

Supplement Analysis
for the
Columbia River Basin Tributary Habitat Restoration EA
(DOE/EA – 2126/SA-26)

Indian Creek Cold Water Refugia Enhancements
BPA project number 2011-018-00
BPA contract number 84069 REL 11

Bonneville Power Administration
Department of Energy



Introduction

In December 2020, the Bonneville Power Administration (BPA) completed the Columbia River Basin Tributary Habitat Restoration Environmental Assessment (Programmatic EA)(DOE/EA-2126, BPA 2020). The Programmatic EA analyzed the potential impacts of implementing tributary fish and wildlife restoration projects across the Columbia River Basin, ranging from fencing and planting, to bridge construction, instream habitat improvements, and invasive plant treatments. These actions would be funded by BPA to mitigate for effects of the development and operation of the Federal Columbia River Power System (FCRPS) on fish and wildlife.

Consistent with the Programmatic EA, this supplement analysis (SA) analyzes the proposed funding of constructing habitat structures to enhance fish habitat at the confluence of Indian Creek and the Pend Oreille River in Pend Oreille County, Washington. Expansion of fish habitat at the mouth of Indian Creek would provide summertime cold water refugia for fish, including Endangered Species Act (ESA)-listed salmonids.

This SA analyzes the site-specific impacts of these activities to determine if the action is within the scope of the analysis considered in the Programmatic EA. It also evaluates whether the proposed action 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 Kalispel Tribe to construct in-water habitat forming structures at the confluence of Indian Creek and the Pend Oreille River to enhance cold water refugia for resident westslope cutthroat trout (*Oncorhynchus clarki lewisi*) and ESA-listed bull trout (*Salvelinus confluentus*). These actions would support conservation of ESA-listed species considered in the 2020 ESA consultation with the U.S. Fish and Wildlife Service (USFWS) on the Operation and Maintenance (O&M) of the Columbia River System. BPA funding would be provided under the Albeni Falls Wildlife Mitigation Program to mitigate for effects of the Albeni Falls Dam and the ongoing loss of wildlife habitat from the

reservoir pursuant to Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act) (16 U.S.C. (USC) 839 *et seq.*).

The Pend Oreille River is a major river in the Pacific Northwest which begins at Lake Pend Oreille in northern Idaho, flows across the northeastern corner of Washington, and eventually enters the mainstem Columbia River in British Columbia. The Albeni Falls dam, located near the border of Washington and Idaho, has dramatically affected the hydrology of the Pend Oreille River. In addition to creating an impassable fish barrier that bisected historical populations of resident bull trout and westslope cutthroat trout, during low-flow periods in the summer water temperatures in the Pend Oreille often exceed 18 degrees centigrade, which is the physiological limit for resident trout. In an effort to identify potential cold water plumes which could be expanded to support trout habitat during these high-temperature months, the Kalispel Tribe partnered with the U.S. Geological Survey to examine 17 tributary confluences in the Pend Oreille basin. Of these, 5 had temperatures which were consistently below the 18-degree threshold during summer months. The Indian Creek confluence is one such location.

Indian Creek is a spring-fed persistent tributary to the Pend Oreille River located in northeastern Washington. The creek enters the river at approximately river mile 81, about 6.5 miles northwest of Newport, Washington (Figure 1). Water temperatures in Indian Creek are consistently below 16 degrees, making it an ideal cold water refugium for resident trout. However, because of a combination of inundation during high-flow spring months and low flow during summer and autumn, the Indian Creek delta does not currently support extensive riparian vegetation and lacks the structure, diversity, and cover necessary to provide suitable trout habitat. To expand the available cold water habitat at the Indian Creek confluence, the Kalispel Tribe proposes to excavate habitat pools, construct vegetated islands, install large woody debris structures, and plant woody riparian vegetation on tribally-owned land in the Indian Creek delta to create a vibrant riparian region that would support resident trout habitat in perpetuity.

Project activities would begin in the late summer 2022. The Kalispel Tribe would first establish a staging area for materials and equipment in a grass field to the west of the project area. The staging area would be constructed by laying down wood chips to a depth of at least 12 inches. Additional wood chip filter berms between 1.5- and 2-feet tall would be constructed along the eastern and southern boundaries of the staging area to prevent pollutants from entering the waterways. An impermeable containment pad would be placed in the northwestern corner of the staging area to mitigate potential spills when refueling equipment. All refueling would take place on this pad. Access to the staging area would be along a neighboring landowner's existing driveway. A temporary earthen ramp built from crushed rock (quarry spalls) laid on top of geotextile fabric to a depth of at least 12 inches would be erected to access the project area from this driveway. A temporary culvert would be installed upstream of the project area so that equipment and workers could cross Indian Creek without entering the waterway. First, a non-woven geotextile fabric would be laid on the streambed. The culvert would be placed on this fabric and covered with 6 to 12 inches of gravel. The culvert would be large enough to permit fish passage and normal water flows during project construction.

