

**Supplement Analysis**  
for the  
**Columbia River Basin Tributary Habitat Restoration**  
**Programmatic Environmental Assessment**  
(DOE/EA-2126 SA-86)

**Little Trout Creek Phase 2 Restoration Project**  
**BPA project number 1994-042-00/1998-028-00**  
**BPA contract number 84041 REL 48/96710**

Bonneville Power Administration  
Department of Energy



## **Introduction**

In December 2020, Bonneville Power Administration (BPA) completed the Columbia River Basin Tributary Habitat Restoration Programmatic Environmental Assessment (Programmatic EA) (DOE/EA-2126). The Programmatic EA analyzed the potential impacts of implementing fish and wildlife restoration projects across the Columbia River Basin, ranging from constructing fencing and planting vegetation to relocating roads and excavating new stream channels.

Consistent with the Programmatic EA, this supplement analysis (SA) analyzes BPA's proposal to provide funding to the Jefferson Soil and Water Conservation District and the Oregon Department of Fish and Wildlife (together "the Sponsors") to implement the second phase of the Little Trout Creek habitat restoration project. The project would seek to restore roughly 1.75 river miles of stream and floodplain in northern Jefferson County, Oregon, to improve habitat conditions for Endangered Species Act (ESA)-listed steelhead (*Oncorhynchus mykiss*) which use Little Trout Creek for spawning and rearing habitat. Funding for this project would support conservation of ESA-listed species considered in the 2020 ESA consultation with the National Marine Fisheries Service (NMFS) on the operations and maintenance of the Columbia River System. These actions also support Bonneville's ongoing efforts to mitigate for effects of the Federal Columbia River Power System on fish and wildlife in the mainstem Columbia River and its tributaries pursuant to the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act) (16 U.S.C. §839 et seq.).

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 Department of Energy (DOE) NEPA Implementing Procedures.

## **Proposed Activities**

Trout Creek is the largest east-side tributary of the Lower Deschutes River, a major tributary of the Columbia River that drains more than 10,000 square miles of north-central Oregon east of the Cascade Range. Trout Creek and the many smaller streams throughout its basin provide important spawning and rearing habitat for ESA-listed middle Columbia steelhead. One of these tributaries is Little Trout Creek, a seasonal stream draining roughly 20 square miles of upland shrub-steppe valleys and ridgelines in northeastern Jefferson County, Oregon. Little Trout Creek has been heavily impacted by agriculture and intensive ranching since the late 19<sup>th</sup> century, which degraded conditions along the stream and greatly reduced the quality of its habitat for fish and wildlife. The Sponsors implemented the first phase of the Little Trout Creek restoration project in 2020, seeking to restore the conditions of the stream by

regrading the floodplain, excavating a new, more sinuous channel, and adding habitat-forming debris and riparian vegetation to the area. Building upon the success of these actions, the Sponsors now propose implementing the second phase of this project.

The project site for the second phase of the Little Trout Creek project sits directly upstream from the first phase site, running for roughly 1.75 stream miles eastwards through a narrow valley. The current stream channel in this reach is highly incised and channelized, lacking integration with its historic floodplain. Complex vegetation in this area is limited, with grass and forbs dominant. Sparse trees and shrubs dot the historical floodplain but are not present in quantities to provide shade, wood debris, and stream roughness necessary to create high-quality fish habitat in the nearby stream. A private access road runs from a gate at the edge of the phase 1 project site along the northern edge of the valley. Little Trout Creek, like most small streams in the region, is seasonally fed by winter and spring precipitation and snowmelt and is typically dry by late summer.

Beginning in the late summer of 2026 once the stream has fully dewatered, the Sponsors would implement a series of actions on the Little Trout Creek Phase 2 site to improve conditions for steelhead. The Sponsors would construct a new, more sinuous channel for the stream. This new channel would be shallower than the current, highly incised channel and have meanders across the valley floor to reduce water velocity and improve sediment retention in the stream. The new channel would be combined with grading the historical floodplain to more closely match the elevation of the stream. This excavation would induce more interaction between Little Trout Creek and its floodplain, especially during high springtime and early summer flows, providing additional habitat for fish and better conditions for local vegetation. The total amount of disturbed area would be roughly 28 acres. Approximately 43,000 cubic yards of excavation would be required to fully implement the proposed grading plan, the large majority of which would be outside of the channel of Little Trout Creek. Equipment used for construction would include excavators, skid steers, trucks, and hand tools.

