



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-2024-01553

July 15, 2025

Kristine Gilson, REM, CHMM
Director, Office of Environmental Compliance
U.S. Department of Transportation, Maritime Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the U.S. Department of Transportation Maritime Administration's FY2022 PIDP Discretionary Grants Program for Fishing Infrastructure Improvement Projects in the Swinomish Channel, Skagit County, Washington (HUC: 171100190101 – Skagit Bay-Whidbey Basin).

Dear Kristine Gilson:

This letter responds to your July 8, 2024, request for consultation with the National Marine Fisheries Service (NMFS) pursuant to Section 7 of the Endangered Species Act (ESA) for the subject action. Your request, including supplementary information submitted through May of 2025 (see below), qualified for our expedited review and analysis because it met screening criteria and contained sufficient information on, and analysis of, your proposed action and its potential effects to listed species and designated critical habitat.

We reviewed the U.S. Department of Transportation Maritime Administration's (MARAD's) consultation request, related initiation package, and supplemental material. Where relevant, we have adopted the information and analyses provided and/or referenced but only after our independent, science-based evaluation confirmed they meet our regulatory and scientific standards. In our biological opinion (Opinion) below we indicate what parts of your document(s) we included by reference and where that information is being incorporated. We adopt by reference the following sections of MARAD's Biological Assessment (BA):

- Section 2 Description of the Proposed Action
- Section 3 Project and Action Areas
- Section 4 Listed Species and Critical Habitat
- Section 5 Environmental Baseline
- Section 6 Effects Analysis
- Section 7 Mitigation Options
- Section 8 Comprehensive Mitigation Plan
- Section 9 Habitat Improvement Plan
- Section 10 Effects Determination



Consultation History

On July 8, 2024, NMFS received a letter from MARAD requesting consultation for their authorization of the Swinomish Indian Tribal Community's (Swinomish Tribe's) Fishing Infrastructure and Improvement projects in the Swinomish Channel, on the Swinomish Reservation in Skagit County, WA. MARAD has authorized Confluence Environmental Company (Confluence) to consult with NMFS on their behalf. The request included the following supporting documents: the applicant's BA and project drawings (Confluence 2024a and 2024b); ESA and EFH assessments (U.S. DOI 2024); conceptual drawings (Confluence 2023), and additional supplemental documentation for the subject action.

On April 28, 2025, Confluence provided a revised planting plan for the project area. That same day, NMFS requested a copy of the Joint Aquatic Resource Permit Application (JARPA) for the proposed action. On April 29, 2025, Confluence provided a copy of the JARPA (Confluence 2025a) and a revised BA that included additional mitigation information. The updated documentation was received via electronic mail (e-mail) (Confluence, 2025b). On May 9, 2025, NMFS requested additional information for the project designs and the final mitigation plan. Confluence provided the requested information on May 23, 2025, via e-mail (Confluence, 2025c). NMFS formally initiated ESA and EFH consultation for the proposed action on May 27, 2025, after confirming receipt of all required information.

Updates to the regulations governing interagency consultation (50 CFR part 402) were effective on May 6, 2024 (89 FR 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 NMFS' existing practice in implementing section 7(a)(2) of the Act (89 FR 24268; 84 FR 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).

Proposed Action

MARAD awarded funds to the Swinomish Tribe under the FY2022 PIDP Discretionary Grants Program for improvements to fishing infrastructure in the Swinomish Channel near La Conner, Skagit County, WA, on the Swinomish Reservation. The purpose of the project is to improve fishing conditions along the Swinomish Channel to support the Swinomish Tribe's commercial fishing fleet. The funds will facilitate the Swinomish Tribe's ability to exercise their treaty fishing rights by installing a boat launch and replacing a portion of the existing fishing infrastructure. MARAD will authorize the applicant to install a 4-lane boat ramp with an adjacent short-term parking lot in a previous timber holding area. Improvement to existing infrastructure includes pier and moorage float replacements, south of the proposed boat launch. To offset project impacts to nearshore habitat, mitigation measures are proposed and discussed in this opinion.

