Neah Bay Outer Breakwater Repair Project

Final Environmental Assessment

Clallam County, Washington

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Final Environmental Assessment

2027-2042 Neah Bay Outer Breakwater Repair Project

Clallam County, Washington

Responsible Agency: The responsible agency for this Civil Works project is the U.S. Army Corps of Engineers, Seattle District.

In accordance with the National Environmental Policy Act (NEPA), this Final Environmental Assessment (EA) evaluates the impacts of the proposed Neah Bay Outer Breakwater Repair Project.

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Table of Contents

APPENDICIES

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effects
AQI	Air Quality Index
BA	Biological Assessment
BMP	Best Management Practices
CA	Cooperation Agreement
CEQ	White House Council on Environmental Quality
CFR	Code of Federal Regulation
CAA	Clean Water Act
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
DAHP	Washington State Department of Archeology and Historic Preservation
dB	Decibel
dBA	Weighted Decibel
EA	Environmental Assessment
Ecology	Washington State Department of Ecology
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
ER	Engineering Regulation
ESA	Endangered Species Act
FONSI	Finding of No Significant Impacts
GHG	Greenhouse Gas
HTL	High Tide Line
H:V	Horizontal to Vertical ratio, measured in feet
MHHW	Mean Higher High Water
MLLW	Mean Lower Low Water

MMPA	Marine Mammal Protection Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service/NOAA Fisheries
N_2O	Nitrous Oxide
NRHP	National Register of Historic Places
NWP	Nationwide Permit
SHPO	State Historic Preservation Office
sp./spp	Species (singular and plural)
SRKW	Southern Resident Killer Whale
THPO	Tribal Historic Preservation Office
U.S.C.	United States Code
USCG	United States Coast Guard
USACE	U.S. Army Corps of Engineers, Seattle District
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington Department of Natural Resources
WRDA	Water Resources and Development Act

1 PROPOSAL FOR FEDERAL ACTION

The National Environmental Policy Act (NEPA) process for this Environmental Assessment (EA) began on February 18, 2025, prior to the April 2025 recession of the Council on Environmental Quality's (CEQ) regulations implementing NEPA. This NEPA process also began prior to the July 3, 2025 rescission and replacement of the USACE regulations implementing NEPA (90 FR 29463), which states that "Actions that were ongoing as of [July 3, 2025] will continue to use the rule in place at the time the action was stated". Therefore, this EA uses CEQ's NEPA implementing regulations as amended on April 20, 2022 (87 FR 23453) and USACE's procedures implementing NEPA for the Civil Works program (53 Fed. Reg. 3120-3137 (Feb. 3, 1988), and the NEPA statute. Pursuant to Section 102(C) of NEPA, this assessment evaluates the environmental consequences of the proposed Neah Bay Outer Breakwater Repair Project.

1.1 Project Location

The proposed Neah Bay Outer Breakwater Repair Project area is in Neah Bay, part of the Makah Indian Reservation. Neah Bay is on the northwest tip of the Olympic Peninsula in Clallam County, Washington. The bay is a protected, semi-enclosed water body connected to the Strait of Juan de Fuca, a passage between the Pacific Ocean and Puget Sound (Figure 1). The shoreline includes rocky headlands and sandy beaches. There are four main watersheds that drain into Neah Bay, including the Sail, Waatch, Hoko, and Tsoo-Yess Rivers. More than 1,000 acres of land bordering the Pacific Ocean have been reserved as a Wilderness area. Other reserved areas include land around Hobuck Lake, an area of the forest set aside as a reserve for cedar trees, the entire 719-acre Ozette Reservation, and Tatoosh and Waadah Islands. The Olympic Coast National Marine Sanctuary boundary is at the western edge of the outer breakwater and encompasses the western coast of Washington from Cape Flattery south to Copalis Beach, WA. The area has a temperate climate, and in the winter months, wind gusts from the north and east can range from 60 to 100 miles per hour. Average annual rainfall exceeds 100 inches.

Neah Bay, the central village of the Makah Reservation, is a commercial fishing and timber community, as well as a tourist and sport-fishing destination. Many visitors come to Neah Bay to tour the Makah cultural museum, visit the Makah Cultural Resource Center, and hike to the northwesternmost point of the lower 48 United States, Cape Flattery. There is one harbor (the Makah Tribal marina) protected by the inner breakwater near the town of Neah Bay (Figure 1). The U.S. Coast Guard (USCG) moors and deploys emergency response vessels from the town of Neah Bay.

The proposed outer breakwater repair is located on the northeastern edge of Neah Bay and spans the entire breakwater (Figure 1). The project area includes the length and

area of the breakwater, 8,000 linear feet and 12 acres. Figure 1 also shows the project location in relation to the entrance of the Strait of Juan de Fuca, town of Neah Bay, and the Makah Tribal marina. Staging areas for work on the outer breakwater, occurring from October 2027 to September 2042, will be located on the Makah Reservation. The Contractor and the Makah Indian Tribe will coordinate and approve all staging areas.

Figure 1. Neah Bay and proposed project location.

1.2 Authority

The Rivers and Harbor Act of June 20, 1938 (P.L. 75-685), authorized the construction and maintenance of the Neah Bay breakwater, a rubble mound breakwater approximately 8,000 feet long built between Waadah Island and the mainland. Construction of the breakwater was completed in 1944. The breakwater is necessary to provide relief to the Makah Tribal lands from severe storms that arrive from the west entrance of the Strait of Juan de Fuca. This structure also provides protection to the USCG station at Neah Bay, WA.

1.3 Purpose and Need

The purpose of the project is to ensure the Neah Bay outer breakwater continues to protect resources in and around Neah Bay from erosion, flooding, and damage. The action is needed because, during winter months, severe storms on the Pacific Coast enter the Strait of Juan de Fuca, bringing wind speeds over 50 miles per hour and wave heights greater than 20 feet (National Data Buoy Center 2024). USACE constructed the outer breakwater in 1944 for continued storm protection of the Makah Tribal lands, commercial marina, and the USCG Station in Neah Bay. The most recent repairs on the outer breakwater occurred in 2012 in the middle of the structure. In its present state, the breakwater is frequently overtopped during winter storm events which results in further damage to the structure and loss of armor stones. Impacts to the outer breakwater would ultimately impact navigation in the area by limiting the ability for vessels to enter and exit Neah Bay safely.

2 PROPOSED ACTION AND ALTERNATIVES

The National Environmental Policy Act of 1969, as amended, requires Federal agencies, including USACE, to consider the potential environmental impacts of their proposed actions and any reasonable alternatives before undertaking a major Federal action. The law was enacted on January 1, 1970. NEPA requires Federal agencies to include a description and analysis of a “no action’ alternative; to identify the preferred alternative; and briefly summarize alternatives that were considered, but eliminated from further study, and why they were eliminated.

2.1 No Action Alternative

Under the No Action Alternative, USACE would not take any action to repair the outer breakwater. The breakwater’s structural integrity would continue to degrade and protection to Neah Bay would be impaired.

2.2 Nonstructural Alternative

Section 73 of the Water Resources Development Act (WRDA) of 1974, as amended (33 U.S.C. § 701b-11), requires USACE to consider nonstructural measures to reduce flood

damages, and Sections 103(b) and 103(c)(5) of WRDA 1986 (33 U.S.C. 2213(b) and 2213(c)(5), respectively), provide boundaries for cost-sharing for nonstructural flood risk management and coastal storm risk management projects. This alternative consists of floodplain management strategies that generally involve changes in land use. Nonstructural strategies involve acquiring, relocating, elevating, and flood-proofing existing structures. For instance, implementation of the Nonstructural Alternative could involve the relocation of structures in Neah Bay, like the Makah Tribal marina. The cost and timeframe for implementing the Nonstructural Alternative make it infeasible to implement. Therefore, this alternative is not carried forward for detailed consideration.

2.3 Proposed Outer Breakwater Repairs (Preferred Alternative)

The Preferred Alternative is the Neah Bay Outer Breakwater Repair Project. The project would involve repairs and maintenance along the entire length of the outer breakwater at the Makah Harbor. If the Port of Neah Bay's Multi-Barge Loading Facility is constructed on the outer breakwater, USACE would use already built structures for the outer breakwater repairs. Regardless, USACE would extend the access road along the length of the breakwater. The access road would settle into the breakwater over time. Repairs would occur along 200- to 500-linear-foot sections, starting at the most critical and furthest sections from the mainland, and would take approximately 4 to 6 months to complete during each construction event. USACE would identify repair sections of the breakwater prior to each construction event, and USACE prefers a repair sequence that starts from the sections furthest from shore (most critical) and works back toward the mainland. Over the duration of the project, this sequence of repairs would be the most effective and advantageous use of the access road, in-water work windows, weather conditions, and project's budget.

The outer breakwater consists of an outer layer of armor and chinking rock. Armor rocks provide the highest level of protection to the structure. Chinking rocks ensure interlock of armor rocks and fill large voids. The core layer of the outer breakwater consists of relic armor rock and filter rock. In areas where the outer breakwater has degraded significantly, the core layer would be rebuilt using filter rock. Excavation of any core material, including relic armor rock, would not occur. Instead, repairs would primarily occur on the outer layer of the breakwater and be capped with armor rock. To perform these repairs, core material could be reworked in areas where core material is degraded and could be refilled.

Throughout the breakwater, repairs would reestablish the authorized dimensions for the structure (USACE 1978). Repairs would occur from -5 feet Mean Lower Low Water (MLLW) to +18 feet MLLW on the breakwater's harbor and seawards sides. The structure would retain a 1.5:1 horizontal: vertical (H:V) slope and a 25-foot crest width (Figure 3). Rock used in the repairs would be sourced from a quarry, with priority for materials sourced closer to the project location. Quarry rocks would consist of haul road

material (i.e., filter rock), chinking stone (3-10 tons), and armor stone (14 tons median size). An access road, built no lower than +12 feet MLLW, would be continued further along the breakwater so construction equipment could access the repair areas. Most of the construction equipment would be operated from the breakwater. However, the contractor could use a barge to perform work on the breakwater from the water if necessary. Equipment, such as excavators, would be used to key in armor rock and grade fill material. No construction equipment drivetrains would be operated in the water. During armor rock placement, excavator buckets could be under the water. The excavator bucket would place armor rock approximately 1 foot or less from the breakwater to ensure proper armor stone interlock (3 points of contact) and reduce impacts of turbidity, vibration, and noise.

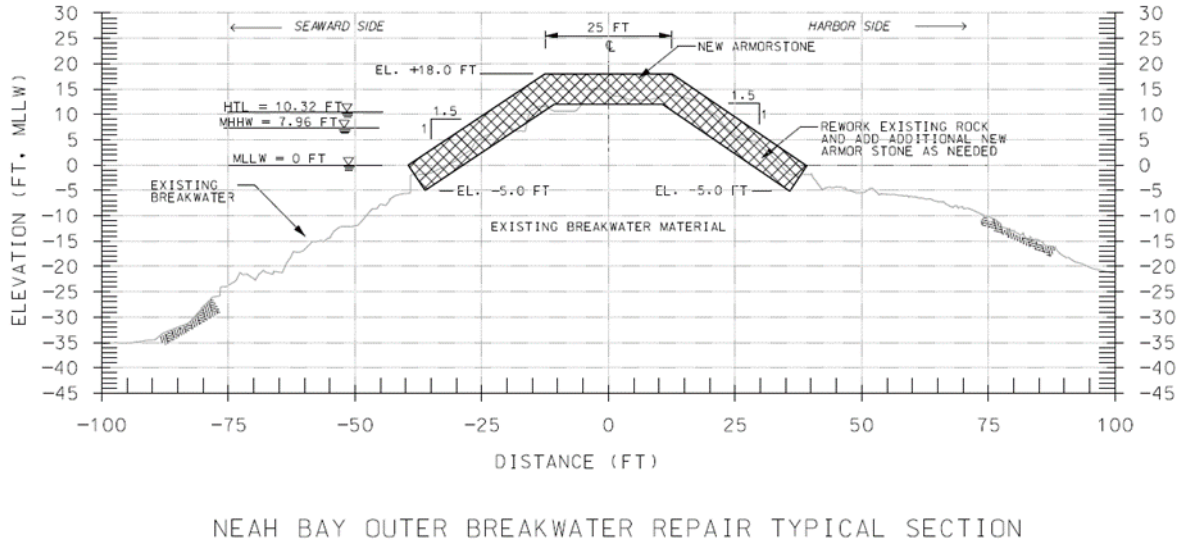

Figure 2: Cross section of proposed work for the Neah Bay Outer Breakwater Repair Project. The cross section shows the high tide line (HTL) and mean higher high water (MHHW), which is used in place of the ordinary high-water mark in a tidally influenced area.

Quarry rocks would be transported by truck or barge to the outer breakwater. The preferred method utilizes existing roads. An access road extends 2,100 ft from the mainland on the crest of the breakwater. Quarry rock could be staged on the landward side of this access road, but staging areas would be coordinated by the Contractor and Makah Indian Tribe.

No wetlands or environmentally sensitive areas would be used for staging. Stockpiling materials for the repair would be time and labor intensive due to Neah Bay's remote location, and a large area would be needed for staging. Multiple and periodic repairs needed to restore the outer breakwater to its authorized dimensions could occur during the October 2027 to September 2042 period.

2.3.1 Project Description and Construction Techniques

USACE would repair the damaged area of the outer breakwater to its pre-damaged dimensions (Figure 3). Construction activities would be restricted to the damaged sections of the breakwater and to tie-in to undamaged sections. USACE would conduct work below the high tide line, but all work would be within the authorized footprint of the structure. Repairs would be conducted during the summer and fall months. In-water repair work would occur within the approved in-water work window (section 2.3.3). A typical work week would include 7 days of construction lasting 8 to 12 hours per day, depending on available daylight.

USACE does not have detailed information regarding specific existing conditions for the location(s) where material would be procured. The materials would be sourced from local, privately owned companies. However, any borrow site, quarry, or gravel mine used for the repairs would be permitted by the state. All materials would be inspected upon delivery. Only clean materials, free of debris or contamination would be used. Any on-site material suitable for reuse would be incorporated into the repair. Material that is not suitable for reuse would be disposed offsite at a permitted location. Most work would be completed with an excavator, dump truck, and wheel loader. Construction vehicles would access work sites from existing roads and paths or via barge. Equipment and materials, including those excavated from the repair site, would be staged within the breakwater footprint and at designated staging areas, which would be coordinated by the Contractor and Makah Indian Tribe.

2.3.2 Construction Sequence

Construction would occur during the approved in-water work windows (see section 2.3.3), and land-based activities could occur outside of the in-water work window. Maintenance on the outer breakwater would consist of the following major components in the sequence described below.

USACE would begin stockpiling materials after a preconstruction meeting. Construction equipment, supplies, and quarry rock would be transported to the project areas. The Makah Tribe would coordinate the location of staging areas for the proposed action with the Contractor. If a barge is used, it could be loaded or unloaded from the breakwater or a nearby pier.

Site preparation would include material removal and building access routes on the existing breakwater prism. USACE would clearly mark the project limits using stakes and flagging. Although unlikely, if present, USACE would remove any vegetation on the breakwater. Large woody material greater than 12 inches in diameter would be temporarily removed, stored during construction, and replaced when activities are complete. USACE would continue the access road along the

outer breakwater to a height no lower than +12 feet MLLW to reduce the risk of water overtopping the haul road during construction. Access roads on the outer breakwater typically last for approximately 2 years. Over time, rock used for the access tends to settle further into the structure. USACE would need to rebuild the access road as needed.

USACE would begin construction at the breakwater toe. All work below the high tide line would be performed during the in-water work window (section 2.3.3) and, if possible, during low tide to minimize turbidity and effects of noise in the construction area. The outer breakwater's toe, crest, and slope would be constructed per design requirements. All recently repaired sections of the breakwater would transition at the limits of construction into the adjacent slopes.

Upon completion of all construction activities, areas disturbed by the breakwater construction, staging activities, or road access used by the construction activities would be restored to pre-existing or improved conditions.

2.3.3 In-Water Work Window

All work conducted in the water would occur during the authorized in-water work window for Neah Bay, July 16 to February 15 (USACE 2024).

2.4 Alternatives Considered and Eliminated

The Nonstructural Alternative was eliminated from further analysis since it would require significant cost and time to perform. USACE determined it is infeasible to implement.

The No Action Alternative is not recommended because it would not address the persistent risk to human safety and property as the breakwater continues to degrade. It does not meet the project's purpose and need. While the No Action Alternative is not recommended, it is carried forward for further evaluation to serve as a base condition for evaluation of other alternatives.

3 ALTERNATIVES COMPARISON

This section provides information on the existing conditions of resources within the project area and issues relevant to the decision process for selecting the preferred alternative. Existing conditions are the physical, biological, and socioeconomic characteristics of the project area. Factors for selecting the preferred alternative include meeting the purpose and need for the project and the Federal standard. The resources evaluated for detailed analysis and a rationale for inclusion or exclusion are presented in Table 1. USACE excluded resources from detailed analysis if they are not potentially affected by the alternatives or have no material bearing on the decision-making process.

Table 1. List of resources considered for detailed effects analysis and rationale for inclusion or exclusion.

Resource	Included in Detailed Analysis (Y/N)	Rationale for inclusion or exclusion
PHYSICAL		
Air Quality and Greenhouse Gas Emissions	Y	The proposed action involves construction equipment that would generate exhaust. Analysis is required to determine the extent of any potential effects of air quality (including greenhouse gas concentrations).
Geology and Soils	N	The proposed action would occur along the breakwater in Neah Bay and would not affect geology or soils. Therefore, no analysis is required. Project activities are confined to the existing man-made breakwater structure and designated upland staging areas. No excavation or alteration of native geology or soils is proposed. Therefore, this resource was excluded from detailed analysis.
Groundwater	N	The proposed action is limited to the intertidal and beach environment. No groundwater would be affected. Therefore, no analysis is required.
Hydrology and Geomorphology	Y	The proposed project would repair a human-made structure built to alter hydraulics. Analysis is required to investigate what impacts might occur to hydrology and geomorphology.
Hazardous, Toxic, and Radioactive Waste	N	None of the alternatives would affect hazardous, toxic, and radioactive waste. There are no known contaminants in the project area. No aspect of the proposed action would introduce hazardous waste. Therefore, no analysis is required.
Land Use, Utilities, and Infrastructure	N	The no action alternative would likely result in continued degradation of the breakwater and increase vulnerability of infrastructure to storms and flooding. The proposed action would maintain the authorized level of protection to infrastructure and have no impact on land use, utilities, and infrastructure. Therefore, no analysis is required.
Airborne Noise	Y	The proposed action would include airborne sound generating activities. Analysis is required to determine the

Resource	Included in Detailed Analysis (Y/N)	Rationale for inclusion or exclusion
		intensity of potential effects of airborne noise in the project area.
Underwater Noise	Y	The proposed action would include underwater sound generating activities. Analysis is required to determine the intensity of potential effects of underwater noise in the project area.
Sediments	Y	The proposed action would include work below the high tide line. Analysis is required to determine the intensity of potential effects to sediments in the project area.
Transportation and Traffic	Y	The proposed action involves construction equipment that would use surface roads. Analysis is required to investigate what land-based transportation and traffic conditions are and to determine the extent of any potential effects.
Water Quality	Y	The proposed action includes work below the high tide line. Analysis is required to determine the intensity of potential effects to water quality in the project area.
BIOLOGICAL		
Benthic Invertebrates	Y	The proposed action could impact benthic invertebrates. Analysis is required to determine what species are present and the extent of potential effects.
Fish	Y	The proposed action could impact fish. Analysis is required to determine what species are present and the extent of potential effects.
Wildlife	Y	The proposed action could impact wildlife. Analysis is required to determine what species are present and the extent of potential effects.
Threatened and Endangered Species	Y	The proposed action could affect ESA-listed species in the project area. Consultation is required with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). Analysis is required to determine what species are present and the extent of potential effects.

Resource	Included in Detailed Analysis (Y/N)	Rationale for inclusion or exclusion
Vegetation	Y	The proposed action could affect terrestrial and marine vegetation. Analysis is required to determine species present in the project area and the extent of any effects.
Wetlands	N	Wetlands do not occur within the project footprint. Therefore, no analysis is required.
Invasive Species	N	The action would not affect invasive species. All construction material and quarry rock will be clean and free of debris. Introduction of invasive species from outside sources is not a concern. Therefore, no analysis is required.
SOCIAL AND ECONOMIC		
Cultural Resources	Y	The proposed action could impact cultural resources. Analysis is required to investigate cultural resources and to determine the extent of any potential effects.
Aesthetics	Y	Analysis is required to investigate the proposed action's impact on aesthetics.
Public Health and Safety	Y	Analysis is required to investigate the proposed action's impact on public health and safety.
Recreation and Scenic Value	Y	The proposed action could impact recreation. Analysis is required to investigate recreational activities in the area and to determine the extent of any potential effects.

3.1 Air Quality and Greenhouse Gas Emissions

The Clean Air Act sets National Ambient Air Quality Standards (NAAQS) to regulate harmful pollutants (42 U.S.C. § 7403). NAAQS are set for six common air pollutants: ozone, carbon monoxide, nitrogen dioxide, particulate matter (solid and liquid particles suspended in the air), sulfur dioxide, and lead. Areas that persistently exceed the standards are designated as nonattainment areas. Clallam County is not currently classified as a nonattainment area and air quality is regulated by the Olympic Region Clean Air Agency (Ecology 2024a).

The Environmental Protection Agency (EPA) sets *de minimis* thresholds for pollutants in nonattainment and maintenance areas (40 CFR. § 93.153). Once a nonattainment area has attained and maintained NAAQS, they may be redesignated as “maintenance areas”. According to the Washington State Department of Ecology (Ecology), all areas of Washington, except a small area in Whatcom County, currently meet air quality standards (Ecology 2024a) meaning the project is in an attainment area.

Greenhouse gases (GHG) accumulate in the atmosphere, absorb energy and slow the rate at which energy, such as heat or light, escapes into space, essentially surrounding the Earth like a blanket. GHG emissions are often reported in carbon dioxide (CO_2) equivalent (CO_2e), which provides a common unit of measure to compare different GHG emissions to account for the ability of various gasses to absorb different amounts of energy. Anthropogenic GHG emissions have contributed to inordinate changes in the Earth’s climate on a global-scale, including significant increasing trends in global temperatures, where 2023 was the warmest year on record (NOAA 2024b). The concern for Federal projects is whether the contribution of GHGs to the atmosphere is of large enough quantities as to outweigh the benefit of executing the proposed action. The current national strategy to accomplish net-zero GHG emissions aims to reduce emissions by 2030 by 40 percent relative to 1990, and achieve a negative trajectory after 2050 (United States Department of State 2021). The most recent estimates (2019) of annual GHG emissions for Washington State were 102.1 MMT CO_2e (Ecology 2022b), and Clallam County’s GHG emissions were approximately 0.5 MMT CO_2e (Clallam County 2023).

3.1.1 Alternative 1: No Action Alternative

This alternative would have no effect on air quality or GHG emissions because the repair would not occur. Emergency actions could be required to protect lives and property if necessitated from a breach of the outer breakwater. These actions would likely have less GHG emissions generated compared to the Preferred Alternative because the Preferred Alternative requires a substantially greater construction effort. In the long view, it is possible that multiple seasons of outer breakwater repairs could cumulatively contribute to greater GHG emissions over time. Effects on GHG emissions would be temporary and within the range produced by on-going activities in the area. Effects of ambient air quality would be negligible.

