



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
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Refer to NMFS No:
WCRO-2024-00515

April 9, 2025

P. Allen Atkins
Chief, Regulatory Branch
U.S. Army Corps of Engineers, Seattle District
4735 East Marginal Way South, Bldg. 1202
Seattle, Washington 98134-2388

Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Jacobson Bulkhead, Pier, Jet Ski, and Piling Replacements with Shoreline Restoration King County, Washington (USACE No.: NWS-2023-48, HUC: 171100120400 – Lake Washington).

Dear Mr. Atkins:

This letter responds to your revised letter of April 16, 2024, 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 listed species and designated critical habitat.

We reviewed the 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 below we indicate what parts of your document(s) we have included by reference and where that information is being incorporated. We adopt by reference the following sections of the BE:

- Section 7 for the description of the proposed action and the action area;
- Section 9 for environmental baseline conditions;
- Section 10 for cumulative effects analysis;
- Section 12 for the determination of effect; and
- Section 13 for the EFH analysis.

On March 15, 2024, the NMFS received a letter from the U.S. Army Corps of Engineers (USACE) to request consultation for their authorization of the Jacobson Bulkhead, Pier, Jet Ski and Piling Replacements with Shoreline Restoration project. The request included the applicant's biological evaluation and project description and drawings, (BE; Waterfront 2023). On April 16, 2024, the USACE resubmitted the project request letter (USACE 2024), to revise the Additional Information statement, all associated documentation remained the same.

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On January 30, 2025, the NMFS requested additional information from the USACE and the applicant's agent to clarify project details. The NMFS also requested a copy of the Hydraulic Project Approval (HPA) and the Joint Aquatic Resource Permit Application (JARPA) for the proposed action. On January 31, 2025, Waterfront Construction Incorporated (Waterfront) provided a portion of the requested project information via electronic mail (email) (WCI 2025). On February 18, 2025, the NMFS requested a copy of the project's HPA, JARPA, and some of the previously requested information that was not clarified in the January 31st response. The applicant's agent provided a copy of the HPA (WCI 2025; WDFW 2023) and the JARPA (JARPA; 2022), that same day. WCI also provided more clarification to the original NMFS request where several discrepancies were found between the BE and the project drawings. After further review, the NMFS considers ESA and EFH consultation was initiated for the proposed action on April 9 2025.

Updates to the regulations governing interagency consultation (50 CFR part 402) were effective on May 6, 2024 (89 Fed. Reg. 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 NMFS' existing practice in implementing section 7(a)(2) of the Act. 89 Fed. Reg. at 24268; 84 Fed. Reg. at 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, except we note that we have included offsetting reasonable and prudent measures in the incidental take statement (an option that was not included in the section 7 regulations prior to 2024).

The USACE proposes to authorize the applicant to replace an existing bulkhead, repair an existing pier structure and float dock, replace two jet-ski lifts and construct a rockery and beach cove on residential property on the western shore of Fairweather Bay, on Lake Washington, in Seattle, Washington. The existing bulkhead is 77 linear feet, the proposed bulkhead is 48 linear feet, and the remaining 29 linear feet will be converted into a 250 square foot rockery and beach cove with 10 cubic yards of beach nourishment gravel, located on the southernmost end of the existing bulkhead and property. Native plants will also be installed along the shoreline. The Proposed Action includes:

- **Bulkhead Replacement.** This includes the replacement of the existing 77 linear foot timber bulkhead with a 48 linear foot soldier pile and steel sheet bulkhead. The remaining 29 linear feet with 4, 18-inch timber piles will be permanently removed. The applicant's agent could not confirm whether or not the existing timber bulkhead is creosote-treated. In order to avoid underestimating impacts, the NMFS anticipates that all timber on site is creosote-treated. Before construction work begins, a full-depth sediment curtain will surround the bulkhead work and remain in place until the turbidity levels return to background levels. A barge-mounted excavator with a vibratory pile driver will be used to install 6, 12-inch epoxy coated steel H-beams. After the H-beams are fitted, quarter-inch thick epoxy-coated steel sheets will be attached by bolting the sheets to the H-beams. The proposed bulkhead also includes the backfill installation of crushed rock and filter fabric to stop any particles from escaping through the bulkhead.

