effects would be appropriately resolved through the Section 106 consultation process.

A cultural resource survey was conducted, and consultations by the National Resource Conservation Service (NRCS-18-9984) with the Nez Perce Tribe were initiated on August 20, 2020 for the area potentially affected by the project proposed. The results of the survey were that no resource eligible for the Register of Historic Places was identified, and the determination of the consultation was that there would be no historic properties affected. There was no response from the Nez Perce Tribe.

As described in the Programmatic EA, the results of consultations would be that sites, if present, would be avoided by design so as to have no adverse effect, or effects otherwise resolved through consultation. In this project area, there are no sites, thus there would be no historic properties affected.

12. Socioeconomics and Environmental Justice

The effects of this restoration project in and along Lolo Creek are consistent with the analysis in the Programmatic EA, Section 3.3.10, “*Socioeconomics and Environmental Justice*”. 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, this restoration action would not generate a need for additional permanent employees nor would it 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 treated, or from lands near the project site. The project would generate short-term employment for those directly implementing the restoration action 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 site is within the Nez Perce Reservation, and thus an environmental justice population is present. However, this construction project has been proposed by the Nez Perce Tribe for funding by Bonneville, and funding, if authorized, would flow directly to the tribe for the project’s implementation. Tribal members would likely be used to complete the project, with most of the economic benefits described above accruing directly to them. This is a low beneficial impact to an environmental justice population which is consistent with the Programmatic EA.

13. Climate Change

The effects of this project in and along Lolo Creek 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.

The project would have a low level of effect on climate change from short-term emissions from motorized equipment operations during implementation of the restoration actions. Due to the short duration of construction and the relatively small number of construction vehicles, temporary emissions associated with project construction are anticipated to be well below 25,000 tons of CO₂e during construction. These emissions would be offset to some degree by the ameliorating effects decreased water temperatures from improved instream and riparian habitat conditions. The overall effects on climate change would be low.

Findings

Bonneville finds that the types of actions and the potential impacts related to the proposed *Lolo Creek Bank 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 Proposed Action and no significant new circumstances or information relevant to environmental concerns bearing on the Proposed Action or its impacts within the meaning of 10 CFR § 1021.314(c)(1) and 40 CFR § 1502.9(d). Therefore, no further NEPA analysis or documentation is required.

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