

Supplement Analysis
for the
Columbia River Basin Tributary Habitat Restoration EA
(DOE/EA - 2126/SA-21)

Catherine Creek State Park Habitat Enhancement
BPA project number 1992-026-01

Bonneville Power Administration
Department of Energy



Introduction

In December 2020, Bonneville Power Administration (BPA) and the Bureau of Reclamation completed the Columbia River Basin Tributary Habitat Restoration Programmatic Environmental Assessment (DOE/EA 2126) (Programmatic EA). The Programmatic EA analyzed the potential environmental impacts of implementing habitat restoration actions in the Columbia River Basin and its tributaries.

Consistent with the Programmatic EA, this Supplement Analysis (SA) analyzes the effects of the Catherine Creek State Park Habitat Enhancement Project, which applies specific actions assessed in the Programmatic EA in Catherine Creek, a tributary of the Grand Ronde River in Union County, Oregon. The project's objectives are to increase in-stream habitat diversity; 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 Catherine Creek State Park Habitat Enhancement Project to determine if they are within the scope of the analysis considered in the Programmatic EA, including whether there are substantial changes to the proposal analyzed in the 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) and 10 CFR 1021 *et seq.*

Proposed Activities

BPA proposes to fund Oregon Department of Fish and Wildlife (ODFW) to implement the Catherine Creek State Park Habitat Enhancement Project to restore aquatic habitat. The project is designed to improve habitat conditions for ESA-listed spring Chinook salmon and summer steelhead along Catherine Creek, approximately 7.3 miles southeast of Union, Oregon. The project area is located within Catherine Creek State Park between RM 48.5 and 49.2 of Catherine Creek. The state park includes a campground and day use picnic area and is managed by Oregon Parks and Recreation Department. Current vegetation is comprised of upland areas dominated by ponderosa pine, Douglas fir and snowberry, while red alder and red osier dogwood dominate floodplain areas. In many locations, coniferous communities extend to be adjacent to the existing main channel alignment. The habitat quantity and quality in this area of Catherine Creek has been reduced by the development of adjacent infrastructure and simplification and straightening of the stream channel.

The project would occur in an area about 40 acres in size and would be comprised of the excavation of a side channel, installation of large wood structures, gravel bar development, and riparian vegetation restoration. Specifically, the stream restoration project would consist of the following elements:

- A 1,000-foot-long side channel would be excavated along a historical channel scar. This new side channel would be active at low flows, providing low velocity habitat and cover. Approximately 4,000 cubic yards of material would be excavated and hauled off site to create the side channel.
- Large wood structures would be installed in order to increase quantity and quality of pool habitat, provide cover habitat within the excavated side channel, and assist in side channel activation. Approximately 150 logs would be used to create approximately 20 structures placed in the mainstem and the new side channel.
- Two gravel bars (approximately 0.1 acre [6,000 square feet] each) in the mainstem would be created to narrow the channel, provide planform complexity, facilitate lateral channel migration, and increase sinuosity. Gravel used for bar construction would be imported from an off-site source.
- Riparian and upland areas outside of the excavated side channel, wood placement areas, and gravel bars disturbed as a result of construction would be planted with a number of native trees and shrubs following project completion as well as native seed mixes specific to each area.
- An information and education component also would be part of the overall project, including installation of new signs.

Project restoration work would occur during the approved in-water work window for the stream reach (July 1 – October 15). In-water work areas would be dewatered and isolated and any fish present would be salvaged and moved from the work area.

Vehicles and equipment would access the site via existing roads and temporary roads within the project area. Equipment and materials would be staged within the overall project area footprint. Temporary access and staging areas would be restored after completion of construction.

These actions would fulfill commitments under the 2020 National Marine Fisheries Service Columbia River System Biological Opinion. These actions would also support conservation of ESA-listed species considered in the 2020 ESA consultation with U.S. Fish and Wildlife Service on the operations and maintenance of the Columbia River System 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

All of the project activities would disturb and displace soil in and along the stream; damage vegetation; create noise and produce vehicle emissions; and temporarily increase vehicle traffic and human activity in the project area. The typical effects associated with the physical and environmental disturbances created by these types of projects 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 Catherine Creek State Park Habitat Enhancement Project and an assessment of whether these effects are consistent with those described in the Programmatic EA. This project's actions are designed to improve both aquatic and riparian habitats for the long term, so the adverse effects from soil and vegetation disturbance, and from human and mechanical activity, as detailed below, would be short-term only.

