

Supplement Analysis
for the
Columbia River Basin Tributary Habitat Restoration
Programmatic Environmental Assessment
(DOE/EA 2126/SA-04)

Morgan Creek S-22 Crossing Reconstruction
Bonneville project number 2007-268-00
Bonneville contract number 86099

Bonneville Power Administration
Department of Energy



Introduction

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

Consistent with the Programmatic EA, this Supplement Analysis (SA) analyzes the effects of the *Morgan Creek S-22 Crossing Reconstruction Project*, that would implement two of the specific actions assessed in the Programmatic EA in and along Morgan Creek in Custer County, ID. The project's objective is to provide for fish passage at an existing crossing of irrigation ditch S-22 and Morgan Creek along the Salmon River in eastern Idaho for the benefit of Endangered Species Act-listed salmonids.

Proposed Action

The *Morgan Creek S-22 Crossing Reconstruction Project* is located on private land at the intersection of S-22 (an irrigation ditch carrying water from the Salmon River) and Morgan Creek (a tributary to the Salmon River) ten river miles downstream of Challis, Idaho in Section 24, Township 15 north, Range 19 east. At this crossing, S-22 currently empties into Morgan Creek, and Morgan Creek water is subsequently diverted into the continuation of the S-22 ditch directly across the creek from the S-22 outflow. To provide sufficient depth for the diversion of Morgan Creek water into the continuation of the S-22 ditch, an in-stream gravel dam in Morgan Creek is pushed up by a tractor every year. This push-up dam blocks fish passage in Morgan Creek throughout the irrigation season.

The project proposes to reconstruct the outflow of S-22 into Morgan Creek, construct a new irrigation diversion to supply the continuation of S-22 across the creek from this outflow, and replace the need for a push-up dam with an in-stream constructed riffle that would provide adequate depth for the diversion and provide fish passage year-round. The new diversion would include the means for measuring the amount of water diverted to ensure no more was taken than was contributed from the S-22 outflow, and that sufficient flows for fish passage are maintained.

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

Environmental Effects

The implementation of these actions requires redirecting Morgan Creek (using temporary coffer dams) into a bypass channel, and thereby isolating the in-stream work area from creek flows. This work area would be dewatered after all fish were herded or captured and relocated from the isolated area. The work would require the use of an

excavator to place the coffer dam devices into place, dig the bypass channel, construct the riffle, remove the old diversion structure, place the new diversion structure, and reshape the bank around it. The site-specific work area for this action would be less than ¼ of an acre, and would take less than four weeks to complete. The work would be completed within the Idaho Department of Fish and Game-established instream work window of July 7 through August 15. These actions would disturb and displace soil in and along Morgan Creek; reshape the Morgan Creek streambed, disrupting the gravels and exposing soil that would be carried downstream as sediment when stream flows are reintroduced to the work area after isolation; damage vegetation; create noise and vehicle emissions; and temporarily increase vehicle traffic and human activity in the project area. These actions and the typical effects associated with the environmental disturbances created by them are consistent with those described in Chapter 3 of the Programmatic EA at Sections 3.1, “*Effects Common to Construction Activities*”, and Section 3.2.7.1, “*Irrigation and Water Delivery Modifications*”. These sections are incorporated by reference and summarized in this document below.

Below is a description of the potential site-specific effects of the *Morgan Creek S-22 Crossing Reconstruction Project*, and an assessment of whether these effects are consistent with those described in the Programmatic EA for each resource. This project is designed to improve both aquatic and riparian habitats for the long term, so the adverse effects from soil and vegetation disturbance, and from human and mechanical activity, as detailed below, would be short-term only.

1. Fish and Aquatic Species

The effects of using an excavator and manually working in and along Morgan Creek are consistent with the analysis in the Programmatic EA, “*Fish and Aquatic Species*”, Section 3.3.1. The Programmatic EA, Section 3.3.1.3, describes overall low impacts to fish and aquatic species after considering moderate short-term adverse effects against beneficial long-term effects.

