



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1201 NE Lloyd Boulevard, Suite 1100
PORTLAND, OR 97232-1274

<https://doi.org/10.25923/wrrh-mm82>

May 13, 2025

Refer to NMFS No: WCRO-2025-00889

Jacque Schei
Environmental Protection Specialist
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3624

Re: Endangered Species Act Section 7(a)(2) Condensed Biological Opinion for the Little Walla Walla Fish Ladder and Screens Operation and Maintenance Activities Walla Walla Subbasin (HUC 170701020704; 45.298015, -118.379070), Umatilla County, Oregon

Dear Ms. Schei:

Thank you for your letter of March 28, 2025, requesting initiation of consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act of 1973 (ESA) (16 U.S.C. 1531 et seq.) for the Little Walla Walla Fish Ladder and Screens Operation and Maintenance Activities. The Bonneville Power Administration (BPA) proposes to continue funding the ongoing operation and maintenance (O&M) of the fish ladder and screens at the Little Walla Walla (LWW) Diversion (river mile 47) in Walla Walla County, Washington. Your request, including information submitted subsequent to that request, qualified for our expedited review and analysis because it met our screening criteria and contained all required information on, and analysis of, your proposed action and its potential effects to listed species and designated critical habitat.

Consultation History

NMFS previously consulted on the O&M activities at the LWW diversion facilities addressed in this opinion, and issued opinions in 2006 (2004/01532) and 2011 (2011/00750). Opinion 2011/00750 expired December 31, 2021.

BPA contacted NMFS on July 22, 2024, to determine if they needed to consult on on-going O&M activities at the LWW diversion fish ladder and screens, since the opinion (2011/00750) had expired. NMFS and NOAA Fisheries' Office of General Counsel staff met on August 13, 2024, and determined consultation would need to occur. The BPA submitted a consultation initiation package, including a Biological Assessment (BA), to NMFS on September 24, 2024. We reviewed the initiation package and sent an email to BPA on November 14, 2024, requesting additional information on the proposed action and O&M activities that have occurred since 2011.

Because of the timeframe needed to respond to the request for additional information, BPA withdrew their consultation request on February 10, 2025. BPA resubmitted a request for consultation on March 28, 2025, which included a BA and their response to the additional information requested. NMFS initiated consultation on March 28, 2025.

We reviewed BPAs consultation request and related initiation package. Where relevant, we have adopted the information and analyses you have provided and/or referenced but only after our independent, science-based evaluation confirmed they meet our regulatory and scientific standards. In our biological opinion included below, we indicate what parts of your documents we have incorporated by reference, and where we are incorporating that information.

Updates to the regulations governing interagency consultation (50 CFR part 402) were effective on May 6, 2024 (89 FR 24268). We are applying the updated regulations to this consultation. The 2024 regulatory changes, like those from 2019, were intended to improve and clarify the consultation process, and, with one exception from 2024 (offsetting reasonable and prudent measures), were not intended to result in changes to the Services' existing practice in implementing section 7(a)(2) of the ESA (89 FR 24268; 84 FR 45015). We have considered the prior rules and affirm that the substantive analysis and conclusions articulated in this biological opinion and incidental take statement would not have been any different under the 2019 regulations or pre-2019 regulations.

As described in Section 3 (Facility Locations and Descriptions) and Section 4 (Project Activities) of the BA (BPA 2011), and BPA's response to the additional information requested (BPA 2025), which we incorporate by reference here, the BPA proposes to fund ongoing O&M activities conducted by the Hudson Bay District Improvement Company (HBDIC) at the Little Walla Walla fish ladder and screens. Routine daily, weekly, annual, and as needed tasks, as well as emergency corrective measures necessary to maintain fish passage at the diversion and fish ladder, will occur in three instream work zones and within the fish screen facility. Emergency O&M activities will occur only if high flow events have caused impaired fish passage in the action area. Prior to implementing emergency O&M activities, HBDIC will contact NMFS, the Oregon Department of Fish and Wildlife (ODFW), and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) to discuss possible strategies to improve fish passage. Annual removal of sediment and debris from the LWW diversion screening facilities and fish ladder, and emergency O&M activities, will require dewatering and fish salvage. Conservation measures identified in Section 5 of the BA (BPA 2011), and incorporated here by reference, will be implemented to minimize adverse effects. Routine O&M activities within the active channel will occur during the in-water work window of July 1-September 30. Annual O&M of the fish screens will occur late January through the end of February. Emergency O&M activities to maintain fish passage will likely occur in late winter to early summer, during and after deposition of sediment from high flows.

BIOLOGICAL OPINION

We examined the status of each species that would be adversely affected by the proposed action to inform the description of the species' "reproduction, numbers, or distribution" as described in

50 CFR 402.02. We also examined the condition of critical habitat throughout the designated area and discuss the function of the physical or biological features essential to the conservation of the species that create the conservation value of that habitat.