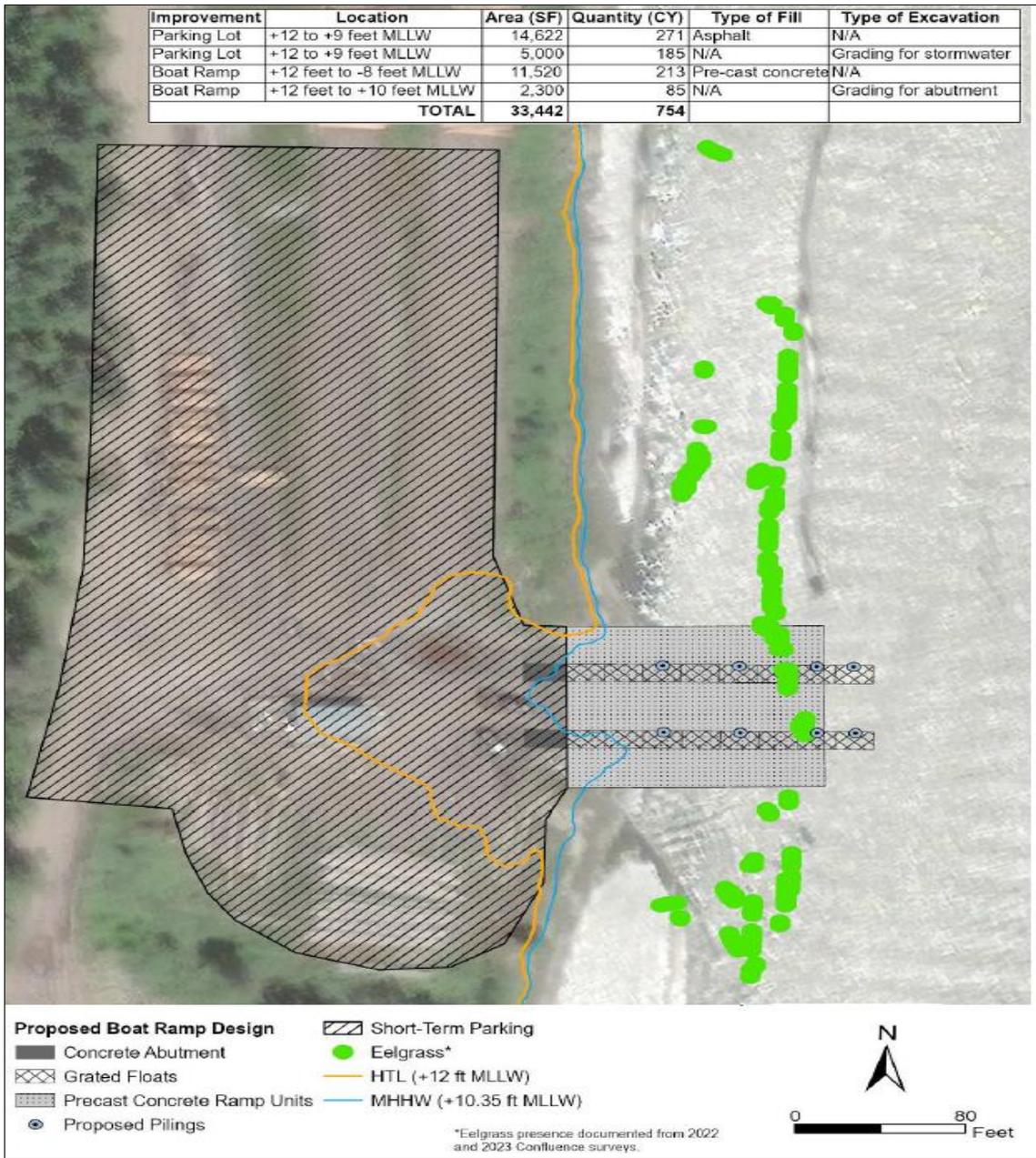


Figure 1: Google image aerial view and drawing of the proposed 4-lane boat ramp configuration with pre-cast concrete and associated grated floats. Detailed shoreline location and depth is depicted as well as eelgrass documented in the area from 2022-2023 surveys. (Adapted from Drawings sheet 2 of 13 in JARPA 2025).



Figure 2. Google image aerial view and drawing of the proposed 4-lane boat ramp, short-term parking lot, and vegetative filter strips. (Adapted from Conceptual Drawings sheet 7 of 13 in Confluence 2023).

- 4-Lane Boat Ramp and Short-Term Parking Lot.** This portion of the proposed action includes installation of two separate launch areas, each consisting of pre-cast concrete and associated grated floats (Figure 1). The two, cast-in-place concrete abutments/aprons will be 20 feet long by 10 feet wide (200 square feet per structure). Grated floats will have 60% open space and include 8 separate units approximately 18 feet long by 10 feet wide, for a total of 1,440 square feet for each launch area. The launch areas will be supported by 4, 16-inch steel piles. Pre-cast concrete ramps will be located between the floats with a total surface area of 11,520 square feet. The boat ramp will extend from approximately highest astronomical tide (HAT) to -8 feet mean lower low water (MLLW).

The short-term parking area will be located adjacent to the boat ramp (Figure 2). The planned parking area was a commercial log storage yard in operation for more than five decades. The proposed project will convert 105,800 square feet of existing compacted soil to asphalt or gravel, of which approximately 21,778 square feet (20.6%) is located more than 130 feet above HAT, approximately 69,400 square feet (65.6%) is located between HAT and 130 feet landward of HAT, and 14,622 square feet (13.8%) is waterward of HAT. No existing vegetation will be converted to impervious surface area. The short-term parking area will extend from approximately +9 feet MLLW to +20 feet MLLW. Vegetated filter strips along the proposed parking area and the inclusion of riparian enhancement areas between the vegetated filter strips and shoreline are included for mitigation.

Project Activities (in approximate chronological order):

- Conduct grading (<5,000 square feet) of surface area for desired slopes and water filtration features, and additional grading (2,300 square feet) to create a flat surface for upland abutments for the boat ramp.
- Pour hot-mix asphalt or install gravel.
- Install cofferdam and dewater shoreline for installation of concrete ramps.
- Build underground shafts or shallow foundation and create flat, level concrete platform for abutments using cast-in-place at the shoreline.
- Install 8 piles with a vibratory hammer.
- Add steel frames to ramps, add planks, and install pre-cast concrete ramps.
- Install framing and grated surface for floats.

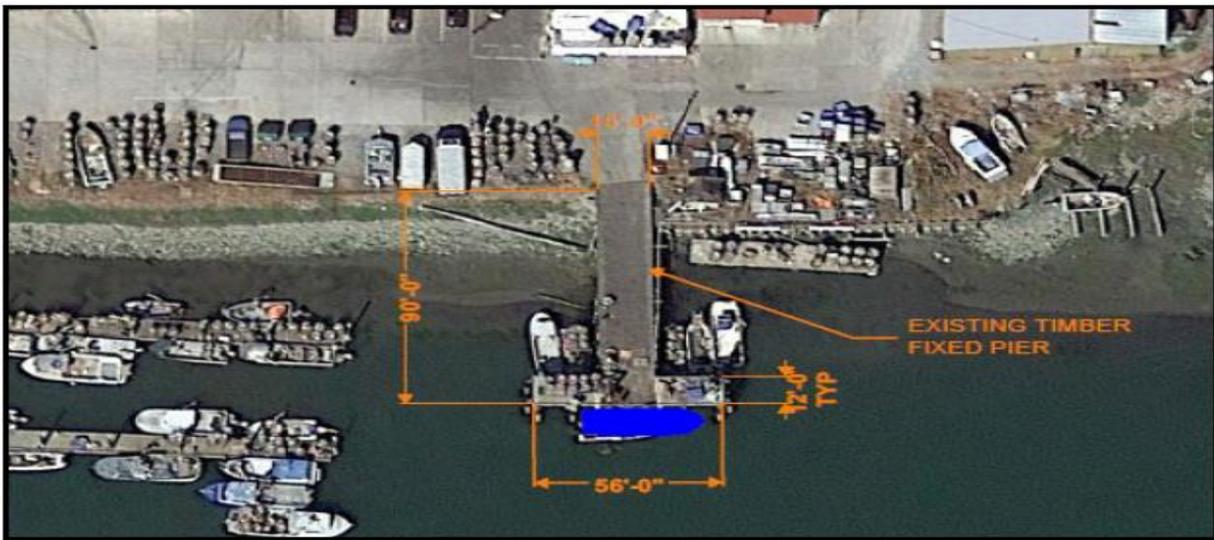


Figure 3. Google image aerial view and structural dimensions of the existing fixed pier conditions. (Adapted from Conceptual Drawings sheet 9 of 13 in Confluence 2023).