The applicant's agent estimates 1 day would be required for this work, with up to 120 minutes of vibratory pile driving. The proposed bulkhead decking will be replaced with 43% light penetration grated decking. During construction, all debris material will be removed and stored on the construction barge for upland disposal.

- **Pier and Dock Structure Repairs.** This includes pier and dock pile repair of up to 17, 12-inch diameter timber piles. Before construction work begins, a floating debris boom would be placed around the barge, pier and dock. Using underwater saws, the divers would cut off the damaged upper portions of the timber piles. The construction crew and or divers would install epoxy-coated steel bonnet splices onto the pile stubs. The barge-mounted excavator will hoist the cut-off pile ends aboard the barge for upland disposal. The applicant's agent could not confirm whether or not the existing timber piles are creosote-treated. In order to avoid underestimating impacts, the NMFS anticipates that all timber on site is creosote-treated. The project also proposes to remove and replace three existing lifts with two jet-ski lifts situated closer to the pier. The existing solid decking on both structures will be replaced with 43% light penetration grated decking. Two timber piles will be removed at the end of the dock and one 10 inch epoxy-coated steel mooring pile will be installed at the end of the pier, by vibratory pile driving. The pier and dock footprint and overwater areas will remain the same. The applicant's agent could not provide an estimated time of completion but confirmed the work would be performed concurrently with the bulkhead construction.
- **Rockery, Beach Cove and Native Vegetation.** The existing 29 linear feet of bulkhead will be removed and replaced with a 250 square foot rockery and beach cove with 10 cubic yards of beach nourishment gravel. Some grading to the shoreline is proposed to install the rocks and beach gravel. The project proposes to install shoreline rocks along the north and south edges of the cove with the center open, beach gravel will be deposited throughout. Native trees and shrubs will be installed along the extent of the shoreline, including the new rockery and beach cove.

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. We supplement the BE with a comprehensive status of species and critical habitat, including the influence of climate change.

Status of Species and Critical Habitat

This opinion examines the status of each species that would be adversely affected by the proposed action. The status is determined by the level of extinction risk that the listed species face, based on parameters considered in documents such as recovery plans, status reviews, and listing decisions. This informs the description of the species' likelihood of both survival and recovery. The species status section also helps to inform the description of the species' current

“reproduction, numbers, or distribution” as described in 50 CFR 402.02. The opinion also examines the condition of critical habitat throughout the designated area, evaluates the conservation value of the various watersheds and coastal and marine environments that make up the designated area, and discusses the current function of the essential PBFs that help to form that conservation value.

Climate Change Effects

One factor affecting the status of ESA-listed species considered in this opinion, and aquatic habitat at large, is climate change. Climate change is likely to play an increasingly important role in determining the abundance and distribution of ESA-listed species, and the conservation value of designated critical habitats, in the Pacific Northwest. These changes will not be spatially homogeneous across the Pacific Northwest. Major ecological realignments are already occurring in response to climate change (IPCC WGII 2022). Long-term trends in warming have continued at global, national and regional scales. Global surface temperatures in the last decade (2010s) were estimated to be 1.09 °C higher than the 1850-1900 baseline period, with larger increases over land ~1.6 °C compared to oceans ~0.88 (IPCC WGI 2021). The vast majority of this warming has been attributed to anthropogenic releases of greenhouse gases (IPCC WGI 2021).

In freshwater, year-round increases in stream temperature and changes in flow will affect physiological, behavioral, and demographic processes in salmon, and change the species with which they interact. For example, as stream temperatures increase, many native salmonids face increased competition with more warm-water tolerant invasive species. Changing freshwater temperatures are likely to affect incubation and emergence timing for eggs, and in locations where the greatest warming occurs may affect egg survival, although several factors impact intergravel temperature and oxygen (e.g., groundwater influence) as well as sensitivity of eggs to thermal stress (Siegel and Crozier, 2020). Changes in temperature and flow regimes may alter the amount of habitat and food available for juvenile rearing, and this in turn could lead to a restriction in the distribution of juveniles, further decreasing productivity through density dependence. For migrating adults, predicted changes in freshwater flows and temperatures will likely increase exposure to stressful temperatures for many salmon and steelhead populations, and alter migration travel times and increase thermal stress accumulation for ESUs or DPSs with early-returning (i.e. spring- and summer-run) phenotypes associated with longer freshwater holding times (Siegel and Crozier, 2020, FitzGerald et al. 2020). Rising river temperatures increase the energetic cost of migration and the risk of *en route* or pre-spawning mortality of adults with long freshwater migrations, although populations of some ESA-listed salmon and steelhead may be able to make use of cool-water refuges and run-timing plasticity to reduce thermal exposure (Keefer et al. 2018, Barnett et al. 2020).