Additionally, the Sponsors would install wood debris throughout the new channel and floodplain. These debris jams, constructed of large logs, rootwads, and locally-sourced gravel and boulders, would impound water and sediment, forming scoured habitat pools to provide shade, cover, and resting opportunities for fish in the stream. Similar large woody debris jams installed along stream channel bends in the phase 1 project area have produced positive results, including providing anchor points for beaver (*Castor canadensis*) activity that has created further channel roughness and fish habitat opportunities in the area. Logs would largely be sourced locally from juniper (*Juniperus occidentalis*) trees harvested as part of control efforts for juniper trees that the Sponsors undertake annually, along with other vegetation that cannot be salvaged during construction.

Following construction, all disturbed areas would be seeded with a native grass and forb mixture and worked into the earth using a harrow. Larger vegetation, including alder (*Alnus rhombifolia*), cottonwood (*Populus trichocarpa*), dogwood (*Cornus stolonifera*), and mixed varieties of native willow (*Salix spp.*), would be planted throughout the area. This would establish more complex vegetation, with a focus on establishing willow stands along bends in the new stream channel to form backwatering features. Planting would continue through early 2027 and would be monitored for future years. Cattle exclusion fencing would be installed along the edges of the new floodplain to protect vegetation from grazing until it is established. The area would be monitored and adaptively managed by the Sponsors in future years to ensure that restoration goals are achieved.

### **Environmental Effects**

The typical environmental impacts associated with the project actions contemplated by the Programmatic EA are described in Chapter 3 of the EA and summarized in this document. Below is a description of the potential site-specific impacts of the Little Trout Creek Phase 2 restoration project and an assessment of whether these impacts are consistent with those described in the Programmatic EA.

## 1. Fish

The effects of the proposed actions on fish are consistent with the analysis in the Programmatic EA, Section 3.3.1, which concluded that project actions would cause moderate short-term adverse effects on fish but provide long-term benefits, making the overall impacts on fish low.

All project actions would be conducted subject to the mitigation measures prescribed in BPA's Habitat Improvement Program Programmatic Biological Opinion with NMFS and USFWS (collectively the "HIP4 BiOp"). All work would also be conducted to minimize the impacts to ESA-listed fish species, and thereby most other species of fish present in the project area. All project actions were reviewed in accordance with the HIP4 BiOp review process during project development (HIP PNF#2026070). The Sponsors would follow general project and species-specific conservation measures included in the HIP4 BiOp when carrying out project actions, and any deviations from the limitations contained in the HIP4 BiOp would be reported to BPA Environmental Compliance staff.

The broader Trout Creek basin, including Little Trout Creek, hosts extensive spawning and rearing habitat for ESA-listed steelhead.<sup>1</sup> No other anadromous or resident ESA-listed fish species have been recorded in or near Little Trout Creek.<sup>2</sup> No Oregon state special-status fish species have been documented in Jefferson County.<sup>3</sup> Non-listed fish species observed in Little Trout Creek include resident rainbow trout (*Oncorhynchus mykiss*) and mountain whitefish (*Prosopium williamsoni*). Project actions are aimed at improving the habitat for these fish species and would have long-term beneficial effects.

Section 3.3.1.2.2 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 adverse effects on fish from project actions would be outweighed by the long-term benefits. To mitigate the effects on fish to the greatest practical extent, the Sponsors would only conduct construction activities within the channel of Little Trout Creek during the time of year when it is dry. Little Trout Creek is an intermittent seasonal stream that is typically completely dry during the proposed project construction timeframe in the late summer and autumn. It is expected that all fish which are present in the stream during its winter and springtime flows would have migrated into nearby perennial streams like Trout Creek before this natural de-watering. The Sponsors would wait to begin in-stream construction until the stream is dry and no in-stream construction would occur while there is water in the creek. As a result, it is highly unlikely that the proposed construction in the channel and floodplain of Little Trout Creek would have any effects on fish. Project actions are focused on improving the interaction of the stream with its historical floodplain, reducing channel velocity, and creating additional habitat features throughout the reach, all of which would improve stream conditions for fish.

Thus, the long-term effects of project actions would be beneficial to fish.

In summary, there would be no effects on fish species from project actions during construction due to Little Trout Creek being dry and beneficial long-term effects from restoring local fish habitat. The overall effects on fish would therefore be beneficial and low, consistent with the conclusions of the Programmatic EA.