Construction would be completed in two phases. During the first phase, Indian Creek would be diverted along the western portion of the delta ("Path B") using curtains and push up gravel berms. The eastern portion of the delta ("Path A") would be isolated and dewatered to allow for construction equipment to enter the area. During dewatering, the Sponsor would conduct fish removal and salvaging operations to

ensure that no fish remain in the work area by the time it is dry. Once Path A has been dewatered, the Sponsor would begin construction in the eastern portion of the delta.

Wood habitat structures would be assembled and placed along the bank of Path A. Two types of wood structures would be constructed. The first type of wood habitat structure (Figure 2) would consist of a footer log placed horizontally along the path of the bank. Two larger logs with rootwads attached would be placed at either end of the footer log and secured. The area between these logs would then be filled with racking logs and slash fill and the structure ballasted into the bank using sand and gravel excavated from the project area. A total of between 15 and 20 of these jam structures would be assembled and installed. The second habitat structure (Figure 3) would be tridents formed of three logs with rootwads attached at their end to a single footer log. The rootwad logs would be secured to the footer with a biodegradable rope lashing or minimal rebar pinning. The exposed rootwads would be extended into the waterway and the back ends of the logs ballasted into the bank using sand and gravel excavated from the project area. A total of between 5 and 10 of these structures would be assembled and installed. Additional individual large logs and rootwads may be placed in areas of the delta in which constructed structures would not be appropriate.

Beneath the rootwads of the habitat structures, the Sponsor would excavate depressions in the streamway. Once inundated, these depressions would form habitat pools beneath the wood structures, retaining cold water and providing low velocity areas for fish to use as resting and rearing habitat. The material from these excavations would be used to ballast the wood structures in addition to providing material to build the vegetated islands and spit.

In-stream vegetated islands would also be constructed in the delta. These islands would be used primarily to anchor and ballast wood habitat structures and increase the hydrologic complexity of the delta. Wood habitat structures similar to those being built in the banks would also be built into these islands. Additionally, the islands would be vegetated following construction to help establish a naturally sustainable riparian corridor. The islands would be placed to allow Indian Creek to migrate naturally while retaining interaction with the woody habitat structures. Four of these islands would be constructed.

Following the completion of work in the eastern areas of the delta, Indian Creek would be re-diverted along Path A and the western portion of the delta would be dewatered. Procedures would be the same as the earlier dewatering. Once dry, installation of wooden habitat structures along this portion of the delta would begin.

Concurrently with the installation of the woody habitat structures and the construction of the vegetated islands, the Kalispel Tribe would extend an in-water spit from the eastern shoreline across a portion of the mouth of the delta. The spit would be built up to roughly 1 foot above the water level of the Pend Oreille during summer months. Since the Pend Oreille's water level at Indian Creek is controlled by the nearby Albeni Falls dam, summer water levels would be unlikely to overtake the spit during low flow months. The spit would form a natural embayment, expanding the water mixing zone and retaining more cold water in the Indian Creek delta during summer months when the stream's cold water is most important to fish survival. The spit would be submerged during higher flow months to minimally affect the hydrology of the area during the winter. The spit would be constructed using excavated materials from a 3- to 4-foot deep depression excavated across the mouth of the Indian Creek delta. This depression would run along the interior edge of the spit and would form a pool which would retain cooler water flowing from Indian Creek during summer months and provide additional fish habitat. Wood habitat structures would be installed over this pool and ballasted into the spit. The spit would be

layered with rounded cobble on the riverward side to prevent excessive erosion until a vegetative root system has been established on the spit.

The area in which the spit is constructed would not be dewatered during construction. The Kalispel Tribe would install isolation and turbidity-controlling curtains around the area in which the spit would be extended. The curtains would prevent fish from entering the construction area and reduce turbidity caused by construction. The curtains would consist of a geotextile fabric anchored to the river bottom with ballast bags running along their length and with flotation bags along the top, allowing the curtain to cover the entire water column. The curtains would be tensioned along their entire length and inspected daily to ensure no tears or failures have occurred. In the event of a turbidity plume, work within the isolated area would be halted and the curtains inspected. Work would not resume until turbidity had returned to background levels.