3.1.2 Alternative 2: Preferred Alternative

Impacts to air quality for the proposed breakwater repairs work are *de minimis* under Federal emissions thresholds in maintenance or nonattainment areas (40 CFR 93.153). Construction equipment used during the proposed outer breakwater repair would temporarily and locally generate increased diesel exhaust emissions.

USACE calculated expected emissions for the project using conservative estimates for equipment horsepower, average fleet year (2015), and maximum expected equipment run time over the construction period with equipment-specific emission rates from the California Air Resources Board OFFROAD2007 model-based database (CARB 2007). This model does not calculate nitrous oxide (N_2O) directly, so USACE calculated this component with a factor of 0.92 gN_2O per gallon fuel (EPA 2024b). Emission rates and summary emissions can be found in Appendix D. Regulated gas emissions are listed in Table 2. The project could directly emit up to 2,046 tons of CO_2, 0.13 tons of methane, and 0.12 tons of nitrous oxide, which have equivalent global warming potentials of 29.8:1 and 273:1 to CO_2 respectively (IPCC 2021). Total project carbon emissions would be roughly equivalent to 34 days of sailing for the M/V Tacoma on its typical route in the Washington State Ferry System (Mersin et al. 2023), or 3 hours of average daily traffic in King County, Washington, assuming all emissions are from passenger cars producing 400g CO_2 per mile (EPA 2024c, WSDOT 2023). The estimated 'social cost' of GHG emissions in 2020 dollars would be $271,159 (EPA 2024a). While the preferred alternative will result in more emission of GHG than the no action alternative, it will not result in significant effects.

Table 2. Estimated Greenhouse gas emissions for the proposed project in metric tons (Appendix B).

Air Pollutant of Concern	**Estimated Annual Emissions (metric tons)**
Nitrogen Oxide (NO_x)	10.7
Nitrous Oxide (N_2O)	0.12
Reactive Organic Gasses (ROGs)	1.4
Carbon Monoxide (CO)	4.5
Particulate Matter (PM^{10})	0.38
Sulfur Dioxide (SO_2)	0.02
Carbon Dioxide (CO_2)	2,046.8

Therefore, air quality impacts from the Preferred Alternative would be temporary, lasting during construction activities only, and minimal, not causing harm or lasting impacts to air quality (including GHG concentrations).

3.2 Hydrology and Geomorphology

Neah Bay is a semi-protected bay located on the northeastern side of Cape Flattery on the Olympic Peninsula along the Strait of Juan de Fuca. The largest nearby watersheds are the Tsoo-Yess River and Waatch River, both of which empty into the Pacific Ocean. Several small freshwater creeks empty into Neah Bay including Agency and Village Creeks, but their flow has been diminished by residential construction and armoring at the mouths and outflows. In this region, strong waves hit the coast and wrap into the Strait of Juan de Fuca, especially during the winter months. Neah Bay has a mixed semi-diurnal tidal pattern (two high tides and two low tides each day), like the rest of the Pacific coast. Within Neah Bay, the movement of water is influenced by the tides and local bathymetry. Currents in the adjacent Strait of Juan de Fuca can be strong and irregular. Tidal exchanges within Neah Bay average around six feet (NOAA 2024a, Table 3). Ebb and flood tides do not typically suspend sediments in the bay. Natural sediment transport in the bay has been altered by creeks becoming disconnected due to the installation of roads, a large revetment along the southern shoreline, and breakwaters affecting sediment drift around the bay. Sediment predominantly flows from east to west on the south and north sides of the bay. Most of the sediment transport occurs at the northwest corner of the bay (USACE 2020). Additionally, a fish gap in the inner breakwater (Figure 1) was constructed to allow for fish passage out of the marina. Over the years, sediment transport has filled the gap and is flowing into the marina, creating an increased risk of vessel grounding.

Table 3. Tidal elevation represented in mean lower low water (MLLW) in Neah Bay.

Datum Plane	Meters	Feet
Highest observed water level (11/30/1951)	3.7	12.3
Mean higher high water	2.4	7.9
Mean high water	2.2	7.1
Mean tide level	1.3	4.4
Mean sea level	1.3	4.3
Mean low water	0.5	1.6
North American vertical datum	0.25	0.8
Mean lower low water	0	0
Lowest observed water level (11/26/2007)	-1.2	-3.9

3.2.1 Alternative 1: No Action Alternative

Under the No Action Alternative, the outer breakwater would continue to degrade. The degraded breakwater would cause changes to the amount of wave energy entering Neah Bay and could significantly change sediment transport patterns. Erosion would increase along the developed southern shoreline of the bay as well as on the bay side of the breakwater. The No Action Alternative would also increase sediment deposition and require more dredging in Neah Bay to maintain navigation depths suitable for emergency vessels.

3.2.2 Alternative 2: Preferred Alternative

Under the Preferred Alternative, the outer breakwater would continue to protect Neah Bay from high wave energy. As a result, the outer breakwater repairs would maintain the status quo in the area, including an east-to-west flow of sediment. Completed repairs would not have a significant impact on the physical characteristics of the project area because the action would maintain the hydrologic and geomorphic conditions that were established 80 years ago. Therefore, impacts from the Preferred Alternative on hydrology and geomorphology would be negligible.

3.3 Airborne Noise

Anthropogenic, airborne noise sources at the project site include transportation, construction, internal combustion engines, and commercial activities. However, Neah Bay is a remote town that is on the Makah Reservation and situated on the Strait of Juan de Fuca in the northwest corner of Washington State's peninsula. Neah Bay is not heavily developed and thus has significantly less anthropogenic airborne noise compared to metropolitan areas like Seattle. Ambient noises in the area are primarily nature-based including wind, waves, and birds.

3.3.1 Alternative 1: No Action Alternative

The No Action Alternative would have no effect on noise pollution because the repair would not occur. Emergency actions could be required to protect lives and property if necessitated by a breach of the outer breakwater. These actions would likely generate less noise pollution compared to the Preferred Alternative because the Preferred Alternative requires a substantially greater construction effort. In a long-term view, it is possible that multiple seasons of outer breakwater repairs could cumulatively contribute to greater noise pollution over time. Effects on airborne noise pollution would be temporary and within the range produced by on-going activities in the area. Therefore, effects would be negligible.

3.3.2 Alternative 2: Preferred Alternative

The Preferred Alternative would generate airborne noise around 87 dBA, weighted decibels perceived by the human ear. The airborne noise generated would be similar to the noise caused by heavy traffic (WSDOT 2020). Based on population density, Neah Bay is expected to have a background noise of 45 dBA, which is similar to noise from light traffic (WSDOT 2020). Therefore, impacts of the Preferred Alternative on airborne noise would be temporary, lasting during construction activities only, and minimal, not causing lasting impacts on noise conditions.

3.4 Underwater Noise

Underwater noise sources are vessel traffic and underwater construction activities. Neah Bay is in a remote area, but there is still light vessel traffic in and out of the area. Ambient underwater noise in the Strait of Juan de Fuca, Washington Coast, and British Columbia is estimated to be 75 decibels (dB; Erbe 2002, Erbe et al. 2012).

3.4.1 Alternative 1: No Action Alternative

Under the No Action Alternative, emergency actions could be required to protect lives and property if necessitated from a breach of the outer breakwater. These actions would likely generate less underwater noise compared to the Preferred Alternative because the Preferred Alternative requires a substantially greater construction effort. Each emergency repair would involve only a short duration of work and would likely focus on increasing breakwater height rather than on underwater work. Therefore, effects of the No Action Alternative on underwater noise would be negligible.

3.4.2 Alternative 2: Preferred Alternative

The Preferred Alternative could produce underwater noise and vibration through placement of armor rock along the breakwater, which could reach up to 120 dB. The greatest underwater noise would occur when rock placement occurs below the water line, but work conducted above the waterline could create sound and vibration that propagates through the ground to the water as well (Reinhall and Dahl 2011). All noise, airborne and underwater, would attenuate within 0.45-mile of the outer breakwater. Therefore, impacts of the Preferred Alternative on underwater noise would be temporary, lasting during construction activities only, and minimal, not causing lasting impacts on noise conditions.

3.5 Sediments

USACE assessed seafloor sediments in Neah Bay in 2018. It is composed of 72 percent sand, 16 percent silt, 8 percent clay, and 4 percent gravel. Four distinct habitats have been identified within Neah Bay. Nearshore areas contain sand, and silty sand dominates the interior of the bay. An area just inside the outer

breakwater consists of thick silt covered by wood chips and debris. Areas near Waadah Island and seaward of the outer breakwater consist of sand, rock, and scattered boulders (Simenstad et al. 1988). The basin depth ranges from -20 feet to more than -40 feet MLLW through the mouth of the bay.

3.5.1 Alternative 1: No Action Alternative

Under the No Action Alternative, sediment deposition could increase in Neah Bay. Degradation of the outer breakwater could cause changes to sediment transport.

3.5.2 Alternative 2: Preferred Alternative

Under the Preferred Alternative, impacts to sediments would be negligible. Rock used in the repairs would be like rock used for past breakwater repairs. All rocks would also be clean and clear of any visible sediment. Rocks that are not adequate would not be used for the repair. As a result, significant changes to sediment in Neah Bay would not occur.

3.6 Transportation and Traffic

Neah Bay has a population of 935 (US Census 2020). One major road, Highway 112, runs through the middle of Neah Bay, and ends northwest of town at Cape Flattery Road. Clallam Bay Transit operates a bus route from Forks to Neah Bay. Traffic in Neah Bay is light, with the highest amount of traffic occurring during the summer months. Aside from the bus route, transportation predominantly involves personal vehicles, bikes, or walking.

3.6.1 Alternative 1: No Action Alternative

Under the No Action Alternative, no impacts to transportation would occur.

3.6.2 Alternative 2: Preferred Alternative

Under the Preferred Alternative, USACE would stage construction equipment and project materials before repairing the outer breakwater. Vehicle traffic would increase from the vehicles and trucks needed to transport construction equipment to the area. The proposed project would not involve any roadside work that would halt traffic for extended periods. Vehicles and buses would only be stopped if a truck needed to turn around out of a staging area. Staging areas would be coordinated by the Makah Indian Tribe and the Contractor for the proposed project.

Impacts on transportation and traffic would be higher relative to the typical traffic in Neah Bay, especially during staging activities, but would not cause considerable delays for residents or tourists. Therefore, the Preferred Alternative's impact on traffic and transportation would be minimal, occurring intermittently throughout the duration of the project.

3.7 Water Quality

The Makah Tribe established its own Tribal Water Quality Standards, which were approved by the EPA on December 23, 2003, in accordance with the Clean Water Act, 33 U.S.C. § 1377(e). The Makah Tribe monitors water quality issues according to their water quality designations. Water quality designations outlined by the Makah Tribe for Neah Bay are listed below (EPA 2019):

1. Ceremonial and Religious: water use that may involve primary (e.g., swimming) and secondary contact (e.g., wading, fishing).
2. Cultural: water flow, habitat for fisheries and wildlife, preservation of vegetation that could be used as food or medicines for the Makah people.
3. Aquatic life uses: extraordinary, excellent, and good based on dissolved oxygen, turbidity, temperature, pH, and bacterial concentration.
4. Wildlife habitat: food support to fish, other aquatic life, or any other wildlife regardless of life stage or activity.
5. Recreation: water use that may involve primary contact and secondary contact.
6. Commerce and navigation: water uses that allow boating, canoeing, shipping, and fishing around Neah Bay.

The criteria for the marine water around Neah Bay include water temperature, dissolved oxygen, pH, turbidity, aquatic life bacteria, water contact bacteria, narrative criteria, biological criteria, wildlife criteria, toxic substances, and radioactive substances (EPA 2019).

According to the Department of Ecology's Water Quality Assessment Map, Section 303(d) waters (heavily impacted, Ecology Category 5) are designated along the southern portion of Neah Bay closest to the town (Ecology 2024b, Figure 4). This region is listed as heavily impacted by both fecal coliform and enterococci bacteria (Ecology 2024b). 303(d) listed water affects all the Makah Tribe's designated water uses in this area (EPA 2019). The eastern and western edges of Neah Bay are listed as Category 2 (water of concern) for fecal coliform bacteria (Ecology 2024b). Category 2 may impact some but not all the designated water uses (EPA 2019). The rest of Neah Bay and the surrounding area have "extraordinary water quality" (Ecology 2024b).

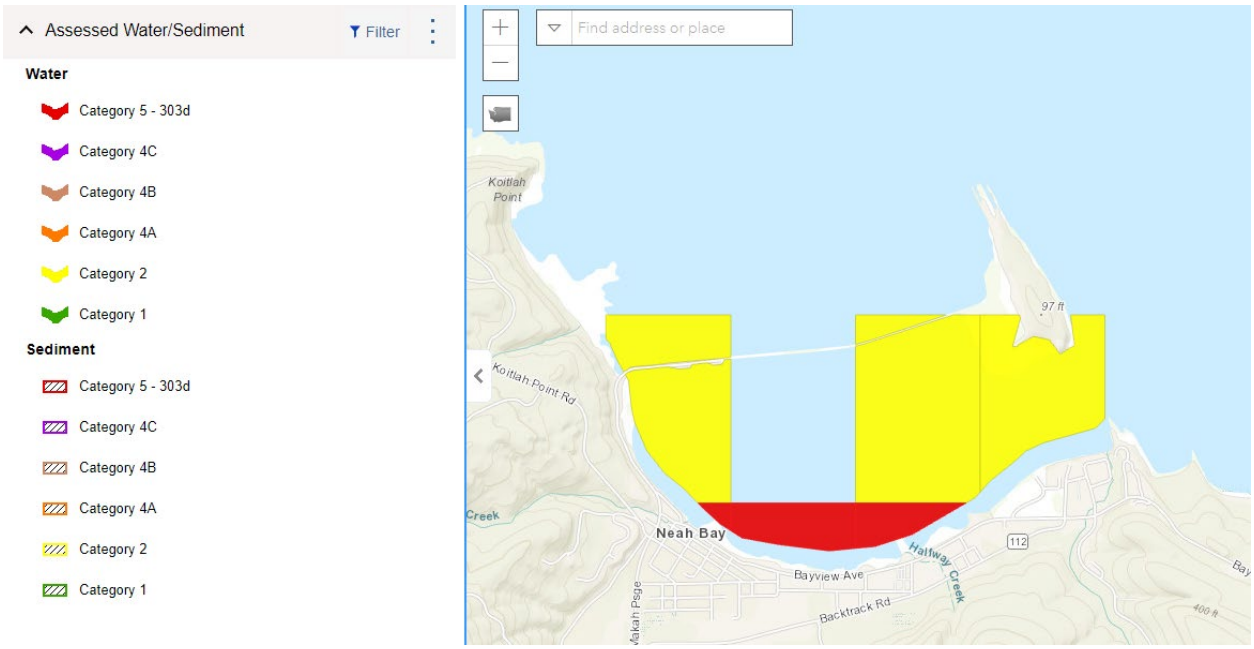

Figure 3: Assessed water quality in Neah Bay from Ecology (2024b).

3.7.1 Alternative 1: No Action Alternative

Under the No Action Alternative, there would be no impact to water quality caused by construction. However, if a severe storm causes a breach in the outer breakwater, large armor rocks could be dislodged, which would temporarily elevate turbidity levels.

3.7.2 Alternative 2: Preferred Alternative

The Preferred Alternative would have a minor impact on water quality. Rock would be the only material used for the repair and would be free of sediments or contaminants. All equipment used to place rock would be clean. Increased turbidity would be temporary and occur during construction under the Preferred Alternative.

Work would be conducted during low tides when possible. Rocks would be keyed into the breakwater less than 1 foot away from the structure to minimize turbidity impacts. The tides and currents in the area are expected to quickly dilute turbid water and disperse suspended sediments. Small gravel would be placed between the larger rocks on top of the breakwater for road construction so that vehicles can work safely from the structure. USACE would place this road material no lower than +12 feet MLLW. During severe storms, some of this smaller material could be washed into the water, potentially causing temporary minor increased turbidity and associated sedimentation. During such events, temporary turbidity levels would be insignificant considering the high background turbidity, and this material would sink very rapidly. Nonetheless, USACE would monitor turbidity during in-water activities (Appendix G). The Preferred Alternative could cause temporary impacts on water

quality, but any exceedances to water quality standards would pause activities (Appendix G).

3.8 Benthic Invertebrates

The primary benthic organisms in Neah Bay are marine invertebrates. Marine invertebrates have an important role in the coastal ecosystem. They are consumed by many species in the ecosystem, and many benthic species are also of commercial and subsistence harvest value to the Makah Indian Tribe. These organisms form a critical link between producers and larger consumers, such as finfish (including salmonids) and birds. The local invertebrate community is stable and diverse because of good water quality, strong tidal flushing, clean sediments, and an abundant food supply.

Surveys conducted in 1998 found that 31 species of shellfish and other invertebrates were still used by Makah members for subsistence purposes (Sepez 2008). Benthic invertebrates in Neah Bay range from barnacles, sea stars, anemones, clams, crabs, worms, and shrimp species (Simenstad et al. 1988). Some invertebrates like barnacles and clams are filter feeders. Their health is strongly influenced by local water quality.

Pinto abalone, a Washington State listed species, are also present in the Western Strait of Juan de Fuca (Dimond et al. 2022). Pinto abalone are a marine snail that aid in the overall health of kelp forests and rocky reef systems. They are often found near rock and kelp, while adults are more present on boulders and juveniles are more present on cobbles (White and Raimondi 2020). Pinto abalone can be found between 0 feet MLLW to -20 feet MLLW (WDFW per. com. 2025). However, they are more likely present in subtidal areas, starting at depths of -5 feet MLLW (PSRF per. com. 2025).

3.8.1 Alternative 1: No Action Alternative

Under the No Action Alternative, there would be no short-term impacts to benthic invertebrates that dwell among the armor stones within the intertidal and subtidal zones of the structure. Over time, large armor rocks dislodging from the outer breakwater would impact benthic invertebrates and their habitat. The benthic community would change over time due to armor rocks being covered by sand.

3.8.2 Alternative 2: Preferred Alternative

Under the Preferred Alternative, the outer breakwater repairs would impact the benthic community, especially sessile species that cannot move while armor rocks are keyed into the structure. However, USACE expects that sessile species would recolonize new rock. Mobile species may experience temporary minor turbidity when rock is placed and inadvertently displaces sand within the breakwater

footprint. There would be minor impacts to benthic communities in the hard sand and rock intertidal areas due to rock placement below the high tide line. Given substrate similarity and relatively restricted disturbance footprints, it is expected that benthic invertebrate recolonization, including species abundance, numbers, and community composition, would be rapid (within the first year) and develop according to succession dynamics along the breakwater (Dittmann et al. 1999, Mamo et al. 2020). Most work on the outer breakwater would occur from 0 feet MLLW to +18 feet MLLW. Further, two sections of the outer breakwater would include work within pinto abalone's range from 0 feet MLLW to -5 feet MLLW. The Makah Tribe would be notified before work in those two sections occurs. Therefore, benthic invertebrates would be minimally impacted under the Preferred Alternative.

3.9 Cultural Resources

USACE initiated Section 106 of the National Historic Preservation Act (NHPA) as amended. USACE, in accordance with 36 CFR 800.4(a)(1) consultation with the Makah Indian Tribe of the Makah Reservation for this undertaking. USACE requested their agreement with the Area of Potential Effects (APE) boundary. In addition, USACE, pursuant to 36 CFR 800.3(f)(2), requested assistance in identifying historic properties that may be of religious and cultural significance to the Tribe. An APE letter was provided to the Tribe on November 8, 2024, May 7, 2025, and again on December 18, 2025. A Determination and Findings letter was provided to the Tribal Historic Preservation Officer (THPO) on January 22, 2026.

The APE currently includes the length and area of the breakwater, about 8,000 linear feet and about 25 acres and the access route, about 2,650 linear feet. Due to the duration of this maintenance undertaking, staging area locations have not yet been finalized and USACE recognizes that an amendment of our NHPA Section 106 consultation for this undertaking will be required as these staging areas are defined.

The outer breakwater was constructed by 1944 and reconstructed between 2002 and 2012. Since the outer breakwater is more than 50 years old, USACE recorded and evaluated it for its eligibility to the National Register of Historic Places (NRHP) for this project. USACE determined that the outer breakwater is not eligible for the NRHP due to a lack of integrity.

A USACE staff archaeologist has conducted a records search and literature review of the Washington Information System for Architectural and Archaeological Records Data. The literature review and records search revealed there are no properties determined eligible or listed in the National Register of Historic Places or the Washington State

Historic Site Register, and no recorded cultural resources within the current APE. There are two archeological sites within a 1-mile radius of the APE.

Based on the results of our efforts to identify historic properties within the APE, USACE has determined that the primary maintenance and access road construction on the breakwater will result in no adverse effects per 36 CFR § 800.4(d)(1).

USACE remains committed to continued coordination and consultation with the Tribe to identify and select staging areas that will avoid impacts on culturally significant areas for the duration of the project. USACE will continue consultation regarding any future project amendments, as conditions warrant.

3.9.1 Alternative 1: No Action Alternative

There would be no impact on cultural resources under the No Action Alternative.

3.9.2 Alternative 2: Preferred Alternative

The Preferred Alternative would have no effect on cultural resources because there are no cultural resources located within the APE. USACE initiated Section 106 consultation with the Makah Indian Tribe. USACE has defined the APE and conducted a literature review that did not identify any previously recorded historic properties within the APE, other than the breakwater itself. As of the date of this EA, consultation with the Makah Tribe regarding the APE and the identification of properties of religious and cultural significance is ongoing. USACE is committed to completing the Section 106 process prior to the approval of the expenditure of any Federal funds on the Preferred Alternative. All construction will be subject to an Inadvertent Discovery Plan developed in consultation with the Tribe.

3.10 Fish

The combination of abundant food resources and multiple habitat types within Neah Bay support an abundant and diverse fish community (Simenstad et al. 1988). Fish abundance and health is critically important for Neah Bay. The Makah Tribe has a treaty-protected right to fish in the Makah Usual and Accustomed Treaty Area and is the largest tribal fishing fleet in the United States by landings, earning $6-8M per year. Over 60 percent of the local economy is supported by fishing income and virtually all households depend on first foods for nutritional security, with fish being a significant contributor.

Fish species include forage fish like pacific herring (*Clupea harengus pallasi*), surf smelt (*Hypomesus pretiosus*), and Pacific sand lance (*Ammodytes hexapterus*; Simenstad et al. 1988). Forage fish are notably present within Neah Bay throughout the year at various life-cycle stages (Simenstad et al. 1988). Although no spawning habitat for forage fish is mapped in the project area (WDFW 2024), it is possible that herring spawning occurs given the marine vegetation in Neah Bay.

Salmonids like pink salmon (*Oncorhynchus gorbuscha*), chum salmon (*O. keta*), and coho salmon (*O. kisutch*) are also present as they move from natal streams to the ocean (Simenstad et al. 1988). Two of the creeks that drain into Neah Bay, Village and Agency Creeks, are fish bearing streams. The anadromous populations of those creeks are coho and steelhead. Additionally, rockfish like cabezon (*Scorpaenichthys marmoratus*), black rockfish (*Sebastes melanops*), brown rockfish (*S. auriculatus*), and copper rockfish (*S. caurinus*) have been recorded in Neah Bay (Simenstad et al. 1988).

3.10.1 Alternative 1: No Action Alternative

Under the No Action Alternative, the outer breakwater would continue to erode and deteriorate, and the structure's rock would continue to be displaced and eventually covered with sand. As a result, the fish community could change to those species associated with a sandy substrate.

