

Supplement Analysis
for the
Columbia River Basin Tributary Habitat Restoration
(DOE/EA-2126/SA-10)

Taneum Ragheart Restoration Project
BPA project number 1997-051-00
BPA contract number 56662 REL 211

Bonneville Power Administration
Department of Energy



Introduction

In December 2020, Bonneville Power Administration (Bonneville) and the Bureau of Reclamation (BOR) 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 Taneum Ragheart Restoration Project, which would implement many of the specific restoration actions assessed in the Programmatic EA in the Yakima River Basin in Kittitas County, Washington. The objectives are to increase in-stream habitat diversity, increase floodplain access, reduce water temperatures, and improve riparian and floodplain vegetative diversity for the benefit of Endangered Species Act (ESA)-listed salmonids. This SA analyzes the site-specific impacts of the Taneum Ragheart Restoration Project (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).

Site-specific Proposed Action

Bonneville proposes to fund the Yakama Nation to implement a portion of a habitat restoration and floodplain improvement project along a 1.4 mile-long segment of Taneum Creek between river miles (RM) 1.95 to 3.4 in Kittitas County, Washington (Figure 1). The project area between RM 1.95-2.4 is owned by Washington Department of Fish and Wildlife (WDFW) and is within the LT Murray Wildlife Area. The project area between RM 2.4-3.4 is primarily owned by BOR. The Kittitas Reclamation District operates irrigation infrastructure within the project area, including a siphon, flume, and associated outfall near RM 2.85, a diversion facility below RM 2.7, and associated canals to the north and south of the valley bottom (Figure 2). Much of the project area was cleared for agricultural use, and is regularly maintained up to the edge of Taneum Creek, resulting in a narrow riparian corridor. The project would include in-stream wood placement, riparian planting, and riparian corridor protection measures that are targeted to improve fish habitat for Endangered Species Act (ESA)-listed summer steelhead, as well as spring Chinook, coho, bull trout, cutthroat trout, and rainbow trout.