Three species listed under the Endangered Species Act are present in the project area: Snake River spring/summer Chinook salmon, Snake River steelhead, and bull trout. Consultation on the effects of this action on these species was completed under Bonneville’s programmatic Fish and Wildlife Habitat Improvement Program (HIP4) consultation with the conclusion that the projects would likely adversely affect these species and their critical habitat but would not likely result in jeopardy to the species or result in destruction or adverse modification of their critical habitat.

The short-term adverse effects of the Proposed Action would expose, displace, reconfigure, or compact earth through the use of mechanized equipment within and along Morgan Creek, and likely create conditions where sediment would be released for a short period of time following construction activities. The amount of sediment anticipated by the Proposed Action would be moderate because there would be instream excavation, dewatering, and reintroduction of flows over newly exposed soils and gravels. However, mitigation measures as detailed in the Programmatic EA, Appendix B for work area isolation and fish salvage would be applied, minimizing these impacts. The sediment inputs would be consistent with the amounts evaluated in the Programmatic EA at Section 3.3.1.2.1.

The work area isolation, fish salvage, dewatering, and instream construction activity would displace fish from the work area until the work area is re-watered. Small aquatic organisms that could not be practically salvaged would likely be destroyed. The newly constructed in-stream environment would be re-colonized by fish and other aquatic organisms with near-full recovery likely in a matter of weeks, and full recovery likely following the first seasonal flushing flows. The anticipated amount of activity and the level of aquatic species disturbance, however, is consistent with the analysis in the Programmatic EA found at Section 3.1.3.1, “*Dewatering for Instream Work*” and 3.3.1.2.1, “*Short-Term Effects to Fish and Aquatic Species from Construction Activities*” where direct, harmful, and sometimes fatal impacts to aquatic species are disclosed; and that movement, sounds, and vibrations of human and mechanical activity are discussed as likely to disturb fish and displace them from their habitat preferred temporarily..

The Proposed Action’s beneficial effects include the elimination of long-term annual disturbances to the streambed and banks of Morgan Creek by push-up dams, consistent flows and depths for fish passage, and the development of stable instream and riparian habitats for fish and aquatic species at this location in Morgan Creek. These beneficial effects are consistent with the analysis in the Programmatic EA found at Section 3.3.1.2.2.7, “*Irrigation, Water Delivery, and Water Use Actions (Category 7) Effects on Aquatic Species*”.

2. Water Resources

The effects of using an excavator and manually working in and along Morgan Creek are consistent with the analysis in the Programmatic EA, “*Water Resources*”, Section 3.3.2. The Programmatic EA, Section 3.3.2.3, describes overall low impacts to water quality after considering moderate short-term adverse effects and beneficial long-term effects. There would be no effect to water quantity, as these projects make no water withdrawals.

Overall, the project would create short-term sediment input from reintroducing flows to the dewatered work area following riffle construction. As in the Programmatic EA, this is a short-term effect which would be lessened by the application of mitigation measures for work area isolation (Appendix B in Programmatic EA) and others, such as protection of existing vegetation, minimization of areas to be impacted, location of refueling areas, use of non-toxic hydraulic fluids, and revegetation when actions are complete. Also, the short-term adverse impacts would be created to produce a stable long-term in-stream beneficial condition that would prevent the need to operate a tractor in the river each year to construct a push up dam. This eliminates long-term annual disturbances to water quality within Morgan Creek. The level of effect on water quality for the mid to long term would be low.

3. Vegetation

The effects of using an excavator for riffle construction and diversion replacement in and along Morgan Creek are consistent with the analysis in the Programmatic EA, “*Vegetation*”, Section 3.3.3. The Programmatic EA, Section 3.3.3.3, describes overall moderate impacts to vegetation after considering moderate short-term adverse effects and beneficial long-term effects. No plant species listed under the Endangered Species Act are present within this project area.