Site remediation would occur following the completion of construction. The temporary culvert would be removed and the area of stream in which it sat re-graded to the historical profile. The gravel access ramp would be removed and the quarry spalls used to create it removed from the property. The wood chips used for the staging area and access roads would be spread out across the grass field to the west of the project area to a minimal depth (less than 3 inches) and left in place to biodegrade as natural mulch. Areas disturbed would be seeded with a native grass and shrub seed mixture and monitored to ensure healthy regrowth.

The in-stream islands and spit would also be planted with vegetation. As the spit would be fully inundated during high flow months, native flood-tolerant species such as willow (*Salix*), dogwood (*Cornus*), and alder (*Aldnus*) would be planted on it. Similar species would also be planted on the islands, although would not be expected for them to be fully inundated. The banks would be planted with native riparian shrubs and trees. All plantings would be monitored, maintained, and re-planted as needed until a self-sustaining ecosystem is present, as rooted vegetation would be vital to preserving the structure and reducing the erosion of the new habitat structures.

Figures



Figure 1: Project Location

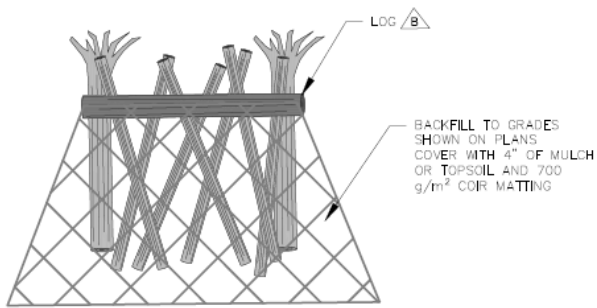


Figure 2: Log Habitat Jam

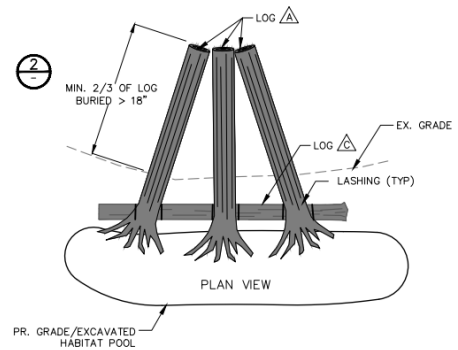


Figure 3: Log Habitat Trident

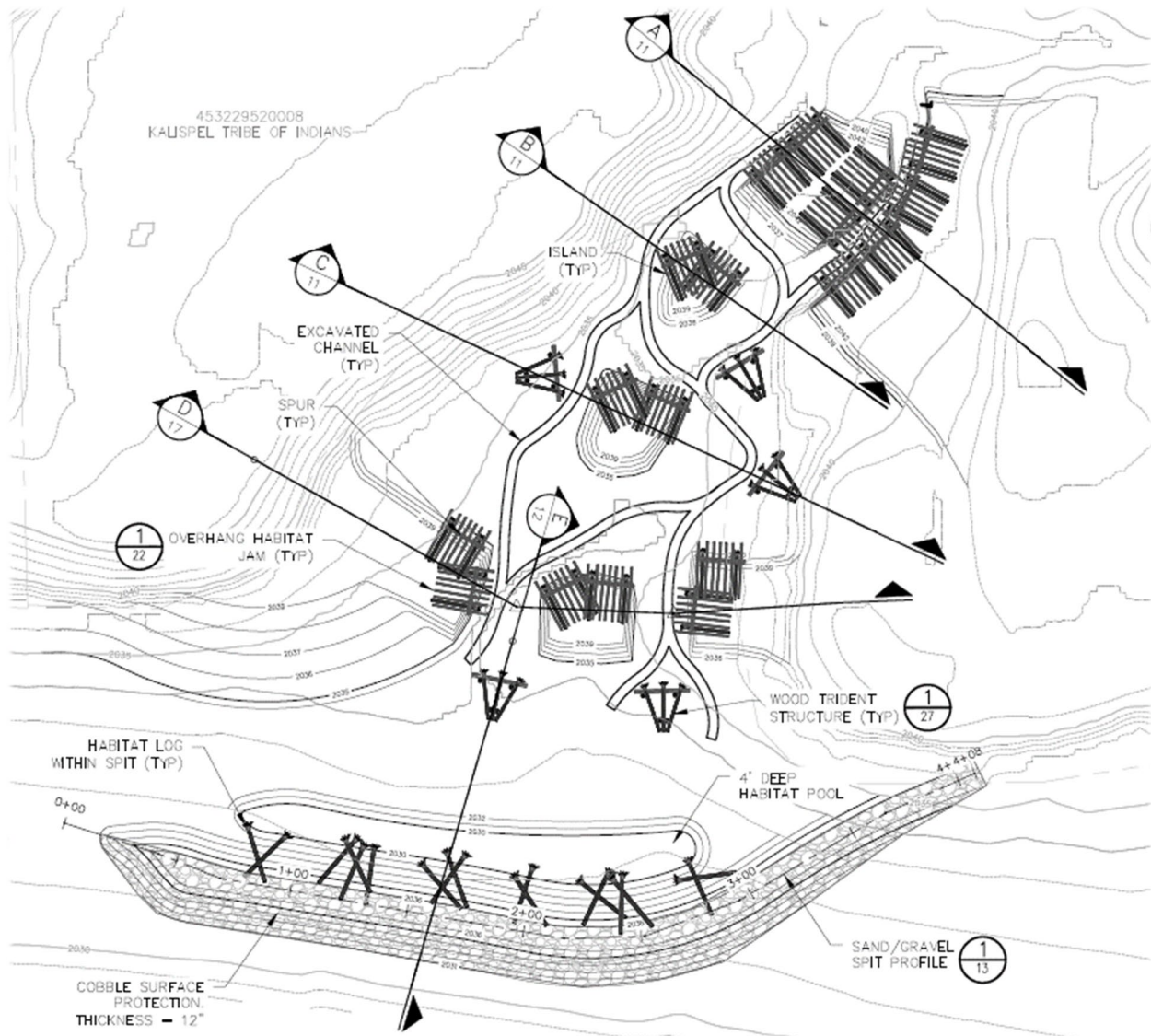


Figure 4: Final Design

Environmental Effects

The typical environmental impacts associated with the Columbia River Basin Tributary Habitat Restoration EA 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 impacts of the project activities and an assessment of whether these impacts are consistent with those described in the Programmatic EA.

1. Fish

The effects of the proposed activities are consistent with the analysis in the Programmatic EA, Section 3.3.1, which concludes that the impacts to fish species would be moderate in the short-term but provide beneficial long-term improvements, making the overall impacts to fish species low. All project activities would be conducted according to the mitigation and conservation measures prescribed in BPA's Habitat

Improvement Program Programmatic Biological Opinion (NMFS 2020 and USFWS 2020, collectively the “HIP4 BiOp”), and all work would be conducted to minimize the impacts to ESA-listed fish and thereby most other species.