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<sup>1</sup> "StreamNet Mapper." Pacific States Marine Fisheries Commission (PSMFC). Last accessed April 29, 2026. <https://www.streamnet.org/home/data-maps/>.

<sup>2</sup> "StreamNet Mapper." PSMFC.; "Information for Planning and Consultation (IPaC)." U.S. Fish and Wildlife Service. Last accessed April 29, 2026. <https://ipac.ecosphere.fws.gov/>.

<sup>3</sup> "Threatened, Endangered, and Candidate Fish and Wildlife Species." Oregon Department of Fish and Wildlife, Wildlife Division. Last accessed April 29, 2026. [https://www.dfw.state.or.us/wildlife/diversity/species/threatened\\_endangered\\_candidate\\_list.asp](https://www.dfw.state.or.us/wildlife/diversity/species/threatened_endangered_candidate_list.asp).

## 2. Water Resources

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

Section 3.3.2.2.1 of the Programmatic EA analyzes effects on water quantity. There would be low effects on overall water quantity as a result of the proposed actions. There are no new diversions or other water withdrawals proposed. The project would cause minor changes to the current hydrology of Little Trout Creek by creating a new, more sinuous channel for the stream. This channel would reduce the velocity of water flowing downstream, especially during high flows in the late spring and early summer. Channel sinuosity and backwater-creating structures throughout the new channel would increase the interaction of the stream with its floodplain, increasing groundwater retention during high flow seasons. While this would improve the groundwater conditions in the area during these periods, these effects would be low because of the seasonal nature of Little Trout Creek and would not appreciably alter local groundwater conditions or water quantity year-round. The changes to Little Trout Creek's channel would not alter the overall flow volume of the stream, merely the rate at which it discharges downstream. There would accordingly be low beneficial effects on water quantities, consistent with the Programmatic EA's conclusions.

Section 3.3.2.2.2 of the Programmatic EA analyzes effects on water quality. Little Trout Creek is an intermittent stream and the proposed construction would only occur during periods when the stream is dry. Impacts to Little Trout Creek's water quality during implementation from project actions that are typical of channel reconstruction work analyzed in the Programmatic EA, such as increased turbidity during construction, would not occur for this project. There may be increased sediment flow in the new stream channel during the first winter flows following project construction as the stream flushes out loose dirt and dust left in the channel from construction. However, the creek already accumulates loose dust during the months when it is dry that washes out in early winter. This potential increase in turbidity would be for a limited time, cause no long-term impacts to water quality in the area, and be largely consistent with the current hydrology of the system. Reduced channel incision, backwater-forming woody debris, and increased sinuosity would help retain sediment and reduce the incision of Little Trout Creek. Increased floodplain interaction and the growth of associated riparian vegetation would also help improve water quality by further retaining sediment and reducing channel erosion and incision. As a result, the overall effects on water quality would be beneficial and low, consistent with the conclusions of the Programmatic EA.

In summary, there would be low beneficial effects on water quantity and short-term adverse effects but long-term beneficial effects on water quality. The overall effects on water resources would therefore be low, consistent with the conclusions of the Programmatic EA.

## 3. Vegetation

The effects of the proposed actions on vegetation are consistent with the analysis in the Programmatic EA, Section 3.3.3, which concluded that there would be moderate short-term adverse impacts on vegetation and long-term positive effects, making the overall effects moderate.

No ESA-listed plant species have been documented in or near the project area.<sup>4</sup> No separately listed Oregon state special-status plants are present in Jefferson County.<sup>5</sup> Non-listed vegetation in the project area is typical of the southwestern Columbia Plateau. Areas of the project area outside the channel are dominated by bunchgrasses and small shrubs. Larger vegetation in the area includes white alder (*Alnus rhombifolia*) and black cottonwood (*Populus trichocarpa*). Western juniper is also commonly found in the area and is currently being monitored and removed regularly to prevent it from further outcompeting other native vegetative species.

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<sup>4</sup> "IPaC." USFWS.

<sup>5</sup> "Listed Plants." Oregon Department of Agriculture. Last accessed April 29, 2026. <https://www.oregon.gov/oda/plant-conservation/pages/listed-plants.aspx>.