3.10.2 Alternative 2: Preferred Alternative

Under the Preferred Alternative, there would be no changes to the breakwater's footprint below the high tide line. Turbidity could be increased by construction activities like rock placement and haul road overtopping during severe storms. The effects of any temporary turbidity on fish would increase due to construction but would be insignificant. The proposed work is not expected to substantially alter marine habitat for fish from present conditions. The Preferred Alternative would not affect feeding, refuge, or spawning habitat.

Underwater noise vibrations caused by rock placement (discussed in section 3.8.2) would not be substantially different from occasions when storm events cause resettling of the large armor rocks. However, the noise would occur for longer durations, which could cause the fish to disperse into other areas along the breakwater and the bay. This relocation could cause temporary competition for space and resources. Fish would return to the area following work completion, thereby alleviating temporary competition. All work would be restricted to the approved in-water work window (see section 2.3.3) to limit impacts to salmonids.

Work would occur during lowest tides when possible. Regardless, fish would be able to swim away from the areas affected by noise and escape uninjured. Construction-related effects on fish would be temporary.

3.11 Wildlife

Some terrestrial species in the Neah Bay area include common racoon *(Procyon lotor),* western red backed salamander (*Plethodon vehiculum*), great horned owl *(Bubo virginianus),* and red fox (*Vulpes vulpes*; iNaturalist 2024). Other common

wildlife including various species of voles, shrews, deer, spiders, and butterflies can be found around Neah Bay as well.

Neah Bay and the surrounding area have a high abundance of marine birds. It is considered a hotspot for birds, with over 300 documented species present in the area throughout the year (eBird 2025). Areas surrounding Neah Bay, including Waadah Island and Cape Flattery, are also hotspots for bird species (eBird 2025). Common birds in Neah Bay include scaups (*Aythya spp.*), scoters (*Melanitta spp.*), buffleheads (*Bucephala albeola*), and black turnstones (*Arenaria melanocephala*). Tatoosh Island, Seal Rock, and Sail Rock, located outside of Neah Bay, are roosting sites for nesting pairs of gulls (various genera), double-crested cormorants (*Phalacrocorax auritus*), tufted puffins (*Fratercula cirrhata*), rhinoceros auklet (*Cerorhinca monocerata*), common murres (*Uria aalge*), and storm petrels (*Oceanodroma spp.*; Wahl et al. 1981). Other species that have been documented in Neah Bay include pelagic cormorants (*P. pelagicus*), a number of ducks, pigeon guillemots (*Cepphus columba*) and marbled and ancient murrelets (*Brachyramphus marmoratus* and *Synthliboramphus antiquus*; eBird 2025). Bald eagles (*Haliaeetus leucocephalus*) are known to nest year-round in Neah Bay.

Of the 21 marine mammal species known to inhabit the Strait of Juan de Fuca, 9 of those species are listed as common (i.e., not threatened or endangered). Those common species include river otter (*Lutra canadensis*), California sea lion (*Zalophus californianus*), Steller sea lion (*Eumetopias jubatus*), harbor seal (*Phoca vitulina*), gray whale (*Eschrichtius robustus*), minke whale (*Balaenoptera autorostrata*), transient/Bigg's killer whale (*Orcinus orca*), harbor porpoise (*Phocoena phocoena*), and Dall's porpoise (*Phocoenoides dalli*). Marine mammals do not frequently occur within the bay itself other than California sea lions. Occasionally, sea otters (*Enhydra lutris*), harbor seals, Steller sea lions, and gray whales have been seen within Neah Bay (Calambokidis and Baird 1994). Waadah Island, at the eastern end of the outer breakwater, was documented as a haul out site for California sea lions and harbor seals (WDFW 2000). Based on recent consultation with the Washington Department of Fish and Wildlife, the outer breakwater is not presently recorded as a haul out site (Megan Tuttle, WDFW, personal communication 2024).

3.11.1 Alternative 1: No Action Alternative

Under the No Action Alternative, wildlife impacts would not occur because no repairs would be conducted on the outer breakwater.

3.11.2 Alternative 2: Preferred Alternative

The Preferred Alternative could affect birds and mammals within the repair, access, and staging area footprints, and in the 0.45-mile radius of noise

attenuation (see section 3.7.2). Rock transport and placement operations would produce noise above ambient levels, so some disturbance to bird activities, like nesting and feeding, could occur. However, this localized activity would not have a long-term effect because prey availability would not permanently affect shorebird foraging activity, and there is plentiful foraging habitat available around Neah Bay. Overall, the intermittent nature of construction would have a minor impact on any bird foraging habitat and would not permanently affect bird populations.

The Preferred Alternative would not have detrimental effects on marine mammals that might be in the project area. In-water work would be accomplished during the lowest tides available, when possible, and during the authorized in-water work window (see section 2.3.3). Noise from rock placement below the high tide line would occur when armor rock is keyed into existing stone. This would cause a minor disturbance but would not be loud enough to cause injury or harm marine mammals (NMFS 2018). USACE would avoid harassment of marine mammals present in the area. Therefore, USACE has determined that effects on wildlife would be temporary.

3.12 Threatened and Endangered Species

In accordance with Section 7(a)(2) of the Endangered Species Act (ESA), federally funded, constructed, permitted, or licensed projects must take into consideration impacts of federally listed proposed, threatened, and endangered species. The species listed in Table 4 are protected under the ESA and may occur in the project area. The following sections briefly summarize relevant information about the protected species, current knowledge on the presence, and use of the project and action areas by these species. ESA consultation assesses how the proposed project may affect the species, concluding with a determination of effect. Section 8.6 provides details about project compliance with the ESA.

Table 4. ESA-listed species and designated critical habitat that may be present in or near the Neah Bay Outer Breakwater Repair Project action area.

Species	Federal Listing	Critical Habitat in Action Area	Potential Occurrence[1] (Likely, Unlikely, or Absent)
Bull Trout (*Salvelinus confluentus*)	Threatened, Critical Habitat Designated	No	Unlikely
North American Green	Threatened,	Yes	Likely

[1] Likely means the species could be present in the action area. Unlikely means the species could be present in the action area but due to lack of habitat preference and/or food is not expected to be present. Absent means that the species is not present in the action area.

Sturgeon (*Acipenser medirostris*)	Critical Habitat Designated		
Chinook Salmon (*Oncorhynchus tshawytscha*)	Threatened, Critical Habitat Designated	No	Likely
Steelhead (*Oncorhynchus mykiss*)	Threatened, Critical Habitat Designated	No	Unlikely
Summer Chum (*Oncorhynchus keta*)	Threatened, Critical Habitat Designated	No	Unlikely
Pacific Eulachon (*Thaleichthys pacificus*)	Threatened, Critical Habitat Designated	No	Unlikely
Southern Resident Killer whale (*Orcinus orca*)	Endangered, Critical Habitat Designated	Yes	Unlikely
Humpback Whale (*Megaptera novaeangliae*)	Threatened, Critical Habitat Designated	No	Unlikely
Marbled murrelet (*Brachyramphus marmoratus*)	Threatened, Critical Habitat Designated	No	Unlikely

Bull Trout: Bull trout are native to the Pacific Northwest. They can be found in coastal, lake, and freshwater environments. Bull trout can grow up to 3.5 feet long. Bull trout within Puget Sound have been seen migrating from their native river system to other nearby systems. The closest natal river to Neah Bay for Puget Sound bull trout is the Elwha River, which is more than 50 miles to the east on the Strait and Juan de Fuca (USFWS 2015). The maximum migration distance for bull trout from their natal stream is about 75 miles. Although bull trout do migrate close to the shore and go into bays, they do not spend a lot of time in saltwater and are not likely to travel as far as Neah Bay (Brenkman and Corbett 2005; Goetz et al. 2004). There are no major river systems that empty into Neah Bay to attract migratory bull trout from another system. Bull trout are opportunistic predators and can eat forage fish, smaller salmonids, and aquatic insects.

Green Sturgeon: Green sturgeons are among the largest and longest-living freshwater fish, reaching up to 7 feet and 350 pounds. Green sturgeons are opportunistic predators. They eat a variety of prey as its availability changes. Green sturgeons typically feed on benthic invertebrates, such as shrimp, crabs, worms, mollusks, and epibenthic crustaceans. Green sturgeons can be found from the top of the water column to a depth of 360 feet but prefer depths between 130-230 feet (Erickson and Hightower 2007). The Strait of Juan de Fuca, including Neah Bay, has been identified as a migration corridor for green sturgeon as they

move from coastal waters in Washington to Vancouver Island (NMFS 2009). Therefore, Neah Bay is considered a critical habitat area for green sturgeon.

Chinook Salmon: Chinook salmon, the largest salmon in the Pacific Ocean, can range from 3-5 feet long and weigh up to 130 pounds. Adult Chinook salmon are present in Neah Bay and have been caught by anglers in Neah Bay and documented by the State of Washington (WDFW 2018). Neah Bay is located along one of the routes for out-migrating juvenile Chinook, as well as returning adults, both of which are known to forage in bays that are along their migration corridor (Fresh 2006; Goetz pers. comm. December 27, 2017). Two different Evolutionary Significant Units of bull trout can occur in Neah Bay: Puget Sound and Lower Columbia. Researchers observed juvenile ESA-listed Lower Columbia River Chinook salmon using the nearshore environments of western Strait of Juan de Fuca during the summer months (NMFS 2009). Aside from those observations, records from the Makah Tribe document Chinook from the Columbia River are commonly caught in marine area 4B, which is northwest of the outer breakwater (Makah Tribal Council 2025). If Puget Sound Chinook enter Neah Bay, it is likely for short periods of foraging and refuge while migrating to and from Puget Sound.

Steelhead: Steelhead, otherwise known as coastal rainbow trout, can live up to 11 years and spawn in natal streams multiple times. Steelhead migrate offshore quickly after exiting their natal streams and are not known to enter small bays and inlets along the shoreline during their migration to the open ocean (Goetz et al. 2014). The Elwha River basin is the closest natal basin to Neah Bay for the Puget Sound steelhead distinct population segment. Steelhead run the Elwha River and its tributaries in the winter and the summer (NMFS 2016). Non-ESA listed Steelhead in the Olympic Peninsula run rivers near Neah Bay including the Tsoo-Yess and Sail River Watersheds, which are near the proposed project area (OP Steelhead Status Review Team 2024). However, the Olympic Peninsula Distinct Population Segment of steelhead are currently a candidate species for ESA listing (NMFS 2023).

Summer Chum: Chum salmon have the largest range of all Pacific salmon and are found in Japan, Korea, Russia, British Columbia, and the West Coast of the United States. Summer-run chum salmon originate from Hood Canal and its tributaries and Olympic Peninsula Rivers between Hood Canal and Dungeness Bay. When chum fry enter saltwater, they assemble in small schools and reside close to shore to avoid predators. As the young fish grow, they gradually move to deeper waters and migrate towards the open ocean. Like Chinook, juvenile chum use non-natal estuaries and bays for rearing (Fresh 2006). Neah Bay may be used for feeding and refuge. However, Hood Canal summer-run chum salmon migrate to

the ocean after rearing in native estuaries and are more likely to migrate through the Strait of Georgia (Urawa et al. 2018).

Pacific Eulachon: Eulachon are small smelt that spawn in major tributaries of the Pacific Ocean. Eulachon are endemic to the eastern Pacific Ocean, including the Washington Coast, and occur in nearshore ocean waters up to 1,000 feet (300 m) in depth. Eulachon commonly return to spawn in late winter and early spring near the seasonal flow minimum, especially on the mainland coast of British Columbia (Aspens et al. 2018). In many rivers, eulachon spawning is timed so that egg hatching will coincide with peak spring river discharge (Flory 2008). The closest rivers to Neah Bay that eulachon have been documented in are the Bogachiel, Quinault, and Elwha Rivers (Monaco et al. 1990, Willson et al. 2006, Gustafson et al. 2010). Eulachon also return to the Fraser River in British Columbia. Eulachon may pass through Neah Bay on their way to the Fraser or Elwha Rivers to the north or Bogachiel and Quinault Rivers to the south.

Southern Resident Killer Whale: Southern Resident killer whales (SRKWs) are Pacific Ocean orcas that only eat fish. SRKWs spend large amounts of time in "core" inland marine waters coinciding with gatherings of migratory salmon returning from the Pacific Ocean to spawn in U.S. and Canadian Rivers (NMFS 2006). The topographic and oceanographic features in these core areas include channels and shorelines that direct prey and assist with foraging. SRKWs show a strong preference for Chinook salmon (primarily Fraser River Chinook salmon), with chum salmon as the second-most preferred prey species (NMFS 2008). SRKWs reside for part of the year in the Salish Sea and inland waterways of Washington and British Columbia (Strait of Georgia, Strait of Juan de Fuca, and Puget Sound). The Strait of Juan de Fuca provides special foraging grounds for SRKW from June through October (Shields 2023). There are 3 pods of SRKW, the J, K, and L pods, and it has been observed that the L pod spends significantly more time in the Strait of Juan de Fuca compared to J and K pods (Hauser et al. 2007; Olson et al. 2018). SRKW have been sighted near Koitlah Point and Waadah Island, though their use of the area is rare (Makah Tribal Council 2025). SKRW could be present near the outer breakwater during the repair, and Neah Bay is considered killer whale critical habitat.

Humpback Whale: Humpback whales breed, give birth, and raise their young in tropical waters and travel to polar regions to feed on krill and other small fish. In total, humpback whales travel thousands of miles every year. Humpback sightings in the Strait of Juan de Fuca steadily increase between March and April and peak from May to October before a significant decline in November (Gless and Krieger 2023). There were 14,368 total observations between Vancouver Island and Cape Flattery in 2022 (Gless and Krieger 2023). Of those sightings, approximately 7

humpback whales occurred around Neah Bay (Gless and Krieger 2023). The Makah Tribe surveys the western Strait of Juan de Fuca for marine mammals. These surveys document that humpback whales do commonly use the western Strait of Juan de Fuca but are rarely observed in waters less than 50 feet (J. Scordino, Makah Tribe marine mammal biologist, personal communication). Humpbacks primarily stay in deeper areas of the Strait of Juan de Fuca, but they may occasionally enter shallower, protected bays like Neah Bay.

Marbled Murrelet: The marbled murrelet is a forest-nesting seabird that fishes along the Pacific Coast and flies inland to nest in mossy old-growth trees. During the breeding season (May to August) marbled murrelets make daily trips from their nesting habitat in mature forests to marine foraging areas. Marbled murrelets are opportunistic feeders. They consume a diverse range of species, primarily fish and invertebrates, in nearshore marine ecosystems. Forage fish, including sand lance, herring, anchovy, smelts, and sardine, are important prey resource for marbled murrelets (USFWS 1997, WDFW 2024). Neah Bay is not adjacent to nesting habitat in upland forests. Between 2012 to 2024, there have been 25 documented sightings of marbled murrelet in Neah Bay in 2025 (eBird 2025).

3.12.1 Alternative 1: No Action Alternative

The No Action Alternative would have no impacts on Threatened and Endangered species or critical habitat because no construction or related impacts would occur.

3.12.2 Alternative 2: Preferred Alternative

To assess impacts from the Preferred Alternative on Threatened and Endangered species, USACE submitted a Biological Assessment to USFWS and NMFS on July 24, 2024. Section 8.6 provides compliance details related to the ESA consultation. Based on that information, effects to ESA-listed species and their critical habitat would be minimal. Table 5 details the effects determinations from the ESA consultation.

Table 5. Section 7 Consultation Threatened and Endangered Species Effects Determination (Preferred Alternative).

Species (Common Name and Scientific Name)	Species Effect Determination	Critical Habitat Determination
Bull Trout (*Salvelinus confluentus*)	May affect, not likely to adversely affect	No effect
North American Green Sturgeon (*Acipenser medirostris*)	May affect, not likely to adversely affect	May affect, not likely to adversely affect

Chinook Salmon (*Oncorhynchus tshawytscha*)	May affect, not likely to adversely affect	No effect
Steelhead (*Oncorhynchus mykiss*)	May affect, not likely to adversely affect	No effect
Summer Chum (*Oncorhynchus keta*)	May affect, not likely to adversely affect	No effect
Pacific Eulachon (*Thaleichthys pacificus*)	May affect, not likely to adversely affect	No effect
Southern Resident Killer whale (*Orcinus orca*)	May affect, not likely to adversely affect	May affect, not likely to adversely affect
Humpback Whale (*Megaptera novaeangliae*)	May affect, not likely to adversely affect	No effect
Marbled murrelet (*Brachyramphus marmoratus*)	May affect, not likely to adversely affect	No effect

Bull Trout: Elevated noise and turbidity could disturb bull trout during construction, but the impacts would be localized. Bull trout are hearing generalists (i.e., swim bladder is not involved in hearing) and would not be injured by the intermittent noise. The work window occurs when bull trout are in low abundance. In the unlikely event of bull trout presence during the outer breakwater repairs, they would likely avoid the project area during construction. Benthic invertebrates that would be buried within the footprint of the repair do not constitute a significant prey resource base for bull trout.

Green Sturgeon: Green sturgeons are typically found at greater depths than where the repair work would take place (-5 feet MLLW). Noise impacts would be greatest when rocks are being placed underwater. Temporary elevated noise and turbidity could cause green sturgeon to avoid areas with more noise. Elevated turbidity would dilute by the time it reaches depths at which green sturgeon prefer. Like bull trout, green sturgeons are hearing generalists (the swim bladder is not connected to hearing) and are unlikely to be injured by the intermittent noise. Short-term effects of any disturbance related to the proposed action would likely result in displacement of green sturgeon rather than injury. Any reduction in food availability would be limited to the footprint of the rock recovery and placement.

Chinook Salmon: Both juveniles and adult Chinook salmon may migrate to and from marine waters through Neah Bay. However, no Chinook spawning occurs in the creeks that flow into Neah Bay. Noise impacts would be greatest when rock is

placed underwater. However, Chinook would likely avoid areas with elevated noise during construction. USACE anticipates that intermittent passage would occur during breaks in rock placement and at night when work is not occurring. Potential noise impacts would be minimized by operating within the approved in-water work window (section 2.3.3), which is based on a time when migrating salmonids are least likely to be present. As hearing generalists, Chinook would not be injured by intermittent noise. Chinook would be able to avoid areas with temporary, elevated turbidity. No long-term effects to migration, reproduction, or feeding habitat are anticipated.

Steelhead: Elevated noise and turbidity could disturb steelhead during construction, but impacts would be intermittent. Steelhead are hearing generalists and would not be injured by the intermittent noise. To avoid impacts on steelhead, all work below the high tide line would be restricted to the in-water work window (section 2.3.3). Steelhead presence in Neah Bay is not likely given the distance to natal streams and construction timing, so the potential for the Preferred Alternative to impact steelhead would be lower than other species like green sturgeon.

Summer Chum: Elevated noise and turbidity could disturb summer chum during construction, but impacts would be intermittent. Summer chum are hearing generalists and would not be injured by the intermittent noise. To avoid impacts on summer chum, all work below the high tide line would be restricted to the in-water work window (section 2.3.3). Summer chum will likely not be present in Neah Bay, given its location relative to natal streams and the construction project's timing. The potential for the Preferred Alternative to impact summer chum would be lower than for all other species.

Pacific Eulachon: Temporary effects on eulachon could occur during repair activities. Increases in turbidity could occur due to armor rock placement in the outer breakwater. Potential increases in turbidity would be intermittent and minor. Impacts of noise on eulachon would be minimal since eulachon are hearing generalists (Hastings and Popper 2005). Additionally, during the repair operations eulachon would avoid the area due to physical disturbance. Eulachon should return quickly with minimal impact; therefore, the likelihood of eulachon presence in Neah Bay would be relatively low.

Southern Resident Killer Whale: If present, it is likely that SRKWs would avoid construction activity. There would be minimal population changes on salmon species that are a primary constituent of SRKW diet because the work would occur during a time when impacts on Chinook and chum salmon will be the lowest (July 16 to February 15). Elevated noise associated with the project would not cause harm to SRKWs since the noise generated from construction activities and rock placement is not expected to exceed 120 dB and would attenuate within 0.45-mile

(section 3.8.2). As a result, SRKW would avoid the area impacted by elevated noise. Turbidity would also not impact SRKW since they can easily avoid the localized areas with increased turbidity. Overall impacts on the SRKW prey base would be minimal as well.

Humpback Whale: Noise above ambient levels would have an impact on humpback whales. Elevated noise associated with the project would not cause harm to humpback whales since it is not expected to exceed 120 dB (section 3.8.2). If humpback whales were near the action area or a barge transporting material, they would be able to avoid the noise generated by these actions. As a result, noise would have minimal impacts on humpback whales. Elevated turbidity would not impact humpback whales since they can easily avoid the localized area with increased turbidity.

Marbled Murrelet: Adverse effects on marbled murrelets would not occur due to the localized nature of the outer breakwater repair project. However, the proposed project would occur within foraging habitat, and the beginning of in-water work window (July 16 to February 15) overlaps to a certain extent with marbled murrelet occurrence in the Strait of Juan de Fuca (spring and summer). The noise and turbidity associated with the operation of heavy equipment could disrupt foraging activities and cause murrelets to temporarily avoid the area. USWFS does not expect injury to marbled murrelets for exposure to intermittent, short duration, and continuous sounds (USFWS 1997). Airborne noise generated from this project would not be enough to cause injury (see section 3.7.2). Further, if present, marbled murrelets would avoid the area while construction is occurring and would be able to relocate to similar habitat for foraging.

3.13 Vegetation

The coastal uplands ecoregion supports western hemlock (*Tsuga heterophylla*), Sitka spruce (*Picea sitchensis*), and Douglas fir (*Pseudotsuga menziesii*) (Pater et al. 1998). Other vegetation includes sword fern (*Polystichum munitum*), salal (*Gaulthoria shallon*), red alder (*Alnus rubra*), bigleaf maple (*Acer macrophyllum*), western red cedar (*Thuja plicata*), salmonberry (*Rubus spectabilis*), and various grasses (Pater et al. 1998). Neah Bay and the surrounding areas also contain invasive species like Scotch broom (*Cytisus scoparius*) and spartina (*Spartina spp.*; WSDA 2024). Shoreline conditions within the project footprint are heavily modified due to the existence of the breakwater.

The shoreline of Neah Bay is a mixture of beach and riprap. The bay is home to primary producers like phytoplankton, macroalgae (including kelps), and vascular plants including surfgrasses. A 2003 USCG survey around the USCG pier and within the area of proposed beach nourishment for this project found sparse

vegetation including red algae like Turkish towel (*Chondracanthus exaspertus*), *Sarcodiotheca gaudichaudii*, red sea fan (*Callophyllis edentate*), California limu (*Gracilaria paficica*), red antlers (*Scinaia confusa*) and other unidentified small red algae (USACE 2020). Brown algae included *Desmarestia* sp., sugar kelp (*Laminaria saccharina*), bladder kelp (*Nereosystis leutkeana*), California kelp (*Macrocystis integrifolia*) and *Egregia menziesii*, and green algae included sea staghorn (*Codium fragile*), sea lettuce (*Ulva* sp.) and *Enteromorpha* sp. (USACE 2020).