At the individual scale, climate impacts on salmon in one life stage generally affect body size or timing in the next life stage and negative impacts can accumulate across multiple life stages (Healey 2011; Wainwright and Weitkamp 2013, Gosselin et al. 2021). Changes in winter precipitation will likely affect incubation and/or rearing stages of most populations. Changes in the intensity of cool season precipitation, snow accumulation, and runoff could influence migration cues for fall, winter and spring adult migrants, such as coho and steelhead. Egg survival rates may suffer from more intense flooding that scours or buries redds. Changes in hydrological regime, such as a shift from mostly snow to more rain, could drive changes in life

history, potentially threatening diversity within an ESU (Beechie et al. 2006). Changes in summer temperature and flow will affect both juvenile and adult stages in some populations, especially those with yearling life histories and summer migration patterns (Crozier and Zabel 2006; Crozier et al. 2010, Crozier et al. 2019).

Updated projections of climate change are similar to or greater than previous projections (IPCC WGI, 2021). NMFS is increasingly confident in our projections of changes to freshwater and marine systems because every year brings stronger validation of previous predictions in both physical and biological realms. Retaining and restoring habitat complexity, access to climate refuges (both flow and temperature) and improving growth opportunity in both freshwater and marine environments are strongly advocated in the recent literature (Siegel and Crozier 2020). Climate change is systemic, influencing freshwater, estuarine, and marine conditions. Other systems are also being influenced by changing climatic conditions. Literature reviews on the impacts of climate change on Pacific salmon (Crozier 2015, 2016, 2017, Crozier and Siegel 2018, Siegel and Crozier 2019, 2020) have collected hundreds of papers documenting the major themes relevant for salmon. Here we describe habitat changes relevant to Pacific salmon and steelhead, prior to describing how these changes result in the varied specific mechanisms impacting these species in subsequent sections.

Finally, we examined the likely effects on any listed species and critical habitats where the USACE made a “not likely to adversely affect” determination. Our conclusions regarding the effects of the action on those species and critical habitats is presented below.

“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 NMFS incorporates by reference Section 7 of the BE. In summary, the action area in this case includes:

- The physical footprint of each of the proposed projects, which includes the limits of all proposed construction activities (the project site).
- The areas which could be affected by noise extending beyond the project footprint in exceedance of species’ thresholds.
- The anticipated extent of any temporarily elevated turbidity during project activities.
- The anticipated extent of pollutants and propeller wash during project activities.

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). Section 9 of the BE provides a detailed description of the environmental baseline and is being adopted here.

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.

The BE provides a partial discussion and assessment of the effects of the proposed action in Section 7 of the initiation package, and is adopted here (50 CFR 402.14(h)(3)). The NMFS has included additional information through our independent, science-based evaluation and determined it meets our regulatory and scientific standards, the supplementary information is addressed below.

The Corps proposes to authorize the applicant to replace an existing bulkhead, repair an existing pier structure and float dock, replace two jet-ski lifts and construct a rockery and beach cove on residential property. The temporary and long-term effects of this proposed action are:

- Behavioral impacts from underwater sound, caused by pile driving and other construction activities.
- Temporary work and structure related pollution, including increased turbidity, decreased dissolved oxygen levels, and the introduction of toxic materials from equipment-related pollutants.
- Temporary project related and long term propeller wash in nearshore waters during vessel operations.
- Maintaining a partial artificial shoreline, reducing riparian habitat quality, and forage resources.
- Continuing artificial day-time shade, which will increase predation and delay salmonid migration.
- Disturbance and suppression of submerged aquatic vegetation caused by vessel and in-water construction activities.
- Temporary areal avoidance from action-related noise, pollutants, and altered lighting.

