



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-2023-00670

August 17, 2023

Todd N. Tillinger, P.E.
Chief, Regulatory Branch
Seattle District, U.S. Army Corps of Engineers
P.O. Box 3755
Seattle, Washington 98124-3755

Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Lake Cushman Debris Removal Ramp (NWS-2019-892).

Dear Mr. Tillinger:

This letter responds to your July 13, 2023, 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 United States Army Corps of Engineers' (Corps') 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 here the following sections of the BE:

- Sections 5, 11 and 14 for the description of the proposed action;
- Section 7 for the action area;
- Sections 8 and 9 for the status of the species and critical habitat;
- Section 9 for the environmental baseline; and
- Sections 10, 12 and 13 for effects of the action.

We have provided clarification where we have included additional or unique information to what was provided in the BE. In particular, we have referred to additional published literature and other NMFS biological opinions for our analysis of effects.

Consultation History: On May 15, 2023, NMFS received a request from the Corps for informal consultation of the proposed action. A call was held between NMFS, the Corps and Tacoma Power (applicant) on July 13, 2023 to discuss the project. Effects considered more than insignificant for ESA-listed species and critical habitat were identified and formal consultation was requested by the Corps on July 13, 2023. We determined that we had received all information necessary to complete consultation and formal consultation was initiated on that date.

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On July 5, 2022, the U.S. District Court for the Northern District of California issued an order vacating the 2019 regulations that were revised or added to 50 CFR part 402 in 2019 (“2019 Regulations,” see 84 FR 44976, August 27, 2019) without making a finding on the merits. On September 21, 2022, the U.S. Court of Appeals for the Ninth Circuit granted a temporary stay of the district court’s July 5 order. On November 14, 2022, the Northern District of California issued an order granting the government’s request for voluntary remand without vacating the 2019 regulations. The District Court issued a slightly amended order two days later on November 16, 2022. As a result, the 2019 regulations remain in effect, and we are applying the 2019 regulations here. For purposes of this consultation and in an abundance of caution, we considered whether the substantive analysis and conclusions articulated in the biological opinion and incidental take statement would be any different under the pre-2019 regulations. We have determined that our analysis and conclusions would not be any different.

Proposed Action: The Corps proposed to permit the placement of fill and construction of a ramp at Lake Cushman, Mason County, WA, to facilitate the removal and hauling of debris and large woody material from the Cushman Number 1 reservoir (Lake Cushman). Removal of this material is considered necessary for the protection of hydroelectric facilities. Under current practices, the material is removed from the lake, and the proposed action would aid in that removal. As described in the BE, the ramp would be approximately 170 feet long and 40 feet wide. The top of the ramp would be at an approximate elevation of 744 feet and the lower end of the ramp would extend down into the reservoir to an approximate elevation 730 feet. The toe of the precast concrete block bulkhead would extend down to an approximate elevation of 720 feet. Ordinary high water (OHW or full pool) for Lake Cushman is elevation 738 feet. The structure would be comprised of precast concrete blocks, precast concrete interlocking panels below OHW, a pour in place concrete anchor section (above OHW) and gravel fill/dressing material on the approach ramp between the existing road and the concrete ramp (above OHW). All work would be performed within the designated 100-year floodplain. Minor excavation and grading would be required to establish appropriate grades and elevations for construction. Large woody debris (LWD) would be placed by excavators in a cove along the Lake Cushman shoreline east of the ramp site to provide mitigation for the ramp’s construction and long-term presence, as described in the BE.

Status of Species and Critical Habitat: 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 adopt by reference section 8 and 9 of the BE for descriptions of the status of species and critical habitat.

We consider it reasonably certain that the proposed structure would be likely to adversely affect (LAA) Puget Sound (PS) Chinook salmon (designated threatened on 6/28/2005; 70 FR 37160) and their critical habitat (designated 9/2/2005; 70 FR 52630) and PS steelhead (designated as threatened 5/11/2007; 72 FR 26722). There is no designated critical habitat for PS steelhead in the action area. PS Chinook salmon are currently present within Lake Cushman, including the action area. PS steelhead do not currently occur in Lake Cushman, but are expected to occur in

the lake, including the action area, in the near future based on fish supplementation and fish passage provisions for the Cushman Hydroelectric Project (see Settlement Agreement for the Cushman Project, January 12, 2009¹; and the NMFS' 2010 Supplemental Biological Opinion for the Settlement Agreement²). Due to the requirements of these agreements, the future presence of PS steelhead in Lake Cushman is reasonably certain to occur. We therefore anticipate steelhead being exposed to long-term effects of the proposed structures.