Eelgrass species (*Zostera spp.*) are sparsely present along the outer breakwater, along the inside westernmost 300 m of the breakwater where there is a wide sand and mud flat. Simenstad et al. (1988) conducted a bay-wide survey of the nearshore community in Neah Bay and documented eelgrass in both the intertidal and subtidal in several locations in the bay, including a dense intertidal meadow in the northwestern portion of the bay. A shore-based USACE survey of the eastern end of the bay performed 2017 identified eelgrass and bull kelp around the USCG Pier in the northeastern corner of town, but USACE did not identify other eelgrass locations along the shoreline in this part of the bay (USACE 2020). Eelgrass surveys have also been conducted by the Makah Tribe and state partners, including WA Department of Natural Resources, on a project specific basis in portions of the bay and documented occurrence in other areas. In 2026, the Makah Tribe and a contracted vessel are conducting comprehensive eelgrass surveys through Neah Bay using both hydro acoustics and towed video to identify presence and distribution of eelgrass, including in some areas along the inner breakwater (https://pspwa.app.box.com/s/bznf3an43dcsagk2n7r8nr6nkzwkuje7/file/1953162529614). Based on preliminary surveys, a small patch of eelgrass is approximately 6 feet (2 meters) from the structure.

3.13.1 Alternative 1: No Action Alternative

Under the No Action Alternative, degradation of the outer breakwater could change the plant community. If sand were to increase around the breakwater area, more vegetation could establish.

3.13.2 Alternative 2: Preferred Alternative

The Preferred Alternative would impact sparse vegetation growing above the high tide line within the access and staging area footprints. It would be difficult for this sparse vegetation to reestablish during construction. However, these species are adapted to areas disturbed by tides, waves, and wind and would likely recolonize areas impacted by construction within a year. Any algae attached to the rocks on the lower elevations of the breakwater and within the repair footprint would be covered with rock. It has been observed that algal species distributed by tidal currents begins to recolonize these areas within the next growing season after

construction and will reach pre-disturbed conditions within 3 years (Rubin et al. 2023). If eelgrass is present withing the project footprint, it could be impacted. However, it is unlikely that eelgrass species have established close enough to the breakwater to be impacted. If present, eelgrass could be damaged or destroyed from rock placement. Other potential impacts to eelgrass would be a temporary and confined increase in turbidity or direct shading from a barge, which could reduce light availability for only a short portion of the growing season. Therefore, USACE determined that the effects on vegetation would be minimal.

3.14 Aesthetics

Neah Bay is surrounded by rugged coastlines, coastal bluffs, and lush forests. There is infrequent development or construction in the town, but there are nearby logging operations. The bay, adjacent to the town, is relatively undeveloped aside from the Makah marina and USCG station. The outer breakwater is also visible from the town but does not obstruct the view of the Strait of Juan de Fuca. Neah Bay is a place of importance to the Makah Tribe and was also the location of a historical village (Deah Bay). The area's aesthetics have been a part of the Makah Tribe's way of life for thousands of years, and Neah Bay's aesthetics also attract tourism for recreation, wildlife viewing, and photography.

3.14.1 Alternative 1: No Action Alternative

Under the No Action Alternative, no impacts to aesthetics relative to current conditions would occur.

3.14.2 Alternative 2: Preferred Alternative

Under the Preferred Alternative, there would be impacts on the aesthetics of Neah Bay. First, the proposed project involves a significant stockpiling and staging effort due to Neah Bay's remote location. Repair material, like armor and chinking rocks, and construction equipment would need to be staged for this repair and could be kept onsite for the duration of the project. Staging areas would be coordinated by the Contractor and Makah Indian Tribe, but different locations could impact aesthetics in varied ways. Additionally, during repair periods, construction equipment would be operating on the outer breakwater. These activities and effects on local aesthetics would be temporary and intermittent. As a result, impacts on aesthetics from the Preferred Alternative would be minimal.

3.15 Public Health and Safety

Neah Bay is served by police, fire, and emergency medical services. The Makah Tribal Police Department has a mutual aid agreement with the Clallam County Sheriff's Office, allowing for cooperation in law enforcement activities. Overall, crime rates are low in the

area. An emergency response tug is stationed at Neah Bay to assist disabled ships and prevent oil spills in the Strait of Juan de Fuca.

Neah Bay's proximity to the Pacific Ocean and location on Washington's peninsula can cause risks from natural hazards. Some natural hazards in the area include coastal erosion and landslides, especially on Highway 112, earthquakes and tsunamis, and powerful storms that can cause large waves. The outer breakwater provides protection from storm damage, flooding, and erosion for Neah Bay's Makah Tribal marina and the USCG station.

3.15.1 Alternative 1: No Action Alternative

Under the No Action Alternative, the outer breakwater would degrade and not be capable of protecting structures in Neah Bay. Degradation of the outer breakwater would cause significant impacts to public health and safety in Neah Bay since it could cause damage and flooding to areas near the water.

3.15.2 Alternative 2: Preferred Alternative

Under the Preferred Alternative, repairs to the outer breakwater would cause construction related impacts to public health and safety. For starters, construction activities would increase traffic on local roads. Increased traffic can cause safety risks to residents. Operation of heavy construction equipment could cause risks to residents near the project area. Lastly, stockpiling materials could cause risks to residents near staging areas. The proposed action's impact on public health and safety would be temporary.

3.16 Recreation and Scenic Value

The town of Neah Bay is situated around low coastal mountains, rugged beaches along the Pacific coast, sand dunes, and steep terraces. It is a destination for wildlife viewing, outdoor recreation, and fishing. Many visitors come to Neah Bay to hike on nearby trails, surf on the Pacific Coast, and fish. Other recreational opportunities include beach combing, crabbing, snorkeling, and clam digging. Recreation occurs all year in Neah Bay, but peaks in the summer months.

3.16.1 Alternative 1: No Action Alternative

Under the No Action Alternative, there will be no impacts to recreation and scenic value.

3.16.2 Alternative 2: Preferred Alternative

Under the Preferred Alternative, the outer breakwater repairs could cause a temporary impact on recreation nearby. Some activities, like hiking and surfing, would not be impacted by the Preferred Alternative. However, for fishing and any activities that occur closer to the outer breakwater, there would be temporary

impacts to recreation and scenic value. Noise generated from the outer breakwater repairs could cause fish to avoid the area within a 0.45-mile radius, which could potentially impact fishing in Neah Bay. Additionally, boaters in the bay would be impacted by the noise generated from the repairs. Impacts to recreation and scenic value would be minimal.

4 MITIGATION

Under NEPA, mitigation means “measures that avoid, minimize, or compensate for effects caused by a proposed action or alternatives as described in an environmental document or record of decision and that have a nexus to those effects. While NEPA requires consideration of mitigation, it does not mandate the form or adoption of any mitigation. Mitigation includes:

1. “Avoiding the impact altogether by not taking a certain action or parts of an action.
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
5. Compensating for the impact by replacing or providing substitute resources or environments.”

Under the Preferred Alternative there is no compensatory mitigation required for this project as there is no discharge to wetlands, streams, or other aquatic resources. Adverse effects to ESA-listed species would be avoided by working in the authorized work window, minimized by employing BMPs and conservation measures, and no significant impacts to commercially important species or protected marine mammals are anticipated to occur based on the analyses in this document.

Best Management Practices

USACE developed a list of best management practices (BMPs) that would be incorporated into the proposed action to reduce environmental impacts of the proposed action, including those to ESA-listed species and designated critical habitat. These measures are the following:

1. Conduct work only during daylight hours.

2. Restrict work to the outer breakwater and staging areas (Figures 1 and 2). No alterations to the outer breakwater's dimensions would occur below the high tide line.
3. Should any large woody material be generated or found on site during repairs, it would be salvaged and placed along the completed breakwater. This includes any tree trunks or large shrubs greater than 12 inches in diameter and/or 5 feet in length. The woody material would be placed after a section of breakwater is completed or after the entire repair.
4. Install temporary erosion control measures for all phases of work. As construction advances, installation of silt fencing would occur along the full length of disturbed area of the project site. Additional erosion control measures would be used as needed to prevent the discharge or accumulation of sediment into the water.
5. Confine all construction impacts to the minimum area necessary to complete the project and boundaries of clearing limits associated with site access. The construction site boundaries would be clearly marked to avoid or minimize disturbance of sensitive sites.
6. Refueling of equipment and vehicles would occur on upland areas at least 100 feet away from the ordinary high-water mark and high tide line. Refueling of any vessels, if used for barge transport, would occur in established ports and marinas.
7. Do not leave barges in Neah Bay when construction activity is concluded. Limit barge transportation through the period of each repair activity (4-6 months).
8. Limit barge presence to a few days at a time, or the length of time to offload equipment.
9. Loading and offloading of materials would occur using spud anchors.
10. Do not overfill barges with stockpiling material to prevent overtopping.
11. Take provisions to prevent pollutants from reaching the soil, groundwater, or surface water. During project activities, contractors would be required to perform daily inspections of equipment, maintain appropriate spill-containment materials on site, and store all fuels and other materials in appropriate containers.
12. Equipment maintenance activities would not be conducted on the construction site unless a suitable staging area has been established for this purpose.
13. Equipment used near the water would be cleaned prior to construction.
14. At least one fuel spill kit with absorbent materials would be onsite.

15. Drive trains would not operate in the water. Only the excavator bucket with thumb attachment would extend into the water and would reach down to -5 feet MLLW. Low tides would be prioritized for work on the lower (toe) portions of the breakwater, when possible.
16. Material placed into the water would be placed individually or in small bucket loads. No end dumping of rock into the water or on the breakwater slope would occur.
17. Rock placement would occur only within the project footprint.
18. Use biodegradable hydraulic fluids in machinery where appropriate.
19. Use environmentally acceptable lubricants composed of biodegradable base oils such as vegetable oils, synthetic esters, and polyalkylene glycols in equipment operated in or near the water.
20. No in-water work would occur other than armor rock placement below the high tide line.
21. Upland travel routes to the active construction site would be clearly marked prior to commencing construction activities and maintained until all work is completed.
22. The project would comply with State and Tribal Water Quality Standards for turbidity through implementation of a water quality monitoring plan.
23. The excavator bucket would place armor rocks less than or equal to 1 foot from the breakwater to reduce impacts of noise and vibration.
24. Remove all trash and unauthorized fill from the project and staging area when construction is complete.
25. After construction is complete, the disturbed areas not covered in armor or other rock (e.g., potential staging areas) would be reseeded using a native grass seed mix including a mulch base. All disturbed soils in staging areas and access paths would be hydroseeded with native species.
26. A pre-construction meeting would be conducted to look at existing conditions to determine any possible fine-tuning that can be done for these BMPs or other environmental requirements. The pre-construction meeting could include outside resource agencies (USFWS or NMFS).

5 UNAVOIDABLE ADVERSE EFFECTS

Unavoidable adverse effects associated with the Preferred Alternative at each site would include:

- Temporary and localized increases in noise, activity, and emissions which may affect fish and wildlife in the area.

- Temporary and localized disruption of local traffic by construction activity and vehicles.
- Irretrievable commitment of fuels and other materials for repairs.
- Temporary and localized increase in turbidity levels during in-water construction, which may affect aquatic organisms in the area.

Overall, adverse effects of the proposed project have been reduced through BMPs so that these effects would be minor and temporary in nature.

6 CUMULATIVE EFFECTS

Cumulative effects are the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions.

6.1 Affected Environment

Neah Bay is a pocket bay on the western edge of the Strait of Juan de Fuca. Freshwater inflow into Neah Bay is not substantial and comes from Agency Creek and Village Creek. The shoreline of Neah Bay is shallow to moderately sloping and contains patchy areas of intertidal vegetation, grasses, and algal communities. The main basin ranges from -20 feet to more than -40 feet MLLW through the mouth of the bay. The area surrounding Neah Bay contains coastal uplands and lowlands.

The area is remote and relatively undeveloped. The town of Neah Bay, on the Makah Reservation, has a population of less than 1,000 people. The town has primarily single-family homes as well as businesses. Other major developments include the Makah marina, which is further protected by an inner breakwater and offers long-term and short-term moorage for vessels, and the USCG station is on the northeastern edge of town. As such, shoreline, hydrological, and residential modifications have occurred in and around Neah Bay. Modifications to the area around Neah Bay, including shoreline stabilization on Agency and Village Creeks, have reduced flows into the bay. The outer and inner breakwaters have altered hydraulics and sediment transport. The marina operations impact aquatic vegetation and wildlife.

6.2 Past Actions

The Makah people historically lived in 5 different villages around the northwest corner of Washington’s peninsula. Historic villages included Neah Bay, Ozette, Biheda, Tsoo-Yess, and Way-atch (Makah Tribe 2024). The Makah people have inhabited the area for an estimated 3,500 years. The Makah built cedar longhouses, approximately 30 feet wide by 70 feet long, to house families. They often fished and whaled in the Strait of Juan de Fuca from cedar canoes (Makah

Tribe 2024). As a result, the Makah have lived in unison with the land and seasons, and the town of Neah Bay remained relatively undeveloped until several logging roads were constructed along the shoreline that cut off sediment input from tributary creeks into the bay.

The construction of the outer breakwater in 1944 likely had considerable adverse impacts on Neah Bay and the surrounding marine ecosystem. The authorized project was built explicitly to alter the natural processes in the area, specifically to minimize the impacts of tides, currents, large waves, and storms to the community and waters of Neah Bay. The outer breakwater is now a component of the Neah Bay marine environment and has allowed the Makah Tribe to develop a marina and an associated fishing industry. A large percentage of the Tribe's income is derived from fishing-related activities. Repairs to this outer breakwater were performed in 1949, 1959, 1980, 1998, 2002, and 2012. There is also a large revetment backing the shoreline to the east of the existing marina that was constructed in 1956 to slow the rate of upland erosion. In the 1900s, USACE constructed an inner breakwater around the Tribe's marina for increased protection. The USCG station was constructed in 1910 and rebuilt in a new location after a large storm in 1967 (USCG 2021). In 2023, USACE removed 30,000 cubic yards of sediment from the channel to aid in emergency vessel response along the coast (USACE 2020). Prior to this project, the channel in Neah Bay had never been dredged.

6.3 Present Actions

Presently, Neah Bay consists of single-family homes, businesses, the Makah marina, and the USCG station. The area is moderately developed but still surrounded by natural areas like upland forests, meadows, tidal flats, sandy beaches, and rocky coves. Construction and development near the project location are primarily conducted by the Makah Tribe and state, local, and Federal agencies. The region is routinely logged. In a 2017 report (WDNR 2018), Clallam County provided 178,799 board feet of lumber and approximately six percent of total timber harvested for Washington state. Besides logging, actions near the project area are primarily associated with road maintenance, sewer repair, and dock and marina maintenance (Table 6). These projects continue to degrade natural habitat and important features like wetlands, alter sediment transport dynamics, disrupt marine areas, and develop open spaces.

6.4 Future Actions

In general, future activities near the outer breakwater and Neah Bay would cause similar impacts to those from the proposed Outer Breakwater Repair Project. These

activities would consist of further development as populations increase and the use of the coastal area increases.

6.5 Summary of Cumulative Effects

The cumulative effects of the proposed project and the past, present, and reasonably foreseeable future actions in the area would not adversely affect the terrestrial and aquatic resources and ecology of the area. Most impacts of the proposed project, aside from changes in hydraulics, would only occur during the construction period. More importantly, the proposed action would not significantly alter habitat, species presence, or ecological resources since it would maintain existing structures.

Table 6. Past, current, and future projects near the location of the Neah Bay Outer Breakwater Repair Project. Projects listed below are listed under Ecology permitting program and projects permitted by USACE Regulatory, Seattle District.

Project Name	Location	Type of project	Year Constructed	Agency
Neah Bay Maintenance	Neah Bay	Dry dock maintenance.	2020	U.S. Coast Guard
Makah Sewer Outfall Repair	Neah Bay	Sewer repair in Neah Bay.	2015	U.S. Department of Health and Human Services
Derelict and Sunken Vessel Removal	Neah Bay	Removal of a sunken vessel from Neah Bay.	2024	National Marine Sanctuary Foundation
High Tide Seafood Pier Removal	Neah Bay	Removal of a derelict dock in Neah Bay.	2024	Washington Department of Natural Resources
Neah Bay Navigation Channel Dredging	Neah Bay	Neah Bay Navigation Channel deepening to support larger vessels entering the bay.	2024	USACE
Spill Dock Extension and Dredging	Neah Bay	Dredging in Neah Bay and dock extension for new permanent mooring location.	2016	Makah Indian Tribe
State Route 112 Emergency Repairs	Neah Bay/Clallam Bay	Emergency road repairs along state route 112 due to unstable slopes and landslides. Some of these landslides fell into the Strait of Juan de Fuca.	2021-2022	Washington Department of Transportation
Hoko Falls Hatchery	Neah Bay	Re-establish electrical guides for fish passage at the hatchery.	2018	Makah Indian Tribe

7 COORDINATION

The following agencies and entities have been involved with the environmental coordination of the proposed project:

- Environmental Protection Agency
- Makah Indian Tribe of the Makah Reservation
- Makah Fisheries Management- Environmental Division
- National Marine Fisheries Service
- U.S. Fish and Wildlife Service
- Washington Department of Archaeology and Historic Preservation
- Washington Department of Ecology
- Washington Department of Fish and Wildlife

USACE has coordinated with the Makah Indian Tribe throughout the planning process of the Preferred Alternative. USACE met with the Makah Indian Tribes environmental division to discuss the project's requirements under the Clean Water Act and Coastal Zone Management Act on August 22, 2024. The Makah Tribal Council shared a letter with USACE noting coordination needs and required updates for implementation of the Preferred Alternative on March 31, 2025. After receiving the letter, USACE met with the Makah Tribe on April 24, 2025 for a staff to staff level discussion about the letter comments. USACE and the Makah Tribe continued to coordinate after the meeting to ensure that all commitments and questions were addressed. The Makah Tribal Council shared another letter with USACE on November 15, 2025 that responded to the April meeting discussion.

8 ENVIRONMENTAL COMPLIANCE

This Environmental Assessment (EA) is being prepared pursuant to Sec. 102(C) of the National Environmental Policy Act (NEPA), and includes compliance with other laws, regulations and Executive Orders as discussed below.

8.1 American Indian Religious Freedom Act

The American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996) establishes protection and preservation of Native Americans' rights of freedom of belief, expression, and exercise of traditional religions. Courts have interpreted the Act to mean that public officials must consider Native Americans' interests before undertaking actions that might impact their religious practices, including impact on sacred sites. No alternative is expected to have any effect upon Native Americans' rights of freedom of belief, expression, and exercise of traditional religions. There are no known cultural resources or sacred sites at the project location. Therefore, the proposed action would not cause significant effects to the human environment.

8.2 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. § 668-668d) prohibits the taking, possession or commerce of bald and golden eagles, except under certain circumstances. Bald eagles are present all year in Neah Bay (eBird 2025) and have been sighted near the outer breakwater in 2022 and 2023. The closest recent bald eagle sightings were on the outer breakwater on August and November 2023. Nests have not been sighted or observed near the project area (iNaturalist 2024). There could be numerous nests in and around Neah Bay, but it is not likely that there are nests near the outer breakwater due to its distance from trees and other suitable areas for nesting. Therefore, the proposed action would not cause harm to bald and golden eagles and the project is in compliance with this law.

8.3 Clean Air Act

The Clean Air Act of 1972, as Amended (42 U.S.C. § 7401 et seq.) prohibits Federal agencies from approving any action that does not conform to an approved State or Federal implementation plan. The operation of heavy equipment, placement of rock, and the operation of vehicles during construction would result in increased vehicle emissions and a slight increase in fugitive dust. These effects would be localized and temporary. The project area is not located within a non-attainment area (Ecology 2024a). USACE has determined that the combination of emissions of the proposed repairs constitutes a routine facility repair generating an increase in emissions that is clearly *de minimis* (Table 2). Therefore, the proposed action would not cause substantial air pollution and the project is in compliance with this law.

8.4 Clean Water Act Federal Water Pollution Control

The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) is more commonly referred to as the CWA. This act is the primary legislative vehicle for Federal water pollution control programs and the basic structure for regulating discharges of pollutants into waters of the U.S. The CWA was established to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The CWA sets goals to eliminate discharges of pollutants into navigable waters, protect fish and wildlife, and prohibit the discharge of toxic pollutants in quantities that could adversely affect the environment.

This EA evaluates possible impacts to water quality, primarily with respect to suspended solids, turbidity, and temperature. Three sections of the CWA are pertinent to the proposed actions: Sections 404, 401, and 402. Requirements of those three CWA sections are briefly discussed below.

8.4.1 Section 401

Under Section 401 of the CWA, a Federal agency may not issue a permit or license to conduct any activity that may result in any discharge into waters of the United States (U.S.) unless a Section 401 water quality certification is issued, or certification is waived. States and authorized Tribes where the discharge would originate are generally responsible for issuing water quality certifications. In cases where a state or Tribe does not have authority, EPA is responsible for issuing certification (33 U.S.C. 1341). Since the project does not result in any jurisdictional discharge into waters of the U.S. pursuant to Section 404(f)(1)(B), a Section 401 Water Quality Certification is not required.

8.4.2 Section 404

Section 404 regulates the discharge of dredged or fill material into waters of the U.S.", including wetlands, which requires a permit from USACE. Although USACE is responsible for administration of Section 404 of the CWA, it does not issue Section 404 permits to itself for its own civil works activities. However, USACE accepts responsibility for the compliance of its civil works projects with Section 404 under the CWA for jurisdictional activity. Below and waterward of the HTL and MHHW, this project remains within the same footprint of the original project and is replacing a damaged rock armor layer with another rock armor layer. The repair does not present a change in the character, scope, or size of the original fill design. The proposed fill is not regulated pursuant to the exemption found at Section 404(f)(1)(B) of the CWA.

8.4.3 Section 402

Section 402 addresses point discharges including, but not limited to, stormwater runoff from construction sites. Analysis under CWA Section 402 can also be required when a construction site would have greater than 1-acre of ground disturbance (EPA 2024b), which applies to this project given the area of disturbance would be greater than 1 acre (Appendix A). A Storm Water Pollution Prevention Plan would be prepared, and an application would be submitted to the EPA for coverage under the EPA Construction General Permit prior to construction.

8.5 Coastal Zone Management Act

The Coastal Zone Management Act of 1972, as Amended (16 U.S.C. §1451-1464) requires Federal agencies to conduct activities in a manner that is consistent to the maximum extent practicable with the enforceable policies of the approved State Coastal Zone Management Program. USACE is substantively consistent with the enforceable polices of the approved State Coastal Zone Management Program (CZMP) and provided documentation of this through a consistency determination submitted to Ecology (Appendix C). On December 26, 2024, Ecology concurred that USACE is

consistent with the enforceable polices of the Washington CZMP (Appendix C). Therefore, the proposed action is in compliance with this law.

8.6 Endangered Species Act

In accordance with Section 7(a)(2) of the Endangered Species Act of 1973, as amended, federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed or proposed threatened or endangered species and their critical habitats. USACE determined that the project may affect and is not likely to adversely affect bull trout, Chinook salmon, steelhead, summer chum salmon, humpback whales, Pacific eulachon, marbled murrelet, Southern Resident killer whale and their critical habitat, and green sturgeon and their critical habitat. USACE provided a Biological Assessment to the USFWS and NMFS for these species on July 24, 2024. NMFS provided their concurrence on October 29, 2024. USFWS provided their concurrence on March 13, 2025. Therefore, the proposed action is in compliance with this law.