Figure 4. Google image aerial view and structure dimensions of the proposed fixed pier replacement. (Adapted from Conceptual Drawings sheet 9 of 13 in Confluence 2023).

- Fixed Pier Replacement.** This portion of the proposed action includes replacing the existing timber T-shaped fixed pier (a total of 1,842 square feet in size) (Figure 3), with an L-shaped pier having a concrete-framed deck (totaling 3,000 square feet in size) (Figure 4). The structure will include 18, 24-inch steel piles. The existing 32 creosote piles in the current structure and 16 piles near the sediment surface adjacent to the existing pier will be removed. The fixed pier replacement will extend from approximately +14 feet to -4 feet MLLW. Additional pile removal adjacent to the pier will be included for mitigation.

Project Activities (in approximate chronological order):

- Remove existing pier and 48 piles.
- Install 18 piles with vibratory hammer.
- Install framing and concrete surface for pier.

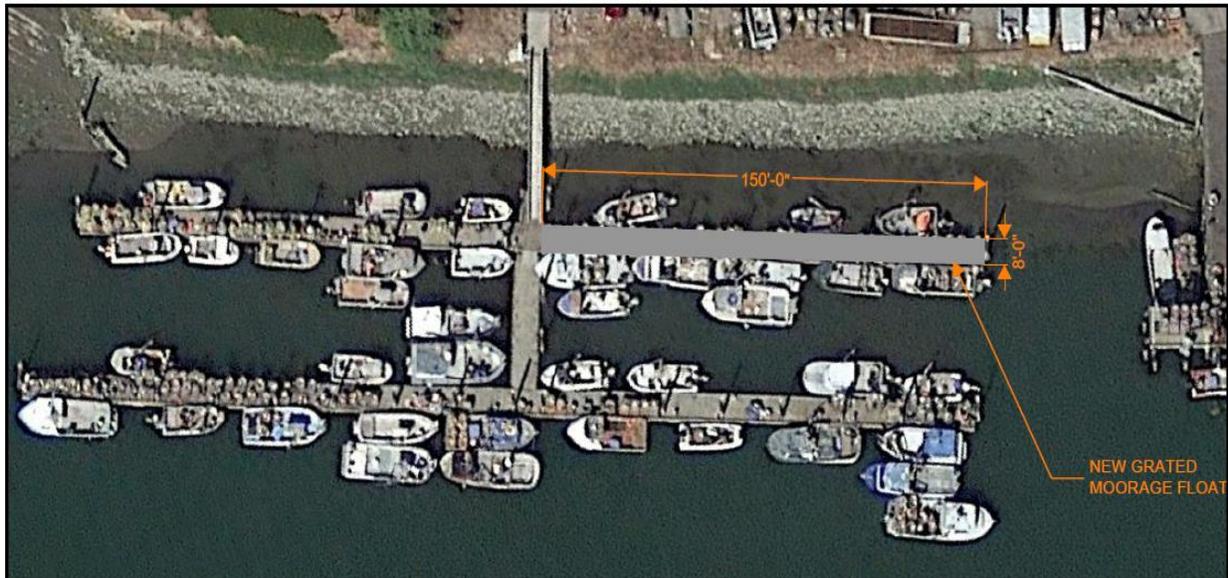


Figure 5. Google image and structure dimensions of the proposed moorage float replacement. (Adapted from Conceptual Drawings sheet 13 of 13 in Confluence 2023).

- Moorage Float Replacement.** This portion of the proposed action includes replacing the existing timber moorage float with a grated structure of the same size (1,200 square feet) with 60% open space (Figure 5). The existing 8, 14-inch diameter creosote piles will be replaced with steel piles. Three existing moorage floats in the same location are not included in the proposed action. The replaced moorage float is located at approximately -2 feet MLLW.

Project Activities (in approximate chronological order):

- Remove existing timber moorage float surface.
- Remove and replace 8 piles with a vibratory hammer.
- Install framing and grated surface for float.

- **Proposed Mitigation.** The proposed action includes a mitigation plan with several activities to achieve conservation offsets that address impacts. Section 8 of the BA provides a detailed description of the mitigation measures adopted for each project activity, following NMFS nearshore calculator guidelines (NMFS 2022).

Boat Launch and Short-term Parking:

- Stormwater improvement areas
- Pile and creosote removal
- Debris removal
- Riparian enhancement areas

Fixed Pier Replacement:

- Pile and creosote removal
- Overwater structure removal

Moorage Float Replacement:

- Pile and creosote removal
- Overwater structure removal

Additional improvements to meet nearshore conservation offsets for the project are also included in the proposed mitigation plan. Further mitigation measures include the removal of 154 creosote piles and debris removal along the Swinomish Channel, as well as a riparian enhancement area to be protected for up to 40 years. This will expand the conservation work the Swinomish Tribe has actively completed for decades within the Swinomish Channel to improve habitat conditions for salmonids, including ESA-listed species from the Skagit River. The proposed mitigation will enhance an adjacent estuary restoration project totaling 33,495 square feet in the Swinomish Channel, which will restore tidal marsh habitat and reintroduce native vegetation to the area.

BIOLOGICAL OPINION

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 project site is located along the western shore of the Swinomish Channel on the Swinomish Reservation. The Swinomish Channel is an eleven mile long estuarine and salt water passage connecting Skagit Bay to the south, and Padilla Bay to the north. The in-water action area was determined by the extent of the underwater sound generated during pile driving activities. Based on the most recent NMFS Multi-Species Pile Driving Calculator Tool, the highest un-attenuated peak noise level produced would be 158 decibels (dB_{RMS}), at a distance of 33 feet from the pile. Using the practical spreading loss model (WSDOT 2020), underwater noise from pile driving will attenuate to background conditions at 11,200 feet until it reaches the nearest land mass. The aquatic action area for the project is limited by land masses surrounding the channel and work-related noise is not expected to extend beyond 2,000 feet south of the southern project area and 5,280 feet north of the northern project area. The underwater component of the action covers

approximately 118 acres of aquatic habitat in the Swinomish Channel for the northern project area, and 45 acres in the southern project area. Although not primary habitat, Southern Resident killer whales (SRKW) are known to travel through the Swinomish Channel. The project area includes the geographic ranges of ESA-listed species and the boundaries of designated critical habitat for PS Chinook salmon and SRKW. SRKW designated critical habitat is concentrated within the mouth of the channel and does not extend into the Swinomish channel. The action area also overlaps with areas that have been designated, under the MSA, as essential fish habitat (EFH) for Pacific Coast salmon, Pacific Coast groundfish, and coastal pelagic species.