The proposed actions would have some moderate short-term adverse effects on vegetation in the project area. Complex riparian vegetation along the Little Trout Creek channel is limited due to the highly incised channel's lack of extensive floodplain interaction. Excavation and floodplain re-grading actions would remove some existing vegetation in the project area. The Sponsors would minimize adverse impacts to vegetation by limiting excavation to the smallest extent needed to accomplish the project goals. Mitigation measures, such as salvaging larger plants and relocating and replanting them prior to excavation would occur as much as possible. No chemical (herbicide) removal of vegetation would occur and no vegetation outside of the project area would be removed. As a result, the overall short-term adverse impacts to vegetation during project implementation would be moderate through the implementation of mitigation measures.

The new, more sinuous and less incised Little Trout Creek channel would help restore the historical interaction of the stream with its floodplain. This would improve the conditions for riparian vegetation in the project area because increased floodplain inundation and water retention would increase the amount of groundwater available for plants. The Sponsors would also seed and plant disturbed areas following construction. A native grass and forb seed mixture would be spread across the floodplain and upland areas to ensure desirable vegetation grows in these areas. Additional plantings of nursery-grown trees and large shrubs would be added in appropriate areas to further enhance the vegetative complexity of the area. All vegetation would be monitored to ensure successful regrowth, and invasive, noxious, and undesirable weeds would be removed as appropriate by the Sponsors in future years until a self-sustaining riparian ecosystem is present in the area. The long-term effects of the proposed actions would be to replace the current conditions with a vibrant riparian ecosystem.

In summary, while the short-term effects on vegetation from project action would require removal of some individual plants and be moderate overall, the long-term effects would be beneficial to vegetation in the project area. Taken together, the overall effects on vegetation from project actions would therefore be low-to-moderate, consistent with the conclusions of the Programmatic EA.

#### **4. Wetlands**

The effects of the proposed actions on wetlands are consistent with the analysis in the Programmatic EA, Section 3.3.4, which concluded that some wetlands would be temporarily damaged or destroyed by project actions but would be restored, expanded, and improved over the long-term, making the overall impacts on wetlands low.

There are currently no mapped wetlands present on or near the project area.<sup>6</sup>

The long-term effects of the proposed actions would improve the hydrology of the project area and potentially create new ephemeral wetlands in the Little Trout Creek floodplain. The current channel's lack of integration with the local floodplain is not conducive to retaining water and supporting riparian wetlands during high flow periods. By reducing the incision of the channel and increasing the sinuosity of the stream as well as planting native vegetation in the floodplain, the proposed actions would increase water retention and interaction with the floodplain, potentially establishing new ephemeral wetlands in the local area. However, the climate in the project area is typical of central Oregon. Low rainfall, high summer temperatures, and the nature of native vegetation would make the establishment of extensive wetlands in the project area unlikely. Additionally, the seasonal nature of Little Trout Creek would limit the scope of any potential new wetlands. Were any wetlands to form as a result of project actions, they would likely be ephemeral, consistent with the overall ecology of the area.

In summary, there would be no effects on wetlands in the short-term and potential positive effects in the long-term. Taken together, the overall impacts from project actions on wetlands would therefore be low, consistent with the conclusions of the Programmatic EA.

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<sup>6</sup> "National Wetlands Inventory." U.S. Fish and Wildlife Service. Last accessed May 4, 2026. <https://www.fws.gov/program/national-wetlands-inventory/>.

## 5. Wildlife

The effects of the proposed actions on wildlife are consistent with the analysis in the Programmatic EA, Section 3.3.5, which concluded that short-term adverse effects on wildlife would be moderate for individuals disrupted by actions but would be low in the long term.

No ESA-listed terrestrial or avian wildlife species are found in the project area.<sup>7</sup> No separately listed Oregon state special-status wildlife species are found in the project area.<sup>8</sup> Although ESA-listed and Oregon-conservation strategy species gray wolf (*Canis lupus*) is found in Jefferson County, ODFW regularly monitors all known wolf packs in the area and none have been documented in the region surrounding the Little Trout Creek project site.<sup>9</sup> Non-listed species in the area include a variety of small mammals like black-tailed jackrabbit (*Lepus californicus*) and large game species like mule deer (*Odocoileus hemionus*).

There would be minor short-term adverse effects on any wildlife present at the project site during construction. Wildlife would be disturbed by human presence and noise from the proposed actions, particularly from construction machinery and equipment. These effects would be limited in duration to the time it takes to implement project actions and would not persist beyond construction. Additionally, the scope of these effects would be limited to the roughly 32-acre project site and would not affect wildlife outside of this area. Wildlife near the area would likely relocate outside the project area during construction due to the noise and human presence but would not be otherwise affected. The project would not require capture or forced relocation of wildlife.