We also used information in the most recent 5-year review³ and viability assessment⁴ for PS salmonids to examine the population status of both species within the action area. We also considered information in the recovery plans for PS Chinook salmon (Shared Strategy for PS 2007⁵) and PS steelhead (NMFS 2019⁶) describing the status, presence, abundance, density or periodic occurrence of listed species, and the condition and location of the species' habitat, including critical habitat.

Both species have declined due to numerous factors. One factor for decline that these species share is degradation of freshwater and estuarine habitat. Human development in the Pacific Northwest has caused significant negative changes to stream and estuary habitat across the range of these species. The status review update for Pacific salmon and steelhead⁷ identified the following dominant habitat concerns (i.e. limiting factors for the recovery) for PS Chinook salmon:

- Impaired water quality in fresh and marine waters;
- Lack of access to functional floodplains;
- Lack of access to functional marine shorelines; and
- Impaired passage.

¹ Available at: <https://www.mytpu.org/wp-content/uploads/cushman-dam-settlement-2009.pdf>. Accessed September 13, 2020.

² NMFS Supplemental Biological Opinion and Essential Fish Habitat Consultation for the Cushman Hydroelectric Project, FERC Project Number 460, March 31, 2010.

³ NMFS. 2017c. 2016 5-Year Review: Summary and Evaluation of Puget Sound Chinook Salmon, Hood Canal Summer-Run Chum Salmon, and Puget Sound Steelhead. National Marine Fisheries Service, West Coast Region, Portland, OR. April 6, 2017.

⁴ Ford, M. J. (editor). 2022. Biological Viability Assessment Update for Pacific Salmon and Steelhead Listed Under the Endangered Species Act: Pacific Northwest. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-NWFSC-171.

⁵ Shared Strategy for Puget Sound. 2007. Puget Sound salmon recovery plan. Volume 1, recovery plan. Shared Strategy for Puget Sound. Seattle.

⁶ NMFS. 2019. ESA Recovery Plan for the Puget Sound Steelhead Distinct Population Segment (*Oncorhynchus mykiss*). National Marine Fisheries Service. Seattle, WA.

⁷ NMFS. 2017c. 2016 5-Year Review: Summary and Evaluation of Puget Sound Chinook Salmon, Hood Canal Summer-Run Chum Salmon, and Puget Sound Steelhead. National Marine Fisheries Service, West Coast Region, Portland, OR. April 6, 2017.

Habitat concerns included in the 5-year review¹² and identified by NMFS in the recovery plan for the PS steelhead DPS⁸ include:

- Fish passage barriers at road crossings;
- Dams, including fish passage and flood control;
- Floodplain impairments, including agriculture;
- Residential, commercial, industrial development (including impervious runoff);
- Timber harvest management;
- Water withdrawals and altered flows;
- Ecological and genetic interactions between hatchery and natural-origin fish;
- Harvest pressures (including selective harvest) on natural-origin fish; and
- Juvenile mortality in estuary and marine waters of PS.

The most recent (2022) biological viability assessment update for Pacific salmon and steelhead⁹ has not yet been finalized, but the draft document provides similar findings. It concludes that all PS Chinook salmon populations continue to remain well below the TRT planning ranges for recovery escapement levels, and that most populations, including the Skokomish River population, remain consistently below the spawner-recruit levels identified by the TRT as necessary for recovery. However, it also finds that most populations have increased somewhat in abundance since the last status review in 2016, but still have small negative trends over the past 15 years, with productivity remaining low in most populations.

The 2022 biological viability assessment update identified a slight improvement in the viability of the PS steelhead DPS since the PS steelhead technical review team concluded that the DPS was at very low viability, as were all three of its constituent major population groups (MPGs), and many of its 32 demographically independent populations (DIPs), including the Skokomish River population. The assessment update reported observed increases in spawner abundance in a number of populations over the last five years, which were disproportionately found within the South and Central Puget Sound and Strait of Juan de Fuca and Hood Canal MPGs, and primarily among smaller populations, including the Skokomish River population. The draft update concluded that recovery efforts in conjunction with improved ocean and climatic conditions have resulted in an increasing viability trend for the PS steelhead DPS, although the extinction risk remains moderate.