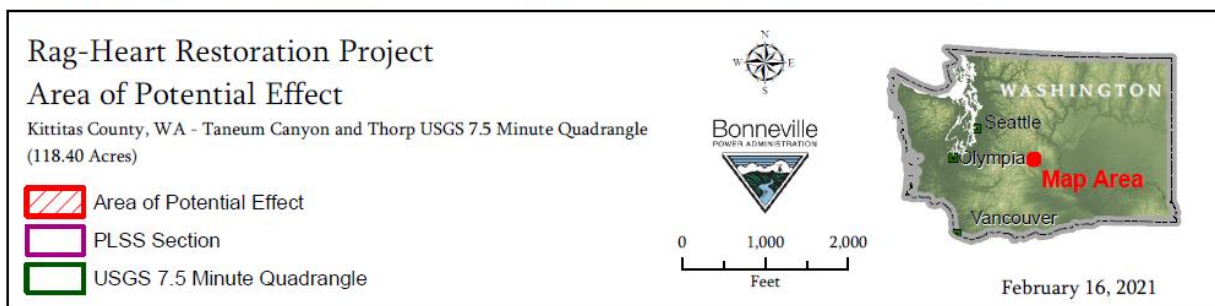
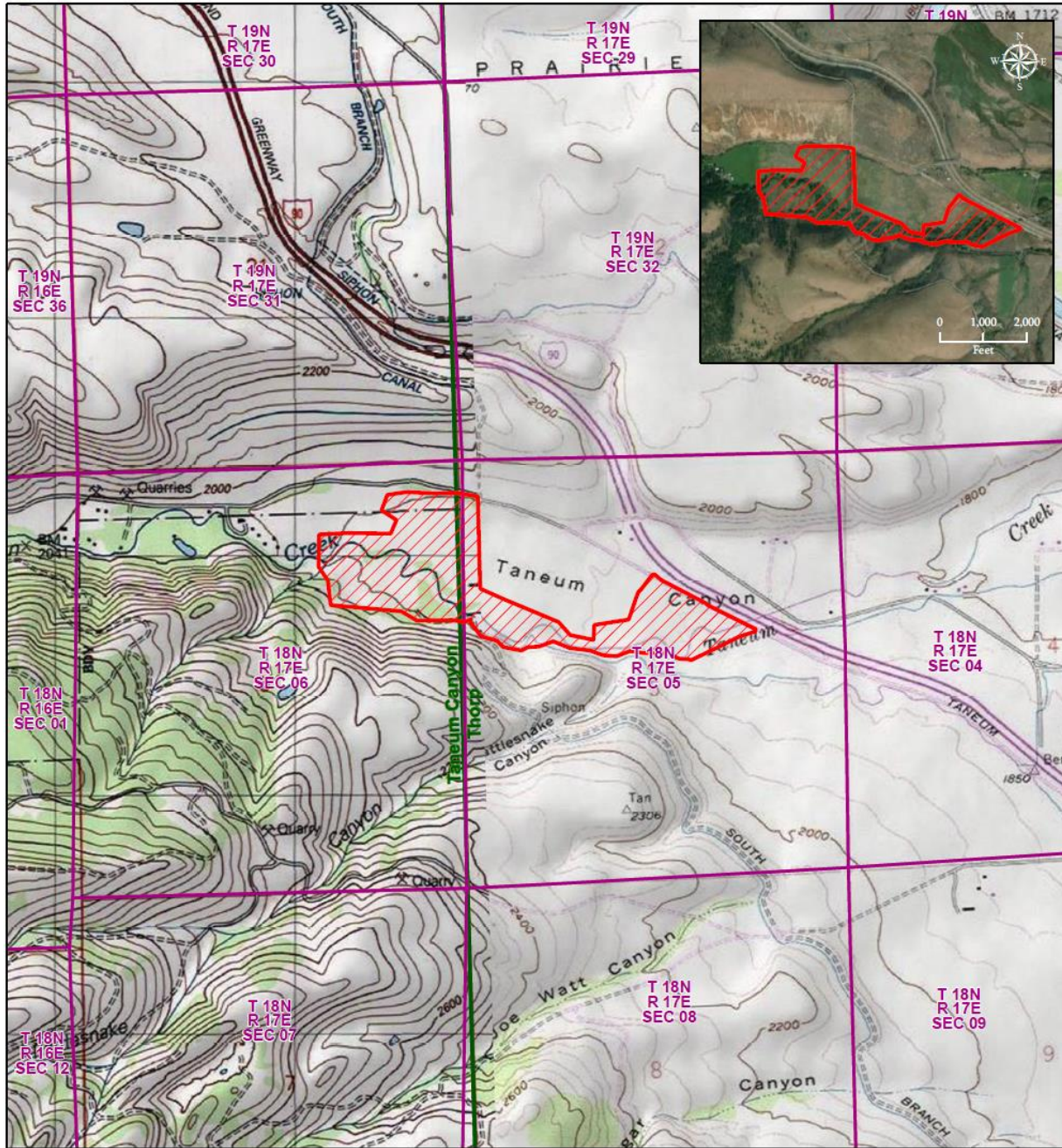