This project, however, is anticipated to have less impact than that described in the Programmatic EA. There would be no large-scale earthmoving, with its associated vegetative loss (this project would impact less than ¼ of an acre, whereas the Programmatic EA in Table 9, page 98, evaluated actions that would mostly range up to one acre in size). Impacts to vegetation would be primarily from the loss of vegetation in the de-watered work area at the site of the new irrigation diversion, and to some degree some disturbance of vegetation along the banks during riffle construction in this small stream. The project area, however, would be hydroseeded and planted with native shrub species following construction, so this loss would be short-term. This level of effect would be low.

4. Wetlands and Floodplains

This project would affect no wetlands or floodplains since none are present in the project area. There would be no effect.

5. Wildlife

The effects of using an excavator for riffle construction and diversion replacement in and along Morgan Creek are consistent with the analysis in the Programmatic EA, “*Wildlife*”, Section 3.3.5. The Programmatic EA, Section 3.3.5.3, describes overall low impacts to wildlife after considering high short-term adverse effects and beneficial long-term effects. No wildlife species listed under the Endangered Species Act are present within this project area.

The short-term effects from this action in Morgan Creek would be less than those analyzed in the Programmatic EA, because the planned riffle construction and diversion replacement would have far less impact to soils and vegetation, and thus to wildlife habitat. There would be no large-scale earthmoving, with its associated vegetative loss and small animal impacts as was assessed in the Programmatic EA. Impacts would primarily be from disturbance of wildlife by the temporary presence and activity of humans and machines. This could temporarily displace them from their preferred haunts during construction (three to four weeks), and they would likely re-occupy the site once human activity has ceased. This level of effect would be low, as is stated in the Programmatic EA.

6. Geology and Soils

The effects of using an excavator for riffle construction and diversion replacement in and along Morgan Creek are consistent with the analysis in the Programmatic EA, “*Geology and Soils*”, Section 3.3.6. The Programmatic EA, Section 3.3.6.3, describes moderate impacts to geology and soils.

The short-term effects from this action would be less than those analyzed in the Programmatic EA, because the planned restoration actions here would have far less impact to soils. There would be no large-scale earthmoving,

and thus no widespread mixing of soil horizons or severe compacting of soils. Less than ¼ of an acre would be impacted in this project, and though the impacts within that small area could be considered high alone, mitigation measures designed to minimize adverse effects, such as minimizing the area of impact, and applying erosion control measures, would be applied. Also, the short-term adverse impacts would be created to produce a stable long-term beneficial condition that would prevent the need to operate a tractor in the river and along the banks each year to construct a push up dam. This eliminates long-term annual disturbances to soil along Morgan Creek. The level of effect from this project, considering the short-term adverse effects with the long-term beneficial effects would be moderate.

7. Transportation

The effects of using an excavator for riffle construction and diversion replacement in and along Morgan Creek are consistent with the analysis in the Programmatic EA, “*Transportation*”, Section 3.3.7. The Programmatic EA, Section 3.3.7.3, describes low impacts to transportation.

This action would not impact any roads, either open or closed, public, or private. No roads would be closed; none would be temporarily blocked; none would be relocated. The most effect this action would have on transportation would be that vehicles transporting workers and equipment to the project site would be sharing local roads with other traffic during construction. This level of impact would be low, as is stated in the Programmatic EA.

8. Land Use and Recreation

There would be no effect on land use or recreation from this Proposed Action. Land uses would not change; and public recreation opportunity on the private land (of which there is none because this land is not open to public use) would not change. This level of effect is consistent with that described in the Programmatic EA at Section 3.3.8.3 which states that land use practices underlying project sites would not be changed for most projects.

9. Visual Resources

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

The Proposed Action in Morgan Creek is about ¼ mile east of State Highway 93, and is not visible from that road, being visually blocked by vegetation and private farm buildings. As discussed above under “*Vegetation*”, there would be no large-scale soil or vegetation disturbance (as was assessed for some projects in the Programmatic EA). There would be no change to the visual landscape, since completed work would create no new terrestrial landscape feature, and the only altered feature would be underwater: the new riffle in the streambed. This level of impact would be low, as is stated in the Programmatic EA.