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 supplement the BA with a comprehensive evaluation of the status of species and critical habitat, including the influence of environmental variability.

This Opinion examines the status of each species that would be adversely affected by the proposed action, which 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 physical and biological features (PBFs) that help form that conservation value.

Finally, we examined the likely effects on any listed species and critical habitats where MARAD made a "not likely to adversely affect" (NLAA) determination. Our conclusions regarding the effects of the action on those species and critical habitats is presented below under the heading *NLAA Determinations*.

There are five listed fish species, one marine mammal species, and one sea star species that has been proposed for ESA listing within the action area:

- Puget Sound ESU of Chinook salmon (*Oncorhynchus tshawytscha*),
- Puget Sound DPS Steelhead DPS of Pacific eulachon (*Oncorhynchus mykiss*.),
- Southern DPS of North American green sturgeon (*Acipenser medirostris*),
- Puget Sound/Georgia Basin DPS of Yelloweye rockfish (*Sebastes ruberrimus*),
- Southern Resident DPS of killer whale (*Orcinus orca*),
- Puget Sound/Georgia Basin DPS of Bocaccio (*Sebastes paucispinis*),
- Sunflower Sea Star (*Pycnopodia helianthoides*) *

*Proposed for listing as a threatened species under the ESA

Species	Designation Date and Federal Register Citation	Critical Habitat Status Summary
Puget Sound Chinook salmon	9/02/05 70 FR 52630	Critical habitat for Puget Sound Chinook salmon includes 1,683 miles of streams, 41 square miles of lakes, and 2,182 miles of nearshore marine habitat in Puget Sounds. The Puget Sound Chinook salmon ESU has 61 freshwater and 19 marine areas within its range. Of the freshwater watersheds, 41 are rated high conservation value, 12 low conservation value, and eight received a medium rating. Of the marine areas, all 19 are ranked with high conservation value.
Puget Sound steelhead	2/24/16 81 FR 9252	Critical habitat for Puget Sound steelhead includes 2,031 stream miles. Nearshore and offshore marine waters were not designated for this species. There are 66 watersheds within the range of this DPS. Nine watersheds received a low conservation value rating, 16 received a medium rating, and 41 received a high rating to the DPS.
Southern DPS of green sturgeon	10/09/09 74 FR 52300	Critical habitat has been designated in coastal U.S. marine waters within 60 fathoms depth from Monterey Bay, California (including Monterey Bay), north to Cape Flattery, Washington, including the Strait of Juan de Fuca, Washington, to its United States boundary; the Sacramento River, lower Feather River, and lower Yuba River in California; the Sacramento-San Joaquin Delta and Suisun, San Pablo, and San Francisco bays in California; tidally influenced areas of the Columbia River estuary from the mouth upstream to river mile 46; and certain coastal bays and estuaries in California (Humboldt Bay), Oregon (Coos Bay, Winchester Bay, Yaquina Bay, and Nehalem Bay), and Washington (Willapa Bay and Grays Harbor), including, but not limited to, areas upstream to the head of tide in various streams that drain into the bays. Several activities threaten the PBFs in coastal bays and estuaries and need special management considerations or protection. The application of pesticides, activities that disturb bottom substrates/adversely affect prey resources/degrade water quality through re-suspension of contaminated sediments, commercial shipping and activities that discharge contaminants and result in bioaccumulation of contaminants in green sturgeon; disposal of dredged materials that bury prey resources; and bottom trawl fisheries that disturb the bottom/prey resources for green sturgeon.
Puget Sound/Georgia Basin DPS of yelloweye rockfish	4/28/10 75 FR 22276	Yelloweye rockfish within the Puget Sound/Georgia Basin (in U.S. waters) are very likely the most abundant within the San Juan Basin of the DPS. Yelloweye rockfish spatial structure and connectivity is threatened by the apparent reduction of fish within each of the basins of the DPS. This reduction is probably most acute within the basins of Puget Sound proper. The severe reduction of fish in these basins may eventually result in a contraction of the DPS' range.

Species	Designation Date and Federal Register Citation	Critical Habitat Status Summary
Southern resident killer whale	08/02/21 86 FR 41668	Critical habitat includes approximately 2,560 square miles of marine inland waters of Washington: 1) the Summer Core Area in Haro Strait and waters around the San Juan Islands; 2) Puget Sound; and 3) the Strait of Juan de Fuca. Six additional areas include 15,910 square miles of marine waters between the 20-foot (ft) (6.1-meter (m)) depth contour and the 656.2-ft (200-m) depth contour from the U.S. international border with Canada south to Point Sur, California. We have excluded the Quinault Range Site. Based on the natural history of the Southern Residents and their habitat needs, NMFS identified three PCEs, or physical or biological features, essential for the conservation of Southern Residents: 1) Water quality to support growth and development; 2) prey species of sufficient quantity, quality, and availability to support individual growth, reproduction and development, as well as overall population growth; and 3) passage conditions to allow for migration, resting, and foraging Water quality in Puget Sound, in general, is degraded. Some pollutants in Puget Sound persist and build up in marine organisms including Southern Residents and their prey resources, despite bans in the 1970s of some harmful substances and cleanup efforts. The primary concern for direct effects on whales from water quality is oil spills, although oil spills can also have long-lasting impacts on other habitat features In regards to passage, human activities can interfere with movements of the whales and impact their passage. In particular, vessels may present obstacles to whales' passage, causing the whales to swim further and change direction more often, which can increase energy expenditure for whales and impacts foraging behavior. Reduced prey abundance, particularly Chinook salmon, is also a concern for critical habitat.
Puget Sound/Georgia Basin DPS of Bocaccio	Endangered 04/28/10	Though bocaccio were never a predominant segment of the multi-species rockfish population within the Puget Sound/Georgia Basin, their present-day abundance is likely a fraction of their pre-contemporary fishery abundance. Most bocaccio within the DPS may have been historically spatially limited to several basins within the DPS. They were apparently historically most abundant in the Central and South Sound with no documented occurrences in the San Juan Basin until 2008. The apparent reduction of populations of bocaccio in the Main Basin and South Sound represents a further reduction in the historically spatially limited distribution of bocaccio, and adds significant risk to the viability of the DPS.

