



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

**Refer to NMFS No: WCRO-2021-02144**

January 12, 2022

Laura A. Boerner, Chief  
Planning, Environmental, and Cultural Resources Branch  
Seattle District  
U.S. Army Corps of Engineers  
Post Office Box 3755  
Seattle, WA 98124

Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson–Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Repair of the Yakima Right Bank Authorized Levee and Yakima Wastewater Treatment Plant Levee.

Dear Ms. Boerner:

This letter responds to your August 13, 2021, 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, as modified by the U.S. Army Corps' (COE's) updated Biological Assessment (BA) provided to NMFS on November 23, 2021. 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 COE's 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. We adopt by reference the following sections of the COE's BA: Section 1 (action area), Section 2 (proposed action), Section 3 (environmental baseline), Section 4 (status of species and critical habitat), and Sections 5 and 6 (effects of the action).

The COE submitted a consultation initiation package, including a BA, to NMFS on August 13, 2021. After our review, we requested additional information by email on October 6, 2021, and November 17, 2021. NMFS received an updated BA from the COE via email on November 23, 2021. The updated BA included all information necessary to initiate consultation; therefore, consultation was initiated on November 23, 2021.

As described in the BA, the COE proposes to repair the Yakima Right Bank Authorized Levee at two locations and the Yakima Wastewater Treatment Plant Levee at a third location. The levees



form the western bank of the Yakima River within the city of Yakima, Washington, and reduce the risk of flooding and erosion of urban areas. The levees are being repaired as authorized by Public Law 84-99; Yakima County sponsors the Yakima Right Bank Levee and the City of Yakima sponsors the Yakima Wastewater Treatment Plant Levee. The repairs involve in-water and above-water deconstruction and rebuilding of three levee segments with rock, installing willow stakes within the repaired sections, and planting native vegetation at a nearby mid-river island.

We examined the status of Middle Columbia River (MCR) steelhead, which 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 discussed the function of the physical and biological features essential to the conservation of the species that create the conservation value of that habitat. Section 4 of the BA describes the status of the species and critical habitat and is adopted here. Major risk factors that limit MCR steelhead recovery include reduced quality and quantity of freshwater habitat, predation, regulatory mechanisms that fail to adequately protect habitat, ocean conditions, hatchery fish, and climate change.

"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). Section 1 of the BA identifies the action area as encompassing the Yakima River from one-half mile upstream from the upstream-most repair site to 1 mile downstream of the downstream-most repair site, in addition to upland areas within 1,000 feet of each repair site. The in-river extent of the action area is an estimate of the distance over which changes in erosion, deposition, or flow patterns may occur; the upland extent is an estimate of the distance over which construction noise would be elevated.

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 3 of the BA describes the environmental baseline and is adopted here, as modified in the following two paragraphs.

The environmental baseline has been, and will continue to be, altered by the Gap-to-Gap Ecosystem Restoration Project. The project encompasses the action area (and slightly more) and is an effort to restore salmon habitat and manage flood risk. Most phases of the project have been led by Yakima County and the current phase is led by the COE. The project has been implemented over approximately the last 10 years and major construction activities will continue for approximately two more years. Various phases, including imminent levee removal directly across the river from the Yakima Wastewater Treatment Plant Levee, have been the subject of section 7 consultation with several Federal agencies, most recently in 2017. The project has, and

will continue to, dramatically increase accessible floodplain in the action area by hundreds of acres and side channel length by several miles by removing levees and other infrastructure, and relocating residences and businesses. The restoration project plan calls for most of the right bank levees in the action area to remain functioning in their current alignment because: 1) the activation of newly accessible side channels and floodplain relies on the river generally migrating toward the left bank; and 2) critical infrastructure lies behind the right bank levees but has been substantially relocated landward along the left bank to allow river expansion in that direction.

The past effects of the maintenance and operation of the levee are in the environmental baseline as are the effects of the implementation of the restoration plan described above for projects and activities that have already been implemented or completed ESA section 7 consultation. The effects of maintaining the levee as described in the proposed action are considered in below in the effects of the action.