8.8 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act of 1976, (16 U.S.C. § 1801 *et. seq.*), as amended by the Sustainable Fisheries Act of 1996 (PL 104-267) requires Federal agencies to consult with the NMFS regarding actions that may adversely affect EFH for Pacific coast groundfish, coastal pelagic species, and Pacific salmon. The Act defined EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” EFH is the habitat (waters and substrate) required to support a sustainable fishery and a managed species’ contribution to a healthy ecosystem. Waters include aquatic areas and their associated physical, chemical, and biological properties used by fish. Substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities. The project area previously described in this document is part of the Washington State coastal estuarine EFH composite and has been designated as EFH for various life stages of various species of groundfish, coastal pelagic species, and species of Pacific salmon according to the NMFS (NMFS 2024). USACE analyzed the baseline conditions and the resulting changes to EFH after construction is complete. Repairing the outer breakwater would maintain the same habitat as present conditions. USACE determined the proposed action may adversely affect EFH, because of two main factors: 1) placement of the rock along the shoreline (elevated noise and turbidity) may temporarily affect demersal species, some of which can occupy shallower depths and may be in the immediate project vicinity, and 2) placement of rock may affect demersal species that use the breakwater during higher tides. USACE included an EFH analysis in the biological assessment submitted to NMFS on July 24, 2024. NMFS concurred with

USACE's determination with no EFH conservation recommendations on October 29, 2024. Therefore, the proposed action is in compliance with this law.

8.9 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) of 1972 (16 U.S.C. §1361-1407) restricts harassment of marine mammals and requires interagency consultation in conjunction with the ESA consultation for Federal activities. All marine mammals are protected under the MMPA regardless of whether they are endangered, threatened, or depleted. The primary concern for marine mammals in the repair project is underwater noise from construction. USACE coordinated with the WDFW to determine if the outer breakwater was used by any marine mammals like harbor seals. The WDFW that there are no records of sensitive areas around the outer breakwater for seals and other pinnipeds (Megan Tuttle personal communication, 2024). Based on the depth of the water surrounding the outer breakwater, other marine mammals like whales are not expected to enter Neah Bay often. Impacts on marine mammals from rock placement along the breakwater are not expected to rise to the level of take (78 FR 30875, 78 FR 4541). USACE has compared the estimated noise from rock placement and the guidance on assessing impacts and concluded that there is no requirement for an Incidental Harassment Authorization. Therefore, the proposed action is in compliance with this law.

8.10 Migratory Bird Treaty act of 1918 and Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

The Migratory Bird Treaty Act of 1918, (16 U.S.C. § 703-712) as Amended, protects over 800 bird species and their habitat and commits that the U.S. will take measures to protect identified ecosystems of special importance to migratory birds against pollution, detrimental alterations, and other environmental degradations. EO 13186 directs Federal agencies to evaluate the effects of their actions on migratory birds, with emphasis on species of concern, and inform the USFWS of potential negative effects to migratory birds. Implementation of the Preferred Alternative would occur near an area that is suitable for migratory birds. The season for migratory bird presence in Neah Bay occurs during the spring and fall. As such, migratory birds in Neah Bay during the fall would overlap with construction activities during the in-water work window (July 16 to February 15). Increased noise and human presence could displace migratory birds near the project area. According to the USFWS (2024), noise could also decrease pairing success of mating birds, and human disturbance could increase predation and parasitism. Ultimately, these impacts could result in reduced productivity, survival, and population declines (USFWS 2024). However, the migratory bird nesting and breeding season is typically in the spring, and construction activities would not occur during that time. As a result, impacts on productivity and population numbers of migratory birds

would be limited by the timing of the work. BMPs like returning large woody material after construction, restricting work to the project footprint, and using spill containment kits to stop any discharge into the water will also reduce impacts to migratory birds and their habitat. Additionally, birds are assumed to be habituated to the noise and activity around Neah Bay. A permit application for “take” of migratory birds is not required.

8.11 National Environmental Policy Act

NEPA (42 U.S.C. § 4321 et seq.) commits Federal agencies to considering, documenting, and publicly disclosing the environmental effects of their actions. It requires that an EIS be included when a recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment. Major Federal actions determined not likely to have significant adverse effects on the quality of the human environment may be evaluated through an EA. This EA documents the evaluation of the environmental effects of the proposed Neah Bay Outer Breakwater Repair Project.

NEPA Summary

The draft EA/FONSI was made available for public review and comment. USACE invited submission of comments on the environmental impact of the proposed action. USACE considered all submissions received during the comment period. Overall, the effects to the environment of the Neah Bay Outer Breakwater would not be significant because of the timing of the work windows, the small scale of the operation relative to the size of Neah Bay, the BMPs and effect minimization measures, and the rock placement methods that would be employed. The Preferred Alternative would not generate significant impacts on the quality of the human environment.

8.12 National Historic Preservation Act

Section 106 (54 U.S.C. § 306108) of the National Historic Preservation Act (NHPA) of 1966 (54 U.S.C. § 300101) requires that Federal agencies evaluate the effects of Federal undertakings on historical, archeological, and cultural resources and afford the Advisory Council on Historic Preservation opportunities to comment on the proposed undertaking if there is an adverse effect to an eligible Historic Property. The lead agency must examine whether feasible alternatives exist that avoid eligible cultural resources. If an effect cannot reasonably be avoided, measures must be taken to minimize or mitigate potential adverse effects.

For Section 106 undertakings on tribal land, Section 106 requires consultation with the THPO in lieu of the SHPO. USACE has initiated consultation with the Makah THPO for the project and anticipates concurrence with a finding of no adverse effects.

USACE remains committed to continued coordination and consultation with the Tribe to identify and select staging areas that will avoid impacts on culturally significant areas for

the duration of the project. Based on the result of our efforts to identify historic properties in the APE, USACE finds no historic properties affected per 36 CFR 800.4(d)(1). Our analysis indicated the only impact will be to the Neah Bay outer breakwater, which is not a historic property. Section 106 consultation is ongoing with the Makah Indian Tribe. USACE will complete the consultation process prior to project implementation.

8.14 American Tribal Treaty Rights & Tribal Consultation under EO 13175, Consultation and Coordination with Indian Tribal Governments

In the mid-1850s, the United States entered into treaties with many Native American Tribes in the Northwest. These treaties guaranteed the signatory Tribes the right to "take fish at usual and accustomed grounds and stations . . . in common with all citizens of the territory" [U.S. v. Washington, 384 F. Supp. 312 at 332 (WDWA 1974)]. In U.S. v. Washington, 384 F. Supp. 312 at 343 - 344, the court resolved that the Treaty Tribes have the right to take up to 50 percent of the harvestable anadromous fish runs passing through those grounds, as needed to provide them with a moderate standard of living (Fair Share). Over the years, the courts have held that this right comprehends certain subsidiary rights, such as access to their "usual and accustomed" fishing grounds. More than de minimis effects to access to usual and accustomed fishing area may violate this treaty right [Northwest Sea Farms v. Wynn, F. Supp. 931 F. Supp. 1515 at 1522 (WDWA 1996)]. In U.S. v. Washington, 759 F.2d 1353 (9th Cir 1985) the court indicated that the obligation to prevent degradation of the fish habitat would be determined on a case-by-case basis.

USACE evaluated impacts to fish and wildlife in this project and sent a letter to the Makah Indian Tribe of the Makah Reservation requesting comments on the proposed project and providing the opportunity to initiate government-to-government consultation on June 24, 2024. A notice that the EA was posted for public comment was sent to the Makah Indian Tribe of the Makah Reservation on February 18, 2025. On March 31, 2025, USACE received comments from the Makah Indian Tribe of the Makah Reservation and had a staff-to-staff level meeting regarding the Tribe’s comments on April 24, 2025. The Tribe sent a letter after the staff-to-staff level meeting on November 15, 2025. Appendix H details the Makah Indian Tribe of the Makah Reservation’s comments and responses regarding the project. USACE evaluated impacts to historic resources and sent letters to the Makah Indian Tribe of the Makah Reservation on November 8, 2024. The proposed action would not cause significant effects to Tribal treaty rights, Tribal consultation, and consultation and coordination with Tribal governments. Therefore, this project meets the requirements of NEPA and EO 13175.

8.15 Executive Order 11988 Floodplain Management

EO 11988 requires Federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. The Preferred Alternative does not involve floodplain development, and instead, involves maintaining a structure that reduces impacts from strong winter storms in Neah Bay.

8.16 Executive Order 11990 Protection of Wetlands

EO 11990 encourages Federal agencies to take actions to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands when undertaking Federal activities and programs. In accordance with this EO, protection of wetlands was described in section 3 ‘Wetlands’. No wetlands would be destroyed, lost, or degraded by the Preferred Alternative.

9 SUMMARY OF ASSESSMENT

The No Action Alternative does not meet the project’s purpose and need. The Preferred Alternative fulfills the project’s purpose and need by continuing to protect the town of Neah Bay and its resources from winter storms. Based on the analysis above, USACE does not expect the proposed Neah Bay Outer Breakwater Repair Project to constitute a major Federal action significantly affecting the quality of the human environment and therefore would not require preparation of an EIS. A draft EA and FONSI were posted for a 30-day public comment window that were considered prior to the finalization of this EA and FONSI.

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11 APPENDICES

NEPA ID: EAXX-202-0-G3P-1739872841

Appendix A Design Drawings

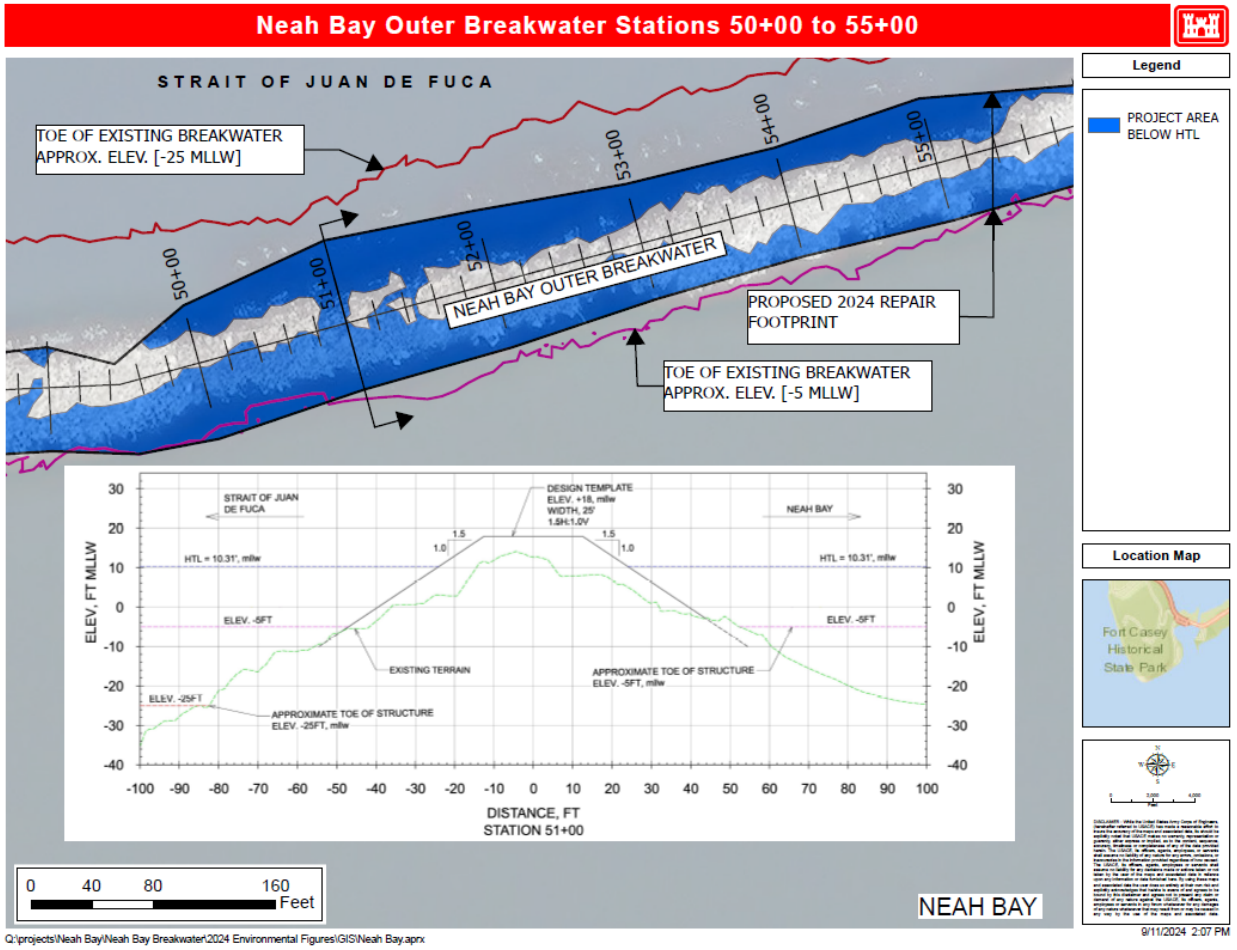

Figure A- 1. Proposed Repairs Along Damaged Section of the Outer Breakwater

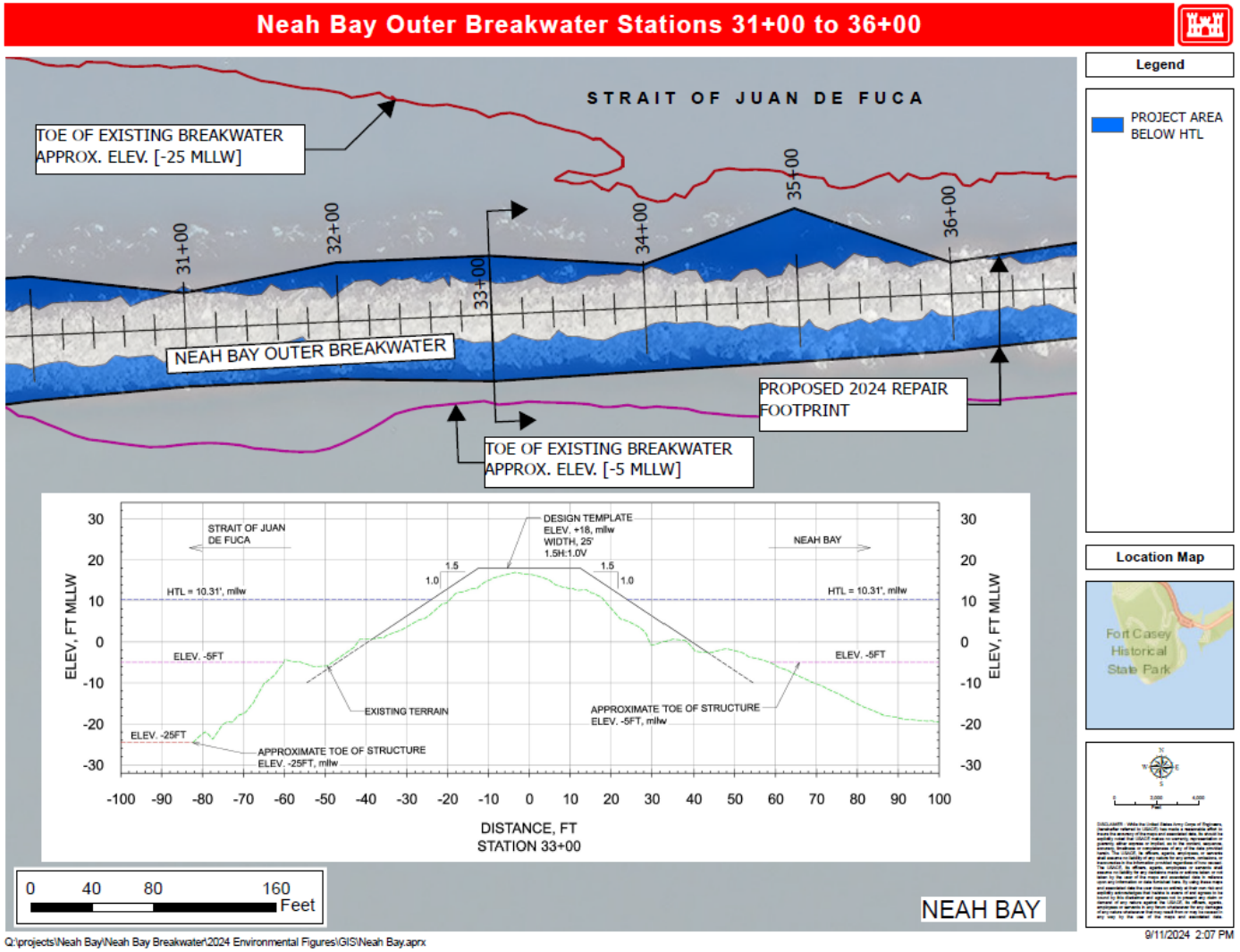

Figure A- 2. Proposed Repairs Along Less-Damaged Section of the Outer Breakwater

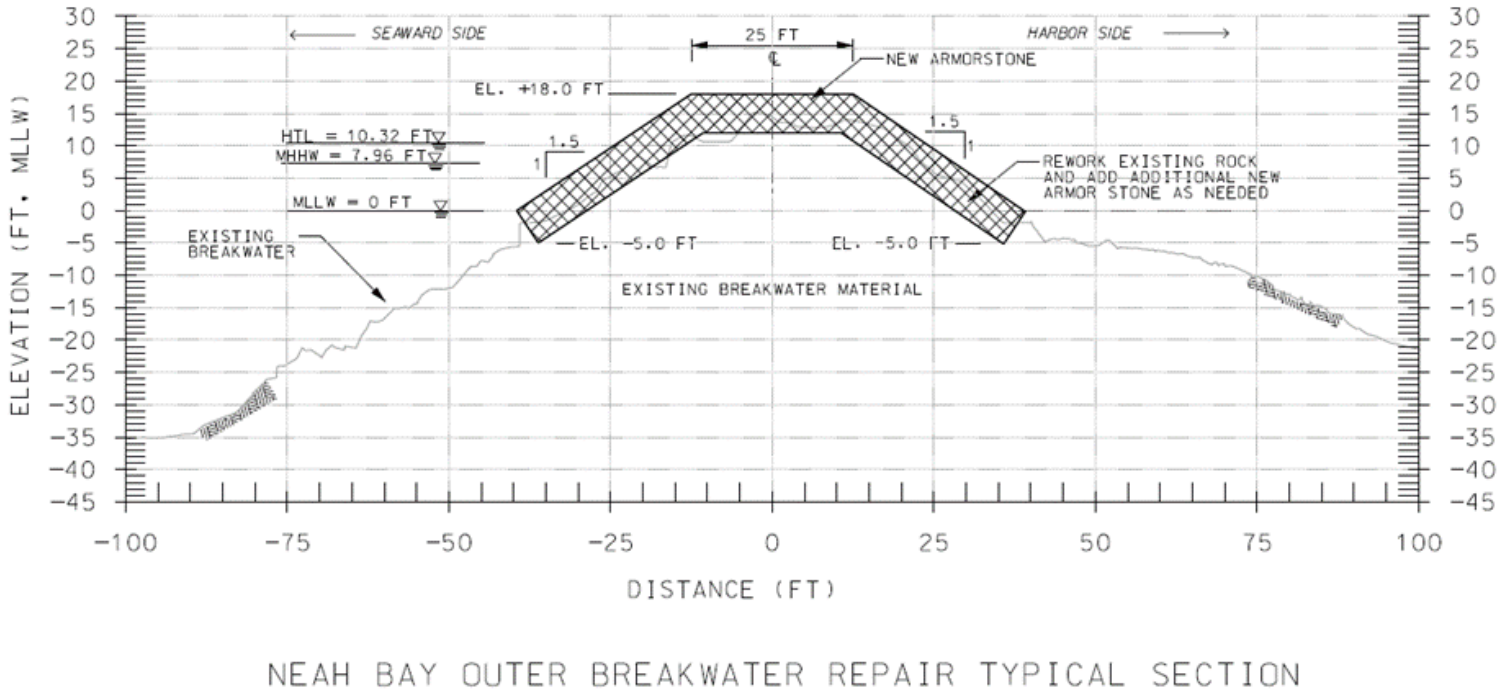

Figure A- 3. Cross section for repairs along outer breakwater.

Appendix B Greenhouse Gas Emission Calculations

Type	Horsepower	Number	Hours per Day	Total Days	ROG (g/hr)	CO (g/hr)	NOX (g/hr)	SOX (g/hr)	PM (g/hr)	CO2 (g/hr)	CH4 (g/hr)	Total ROG (MT)	Total CO (MT)	Total NOX (MT)	Total SOX (MT)	Total PM (MT)	Total CO2 (MT)	Total CH4 (MT)	Total NO2 (MT)
Excavator	500	2	12	182	71.53	225.18	527.04	1.04	18.75	106020.48	6.45	0.31	0.98	2.30	0.00	0.08	463.10	0.03	0.03
Rubber Tired Loader	500	1	12	182	76.09	263.89	634.13	1.06	22.63	107505.16	6.87	0.17	0.58	1.38	0.00	0.05	234.79	0.01	0.01
Off Highway Truck	500	5	12	182	88.89	269.84	642.49	1.21	22.90	123528.46	8.02	0.97	2.95	7.02	0.01	0.25	1348.93	0.09	0.08

Appendix C Coastal Zone Management Act Coordination

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600, Olympia, WA 98504-7600 • 360-407-6000

December 26, 2024

U.S. Army Corps of Engineers, Seattle District
ATTN: Jacqui Bergner
4735 East Marginal Way S, Bldg. 1202
Seattle, Washington 98134

Re: Coastal Zone Management Federal Consistency Decision for Neah Bay Outer Breakwater Repair Project FY 2026-2041, Neah Bay, Clallam County, Washington

Dear Jacqui Bergner:

On November 21, 2024, the U.S. Army Corps of Engineers, Seattle District submitted a Consistency Determination with the Washington State Coastal Zone Management Program (CZMP). Ecology issued a 21-day public notice on November 27, 2024, and received no comments.

The proposed activity includes repairing and maintaining 8,000 linear feet of the outer breakwater to its authorized dimensions. The project is located at the northeastern edge of Neah Bay, extending the entire length of the breakwater to Wadaah Island, in Clallam County, Washington.

Pursuant to Section 307(c)(3) of the Coastal Zone Management Act of 1972 as amended, Ecology concurs with the U.S. Army Corps of Engineers' determination that the proposed work is consistent with Washington's CZMP.

If you have any questions regarding Ecology's decision, please contact Jessica Hausman at Jessica.Hausman@ecy.wa.gov.

Your right to appeal

You have a right to appeal this decision to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal, you must do all of the following within 30 days of the date of receipt of this decision:

- File your notice of appeal and a copy of this decision with the PCHB (see filing information below). "Filing" means actual receipt by the PCHB during regular business hours as defined in WAC 371-08-305 and -335. "Notice of appeal" is defined in WAC 371-08-340.
- Serve a copy of your notice of appeal and this decision on the Department of Ecology by mail, in person, or by email (see addresses below).

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Address and Location Information

Filing with the PCHB

For the most current information regarding filing with the PCHB, visit: https://eluho.wa.gov/ or call: 360-664-9160.