Figure 1: Taneum Ragheart Project Vicinity

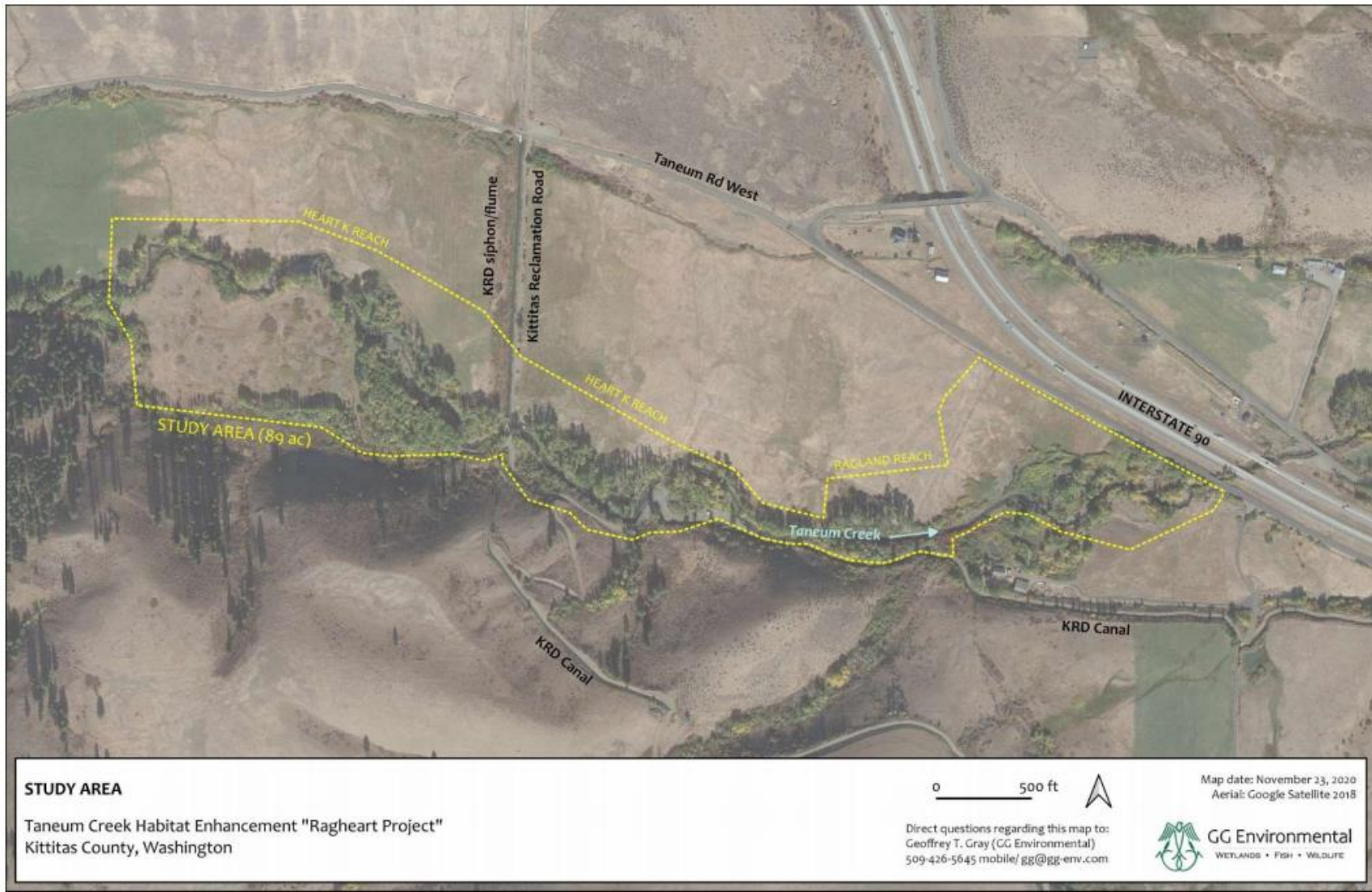


Figure 2: Taneum Ragheart Project Reach. Note: the study area shown depicts wetland delineation boundaries. The Taneum Ragheart Project also encompasses the space between the westernmost project reach and KRD siphon/flume, up to Taneum Road West.

The proposed project area encompasses about 180 acres of broad 1,500 foot-wide alluvial valley. Historically, the valley bottom was an anabranching system with multiple sinuous channels. Subsequent timber harvest, agricultural use, and channelization resulted in a present-day inset floodplain that is less than 300 feet wide, and is four to six feet below the historical floodplain depth. The quality of aquatic habitat in the project area has degraded considerably, with limited vegetative shading, lack of physical complexity, poor floodplain connectivity, limited in-stream wood recruitment, and elevated stream temperatures.

The project would include construction and placement of engineered log jams (ELJs), which would span up to 90 percent of the stream channel. ELJs are designed to allow for fish passage. About 18 ELJs would be constructed by piling vertical logs into the streambed, adding slash and racking between the pile logs, then placing key logs on top of racking and slash to anchor each structure. Some streamside excavation may be needed to anchor key logs and their root wads to the stream banks. All streamside excavation would occur during low seasonal flows, and above the water line to limit in-stream turbidity potential. Each ELJ would be composed of about 18 pieces of wood between 16 and 22 inches in diameter, with about 60 pieces of racking and slash less than 10 inches in diameter. The ELJs would halt channel incision, trap and store sediment, raise the water table, encourage pool formation, and increase the frequency of flow access to the floodplain.