The action area supports rearing, and migration of the Upper Yakima and Naches populations of MCR steelhead, and spawning of the Naches population; both populations are within the Yakima River Major Population Group (MPG), one of four MPGs of MCR steelhead. Important physical and biological features (PBFs) in the action area include water quantity and quality, substrate, floodplain connectivity, forage, natural cover, and freedom from obstruction and excessive predation.

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).

The BA provides an assessment of the effects of the proposed action in Section 5.0 of the initiation package, and is adopted here [50 CFR 402.14(h)(3)]. The BA found that effects would include:

- Increased noise and turbidity during construction, which may displace juvenile fish from in-water work areas during construction.
- Removal of saplings along 200 feet of shoreline comprising 0.07 acres. The COE predicts that ecological function will recover due to installation of riparian planting on the mid-river island and willow stakes in the repaired levee.

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

In-water excavation and fill placement activities are likely to result in crushing those juvenile steelhead that do not immediately flee the work area. The shoreline is composed of rock of different sizes and spaces between the rocks, depending on how damaged that particular part of the levee is. These rocks and the spaces between them would generally offer poor to moderate

habitat for juvenile steelhead during winter, depending on flow levels, temperature, and turbidity that vary from day to day. As such, it is a near certainty that juvenile steelhead will be present in the in-water work area. As in-water work begins each day, NMFS expects that the initial disturbance caused by the movement of the bucket and rocks within the water will cause nearly all fish to flee. Most fish are likely to escape to shoreline or mid-channel areas free of disturbance, but a minority of fish are likely to seek cover in spaces between rocks in the immediate work area; these fish will be subject to crushing as that rock is repositioned and/or buried beneath additional rock.

The number of fish that will be crushed will be related to the scale and pace of in-water work and ability of fish to escape. In-water work will be limited to a narrow band of shoreline adjacent to the 600 linear feet of damaged levee. The pace of proposed construction will be slow and steady enough such that NMFS expects only those few fish that hide between the rocks in the work area will be crushed. Construction will occur over no longer than 6 weeks. In total, a few juveniles from the Naches and Upper Yakima populations are expected to be injured or killed by crushing. Adult fish are unlikely to be in the work area and are expected to successfully escape if present.

NMFS expects that willow stakes installed in the repaired levee will generally have a low rate of survival and growth to adequate size to replace the function of the saplings proposed to be cleared. NMFS has observed high failure rates of willow stakes installed by the COE in previous years in nearby sections of the Yakima Authorized Levee using similar methods that feature stakes placed horizontally into riprap with very little soil. Therefore, NMFS expects that the willow stakes will not provide similar overhead or in-water cover (from branches that fall or sag into the water) or input of forage items (e.g., insects) to the river. The proposed plantings on the mid-channel island are likely to be successful, but there will be a deficit of cover and forage input along the shoreline. Altering the shoreline habitat to reduce cover and forage has multiple harmful effects. For example, reducing cover is likely to increase predation on juvenile steelhead, and reducing forage slows steelhead growth such that juveniles will remain vulnerable to a larger range of predators over a longer span of their lives, increasing the risk of predation.

The BA did not describe the long-term effect of improving the structural integrity of the levee system. The BA states that the levee sections to be repaired provide protection from a flood of a 2-year return interval, whereas after repair, the sections will provide protection from the 20- to 100-year return interval flood. Therefore, the proposed action reduces the likelihood of breach and/or overtopping of the Yakima Right Bank Authorized Levee. In general, levees prevent rivers from meandering and flooding, reducing their ability to provide adequate habitat for salmonids, although each project has different specific effects.