Service on Ecology

Street Addresses:

Department of Ecology
Attn: Appeals Processing Desk
300 Desmond Drive SE
Lacey, WA 98503

Mailing Addresses:

Department of Ecology
Attn: Appeals Processing Desk
PO Box 47608
Olympia, WA 98504-7608

E-Mail Address:

ecologyappeals@ecy.wa.gov

Sincerely,

Loree' Randall

Loree' Randall, Section Manager
Aquatic Permitting & Protection Section
Shorelands and Environmental Assistance Program

Sent via e-mail: jacquelyn.bergner@usace.army.mil

E-cc: Caren Crandel, U.S. Army Corps of Engineers
Jessica Hausman, Ecology
fedconsistency@ecy.wa.gov

Appendix D Endangered Species Act Section 7 Coordination

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Ecological Services
1009 College St. SE, Suite 215
Lacey, Washington 98503

In Reply Refer To:
FWS/R1/2024-0122318

Vanessa Pepi, Chief
Planning, Environmental, and Cultural Resources
Seattle District, U.S. Army Corps of Engineers
Attn: J. Berger
4735 E. Marginal Way South, Building 1202
Seattle, Washington 98134-2388

Dear Vanessa Pepi:

Subject: Neah Bay Breakwater Repairs

This letter is in response to your July 23, 2024, request for our concurrence with your determination that the proposed action in Neah Bay, Clallam County, Washington, "may affect, but is not likely to adversely affect" federally listed species. We received your letter and Biological Assessment, providing information in support of "may affect, not likely to adversely affect" determinations, on July 24, 2024.

Specifically, you requested informal consultation pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*.) (ESA) for the federally listed species identified below:

Bull trout (*Salvelinus confluentus*)
Marbled murrelet (*Brachyramphus marmoratus*)

Project Description:

The U.S. Army Corps of Engineers (USACE) proposes a program of maintenance repairs (for Fiscal Years 2026-2041) at the outer breakwater in Neah Bay to reestablish storm protection for Makah Tribe lands, a commercial marina, and U.S. Coast Guard station. Proposed work will include repairs to damaged sections of the outer breakwater to prevent further unraveling of the armor rock (USACE 2024, p. 1). Repairs will reestablish authorized dimensions for and along 200 to 500 linear foot sections of the breakwater (slopes of 1.5:1 with a 25-foot crest width) (USACE 2024, p. 2). Repairs will include placement (or replacement) of key, toe, and armor

rock, and placement (or replacement) of filter and chinking stone. All repair areas will be capped with armor rock (USACE 2024, p. 8). All in-water work (i.e., work below the high tide line) will be completed during the established in-water work window (July 16 to February 15) (USACE 2024, p. 13).

Repairs will be programmed for construction during summer and fall, and will require 4 to 6 months per event (USACE 2024, p. 7). Equipment will be positioned outside of water (i.e., outside of inundated areas or the wetted perimeter); excavator buckets may operate in water when placing materials (USACE 2024, p. 8). Staging areas for equipment and materials have been identified; from these, materials will be hauled to repair sites on the breakwater crest (USACE 2024, p. 2). A temporary haul road(s) will be established along the breakwater for access and positioning of equipment (USACE 2024, p. 2). Barges may also support repairs and transport of equipment and materials; offloading may occur directly on the breakwater or at nearby piers (USACE 2024, p. 2).

The USACE has determined that the action will have "no effect" on additional listed species and designated critical habitat that are known to occur in Clallam County. The determination of "no effect" to listed resources rests with the action agency. The U.S. Fish and Wildlife Service (Service) has no regulatory or statutory authority for concurring with "no effect" determinations, and no consultation with the Service is required. We recommend that the action agency document their analyses on effects to listed species, and maintain that documentation as part of the project file.

Sufficient information has been provided to determine the effects of the proposed action and to conclude whether it would adversely affect federally listed species and/or designated critical habitat. Our concurrence is based on information provided by the action agency, best available science, and complete and successful implementation of the conservation measures included by the action agency.

EFFECTS TO BULL TROUT

I. Exposure

The action area includes the entire Neah Bay outer breakwater and extends over adjacent open water marine, estuarine, and upland habitats. The action area includes the staging area(s) and haul road(s). The action area provides seasonal, nearshore marine, non-core, foraging, migrating, and overwintering (FMO) habitat for adult and subadult bull trout originating from Olympic Peninsula bull trout core areas and local populations (the Hoh, Queets, Quinault, Elwha, and Dungeness River bull trout core areas). The action area supports marine forage fish and native salmonids. These seasonally abundant prey resources provide important foraging opportunities for bull trout. FMO habitat is essential to maintaining connectivity between bull trout core areas and local populations.

The closest natal rivers for bull trout are the Hoh and Elwha Rivers; each is located a significant distance from Neah Bay (USFWS 2015, p. 78; USACE 2024, p. 42). Although bull trout do migrate along marine shorelines and into bays, they typically do not spend extended periods in

open marine waters, and relatively few may reach Neah Bay (Brenkman and Corbett 2005, pp. 1078-1079; Goetz et al. 2004, p. 124; USACE 2024, p. 42). There are no major river systems that empty into Neah Bay (USACE 2024, p. 42), but Neah Bay is located along a migration route for returning anadromous salmonids, and bull trout may infrequently use Neah Bay for shorter periods (e.g., when foraging) (USACE 2024, p. 42). The closest designated bull trout critical habitat is located at the mouth of the Pysht River (USACE 2024, p. 42).

We expect that bull trout use the action area infrequently and in low numbers. Bull trout are probably most common in the nearshore marine waters between March and July, but may still occur in lower numbers at almost any time of year.

II. Effects to Bull Trout

Effects will not be measurable (insignificant), will not significantly disrupt normal bull trout behaviors (i.e., the ability to successfully feed, move, and/or shelter), and are therefore considered insignificant because of the following:

Turbidity and Sedimentation

In-water work will create elevated levels of turbidity and sedimentation. Exposure to raised levels of turbidity and sedimentation can cause behavioral changes, gill tissue damage, impaired respiration, physiological stress, diminished swimming ability, and mortality in bull trout. However, we expect that elevated turbidity and sedimentation will be localized, temporary, and intermittent. We expect that tidal energy, current, and fluctuations will rapidly dilute turbidity (USACE 2024, p. 54).

The USACE and their contractor(s) will implement several relevant best management practices (BMPs), including timing of work to coincide with low tides (USACE 2024, pp. 9, 14, 15, 54, etc.). With full and successful implementation of these BMPs, we expect that turbidity and sedimentation will be localized, temporary, and intermittent, and will not measurably disrupt normal behaviors. We expect that increases in turbidity and sedimentation will result in insignificant exposures and effects on bull trout.

In-Water Sound, Vibration, and Disturbance

In-water work may create additional sound, vibration, and visual disturbance, and these will likely cause bull trout to avoid portions of the action area during active construction. We do not expect that sound or vibration will exceed thresholds for bull trout injury or mortality, but may create a temporary and intermittent impediment to free movement. However, in-water work will not be continuous; a typical work week will include 8- to 12-hr. workdays (USACE 2024, p. 9). We expect that bull trout will travel through and use portions of the action area when construction is paused. In-water sound, vibration, and visual disturbance will result in insignificant exposures and effects on bull trout.

Hazardous Materials

To prevent inadvertent or accidental releases of fuel, oil, or other hazardous materials, the USACE and their contractor(s) will implement several relevant BMPs, including avoidance of refueling on the outer breakwater and use of biodegradable hydraulic fluids when practicable (USACE 2024, pp. 14, 15, etc.). With full and successful implementation of these BMPs, no measurable exposures or effects to bull trout are foreseeable. Exposures to hazardous materials are extremely unlikely, and therefore considered discountable.

III. Effects to Bull Trout Habitat and Prey

Aquatic Vegetation

Work on the outer breakwater may result in unavoidable, short term impacts to aquatic vegetation (USACE 2024, p. 53). Eelgrass (*Zostera* spp.) may be disturbed or removed (USACE 2024, p. 53). Eelgrass supports marine forage fish reproduction, so loss of eelgrass may result in reduced forage fish abundance and foraging opportunities for bull trout. However, temporary disturbance or loss of eelgrass will be limited in physical extent; the USACE will perform most work from the breakwater crest and eelgrass is sparse around the outer breakwater (USACE 2024, p. 53). We also expect that any loss of eelgrass will be temporary, and that eelgrass will recolonize the disturbed area(s) within one or two years (USACE 2024, p. 53). Therefore, we expect that the effects of the action will not measurably degrade or diminish aquatic vegetation, habitats, or prey that support bull trout in the action area.

Benthic Invertebrate Community

Unavoidable impacts to native substrates, the benthos, and invertebrate community will be limited in physical extent (i.e., limited to the immediate vicinity of the repair areas). Any measurable reduction in benthic invertebrate prey will be temporary, and we expect that these resources will return to pre-construction levels soon after repairs (USACE 2024, p. 54). Therefore, we expect that the effects of the action will not measurably degrade or diminish prey resources in the action area.

Nearshore Marine Habitat Functions

The proposed action will maintain the existing artificial breakwater, which acts as an impediment to and disrupts natural shoreline processes. These processes provide and maintain habitats for bull trout and their prey in the action area. However, the proposed action will not introduce any new, permanent barriers to migration, and will not further degrade nearshore marine habitats for bull trout.

EFFECTS TO MARBLED MURRELLET

I. Exposure

The action area provides suitable and occupied nearshore marine foraging habitat for marbled murrelets. There is no suitable marbled murrelet nesting habitat in the action area (USACE

2024, p. 52). The closest designated marbled murrelet critical habitat is located at a distance of approximately 45 miles (USACE 2024, p. 52).

Marbled murrelets may forage and make flights in the action area, including when transiting between marine foraging areas and inland nesting sites. Between 2012 and 2024, there were 15 documented sightings of marbled murrelets in Clallam County, including two sightings in or near Neah Bay (2018 and 2022) (USACE 2024, p. 52). A 2016 study mapped and characterized Neah Bay as a 'low likelihood' area of occurrence for marbled murrelets (Lorenz et al. 2016, p. 3; USACE 2024, p. 52). We expect that marbled murrelets use the action area regularly and in low numbers.

II. Effects to Marbled Murrelet

Turbidity and Sedimentation

Successful implementation of the proposed conservation measures will avoid and minimize exposures and effects. We expect that turbidity will be localized, temporary, and intermittent, and that increases in turbidity and sedimentation will result in insignificant exposures and effects on marbled murrelet.

In-Air Sound, Vibration, and Visual Disturbance

Work may create additional sound, vibration, and visual disturbance. Resulting temporary, in-air and underwater sound levels will be moderately low or low intensity, non-impulsive, and will not exceed injury threshold(s).

Marbled murrelet behavioral responses to sound and visual disturbance may include a startle response, a flushing response, temporary avoidance of the area, and delayed foraging. However, activities generating sound and visual disturbance will be intermittent and limited in duration and intensity. We expect that any marbled murrelets present during construction will not experience significant disruptions to loafing, foraging, or flights. We therefore expect that foreseeable exposures and effects to marbled murrelets will be insignificant.

Hazardous Materials

With full and successful implementation of the proposed BMPs, no measurable exposures or effects to marbled murrelets are foreseeable. Exposures to hazardous materials are extremely unlikely, and therefore considered discountable.

III. Effects to Marbled Murrelet Habitat and Prey

As described and summarized above (i.e., for bull trout), the proposed action's unavoidable impacts to aquatic vegetation, native substrates, benthos, prey resources, natural shoreline processes, and nearshore marine habitat functions, will have insignificant effects on marbled murrelets that use the action area.

Conclusion

This concludes consultation pursuant to the regulations implementing the ESA (50 CFR 402.13). Our review and concurrence with your effect determinations is based on implementation of the action as described. It is the responsibility of the federal action agency to ensure that the actions they authorize or carry out are in compliance with the regulatory permit and ESA. If a permittee or the federal action agency deviates from the measures outlined in a permit or project description, the federal action agency has the obligation to reinitiate consultation and comply with section 7(d).

This action should be re-analyzed and re-initiation may be necessary if 1) new information reveals effects of the action that may affect listed species or critical habitat in a manner, or to an extent, not considered in this consultation, 2) if the action is subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in this consultation, and/or 3) a new species is listed or critical habitat is designated that may be affected by the action.

This letter constitutes a complete response by the Service to your request for informal consultation. A record of this consultation is on file at the Washington Fish and Wildlife Office, in Lacey, Washington. If you have any questions about this letter or our shared responsibilities under the ESA, please contact the consulting biologist or supervisor identified below.

U.S. Fish and Wildlife Service Consultation Biologist(s):
Linnea Gullikson (linnea_gullikson@fws.gov)

Sincerely,

THOMAS MCREYNOLDS

Digitally signed by THOMAS MCREYNOLDS
Date: 2025.03.12 15:18:37 -07'00'

Brad Thompson, State Supervisor
Washington Fish and Wildlife Office

Literature Cited

Brenkman, S.J. and S.C. Corbett. 2005. Extent of anadromy in Bull Trout and implications for conservation of a threatened species. North American Journal of Fisheries Management 25:1073-1081. 9pp.

Goetz, F.A., E. Jeanes, and E. Beamer. 2004. Bull trout in the nearshore. Technical Report for the U.S. Army Corps of Engineers, Seattle District. 156pp.

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USACE. 2024. Neah Bay Outer Breakwater Repairs FY 26- FY 41 Neah Bay, WA: Biological Assessment.

USFWS. 2015. Recovery Plan for the Coterminous United States Population of Bull Trout (*Salvelinus confluentus*). 180pp.

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-2024-01716

October 29, 2024

Vanessa Pepi, Chief
Planning, Environmental and Cultural Resources Branch
U.S. Army Corps of Engineers, Seattle District
4735 East Marginal Way South, Bldg. 1202
Seattle, Washington 98134-2388

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Neah Bay Outer Breakwater Repairs FY 26-FY41, Neah Bay, Washington

Dear Ms. Pepi:

On July 23, 2024, NOAA's National Marine Fisheries Service (NMFS) received your request for a written concurrence that the Seattle District Corps of Engineers (Corps) proposal to address Neah Bay Outer Breakwater Repairs FY 26-41 under the Rivers and Harbors Act of 1938 is not likely to adversely affect (NLAA) the following species listed as threatened or endangered:

- Southern distinct population segment (sDPS) Green Sturgeon (*Acipenser medirostris*)
- Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*)
- Lower Columbia Chinook salmon (*Oncorhynchus tshawytscha*)
- Puget Sound steelhead (*Oncorhynchus mykiss*)
- Hood Canal Summer Chum (*Oncorhynchus keta*)
- Pacific Eulachon (*Thaleichthys pacificus*)
- Southern Resident Killer Whale (SRKW) (*Orcinus orca*)
- Central America and Mexico DPSs of humpback whale (*Megaptera novaeangliae*)

The Corps also indicated that critical habitat (CH) for green sturgeon and SRKW is not likely to be adversely affected. Critical habitat is not designated in the action area for the remaining species.

This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA and implementing regulations at 50 CFR 402. Updates to the regulations governing interagency consultation (50 CFR part 402) were effective on May 6, 2024 (89 Fed. Reg. 24268). We are applying the updated regulations to this consultation. The 2024 regulatory changes, like those from 2019, were intended to improve and clarify the consultation process, and, with one exception from 2024 (offsetting reasonable and prudent measures), were not intended to result in changes to the Services' existing practice in implementing section 7(a)(2) of the Act. 84 Fed. Reg. at 45015; 89 Fed. Reg. at 24268. We have considered the prior rules and affirm that the substantive analysis and conclusions articulated in this letter of concurrence would not have been any different under the 2019 regulations or pre-2019 regulations.

NMFS also received your request for essential fish habitat (EFH) consultation. The Corps determined that the proposed action will adversely affect EFH because construction will temporarily reduce the quality and/or quantity of EFH for Pacific salmon, coastal pelagic, and groundfish species within Neah Bay.

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 the EFH of Pacific Coast Salmon (PFMC 2024a), coastal pelagic species (PFMC 2024b), and groundfish (PFMC 2023). Therefore, we have included the results of that review in this document. No EFH conservation recommendations are offered at this time.

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 document will be available at the Environmental Consultation Organizer (https://www.fisheries.noaa.gov/resource/tool-app/environmental-consultation-organizer-eco). A complete record of this consultation is on file at Oregon Washington Coastal Office.

Consultation History

Construction of the breakwater at Neah Bay was congressionally authorized by the 75th Congress, in 1938 (U.S. Congress 1938). The Neah Bay outer breakwater was completed by the Department of War, in 1944 under the project authority of the Rivers and Harbors Act of 1938. The outer breakwater has been repaired intermittently in 1949, 1959, 1980, 1998, 2002, and 2012 to address degradation, the proposed action having a long consultation history with NMFS for previous construction events.

In 2019, NOAA and the Corps signed the Army and NOAA Joint Resolution Memorandum for Evaluating the Effects of Projects Involving Existing Structures in Endangered Species Act Section 7 Consultations (NOAA & Army 2022). Consistent with this memorandum, the effects from only the discretionary elements (timing and construction methods) are evaluated for the Neah Bay Outer Breakwater; in our ESA Sec 7 consultation.

On July 23, 2024, NMFS received a request for a written concurrence from the Seattle District Corps of Engineers (Corps) that maintenance and repairs of Neah Bay Outer Breakwater, to occur during the fiscal years 2026-2041, is Not Likely to Adversely Affect (NLAA). Repairs to the outer breakwater will include keying in relic, chinking, filter, and armor rock along damaged sections to restore the outer breakwater to its authorized dimensions (USACE 1978).

On September 20, 2024, NMFS provided an email request for additional information clarifying the Corps effect determinations on ESA species and critical habitats. The Corps responded to additional requests by e-mail and submitted an updated Biological Assessment (BA) to correct discrepancies of ESA Sec 7 effect determinations found within the original document.

On September 26, 2024, NMFS initiated informal consultation, tracking number: WCRO-2024-01716. On September 26, 2024, NMFS continued email communication with the Corps regarding additional questions on project equipment and received an updated BA to provide more information.

Proposed Action and Action Area

The Neah Bay Outer Breakwater Repair Project will conduct required maintenance and repairs on the outer breakwater from environmental impacts from the years 2026-2041 (15 years). Proposed work will include repairs to degraded sections in the outer breakwater, preventing further degradation of armor and chinking rocks from winter storms and ensuring the structure continues to protect resources in and around Neah Bay.

The action area, based on the extent of noise associated with the work, extends waterward 0.45 miles (2,393 feet) radially from the project area, and upland areas where staging will occur.

The outer breakwater consists of an outer layer of armor and chinking rocks – armor rocks providing the highest level of construction and chinking rocks ensuring the interlock of armor rocks. The core layer of the outer breakwater consists of relic armor rock and filter rock. In areas where the outer breakwater has degraded, the core layer will be rebuilt using filter rock, while the outer breakwater will be capped with armor rock. All rocks will be sourced from a quarry, consisting of haul road material (filter rock), chinking stone (3-10 tons), and armor stone (14 tons).

The FY 26-41 Neah Bay Outer Breakwater Repair project will involve repairs and maintenance along the entire length of the outer breakwater at the Makah Harbor, from stations (STA) 15+00 to 79+54. Repairs on the structure will occur from -5 feet mean lower low water (MLLW) to +18 feet MLLW to establish a slope of 1.5:1 (V:H) and a 25-ft crest width. The Corps estimates the repairs will take approximately 4-6 months to complete each construction event. The project will comply with state and tribal water quality standards through implementation of all applicable 401 conditions. All in-water work, and work below the high tide line (HTL) will be conducted during the NMFS and U.S. Fish and Wildlife Service (USFWS) approved in-water work window for the area: July 16 to February 15. All work *above* the HTL may be done at any time of the year.

An access road extends 2,100 ft on the crest of the breakwater. The Corps will move construction material on the breakwater road, and a barge (100-250 feet in size) would be used periodically to transport material to the outer breakwater. The barge would not ground when on the worksite (4-6 months per each year of construction).

The Corps will employ Best Management Practices (BMPs): silt fences and other turbidity preventions; placement of staging area avoiding environmentally sensitive areas; limiting heavy equipment transport; and proposed work is not expected to exceed thresholds for injury (150 dB). The action area is within designated critical habitat for the sDPS green sturgeon and SRKW. The action area is also designated as EFH for Pacific Coast salmon, Pacific Coast

groundfish, and coastal pelagic species. Habitat areas of particular concern (HAPC) that are present include: canopy kelp, rocky reef, and estuaries.

Background and Action Agency's Effects Determination

The Corps has concluded that the project may affect but is not likely to adversely affect all ESA-listed species included in analysis:

- Southern distinct population segment (sDPS) Green Sturgeon (*Acipenser medirostris;* threatened 4/7/06)
- Puget Sound Chinook salmon (*Oncorhynchus tshawytscha;* threatened 8/28/05)
- Lower Columbia Chinook salmon (*Oncorhynchus tshawytscha;* threatened 6/28/05)
- Puget Sound steelhead (*Oncorhynchus mykiss;* threatened 5/11/07)
- Hood Canal Summer Chum (*Oncorhynchus keta;* threatened 6/28/05)
- Pacific Eulachon (*Thaleichthys pacificus;* threatened 3/18/10)
- Southern Resident Killer Whale (SRKW) (*Orcinus orca;* endangered 11/18/05)
- Humpback whale (*Megaptera novaeangliae)* - Central America DPS; endangered 9/8/16
- Humpback whale (*Megaptera novaeangliae)* - Mexico DPS; threatened 9/8/16

The Corps also determined this project may affect but is not likely to adversely affect critical habitat for sDPS green sturgeon (designated 10/09/09) and SRKW (designated 11/29/2006).

ENDANGERED SPECIES ACT

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 (50 CFR 402.02). When evaluating whether the proposed action is not likely to adversely affect listed species or critical habitat, NMFS considers whether the effects are expected to be completely beneficial, insignificant, or discountable. Completely beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Effects are considered discountable if they are extremely unlikely to occur.

The effects of the proposed action include:

- Benthic disturbance and turbidity during in-water work
- Noise during in-water work and when the barge is in operation
- Reduced prey from benthic disturbance
- Reduced sub-aquatic vegetation from shade and in-water work
- Shade when the barge is on site

Because these effects are not discountable, we evaluate response of species and critical habitats.

Response of Salmonids

Construction could expose Puget Sound and Lower Columbia Chinook salmon, Puget Sound steelhead, and Hood Canal Summer Chum to the five different habitat impacts listed above when present in the action area. Responses to the effects are as follows:

- Turbidity: Salmonids present in the action area in each year of the proposed action are likely to be sub-adults and adults, with strong swimming skills that allow them to avoid areas of turbidity. The response is behavioral, and based on the life stage present in the action area, this response is unlikely to increase risk of predation, as would be typically considered with juvenile fishes entering deeper water to avoid turbidity. The behavioral response to high turbidity is insignificant for all three species of salmonids.
- Noise: Salmonids can detect noise and react to it. The noise expected with this work is below the level that would produce injury (NMFS 2023). While low level noise can produce behavioral response (such as the inability to detect prey or predators), here exposure is among adult life stages, with stronger and faster swim speeds, and greater ability to avoid predators than juvenile salmonids. We expect only behavioral response among all three salmonid species, and consider this response to noise is insignificant for salmonids.
- Reduced Prey: Reduction of benthic communities from substrate disturbance will reduce prey sources for salmonids present in the action area. Reduction of available prey can affect diet and performance of the individual salmon when in the action area. However, because the reduction of benthic community from turbidity and substrate disturbance will be localized along the outer breakwater (spatial extent of this reduction is small), we expect response to this effect will be to forage in adjacent unaffected areas. Because there is no indication that prey in this marine area is limited, we expect that this behavioral response will not result in any reduction in forage success; and growth, maturation and survival will not be altered among any individuals from the three listed salmonid species. The response is insignificant.
- Reduced Sub-Aquatic Vegetation: Reduction of sub-aquatic vegetation (SAV) from the extended presence of the barge, or from in water work occurring near SAV, would slightly reduce cover and forage substrate. Because this effect is expected to occur in a very small footprint, with adjacent areas unaffected, we expect individual salmonids from the three species will have adequate cover and forage substrate available, and response of these individuals will be to seek out these nearby areas. The behavioral response would be insignificant.
- Shade: Shade from barge can cast a deep shadow with a stark line. When present it will inhibit sub-aquatic vegetation and modify benthic communities – impacting food resources and available cover, as described above. Shade can also affect salmonid movement patterns to avoid areas of deep shade, as they have slow eye adjustment between light and dark (Brett and Ali 1958). As described above, the response to small and localized effect of shade on SAV and prey communities is insignificant. Similarly, because the life stage of these fish when in this action area is adult, with individuals expected to have strong swim speeds and mature predator awareness, expect avoidance of

shaded will not increase risk, as is commonly expected among juvenile life stages. The response of the three species of salmonids is expected to be insignificant.