1. Fish and Aquatic Species

ESA-listed chinook, steelhead, bull trout, lamprey; Oregon state threatened and endangered species redband trout, Columbia spotted frog, rocky mountain tailed frog; and associated critical habitats are present within the project area and would likely experience short-term adverse effects during construction activities and while conditions settle. Small amounts of sediment would enter the creek during the construction of instream wood structures and gravel enhancements. In addition, a small pulse of sediment is likely to occur once water is diverted into the constructed side channel. The sediment inputs would be typical of the amounts that fish and other aquatic species naturally encounter in their environment. The work area isolation, fish salvage, dewatering, and instream construction activity would displace fish from the work area until the work area is rewatered. The newly constructed in-stream environment would be re-colonized by fish and other aquatic organisms with near-full recovery likely in a matter of weeks, and full recovery likely following the first seasonal flushing flows. The anticipated amount of activity and the level of aquatic species disturbance, however, is consistent with the analysis in the Programmatic EA found at Section 3.3.1.2.1, Short-Term Effects to Fish and Aquatic Species from Construction Activities, where harm to fish and aquatic species from dewatering is detailed; and movement, sounds, and vibrations of human and mechanical activity would disturb fish and displace them from the project temporarily.

Federal ESA Section 7 consultation on potential effects of the project on ESA-listed species was completed under BPA's programmatic Fish and Wildlife Habitat Improvement Program (HIP) biological opinion. HIP conservation measures would be applied during project implementation. The short term impacts to fish and aquatic species would be low and 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 Catherine 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, and potentially less than, those impacts described in the 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

Following the stream restoration actions, hydrologic processes in the floodplain, which have been disconnected for decades, would be restored almost instantaneously. The effects of restoring hydrology would include a localized increase in the water quantity including an increase in the depth of water and

duration of water on the site. Over time, the restoration of hydrologic connectivity and inundation at the project site would support the restoration of natural processes contributing to habitat establishment and development, fish and wildlife usage, and structural and functional dynamics at the project site. The restoration of local hydrology would improve ecological structure, sustaining a diversity of habitat types which in turn would increase the resilience and self-sufficiency of the wider ecosystem.

Construction activities could result in increases to turbidity, but would be short-term and localized, which would also be lessened by the application of mitigation measures such as phased re-watering, existing vegetation protection, minimizing areas to be impacted, and replanting. Mitigation measures are further detailed in the Programmatic EA Section 2.4, Mitigation Measures and Design Criteria and the HIP conservation measures.

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. The project would be consistent with these impacts.

3. Vegetation

No Oregon threatened or endangered plant species are present within this project area. Some areas would be stripped of vegetation to create the new side channel and construct stream-side wood structures and other areas would have vegetation crushed by equipment. Areas disturbed as a result of construction would be planted with a number of native trees and shrubs following project completion as well as native seed mixes specific to the area. Planting of native vegetation overall would result in beneficial impacts to native vegetation, wetlands, and floodplain habitats.

These project-related effects are consistent with those considered 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 and consistent with the Programmatic EA.

4. Wetlands and Floodplains

About 1.5 acres of wetland impacts would occur during construction of the side channel, but these impacts would be temporary and over time, the project would likely result in a net increase in wetland acreage in the project area compared to pre-project conditions. ODFW has obtained a Clean Water Act Regional General Permit NWP-2021-117 (dated April 7, 2021) for wetland impacts and would follow the permit minimization measures. Following project construction, native vegetation would be planted along the riparian and floodplain areas to enhance the function and value of wetlands and floodplains. This restored habitat would be beneficial for all species of fish and wildlife that occur along Catherine Creek. The effects would be consistent with the analysis in the Programmatic EA, Section 3.3.4.2, Wetlands and Floodplains.

Project actions that would occur within floodplains would be intended to improve long-term floodplain function, but the associated construction activities would have short-term adverse effects from the construction of the side channel; installation of large woody debris structures; and creation of gravel bars in the channel; all of which can be temporarily disruptive to the landscape. The locations and

amounts of flows would be changed, and the initial flows of water through the newly constructed areas would mobilize and transport some amount of sediment. The force of flows within new areas would begin the process of molding the new floodplain features: digging pools, establishing gravel bars, moving instream gravels and large wood water, and refining banks, diversions, and confluences.

The impacts to floodplains for the proposed side channel would be occurring at a time of year when flows are low and floodplains would naturally have no, or limited, surface connections to their associated channels. Although there would be temporary short-term adverse effects to the project area, overall, the project would result in beneficial impacts to wetlands and floodplains in the proposed restoration area.

Impacts to wetlands and floodplains from the project 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.