Rangewide Status of the Species and Critical Habitat

Section 7 (Environmental Baseline) of the BA includes descriptions of Middle Columbia River (MCR) steelhead and their critical habitat in the action area, which is adopted here. NMFS' status of the species update for MCR steelhead is available on the NOAA Fisheries website at [ESA Section 7 Consultations on West Coast | NOAA Fisheries](#) and incorporated by reference. NMFS also incorporates by reference the [2022 5-Year Review: Summary & Evaluation of Middle Columbia River Steelhead](#), and the Recovery Plan for Middle Columbia River Steelhead Distinct Population Segment (NMFS 2009) <https://www.fisheries.noaa.gov/resource/document/recovery-plan-middle-columbia-river-steelhead-distinct-population-segment>

Action Area

“Action area” means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). The action area includes the immediate area of the facilities and the three management zones, as well as up to 50 feet upstream of the rubber dam/spillway gate (Zone 1) and up to 300 feet downstream from the fish return channel (Zone 3), which is the limit of potential in-water turbidity impacts.

Environmental Baseline

The “environmental baseline” refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed federal projects in the action area that have already undergone formal or early section 7 consultations, and the impact of State or private actions which are contemporaneous with the consultation in process. The impacts to listed species or designated critical habitat from federal agency activities or existing federal agency facilities that are not within the agency's discretion to modify are part of the environmental baseline (50 CFR 402.02).

The environmental baseline, and species and habitat use, are described in Section 7 of the BA (BPA 2011), which is adopted here. Flood control levees on both streambanks constrain the Walla Walla River in the action area. River flow into the project reach is maintained year-round by the strong influence of ground water in the South Fork Walla Walla River. However, the LWW Diversion diverts most of the flow, up to 180 cfs, from spring through fall for livestock and irrigation purposes. An inflatable Bridgestone dam diverts water from the Walla Walla River into the LWW irrigation canal. An Obermeyer spill gate controls flow over the dam and to the fish screens. A 10-foot-long steep-pass fish ladder adjacent to the spill gate provides passage over the Bridgestone dam during the irrigation season. Fish entering the head gate and then the

screen forebay are bypassed from the irrigation canal via a 110-foot-long fish bypass channel that extends from the fish screen outlet structure to the Walla Walla River. The diversion of large volumes of water from the Walla Walla River for irrigation reduces flow, reduces available habitat, and constrains fish passage. Approximately 25 cfs currently flows through the action area during low flow periods due to a civil penalty agreement between the U.S. Fish and Wildlife Service (USFWS) and three local irrigation districts. The Walla Walla River in the action area is on the Oregon Department of Environmental Quality 303(d) list for summer water temperature.

The Walla Walla River in the action area is designated critical habitat, and supports spawning, rearing, and migration of juveniles and adults from the Walla Walla population of MCR steelhead. The Walla Walla population is at moderate risk for abundance/productivity and spatial structure/diversity, and considered maintained. This population is part of the Umatilla/Walla Walla major population group (MPG). Recovery criteria requires either the Walla Walla or Touchet population to meet viability criteria (Ford 2022). The Walla Walla River population is much closer to reaching viable status than the Touchet River population. The action area provides physical and biological features (PBFs) of critical habitat for spawning, rearing, and migration, though the ability of critical habitat in the action area to support recovery of MCR steelhead is primarily limited by decreased instream flow and high summer water temperatures.

Effects of the Action

Under the ESA, “effects of the action” are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.

Most adult steelhead migration occurs January-June, peaking in March and April (Mahoney et al. 2011, 2012). Adult steelhead are detected at Nursery Bridge Dam (river mile 44.6) as early as December (CTUIR fish passage data). Steelhead spawning in the action area occurs April through June, with incubation occurring through mid-July. Juvenile rearing in the action area occurs year-round. Juvenile MCR steelhead migration downstream can occur year-round, with most occurring March through June. Another peak occurs in November as some juvenile steelhead move downstream to rear in the Lower Walla Walla River before migrating to the mainstem Columbia River (Mendel et al. 2014).

Because the in-water work window is July 1-September 30, and avoids peak migration periods for adult and juvenile MCR steelhead, NMFS expects that a small number of juvenile and no adult MCR steelhead will be present in the action area during routine daily, weekly, and annual O&M activities. However, a small number of adult MCR steelhead may be present during the late January-February annual maintenance of the screens. We also expect a small number of juveniles and adults to be present during emergency O&M activities, since most will occur during and after high-flow events in the winter and early spring, which coincides with peak adult steelhead migration.

Effects on Middle Columbia River Steelhead

An assessment of the effects of the proposed action is provided in Sections 8 of the BA (BPA 2011), and adopted here (50 CFR 402.14(h)(3)). The temporary and long-term effects of this proposed action on MCR steelhead as identified by the BPA, in the BA are:

1. Effects of fish salvage on MCR steelhead

- a. Fish salvage operations during routine O&M activities could adversely affect a small number of juvenile MCR steelhead, since fish may be pursued, harassed, harmed, or killed during the process.
- b. Fish salvage operations that occur during emergency and corrective actions that occur outside of the in-water work window could impact more juvenile MCR steelhead, because:
 - i. More individuals may be present; and
 - ii. The duration, magnitude and severity may be higher depending on the type of corrective action required and the time of the year.

2. Effects of turbidity on MCR steelhead

- a. Increased levels of suspended sediment during re-watering of the canal, screen bay, and juvenile bypass would briefly (minutes to hours) affect any MCR steelhead present at or 100 feet downstream of the facilities. The effects are likely to be low in magnitude and severity.
- b. Emergency and corrective actions that occur outside of the in-water work window could impact more juvenile MCR steelhead and adults, because:
 - i. There could be more individuals present;
 - ii. The duration, magnitude and severity of turbidity plumes may be higher depending on the type of corrective action required and the time of the year;
 - iii. Higher flows would extend the pulse of increased suspended sediment further downstream, but reduce the duration; and
 - iv. Most emergency O&M activities will occur winter-early spring when adults are migrating upstream.