Flooding or breaching of the right bank of the Yakima Right Bank Authorized Levee would lead to flooding of highly urbanized areas that would be unlikely to provide productive off-channel habitat for steelhead. The implementation of the Gap-to-Gap Ecosystem Restoration Project provides a fairly large area of productive floodplain habitat. Proposed repairs to the levee would allow fish to use the good floodplain habitat and prevent them from being swept into poor urbanized habitat. Therefore, repairing the integrity of the levee at these two locations along the right bank is consistent with the restoration concepts developed for this reach over the long term.

Flooding or breaching at the Yakima Wastewater Treatment Plant Levee would have different effects. The area landward of the levee is a mosaic of upland habitat, artificial wetlands managed as part processed wastewater returning to the natural environment and spring-fed channels that are accessible to steelhead and salmon. The spring-fed channels originate landward of the levee from groundwater and flow downstream until they converge with the Yakima River downstream of the levee. These areas are subject to flooding from the river downstream of the levee, such that the levee essentially acts to prevent river migration, and has much less effect on flood inundation. Flood or breach at this location would not meaningfully change how much area is flooded or change steelhead access to the flooded area; it would essentially convert a fish-accessible backwater to a flowing flooded area. It is unclear if one of these would be preferable for steelhead during a flood. In the aftermath of a flood, it is unclear how the existing spring-fed channels would be affected; it is conceivable that they would be filled in with deposited silts, or in a very large breach, it is possible that they would erode and widen. Again, in this case it is unclear if such changes would improve on or degrade the habitat restoration actions undertaken in these channels as part of the larger restoration effort. The proposed action to repair the Yakima Wastewater Treatment Plant Levee would result in maintaining the area behind the levee as spring-fed channels at typical flows and as an accessible flooded backwater during floods. Particularly in the context of the restoration project that is actively removing the left bank levee directly across the river and opening hundreds of acres that will be flowing flooded area at high flows, it appears that maintaining the integrity of the proposed repair site will not cause negative effects to steelhead.

The future of both levees has been considered as part of a large-scale multi-year effort to modify the levee system to improve floodplain function; this larger restoration plan is being carried out by the COE and its partners and requires the integrity of some parts of the levee system along the right bank, including the action area. The proposed action is consistent with this larger ongoing restoration plan and therefore improving the structural integrity of the levees at the proposed sites will not lead to long-term major adverse effects for steelhead or critical habitat in the action area.

Few juvenile steelhead will be affected by the direct effects of the proposed action. The effects of construction will be temporary and will not crush more than a few individual juveniles of the affected populations. The permanent loss of 200 feet of shoreline vegetation resulting from the proposed action will affect a small number of fish in the long term by altering the habitat such that growth and survival are impaired; few individual fish will die each year as a result.

Critical habitat for MCR steelhead will be temporarily affected during construction; specifically the water quality PBF will be affected for several weeks over a very small area. The permanent loss of shoreline vegetation will degrade the forage and natural cover PBFs over 200 feet of shoreline in the long term.

“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. The BA did not include an analysis of cumulative effects.

However, NMFS reviewed the 2019 Environmental Assessment for the Corps Levee Restoration program in the action area, and NMFS staff is familiar with the habitat and ongoing activities in the area. Many future activities that may affect steelhead in the action area are Federal activities, and therefore not cumulative effects. Adverse cumulative effects to steelhead habitat will result from Yakima County's ongoing levee maintenance program. The County maintains nearly all of the levees in the action area and is responsible for clearing woody vegetation that grows on the levees. Cutting shrubs and emerging trees on the extensive network of levees in the action area perpetuates poor riparian conditions and ensures that degraded conditions will persist. A lack of riparian vegetation reduces cover for steelhead and limits forage production, threatening steelhead growth and survival. These activities will generally perpetuate existing conditions in the action area by preventing woody riparian vegetation from achieving sufficient growth to provide adequate cover and forage.

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.