Shoreline stabilization projects alter the natural behaviors of emigrating juvenile salmonids. These artificial shoreline conditions decrease forage efficiency and increase exposure and vulnerability to predators for emigrating juvenile salmonids. Juvenile salmon along armored shorelines may be forced into deeper waters or other less-preferred habitats, where foraging comes at a higher energetic cost if potential prey items are more difficult to locate, and they may encounter increased predation risk (Willette 2001; Biro et al. 2007; Duffy and Beauchamp 2008). Shallow water can serve as a refuge from predatory fishes because predators cannot forage effectively in very shallow water. Shoreline armoring eliminates most of this shallow water refuge. Vertical bulkheads can also have localized effects on bottom slope and substrate type by altering wave energy and silt deposition (Sergeant and Beauchamp 2006). The resulting bulkhead would also continue to prevent the growth of native riparian vegetation. The reduced input of terrestrial-origin organic material from the continued absence of riparian vegetation would maintain conditions that reduce the availability and or quality of forage resources for juvenile salmonids at the site. Unarmored sites with overhanging vegetation produce insects and

other invertebrates that provide prey for juvenile salmon; foraging fish at these types of sites may move differently than at armored sites where food sources are more limited (Romanuk and Levings 2003; Toft et al. 2007; Sobocinski et al. 2010).

Although the project would install grated decking over the entire pier and bulkhead, the repaired structures would continue to cast shade during the day. Long-term effects from artificial shading are reasonably certain to occur, including reduced aquatic productivity, altered juvenile salmonid migratory behaviors, and increased exposure and vulnerability to predators.

The shade-related SAV reduction would also reduce the availability of natural cover under and adjacent to the pier, which would increase juvenile salmonids' exposure and vulnerability to piscivorous predatory fish that frequently reside in the shadows of over-water structures. Shade-related reduced productivity would also reduce the availability and quality of forage resources for migrating juvenile salmonids. The shade of over-water structures also negatively affects juvenile salmonid migration. Numerous studies demonstrate that juvenile salmonids, in both freshwater and marine habitats, are more likely to avoid an overwater structure's shadow than to pass through it (Celedonia et al. 2008a and b; Kemp et al. 2005; Moore et al. 2013; Munsch et al. 2014; Nightingale and Simenstad 2001; Ono et al. 2010; Southard et al. 2006; Tabor et al. 2006).

The small size of the affected area supports the expectation that, for any particular individual passing through the affected area, the probability of experiencing meaningful impacts that would be attributable to the artificial shoreline would be relatively low. However, it is very likely that over an entire emigration season, some of the juvenile PS Chinook salmon that pass through the affected area would experience reduced fitness or predation due to the conditions that would be maintained by the bulkhead. Over the life of the bulkhead, some of the juvenile PS steelhead that pass through the affected area would be similarly affected.

“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). 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 NMFS completed and incorporated Section 10 of the BE that describes cumulative effects here. Lake Washington is a densely populated area with armored shorelines, multiple overwater structures and reduced water quality. Specific actions without anticipated Federal ESA assessment include:

- Continued land use modification and habitat loss from residential and commercial use,
- Continued water quality (pollution discharge, etc.) impairment resulting from anthropogenic activities, and
- Continued habitat diminishment (temperature, water quality, etc.) from climate change.

The effects from private, state and local land use impacts will continue to stress Chinook salmon and steelhead in Lake Washington and reduce the quality and function of Chinook salmon designated critical habitat.

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.

Chinook salmon and steelhead are threatened under the ESA. These species are listed under the ESA because of reductions in abundance from historic levels, low productivity, reductions in diversity and diminishment in spatial structure. These conditions are due in part to systemic degraded habitat as factors for decline and similarly are found in the baseline of the action area, where multiple anthropogenic changes exist. Best management practices (BMPs) will be implemented during construction to minimize those effects. The proposed actions will, however, have permanent adverse effects on the ESA-listed species and designated critical habitat in the action area. The partially replaced bulkhead will prolong the life of the artificial shoreline, and the pier and dock structures will continue overwater shading.