NMFS has evaluated the effects section in the BA, and additional submitted information, and after our independent, science-based evaluation, determined that the additional information and analysis provided below is needed to complete our effects on MCR steelhead analysis.

Fish Passage. The HBDIC conducts non-emergency ladder maintenance mostly by hand during the in-water work window, which does not require ladder closure. Since 2012, the ladder has been closed once during emergency removal of large riprap deposited during the February 2020 floods. While the ladder was closed, the Bridgestone dam was in the down position and volitional fish passage was maintained. If the ladder is closed for emergency maintenance, the Bridgestone Dam or Obermeyer gate will be lowered or maintained in the down position so that upstream and downstream fish passage is maintained. Therefore, we do not expect routine or emergency O&M activities to block fish passage.

Fish Salvage. Fish salvage occurs annually in the canal, screen bay, and fish bypass channel in late January-February, after water delivery ends. It may also occur during emergency removal of sediment and debris to maintain fish passage. Fish salvage is conducted by experienced fish biologists using seines, nets, and electrofishing in compliance with NMFS' electrofishing guidelines (NMFS 2000). From 2012-2024, 694 juvenile steelhead, ranging from 3 to 125 annually, were captured during all fish salvage events. There were four mortalities in total over the 13 years (0.58 percent total mortality). Two mortalities from 70 fish handled occurred in both 2015 and 2016 (2.9 percent annual mortality). BPA and CTUIR do not expect the number of salvage events, the area of salvage, or the number of juvenile steelhead captured to increase. Therefore, we expect the annual capture of up to 125 juvenile steelhead during fish salvage, the maximum number captured since 2012. We also expect that up to 4 (2.9 percent of the 125 fish captured = 3.6, rounded up to whole fish) to be mortalities.

Increased Turbidity and Sedimentation. Increased fine sediment can be detrimental to juvenile salmon and steelhead in several ways including avoidance of the area, abandonment of cover, stress, and reduced growth rates (Newcombe and Jensen 1996). Turbidity from increased fine sediment may disrupt steelhead feeding and territorial behavior and may displace fish from preferred feeding and resting areas. It can also delay adult migration to spawning habitat. Direct mortality can occur at very high concentrations or extended exposure to suspended solids. The severity of effect of suspended sediment increases as a function of the sediment concentration and exposure time (Bash et al. 2001; Newcombe and Jensen 1996).

The Walla Walla River transports an enormous amount of bedload and debris, particularly during high flow events. Most high-flow events occur after water diversion ends, and the Bridgestone Dam at the LWW diversion is in a down position. This allows most bedload and debris to move through the project area. However, some bedload and debris deposits at instream structures associated with the LWW diversion. Therefore, annual, and routine O&M activities include: (1) removing sediment from the canal, screen bay, and juvenile bypass during winter (late January-February); and (2) removing sediment and debris from the fish ladder by hand during the in-water work period, July 1-September 30.

Emergency removal of sediment and debris also occurs to maintain or restore fish passage. Emergency removal of sediment and debris from the intake gate, spill gate, fishway, and rubber dam in Zone 1 occurs at various frequencies. Sediment and debris removal in Zone 1, estimated to be up to 50 cubic yards annually, occurs using an excavator operated outside the stream channel. Since 2012, emergency sediment and debris removal has occurred only once in Zone 2 and Zone 3. Emergency sediment and debris removal occurred in March 2020, and resulted from February 2020 flooding depositing a large quantity of gravel at the juvenile bypass outlet (Zone 3), and large riprap in the fish ladder (Zone 2). An excavator was operated in the streambed to remove the large riprap from the ladder.

We expect climate change to alter streamflow in the Walla Walla Basin, primarily through changes in snowpack and precipitation patterns. Specifically, we anticipate the Walla Walla River will experience a decrease in summer streamflow and an increase in winter streamflow due to rising temperatures and shifts in precipitation from snow to rain (Clifton et al. 2018; May et al.

2018; Mote et al. 2014). Therefore, we expect increased amounts of sediment and debris to be transported and deposited at LWW facilities in the winter and spring. Operation and maintenance activities will affect water quality during routine and emergency removal of sediment and debris, and operation of heavy machinery and equipment in the stream channel and from the streambanks, by temporarily increasing sediment delivery to the waterway and turbidity in the water column. Erosion and pollution control, Best Management Practices (BMPs), will be implemented to minimize project effects. However, we expect routine and emergency O&M activities will mobilize sediments and elevate total suspended solids and turbidity up to 50 feet upstream and 300 feet downstream for a few minutes to a few hours for each event, depending on streamflow, location of equipment operation, and the amount of fines disturbed. Because of high flows during O&M activities, we expect deposited sediment to be indistinguishable from background levels. We expect that the pulses of turbidity will cause short term (a few minutes to a few hours) behavioral changes to a small number of adult and juvenile MCR steelhead. We expect adults and some juveniles will flee the area of higher turbidity, which will increase the risk of predation to juveniles (Berg and Northcote 1985). Juveniles that do not flee may exhibit reduced feeding for a few hours, which we do not expect to reduce their fitness over the long-term. We expect adults will find suitable cover and then continue their migration. Because of the anticipated timing of increased turbidity and settling of suspended sediment (July-September and January-March), and because it will be indistinguishable from background levels, we do not expect negative effects to steelhead redds, eggs, or fry.

