



**Refer to NMFS No: WCRO-2022-00209**

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May 13, 2022

Ralph J. Rizzo  
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Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Manastash Creek Road Bank Repair.

Dear Mr. Rizzo:

This letter responds to your January 31, 2022, request for initiation of consultation with the National Marine Fisheries Service (NMFS) pursuant to Section 7 of the Endangered Species Act (ESA) for the subject action. Your 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 ESA-listed species and designated critical habitat.

We reviewed the Federal Highway Administration's (FHWA) 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 met our regulatory and scientific standards. We adopt by reference the following sections of the FHWA's Biological Assessment (BA): Section 1.3 (project description), Section 2 (Project Details), Section 3.2 and 3.3 (Action Area), Section 4 (Impact Avoidance and Minimization Measures), Section 5.1 (Environmental Baseline), Section 6.4.1 (Status/Presence in the Action Area), and Section 7 (Effects Analysis and Cumulative Effects).

The FHWA submitted a consultation initiation package, including a BA, to NMFS on January 31, 2022. After our review, we requested additional information by email on February 14, 2022. NMFS received a response from FHWA via email after business hours on March 17, 2022. We initiated consultation on March 18, 2022.

As described in the BA, FHWA proposes to repair eroded streambank and associated roadway embankment by constructing a wood revetment along approximately 280 linear feet of South Fork Manastash Creek. The repair project (Project) includes funding from the FHWA Federal Lands Access Program Grant, administered by the Washington State Department of Transportation (WSDOT) Local Programs. Kittitas County Public Works (County) is the Project sponsor. The proposed in-water work window is July 15 through October 31, and the Project is



planned for 2022. The repairs will involve worksite isolation and dewatering, riparian vegetation removal, revetment and barb construction, and replanting native vegetation including willow cuttings and cottonwood poles.

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. Section 6.4.1 of the BA covers the status of the species, in this case, Middle Columbia River (MCR) steelhead. Critical habitat for MCR steelhead has not been designated in the Project action area. The nearest critical habitat is approximately 3.4 river miles downstream from the Project 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). Sections 3.2 and 3.3 of the BA describe the Action Area.

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 consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline (50 CFR 402.02).

Section 5.1 of the BA describes the Environmental Baseline and is being adopted here. The 2009 Yakima Steelhead Recovery Plan determined that Manastash Creek, including the portion of the South Fork that is in the action area, is a major spawning area that is required for recovery of the Upper Yakima Population. There is no designated critical habitat in the action area.

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 (see 50 CFR 402.17). In our analysis, which describes the effects of the proposed action, we considered 50 CFR 402.17(a) and (b).

Sections 7, and 8.1.3 of the BA provide an assessment of the proposed action's effects and are adopted here [50 CFR 402.14(h)(3)]. The BA found that only juvenile steelhead will be affected because adults will have left Manastash Creek, including the action area, before construction. Rearing steelhead may be present in the creek during construction at relatively low densities.

Likely effects on juveniles include the following:

- Construction will temporarily limit access to approximately 8,465 square feet of aquatic habitat.
- Small numbers of juvenile steelhead will be handled during dewatering of the 8,465 square foot isolation area.
- Young-of-year steelhead will be difficult to remove during dewatering; small numbers that are not salvaged will be exposed to additional Project effects (e.g., little or no water, crushing from excavation and fill placement activities, exposure to suspended sediments).
- Small numbers of steelhead juveniles will be exposed to a minor and short-term increase in turbidity associated with the in-water work.
- Approximately 6,700 square feet of riparian vegetation will be removed.
- The Project will permanently alter approximately 3,240 square feet of currently available aquatic habitat.

NMFS has evaluated this section and after our independent, science-based evaluation determined it needs the additional information included in the following paragraphs to conduct our analysis.

Construction-related activities have the potential to affect juvenile salmonid forage. Approximately 8,465 square feet of benthic habitat will be disturbed and not accessible during dewatering and subsequent construction activities. The disturbance will kill or displace benthic invertebrates, reducing available forage until the area is recolonized. In addition, 6,700 square feet of riparian vegetation removal will cause some loss of allochthonous input, such as leaf litter and terrestrial insect fallout.

Aquatic invertebrates could start recolonizing within days to months after completion of construction (Fowler 2004; Korsu 2004; Miller and Golladay 1996; Paltridge et al. 1997). Some aquatic insect life cycles can extend up to 3 years (Hilsenhoff 1981; Pennak 1953), but most aquatic insects in the north temperate zone have an annual life cycle (Merritt and Cummins 1996). Thus, we estimate that recolonization of the disturbed area will occur within a year.

The FHWA will incorporate native riparian vegetation, including willow cuttings and cottonwood poles within the revetment, in suitable areas at the toe of the revetment, on the impacted banks, and within the barbs where possible (Appendix D, Sheets 6 and 7 of the BA). These plantings will help minimize the loss of allochthonous input in the short-term and provide better riparian function over time because the steep bank will be less susceptible to erosion, which has prevented riparian plants from establishing in the past.

