



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

**Refer to NMFS No:**  
**WCRO-2020-00920**

August 24, 2020

Michelle Walker  
Chief, Regulatory Branch  
Department of the Army  
Seattle District, Corps of Engineers  
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 Squire's Landing Park Waterfront Access Improvements Project

Dear Ms. Walker:

This letter responds to your April 17, 2020, 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. You determined that the proposed action is likely to adversely affect Puget Sound Chinook salmon and PS steelhead. The project is not within critical habitat for either species. Due to the persistent extremely low abundance of steelhead in the Lake Washington watershed, NMFS concluded that the project is not likely to adversely affect PS steelhead. (see below).

We reviewed your 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. Consultation was initiated on April 17, 2020. We are incorporating by reference the Biological Assessment (BA) in its entirety (CEC et al. 2019). It can be found at:

<http://www.kenmorewa.gov/WalkwaysandWaterwaysSquiresLanding>.

The Squire's Landing Park Waterfront Access Improvements Project (the Project) is a public water access, public park expansion, and habitat enhancement project that will require an Army Corps of Engineers (Corps) permit to authorize construction in Waters of the United States.

Construction will take place during two seasons, with earthwork starting in season 1 from May to October 2021 and earthwork continuing into season 2 from May to August 2022, if necessary. Planting work for restoration and mitigation may occur during fall and spring 2022 and/or spring 2023. The project is within the range of the Puget Sound (PS) Chinook salmon (*Oncorhynchus tshawytscha*) Evolutionarily Significant Unit (ESU) and the Puget Sound steelhead (*O. mykiss*) DPS.

WCRO-2020-00920



The Sammamish River watershed, including Swamp Creek, is not included in the critical habitat designation for Chinook salmon (70 FR 52630) or steelhead (81 FR 9252). Finally, essential fish habitat (EFH) under the Magnuson-Stevens Fisheries Conservation Act (MSA) for Chinook salmon and coho salmon (*Oncorhynchus kisutch*) is present in the project areas (CEC et al. 2019, Appendix A).

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. The most recent 5-year status review states that Puget Sound Chinook salmon populations across the ESU have been declining over the last ten years. All populations are well below escapement levels required for recovery. However, according to the mean escapement data from 2000 to 2016, Chinook salmon in the Sammamish-Cedar River watershed are exceeding the rebuilding escapement thresholds (CEC et al. 2019, Appendix C).

### **Action Area**

"Action area" means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). The action area includes the lower end of Swamp Creek down to and including the confluence with the Sammamish River, the Sammamish River just downstream from the confluence, and a man-made lagoon connected to Swamp Creek (CEC et al. 2019, Section 1.3, Figure 3). The action area is defined by the extent of elevated suspended sediment.

### **Environmental Baseline**

The "environmental baseline" refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed federal projects in the action area that have already undergone formal or early section 7 consultations, and the impact of state or private actions which are contemporaneous with the consultation in process. The 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).

The project area is bounded in the north by NE 175th Street, various industrial and commercial businesses, the Burke-Gilman Trail, and Highway 522 (NE Bothell Way) and in the south by the Sammamish River and the confluence of Swamp Creek and the Sammamish River (CEC et al. 2019, Section 4.1). Swamp Creek and the Sammamish River provide migratory and rearing habitat for Puget Sound Chinook salmon and Puget Sound steelhead. The Corps started dredging the Sammamish River in 1962 to reduce flooding which led to deepening of the river and hardening the tops of the banks. This disconnected the river from its floodplain and smaller tributaries. The Department of Ecology (Ecology) has listed Swamp Creek and the Sammamish River as 303(d) impaired waters for temperature, dissolved oxygen (DO), and bacteria

concentrations (CEC et al. 2019, Section 4.3). Riparian vegetation within the area is mostly weeds, primarily Himalayan blackberry and reed canary grass (CEC et al. 2019, Section 4.6).

Adult and juvenile Chinook salmon use the action area. Smaller juveniles emerge and immediately migrate downstream and larger juveniles emerge, rear in place, and then migrate. The Issaquah Hatchery also releases approximately two million hatchery smolts per year. Adult Chinook salmon migrate through the system from June through early October (CEC et al. 2019, Section 4.8).

### **Effects of the Action**

Under the ESA, “effects of the action” are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (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 assessment provides a detailed discussion and comprehensive assessment of the effects of the proposed action in Section 5.0 of the BA, 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. The short- and long-term effects of this proposed action are:

- Small increase in stormwater pollutants due to the 1.1 acre of new impervious surface (0.5 acre of pollutant generating impervious surface from the parking lot) which will expose juvenile Chinook to small amounts of pollutants
- Short-term increases in suspended sediment from in-water work within 300 feet of project activities occurring episodically for up to 4 months which will cause sublethal effects to any Chinook exposed to this stressor
- Temporary loss of shoreline and riparian vegetation due to construction activities which will cause a temporary loss of food and cover for juvenile Chinook
- Permanent shading impacts of between 2,750 and 3,000 square feet from recreational floats and gangways, elevated boardwalks and viewing decks, pedestrian bridges, and hand-carry boat access which could cause a small increase in the rate of predation on juvenile Chinook salmon
  - Long-term increase in over-hanging vegetation, organic matter, input of terrestrial invertebrates, habitat complexity, and water quality from 1.8 acre of wetland creation, wetland enhancement, and buffer enhancement which will cause a long-term increase in food and cover for juvenile Chinook

The proposed action will affect the north Lake Washington tributaries population of PS Chinook salmon. The temporary effects of construction will be temporary and minor will not impact more than two cohorts of Chinook salmon. The permanent loss of habitat quality resulting from the

proposed action is very small when compared to the habitat available for the PS Chinook salmon and will be offset by the proposed mitigation activities.