Equipment Operation in the River. Since 2012, heavy equipment used for routine and emergency O&M activities has been operated in the streambed only once. As discussed above, in March 2020, an excavator crossed the stream channel to remove riprap from the ladder. We expect that the increased amounts of sediment and debris transported and deposited at LWW facilities in the winter and spring will require in-channel operation of heavy equipment to remove. Work involving the presence of equipment in the active channel when ESA-listed fish are present can result in injury or death of some individuals that encounter the equipment. Prior to conducting in-water work, CTUIR will isolate and conduct fish salvage in all areas with rearing MCR steelhead. We expect adults and most juveniles will flee the area, increasing the risk of predation to juveniles. However, we also expect that a very small number of juveniles will seek cover in the substrate and be crushed by the equipment. We also expect routine and emergency removal of sediment and gravel to occur prior to spawning, with no effect to redds, eggs, or fry. Therefore, we expect a very small number of juvenile steelhead will be injured and killed by heavy equipment operating in the streambed.

Effects on Middle Columbia River Steelhead Critical Habitat

The potential effects to PBFs of MCR steelhead critical habitat identified by the BPA are:

1. **Water Quality** - Increased levels of suspended sediment at, and downstream of, the LWW facility as the canal and screen bay are re-watered. The effects are likely to be very brief (minutes to hours after re-watering), localized to the facilities and up to 100 feet downstream of the instream work area, and low in magnitude and severity.

2. **Water Quality** - Emergency and corrective actions that occur outside of the in-water work window could result in increased levels of suspended sediment, and the duration, magnitude and severity may be higher depending on the type of corrective action required and the timing. Higher flows would extend the pulse of increased suspended sediment further downstream, but would move the sediment much faster, reducing the duration.

NMFS has evaluated the effects section in the BA and additional submitted information, and after our independent, science-based evaluation, determined that the additional information and analysis provided below is needed to complete our effects on critical habitat analysis.

Water Quality. The proposed action will affect water quality during routine and emergency removal of sediment and debris, heavy machinery and equipment working from the stream channel and top of streambanks, and by small releases of fuels and contaminants. We expect O&M activities to suspend sediment resulting in turbidity plumes lasting a few minutes to a few hours and extending up to 50 upstream and 300 feet downstream. NMFS also expects minor leaks and spills of petroleum-based fluids from operation of equipment in and adjacent to the Walla Walla River that will be contained on site. Therefore, NMFS expects a small, negative effect to the water quality PBF during annual O&M activities.

Substrate. The amount of sediment and debris removal during O&M activities will vary year to year depending on river flows and the management zone.

- Zone 1 – Sediment and debris removal occurs at various frequencies depending on instream conditions and gravel deposition, and only as needed to maintain fish passage. Typically, less than 50 cubic yards is removed annually, which is trucked offsite for disposal.
- Zone 2 – Sediment and debris removal has occurred once since 2012, and only included removal of riprap from the fish ladder. There has been no channel modification.
- Zone 3 – Sediment and debris removal has occurred once since 2012, and only included removal of approximately 10 cubic yards from the juvenile fish bypass outlet. The material was placed along the left bank immediately downstream of the outfall channel.

BPA and CTUIR estimate that up to 1,200 cubic yards of sediment and debris could be removed from approximately 30,000 square feet of the Walla Walla River at the LWW facilities annually, based on streamflow and passage emergencies. Removal of this amount of sediment will occur rarely and primarily after a large flood event. Most sediment and debris will be removed from in-channel areas in Zone 1 (6,500 square feet). Material removed from Zone 1 will be trucked off site for disposal, and material removed from Zones 2 and 3 will be redistributed instream. Continual removal of gravel and stream substrates may contribute to long-term reduction of natural sediment deposition downstream, and downcutting of the channel. However, we expect removal in most years to be substantially less than 1,200 cubic yards, and closer to the 50 cubic yards currently removed in Zone 1. Therefore, NMFS expects sediment and debris removal to have a small, negative affect annually to the substrate PBF. We also expect that intermittently, moderate, negative effects to the substrate PBF will occur after flooding.

Small-medium levels of sediment deposition will occur in the action area for approximately 2-3 days in January or February during rewatering of the canal, screen bay, and juvenile bypass system; intermittently during the in-water work window (July 15-September 30) while routine cleaning of the fish ladder is occurring; and during emergency sediment and debris removal activities to maintain fish passage as small-medium turbidity plumes settle out within 50 feet upstream and 300 feet downstream of sediment and debris removal activities. NMFS expects suspended sediment from routine O&M activities to settle out and be indistinguishable from background levels. We expect larger turbidity plumes with higher levels of total suspended sediment to occur with emergency O&M activities, associated with removal of larger amounts of deposited sediment and heavy equipment operating in the streambed. Therefore, NMFS expects a small, intermittent, and temporary, negative effect to the substrate PBF annually from settling of suspended sediment related to routine O&M activities. We also expect that intermittently, moderate, negative effects to the substrate PBF will occur from settling of suspended sediment related to emergency O&M activities.