The action area includes critical habitat for PS Chinook salmon and the SRKW. Section 4 of the BA describes the status of ESA listed species and designated critical habitats and is being adopted here, with the following information provided by NMFS to supplement the status of the proposed sunflower sea star, as well as the effects of environmental variations on ESA listed species.

Sunflower Sea Star

The sunflower sea star (*Pycnopodia helianthoides*) was proposed for listing as threatened under the ESA throughout its range on March 16, 2023 (88 FR 16212). Though this species was not included in the BA provided by MARAD, we are including them in this BO since their species' range falls within the action area for this project. This species occupies nearshore intertidal and subtidal marine waters shallower than 450 m (~1400 ft) deep from Adak Island, AK, to Bahia Asunción, Baja California Sur, Mexico. They are occasionally found in the deep parts of tide pools. The species is a habitat generalist, occurring over sand, mud, and rock bottoms both with and without appreciable vegetation. Critical habitat is currently indeterminable and not proposed for designation because information does not exist to clearly define primary biological features. Prey include a variety of epibenthic and infaunal invertebrates, and the species also digs in soft substrate to excavate clams. It is a well-known urchin predator and plays a key ecological role in control of these kelp consumers. More information about sea star biology, ecology, and their life history cycle is found in the proposed listing (88 FR 16212) and the accompanying status review (Lowry et al. 2022).

From 2013 to 2017, the sunflower sea star experienced a range-wide epidemic of sea star wasting syndrome (SSWS) (Gravem et al. 2021; Hamilton et al. 2021; Lowry et al. 2022). While the cause of this disease remains unknown, prevalence of the outbreak has been linked to a variety of environmental factors, including temperature change, sustained elevated temperature, low dissolved oxygen, and decreased pH (Hewson et al. 2018; Aquino et al. 2021; Heady et al. 2022). As noted above, changes in physiochemical attributes of nearshore waters are expected to change in coming decades as a consequence of anthropogenic environmental variability, but the specific consequences of such changes on SSWS prevalence and severity are currently impossible to accurately predict.

Potential adverse impacts to sunflower sea stars include, but are not limited to, relocation, behavioral disruption (e.g., feeding, spawning), increased stress (which is linked with SSWS susceptibility), and physical contact resulting in injury or death.

Despite regionally documented low density of sunflower sea stars, we expect a relatively small number of individuals could be harmed, injured, or killed by the subject actions. The proposed boat ramp installation, fixed pier replacement and moorage float repair are likely to degrade habitat over a large area, which may reduce food sources for sunflower sea stars for some period of time, likely reducing the fitness and ability to resist diseases of a small number of individuals that would enter the affected area before the habitat recovers.

One factor affecting the status of ESA-listed species considered in this opinion, and aquatic habitat at large, is environmental variability. Environmental variability 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 environmental variability (IPCC WGII 2022). Long-term, pervasive 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).

At the individual scale, climate-related impacts on salmon in one life stage generally affect body size or developmental 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 evolutionarily significant unit (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; 2019).

Updated projections of environmental variability 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, ensuring 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). Environmental variability is systemic, influencing freshwater, estuarine, and marine conditions. Other systems are also being influenced by changing climatic conditions. Literature reviews on the impacts of trends in environmental variability 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. Below we first establish the environmental baseline, then describe habitat changes relevant to ESA-listed species, prior to describing how these changes result in the varied specific mechanisms impacting these species in subsequent sections.

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 5 of the BA provides a detailed description of the environmental baseline and is being adopted here.

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.

The BA provides a partial discussion and assessment of the effects of the proposed action in Section 2, and is adopted here (50 CFR 402.14(h)(3)). NMFS has included additional information through our independent, science-based evaluation and determined it meets our regulatory and scientific standards.

MARAD proposes to authorize the applicant to install a 4-lane boat ramp with a parking lot, and replace an existing pier and moorage float in the Swinomish Reservation on the western shore of the Swinomish Channel. The proposed action will have short- and long-term effects that are reasonably certain to occur, including alteration of habitat, areal avoidance by listed species, forage and benthic organism diminishment, and fish handling during construction.

The proposed action of new, expanded overwater structures, and the replacement of several nearshore structures, will influence habitat functions and processes for the duration of the time they are present in the habitat areas. Overwater and in-water structures reduce nearshore habitat quality, increase migration time, and increase predation on juvenile salmonids (NMFS 2022). Likewise, shoreline modification interrupts natural shoreline processes, degrading nearshore habitat. These effects are chronic, persistent, and co-extensive with the life of the structure. Overwater structures adversely affect submerged aquatic vegetation (SAV), and inhibit the establishment of SAV by creating lasting shaded areas (Kelty and Bliven 2003). In addition, the use and maintenance of overwater structures will cause intermittent effects, such as impacts caused by vessel operations.

Action and structure-related noise, pollutants, propeller wash, and altered lighting are all likely to cause conditions that are expected to create some degree of areal avoidance in listed species that pass through the project area.

In fish, the effects of noise exposure from vibratory pile driving and vessel operations vary with species-specific hearing characteristics; the frequency, intensity, and duration of exposure; and the context under which exposure occurs. The best available information about the auditory capabilities of the fish species considered in this opinion, (Table 1), suggest their hearing capabilities are limited to frequencies below 1,500 Hz, with peak sensitivity between about 200 and 300 Hz (Scholik and Yan 2002; Hastings and Popper 2005; Xie et al. 2008; Picciulin et al. 2010;). As a consequence of the proposed action, new vessel use will occur because of the added and expanded capacity of overwater structures. Noise from these vessels, produced in the range

of hearing of listed species, could be present at any time over the decades-long extension of the structure's functional life. Underwater sound from boat motors is known to cause physiological stress to fish and marine mammals (NMFS 2022).