There are no anadromous fish at the project site due to anthropogenic blockages downstream (PSMFC 2022). Resident ESA-listed bull trout (*Salvelinus confluentus*) is present at the project site and the project site overlaps bull trout critical habitat (USFWS 2022a). Additionally, westslope cutthroat trout (*Oncorhynchus clarki lewisi*), a Federal species of concern, is present at the project site. Project activities are aimed at improving habitat for these two species and would have long-term beneficial effects. There are no Washington state-listed fish or aquatic species present at the project site (WDFW 2022).

Section 3.3.1.2.2.2 of the Programmatic EA analyzes the effects of channel reconstruction and stream restoration activities on aquatic species. Consistent with this section of the Programmatic EA, the short-term effects on fish from project activities would be outweighed by the long-term benefits of the actions. Short-term effects to fish would be caused by construction activities, but the Kalispel Tribe would mitigate these effects as much as possible to lessen the impact. Dewatering of the work areas would be conducted in stages with open egress paths for fish to leave the areas being dewatered. Prior to complete dewatering, any fish remaining in the work area would be salvaged and removed via netting, electrofishing, or other similar methods from isolated areas and moved into open water. While diverted, Indian Creek’s flow would not be impeded and the temporary culvert at the upstream crossing would permit fish passage without impact from vehicles and equipment. Fish would also be potentially disturbed by human presence and noise during construction, particularly from machinery. However, the long-term benefits from the expansion of habitat at the Indian Creek confluence would be beneficial to fish. The expansion of the cold water retention and addition of habitat-forming structures would increase the available area for bull trout and westslope cutthroat trout to use as refugia during high water temperatures in the mainstem Pend Oreille River. This would increase survival rates of the species and help restore populations that have been negatively affected by the construction of the Albeni Falls dam.

BPA determined that the proposed activities would be a medium risk project under the HIP4 BiOp. As a result, engineering review by USFWS was not required as part of the HIP4 BiOp procedures. However, due to the presence of ESA-listed bull trout and bull trout critical habitat at the project site, USFWS was offered the opportunity to review project designs and provide comments on mitigation procedures to protect resident bull trout. USFWS biologists suggested limiting the duration of any pile driving or other percussive construction activity and improvements to the work area isolation procedures to reduce the effects on any bull trout near the project area during implementation. USFWS had no other concerns about the proposed activities.