Forage. O&M activities will have a small short-term effect on benthic invertebrates by crushing, covering, or dislodging them in up to 30,000 square feet during removal of sediment and debris in Zones 1-3; settling of suspended sediment up to 50 feet above and 300 feet below turbidity generating activities (rewatering the canal, screen bay, and juvenile bypass; cleaning the ladder; emergency removal of sediment and debris in three management zones; and operation of heavy machinery in the stream channel). Terrestrial macroinvertebrate inputs and invertebrate drift will continue to contribute to salmonid forage, and will also recolonize disturbed substrate once O&M activities are complete. We expect recolonization to occur within a few days to a few months after project completion (Fowler 2004; Griffith and Andrews 1981; Yount and Nemi 1990). Given the small area of temporary impacts, and the supply of forage from terrestrial inputs and invertebrate drift, NMFS expects this project to annually have a small, short-term (few months) negative effect on the forage PBF from routine and emergency O&M activities.

Natural Cover. O&M activities at the LWW facilities includes the removal of sediment and debris. Most woody debris will remain in the stream, though it may be chopped up and/or moved to a nearby area of the river. However, some woody material may be removed intermittently from the river, contributing to the loss of instream wood and natural cover. Therefore, we expect a small, negative impact to the natural cover PBF to occur intermittently from O&M activities.

Cumulative Effects

“Cumulative effects” are those effects of future state or private activities, not involving federal activities, that are reasonably certain to occur within the action area of the federal action subject to consultation (50 CFR 402.02 and 402.17(a)). Future federal actions that are unrelated to the proposed action is not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

Irrigation withdrawals, levees, and urban development will likely continue to exert an influence on the quality of freshwater habitat in the action area. NMFS assumes the population of Milton-Freewater will remain nearly the same or decrease slightly for the foreseeable future. The United

States Census ([U.S. Census Bureau QuickFacts: Milton-Freewater city, Oregon](#)) reports about a 1 percent population decrease from 2010 (7,050) to 2023 (6,977) and a 2.4 percent decrease from 2020 (7,146) to 2023. Therefore, we expect effects to MCR steelhead to remain about the same. NMFS is not aware of any specific future non-Federal activities within the action area that would cause greater effects to MCR steelhead or their designated critical habitat than presently occur. Therefore, NMFS expects the cumulative effects of future state and private activities will continue to have a negative effect on ESA-listed MCR steelhead and their critical habitat.

Integration and Synthesis

The Integration and Synthesis section is the final step in our assessment of the risk posed to species and critical habitat as a result of implementing the proposed action. In this section, we add the effects of the action to the environmental baseline and the cumulative effects, taking into account the status of the species and critical habitat, to formulate the agency's biological opinion as to whether the proposed action is likely to: (1) reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing its numbers, reproduction, or distribution; or (2) appreciably diminish the value of designated or proposed critical habitat as a whole for the conservation of the species.

Species

Adults and juveniles from the Walla Walla population of MCR steelhead use the action area as a migration corridor. Adult steelhead spawn and may over-winter in the action area, and juveniles rear year-round in the action area. NMFS recently reaffirmed that MCR steelhead have not achieved viable status and are at a continuing risk of extinction (NMFS 2022). Major threats include, but are not limited to: climate change, regulation of the Columbia River, and impairment of tributary habitat. Middle Columbia River steelhead are listed as threatened under the ESA. The Walla Walla population is considered maintained, with moderate risk ratings for abundance/productivity and spatial structure/diversity. Recovery criteria requires either the Walla Walla or Touchet population to meet viability criteria (Ford 2022). Under current conditions, the Walla Walla population is much closer to reaching viable status than the Touchet River population. The cumulative effects of state and private actions within the action area are anticipated to continue to have negative effects on MCR steelhead.

The proposed action is expected to result in harm, harassment, injury, or death of adults and juveniles from the Walla Walla population of MCR steelhead within the action area from:

- Capture of 125 or fewer juvenile steelhead during fish salvage that will result in injury or death of up to 4 annually.
- Behavioral changes of a small number of juvenile and adult MCR steelhead within 50 feet upstream and 300 feet downstream of turbidity generating activities (i.e., rewatering the canal, screen bay, and juvenile bypass; cleaning the ladder; emergency removal of sediment and debris in three management zones; and instream operation of heavy equipment); due to intermittent increased turbidity lasting a few minutes to a few hours. We expect that a small number of juveniles will flee the areas of higher turbidity, which

will increase their risk of predation. We expect adults to find suitable cover and then continue their migration.

- Death of a very small number of juveniles from heavy equipment operating in the streambed.

NMFS has determined that the loss of a small number of juvenile steelhead from the Walla Walla population of MCR steelhead during project O&M is not substantial enough to appreciably alter the abundance, productivity, spatial structure, or diversity of the Walla Walla population. Because the VSP criteria for the population will be maintained, we do not expect a change in the status of the MPG as a consequence of the proposed action. Thus, it is NMFS' opinion that when the effects of the action and cumulative effects are added to the environmental baseline, and in light of the status of the species, the effects of the action will not cause reductions in reproduction, numbers, or distribution that would reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of MCR steelhead.

Critical Habitat

Critical habitat in the action area is degraded due to levees on both streambanks, low flows from water withdrawals, and high summer water temperatures.