5. Wildlife

Wildlife species found in or around rivers and riparian areas are beaver, muskrat, otter, and mink, and these species could be present. Construction activities could temporarily displace these animals due to noise in the project area, removal of vegetation habitat, and increased human presence, but they would return or be replaced by other individuals of the same types of species once activities ceased. Smaller, less mobile species could lose habitat and be harassed, harmed, or killed during construction activity. In the long term, the return of the project area to more natural condition and the restoration of native vegetation would improve wildlife habitat in the area. The project would have no effect on ESA-listed wildlife species because none are present, and the project area is outside of any management areas or designated critical habitats.

Overall, temporary and localized impacts to wildlife would be low, consistent with the impacts discussed in Section 3.3.5.2.2 of the Programmatic EA.

6. Geology and Soils

The project would remove approximately 4,000 cubic yards of material from the floodplain of Catherine Creek and would result in bare/disturbed soils. Exposed soils would be compacted in routes of travel and areas accessed by heavy equipment, which may alter soil structure. Following construction, all exposed areas would be decompacted, stabilized through seeding with a mix of sterile, quickly establishing erosion control species and native herbaceous species which are expected to successfully germinate by the wetter fall months.

Impacts to soils and geology from the project would be moderate in the short-term, with long-term beneficial impacts consistent with those analyzed in the Programmatic EA, Section 3.3.6.2. These short-term impacts include temporary erosion and sedimentation; altered channel form; changes to the structure and density of soils; localized changes in velocity, flow, and circulatory patterns; and increased groundwater exchange resulting in changes to soil structure and porosity.

7. Transportation

The project would be accessed via existing Catherine Creek State Park entrances and roads directly off the Medical Springs Highway. Off-road access within the construction site for large wood placement and riparian plantings would be via temporary access routes developed during project mobilization. Staging areas established within the project area would not impact traffic on Medical Springs Highway. During construction, there would be a minor increase in traffic from construction vehicles entering and leaving the project site. However, this increase in traffic volume is not expected to adversely affect traffic flow on local roads or within the state park. While vehicles transporting workers and equipment to the project site would share local roads with other traffic, there would be no other temporary or permanent effects to existing roads, such as closures or relocations.

The stream restoration actions are designed to modify the channel structure and hydraulic characteristics of Catherine Creek within the project reach. These modifications create the potential for changed flow conditions that could affect downstream road prisms, culverts, and bridges. During BPA's design review, project engineers provided the data, analysis, and modeling of the intended future conditions at various flood levels to ensure that downstream infrastructure would not be placed at increased risk as mentioned in the Programmatic EA, Section 3.3.7.2.

Impacts to transportation 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 3.3.7, Effects to Resources by Resource Type – Transportation. The analysis in the Programmatic EA concludes that, although project actions may impact roads for a short period, the overall effect on transportation would be low. The overall effects of this project would be consistent with those evaluated in the Tributary Habitat EA.

8. Land Use and Recreation

The project would be located within Catherine Creek State Park and planned in coordination with Oregon Parks and Recreation Department. Park infrastructure includes a campground, trails, pedestrian bridges, picnic areas, various other structures, and is often used for fishing and water sports on the portion of Catherine Creek within the park. The proposed restoration actions would not change the designation of recreation areas, but areas may be permanently altered by restoration actions.

Recreational use of Catherine Creek would be impacted during construction due to dewatering, area closures, and disruption of ambient conditions. The park would remain open throughout implementation and alternate locations within Catherine Creek State Park would be available for recreationists. These impacts and area closure restrictions would be short-term and temporary; consistent with the Programmatic EA, Section 3.3.8.1.2. Public safety mitigation measures would be required by the implementation contractor and would include signage, roped-off areas, and public notices; keeping consistent with measures outlined in the Programmatic EA, Section 2.4, Mitigation Measure and Design Criteria. In addition, park employees would be present daily to assist with public interactions. Upon completion, signage would be placed to protect disturbed areas and to educate the public about the restoration efforts.

Following construction, physical characteristic of the water body and surrounding area would be redefined. The existing floodplain would likely be more susceptible to seasonal flooding events,

resulting in the formation of seasonal wetlands that provide habitat for fish and other wildlife. Channel modifications would reroute the hydrological regime, currently a deep channelized flow with little habitat, water would be redistributed to an abandoned side channel and alcoves, and habitat features would be added. Additionally, riparian fencing would be constructed to allow the establishment of newly planted vegetation and decrease wildlife grazing. These modifications to the project site would likely limit access and use of previously used recreational areas along the banks and riparian areas. In the long term, habitat improvements would likely enhance fishing, wildlife watching, and the Catherine Creek Park experience overall.