Together, the benthic habitat disturbance and loss of allochthonous input will slightly decrease potential forage production and availability to juvenile steelhead within the action area for about a year. Due to the expected low density of juvenile steelhead in the action area (described further in the next paragraph), we believe this slight decrease in forage production, and the temporary

loss of access to the construction footprint by juvenile steelhead, will be too small to cause competition for forage, or a decrease in the growth or survival of individual juvenile steelhead.

Only a few juvenile steelhead will be affected by the proposed action. These effects will occur only during construction activities, in a reach of stream where we expect juvenile densities will be very low. Steelhead have only had access to South Fork Manastash Creek since removal of a barrier in November 2016, which allowed access to more than 20 miles of habitat, including the action area. This large amount of newly accessible habitat, along with no obvious significant increase in steelhead production in the Manastash drainage, is why we expect juvenile densities will be very low in the action area.

“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 are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. We were not able to identify any additional cumulative effects not already discussed in Section 7.4 of the BA, which are likely to be minimal.

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.

Construction-related activities will result in a few juvenile steelhead being harmed or killed due to handling during fish rescue. A few juveniles will also be trapped in the isolated worksite, where they will be susceptible to other effects (e.g., little or no water, crushing from excavation and fill placement activities, and exposure to suspended sediments and elevated turbidity). These effects will be a one-time occurrence. In the context of the Upper Yakima Mainstem population which has an average abundance of over 300 adult steelhead, the loss of this small number of juveniles from a single cohort will not meaningfully affect the abundance or productivity of the population and will have no effect on its spatial structure or diversity. The likelihood of persistence and recovery potential of the Yakima River Major Population Group (MPG) will not be affected because none of the component populations will meaningfully be affected. Similarly, the likelihood of persistence and recovery potential of MCR steelhead as a whole will not be affected because we expect no change in the viability status of the Yakima River MPG.

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. Critical habitat will not be affected because it is not designated within the action area.

## **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 interim 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 Opinion, NMFS determined that incidental take of juvenile MCR steelhead is reasonably certain to occur as follows: (1) harm occurring from handling during fish rescue, and (2) injury or death from other effects while being trapped in the isolated worksite (e.g., little or no water, crushing from excavation and fill placement activities, and exposure to suspended sediments and turbidity).

## **Incidental Take from In-water Construction**

NMFS anticipates the proposed action will result in injury or death as a result of fish handling and from being trapped in the isolated worksite. Estimating the specific number of animals injured or killed by these effects is not possible because of the range of responses that individual fish will have, because the numbers of fish present at any time is highly variable, and it is not possible to observe the fish being injured or killed. While this uncertainty makes it difficult to quantify take in terms of numbers of animals injured or killed, our best estimate is that no more than a few juvenile steelhead will experience injury or death during in-water work. We anticipate locating and finding all potential injured or killed fish will be impossible and hard to track. However, the extent of habitat altered by disturbance is readily discernible and presents a reliable measure of the extent of take that can be monitored and tracked. Therefore, the estimated extent of habitat encompassed by in-water work represents the extent of take associated with injury and death by fish handling and by being trapped in the isolated worksite. The proposed surrogate is causally linked to anticipated take because it describes conditions that will cause take due to in-water work. Specifically, NMFS will consider the extent of take exceeded if the proposed action results in the de-watering of more than 8,465 square feet of stream. This surrogate is measurable, and thus can be monitored and reported. For this reason, the surrogate functions as effective reinitiation triggers.

## 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 the species or destruction or adverse modification of critical habitat.

## Reasonable and Prudent Measures

“Reasonable and prudent measures” (RPMs) are measures that are necessary or appropriate to minimize the impact of the amount or extent of incidental take (50 CFR 402.02).

The FHWA shall minimize incidental take by:

- Monitoring the project to ensure that the measures are meeting the objective of minimizing take and that the amount or extent of take is not exceeded.

## Terms and Conditions

In order 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 FHWA 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. By the end of the calendar year following construction, the FHWA shall report monitoring items to include, at a minimum, the following:
    - i. Project identification:
      1. Project name: Manastash Creek Road Bank Repair. (WCRO-2022-00209).
      2. FHWA contact person.
    - ii. Construction details:
      1. Square feet of stream that was de-watered.
      2. A description of any elements of the project that were constructed differently than depicted in the BA or this Opinion.
    - iii. Willow bundle survival in October, 2022, and if necessary, remedial measures planned to replace failed bundles. If willows are installed after April, 1, 2022, then monitoring should occur in October, 2023 and reporting should occur by December 31, 2023.

- b. If take is exceeded, contact NMFS promptly to determine a course of action.
- c. All reports will be sent to National Marine Fisheries Service, Columbia Basin Branch, Attention:

Sean Gross  
304 South Water Street, Suite 201  
Ellensburg, Washington 98926

NOTICE: To follow inactive projects and, if necessary, withdraw the Opinion for an incomplete project, the FHWA shall provide an annual report even if no actual work was completed in a particular year.

### **Reinitiation of Consultation**

Under 50 CFR 402.16(a): “Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service where Federal agency 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.”