Similar effects would be expected for any present non-listed fish species in the project area during project activities.

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. Wildlife

The effects of the proposed activities are consistent with the analysis in the Programmatic EA, Section 3.3.5, which concludes that effects to wildlife would be low to moderate in the short-term but with overall low long-term effects.

ESA-listed Canada lynx (*Lynx canadensis*) and grizzly bear (*Ursus arctos horribilis*) have the potential to be present at the project site (USFWS 2022a). Neither species would be affected by project activities. Canada lynx are very unlikely to be present at the project site. The project site is nearly 2,000 feet in elevation below the range which Canada lynx typically inhabit. Moreover, the alpine forests in which Canada lynx den are not present at the project site. It is therefore unlikely that any Canada lynx will be present at the project site and there would be no effects on Canada lynx from project activities. Similarly, grizzly bear are also unlikely to be present at the project site. The project area is more than 20 miles from the Selkirk Ecosystem Recovery Zone and is located in a rural residential area with regular human presence and traffic along the public highway. As a result, grizzly bears are unlikely to be present in the project area due to their avoidance of human presence. Grizzly bear are therefore also unlikely to be affected by project activities. There are no Washington state-listed terrestrial species present at the project site (WDFW 2022).

Minor effects would be expected for any present non-listed terrestrial species at the project site during project activities. Wildlife would be disturbed by human presence and noise from project activities, particularly from construction machinery. However, these effects would be limited in duration and there would be no long-term negative changes to local habitat which would impact any terrestrial species.

ESA-listed yellow-billed cuckoo (*Coccyzus americanus occidentalis*) has the potential to be present in the project area (USFWS 2022a). Project activities are scheduled to take place during nesting season for yellow-billed cuckoo. However, yellow-billed cuckoo typically nest in relatively large and contiguous multilayered riparian forests. There are no such forests at the Indian Creek confluence. The current riparian vegetation at and around the project area is primarily grasses and short shrubs in which it is very unlikely for any yellow-billed cuckoo to nest. Additionally, the summertime diet of the yellow-billed cuckoo mainly consists of caterpillars, cicadas, and other insects which the bird hunts from tree limb perches. As the project area lacks this kind of vegetation, it is unlikely that yellow-billed cuckoo would use the project area as a hunting ground. As a result, project activities would be unlikely to have any impact on yellow-billed cuckoo. There are no Washington state-listed avian species present at the project site (WDFW 2022).

Minor effects would be expected for any present non-listed avian species at the project site during project activities. Birds would be disturbed by human presence and noise from project activities, particularly from construction machinery. However, these effects would be minor, limited in duration, and there would be no long-term negative changes to local habitat which would impact any avian species.

The effects to wildlife from project activities would be low in the short-term and beneficial in the long-term. Taken together, the overall effects on wildlife from project activities would therefore be low, consistent with the Programmatic EA.

3. Water Resources

The effects of the proposed activities are consistent with the analysis in the Programmatic EA, Section 3.3.2, which concludes that the impacts to water resources would be low.

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 activities. The project activities would cause minor changes to the existing hydrology in the Indian Creek confluence. The additional habitat pools would retain more water than the delta currently does, while the spit would modify the current mixing zone between water from Indian Creek and the Pend Oreille River. However, these changes would not alter the overall flow volume in Indian Creek or the Pend Oreille River. Additionally, during high flow months, the spit would be fully submerged and the hydrology of the delta would be functionally identical to current conditions.

While there would be minor changes to the hydrology of the Indian Creek confluence, these changes would not alter water quantity and there would be no effect as a result of project activities.

Section 3.3.2.2 of the Programmatic EA analyzes effects on water quality. There would be short-term impacts to water quality at the Indian Creek confluence, but long-term effects would be negligible to moderately positive. During construction, potential turbidity may be caused by project actions. Due to excavation and earthmoving in close proximity to water, there is the potential that turbidity plumes caused by sediment in the waterway would occur. The Kalispel Tribe would mitigate the risks of turbidity plumes by installing geotextile turbidity curtains and dewatering areas being excavated. The Kalispel Tribe would monitor downstream turbidity from the project area and cease earthmoving in the event of a prolonged turbidity plume, consistent with HIP4 BiOp requirements. And while there would be short-term negative impacts to water quality in the project area, the long-term impacts would be moderately beneficial. The current delta does not support extensive riparian vegetation and bank complexity. The additional vegetation along the banks and in-water structures would help retain sediment and improve water quality. As a result, the overall effects on water quality would be low.

4. Vegetation

The effects of the proposed activities are consistent with the analysis in the Programmatic EA, Section 3.3.3, which concludes that short-term impacts to vegetation would be moderate to high but outweighed by long-term positive effects.