Impacts to land use and recreation are consistent with the Programmatic EA, Section 3.2.2, Effects Specific to Category 2 - Improving River, Stream, Floodplain, and Wetland Habitat, and 3.2.9, Effects to Resources by Resource Type - Land Use and Recreation. Overall, the analysis concludes that land use practices would not change significantly, but rather would likely improve, and effects of this project on land use and recreation are expected to be low to moderate and would be consistent with those evaluated in the Programmatic EA.

9. Visual Resources

The effects of this project in and along Catherine Creek are consistent with the analysis in the Programmatic EA, Section 3.3.9, Visual Resources. The Programmatic EA, Section 3.3.9.3, describes low impacts to visual resources.

The proposed work would have little to no effect on visual quality. The area would be temporarily void of vegetation during and immediately after construction, which would be minimized through revegetation of work areas. In the long term, the new large wood structures would be visually consistent with adjacent vegetation and the topography of the proposed side channel would not be located in a visually sensitive area. Any change to the viewshed due to construction vehicles or equipment would be short term and temporary. This level of impact would be low, as is stated in the Programmatic EA.

10. Air Quality, Noise and Public Health and Safety

Minor temporary impacts to air quality would result from the transportation and operation of construction equipment. Overall, the impacts to air quality are expected to be low both in concentration and duration. Construction equipment would emit some carbon monoxide, nitrogen oxide, unburned hydrocarbons, and particulates (primarily soot) from tailpipe emissions and cause dust during ground disturbance and travel along unpaved access roads during implementation of restoration actions. These emissions could affect air quality locally for short durations. However, impacts would be low and would not result in long- or short-term violations of state air quality standards. Project impacts on air quality would be low both in concentration and duration, consistent with the impacts described in the Programmatic EA, Section 3.3.10.2.

The project would temporarily elevate ambient noise levels at the construction site. Such noise would come from construction, transportation, and site rehabilitation activities. Temporary disruptions would occur during daylight hours from July 1 to October 15. Long-term change to noise levels is not expected to result from the proposed project. As a result the overall effects would be low as is described in the Programmatic EA, Section 3.3.10.2.2.

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 during construction.

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

Site-specific National Historic Preservation Act Section 106 consultation for the Catherine Creek State Park Habitat Enhancement Project was conducted by BPA with the Oregon State Historic Preservation Office (SHPO), Nez Perce Tribe, Confederated Tribes of the Umatilla Indian Reservation, and by Oregon Parks and Recreation Department.

BPA conducted a cultural resources survey of the project area and, based on the survey results, determined that the proposed project would have no effect on historic properties. BPA sent this determination to consulting parties on July 2, 2018. SHPO completed their review of BPA's determination of effects on cultural resources on September 6, 2019 (Case No. 18-1141). In their review, SHPO concurred that the project would result in no historic properties affected. SHPO also concurred that the project would likely have no effect on any archaeological objects or sites. BPA received no tribal responses to BPA's consultation letters.

If an archaeological object or site (i.e., historic or prehistoric) is encountered during project implementation, all ground disturbance at the location would cease immediately until a professional archaeologist could be contacted to evaluate the discovery. Therefore, the implementation of the proposed project would result in no adverse effect to historic properties and effects to cultural resources would be low. These findings are consistent with the analysis in the Programmatic EA, Section 3.3.11.2.

12. Socioeconomics and Environmental Justice

Because there would be alternate locations within Catherine Creek State Park for recreationists, the project is not anticipated to cause a decrease in visitors or a decrease in economic revenue for the area. There may be a small benefit to the local economy due to temporary increased spending associated with the construction activities. For the project, socioeconomic impacts would be low, consistent with those described in the Programmatic EA, Section 3.3.13.2.

13. Climate Change

Greenhouse gas emissions associated with the project (primarily carbon dioxide, methane, and nitrous oxide) would be localized and temporary. They would be generated by the short-term emissions from construction equipment, off-road vehicles, and on-road vehicles (including worker commuting and material delivery). Given the short construction duration, low number of vehicles and equipment, and

estimate of emissions well below the Environmental Protection Agency's (EPA's) reporting threshold of 25,000 metric tons of carbon, the project would have a low level of greenhouse gas production and therefore, have a low contribution to climate change.

The project would also provide for an increase of long-term water table inputs through restoring floodplain function and increasing connectivity of Catherine Creek to its associated floodplains. The project would also increase riparian shading of the river and its associated tributaries. Both of these results from the project would help lower water temperatures, thereby ameliorating potential effects of warming waters on aquatic species. Overall, the long-term impacts on climate change from the project are expected to be low and beneficial, consistent with the impacts described in the Programmatic EA, Section 3.3.14.2.

Findings

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

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Concur:

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