The long-term effects of improving Little Trout Creek would have minor beneficial effects on wildlife, including positive effects from the restoration of more extensive vegetation to the area. The area along the restored stream would host a more complex riparian vegetation system than the current, laterally confined channel. This vegetation would provide additional shade, habitat, and forage for small animals and birds in the area. However, because of the arid nature of the area, the relatively small project area, and the seasonal nature of the stream, these effects would be low.

In summary, the effects on wildlife from the proposed actions would be adverse and low in the short term and positive and beneficial in the long term. The overall effects on wildlife would therefore be low, consistent with the conclusions of the Programmatic EA.

## 6. Geology and Soils

The effects of the proposed actions on local geology and soils are consistent with the analysis in the Programmatic EA, Section 3.3.6, which concluded that the short-term adverse effects on geology and soils would range from moderate to high but would be mitigated by conservation measures included in the HIP4 BiOp. Given the implementation of the conservation measures and the expected beneficial long-term benefits from the proposed action the overall effects would be moderate.

The proposed actions would require extensive earthmoving and excavation and, as a result, adversely affect soil at the project site. Sections of the floodplain would be graded and cut, with these spoils used to modify the channel of Little Trout Creek. The project is designed for nearly balanced cut and fill, requiring no soil to be added or removed from the project site, merely relocated from one area to another within the project footprint. Roughly 25 acres would be affected by floodplain and channel earthmoving activities.

Additional minor excavation would be required for planting vegetation and installing wood habitat structures throughout the channel and floodplain. The excavation required for these actions would be small and occur largely in areas that are already disturbed by floodplain grading. This excavation would

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<sup>7</sup> "IPaC." USFWS.

<sup>8</sup> "Threatened, Endangered, and Candidate Fish and Wildlife Species." ODFW.

<sup>9</sup> "Wolves in Oregon." Oregon Department of Fish and Wildlife, Wildlife Division. Last accessed May 4, 2026. <https://dfw.state.or.us/wolves/index.html>.

not substantially increase the amount of disturbance beyond what is occurring for floodplain and channel grading.

The Sponsors would mitigate the effects of earthmoving on local geology and soils to the greatest extent possible. Access to the project site and staging (equipment and materials) would be via an existing private roadway and would not require any additional disturbance. Floodplain and channel grading would be limited to the area needed to implement project actions and would not affect geology and soils beyond the roughly 25-acre disturbance area. Dust abatement measures would be employed to reduce the impacts on local soils from wind. The long-term effects of the proposed actions, such as planting new vegetation and better integrating the channel Little Trout Creek into its floodplain, would improve sediment and soil retention in the area and improve the quality of local soil.

In summary, the effects of the proposed actions on local soils and geology would be moderate in the short-term, through the implementation of mitigation measures, and low-to-moderate in the long term. Taken together, the overall impacts from project actions on soils and geology would therefore be moderate, consistent with the conclusions of the Programmatic EA.

## **7. Transportation**

The effects of the proposed actions on transportation are consistent with the analysis in the Programmatic EA, Section 3.3.7, which concluded that the impacts to transportation would be low.

The project area is located on privately-owned land in rural Oregon. The public has no access to the project area, nor access to the road which runs through the project area, which is behind a locked gate and fence. The Sponsors obtained written permission from the landowner for implementing the proposed actions. While project actions would impact the use of the area by the landowner and their authorized visitors during construction, these disruptions have been contemplated in the Sponsors' agreement with the landowner. Moreover, because the road is private and the public has no access, there would be no effect on public transportation in the region.

In summary, the effects of the proposed actions on transportation would be low, consistent with the conclusions of the Programmatic EA.

## **8. Land Use and Recreation**

The effects of the proposed actions on land use and recreation are consistent with the analysis in the Programmatic EA, Section 3.3.8, which stated that land use practices underlying project sites would not be changed for most projects and concluded that effects to recreation would be low.