Additional unanchored wood key pieces would be strategically placed throughout the project reach, and would encourage hydraulic complexity and in-stream habitat formation. Wood placement would be limited to areas that do not pose a risk to infrastructure within and downstream of the project area.

All construction work would be performed from high banks or on dry gravel bars. In-water wood placement would be conducted during the approved in-water work window for the stream reach (July-October 15). Streamside excavation would occur above the ordinary high water mark and outside the flowing stream channel. If channel crossings are needed, a temporary bridge would be installed to protect water quality during construction. Access roads, staging areas, and work areas would be developed to minimize disturbance to existing vegetation and soils, and to avoid impact to existing on-site wetlands. Crossing of the wetted stream channel is expected to be a minimal occurrence.

Construction would be followed with streamside riparian broadcast seeding and planting live stakes and container plants of black cottonwood, various willow species, aspen, and red-osier dogwood using an excavator with a stinger tool attachment. The stinger tool increases planting success by placing stakes at groundwater depth during the dry season. Douglas-fir and ponderosa pine would be hand planted in upland areas. A temporary elk enclosure (fencing) would be installed to protect large clusters of plants and to reduce opportunities for browse. Once plants have established above elk browse height, fencing would be removed. A 200-foot buffer would be established from the channel edge where mowing would be restricted long-term. Once the channel begins to aggrade and groundwater is elevated, additional plantings and adaptive management measures (such as wood structure maintenance, additional wood or slash placement on existing structures, and vegetation planting and management activities) would be implemented for up to 10 years post-construction.

These actions would support conservation of ESA-listed species considered in the 2020 ESA consultations with National Marine Fisheries Service and U.S. Fish and Wildlife Service on the operations and maintenance of the Columbia River System and Bonneville's commitments to the Yakama Nation under the 2020 Columbia River Fish Accord Extension agreement, while also supporting ongoing efforts to mitigate for effects of the FCRPS on fish and wildlife in the mainstem Columbia River and its tributaries pursuant to the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act) (16 U.S.C. (USC) 839 et seq.).

Environmental Effects

The typical effects associated with the environmental disturbances are described in Chapter 3 of the Programmatic EA, and are incorporated by reference and summarized in this document. Below is a description of the potential site-specific effects of the Taneum Ragheart Restoration Project, and an assessment of whether these effects are consistent with those described in the Programmatic EA.

1. Fish and Aquatic Species

ESA-listed summer steelhead, bull trout, and their critical habitats are present within the project area, as well as spring Chinook, coho, cutthroat trout, and rainbow trout. Movement, sounds, and vibrations of human and mechanical activity during construction would disturb fish and temporarily displace them from their preferred habitat for as long as that movement, sound, and vibration are present.

Consultation on potential effects of the project on ESA-listed species was completed under Bonneville's programmatic Fish and Wildlife Habitat Improvement Program (HIP4) biological opinion. HIP4 conservation measures would be applied during project implementation. Overall, short term impacts to fish and aquatic species would be low, consistent with the analysis in the Programmatic EA, Section 3.3.1.2.1 Short-Term Effects to Fish and Aquatic Species from Construction Activities.

Implementation of the project would result in long-term beneficial effects to fish and aquatic species from increased stream complexity, enhanced riparian cover and protection along Taneum Creek, increased available floodplain access and flows, and expected reduction in summer water temperatures. These beneficial effects are consistent with the analysis in the Programmatic EA found in Section 3.3.1.2.2 Effects to Fish and Aquatic Organisms unique to the Categories of Action.

Overall, project impacts would be consistent with Programmatic EA Section 3.3.1.3 Effects Conclusion for the Proposed Action on Fish and Aquatic Species, which describes low impacts to fish and aquatic species after considering moderate short-term adverse effects from construction and beneficial long-term effects.