There are no ESA-listed plant species present at the project area (USFWS 2022a). Washington state-listed endangered Michigan moonwort (*Botrychium michiganense*) has the potential to occur in areas of Pend Oreille County (WDNR 2022). Michigan moonwort is a species of fern typically found in sandy dune systems. No such habitat is present at the project site. It is therefore unlikely that any Michigan moonwort would be present at the project site. As a result, there would be no effect on Michigan moonwort.

Non-listed vegetation in the project area would be adversely affected by the proposed activities. Because of the heavy inundation during high flow months, complex vegetation in the Indian Creek delta is limited. The banks of Indian Creek at the confluence are currently dominated by grasses with a limited population of short riparian shrubs. Vegetation within the delta is limited, with some seasonal grasses colonizing drier portions of the delta during low-flow periods and limited aquatic vegetation and weeds dominating the wetter areas. This vegetation would unavoidably be destroyed by excavation in the project area. Grasses underneath the staging area and access roads would also be compressed underneath wood chips. The Kalispel Tribe would minimize impacts to vegetation by excavating only the amount necessary to complete the project activities, as well as limiting machinery to the project area, staging area, and access roads. However, due to the nature of the work, short-term effects on vegetation in the project area would be high.

Despite these effects to the current vegetation in the project area, the long-term benefits to vegetation would outweigh the short-term negative impacts. Following construction, the Kalispel Tribe would restore vegetation to all affected areas. Grass and shrub seed would be spread in areas of the banks which were disturbed during construction in addition to the staging area and access roads. The in-stream islands and spit would also have vegetation planted on top of the structures. As the spit would be fully inundated during high flow months and the islands may see limited flooding depending on flow levels, native flood tolerant species such as willow (*Salix*), dogwood (*Cornus*), and alder (*Aldnus*) would be planted on them. These plantings would be monitored and re-planted as needed until a self-sustaining ecosystem is present, as rooted vegetation will be vital to preserving the structure and reducing the erosion of the structures. These plantings would have the long-term effect of enhancing

the Indian Creek confluence, replacing the current simplified vegetation with a vibrant riparian ecosystem that supports numerous species.

As a result, while the short-term effects to vegetation from project activities would be high, the long-term effects would be beneficial to vegetation at the project site. Taken together, the overall effects to vegetation from project activities would therefore be moderate, consistent with the Programmatic EA.

5. Wetlands

The effects of the proposed activities are consistent with the analysis in the Programmatic EA, Section 3.3.4, which concludes that the overall impacts to wetlands would be low. Portions of the project area would occur within a palustrine emergent persistent wetland (USFWS 2022b). The Sponsor obtained a permit from the U.S. Army Corps of Engineers to conduct excavation and fill in this wetland pursuant to Section 404 of the Clean Water Act. The Kalispel Tribe would adhere to all requirements and proscriptions set forth in the Army Corps permit for activities occurring within the wetland. Additionally, the Kalispel Tribe would adhere to all requirements for construction activities in wetlands set forth in the HIP4 BiOp, including spill and erosion prevention measures to mitigate inadvertent damage to local wetlands.

There would be short-term negative effects to the wetland present at the Indian Creek confluence by project activities, but the long-term impacts would outweigh these negative effects. Section 3.3.4.2.1 of the Programmatic EA analyzes the effects of construction activities on wetlands. Construction activities would require excavation in portions of the wetlands during project activities which would cause negative impacts. Similar to effects on current vegetation analyzed above, the current wetlands would be excavated and potentially destroyed by construction activities. However, the long-term effects of the project activities would enhance wetlands at the Indian Creek confluence. The current Indian Creek delta does not support a complex wetland ecosystem. Project activities would establish an ecosystem with a more diverse abundance of wetland vegetative species. This, in turn, would help attract more wetland fauna to the area. Despite the short-term negative effects caused by the construction activities on the local wetlands, the long-term effects would thus be beneficial.

The portion of Indian Creek directly upstream of the project area is classified as a palustrine forested wetland (USFWS 2022b). No project activities would take place in this wetland and project activities would be unlikely to have any effect on this wetland. To the extent that noise, human presence, and other effects caused by nearby work would impact this wetland, the effects would be low.

6. Geology and Soils

The effects of the proposed activities are consistent with the analysis in the Programmatic EA, Section 3.3.6, which concludes that the long-term impacts to geology and soils would be low to moderate depending on the actions undertaken.