The proposed action is expected to kill or injure a few juvenile steelhead during construction. In the long term, the action will cause a deficit of cover and forage input along the shoreline due to a combination of clearing existing vegetation and attempting to mitigate that impact with willow installation methods that are unlikely to succeed, which will cause reduced growth and an increased risk of predation for a few juveniles that belong to the Naches and Upper Yakima populations. In the context of these populations that have average abundances of over 900 and 300 adult steelhead, respectively, the loss of a few juveniles annually will not meaningfully affect the abundance or productivity of either population. The likelihood of persistence and recovery potential of the 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.

The proposed action will temporarily reduce the function of the water quality PBF during construction in the immediate construction area; this effect will not meaningfully reduce the conservation value of critical habitat in the action area, even on a temporary basis, due to its limited extent and severity. In the long term, the action will reduce the function of the forage and natural cover PBFs over 200 feet of shoreline, slightly reducing the ability of the critical habitat to support freshwater rearing and migration in the action area. This reduced function occurs in the context of significant improvements in PBF functions in the environmental baseline that are occurring in the action area and at the scale of the designation as a result of the Gap-to-Gap Ecosystem Restoration Project undertaken by Yakima County, the COE, and others. The scale (200 feet) of the impairment of the PBFs resulting from the action are a very small fraction of available critical habitat designated for MCR freshwater rearing and migration of MCR

steelhead, such that the action will not affect the conservation value of critical habitat at the scale of the designation.

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 its 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 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 ITS.

#### **Amount or Extent of Take**

In the opinion, NMFS determined that incidental take of MCR steelhead is reasonably certain to occur as follows: (1) injury or death resulting from crushing during in-water work; and (2) harm from clearing of riparian vegetation.

We anticipate that the proposed action is likely to result in harm, injury, and death to juvenile MCR steelhead that rear and migrate along the shoreline at the construction sites.

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

NMFS anticipates the proposed action will result in injury or death as a result of being crushed during in-water construction; including substrate disturbance and fill. Estimating the specific number of animals injured or killed by interactions with heavy equipment and rocks 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 at the project sites. 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 crushing. 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 in-water construction activities along more than 660 feet of shoreline. This amount includes a small amount above the proposed action that we considered would not have additional anticipated effects.

### ***Incidental Take from Clearing Riparian Vegetation***

NMFS expects the proposed action will result in harm of juvenile steelhead by clearing riparian vegetation, and that willow stakes proposed to be installed in the repaired levee will generally have a low rate of survival and growth to adequate size to replace the impaired riparian functions. NMFS expects the clearing of riparian vegetation to reduce the amount of forage and cover available to juvenile steelhead. Reducing available cover is expected to harm steelhead by exposing them to increased predation. Reducing forage is expected to harm steelhead by slowing their growth such that juveniles will remain vulnerable to a larger range of predators over a longer span of their lives, increasing the risk of predation.

Estimating the specific number of animals harmed by clearing riparian vegetation is not possible because of the range of responses that individual fish will have, and because the numbers of fish present is highly variable both spatially and temporally. While this uncertainty makes it impossible to quantify take in terms of numbers of animals harmed, the extent of the permanent change in habitat to which fish will be exposed is readily discernible and presents a reliable measure of the extent of take that can be monitored and tracked.

The harm associated with clearing riparian vegetation along the shoreline will persist as long as the levee fails to support adequate riparian vegetation to replace the lost cover and forage production. Therefore, the harm from the clearing is best represented by the extent of clearing along the shoreline. We use the extent of shoreline clearing because the amount of harm increases with the increased extent of riparian clearing. Also, this clearly quantifiable measure can easily be measured to determine if take is exceeded. Specifically, NMFS will consider the extent of take exceeded if the overall amount of clearing of riparian vegetation exceeds 200 feet along the shoreline of the Yakima River. Therefore, the length of clearing along the shoreline represents the extent of take exempted from increased predation in this ITS.