2. Water Resources

Project construction would temporarily expose, displace, reconfigure, or compact earth through the use of mechanized equipment and ELJ development along Taneum Creek. Small amounts of sediment could be released for short periods of time during ELJ construction and placement, and at temporary stream crossings. Impacts would be minimal because no in-stream excavation, dewatering, or new channel construction is proposed, and mitigation measures (detailed in the Programmatic EA Section 2.4 Mitigation Measures and Design Criteria) would be applied. The anticipated amount of impact to water quality would be low, and is consistent with the analysis in the Programmatic EA in Section 3.3.2 Water Resources. Project implementation would have no impact on water quantity.

The project would result in a long-term decrease in unnatural sediment inputs by halting ongoing bank erosion and incision in the project reach, and by increasing sediment storage potential with increased floodplain access. The project is expected to result in a long-term reduction in stream temperatures from improved stream form, an increase in instream habitat structure, and increased riparian vegetative

cover and protection. These long-term beneficial effects are consistent with those described in the Programmatic EA.

The Programmatic EA, Section 3.3.2.2 Environmental Consequences for Water Resources, describes overall low impacts to water quality after considering moderate short-term adverse effects during construction and beneficial long-term effects of the project.

3. Vegetation

No ESA-listed plant species are present within the project area. Short-term moderate impacts to vegetation would occur during project mobilization and temporary access road construction. Existing vegetation would be removed, graded, or trampled to provide temporary site access. Temporary access roads would require a 15-foot-wide graded surface, depending on site conditions, and construction-related disturbance to riparian areas would be minimized to the extent practicable. Any trees or woody material removed during access road construction would be used for in-stream habitat structures. After construction, temporary access roads would be removed, regraded, and re-seeded. The limited existing riparian corridor would be expanded to a 200-foot-wide protected riparian corridor, and would be re-seeded and planted using native stock. Increased floodplain inundation would improve vegetation diversity and density in the long-term.

The effects of using construction equipment and manually working in and along Taneum Creek are consistent with the analysis in the Programmatic EA Section 3.3.3 Vegetation. The analysis concludes that although the effects on vegetation from construction actions may be moderate in the short term, there would be long-term beneficial effects of increased riparian habitats and restored or improved vegetative conditions. Thus, the overall effects of this project would be moderate.

4. Wetlands and Floodplains

Twenty-nine wetlands were delineated within the project reach, totaling 11.5 acres of the project area. However, project construction activities would be limited to upland areas only, resulting in no short-term impact to wetlands.

In the long-term, the project could increase wetland acreage and improve floodplain conditions. Added in-stream roughness and wood placement would slow stream flows and increase floodplain inundation potential. Hydraulic modeling indicates that a 1.2 acre increase in floodplain inundation with 22% decrease in stream velocities would be expected during 1-year flow events. At the 100-year flow event, overbank depths would increase by another 0.8 feet, and would engage remnant side channels. Additionally, wetland quality would improve due to the restoration of natural flow patterns and the replacement of invasive species with native plants. With greater floodplain connectivity at the site, it is anticipated that wetland hydrology would improve, which could expand the wetland area, and re-establish native vegetative communities.

Flow redirection from partial-channel-spanning ELJs would facilitate more natural lateral movement and sinuosity within the stream channel, which would slow water velocities, facilitate more effective connection between the channel and the floodplain, and provide for more efficient sediment movement and retention in the floodplain. Impacts to wetlands and floodplains are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 – Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.4 (Effects to Resources by Resource Type – Wetlands and

Floodplains). Consistent with the Programmatic EA, there would be long-term beneficial effects from increased connectivity between the existing Taneum Creek channel and its floodplain.

5. Wildlife

No ESA-listed terrestrial species are known to exist within the proposed project area. Local wildlife may be temporarily disturbed by sound and movement caused by human presence. Mobile species such as birds and small mammals may be temporarily displaced during construction and vegetation removal, but could return once activity has moved or ceased. Smaller, less mobile species could lose habitat and be harassed, harmed, or killed during construction activity.

Long-term, the proposed project would restore habitats beyond existing conditions. The addition of a 200-foot riparian vegetation buffer would increase carrying capacity for wildlife species. Long-term benefits include increased plant species richness and diversity, increased habitat structural diversity, increased habitat heterogeneity, and increased extent of riparian habitat.