Project activities would require extensive earthmoving, which would affect the soil at the project site. By the nature of the action, excavation of the habitat pools would involve disturbing soil to a depth of 3 to 4 feet. Material excavated from these areas would be used to construct the berms in the delta and extend the spit at the mouth of the confluence. Additional excavation would be needed where woody habitat structures would be installed to place the logs in position. The soil excavated from these areas would then be backfilled over the logs to ballast them. The machinery used for these activities would also affect soils by compressing and disturbing the top layers of the ground while conducting project activities. While these effects would be unavoidable, the long-term effects of these activities would be beneficial to geology and soils in the project area. Following implementation, the Kalispel Tribe would seed and plant disturbed areas. Woody shrubs and vegetation would be planted on the banks and the

in-stream structures. These plants would improve the soil conditions by developing a vibrant riparian root system that would reduce erosion and retain sediment to a much greater extent than the current confluence delta, which lacks complex vegetation and root systems. The earthen constructions are also designed to be similar to other naturally occurring structures in tributary confluences throughout the Pend Oreille subbasin and would not be unusual for the area.

Project staging and access would have low effects on soils. The staging area and access roads would be constructed using wood chips with a depth of at least 12 inches placed on top of the soil to minimize disruption to the ground below. Access ramps would be constructed by laying down geotextile fabric with 6- to 12-inches of quarry spalls on top. While there may be some compaction of soils underneath, these measures would prevent large scale disruption of the soil underneath these areas and overall effects would be low.

Taken together, the short-term effects on geology and soils during project activities would be high. However, the long-term positive effects of the project activities would outweigh the short-term effects, and therefore the overall effects would be moderate.

7. Transportation

The effects of the proposed activities are consistent with the analysis in the Programmatic EA, Section 3.3.7, which concludes that the impacts to transportation would be low. These project activities would not affect any roads. No roads would be closed or blocked and no changes to existing routes would occur. The only foreseeable impacts to transportation systems would be due to machinery and supplies being transported to and from the work site using the local public highway, but these effects would be minor and cause no long-term disruption to transportation.

8. Land Use and Recreation

The effects of the proposed activities are consistent with the analysis in the Programmatic EA, Section 3.3.8, which states that land use practices underlying project sites would not be changed for most projects and effects to recreation would be low. There would be no change to land use at the project site as a result of these activities. The project site and staging area are located on land owned by the Kalispel Tribe and ownership would not change as a result of the proposed activities. Access to the project site would be along an existing private driveway owned by a neighboring landowner, which would remain in place following project activities. The project site and staging area are a non-navigable stream delta and fallow grass field, respectively, that are currently unused by people for any activities; a condition which would remain following project activities. The Pend Oreille River is a popular waterbody for recreational fishing, boating and kayaking. The project activities only affect a very small portion of the riverway and would not greatly impact public use or recreation in the river. Moreover, Indian Creek is non-navigable and is not currently used for any such activities. Following construction, use of the Indian Creek confluence would therefore be consistent with the current use.

9. Visual Resources

The effects of the proposed activities are consistent with the analysis in the Programmatic EA, Section 3.3.9, which concludes that the impacts to visual resources would be low but evaluated on a site-specific basis for each project. The current visual condition of the project area is a simplified stream delta with minimal vegetation. Project activities would alter this visual landscape with the installation of the habitat structures and planting different riparian vegetative species. The design of these habitat structures is intended to mimic those of other natural river confluences in the Pend Oreille basin. All plantings would be of native species and the effects would be low. Navigation markers such as small warning signs and reflectors would be installed on the in-stream structures to warn recreational boaters

of their presence, but the effects on visuals would be minor due to the size of these signs. The staging area is currently a fallow grass field, a condition to which the Kalispel Tribe would return the area following project activities. There would be no changes to visual resources of the staging area as a result.

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

The effects of the proposed activities are consistent with the analysis in the Programmatic EA, Section 3.3.10, which concludes that the impacts to air quality, noise, and public health and safety would be low.

Project activities would have a low impact to public health and safety. There may be some risks to implementation personnel from general construction activities, such as from machinery and materials. All personnel would use best practices to ensure worker safety during construction. Additionally, the implementation window is structured so that construction would proceed at a deliberate and careful pace, reducing the danger of injury from rushed implementation. The project area is located on tribally-owned land and the public would not be present during project activities, so there is a low probability that public health would be impacted by project construction. Following implementation, the Kalispel Tribe plans to install navigation markers (signs, reflectors) on top of the new in-water structures to ensure that recreational boaters are aware of the new structures and reduce the risk of public injury from boaters impacting the structures. While Indian Creek is non-navigable and it is therefore unlikely that any boaters would be in the vicinity of the new structures or suffer collisions with them, these navigation markers would be installed to ensure that public safety is not impacted by project activities.