“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). We adopt by reference section 7 of the BE for the description of the action area. This includes the area of the proposed ramp, the associated LWD placement mitigation location, and areas of temporary upland disturbance, as well as a 150-foot radius area from the ramp and mitigation area to account for potential temporary elevated levels of turbidity.

⁸ NMFS. 2019. ESA Recovery Plan for the Puget Sound Steelhead Distinct Population Segment (*Oncorhynchus mykiss*). National Marine Fisheries Service. Seattle, WA.

⁹ Ford, M. J. (editor). 2022. Biological Viability Assessment Update for Pacific Salmon and Steelhead Listed Under the Endangered Species Act: Pacific Northwest. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-NWFSC-171.

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).

We adopt here, by reference, section 9 for the description of the environmental baseline and supplement it with the following information. Currently, individuals of a landlocked Lake Cushman population of PS Chinook salmon (upstream of Dam Number 1) migrate and rear in the action area, spawning upstream of the lake in the North Fork Skokomish River. The landlocked population is not considered a viable independent population of the PS Chinook salmon evolutionarily significant unit (ESU),¹⁰ and thus they do not contribute to ESU population viability. With upstream and downstream passage provided at the Cushman dams in the future, as well as hatchery supplementation,^{11 12} we expect migratory PS Chinook salmon, as well as PS steelhead, to migrate and rear in the action area.

We used information in BE describing habitat and fish presence in the action area to assess the habitat condition and function for PS Chinook salmon and steelhead, including PS Chinook salmon critical habitat. In particular, we adopt here by reference, the information regarding the nearshore habitat conditions (i.e. existing structures, substrate and vegetation) of the action area and project sites (section 9). This includes information on the function of the physical or biological features (PBFs) essential to the conservation of PS Chinook salmon that create the conservation value of their designated critical habitat.

As described in the BE, the environmental baseline within the North Fork Skokomish River Watershed, including the action area, is degraded by a host of anthropogenic changes. Within the action area, numerous public and private residential structures, such as shoreline armoring (e.g. bulkheads), piers, ramps and floats have modified natural habitat conditions, and degraded nearshore habitat quality and function.

Tacoma Power’s Cushman Dam Number 1 and Dam Number 2, and associated structures, have modified habitat conditions and inhibit fish migrations. Dam operations and regulation of the hydrology of the North Fork Skokomish River, and Lake Cushman and Lake Kokanee reservoirs have also greatly modified fish habitat. Because of Cushman Dam Number 1, water levels in the lake can fluctuate up to 21 meters (69 feet), and periodically inundate up to 12 hectares (30

¹⁰ Ruckelshaus, M.H., K.P. Currens, W.H. Graeber, R.R. Fuerstenberg, K. Rawson, N.J. Sands, J.B. Scott. 2006. Independent populations of Chinook salmon in Puget Sound. U.S. Dept. Commerce, NOAA Tech. Memo. NMFS-NWFSC-78, 125 p.

¹¹ Settle Agreement for the Cushman Project, January 12, 2009. Available at: <https://www.mytpu.org/wp-content/uploads/cushman-dam-settlement-2009.pdf>. Accessed September 13, 2020.

¹² NMFS Supplemental Biological Opinion and Essential Fish Habitat Consultation for the Cushman Hydroelectric Project, FERC Project Number 460, March 31, 2010.

acres) of land surrounding the inlet to the reservoir (Lake Cushman). Additionally, as a result of fluctuating water levels exposing much of the shoreline during winter months, there is little to no aquatic vegetation in the nearshore, and the lakebed of the nearshore is steep and severely scoured. These conditions limit the productivity of the Lake Cushman nearshore.

Effects: 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 biological evaluation provides a detailed discussion and comprehensive assessment of the effects of the proposed action in Section 3.1 of the initiation package, and is adopted here (50 CFR 402.14(h)(3)). NMFS has evaluated this section and after our independent, science-based evaluation determined it meets our regulatory and scientific standards.

PS Chinook salmon are likely to be present within the action area during in-water construction activities. As described in the BE, effects of the proposed construction activity would be short-term (completed within the October to March draw-down period), localized and minor, with any degradation of habitat conditions (e.g. turbidity) to be extremely unlikely to affect ESA-listed species. Construction would occur when Lake Cushman water levels are low (below the construction area) to minimize potential suspension of sediment (turbidity). We anticipate that any elevated turbidity levels resulting from heavy precipitation during construction, or by the first inundation of the site when lake water levels rise in the spring would be localized and minor, and would not result in a measurable reduction in habitat quality, or conditions harmful to listed fishes. As described in the BE (section 5), best management practices would be implemented to reduce construction-related effects, such as avoiding disturbance of vegetation, preventing deleterious discharge to waters of the state, and monitoring pH and turbidity.