There would be no change to underlying land use of the project site as a result of these actions. The project site is located on private land. This ownership would not change. Project actions would prevent the landowner and their authorized visitors from using the area during implementation, but this disruption would only be temporary and has been contemplated in the Sponsors' agreement with the landowner. The long-term use of the area would also not change as a result of the restoration actions. The project site is currently under a 15-year livestock and grazing exclusion agreement that was signed prior to construction of the first phase of the Little Trout Creek project. The landowner currently only uses the property for personal recreation and access along the roadway. New cattle exclusion fencing around the Phase 2 project site would therefore not alter the current use of the property through at least the end of the exclusion agreement, and the owner would once again have full access for personal recreation soon after construction is completed.

In summary, there would be no changes to land use and minor short-term effects on recreation, but no long-term changes. The overall effects would therefore be low, consistent with the conclusions of the Programmatic EA.

## **9. Visual Resources**

The effects of the proposed actions on visual quality of the project area are consistent with the analysis in the Programmatic EA, Section 3.3.9, which concluded that the impacts to visual resources would be low but evaluated on a site-specific basis for each proposed project.

The current visual condition of the project area is typical for upland areas in southwestern Columbia Plateau ecoregion. The project area lacks complex vegetation due to historical cattle grazing and the degradation of Little Trout Creek. Much of the surrounding area is dominated by bunchgrasses and small forbs, with some trees and larger vegetation along the stream channel. Project actions would have minor effects on the current visual quality of the area but would not substantially alter it. Integration of the historical floodplain with the channel of Little Trout Creek, along with other project actions like planting native plants, would create more complex riparian vegetation and restore the historical visual quality of the area. The project site would more closely resemble the characteristics of other local stream corridors that did not undergo the same historical anthropogenic alterations as Little Trout Creek. However, these effects would have limited impact on the public because the project is not publicly accessible or visible and, as a result, any changes to the area's visual quality would not be visible to the public.

In summary, while there would be changes to the current visual quality of the project site, the changes would not be out of character for the region, nor generally visible to the public. The effects of the proposed actions on the visual quality of the area would therefore be low, consistent with the conclusions of the Programmatic EA.

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

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

Construction would temporarily affect air quality and generate noise. Excavation and earthmoving would require the use of construction machinery like excavators, which would generate exhaust and noise during use. Other equipment, such as trucks and skid steers, would also contribute to these effects. Dust and particulates from earthmoving would also affect local air quality, mitigated by dust abatement measures in the HIP4 BiOp like wetting areas that would be excavated and spraying water to catch particulate in the air. These effects would be temporary in duration and limited to the project site and nearby area. No actions are proposed that would result in long-term changes to air quality or local noise levels. The effects of the proposed actions on air quality and noise would therefore be low, consistent with the conclusions of the Programmatic EA.

The proposed actions would have a low effect on public health and safety. The project area is located on private land behind a locked gate and fence with no authorized access by the public. The project area is located in rural Oregon and members of the public would not be permitted in the project area during implementation of the restoration actions. 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, such as equipment only being operated by trained and licensed personnel and structuring the implementation schedule to allow for construction to proceed at a deliberate and careful pace to reduce the danger of injury from rushed implementation. The effects of the proposed actions on public health and safety would therefore be low, consistent with the conclusions of the Programmatic EA.

## **11. Cultural Resources**

The effects of the proposed actions are consistent with the analysis in the Programmatic EA, Section 3.3.11, which concluded that the impacts to cultural resources from project actions would be low because cultural resources would be avoided by project construction and effects would be appropriately

resolved through the process set forth in Section 106 of the National Historic Preservation Act (Section 106 process).

BPA initiated the Section 106 process for Phase 2 of the Little Trout Creek restoration project (BPA CR Project No. OR 2024 233) by identifying an area of potential effects (APE) for the project site, access roads, and staging areas totaling roughly 32 acres. BPA cultural resources staff conducted background research into past cultural resources surveys conducted nearby and inventories of any known cultural resources within the APE. Additionally, BPA staff conducted an intensive field survey of the APE. Based on this research and survey, BPA identified cultural resource sites in the APE and prepared a report documenting these resources. These areas would be avoided during construction. On March 11, 2026, BPA determined that the project actions would result in no adverse effect to historic properties. Consulting parties were the Oregon State Historic Preservation Office (SHPO) and the Confederated Tribes of the Warm Springs Reservation of Oregon. SHPO concurred with BPA's determination on April 9, 2026. No other responses were received. The consultation period ended on April 10, 2026.