Shade-related SAV reduction under the grated floats, fixed pier, and moorage float would reduce the availability of natural cover under and adjacent to these structures, which would increase juvenile salmonids' exposure and vulnerability to piscivorous predatory fish that frequently reside in the shadows near overwater structures. Shade-related reduced productivity would also reduce the availability and quality of forage resources for migrating juvenile salmonids.

Adequate forage to support growth and reproduction is a PBF of PS Chinook critical habitat in the nearshore waters of the project area. Critical habitat for other fish species is not designated in the immediate vicinity of the project area or action area.

The shade of over-water structures is known to negatively affect 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 (Nightingale and Simenstad 2001; Kemp et al. 2005; Southard et al. 2006; Tabor et al. 2006; Celedonia et al. 2008a and b; Ono et al. 2010; Moore et al. 2013; Munsch et al. 2014; Ono et al. 2010;). Although the project would install grated decking for the boat ramp and moorage float replacement, both would continue to cast some 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 proposed action would extend the functional life of the repaired pier, moorage float, and introduce a new boat launch. These structures, and the accompanying vessels, would create unnatural daytime shade in nearshore habitats.

Vessel operations would cause episodic temporary water quality impacts from leaks, spills, and other discharges, that may occur at any time over the decades-long duration/extension of the life of the proposed overwater structures. Depending on the pollutant, its concentration, and/or the duration of exposure, exposed fish may experience effects ranging from avoidance of an affected area, to reduced growth, tissue damage, increased susceptibility to infection, and increased mortality in juveniles (Beitinger and Freeman 1983; Eisler 1987; Varanasi et al. 1993; Incardona et al. 2004, 2005, and 2006; Meadore et al. 2006; Gobel et al. 2007; Sandahl et al. 2007; Feist et al. 2011; McIntyre et al. 2012; Brette et al. 2014; Spromberg et al. 2015;). Pollutants from stormwater discharge would also occur periodically from vehicle usage on the pier and vehicle use of the boat launch. It is estimated that 15-20 trucks per day during the fishing season (March to December), and 1-2 cars per day outside of the fishing season will drive onto the pier. However, the use of large cargo trucks will be suspended, slightly improving stormwater conditions.

Vessel operations would also involve spinning propellers in the nearshore waters of the project area. Spinning boat propellers kill fish and small aquatic organisms (Killgore et al. 2011; VIMS 2011) and can also generate fast-moving turbulent water (propeller wash) that displaces and disorients small fish, as well as dislodging benthic aquatic organisms and SAV. These impacts can be particularly acute in shallow water and/or at high power settings (propeller scour). Scour of nearshore areas from propeller wash associated with commercial and recreational vessel use

adversely affects SAV where it is present, and inhibits its recruitment, by frequently churning water and sediment in shallow water.

Although vessel use is already common in the general vicinity of the existing structures, a level of vessel use that is commensurate with the life of the structure and attributable to the proposed action will be a consequence of the underlying action of replacing or expanding docks, piers, ramps, and floats as proposed here.

Areas where sediment is disturbed by pile driving, pile removal, coffer dam placement, or other in- or near- water work from vessels in shallow water areas during construction will disturb and diminish benthic prey communities. In areas where suspended sediment settles on the bottom, some smothering can occur, which also disrupts benthic communities. The speed of recovery is affected by several factors, including intensity of the disturbance, with greater disturbance increasing time of recovery (Dernie et al. 2003). Potential effects to listed fish species and critical habitat are typically from the short-term resuspension of sediments and contaminants, and the temporary loss of benthic forage species.

In-water structures in nearshore habitat alter the natural behaviors of emigrating juvenile salmonids and steelhead. Altered nearshore habitat conditions decrease forage efficiency and increases exposure and vulnerability to predators for emigrating juvenile salmonids. Areal avoidance caused by the proposed action, including, work and structure related noise, pollutants, and forage diminishment also increases the chances of predation for migrating juveniles. Fish handling is reasonably certain to occur during the cofferdam installation, and may result in harassment, injury, and mortality in the in-water work areas.

The 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 overwater structures would be relatively low. However, it is very likely that over an entire emigration season, some listed species that pass through the affected area would experience reduced fitness or predation due to conditions maintained by the structures. Over the life of the structures, some juveniles that pass through the affected area would avoid the over-water structures, migrating into deeper waters, exposing them to increased piscivorous predation.

To offset likely impacts from construction activities and long-term effects of structure placement, mitigation measures are included as part of the proposed action. Mitigation actions identified for this project include:

1. Stormwater improvement areas
2. Pile and creosote removal
3. Debris removal
4. Structure removal
5. Riparian enhancement
6. Conservation easement

Details of the proposed mitigation actions are included in Section 7 of the BA, and incorporated by reference here. Benefits of these activities relative to the projected impacts of construction

activities were assessed using the Puget Sound Nearshore Calculator (Calculator). The Calculator was developed to quantify habitat impacts relevant for PS Chinook salmon from proposed projects, and to measure habitat benefits from mitigation projects in terms of a common habitat metric. The Calculator allows NMFS and US Fish and Wildlife Service (USFWS) (Services), Action Agencies, and project applicants to simultaneously and consistently apply both Habitat Equivalency Analysis (HEA) and Nearshore Habitat Values Models (NHVM) for proposed actions in the Puget Sound nearshore environment, and to facilitate avoidance, minimization, and, where warranted or otherwise appropriate, no-net loss of nearshore habitat functions for PS Chinook salmon by quantifying habitat impacts from proposed project actions (construction, repair, replacement, mitigation) (NMFS 2022).

The Conservation Calculator aids in the determination of conservation debits resulting from nearshore projects that decrease habitat function and conservation credits that are associated with projects that increase nearshore habitat function.

The HEA methodology assesses impacts (net ecological loss) and benefits (net ecological gain) to the habitat. Ecological equivalency provides the basis of HEA as a concept that uses a common medium of exchange called Discounted Service Acre Years (DSAYs). DSAYs express and assign a value to functional habitat loss and gain over a certain time period. Ecological equivalency is a service-to-service approach where the ecological habitat services relevant for a species or group of species impacted by an activity are fully offset by the services gained from a conservation activity.