In addition to short-term construction-related effects, the proposed ramp would have long-term effects on PS Chinook salmon and steelhead by degrading habitat quality within the action area, including designated critical habitat for PS Chinook salmon. All of Lake Cushman is designated as critical habitat for PS Chinook salmon. The proposed ramp would have long-term, direct effects on the quality and availability of habitat, including critical habitat for PS Chinook salmon. The Physical and Biological Features (PBFs) of PS Chinook salmon critical habitat in the action area includes:

- Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks; and
- Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging

large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.

Reasonably likely adverse habitat effects of the proposed ramp result from the permanent/long-term presence (estimated 50 years) of the structure, including habitat loss/displacement, degraded riparian habitat quality and reduced shallow water habitat. These habitat alterations may diminish the function and quality of PBFs of critical habitat for PS Chinook salmon. Because PS steelhead adults and juveniles would be expected to use the same habitat in the action areas as PS Chinook salmon, although to varying degrees, we expect effects on PS Chinook critical habitat to similarly adversely affect PS steelhead habitat. The direct long-term habitat effects of the structure would slightly diminish the availability and function of habitat serving multiple generations of both PS Chinook salmon and PS steelhead over the life of the structures.

We estimate the life of the proposed ramp to be 50 years. Effects of the proposed structure is assessed in this biological opinion based on this expected life of the structure. Therefore, we have not assessed effects of the proposed action beyond 50 years, and any activity (e.g., maintenance or repair) that extends the life of the structure beyond this is not included in our assessment of effects.

As detailed in the BE and project drawings, the benthic footprint of the proposed structures below ordinary high water mark (OHWM; 738 feet in Lake Cushman) would reduce available benthic habitat for fish. This would cause a small but long-term reduction or modification to available nearshore habitat for rearing and migration. This would also result in a slight reduction to forage where benthic and aquatic organisms are displaced. The area of water column occupied by the structure below the OHWM would displace available aquatic habitat for fish. This results in a small, localized, but long-term reduction in available nearshore lake habitat for juvenile and adult PS Chinook salmon and steelhead for about half of the year, when water levels are high enough to inundate the project site.

The proposed ramp would also act as shoreline armoring and would result in the absence of riparian vegetation in some portions of the sites (e.g. no vegetation in the footprint of the proposed structure) for the life of the structure. The armoring results in reduced density of riparian vegetation compared to natural shorelines in the action area. This would reduce overwater cover for fish in the nearshore and also reduced recruitment of LWD that provide in-water cover.

A reduction in riparian vegetation would also result in reduced input of detritus and terrestrial insects, thereby causing a reduction to forage potential for juvenile PS Chinook salmon and steelhead (see Kahler et al. 2000¹³; Tabor et al. 2010¹⁴). Because the input of woody debris,

¹³ Kahler, T., M. Grassley and D. Beauchamp. 2000. A Summary of the Effects of Bulkheads, Piers and Other Artificial Structures and Shorezone Development on ESA-listed Salmonids in Lakes. Prepared for City of Bellevue. Final Report. July 13, 2000.

¹⁴ Tabor, R.A., K.L. Fresh, R.M. Piaskowski, H.A. Gearns and D.B. Hayes. Habitat Use by Juvenile Chinook Salmon in the Nearshore Areas of Lake Washington: Effects of Depth, Lakeshore Development, Substrate, and Vegetation. *North American Journal of Fisheries Management*, 31(4), pp. 700-713.

detritus and terrestrial insects influences primary productivity and forage potential, effects are anticipated in the nearshore area immediately adjacent to the structures, as well as further out into the action area.

The proposed shoreline armoring effects of the ramp along its edges are expected to result in reduced shallow water habitat along the shoreline of the action area (see NMFS 2017¹⁵; NMFS 2020¹⁶), which juvenile salmonids use for rearing and migration, particularly juvenile PS Chinook salmon, which are nearshore oriented during their outward migration from natal streams to the Pacific Ocean. This would result in reduced shallow water along the length of the proposed structure's edges, thereby requiring juvenile salmonids to move through deeper water where they are more susceptible to encountering larger predatory fish. While the footprint of this habitat diminishment is small, because the impacts will occur during the duration of the extended life of the structures, we expect that many PS Chinook salmon would be exposed to it over time.