Climate change and human development have, and continue to adversely impact critical habitat creating limiting factors and threats to the recovery of ESA listed species within the action area. Section 9 of the BE describes the environmental baseline as densely populated, and most properties have overwater structures with artificial shorelines ranging from concrete to soft armoring. Fairweather Creek, a heavily polluted Category 5 waterway (temperature, E. coli, fecal coliform, etc.) empties into Lake Washington a quarter mile southwest of the project site after passing through the Overlake Golf Course (WDOE, 2025). The NMFS assumes that the environmental baseline is not meeting all biological requirements of individual fish of listed species. The exact effects of climate change are both uncertain, and unlikely to be spatially homogeneous. However, climate change is reasonably likely to cause reduced instream flows in some systems, and may impact water quality through elevated in-stream water temperatures and reduced dissolved oxygen, as well as by causing more frequent and more intense flooding events.

Climate change may also impact coastal waters through elevated surface water temperature, increased and variable acidity, increasing storm frequency and magnitude, and rising sea levels. The adaptive ability of listed-species is uncertain, but is likely reduced due to reductions in population size, habitat quantity and diversity, and loss of behavioral and genetic variation.

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 the NMFS' biological opinion that the proposed action would adversely affect but is not likely to jeopardize the continued existence of Puget Sound (PS) Chinook salmon and PS steelhead. The NMFS also concludes that the proposed action is likely to adversely affect designated critical habitat for PS Chinook salmon, but is not likely to result in the destruction or adverse modification of that designated critical habitat. This opinion also documents our conclusion that the proposed action is not likely to adversely affect southern resident (SR) killer whales and 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 ITS.

Amount or Extent of Take

The NMFS cannot predict with meaningful accuracy the number of PS Chinook salmon and PS steelhead that are reasonably certain to be injured or killed annually by exposure to listed stressors. The distribution and abundance of the listed fish that occur within the action area are affected by numerous biotic and environmental processes, such as timing in relation to the life stage and typical behaviors of the species under consideration, intra- and inter-specific interactions such as competition and predation, habitat quality, and the interaction of processes that influence genetic, population, and environmental characteristics. The processes interact in ways that may be random or directional, and may operate across far broader temporal and spatial scales than are affected by the proposed action. Therefore, the distribution and abundance of listed fish in any given area are likely to vary greatly, and somewhat randomly, over time. Further, the NMFS knows of no device or practicable technique that would yield reliable counts of individuals that may be injured or killed annually by exposure to the proposed action’s impacts. In such circumstances, the NMFS uses the causal link established between the activity and the likely extent and duration of changes in habitat conditions as surrogates to describe the extent of take as a numerical level of habitat disturbance. The most appropriate surrogates for take are action-related parameters that are directly related to the magnitude of the expected take.

The timing of in-water work is applicable for all work-related direct impacts (noise, pollutants, and propeller wash) because the proposed July 16 through March 15 in-water work window avoids the period of time when juvenile Chinook salmon would be most numerous within the project area. Therefore, working outside of the proposed work window would likely increase the number of juvenile PS Chinook salmon that would be exposed to work-related direct impacts.

The size and configuration of the replacement bulkhead, and the pier and dock repairs is the best available surrogate for the extent of take of juvenile PS Chinook and juvenile PS steelhead from exposure to altered habitat and forage diminishment. Structure size and configuration are appropriate surrogates for these stressors, because increasing the size of the replacement

bulkhead and the pier and dock repairs or moving structures further waterward of its current location would increase the area of artificial substrate. This could increase the amount of predator-friendly habitat, as well as decrease the availability and quality of SAV and forage resources at the site, which would increase the predator and fitness impacts on juvenile salmonids at the project site.

In summary, the extent of PS Chinook salmon and PS steelhead take for this action is defined as:

- In-water work to be completed between July 16 and March 15;
- The size and configuration of the replacement bulkhead, pier and dock repairs as described in the proposed action section of this biological opinion.

Exceedance of any of the exposure limits described above would constitute an exceedance of authorized take could trigger the need to reinitiate consultation.

Effect of the Take

In the biological opinion, the 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 when the reasonable and prudent alternative is implemented.

Reasonable and Prudent Measures

“Reasonable and prudent measures” 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).

1. The USACE will minimize incidental take associated with project construction by ensuring all BMPs described in the Proposed Action and this Opinion are implemented and reported, as appropriate.
2. The USACE will ensure completion of a monitoring and reporting program to confirm the take exemption for the proposed action is not exceeded, and that the terms and conditions in this incidental take statement are effective in minimizing incidental take.