DSAYs were calculated for all project activities, providing the net ecological loss (debits) and net ecological gain (credits) for each action (Appendix A). Project debits totaled -2,676 for all project activities associated with net losses. These included the 4 lane boat ramp installation and short term parking project, the pier repair and moorage float replacement. Project credits totaled 2,723 for all projects associated with net gains. These included pile, debris and rubble removal, stormwater improvements, natal estuary buffers, riparian enhancement areas and a 40-year riparian easement (totaling 33,495 square feet) on deteriorated shoreline. The remaining project balance of 47 results in a no-net loss of nearshore habitat functions for PS Chinook salmon.

“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.

NMFS incorporates by reference Section 6 of the BA, which describes cumulative effects, here. The Swinomish Channel is an active waterway with recreational, commercial, and federal vessel usage and consists of straightened and armored shorelines, multiple overwater structures and reduced water quality. The channel is dredged every three years to maintain navigable depths, most recently in 2024. Specific actions without anticipated Federal ESA assessment include:

- Continued land use modification and habitat loss from residential and commercial use,

- Continued water quality impairment (pollution discharge, etc.) resulting from anthropogenic activities,
- Continued streambank development, channel dredging, heavy commercial and recreational vessel use, and
- Continued habitat diminishment (temperature, water quality, etc.) from environmental variability.

The effects from private, state and local land use impacts will continue to stress listed species in the Swinomish Channel and reduce the quality and function of 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.

PS Chinook salmon, PS steelhead, southern DPS Green sturgeon, and PS/GB Yelloweye rockfish are listed as threatened, and PS/GB Bocaccio are listed as endangered under the ESA. These species are listed 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 and reduced baseline conditions from anthropogenic activities. Best management practices will be implemented during construction to minimize those effects. The proposed actions will, however, have permanent adverse effects on the ESA-listed species and PS Chinook salmon designated critical habitat in the action area.

NMFS also analyzed the action's potential effects on SRKWs. Sufficient prey is an identified PBF of SRKW critical habitat, and the proposed action is likely to adversely affect PS Chinook salmon, which is the primary prey species for SRKWs. The project actions would annually affect a low number of juvenile Chinook salmon. The project's detectable effects on fish would be limited to the action area, where a small subsets of each year's population could be briefly exposed to project-related impacts during their freshwater migration life stage, and only a small subsets of the individuals that pass through the area are likely to be meaningfully affected by the exposure.

Long-term trends in environmental variability 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 5 of the BA describes the environmental baseline as heavily influenced by human activities with high intensity development, residential and natural shorelines with fragmented estuarine habitat, and a few rural conservancy areas. NMFS assumes that the environmental baseline is not meeting all biological requirements of individual listed fish species. The exact effects of environmental variability are both uncertain, and unlikely to be spatially homogeneous. However, predictable long-term trends in environmental variability are reasonably likely to cause elevated surface water temperature, increased and variable acidity, increasing storm frequency and magnitude, and rising sea levels that affect nearshore habitats in

the action area, and beyond. The adaptability 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.

The action area experiences heavy vessel activity, with armored shorelines and multiple overwater structures. The Swinomish Channel is also heavily polluted, listed as a Category 5 waterway for temperature, *E. coli*, fecal coliform, mercury, dissolved oxygen, and pH (WDOE, 2025).

Conclusion

After reviewing and analyzing the current status of 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 likely to adversely affect, but is not likely to jeopardize, the continued existence of PS Chinook salmon and PS steelhead. 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 documents our conclusion that the proposed action is not likely to adversely affect SRKW, or jeopardize the continued existence or result in the destruction or adverse modification of SRKW designated critical habitat.

Additionally, NMFS concludes that the proposed action is likely to adversely affect the sunflower sea star, which is proposed for listing as threatened under the ESA. The sunflower sea star is proposed for listing throughout its range, and no data exists to suggest anything other than a single, panmictic population, so, to reach a determination of jeopardy, a proposed action would have to impact range-wide population dynamics. We are not currently aware of any habitat types or locations used by sunflower sea stars for mating or spawning, larvae are planktonic, and newly settles juveniles appear in a variety of habitats. We do not expect any single site-specific action to result in jeopardy, but broad-scale programmatic actions occurring over a substantial portion of the range might result in appreciable reductions in the number, distribution, or reproduction of sea stars.

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

As discussed above in the Effects of the Action, NMFS determined that incidental take is reasonably certain to occur as follows:

Harm of juvenile PS Chinook salmon from exposure to:

- Fish handling;
- Altered habitat;
- Areal avoidance; and
- Forage diminishment.

Harm of juvenile PS steelhead from exposure to:

- Fish handling;
- Altered habitat;
- Areal avoidance; and
- Forage diminishment.

The amount and extent of take in this ITS serves two functions: (1) it identifies the quantity of incidental take exempted for the action agency and applicant. In the case of a species without 4(d) protective regulations, such as the sunflower sea star, the exemption is not needed because incidental take is not prohibited; and (2) it serves as a check on NMFS's jeopardy analysis. The amount or extent of take identifies the anticipated level of take NMFS considered in reaching its conclusion that the proposed action will not jeopardize the continued existence of a listed species. If this level of take is exceeded, reinitiation of consultation is triggered to ensure that NMFS's no-jeopardy conclusion remains valid.

For this action, the methods of work area isolation and fish handling is the best surrogate for take related to fish handling, using alternate methods such as electrofishing could increase the potential for and the severity of exposure to this impact.

The timing and duration of in-water work is applicable for all work-related direct impacts because the proposed July 16 through February 15 in-water work window avoids the period of time when juvenile PS Chinook and PS steelhead would be most numerous within the project area. Therefore, working outside of the proposed work window and or longer than proposed would likely increase the number of species that would be exposed to work-related direct impacts.

The size of the project's disturbed area, the methods of construction, and the project design are appropriate surrogates for the extent of take of juvenile PS Chinook and PS steelhead for work-related direct effects. Increasing the size of the project area and using alternative construction methods could increase the size of the area impacted by the project, which is likely to increase the numbers of exposed fish. The project design is applicable because installing a more impactful

design, and or including less beneficial restoration measures, could reduce expected habitat functionality and increase recovery time of the affected area. Any changes to these three components are likely to increase the number of exposed fish and to increase the intensity of impacts for those fish.