We anticipate all long-term habitat alterations resulting from the proposed structure to be localized to adjacent areas. When PS Chinook salmon and PS steelhead are exposed over the life of the structures to these reductions in available habitat and habitat quality, it could harm a small number of juveniles rearing or migrating through the action area. This harm would occur in the form of predation (injury or death) or migration delay (interruption of an essential life history function).

The proposed placement of anchored LWD (minimum 16-inch diameter DBH and 30-foot long logs with root wads) along approximately 200 feet of the nearshore in a cove to the east of the proposed ramp site would provide improved habitat conditions (cover and forage) for migrating and rearing salmonids. This is intended to offset the habitat effects of the proposed ramp, especially given the lack of LWD at both the ramp and mitigation site under baseline conditions, and the current practice of removal of large wood and other debris from the lake to protect the Cushman Project facilities.

“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.

As described in section 9 of the BE (and incorporated here by reference), and further assessed here, we anticipate continued population growth and development, global warming and fishing as non-federal activities reasonably certain to occur within the action area. We also expect

¹⁵ NMFS. 2017. Endangered Species Act Section 7(a)(2) Biological Opinion and Letter of Concurrence and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Integrated Restoration and Permitting Program (IRPP) for Lakes Washington and Sammamish. WCR-2016-5278. February 17, 2017.

¹⁶ NMFS. 2020. Endangered Species Act Section 7(a)(2) Biological Opinion and Letter of Concurrence and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Issuance of Permits for 39 Projects under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act for Actions Related to Structures in the Nearshore Environment of Puget Sound. WCRO-2020-01361. November 9, 2020.

recreational use of the lake (e.g. boating) to continue, and increase with population growth and shoreline development.

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 would add minor, localized negative habitat effects over a small area of critical habitat during the life of the structure, and expose multiple individual fish to those reduced habitat conditions. However, the increment of detriment, both temporary and long-term, is insufficient to alter the conservation role of the habitat, and the response of the populations are expected to be minor and the number of fish injured or killed too small to meaningfully influence the VSP parameters of PS Chinook salmon or steelhead populations. The proposed action would not reduce the likelihood of survival and recovery of either species. The proposed action are also not likely to result in appreciable reduction in the value of designated PS Chinook salmon critical habitat for the conservation of the species. 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 actions, and cumulative effects, it is NMFS' biological opinion that the proposed action is not likely to jeopardize the continued existence of PS Chinook salmon and PS steelhead, nor destroy or adversely modify PS Chinook salmon 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). "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 biological opinion, NMFS determined that incidental take is reasonably certain to occur as follows:

- Harm to juvenile PS Chinook salmon from increased predation risk as a result of fish being forced into deeper water where shallow-water habitat is reduced; and
- Harm to juvenile and adult PS Chinook salmon and PS steelhead from reduced habitat availability and forage.

The distribution and abundance of fish that occur within the action area are affected by habitat quality, competition, predation, and the interaction of processes that influence genetic, population, and environmental characteristics. These biotic and environmental 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 actions. Thus, the distribution and abundance of fish within the action area cannot be attributed entirely to habitat conditions, nor can NMFS precisely predict the number of fish that are reasonably certain to be injured or killed if their habitat is modified or degraded by the proposed actions. In such circumstances, NMFS cannot provide an amount of take that would be caused by the proposed action.

As all habitat pathways for harm are related to the presence of the proposed structure, the best available indicator for the extent of take by reduced forage, rearing and migration habitat and increased predation from the proposed action is the footprint/surface area of structure. This extent of take can be observed and monitored by dimensions of the structure. The size of the structure is the best available surrogate for the extent of take from habitat loss/displacement and from exposure to the structure itself because it is causally related. Habitat loss/displacement (structural footprint) is directly related to the area occupied by the structure. The width of the structure along the shoreline directly correlates to degraded habitat quality caused by the shoreline armoring effects of the structure. These effects include reduced shallow water habitat, which results in increased predation risk for juvenile salmonids, particularly nearshore-oriented juvenile Chinook salmon, as well as degraded riparian habitat conditions that reduce overwater and in-water cover, further increasing predation risk. Reduced riparian habitat area and quality also decreases aquatic habitat productivity, which limits forage for juvenile and adult PS Chinook salmon and steelhead. The extent of these effects would increase or decrease depending directly on the size of the structure (surface area and width).