### **Cumulative Effects**

“Cumulative effects” are those effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR 402.02 and 402.17(a)). Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. Some continuing non-federal activities are reasonably certain to contribute to climate effects within the action area. However, it is difficult if not impossible to distinguish between the action area’s future environmental conditions caused by global climate change that are properly part of the environmental baseline vs. cumulative effects. Therefore, all relevant future climate-related environmental conditions in the action area are described in the environmental baseline. We expected existing levels of boating to continue into the future. Upland areas within the action area are either already developed or within wetland and/or stream buffers of the City of Kirkland’s critical areas ordinance making development of these areas unlikely. Any development activities in the action area within wetlands or streams would require federal authorization and would therefore be federal actions requiring ESA Section 7 consultation.

### **Integration and Synthesis**

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

The current status of the PS Chinook salmon ESU is poor. Abundance across the ESU has generally decreased between 2010 and 2014, with only 6 small populations of 22 total populations showing a positive change in natural-origin spawner abundances. Climate change is expected to make recovery targets for PS Chinook salmon more difficult to achieve. The ESU is split into five Major Population Groups (MPGs). The Lake Washington populations are within the South MPG along with the Green, White, Puyallup, and Nisqually populations. Recovery criteria for the ESU includes 2 to 4 Chinook populations in each of the MPGs within the ESU achieve viability and that the populations that do not meet the viability criteria for all 4 VSP parameters are sustained in order to provide ecological functions and preserve options for ESU recovery. Given the extensive and intense development in the Lake Washington watershed, the Lake Washington populations are the least likely in the South MPG to achieve viability (NWFSC 2015).

Within the action area, dredging and shoreline modifications have degraded the environmental baseline for juvenile Chinook salmon. Impaired water quality has contributed to the low abundance of the north Lake Washington tributaries population of PS Chinook salmon and will likely continue to have these effects into the future.

The timing of in-water construction associated with the proposed action will avoid exposure of juvenile Chinook salmon to elevated suspended sediment from in-water construction activities. Activities in the wetland and upland area will expose juvenile Chinook to minor elevations in suspended sediment (relative to the more intense elevations associated with in-water construction). In response, juvenile Chinook may experience displacement from preferred habitats and injury from physiological stress. The response to the shading will range from no response to a delay in migration of up to a few hours. The vast majority of actively migrating juvenile Chinook salmon will experience delays of less than an hour (Celedonia et al. 2009). Migration times from the Sammamish to the locks in the Ship Canal averages between 13 and 16 days. Because the area of overwater cover for the various overwaters structures is very minor compared to the available habitat in the action area, we do not expect the migration times or predation rates to be measurably changed.

The increase in overwater cover will not be significant. The effects of the proposed action and the cumulative effects, when added to the environmental baseline, are likely to maintain the north Lake Washington tributaries Chinook salmon population at its current level. Sustaining this population will meet the recovery plan's goal of preserving options for ESU recovery.

## **Conclusion**

After reviewing and analyzing the current status of the listed species and critical habitat, the environmental baseline within the action area, the effects of the proposed action, the effects of other activities caused by the proposed action, and cumulative effects, it is NMFS' biological opinion that the proposed action is not likely to jeopardize the continued existence of PS Chinook salmon.

## **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, we determined that the proposed action will cause incidental take of juvenile PS Chinook salmon by stormwater discharges, elevated suspended sediment, and overwater cover.

The stormwater from the 1.1 acre of impervious surface will discharge into the man-made lagoon. Accurately quantifying the number of fish taken as a result of stormwater discharges is not possible. We cannot predict how many Chinook will use the 18,887 square-foot man-made lagoon during stormwater discharges in any given year. The best habitat surrogate for the harm caused to PS Chinook salmon due to an increase in stormwater pollutants is for the size of the impervious surface, 1.1 acre. The area of impervious surface is directly proportional to the amount of pollutants discharged to the lagoon and is therefore a reliable take indicator. For stormwater discharges, the extent of take of PS Chinook salmon will be exceeded and the reinitiation provisions of this opinion will be triggered if the amount in impervious surface exceeds 1.1 acre.