The proposed action will temporarily reduce the function of critical habitat PBFs in the action area for:

- Water quality through intermittent increases in turbidity lasting a few minutes to a few hours each, and extending up to 50 feet above and 300 feet below turbidity generating activities (i.e., rewatering the canal, screen bay, and juvenile bypass; cleaning the ladder; emergency removal of sediment and debris in three management zones; and operation of heavy equipment from the stream channel), during routine and emergency removal of sediment and debris each year.
- Water quality through chemical contamination from minor leaks and spills of petroleum-based fluids (not more than ounces) from operation of heavy equipment in and adjacent to the Walla Walla River, that will be contained on site due to the implementation of the proposed BMPs.
- Substrate from removal of approximately 50 cubic yards of sediment and debris annually; intermittent removal of up to 1,200 cubic yards of sediment and debris; and settling of suspended sediment up to 50 feet upstream and 300 feet downstream of turbidity generating activities.
- Forage by crushing, covering, or dislodging them in up to 30,000 square feet during removal of sediment and debris in Zones 1-3; settling of suspended sediment up to 50 feet above and 300 feet below turbidity generating activities (rewatering the canal, screen bay, and juvenile bypass; cleaning the ladder; emergency removal of sediment and debris in three management zones; and operation of heavy machinery in the stream channel). We expect benthic macroinvertebrates will start to recolonize the action area as soon as

routine and emergency O&M activities are complete, and benthic communities to be reestablished in a few weeks to a few months; and

- Natural Cover from the intermittent removal of woody debris.

Based on our analysis that considers the current status of PBFs, adverse effects from the proposed O&M and emergency actions will annually cause intermittent, temporary, and localized declines in the quality and function of the water quality, substrate, forage, and natural cover PBFs. Because of the small scale and extent of the effects to PBFs, we do not expect a reduction in the conservation value of critical habitat in the action area. As we scale up from the action area to the designation area of critical habitat for MCR steelhead, the proposed action is not expected to appreciably reduce the conservation value of the designated critical habitat.

Conclusion

After reviewing and analyzing the current status of the listed species and critical habitat, the environmental baseline within the action area, the effects of the proposed action, the effects of other activities caused by the proposed action, and cumulative effects, it is NMFS' biological opinion that the proposed action is not likely to jeopardize the continued existence of MCR steelhead, or destroy or adversely modify their designated critical habitat.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined by regulation to include significant habitat modification or degradation that actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering (50 CFR 222.102). "Harass" is further defined by guidance as to "create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering." "Incidental take" is defined by regulation as takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the federal agency or applicant (50 CFR 402.02). Section 7(b)(4) and section 7(o)(2) provide that taking that is incidental to an otherwise lawful agency action is not considered to be prohibited taking under the ESA if that action is performed in compliance with the terms and conditions of this incidental take statement (ITS).

Amount or Extent of Take

In the biological opinion, NMFS determined that incidental take of adults and juveniles from the Walla Walla population of MCR steelhead is reasonably certain to occur as follows:

Incidental Take due to Fish Salvage

Fish salvage associated with routine and emergency O&M activities will include seining (herding), netting, and electrofishing (herding and capture). Depending on the work area isolation and fish salvage option selected by CTUIR and ODFW, NMFS estimates that up to 125 juvenile steelhead will be handled during salvage and moved from the in-water work area, with up to 4 juvenile steelhead experiencing sufficient harm to result in death. Therefore, the extent of take will be exceeded if salvage activities result in the capture of more than 125 juvenile steelhead, or more than 4 juvenile mortalities. This number functions as an effective reinitiation trigger because the number of fish captured and killed during capture can easily be monitored, and BPA is obligated to notify NMFS and stop all activities if the extent of take is exceeded.

Incidental Take due to Turbidity

NMFS anticipates the proposed action will result in harm of adults and juveniles by increasing turbidity from rewatering the canal, screen bay, and juvenile bypass; cleaning the ladder; emergency removal of sediment and debris in three management zones; and instream operation of heavy equipment). Take in the form of harm caused by the temporary increases in turbidity will be manifested in altered behaviors including avoidance of the area, abandonment of cover, and exposure to predators. We expect turbidity plumes to extend no further than 50 feet upstream and 300 feet downstream, and persist for no more than a few minutes to a few hours. It is not possible to determine the number of fish harmed by the turbidity plumes because of the range of responses that individual fish will have, and because the numbers of fish present at any time is highly variable. Therefore, NMFS uses a surrogate for incidental take caused by the turbidity. The surrogate is the areal extent of the turbidity plume. The surrogate is causally linked to the take pathways because the scale of the effect is related to the size of the turbidity plume. Thus, the extent of take will be exceeded if turbidity plumes extend further than 50 feet upstream and 300 feet below turbidity generating activities. While this surrogate is coextensive with the proposed action, it functions as an effective reinitiation trigger because turbidity plumes will be monitored and reported daily, and BPA is obligated to notify NMFS and stop all activities if the extent of take is exceeded.