The proposed structure, including the upper graveled portion, is 40 linear feet along the shore and 170 feet of in water structure, creating 6,800 square feet of modified habitat.

Any exceedance of these take indicators (surface area and width) of the proposed action will trigger the reinitiation provisions of this opinion. Although this surrogate measure of incidental take is coextensive with some aspects of the proposed action, it nevertheless serves as an effective reinitiation trigger because it can be readily monitored and if exceeded, the Corps can seek compliance.

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

1. Monitor the construction for the proposed action to ensure that it conforms to all design specifications, and implements best management practices and proposed mitigation actions.

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 Corps 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 reasonable and prudent measure 1:
 - a. The applicant must report to jeff.vanderpham@noaa.gov and projectreports.wcr@noaa.gov within 60 days of project completion, as-built documentation of the proposed structures to demonstrate that the footprint and the length of the structures does not exceed the proposed design.
 - b. Verification (photo or other reporting) that all proposed BMPs and conservation measures were implemented, including proposed mitigation measures.

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). The Corps should identify and implement (or work with Tacoma Power to implement) nearshore habitat enhancement or restoration activities in the Lake Cushman Basin, including the action area, or elsewhere in the North Fork Skokomish River watershed that:

1. Improve the quality of riparian habitat to increase cover and forage for juvenile migration and rearing; and

2. Remove existing in-water structures such as docks, piles and bulkheads that are no longer in use.

Please notify NMFS if the Corps carries out this recommendation so that we will be kept informed of actions that are intended to improve the conservation of listed species or their designated critical habitats.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by the Corps or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) the amount or extent of incidental taking specified in the ITS is exceeded, (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) 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 this biological opinion; or if (4) a new species is listed or critical habitat designated that may be affected by the identified action.

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.

The proposed action and action area for this consultation are described in this document. The action area includes areas designated as EFH for various life-history stages of Pacific Coast salmon. Based on information provided by the action agency and the analysis of effects presented in the ESA portion of this document, NMFS concludes that proposed actions would have adverse effects on EFH designated for Chinook salmon, coho, and pink salmon. These effects include a long-term reduction in habitat availability, reduced cover and forage, and increased predation risk as a result of proposed permanent structure below the OHWM of Lake Cushman.

EFH conservation recommendations include:

1. **Habitat Enhancement:** The Corps should implement, or work with Tacoma Power to implement, nearshore habitat enhancement and restoration activities in the Lake Cushman Basin or elsewhere in the North Fork Skokomish River watershed that:
 - a. Improve the quality of riparian habitat to increase overwater cover and forage for juvenile migration and rearing; and
 - b. Remove old in-water structures such as docks, piles and bulkheads that are no longer in use.

Fully implementing these EFH conservation recommendations would protect, by avoiding or minimizing the adverse effects described previously, designated EFH for Pacific Coast salmon.

As required by section 305(b)(4)(B) of the MSA, the USACE must provide a detailed response in writing to NMFS within 30 days after receiving a Conservation Recommendation. Such a response must be provided at least 10 days prior to final approval of the actions 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 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 actions and the measures needed to avoid, minimize, mitigate, or offset such effects (50 CFR 600.920(k)(1)).

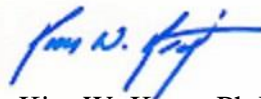
In response to increased oversight of overall EFH program effectiveness by the Office of Management and Budget, NMFS established a quarterly reporting requirement to determine how many conservation recommendations are provided as part of each EFH consultation and how many are adopted by the action agency. Therefore, we ask that in your statutory reply to the EFH portion of this consultation, you clearly identify the number of conservation recommendations accepted.

The Corps must reinitiate EFH consultation with NMFS if the proposed actions are 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/>. A complete record of this consultation is on file at the Oregon Washington Coastal Office in Lacey, Washington.

Please direct questions regarding this letter to Dr. Jeff Vanderpham (jeff.vanderpham@noaa.gov), in the Oregon Washington Coastal Office in Lacey, Washington.

Sincerely,



Kim W. Kratz, Ph.D
Assistant Regional Administrator
Oregon Washington Coastal Office

cc: Jacalen M Printz, Jacalen.M.Printz@usace.army.mil
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