Accurately quantifying the number of fish taken as a result of elevated suspended sediment levels is not possible. In such cases, we use a take surrogate or take indicator that rationally reflects the incidental take caused by the proposed activities. For increased suspended sediments, the best available indicator for the extent of take is the extent of visible increased turbidity. Based on past projects, the observed extent of turbidity is a reliable indicator of the extent of elevated suspended sediment, and therefore, the extent of exposure of to listed species. For increased suspended sediments, the extent of take of PS Chinook salmon will be exceeded and the reinitiation provisions of this opinion will be triggered if elevated turbidity levels are observable beyond 300 feet of the project site.

For take resulting from overwater structure, we use the net increase of overwater cover as a habitat surrogate. This surrogate is proportional to the amount of take as we expect migration delays and additional vulnerability to predators with increasing coverage of the water surface. The take represented by this surrogate is equivalent to the maximum amount of take considered in our jeopardy analysis. Therefore, if the surrogate is exceeded, reinitiation of consultation will be required. This surrogate will function as an effective reinitiation trigger because, the area of overwater structure can and will be measured and reported on an annual basis. The surrogate for incidental take of PS Chinook salmon due to an increase in overwater cover is 3,000 square feet.

## **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.

## **Reasonable and Prudent Measures**

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

These reasonable and prudent measures are necessary and appropriate to minimize the take of PS Chinook salmon:

1. Minimize incidental take from stormwater discharges;
2. Minimize incidental take from elevated suspended; and
3. Minimize incidental take from overwater structures.

### **Terms and Conditions**

The terms and conditions described below are non-discretionary, and the Corps or any applicant must comply with them in order to implement the RPMs (50 CFR 402.14). 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 term and condition implements reasonable and prudent measure 1:

Maintain the stormwater treatment facilities to ensure that elevated pollutant levels do not extend beyond the man-made lagoon.

2. The following term and condition implements reasonable and prudent measure 2:

Visually monitor for turbidity and report the results of the monitoring to NMFS to insure that observable increased turbidity does not extend beyond 300 feet from project activities.

3. The following term and condition implements reasonable and prudent measure 3:

Monitor the amount of habitat shaded by the recreational floats and gangways, elevated boardwalks and viewing decks, pedestrian bridges, and hand-carry boat access and ensure no more than 3,000 square feet of habitat is covered by overwater structure upon completion of the project.

### **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.

## **“Not Likely to Adversely Affect” Determinations**

Lake Washington Basin steelhead are virtually extirpated (less than 10 adult fish per year). Pinniped predation on adult steelhead at the Ballard locks decimated the population (Foley 1995; NMFS 1997). Between 2000 and 2004, escapement averaged 38 fish (WDFW 2002). From 2005 to 2008, escapement continued to decline. The average escapement was 11 with a low of four in 2008. Since 2008, only a few fish are observed each year at the Ballard locks each year (Friends of the Ballard Locks in litt.).

WDFW operates smolt traps in Bear Creek and the Cedar River to estimate the production of juvenile Chinook salmon, coho salmon, and steelhead. Between 2007 and 2009, WDFW captured one smolt per year in the Cedar River. In Bear Creek, WDFW capture one smolt in 2007 and 2008 and none in 2009 (Kiyohara and Volkhardt 2008; Kiyohara and Zimmerman 2009; 2011). In 2014 and 2015, no steelhead were caught in Bear Creek (Kiyohara 2015; 2016). Kiyohara (2017) reported two steelhead smolts in 2016. There has been a loss of connectivity between the Duwamish (Green) and Snohomish rivers due to the virtual extirpation of steelhead in the Lake Washington basin.

In the Cedar River, wild steelhead are closely related to resident *O. mykiss*. Resident *O. mykiss* are abundant below Landsburg dam and are a native wild population. Marshall et al. (2004) found that resident Cedar River *O. mykiss* produce out-migrating smolts and speculated that steelhead could produce adult resident *O. mykiss*. They concluded that the conservation of resident *O. mykiss* is likely an important aspect of reducing extinction risk for steelhead. Given the extremely low abundance of steelhead in the watershed, the chance of any individual steelhead being exposed to stressors from this project is discountable. The project will result in long-term habitat improvements which will support the possible recovery of steelhead in the Sammamish River watershed.

## **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.

We determined that the proposed action will have adverse effects to EFH for Pacific Coast salmon (PFMC 2014) (Chinook salmon and coho salmon), based on the analysis of effects in the BA (CEC et al. 2019, Appendix A). The proposed action will adversely affect EFH by increasing stormwater pollutants, temporarily elevating suspended sediment levels, and increasing overwater cover. The amount of EFH that will be adversely affected by stormwater discharges is 18,887 square feet. The EFH within 300 feet of project activities will experience temporary increases in suspended sediment. The amount of EFH that will be adversely affected by shading from overwater structures is 3,000 square feet.



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 at: <https://repository.library.noaa.gov/>

A complete record of this consultation is on file at the NMFS Lacey, Washington office. Please direct questions regarding this letter to Mike Lisitza at [mike.lisitza@noaa.gov](mailto:mike.lisitza@noaa.gov).

Sincerely,



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cc: Colleen Anderson, Corps  
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