Incidental Take due to Operation of Heavy Equipment

NMFS expects the proposed action will result in harm and harassment of juvenile MCR steelhead from the presence of in-water equipment. We expect most juvenile steelhead to flee the area, but a very small number of juvenile steelhead may be crushed by not being able to avoid the equipment. It is not possible to determine the number of fish killed by heavy equipment operating in the streambed because of the range of responses that individual fish will have, and because the numbers of fish present at any time is highly variable. Therefore, NMFS uses a surrogate for incidental take caused by heavy equipment working in the stream channel. The surrogate is the amount and areal extent of sediment removal. The surrogates are causally linked to the take pathways because the scale of the effect is related to the amount of sediment removed and the area of equipment operation. Thus, the extent of take will be exceeded if more than 1,200 cubic yards of sediment is removed in the 30,000 square feet area of Zones 1-3

annually. While this surrogate is coextensive with the proposed action, it functions as an effective reinitiation trigger because the amount of materials removed, and the areal extent of removal, can easily be monitored, and the BPA is obligated to notify NMFS and stop all activities if the extent of take is exceeded.

Effect of the Take

In the biological opinion, NMFS determined that the amount or extent of anticipated take, coupled with other effects of the proposed action, is not likely to result in jeopardy to MCR steelhead, or destruction or adverse modification of their critical habitat.

Reasonable and Prudent Measures

“Reasonable and prudent measures” (RPM) refer to those actions the Director considers necessary or appropriate to minimize the impact of the incidental take on the species (50 CFR 402.02).

The BPA shall:

1. Protect spawning steelhead and redds.
2. Track, monitor, and report on the proposed action to ensure that O&M activities are implemented as proposed, and the amount and extent of take is not exceeded.

NMFS believes that full application of conservation measures included as part of the proposed action, together with the use of the RPM and terms and conditions described below, are necessary and appropriate to minimize the likelihood of incidental take of listed species due to completion of the proposed action.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the federal action agency must comply (or must ensure that any applicant complies) with the following terms and conditions. The BPA or any applicant has a continuing duty to monitor the impacts of incidental take and must report the progress of the action and its impact on the species as specified in this ITS (50 CFR 402.14). If the entity to whom a term and condition is directed does not comply with the following terms and conditions, protective coverage for the proposed action would likely lapse.

1. The following terms and conditions implement RPM 1.
 - a. Monitor for spawning activity and redds within 50 upstream and 300 feet downstream of turbidity generating activities. If spawning activity and/or any redds are detected, stop work, and contact NMFS immediately to determine next steps and to minimize potential effects.
 - b. Do not release O&M discharge water within 300 feet upstream from actively spawning adults and redds.

2. The following terms and conditions implement RPM 2:
 - a. Track and monitor routine and emergency O&M activities to ensure that the conservation measures are meeting the objective of minimizing take.
 - b. Conduct turbidity monitoring as follows:
 - i. Daily, every 4 hours during daylight hours, while in-water work is conducted.
 - ii. Observations shall occur daily before, during, and after commencement of in-water work and compared to observable sediment load upstream of the action area.
 - iii. Measure or observe background turbidity levels at an undisturbed site approximately 100 feet upstream of the project area.
 - iv. Measure or observe turbidity levels approximately 300 feet from any in-water work activities, or within any visible turbidity plume.
 - c. Submit an annual report to NMFS no later than December 31 each year. The annual report shall include, at a minimum, the following:
 - i. Starting and ending dates for all routine and emergency O&M activities completed, with in-water work period specified.
 - ii. Rationale for in-water work conducted outside the in-water work window.
 - iii. Start and end dates of all fish ladder closure(s).
 - iv. Summary and details of turbidity monitoring.
 - v. Any daily observed sediment plume from the in-channel work area to 300 feet away during the in-water construction period.
 - vi. A summary of pollution and erosion control inspection results, including results of implementing required conservation measures, and including a description of any erosion control failure, contaminant release, and efforts to correct such incidences.
 - vii. Start and end dates, locations, size/area, and methodology of work area isolations.
 - viii. Stream conditions before, during, and within one week after completion of work area isolations.
 - ix. Dates, locations, size/area, and methodology of fish salvages.
 - x. Number of juvenile steelhead captured.
 - xi. Location and condition of juvenile steelhead released.
 - xii. Any incidence of injury or mortality of steelhead.
 - xiii. Dates, locations, methodology, amounts/volume, and areal extent of sediment and debris removed.
 - xiv. Dates, locations, methodology, amounts/volume, and areal extent of sediment and debris returned to the stream channel.
 - xv. Dates, locations, and areal extent of operation of heavy equipment in/from the stream channel.
 - xvi. Number and location of redds observed within 300 feet downstream of turbidity generating activities.
 - xvii. Number of adult steelhead observed in the action area.
 - xviii. Photographs of habitat conditions before, during, and after O&M activities.
 - xix. Reference to NMFS consultation number WCRO-20205-00889.

- d. All reports will be sent to: crbo.consultationrequest.wcr@noaa.gov
- e. If the amount or extent of take is exceeded, stop project activities, and notify NMFS immediately.


Reinitiation of Consultation

Under 50 CFR 402.16(a): “Reinitiation of consultation is required and shall be requested by the federal agency where discretionary federal involvement or control over the action has been retained or is authorized by law and: (1) If the amount or extent of taking specified in the incidental take statement is exceeded; (2) If new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or (4) If a new species is listed or critical habitat designated that may be affected by the identified action.”

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The biological opinion will be available through NOAA Institutional Repository <https://repository.library.noaa.gov/welcome>. A complete record of this consultation is on file at NMFS’ Columbia Basin Branch.