Impacts to wildlife are consistent with the Tributary Habitat EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.5 (Effects to Resources by Resource Type – Wildlife). The analysis concludes that the short-term effects on small wildlife species may be moderate to high for individuals that are harmed or killed by construction activities, but effects would be comparatively minor for larger animals that may only be displaced from habitats rendered unsuitable for occupancy for a period of time. The long-term effects on wildlife populations, however, would be beneficial from the increased habitat quality and carrying capacity resulting from the project. The overall effects of this project would be low to moderate and consistent with those evaluated in the Programmatic EA.

6. Geology and Soils

Project construction activities, including vegetation clearing, grading, and soil compaction by heavy equipment, would temporarily increase localized soil erosion potential and degrade soil structure. Impacts would be mitigated by use of erosion and sediment control devices, and post-construction site restoration activities (site de-compaction and re-seeding).

Long-term improvement to soils is expected once disturbed surfaces are re-seeded and riparian plantings are established and stabilize the soil surface. Long-term improvement to sediment transport and floodplain access within the project reach would restore natural sediment-forming processes.

Impacts to geology and soils are consistent with the Tributary Habitat EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.6 (Effects to Resources by Resource Type – Geology and Soils). The analysis concludes that the effects of the project on geology and soils would be moderate to high in the short-term, but with implementation of mitigation measures and the long-term benefits, the overall effects would be low. The overall effects of this project would be consistent with those evaluated in the Programmatic EA.

7. Transportation

The project area would be accessed via West Taneum Road, and Thorp Cemetery Road, which run along the northern boundary of the project area and parallel to Taneum Creek. Off-road access to individual construction sites for large wood placement and riparian plantings would be via temporary access routes developed during project mobilization. If stream crossings are needed for access, logs would be placed parallel to flows, and would extend at least six inches above the water surface to minimize in-

stream impacts. Staging areas established within the project area would allow for traffic to continue to utilize West Taneum Road and Thorp Cemetery Road during construction.

Impacts to transportation are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.7 (Effects to Resources by Resource Type – Transportation). The analysis concludes that, although project actions may impact roads for a short period, the overall effect on transportation would be low.

8. Land Use and Recreation

The project is located on BOR and WDFW LT Murray Wildlife Area properties. River Miles 1.95-2.4 on the LT Murray Wildlife Area are used for hunting, fishing, and public access. River Miles 2.4-3.4 on BOR lands are managed for conservation, but have been used for agricultural practices (primarily mowing to control weeds). Construction activities would result in short-term displacement of recreational users from the immediate project area. Recreational users could instead utilize any of the public access areas throughout the 54,000-acre LT Murray Wildlife Area. Long-term change to land use would include the restriction of agricultural-related mowing to establish a 200-foot wide riparian vegetative buffer along Taneum Creek. Changes to land use would be consistent with the goals and objectives of WDFW's LT Murray Wildlife Area Management Plan, which specifies plans for improved fish populations, species diversity, and restoration of riparian habitats, among other goals. Changes to land use on BOR property would be consistent with BOR conservation objectives for the project area.

Impacts to land use and recreation are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.8 (Effects to Resources by Resource Type – Land Use and Recreation). The analysis concludes that land use practices underlying project sites would not be changed for most projects. Some small acreages along stream course areas may revert from agricultural uses back to the wetland and riparian conditions from which they historically were converted. The overall effects of this project on land uses and recreation are expected to be low to moderate and would be consistent with those evaluated in the Programmatic EA.

9. Visual Resources

The proposed project is not within a visually sensitive area. Impacts to visual resources are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.9 (Effects to Resources by Resource Type – Visual Resources). The analysis concludes that the effects on scenic values from the project would be low. The

overall effects of this project on visual resources are expected to be low and would be consistent with those evaluated in the Programmatic EA.

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

Impacts to air quality from construction equipment exhaust and dust emissions would be temporary and localized in nature and would not have long-term impacts on air quality. Implementation of this project is not expected to generate long-term or short-term violations of state air quality standards.