### **Essential Fish Habitat**

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures and any determination you made regarding the potential effects of the action. This review was conducted pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation.

Section 305(b) of the MSA directs Federal agencies to consult with NMFS on all actions or proposed actions that may adversely affect EFH. Under the MSA, this consultation is intended to promote the conservation of EFH as necessary to support sustainable fisheries and the managed species’ contribution to a healthy ecosystem. For the purposes of the MSA, EFH means “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10). Adverse effect means any impact that reduces quality or quantity of EFH, and may include direct or indirect physical, chemical, or biological alteration of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects may result from actions occurring within EFH or outside of it and may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) of the MSA also requires NMFS to recommend

measures that can be taken by the action agency to conserve EFH. Such recommendations may include measures to avoid, minimize, mitigate, or otherwise offset the adverse effects of the action on EFH [50 CFR 600.0-5(b)]. The aquatic zone of impact includes habitats that have been designated as EFH for coho and Chinook salmon.

NMFS determined the proposed action would adversely affect EFH of Pacific salmon as follows:

- About 8,465 square feet of benthic habitat, and 6,700 square feet of riparian vegetation will be disturbed by construction activities, affecting forage production and availability to juvenile salmon.
- Substrate will be disturbed and covered by barbs and revetment, which could decrease spawning and rearing habitat suitability. However, under the current condition, the thalweg will continue to downcut and erode against the steep bank, rather than access the broad floodplain. Continued erosion from the thalweg being entrenched against the right bank and road will likely provide minimal spawning and rearing habitat and continue to hamper riparian vegetation establishment.

NMFS determined that the following conservation recommendations are necessary to avoid, minimize, mitigate, or otherwise offset the impact of the proposed action on EFH:

- Follow National Resources Conservation Service (NRCS) 2007 publication: “TN Plant Materials No. 21: Planting Willows and Cottonwood Poles under Rock Riprap” or similar guidance to ensure that replanted vegetation becomes established to replace vegetation function lost during construction.
- As also recommended by Washington Department of Fish and Wildlife (WDFW) in a March 9, 2022 email from Scott Downes, WDFW Area Habitat Biologist, to FHWA, the County, and NMFS: reinforce or enlarge the downstream-most one or two barbs to move the creek away from the road and towards the rest of the floodplain as much as possible. It may be possible to tie a barb into the existing beaver dam at the downstream end of the proposed project to help achieve this goal. This could help avoid the stream becoming trapped against the road bank again downstream of the proposed project, and would increase certainty for better riparian habitat on both sides of the stream.

As required by section 305(b)(4)(B) of the MSA, the FHWA must provide a detailed response in writing to NMFS within 30 days after receiving an EFH Conservation Recommendation. Such a response must be provided at least 10 days prior to final approval of the action if the response is inconsistent with any of NMFS’ EFH Conservation Recommendations, unless NMFS and the Federal agency have agreed to use alternative time frames for the Federal agency response. The response must include a description of the measures proposed by the agency for avoiding, minimizing, mitigating, or otherwise offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the Conservation Recommendations, the Federal agency must explain its reasons for not following the recommendations, including the scientific justification for any disagreements with NMFS over the anticipated effects of the action and the measures needed to avoid, minimize, mitigate, or offset such effects [50 CFR 600.920(k)(1)].



The FHWA must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations [50 CFR 600. 920(l)].

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 Sean Gross, Columbia Basin Branch, at (509) 856-5442 or [sean.gross@noaa.gov](mailto:sean.gross@noaa.gov).

Sincerely,



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Interior Columbia Basin Office

cc: Gary Martindale – FHWA  
Scott Downes – WDFW

**REFERENCES**

- Fowler, R. T. 2004. The recovery of benthic invertebrate communities following dewatering in two braided rivers. *Hydrobiologia* 523:17–28.
- Hilsenhoff, W. L. 1981. Aquatic insects of Wisconsin, keys to Wisconsin genera and notes on biology, distribution and species. University of Wisconsin-Madison.
- Korsu, K. 2004. Response of benthic invertebrates to disturbance from stream restoration: the importance of bryophytes. *Hydrobiologia* 523:37–45.
- Merritt, R. W., and K. W. Cummins, editors. 1996. An introduction to the aquatic insects of North America. Kendall/Hunt Publishing Company. Dubuque, Iowa.
- Miller, A. M., and S. W. Golladay. 1996. Effects of spates and drying on macroinvertebrate assemblages of an intermittent and a perennial prairie stream. *Journal of the North American Benthological Society* 15(4):670–689.
- NRCS (USDA-Natural Resources Conservation Service). 2007. Technical Note 21: Planting Willow and Cottonwood Poles under Rock Riprap. Boise, ID. October 2007. 5p.
- Paltridge, R. M., P. L. Dostine, C. L. Humphrey, and A. J. Boulton. 1997. Macroinvertebrate recolonization after re-wetting of a tropical seasonally-flowing stream (Magela Creek, Northern Territory, Australia). *Marine and Freshwater Research* 48:633–645.
- Pennak, R. W. 1953. Fresh-water invertebrates of the United States. The Ronald Press Company, New York.