Please direct questions regarding this letter to Colleen Fagan, Columbia Basin Branch, at 541-962-8512 or colleen.fagan@noaa.gov.

Sincerely,



Nancy L. Munn, Ph.D.
Assistant Regional Administrator
Interior Columbia Basin Office

Cc: Jason Zerba, HBDIC, Jason@azaccounting.tax
Mike Richards, CTUIR, MikeRichards@ctuir.org
Taylor McCroskey, ODFW, Taylor.MCCROSKEY@odfw.oregon.gov

REFERENCES

- Bash, J., C. Berman, and S. Bolton. 2001. Effects of turbidity and suspended solids on salmonids. University of Washington.
- BPA (Bonneville Power Administration). 2011. Amended Endangered Species Act Biological Assessment – Operations & Maintenance Activities at the Little Walla Walla, Gardena Farms, and Garden City/Lowden No. 2 Fish Ladders and Screens. 34 pp.
- BPA (Bonneville Power Administration). 2025. NOAA Questions for BPA on O&M at Walla Walla Facilities – 2011 BA for LWW, GF, and GCL. 14 pp.
- Berg, L., and T. G. Northcote. 1985. Changes in territorial, gill-flaring, and feeding behavior in juvenile coho salmon (*Oncorhynchus kisutch*) following short-term pulses of suspended sediment. Canadian Journal of Fisheries and Aquatic Sciences 42:1410–1417.
- Clifton, C. F., K. T. Day, C. H. Luce, G. E. Grant, M. Safeeq, J. E. Halofsky, and B. P. Staab. 2018. Effects of climate change on hydrology and water resources in the Blue Mountains, Oregon, USA. Climate Services 10:9-19.
- Ford, M. J., editor. 2022. Biological Viability Assessment Update for Pacific Salmon and Steelhead Listed Under the Endangered Species Act: Pacific Northwest. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-NWFSC-171.
- Fowler, R. T. 2004. The recovery of benthic invertebrate communities following dewatering in two braided rivers. Hydrobiologia 523:17–28.
- Griffith, J. S., and D. A. Andrews. 1981. Effects of a Small Suction Dredge on Fishes and Aquatic Invertebrates in Idaho Streams. North American Journal of Fisheries Management 1:21–28.
- Mahoney, B., G. Mendel, R. Weldert, J. Trump, J. Olsen, M. Gembala, M. Gallinat, and L. Ross. 2011. The Walla Walla Subbasin Salmonid Monitoring and Evaluation Project: 2009 and 2010 Annual Report. Confederated Tribes of the Umatilla Indian Reservation and Washington Department of Fish and Wildlife. Prepared for U.S. Department of Energy Bonneville Power Administration. BPA Project Number 2000-039-00.
- Mahoney, B., G. Mendel, R. Weldert, J. Trump, J. Olsen, M. Gembala, M. Gallinat, and J. Lando. 2012. The Walla Walla Subbasin Salmonid Monitoring and Evaluation Project: 2011 Annual Report. Confederated Tribes of the Umatilla Indian Reservation and Washington Department of Fish and Wildlife. Prepared for U.S. Department of Energy Bonneville Power Administration. BPA Project Number 2000-039-00.

- May C., C. Luce, J. Casola, M. Chang, J. Cuhacian, M. Dalton, S. Lowe, G. Morishima, P. Mote, A. Petersen, G. Roesch-McNally, and E. York. 2018: Northwest. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D. R., C. W. Avery, D. R. Easterling, K. E. Kunkel, K.L.M. Lewis, T. K. Maycock, and B. C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 1036–1100. doi: 10.7930/NCA4.2018. Chapter 24: <https://nca2018.globalchange.gov/chapter/northwest>
- Mendel, G., B. Mahoney, R. Weldert, J. Olsen, J. Trump, and A. Fitzgerald. 2014. Walla Walla River Subbasin Salmonid Monitoring and Evaluation Project. 2013 Annual Report for the period 1/1/2013–12/31/2013, BPA Project # 2000-039-00. 69 pp.
- Mote, P., A. K. Snover, S. Capalbo, S. D. Eigenbrode, P. Blick, J. Littell, R. R. Raymond, and W. S. Reeder. 2014. Ch. 21: Northwest Climate change impacts in the United States: the third national climate assessment. J. M. Melillo, T. C. Terese, T. C. Richmond, and G. W. Yohe, editors. U.S. Global Change Research Program, pp. 487–513. <https://nca2014.globalchange.gov/report/regions/northwest>
- Newcombe, C. P., and J. O. T. Jensen. 1996. Channel suspended sediment and fisheries: a synthesis for quantitative assessment of risk and impact. *North American Journal of Fisheries Management* 16:693–727.
- NMFS (National Marine Fisheries Service). 2000. Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act. 5 pp.
- NMFS (National Marine Fisheries Service). 2009. Middle Columbia River Steelhead Distinct Population Segment ESA Recovery Plan. National Marine Fisheries Service, Northwest Region.
- NMFS (National Marine Fisheries Service). 2022. 2022 5-year Review: Summary and Evaluation of Middle Columbia River Steelhead. July 26, 2022. 87 pp.
- Yount, J. D., and G. J. Niemi. 1990. Recovery of lotic communities and ecosystems from disturbance—a narrative review of case studies. *Environmental Management* 14(5):547–569.