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

The effects of this action in and along Morgan Creek are consistent with the analysis in the Programmatic EA, “*Air Quality, Noise, and Public Health and Safety*”, Section 3.3.10. The Programmatic EA, Section 3.3.10.3, describes low impacts to air quality, noise, and public health and safety.

The Proposed Action is far from any major population center or public use area, and would not have any potential to directly impact the public, other than when sharing the roads when workers travel to and from the work site. Air quality and noise would be affected by operations and emissions from the machinery to be used during riffle construction and placement of the new irrigation diversion. But this would be very short-term, and likely too far from any population area to heard or seen; no long-term source of emissions or noise would be created. No action proposed has potential to impact public safety infrastructure (e.g. roads, telecommunications) or place a burden on emergency services (police, fire, ambulance). This level of impact would be low, as is stated in the Programmatic EA.

11. Cultural Resources

The effects of this action are consistent with the analysis in the Programmatic EA, “*Cultural Resources*”, Section 3.3.11. The Programmatic EA, Section 3.3.11.3, describes low impacts to cultural resources because cultural

resources would either be avoided by project construction, effects would be appropriately resolved through the Section 106 consultation process, and any proposed projects' adverse effects to cultural or historic resources that cannot be appropriately resolved through the Section 106 consultation process would not be tiered to this programmatic environmental assessment.

Cultural resources surveys were conducted, and consultations with Idaho State Historic Preservation office and the Shoshone-Bannock Tribes were completed for the area potentially affected by the Proposed Action. The results of those surveys and consultation with Idaho SHPO (their Review Number 2020-849) were that the irrigation ditch S-22 is historic and eligible for listing in the National Register of Historic Places, but that the changes proposed would not represent a significant alteration or disassociation with the historical themes that make it eligible, and the action would therefore have no adverse effect to historic properties. There was no response from the Shoshone-Bannock Tribes.

12. Socioeconomics and Environmental Justice

The effects of this action are consistent with the analysis in the Programmatic EA, "*Socioeconomics and Environmental Justice*", Section 3.3.10. The Programmatic EA, Section 3.3.10.3, describes low impacts to socioeconomics and environmental justice.

As described in the Programmatic EA, this action would not generate a requirement for additional permanent employees nor would it require individuals to leave the local area, or relocate within it. There would be no effect on housing available for local populations. This Proposed Action would not displace people or eliminate residential suitability of the land being affected, or from lands near the project site. The project would generate short-term employment for those directly implementing the actions and provide small, short-term input to local businesses for fuel, equipment, and meals. This degree of effect would be low.

There are no environmental justice populations present that could be affected, as this action and its impacts are limited to the private land on which it is located, and no offsite or indirect effects are anticipated that could impact such populations elsewhere.

13. Climate Change

The effects of this action are consistent with the analysis in the Programmatic EA, "*Climate Change*", Section 3.3.10. The Programmatic EA, Section 3.3.10.3, describes low impacts to climate change.

The action would have a low level of effect on climate change from short-term emissions from motorized equipment operations during implementation of the Proposed Action.

Findings

Bonneville finds that the types of actions and the potential impacts related to the proposed *Morgan Creek-S-22 Crossing Reconstruction* were examined, reviewed, and consulted upon and are similar to those analyzed in the *Columbia River Basin Tributary Habitat Restoration Programmatic Environmental Assessment (DOE/EA 2126)* and Finding of No Significant Impact. There are no substantial changes in the Proposed Action and no significant new circumstances or information relevant to environmental concerns bearing on the Proposed Action or its impacts within the meaning of 10 CFR § 1021.314(c)(1) and 40 CFR § 1502.9(d). Therefore, no further NEPA analysis or documentation is required.

/s/Robert W. Shull

Robert W. Shull

Contract Environmental Protection Specialist

Cor-Source Technology Group

Reviewed by:

/s/ Chad Hamel

Chad Hamel

Supervisory Environmental Protection Specialist

Concur:

/s/ Sarah T. Biegel

Sarah T. Biegel

NEPA Compliance Officer

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