NMFS cannot predict with meaningful accuracy the number of fish that are reasonably certain to be injured or killed annually by exposure to listed stressors. The distribution and abundance of ESA-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. These 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, 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, 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.

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

- Up to 10 days of in-water work to be completed between July 16 and February 15;
- The methods of work area isolation and fish handling described in the proposed action section of this Opinion;
- The size of the project's disturbed area, the methods of construction, and the project design as described in the proposed action section of this Opinion.

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

Effects 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 when reasonable and prudent measures are 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).

MARAD shall require the applicant to:

1. Ensure the implementation of monitoring and reporting to confirm that the take exemption for the proposed action is not exceeded.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the federal action agency must comply (or must ensure that any applicant complies) with the following terms and conditions. MARAD 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. MARAD shall require the applicant to develop and implement plans to collect and report details about the take of listed fish. That plan shall:
 - i. Require the applicant and/or their contractor to maintain and submit records to verify that all take indicators are monitored and reported. Minimally, the records should include:
 1. Documentation of fish salvage activities that include:
 - a. The identity (name, title, organization), qualification, and contact information of the person(s) conducting fish salvage, and the person completing the report;
 - b. The date(s), time, and air and water temperatures during salvage work;
 - c. The method(s) of capture and handling procedures that were used; and
 - d. The species and quantities of captured fish, and their disposition at release (i.e., alive with no apparent injuries, alive with apparent minor/serious injuries, dead with/without apparent injuries).
 2. Documentation of compliance with the BA during project activities.
 3. Documentation of the timing and duration of in-water work to ensure all such work is completed between July 16 and February 15;
 4. Documentation of the size, configuration, and methods of construction of the proposed project components to confirm that they do not exceed the characteristics described in this opinion.
 5. Documentation of the amount of creosote pile weight removal (dump receipt) to confirm calculator tonnage amount.
 6. Documentation of the inspection and maintenance reports for stormwater structures.
 - ii. Require the applicant to establish procedures for the submission of the construction records and other materials to the appropriate MARAD office, and to submit an electronic post-construction report to NMFS within six months of project completion. Send the report to: projectreports.wcr@noaa.gov. Be sure to include Attn: WCRO-2024-01553 in the subject line.

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 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, NMFS encourages the duration of in-water construction activities to be minimized 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.”

NLAA DETERMINATIONS

NMFS reviewed MARAD’s consultation request document and related materials. Based on our knowledge, expertise, and your action agency’s materials, we concur with the action agency’s conclusions that the proposed action is not likely to adversely affect the following NMFS ESA-listed species and/or designated critical habitat:

- Puget Sound/Georgia Basin DPS Bocaccio, and associated critical habitat
- Southern DPS North American Green sturgeon, and associated critical habitat
- Puget Sound/Georgia Basin DPS Yelloweye rockfish, and associated critical habitat

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.

We have concluded that the action would adversely affect EFH designated under the Pacific Fishery Management Council’s Pacific Coast Salmon Fishery Management Plan (FMP) (PFMC 2024), the Pacific Coast Groundfish FMP (PFMC 2023), and the Coastal Pelagic Species FMP (PFMC 2019).

MAGNUSON-STEVENS 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 Swinomish Channel connects Skagit Bay to Padilla Bay, both of which occur in the inland waters of Washington known as Puget Sound and/or the Salish Sea. The action area overlaps with the designated waters and substrates of marine EFH for Pacific Coast Groundfish, Coastal Pelagic Species, and Pacific Coast Salmon. The proposed actions would cause detectable effects on marine EFH.

Adverse Effects on EFH

Based upon the analyses of expected effects, as supported by recent cited biological opinions and other cited sources, NMFS has determined that the activities covered under this consultation would adversely affect EFH for Pacific Coast Salmon, Pacific Coast Groundfish, and Coastal Pelagic Species. The proposed action would cause short- and long-term minor adverse impacts on the following attributes of marine EFH: water quality; prey availability; channel gradient and stability; cover and habitat complexity.

EFH Conservation Recommendations

NMFS determined that the following conservation recommendations are necessary to avoid, minimize, mitigate, or otherwise offset adverse effects of the proposed action on EFH. We recommend that MARAD:

1. Minimize short-term habitat displacement and fish disturbance by minimizing the duration of in-water construction activity to the maximum extent possible.

Statutory Response Requirement

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

Supplemental Consultation

MARAD must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600.920(l)).

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The biological opinion will be available through NOAA Institutional Repository <https://repository.library.noaa.gov/>. A complete record of this consultation is on file at the Oregon Washington Coastal Office in Lacey, WA.

Please direct questions regarding this letter to Lauren Liuzza, ESA Consultation Biologist in the Oregon Washington Coastal Office at (301) 427-7878 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: Kris Gilson, MARAD
Marlene Meaders, Confluence

APPENDIX A

Puget Sound Nearshore Calculator debit and credit totals for all project activities, resulting in a no-net loss for the project.

Impact Project	Debits	Mitigation Project	Credits	Balance
4-Lane Boat Ramp and Short-Term Parking Lot				
Short-term Parking Lot	-920	Pile and Creosote Removal	219	
USZ Concrete Abutments/Apron/ Ramps/ Piles	-370	Debris/Rubble Removal	34	
LSZ Concrete Ramps/ Grated Floats/ Piles	-905	Stormwater Improvement Areas	26	
		Riparian Enhancement Areas	73	
Natal Estuary Buffer	-200	Natal Estuary Buffer	17	
Subtotal (debits)	-2,395	Subtotal (credits)	369	-2,026
Fixed Pier Replacement				
New Structures	-54	Pile and Creosote Removal	64	
Replaced Structures	-52	Structure Removal	13	
Natal Estuary Buffer	-53	Natal Estuary Buffer	11	
Subtotal (debits)	-159	Subtotal (credits)	88	-71
Moorage Float Replacement				
Replaced Structures	-81	Pile and Creosote Removal	16	
		Structure Removal	32	
Natal Estuary Buffer	-41	Natal Estuary Buffer	17	
Subtotal (debits)	-122	Subtotal (credits)	65	-57
Additional Mitigation Options				
		SRSC Riparian Enhancement	2,201	
Subtotal (debits)	0	Subtotal (credits)	2,201	2,201
Total	-2,676	Total	2,723	47

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