The surrogates described above are measurable, and thus can be monitored and reported. For this reason, the surrogates function 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 COE shall minimize incidental take by:

1. Minimizing effects to riparian vegetation.
2. 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 COE 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. Ensure that willows grow on all repaired sections of levee.
  - b. Installation of willow poles will follow the specifications of the Natural Resources Conservation Service (NRCS) publication: TN Plant Materials No. 21: Planting Willows and Cottonwood Poles under Rock Riprap (NRCS 2007), including but not limited to:
    - i. Willow poles will be installed in bundles installed between 45 degrees and vertical along every 6 feet of repaired bank length.
    - ii. Willows poles must be installed to reach a minimum of 6 inches deep into the seasonal low water table and extend above the typical high water line and 6–12 inches above the riprap.
  - c. Soil must be installed such that at least the lowest 60% of the length of each pole is in contact with soil substrate that is stabilized by a filter layer.
  - d. Ensure that willow poles survive the establishment period by watering as necessary. This will be most important for willows installed during summer and early fall.
  - e. Ensure that willows are allowed to grow and provide habitat functions by coordinating with entities responsible for levee maintenance, including Yakima County and others as appropriate.

- f. Ensure that at least 80% of bundles have at least one live pole surviving in October 2022. (If willows are installed after April 1, 2022, then monitoring should occur in October 2023.) If less than 80% of the bundles have at least one live pole, replace the failed bundles and soil (as necessary), and monitor for an additional year.
2. The following terms and conditions implement RPM 2:
    - a. By December 31, 2022, the COE shall report monitoring items to include, at a minimum, the following:
      - i. Project identification
        1. Project name: Repair of the Yakima Right Bank Federal Levee and Yakima Wastewater Treatment Plant Levee (WCRO-2021-02144).
        2. COE contact person.
      - ii. Construction details
        1. Length of shoreline along which in-water work occurred
        2. Length of shoreline (feet) of riparian vegetation clearing
        3. 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 less than 80% of willow bundles have at least one live pole surviving by October 2022, submit an additional monitoring report following one growing season after bundles are replaced. (If willows are installed after April 1, 2022, then monitoring should occur in October 2023 and reporting should occur by December 31, 2023.)
    - c. If take is exceeded, contact NMFS promptly to determine a course of action.
    - d. 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 COE 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 discretionary 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)].

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

1. Increased noise and turbidity during construction, which may displace juvenile fish from in-water work areas during construction.
2. Removal of saplings along 200 feet of shoreline comprising 0.07 acres.

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

1. Ensure that willows grow on all repaired sections of levee.
2. Installation of willow poles will follow the specifications of the NRCS publication: TN Plant Materials No. 21: Planting Willows and Cottonwood Poles under Rock Riprap (NRCS 2007), including but not limited to:
  - i. Willow poles will be installed in bundles installed between 45 degrees and vertical along every 6 feet of repaired bank length.
  - ii. Willows poles must be installed to reach a minimum of 6 inches deep into the seasonal low water table and extend above the typical high water line and 6–12 inches above the riprap.
3. Soil must be installed such that at least the lowest 60% of the length of each pole is in contact with soil substrate that is stabilized by a filter layer.
4. Ensure that willow poles survive the establishment period by watering as necessary. This will be most important for willows installed during summer and early fall.
5. Ensure that willows are allowed to grow and provide habitat functions by coordinating with entities responsible for levee maintenance, including Yakima County and others as appropriate.
6. Ensure that at least 80% of bundles have at least one live pole surviving in October 2022. (If willows are installed after April 1, 2022, then monitoring should occur in October 2023.) If less than 80% of the bundles have at least one live pole, replace the failed bundles and soil (as necessary), and monitor for an additional year.

As required by section 305(b)(4)(B) of the MSA, the COE 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 COE 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

[\[https://repository.library.noaa.gov/welcome\]](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, (509) 856-5442.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael P. Tehan".

Michael P. Tehan  
Assistant Regional Administrator  
Interior Columbia Basin Office

cc: Zachary Wilson, COE (zachary.m.wilson@usace.army.mil)  
Fred Goetz, COE (Frederick.A.Goetz@usace.army.mil)  
Judy Neibauer, USFWS (Judy\_Neibauer@fws.gov)