To avoid effects on cultural resources, the Sponsors would implement mitigation measures, including ensuring avoidance of sensitive areas and adding their locations to GPS equipment during construction; restricting fence replacement work at sensitive areas to hand tools; ensuring that vehicles stay on existing roads in locations where the roads intersect sensitive areas; and halting work in the event that cultural material is inadvertently discovered until BPA and consulting parties can assess the finds.

In summary, the effects on cultural resources would be low and mitigated by employing mitigation measures developed through the Section 106 process, consistent with the conclusions of the Programmatic EA.

## **12. Socioeconomics**

The effects of the proposed actions are consistent with the analysis in the Programmatic EA, Section 3.3.13, which concluded that impacts to socioeconomics would be low to moderate.

The project is located on private land in Jefferson County, Oregon. Jefferson County is very rural, with a population density of less than 12 people per square mile and nearly a third of the total county population concentrated within the city limits of Madras, which lies roughly 25 miles southwest of the site. Because of the geographic isolation of the project site, travel to the area from Madras can take upwards of 60 minutes, and as a result the area surrounding the project site has few residences and businesses. Additionally, the project site itself is locked behind a private gate and access is barred to the public, further isolating it.

Project actions would not affect any population because the property is located on private property. Project actions would not require new permanent employees or require individuals to leave the area or relocate within it. There would be no effect on housing or property appropriate for housing available for local populations. While there may be some short-term socioeconomic benefits for businesses in Madras and other local towns from workers commuting to the project site and purchasing fuel and meals, the effects would be low because of the remoteness of the project site.

The effects of the proposed actions on socioeconomics would therefore be low, consistent with the conclusions of the Programmatic EA.

## **13. Climate Change**

The effects of the proposed actions are consistent with the analysis in the Programmatic EA, Section 3.3.14, which concluded that impacts to climate change would be low.

Generation of greenhouses gasses from the proposed actions would be limited to exhaust from construction machinery, such as from excavators, skid steers, and trucks. These effects would be limited in duration to the construction of the proposed actions and would not result in any long-term generation of greenhouses gasses. The Sponsors would avoid running equipment when it is not in use to conserve fuel and reduce exhaust emissions. The short-term generation of greenhouses gasses would

further be offset to a limited degree by the ameliorating effects of the restored floodplain and increased vegetation in the area. More expansive riparian vegetation would sequester additional greenhouses gasses than the current, limited riparian corridor and could reduce the impacts caused by exhaust from construction.

In summary, the effects of the proposed actions on climate change would be low in the short-term and have low beneficial long-term effects. The overall effects would therefore be low, consistent with the conclusion of the Programmatic EA.

### **Findings**

BPA finds that the types of actions and the potential impacts analyzed for the proposed Little Trout Creek Phase 2 project are consistent to those analyzed in the Columbia Basin Tributary Habitat Restoration EA (DOE/EA-2126) and Finding of No Significant Impact. There are no substantial changes in the EA's Proposed Action and no substantial new circumstances or information about the significance of the adverse effects that bear on the analysis in the EA's Proposed Action or its impacts within the meaning of NEPA and the current DOE NEPA Implementing Procedures. Therefore, no further NEPA analysis or documentation is required.

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Concur:

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## **References**

“Listed Plants.” Oregon Department of Agriculture. Last accessed April 29, 2026.

<https://www.oregon.gov/oda/plant-conservation/pages/listed-plants.aspx>.

“Threatened, Endangered, and Candidate Fish and Wildlife Species.” Oregon Department of Fish and Wildlife, Wildlife Division. Last accessed April 29, 2026.

[https://www.dfw.state.or.us/wildlife/diversity/species/threatened\\_endangered\\_candidate\\_list.asp](https://www.dfw.state.or.us/wildlife/diversity/species/threatened_endangered_candidate_list.asp).

“Wolves in Oregon.” Oregon Department of Fish and Wildlife, Wildlife Division. Last accessed May 4, 2026. <https://dfw.state.or.us/wolves/index.html>.

StreamNet Mapper.” Pacific States Marine Fisheries Commission. Last accessed April 29, 2026.

<https://www.streamnet.org/home/data-maps/>.

“Information for Planning and Consultation (IPaC).” U.S. Fish and Wildlife Service. Last accessed April 29, 2026. <https://ipac.ecosphere.fws.gov/>.

“National Wetlands Inventory.” U.S. Fish and Wildlife Service. Last accessed May 4, 2026.

<https://www.fws.gov/program/national-wetlands-inventory/>.