The project would temporarily elevate ambient noise levels at the construction site. Such noise would come from construction, transportation, and site rehabilitation activities. Long-term change to noise levels is not expected to result from the proposed project.

Short-term construction and restoration activities would not increase risk to workers and the public during construction. Adequate signage and other routine safeguards for worker and public safety would be used to minimize risk to public safety. The project was designed to minimize project-related risk to the Kittitas Reclamation District (KRD) Road bridge, the KRD irrigation diversion structure, and flood conveyance through the Thorp Cemetery Road bridge crossing downstream of the project reach.

Impacts to air quality, noise, and public health and safety are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.10 (Effects to Resources by Resource Type – Air Quality, Noise, and Public Health and Safety). The analysis concludes that the effects of noise from the project on the human environment would be low and that the effects of the restoration program on air quality, public health, and safety would be low. The overall effects of this project would be consistent with those evaluated in the Programmatic EA.

11. Cultural Resources

Bonneville conducted National Historic Preservation Act (NHPA) Section 106 consultation with the Washington Department of Archaeology and Historic Preservation (DAHP), BOR, WDFW, the Confederated Tribes and Bands of the Yakama Nation, and the Confederated Tribes of the Colville Reservation (CCT). Bonneville made a determination of no effect to historic properties on June 4, 2021. DAHP concurrence was received on June 7, 2021. BOR responded with no further comments, CCT responded that the project is outside their area of interest, and YN responded with a request for edits to the cultural resources report, which Bonneville addressed. No other responses were received from consulting parties.

Impacts to cultural resources are consistent with the Tributary Habitat EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.11 (Effects to Resources by Resource Type – Cultural Resources). That is, the effect on cultural resources from the project would be low because cultural resources would be avoided during project construction. The overall effects of this project would be consistent with those evaluated in the Programmatic EA.

12. Socioeconomics and Environmental Justice

The project would result in small, temporary, beneficial impacts to socioeconomics by providing jobs for construction workers, and by creating short-term beneficial economic effects for local businesses in smaller communities through purchases of food, fuel, lodging, and materials associated with

construction and restoration actions. Long-term benefits could result from improvements to natural scenery and recreational enjoyment.

Impacts to socioeconomics and environmental justice are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.13 (Effects to Resources by Resource Type – Socioeconomics and Environmental Justice). The analysis concludes that effects to the socioeconomics of the Columbia River Basin as a whole with the implementation of the project would be low due to the small scale and dispersed nature of the projects. Overall, no permanent adverse effects to populations where environmental justice would be a consideration are expected. The overall effects of this project would be consistent with those evaluated in the Programmatic EA.

13. Climate Change

The project would have a negligible effect on climate change from short-term emissions during implementation of the restoration actions. Any impact would be offset to some degree by the ameliorating effects of restored floodplain function such as increased water table inputs, increased carbon sequestration in expanded and improved wetland habitats, and decreased water temperatures from improved instream and riparian habitat conditions. The overall effects on climate change would be low.

Impacts to climate change are consistent with the Programmatic EA analysis in Sections 3.2.2 (Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat), 3.2.9 (Effects Specific to Category 9 – Riparian and Upland Habitat Improvements and Structures), and 3.3.14 (Effects to Resources by Resource Type – Climate Change). The analysis concludes that the overall effects of this project on climate change would be low.

Findings

Bonneville finds that the types of actions and the potential impacts related to the proposed Taneum Ragheart Restoration Project have been examined, reviewed, and consulted upon and are similar to those analyzed in the Columbia River Basin Tributary Habitat Restoration Programmatic Environmental Assessment (DOE/EA-2126) and Finding of No Significant Impact. There are no substantial changes in the EA's Proposed Action and no significant new circumstances or information relevant to environmental concerns bearing on the EA's Proposed Action or its impacts within the meaning of 10 CFR § 1021.314(c)(1) and 40 CFR §1502.9(d). Therefore, no further NEPA analysis or documentation is required.

/s/ Claire McClory

Claire McClory

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Concur:

/s/ Katey C. Grange for

Sarah T. Biegel

NEPA Compliance Officer

Date: July 15, 2021