Air quality and noise would be temporarily affected by project activities. Small vehicles like trucks used for transport and project activities would generate noise and exhaust emissions. Larger equipment like excavators would create more noise and exhaust. Project activities would also generate dust, especially during earthmoving and construction. These effects would be temporary in duration, lasting only until construction is complete. No project activities would result in long-term generations of exhaust or particulate matter. As a result, project activities would have a low impact on air quality and noise.

11. Cultural Resources

The effects of the proposed activities are consistent with the analysis in the Programmatic EA, Section 3.3.11, which concludes that the impacts to cultural resources would be resolved through the National Historic Preservation Act Section 106 (Section 106) process.

BPA first initiated the Section 106 process for project activities in July 2020. In coordination with the Kalispel Tribe Natural Resources Department (KNRD) staff, the area of potential effects (APE) for the project area and staging area was identified, surveyed, and inventoried for the presence of cultural resources. One archaeological site was identified, consisting of the remains of a winter camp characterized by fire-cracked rock below the surface. To mitigate any impacts to this site, a layer of wood chips 6- to 12-inches deep would be placed on the ground above the site to reduce soil compression and prevent ground disturbance from project activities. In the event that rock toe keys are required for project activities, key locations would be chosen by the Kalispel Tribe's Cultural Resource Management staff so as to avoid impacting the site. Additionally, an archaeological monitor would be on-site during project implementation. These mitigation measures would reduce the potential for impacts to the site from project activities. On February 26, 2021, BPA made a determination that project activities would result in no adverse effects to historic properties, contingent on implementation of the mitigation measures for the identified cultural resource site (BPA CR Project No. WA 2020 148). Consulting parties were the Washington Department of Archaeology and Historic Preservation (DAHP),

the Kootenai Tribe of Idaho, and the Kalispel Tribe. DAHP concurred with BPA's determination on February 26, 2021. No other responses were received.

In 2022, the APE for the project was updated due to a shift in the location of the staging area. On March 14, 2022, BPA initiated consultation on the amended APE and reaffirmed that the original effects determination was appropriate, contingent on implementation of mitigation measures for the identified cultural resource site. DAHP concurred with BPA's determination on March 22, 2022. No other responses were received. The consultation period ended on April 23, 2022.

12. Socioeconomics and Environmental Justice

The effects of the proposed actions are consistent with the analysis in the Programmatic EA, Section 3.3.13, which concludes that impacts to socioeconomics and environmental justice would be low to moderate, subject to site-specific analysis. The project site is located on land owned by the Kalispel Tribe in Pend Oreille County, Washington. Pend Oreille County is rural area, with a total population of 13,401 as of the 2020 census (United States Census Bureau, 2021). Approximately 90% of the county's residents identify as white, with 3.9% identifying as American Indian or Alaskan Native, nearly double the average proportion compared to areas east of the Cascade Mountains. Project activities would not have a disproportionately high and adverse effect on this population. Project activities would not have adverse effects on the residences or professions of this population, as there are no residences or businesses at the project site. Project activities would result in small, temporary, beneficial impacts to the entirety of the local population, including residents who identify as American Indian or Alaskan Native, from construction jobs and short-term cash inputs to local businesses for fuel, equipment, and meals purchased by project workers. The project area is located on tribally-owned land in a river delta and does not have any residences within the project area's footprint. The project activities would not require any new permanent employees or require relocation of individuals in the area. The project would not produce any long-term pollution and would not eliminate or affect the residential suitability of any lands in and around the project area. As a result, the effects to socioeconomics and environmental justice populations would be low.

13. Climate Change

The effects of the proposed activities are consistent with the analysis in the Programmatic EA, Section 3.3.14, which concludes that impacts to climate change would be low. Any effects would be caused by short-term exhaust emissions from machinery and equipment (trucks, excavators) used for the project activities. These effects would be minor and limited in duration. Given the short duration of project activities, small number of vehicles and equipment used, and estimated emissions well below the EPA's reporting threshold under the Clean Air Act, the impact from greenhouse gas emissions from exhaust would be low and therefore the potential for the activities to accelerate climate change would be low.

Findings

BPA finds that the types of actions and the potential impacts related to the proposed habitat enhancement activities have been examined, reviewed, and consulted upon and are similar to those analyzed in the Columbia River Basin Tributary Habitat Restoration EA (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/ Thomas DeLorenzo

Thomas DeLorenzo

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Concur:

/s/ Sarah T. Biegel

Sarah T. Biegel

NEPA Compliance Officer

Date: July 18, 2022

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