Salmonid response to all effects of the proposed action are considered insignificant.

Response of Eulachon

Eulachon occur rarely in Neah Bay, and, if in the action area, will be in very low numbers. Exposure to the effects listed above is considered discountable based on the low likelihood of occurrence in the action area. However, if present, NMFS expect behavioral responses similar to those described for salmonids, above. Therefore, we consider all effects of the proposed action on eulachon to be discountable or, if any are exposed, insignificant.

Response of Green Sturgeon and their Designated Critical Habitat

Critical habitat for sDPS green sturgeon is designated along the Washington coast, in marine waters within the 60 fathom (110 meter) depth isobath. The Physical and Biological Features (PBFs) for sDPS green sturgeon are:

1. A migratory pathway necessary for safe and timely passage; (2) water quality to support growth and development; and (3) prey species of sufficient quantity, quality, and availability to support growth, reproduction, and development, as well as overall population growth.

Individuals from the sDPS of green sturgeon are expected to respond similarly to Puget Sound and Lower Columbia Chinook salmon to some effects:

- Turbidity: Green Sturgeon are benthic-oriented and appear to be drawn to areas with high turbidity, potentially because it signals that prey may be also available with the suspended sediment (Chapman et al. 2017). We interpret this to mean that when exposed to areas of high turbidity, the behavioral response is insignificant.
- Noise: No studies have directly evaluated green sturgeon reaction to noise; therefore, NMFS relies on other sturgeon behavior response to construction noise to determine green sturgeon response. The physiological orientation of the otoliths and swim bladder is believed to cause sturgeon to “hear” through particle motion (vibration) compared to frequency. Typically, sub-adult and adult sturgeon have less injury from high impact sound compared to fish species whose swim bladders are closer to their otoliths. In a demonstration construction project in the Hudson River, a significant decline in Atlantic sturgeon presence was observed during construction hours when impulsive sounds were occurring within the action area. Studies on anthropogenic sound and effects on lake sturgeon and pallid sturgeon behavior highlighted that minor behavior changes of avoidance occur in areas of consistent, non-impulsive, in-water construction noise (similar to construction work that will occur during the outer breakwater repair). In another study monitoring the effect of non-impulsive in-water noise on Atlantic sturgeon behavior, there is no evidence that the movement patterns were altered, some sturgeon even found moving up and down the river multiple times past dredging operations

(Popper et al. 2023). Inferring that green sturgeon would engage in similar responses as other sturgeon species, it appears their response to low level noise, while behavioral, does not affect fitness or survival and therefore is insignificant.

- Reduced Prey: The reduction of benthic community from turbidity and substrate disturbance will be localized along the outer breakwater (spatial extent of this reduction is small). Green sturgeon within the action area are sub-adult to adult, and expected to be able to find abundant prey in nearby adjacent areas; the additional expenditure of energy to travel to other foraging locations very low and not expected to impair growth or fitness. The response is insignificant.
- Reduced Sub-Aquatic Vegetation: Green sturgeon prefer areas with a soft sandy, silty substrate to easily stir up prey. The reduction of SAV does not impact foraging abilities of green sturgeon within the action area, and therefore this effect on green sturgeon is insignificant.
- Shade: Green sturgeon are benthic oriented and will inhabit deeper waters below the euphotic zone, where shade is not possible to discern, therefore we believe that green sturgeon will not respond to shade, this effect is insignificant.

Regarding critical habitat, noise and turbidity briefly degrade water quality, and prey communities can be reduced when substrate is disrupted, or when shade is present in the environment for extended periods. However, both of these effects quickly ameliorate to background levels upon, or shortly after ceasing work. Based on the brevity and/or localized nature of these effects, we believe the PBFs are insignificantly affected. Eelgrass is not a feature of CH for sturgeon and impacts to it are not considered adverse to this species' critical habitat. Prey reductions, including those caused by shade, are an effect on this PBF, but the reduction is insignificant because it is spatially constrained and prey is not considered limiting in the action area.

All effects on green sturgeon and their critical habitat are insignificant.

Response of Southern Resident Killer Whale and their Designated Critical Habitat

Critical habitats for SRKW are designated along the west coast marine waters. The PBFs for SRKW are:

1. Water quality to support growth and development; (2) prey species of sufficient quantity, quality, and availability to support growth, reproduction, and development, as well as overall population growth; and (3) Passage conditions to allow for migration, resting, and foraging

Starting in late summer, SRKW migrate from inland waters in Washington and travel to warmer waters to follow their main prey source of salmonids, and will reside outside of Puget Sound, in parts of Oregon and California from late summer to early winter. Because the in-water work window of the proposed project is from July 16 to February 15, the overlap with potential SRKW exposure is very brief and limits the potential exposure of this species to habitat effects of the action. Responses to the effects are as follows:

- Turbidity: Increased turbidity will occur in a localized area where SRKW are not expected to be present. Based on the limited area where turbid conditions occur and the limited period in which SRKW will be present, we consider exposure of this species to be discountable.
- Noise: Increased noise levels may result in changes in surfacing intervals, altered swimming direction, and speed, often showing avoidance by killer whales of the noise source; sometimes detrimental to foraging behavior (Burnham 2018). Elevated underwater noise generated from construction activities and rock placement is not expected to exceed 120 dB_{SELcum} (DB), below the threshold for high-frequency cetaceans (NMFS 2023). Barge transportation of quarry materials could increase noise levels that could impact resting and foraging if the SRKW was close to the vessel. Because barges are not allowed within 200 yds of a SRKW per Federal regulation (76 FR 20870), and NMFS expects barge operators will abide by those requirements throughout the construction period, NMFS considers the likelihood of exposure will be even more constrained. Furthermore, noise from construction work will cease daily after an 8–12-hour operation time, which restores the natural background level of sound, reducing the duration of possible exposure. We expect few individuals to be present when sound will occur, and if any are exposed, the period of exposure will be brief, with the response of SRKW to sound being to avoid the localized noise within the breakwater action area, and pursue forage in adjacent unaffected areas. Because there is no indication that prey in this marine area is limited, we expect that this behavioral response will not result in any reduction in forage success; and growth, maturation, and survival will not be altered in any individual SRKW. The effects are insignificant.
- Reduced Prey: Due to timing of in-water work scheduled and preventative measures implemented during the project, there will be insignificant effect to salmonids within the area, the primary portion of the SRKW diet. Effects for SRKW to this insignificant effect on prey is also insignificant.
- Reduced Sub-Aquatic Vegetation: SAV is not a habitat element that SRKW rely on directly. Indirectly, reduction in SAV could affect prey of SRKW, but as presented above, this effect has been considered insignificant. The effect is therefore insignificant for SRKW.
- Shade: SRKW are unlikely to enter the portion of the action where construction barges would be anchored, and therefore unlikely to encounter shade cast by barges, and exposure to this effect is discountable.

For effects on SRKW critical habitat, water quality reductions associated turbidity are spatially limited and ameliorate quickly after work ceases. Because baseline water quality conditions are promptly regained, this effect on water quality is insignificant. Prey will not be reduced by the proposed action, this effect on this PBF is discountable. Noise during in water work could interfere with foraging behavior or passage conditions, but because of the migration timeline of SRKW, potential exposure is brief and limited. The migration area, while briefly affected by sound from barges or construction, is not expected to be reduced for the conservation value for migration and foraging.

All effects on SRKW and their critical habitat are discountable or insignificant.

Response of Humpback Whales

Starting in late summer, Central America DPS and Mexico DPS Humpback Whales migrate from summer water feeding grounds in northern waters to winter breeding grounds in tropical and subtropical latitudes along the Mexico and Central America Coast (De Weerdt 2023). Because the in-water work window of the proposed project is from July 16 to February 15 the overlap with potential humpback whale exposure is very brief and limits the potential exposure of this species to habitat effects of the action.

Humpback Whale responses to the effects are as follows:

- Turbidity: Increased turbidity will occur in a localized area where humpback whales are not expected to be present. Based on the limited area where turbid conditions occur and the limited period in which humpback whales will be present, we consider exposure of this species to be discountable.
- Noise: Elevated underwater noise generated from construction activities and rock placement is not expected to exceed 120 dB_{SELcum} (DB), below the threshold for low-frequency cetaceans (NMFS 2023). Barge transportation of quarry materials could increase noise levels that could impact resting and foraging if humpback whales were close to the vessel. Noise will cease daily after an 8–12-hour operation time, which restores the natural background level of sound, reducing exposure. We expect response to this effect will be to avoid the localized noise within the breakwater action area, and forage in adjacent unaffected areas. Because there is no indication that prey in this marine area is limited, we expect that this behavioral response will not result in any reduction in forage success; and growth, maturation and survival will not be altered. Impacts are insignificant.
- Reduced Prey: Eulachon are a main prey source for humpback whales. Eulachon exposure to the effects listed above is considered discountable based on the low likelihood of occurrence in the action area. If exposed, NMFs expects eulachon behavioral response to effects is insignificant. Although not a main prey source, humpback whales have also been documented foraging salmon. As described above, timing of in-water work has minimal crossover with salmonid migrations; salmonid response to all effects of the proposed action considered insignificant. Effects for humpback whales to this insignificant effect on prey sources is also insignificant.
- Reduced Sub-Aquatic Vegetation: SAV is not a habitat element that humpback whales rely on directly. Indirectly, reduction in SAV could affect forage fish spawning of prey, but as presented above, NMFS concurs this effect insignificant; low occurrence of prey sources within the action area. The effect is therefore insignificant for humpback whales.
- Shade: Humpback whales are unlikely to enter the portion of the action where construction barges would be anchored, and therefore unlikely to encounter shade cast by barges; exposure to this effect is discountable.

Humpback whale response to noise, reduced prey, and reduced SAV of the proposed action are considered insignificant. Humpback whale response to turbidity and shade are discountable.

Conclusion

All effects are insignificant or discountable to ESA-listed species and to designated critical habitat. Accordingly, NMFS concurs with the Corps that the proposed action is not likely to adversely affect:

- Southern distinct population segment (sDPS) Green Sturgeon (*Acipenser medirostris*)
- Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*)
- Lower Columbia Chinook salmon (*Oncorhynchus tshawytscha*)
- Puget Sound steelhead (*Oncorhynchus mykiss*)
- Hood Canal Summer Chum (*Oncorhynchus keta*)
- Pacific Eulachon (*Thaleichthys pacificus*)
- Southern Resident Killer Whale (SRKW) (*Orcinus orca*)
- Central America and Mexico DPSs of humpback whale (*Megaptera novaeangliae*)

NMFS also concurs that critical habitat for SRKW and sDPS Green Sturgeon are NLAA.

Reinitiation of ESA Consultation

Reinitiation of consultation is required and shall be requested by the Corps, where discretionary federal involvement or control over the action has been retained or is authorized by law and (1) the proposed action causes take; (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 the written concurrence; or (4) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA consultation.

Section 7(a)(1) of the ESA directs federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. The Corps also has the same responsibilities, and informal consultation offers action agencies an opportunity to address their conservation responsibilities under section 7(a)(1).

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 proposed project occurs within EFH for various federally managed fish species within the Pacific Salmon, Groundfish, and Coastal Pelagic Species Fishery Management Plans (FMPs). In addition, the project occurs within, or in the vicinity of, canopy kelp, rocky reefs, and estuaries, which are designated as a habitat area of particular concern (HAPC) for various federally managed fish species within the Pacific Coast Groundfish Fishery Management Plan. HAPCs are described in the regulations as subsets of EFH which are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an environmentally stressed area. Designated HAPC are not afforded any additional regulatory protection under the MSA; however, federal projects with potential adverse impacts on HAPC will be more carefully scrutinized during the consultation process.

Adverse Effects on EFH and HAPC

NMFS determined that the proposed action would adversely affect EFH for Pacific salmon, groundfish, and coastal pelagic species as follows:

- Temporary reduction in availability of prey resources through disturbance to the benthic invertebrate community
- Potential reduction in water quality due to increased turbidity and substrate from in-water work and barge transport. Disturbance of substrate is associated with temporary reduction in aquatic habitat and associated benthic prey communities.
- Temporary increased noise and vibration within action area, deterring EFH species and prey from action area
- Temporary reduction to HAPC submerged aquatic vegetation within canopy kelp on eastern section of the outer breakwater. Existing vegetation (including eelgrass and kelp) and substrate could be disturbed and/or displaced during repair work on the outer breakwater, especially during work below the high tide line (HTL).

Overall, adverse effects to EFH have been reduced to the best extent possible through the use of BMPs. Therefore, NMFS has no additional EFH conservation recommendations to provide at this time. This concludes the EFH consultation.

Supplemental Consultation

The Corps 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)).

Please direct questions regarding this letter to Bonnie Shorin, Supervisor, Central Puget Sound Branch, at Bonnie.Shoring@noaa.gov

Sincerely,

Bonnie Shorin,
Supervisor, Central Puget Sound Branch
Oregon Washington Coastal Office

cc: Jacquelyn Bergner, USACE

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Appendix E National Historic Preservation Act Section 106 Consultation Documentation

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
4735 EAST MARGINAL WAY SOUTH, BLDG 1202
SEATTLE, WA 98134-2388

January 22, 2026

Subject: Section 106 of the National Historic Preservation Act Consultation for the Neah Bay Outer Breakwater Project, Clallam County, Washington, Finding of No Adverse Effects

Ms. Janine Ledford
Tribal Historic Preservation Officer
Makah Indian Tribe of the Makah Indian Reservation
P.O. Box 115
Neah Bay, Washington, 98357

Dear Ms. Ledford,

The Seattle District, U.S. Army Corps of Engineers (USACE) seeks your concurrence regarding our finding of effect for the proposed undertaking to conduct maintenance of the Neah Bay Outer Breakwater periodically from October 2025 to September 2040 (Enclosure 1). The Outer Breakwater is located within the external boundary of the Makah Reservation. Maintenance and repairs on the Outer Breakwater will ensure the structure continues to protect areas in and around Neah Bay. In its present state, the Outer Breakwater has degraded and lost up to 6 feet of elevation in some spots. The breakwater is also frequently overtopped during winter storm events, resulting in further damage and loss of armor stones. This letter summarizes efforts to identify historic properties that may be affected by the undertaking (36 CFR § 800.4(b)) and provides the agency's findings (36 CFR § 800.4(d)(1)) in compliance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, 36 CFR § 800.

The undertaking is in Sections 2 and 10, Township 33 North, Range 16 West, of the Willamette Meridian. Repairs to the Outer Breakwater would occur within the authorized footprint of the structure. To perform this proposed undertaking, rock would be transported to staging areas near the Outer Breakwater and hauled to repair sites on the breakwater crest (Enclosure 2). USACE would build a temporary road along the breakwater, so equipment can access the entire structure and conduct repairs. Transportation of materials and additional repairs may be conducted via barge. If material transport via barge occurs, offloading may occur directly on the breakwater or at nearby piers.

In our letter dated December 18, 2025, USACE documented the undertaking's area of potential effects (APE). The APE currently includes the length and area of the breakwater, about 8,000 LF and about 25 acres and the access route, about 2,650 LF.

Due to the duration of this maintenance undertaking, staging area locations have not yet been finalized and USACE recognizes that amendment of our NHPA Section 106 consultation for this undertaking will be required as these staging areas are defined.

A USACE staff archaeologist has conducted a records search and literature review of the Washington Information System for Architectural and Archaeological Records Data. The literature review and records search revealed there are no properties determined eligible or listed in the National Register of Historic Places or the Washington State Historic Site Register, and no recorded cultural resources within the current APE. There are two archeological sites (45CA22 and 45CA510) within a 1-mile radius of the APE.

Based on the results of our efforts to identify historic properties within the APE, USACE has determined that the primary maintenance and access road construction on the breakwater will result in no adverse effects per 36 C.F.R. § 800.4(d)(1). USACE respectfully requests your review of and concurrence with this finding of no adverse effect within the current APE.

USACE remains committed to continued coordination and consultation with the Tribe to identify and select staging areas that will avoid impacts to culturally significant areas for the duration of the project. USACE will continue consultation regarding any future project amendments, as conditions warrant. This process for completing NHPA Section 106 consultations for the yet to be selected staging areas (and any other changes to the undertaking in the future) was proposed during recent correspondence with the Tribal Historic Preservation Officer about the APE.

If you have any questions or desire additional information, please contact the project Archaeologist, Nathaniel Perhay, at nathaniel.l.perhay@usace.army.mil or (206) 586-2358. I may be contacted at vanessa.e.pepi@usace.army.mil or (206) 741-3575. Thank you for your assistance with this undertaking.

Sincerely,

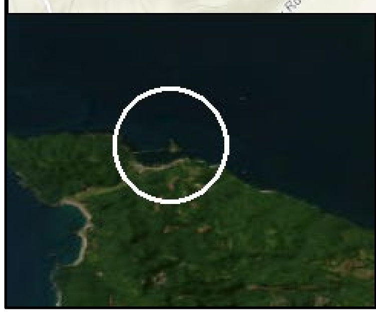
Vanessa Pepi
Chief, Planning, Environmental, and
Cultural Resources Branch

2 Enclosures
1. APE Map, Aerial
2. APE Map, Topo

cc:
Timothy Greene, Chairman
Rebekah Monette, Tribal Historic Preservation Office Program Manager
Christopher Martinez, Chief of Staff
Ryan Erhart, Assistant Director Fisheries Management & Environmental Division


Juan de Fuca Str
Détroit de Juan de
Strait
of Juan
de Fuca
Makah
Reservation
Neah Bay Outer Breakwater Repair Project
Neah Bay, Clallam County, Washington
Area of Potential Effects
Access Route
0 65 130 260 390 520
Meters
N

Enclosure 1



Neah Bay Outer Breakwater Repair Project
Neah Bay, Clallam County, Washington

Area of Potential Effects

Access Route

0 112.5 225 450 675 900
Meters

N

Enclosure 2

Appendix F Finding of No Signficant Impact

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FINDING OF NO SIGNIFICANT IMPACT (FONSI)
Neah Bay Outer Breakwater Repair Project
NEPA ID: EAXX-202-0-G3P-1739872841
Neah Bay, Clallam County, Washington

The U.S. Army Corps of Engineers, Seattle District (USACE) conducted an environmental analysis in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended. The Draft Environmental Assessment (EA) dated February 2025 for the Neah Bay Outer Breakwater Repair Project addresses the continued protection of Neah Bay, the Makah marina, and the U.S. Coast Guard Station opportunities and feasibility in Neah Bay, part of the Makah Indian Reservation in Clallam County, Washington.

The Final EA, incorporated herein by reference, evaluated various alternatives to provide protection to the town of Neah Bay, Makah marina, and U.S. Coast Guard Station from winter storm damage. One Federal action requiring NEPA compliance is analyzed in the EA summarized below.

Proposed Action: The Preferred Alternative is Outer Breakwater Repairs. Under this alternative all 8,000 feet of the outer breakwater will be repaired in 200–500-foot sections to its authorized dimensions from -5 feet mean lower low water (MLLW) to +18 feet MLLW with a slope of 1.5:1 horizontal to vertical and a 25-foot crest width. Repairs will be on the outer layer of the structure and use armor rocks, 14 tons median size, and chinking rock, 3-10 tons median size. The project will be conducted using an excavator with a thumb attachment to place rocks 1 foot or less from the structure. All work below the high tide line will be restricted to the in-water work window, 16 July to 15 February, and low tides will be prioritized during rock placement below the high tide line when possible.

Alternatives: In addition to a "no action" plan, one alternative was evaluated. The alternative involved outer breakwater repairs. For all alternatives, the potential effects were evaluated as appropriate. A summary assessment of the potential effects of the recommended plan are listed in Table 1:

Table 1: Summary of Potential Effects of the Proposed Action

	Insignificant effects	Insignificant effects as a result of mitigation*	Resource unaffected by action
Benthic Invertebrates	☒	☐	☐
Cultural Resources	☒	☐	☐
Fish	☒	☐	☐
Invasive Species	☐	☐	☒
Threatened and Endangered Species	☒	☐	☐
Vegetation	☒	☐	☐

	Insignificant effects	Insignificant effects as a result of mitigation*	Resource unaffected by action
Wetlands	☐	☐	☒
Wildlife (mammals and birds)	☒	☐	☐
Aesthetics	☒	☐	☐
Socioeconomic	☒	☐	☐
Public Health and Safety	☒	☐	☐
Recreation	☒	☐	☐
Water Quality	☒	☐	☐
Transportation and Traffic	☒	☐	☐
Sediments	☒	☐	☐
Land Use, Utilities, and Infrastructure	☐	☐	☒
Hazardous, Toxic, and Radioactive Waste	☐	☐	☒
Hydraulics and Geomorphology	☒	☐	☐
Groundwater	☐	☐	☒
Air Quality and Noise	☒	☐	☐
Geology and Soils	☐	☐	☒

Impact Minimization: All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs) as detailed in the EA will be implemented, if appropriate, to minimize impacts. Impact and avoidance measures include restricting work to daylight hours, installing temporary erosion controls, keeping a spill containment kit on site during all construction activities, and only working within the project footprint. Additionally, all work below the high tide line will be restricted to the in-water work window from 16 July to 15 February.

Mitigation: No compensatory mitigation is required as part of the proposed action.

Public Review: Public review of the Draft EA and FONSI for the Neah Bay Outer Breakwater Repair project occurred for 30 days from February 18, 2025 to March 17, 2025. All comments submitted during the public review period have been responded to in Appendix H of the Final EA and considered in this FONSI.

Treaty Tribes: The Makah Indian Tribe of the Makah Indian Reservation was contacted regarding the project and USACE will continue to coordinate throughout the project to meet Tribal Treaty obligations. Comments were received and responded to in writing and in a staff-to-staff meeting.

Compliance:

a. Endangered Species Act:

The National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) are responsible for the Endangered Species Act of 1973 (ESA). USACE evaluated potential effects to endangered species in a Biological Assessment (BA) and determined the proposed action may affect but is not likely to adversely affect Southern Resident killer whale and their critical habitat and green sturgeon and their critical habitat. The project also may affect, but is not likely to adversely affect Chinook salmon, summer chum salmon, eulachon, bull trout, steelhead, humpback whale, and marbled murrelet but would have no effect on their critical habitat. Coordination with the USFWS and NMFS was initiated through the submission of the BA on 24 July 2024. USACE received concurrence from NMFS on 29 October 2024 and from USFWS on 13 March 2025.

b. Magnuson-Stevens Fishery Conservation and Management Act:

The BA also contained USACE's determination that the proposed action may adversely affect Essential Fish Habitat (EFH) for federally managed fish species in the project area. NMFS concurred with no conservation recommendations on 29 October 2024.

c. Coastal Zone Management Act:

USACE has determined the proposed project is consistent to the maximum extent practicable with the enforceable policies of the State of Washington Coastal Zone Management Program (CZMP). USACE provided a Coastal Zone Management Act (CZMA) Consistency Determination outlining this determination to the Washington Department of Ecology on 21 November 2024. On 26 December 2024, Ecology concurred that USACE is consistent with the Washington CZMP.

d. Clean Water Act:

USACE determined that the proposed repairs are exempt from section 404 of the Clean Water Act (CWA). The proposed project does not include fill regulated under Section 404 because the repairs meet the parameters of the maintenance exemption under Section 404(f)(1)(B) (33 U.S.C. 1344(f)(1)(b), 33 CFR 323.4(a)(2)).