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 USACE 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 reasonable and prudent measure 1:
The USACE shall require the applicant to develop and implement plans to collect and report details about the take of listed fish. That plan shall:
 - a. Document the timing and duration of in-water work to ensure that all in-water work is completed July 16 through March 15.
 - b. Before beginning work, the applicant must provide all contractors working onsite with a complete list of reasonable and prudent measures, and terms and conditions intended to minimize the amount and extent of take resulting from in-water work.
 - c. Minimize the take from pile removal, repairs and placement: The USACE should ensure that the removal and installation of piles is constrained to the shortest possible period, and use BMPs during pile repairs.
 - d. Document the size and configuration of the replacement bulkhead, pier and dock repairs to confirm that they do not exceed the characteristics described in this opinion.
2. The following terms and conditions implement reasonable and prudent measure 2:
 - a. The USACE shall provide the NMFS (projectreports.wcr@noaa.gov), with the subject line Attn: WCRO-2024-00515 within 90 days of completion of the proposed action a report that includes the following:
 - i. The total number of days and the dates associated with in-water work;
 - ii. The total number of adult and juvenile PS Chinook salmon, and any other listed species encountered during the in-water work window;
 - iii. The final footprint (surface area in square feet) of all new, replaced, repaired, or reinforced structures.

Conservation Recommendations

Section 7(a)(1) of the ESA directs federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Specifically, conservation recommendations are suggestions regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information (50 CFR 402.02). For the proposed action, the NMFS encourages WCI (contractor) to minimize the duration of in-water construction activities to the maximum extent possible, to limit the length of construction-related effects.

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 take 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 RESPONSE

Thank you also for your request for essential fish habitat (EFH) consultation. NMFS reviewed the proposed action for potential effects on EFH pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation.

MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

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 600.905(b)).

EFH Affected by the Proposed Action

The waters and substrate of Lake Washington are designated as freshwater EFH for various life-history stages of Pacific Coast Salmon, which within the Lake Washington watershed include Chinook and coho salmon. Due to trophic links between PS Chinook salmon and SR killer whales, the project's action area also overlaps with marine waters that have been designated, under the MSA, as EFH for Pacific Coast Salmon, Pacific Coast Groundfish, and Coastal Pelagic Species. However, the action would cause no detectable effects on any components of marine EFH. Therefore, the action's effects on EFH would be limited to impacts on freshwater EFH for Pacific Coast Salmon, and it would not adversely affect marine EFH for Pacific Coast Salmon, or EFH for Pacific Coast groundfish and coastal pelagic species.

Adverse Effects on EFH

NMFS determined the proposed action would adversely affect EFH as follows. We adopt by reference Section 13 of the BE for the description of the effects to EFH, with the inclusion of the additional effects on EFH as determined by NMFS:

- Noise levels will be louder than baseline conditions for several weeks, reaching the behavioral effects threshold for a few hours each day of construction.

- Artificially deepened water and a steepened bank along a portion of the shoreline at the replacement bulkhead would diminish the availability of prey organisms.
- Permanent overwater structure shading would maintain conditions that reduce SAV growth and increase the chance of predation.
- Reduced forage and the destruction of benthic organisms from work and structure related activities.

The minimization measures and the proposed rockery and beach cove with 10 cubic yards of spawning gravel with native riparian establishment that are integrated into the proposed action are those actions the NMFS typically considers necessary to conserve EFH. Therefore, NMFS has no EFH conservation recommendations to provide at this time. This concludes the EFH consultation.

Supplemental Consultation

The USACE 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 the NOAA Institutional Repository [<https://repository.library.noaa.gov/>]. A complete record of this consultation is on file at the Oregon Washington Coastal Office in Portland, Oregon.

Please direct questions regarding this letter to Lauren Liuzza, ESA Consultation Biologist in the Oregon Washington Coastal Office at (503) 939-4827 or lauren.liuzza@noaa.gov if you have any questions concerning this consultation, or if you require additional information.

Sincerely,



Kathleen Wells
Assistant Regional Administrator
Oregon Washington Coastal Office

cc: Trevor Williams, USACE

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