Section 402 of the CWA is triggered when a construction site would have greater than 1 acre of ground disturbance. The proposed action exceeds 1 acre of ground disturbance. A Storm Water Pollution Prevention Plan will be prepared, and an application would be submitted to the EPA for coverage under the EPA Construction General Permit prior to construction.

e. National Historic Preservation Act:

On November 8, 2024, USACE initiated consultation with the Makah Indian Tribe because the proposed project is located entirely within the Makah Indian Reservation. An Area of Potential Effect (APE) letter was provided to the Tribe on November 8, 2024, May 7, 2025, and again on December 18, 2025. To date, the Makah Indian Tribe has not responded to the APE consultation letters.

On January 22, 2026, USACE sent a Determination of Findings letter to the same contacts as the third APE letter. The letter included a commitment to continue consultation regarding the staging area, which will be determined closer to the time of repairs.

A USACE staff archaeologist has conducted a records search and literature review of the Washington Information System for Architectural and Archaeological Records Data. The literature review and records search revealed there are no properties determined eligible or listed in the National Register of Historic Places or the Washington State Historic Site Register, and no recorded cultural resources within the current APE. There are two archeological sites within a 1-mile radius of the APE.

Based on the results of our efforts to identify historic properties within the APE, USACE has determined that the primary maintenance and access road construction on the breakwater will result in no adverse effects per 36 CFR § 800.4(d)(1).

USACE remains committed to continued coordination and consultation with the Tribe to identify and select staging areas that will avoid impacts to culturally significant areas for the duration of the project. USACE will continue consultation regarding any future project amendments, as conditions warrant. Section 106 consultation is ongoing with the Makah Indian Tribe. Based on available information to date, USACE anticipates completion of the consultation process regarding the current APE on or before February 23, 2026. Additionally, consultation for any staging areas will be completed prior to project implementation and the approval of the expenditure of any Federal funds on project.

f. Other Significant Environmental Compliance:
All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed.

Finding: All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on the analysis presented in the EA, which has incorporated or referenced the best information available; the reviews by other Federal, State, and local agencies, and Tribes; input of the public; and the review by my staff; it is my determination that the recommended plan would not cause significant effects on the quality of the human environment. Therefore, preparation of an Environmental Impact Statement is not required.

17 Feb 2026
Date

KATHRYN P. SANBORN, PhD, PE, PMP
COL, EN
Commanding

Appendix G Water Quality Monitoring Plan

Water Quality Monitoring Plan

Outer Breakwater Repairs

Neah Bay, WA
31 March 2025

Constituents Monitored:

The Neah Bay Outer Breakwater Repair Project will reinforce the outer breakwater to its authorized dimensions using armor and chinking rock from -5 feet mean lower low water (MLLW) to +18 feet MLLW. The project area is in Neah Bay, which is designated as "Extraordinary Quality" (WAC 173-201A-612, Table 612). The project requires the following water quality monitoring parameters. The contractor will conduct all work in a manner that does not exceed applicable turbidity standards beyond the limits established in WAC 173-201A-210(1)(e)(i).

- Turbidity applicable criteria:
  - Turbidity instrument-readings shall not exceed 5 NTU (nephelometric turbidity units) over background when the background is 50 NTU or less, or a 10 percent increase in turbidity when the background turbidity is more than 50 NTU (per WAC 173-201A-210(1)(e)(i))
  - Turbidity, visual or instrumental, at or anywhere beyond the point of compliance from the dredging activity or the disposal location shall be considered an "exceedance of the standard."
  - Point of Compliance (POC)
    - 150 feet from construction activity when work is being conducted in the water (i.e., below the waterline)

Frequency of Monitoring:

- The contractor shall be working in the water for at least one hour prior to the collection of turbidity observations and/or readings, so they are representative of water quality conditions during active operations.
- The contractor's water quality monitoring will correspond with 1) slack tide and 2) strong ebb or flood tidal conditions to the extent these times adequately reflect periods of construction below the waterline and occur during daylight hours.
- The contractor shall monitor for visual turbidity and, if observed, measure turbidity using

an instrument, daily during daylight hours:

a) Take observations/measurements twice daily at locations 150 feet apart from the point of construction activity below the water line placement.

b) Record visible turbidity at or down-current of the POC. If visual turbidity is noted, instrument reading collected at the POC and sampling locations will commence during construction activity below the water line.

c) No monitoring shall occur before sunrise or after sunset unless authorized by U.S. Army Corps of Engineers (USACE).

- The contractor shall send the monitoring-data report to USACE within 24 hours of completion of the most recent monitoring activity each week.
- If there are instrument-measured exceedances in water quality, the contractor shall continue monitoring by following the steps listed in “Exceedances and Exceedances Protocol.”
- The contractor shall continue to monitor and record (in writing) daily visual monitoring of turbidity at the POC every day work is conducted below the water line. At any point, if visual monitoring indicates an exceedance, the contractor shall take a reading with an instrument to confirm/verify if an exceedance has occurred. If an exceedance is confirmed/verified through monitoring with an instrument, the exceedance protocol listed below shall be followed.

Sampling Approach:

- The contractor shall establish water quality conditions according to the following:
  - The contractor shall measure turbidity using a meter (HydroLab or similar), starting at least one hour after construction commences below the water line to ensure readings and observations are reflective of conditions during active operations.
  - The contractor shall verify the calibration of the meter and calibrate as necessary with standardized samples prior to the start of each day’s monitoring, per the manufacturer’s specifications.
  - The contractor shall collect readings within the water strata:
    - near the surface (~2 feet below)
    - mid-depth
    - near the bottom (~2 feet above).
  - The contractor shall visually observe turbidity at or beyond the POC when in-water work is conducted during daylight hours and record the findings.
  - If turbidity is seen at the POC, the contractor shall measure turbidity levels with an

instrument.

- ❖ The contractor shall visually observe turbidity at or beyond the POC during daylight hours during all in-water work and record the findings.

Monitoring Locations:

- ❖ A map of sample locations will be included in the final plan, which will be developed by the dredge contractor. The map should reflect the following requirements for work occurring in-water.

Breakwater Repairs

- ❖ The area-of-mixing POC for turbidity and DO during in-water work is 150 feet down-current from the point where work is conducted in-water and thus will move as construction progresses along the breakwater.
- ❖ The contractor shall establish the following Monitoring Points for disposal:
  - Measured Background: A minimum of 150 feet up-current of the disposal point, outside the influence of disposal actions and representative of background conditions.
  - Measured Turbidity Down-current POC – 150 feet down-current of in-water work.
  - Visual Turbidity Down-current of POC – Visual turbidity observed at or beyond 150 feet down-current of in-water work will be recorded at the same time the turbidity levels are measured.

Safety Protocols

- ❖ Turbidity should be monitored for both harbor side and seaward work. However, conditions on the seaward side may not be conducive to monitoring.
- ❖ The contractor will report unsafe conditions and receive approval from USACE to refrain from monitoring turbidity on the seaward side.
  - Unsafe conditions include:
    - High wave energy
    - High winds
    - Strong current
- ❖ Unsafe conditions could occur on the harbor side. The same conditions listed above will be factored into the contractor's decision to refrain from turbidity monitoring during in-water construction activities. USACE will still need to approve the contractor's decision to refrain from monitoring.
- ❖ During unsafe conditions listed above, turbidity monitoring is not deemed necessary since:
  - During high winds and storms, background turbidity will be higher, and the activities during construction would not result in exceedance.
  - Challenging weather may cause the turbidity plume to be further or closer to the

breakwater.

- Adverse weather conditions, including strong currents, will cause monitoring via boat at the POC infeasible.

Exceedances and Exceedance Protocol:

- If measurements taken at the down-current location show one of the following, the contractor shall notify USACE within 30 minutes and that sample shall be recorded as an "exceedance":

    a) Turbidity - recorded turbidity greater than 5 NTU over background where the background is less than 50 NTU, or more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU, occurring at the outer limit of the area of mixing, or visual observations indicating exceedances down-current of the POC in the dredging or disposal areas; or

- Assuming construction activities continue, the contractor shall continue to monitor per the exceedance protocol below:

    - *Step 1: Verification of the problem*

        - If monitoring indicates an exceedance, the contractor shall collect, within ten (10) minutes of the initial reading, another series of readings at the surface (~2 feet below), mid-depth, and near the bottom (~2 feet above) in the same location.
        - If the exceedance still exists, the contractor shall photograph conditions at the POC and then collect another series of readings at the nearest up-current background station to determine if the exceedance is caused by the in-water work or by a change in background conditions (for example due to a heavy rainfall event).
        - The contractor shall notify USACE by telephone within 30 minutes after there has been an instrument-confirmed exceedance. USACE will notify Ecology and the Makah Tribe of any exceedance within 24 hours.
        - USACE will require the contractor to implement project specifications and best management practices (BMPs), as appropriate and applicable, to reduce turbidity. Example project requirements and BMPs include, but are not limited to:

            ✓ Turbidity curtains will be used for in-water work to minimize extent of turbidity during placement of armor rock.

            ✓ Material placement will be coordinated with low tides as much as possible to minimize turbidity.

            ✓ Temporary diversion dikes will be constructed longitudinally along shoreline in placement area to minimize effects of turbidity.

    - *Step 2: Increased monitoring*

- The contractor shall collect another reading no more than one (1) hour after the exceedance is recorded to verify the material-placement operation has been altered to eliminate the exceedance and return conditions to levels within acceptable limits.
- If this second reading, taken one (1) hour later, still shows an exceedance, the contractor shall immediately notify USACE by telephone that there is still a measured exceedance.
- The contractor shall notify USACE that an exceedance occurred, the reason for the exceedance, and BMPs implemented to prevent recurrence.
- USACE will again require the contractor to take all measures possible to reduce turbidity.
- Finally, the contractor shall collect a third reading taken no more than two (2) hours after the first exceedance is recorded.

○ *Step 3: Stop in-water work*

- If the third reading, taken two (2) hours after the initial exceedance, still shows an exceedance, the contractor shall notify USACE immediately. The Contracting Officer may order the contractor to stop in-water work.
- USACE will notify Ecology and the Makah Tribe of the sustained exceedance and stop-work order within 24 hours.

○ *Step 4: Continued sampling until compliance is achieved*

- After the contractor has stopped in-water work, the contractor shall collect readings at hourly intervals until turbidity levels return to background.
- Once compliance has again been achieved, the Contracting Officer will order the contractor to resume in-water work.
- USACE will provide monitoring data to Ecology and the Makah Tribe and notify both authorities that dredging and disposal have resumed.
- Once compliance has been achieved, the contractor shall resume the normal schedule of water quality monitoring with instruments as per specific requirements above.

Reporting:

❖ The contractor will report instrument-confirmed exceedances to USACE within 30 minutes.

❖ USACE will report exceedances and/or construction shutdowns to Ecology (including fednotification@ecy.wa.gov) and the Makah Tribe by telephone and email as soon as is

practicable, but within 24 hrs. USACE's report will include the project name, project contact and phone number, activity, and monitoring results.

- The contractor shall document any in-water work shutdowns with an Incident Report which will be transmitted to USACE by email and through the QCS/RMS system within 24 hours of the exceedance.

    a) The Incident Report shall document all exceedances and will include the date, time, location, activity, turbidity data collected, name of person collecting the data, names of persons notified of the exceedance, photographs if taken, and summary of how the exceedance was resolved following the above protocol.

    b) The Incident Report shall be sent to Ecology and the Makah Tribe within 2 working days of the exceedance.

- Within 60 days of termination of the in-water work activities, USACE will submit a summary report, including all data sheets, of the visual turbidity and instrument-measured turbidity results to Ecology and the Makah Tribe.

Responsibility and Communication Plan:

- USACE will coordinate with the contractor.
- USACE will oversee turbidity monitoring conducted by the contractor.
- The contractor shall provide Turbidity Monitoring Report and data to USACE, as directed.
- USACE will be responsible for coordinating with Ecology and the Makah Tribe and submitting the Turbidity Monitoring Reports and data provided by the contractor.
- The contractor shall notify USACE within 30 minutes of a confirmed exceedance and follow required notifications per the exceedance protocols.
- USACE will notify Ecology Point of Contact and fednotification@ecy.wa.gov and the Makah Tribe Points of Contact within 24 hours if an exceedance occurs.
- The contractor will supply its Points of Contact for the project to USACE, WA Ecology, and the Makah Tribe.
- USACE Points of Contact for turbidity monitoring will be Gabriell Fraser, Project Manager (gabriell.r.fraser@usace.army.mil, 206-666-7356), and Jacqui Bergner, Environmental Coordinator (Jacquelyn.bergner@usace.army.mil, 206-867-2221).
- The WA Ecology Point of Contact is Jessica Hausman, Federal Permit Manager for USACE projects (jessica.hausman@ecy.wa.gov,564-669-9873).
- The Makah Tribe Points of Contact are; Ryan Erhart, Environmental Division Manager (ryan.erhart@makah.com, 360-640-2856); Lizz Miller, Water Quality Specialist (elizabeth.miller@makah.com, 360-640-0366); and Casey Bruner, Chief of Police, Neah

Bay Public Safety (casandra.bruner@makah.com, 360-645-2701).

- Official reporting of any incidents will be sent to the Ecology Point of Contact, the Makah Tribe Points of Contact, and the fednotification@ecy.wa.gov inbox.

Oil/Grease

USACE or the contractor will continuously monitor for a sheen on the water. A spill and recovery kit will be maintained on site and used to contain the spill. Any clean-up materials will be disposed of at an approved location off site. The following entities will be contacted immediately in the event of an oil or grease spill. Details of the spill will be recorded on the monitoring form.

- National Response Center, 1-800-424-8802
- Ecology. Additional details available online: https://ecology.wa.gov/footer-pages/report-an-environmental-issue/report-a-spill.
    a) Washington Emergency Management Division, 1-800-258-5990
    b) Ecology's Regional Spill Response Office
        - Bobbak Talebi, bobbak.talebi@ecy.wa.gov
        - Environmental reporting (ERTS): swroerts@ecy.wa.gov, 360-407-6300
- Washington Department of Fish and Wildlife
    a) Don Noviello, Oil Spill Team Manager, donald.noviello@dfw.wa.gov, 360-280-9376

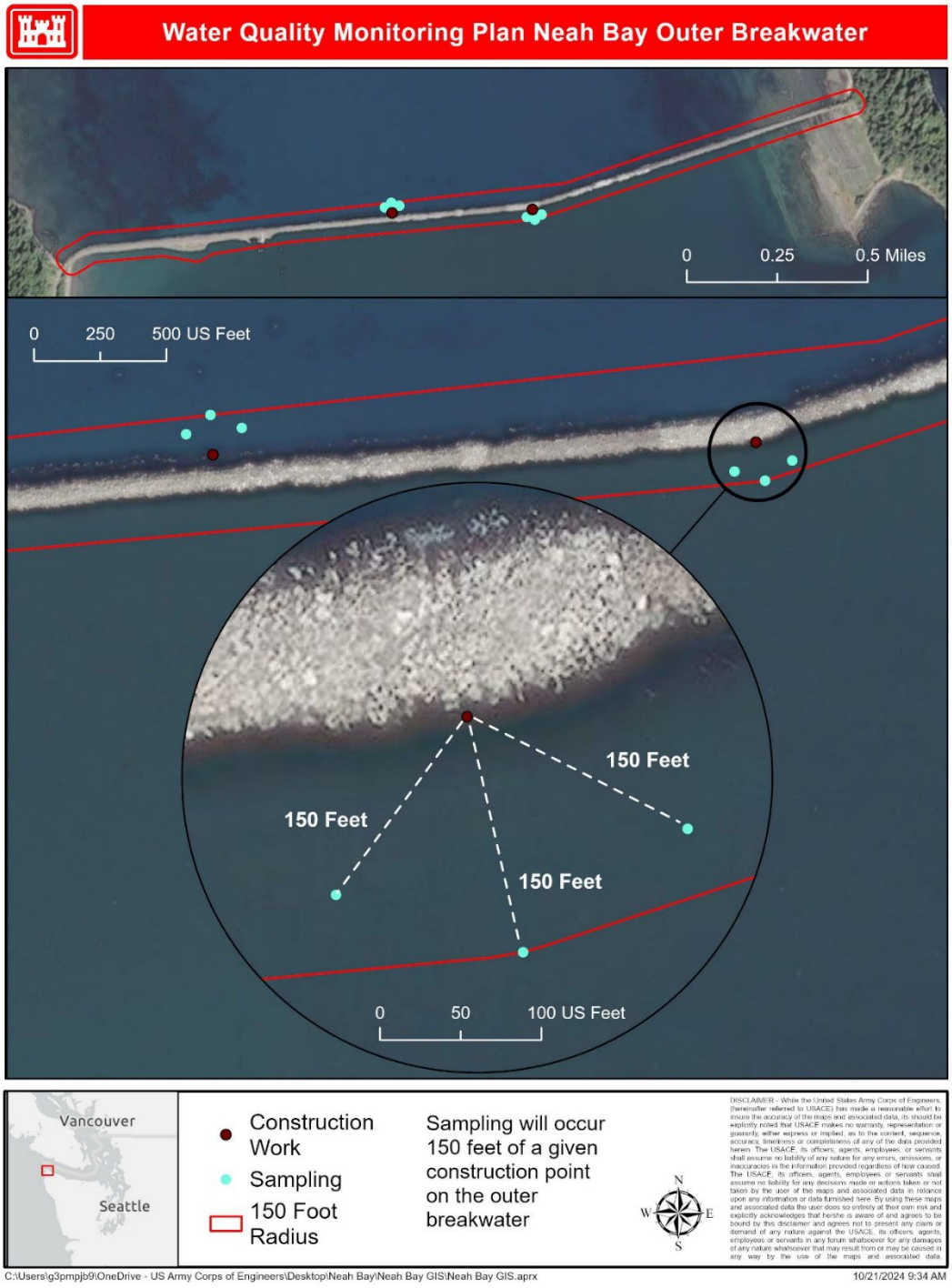

Figure G- 1. Water Quality Monitoring Plan for in-water work during the Neah Bay Outer Breakwater Repair Project.

An example of a monitoring form with data to be collected is presented below.

Date:

Weather:

Location:

Time of Day	Construction Activity	Background Sample (NTU)	Early Warning Sample (NTU)	Point of Compliance Sample (NTU)	Background & Compliance Change (NTU)	Description of visible plume Approximate distance from construction	Description of visible sheen (length downstream, width as % of channel)
Example: 0700	Armor rock placement between STA 50+00 and 51+00	20.2	22	21.1	+0.9	Visible plume 50 feet from construction	Visible sheen at 20 feet from construction

Appendix H Public Comments

USACE posted the Draft EA for public comment from February 18, 2025 to March 18, 2025. Two comments were received.

On March 18, 2025, the Environmental Protection Agency (EPA) shared comments with USACE. The summarized comments and USACE responses are listed below.

- **EPA Comment:** The EPA encourages continued coordination between the USACE and the EPA remedial project manager (RPM) for the Warmhouse Beach Dump Superfund site just to the north of Neah Bay. The timing of the two projects could present an opportunity to coordinate the providing for barges, consistent with the potential cleanup methods that Superfund is considering. Additionally, the EPA also encourages the USACE to consider the possibility of coordinating on the source material for the breakwater repair work, as the Warmhouse Beach cleanup also has anticipated needs quarry materials for their project (e.g. road improvements to the dump site).
    - **USACE Response:** The project timeline has been changed, per the request of the Makah Tribe (see comments below). Outreach to the contact will still be done by the Neah Bay Outer Breakwater Repair project manager prior to the project start.
- **EPA Comment:** The EPA notes that an underground storage tank (UST) removal project is planned for this summer 2025 within the Makah Reservation lands. An underground storage tank system is a tank, and any underground piping connected to the tank that has at least 10 percent of its combined volume underground. The EPA encourages the USACE to coordinate with both the Makah Tribe and the EPA's regional UST program contact to address any increased traffic concerns and to help facilitate safe operations of both projects.
    - **USACE Response:** The project timeline has been changed, per the request of the Makah Tribe (see comments below). It will now not occur at the same time as the UST removal.
- **EPA Comment:** For the Final NEPA analysis, the EPA recommends a more detailed discussion of the process that will be used to select construction staging sites and proposed best management practices to avoid and minimize environmental impacts at these sites. As the Draft EA notes the potential use of a barge, the EPA also recommends including detailed BMPs for barge operations to prevent environmental releases and plans for managing an environmental release should one occur.
    - **USACE Response:** Staging area selection is directed by the Makah Tribe, as the project will take place on the Makah Indian Reservation. USACE cannot direct the Makah Tribe on staging site selection. Instead, the Makah Tribe will use their own discretion for site selection and inform

USACE where staging can occur. BMPs related to barge operations have been added in section 2.6 in list items 6-10.

- **EPA Comment:** EPA has developed a "*Best Practices for Reducing, Reusing and Recycling Construction and Demolition Materials"* document[1] that may be useful in managing construction and demolition (C&D) materials for the purposes of cost savings and protecting natural resources. The EPA encourages consideration of sustainable management of construction and demolition materials within the NEPA document where applicable.
    - **USACE Response:** USACE must use material that meets specification requirements. Material in the breakwater's core would not be excavated. Instead, new quarry rock that meets specification requirements would be placed in the structure's outer layer. Any armor rock that could be recycled will be for the outer layer. USACE will employ sustainable management practices of construction material.

On March 31, 2025, the Makah Tribe shared a comment letter with the U.S. Army Corps of Engineers regarding issues within the Draft EA. To ensure that comments were addressed appropriately, USACE had a staff-to-staff level meeting with the Makah Tribe on April 24, 2025, and USACE's response to each comment is noted below. Another letter was shared by the Makah Tribe on November 18, 2025. USACE responses are documented below.

- **Makah Tribe Comment:** Recommendations for strong government-to-government relations- We see you attempted to notify the Tribe of this project by sending a letter on June 26, 2024, but this was sent to the incorrect contacts for this project and included an incorrect email for the Chairman. In the future, if you haven't heard back from the Tribe about a project occurring on the Makah Reservation or within the Makah U&A, please consider that you may not have the correct contacts. Strong government-to-government relationship between the Makah Tribe and USACE should include effective outreach to the Tribe to provide opportunity for coordination and consultation prior to publishing the Draft EA.
    - **USACE Response:** USACE's Tribal Liaison office keeps an up-to-date contact list online that has the correct email, but unfortunately a different contact list was used that had an old email listed for the Chairman. The emails for the other two contacts on the notification of project (26 June

[1] U.S. EPA Best Practices for Reducing, Reusing, and Recycling Construction and Demolition Materials. HTTPS://WWW.EPA.GOV/SMM/BEST-PRACTICES-REDUCING-REUSING-AND-RECYCLING-CONSTRUCTION-AND-DEMOLITION-MATERIALS Accessed: 03/14/2025.

2024) and notice of EA (18 February 2025) emails are correct based on the most up to date information USACE has available. USACE contacts for the Makah Tribe have been updated accordingly.
        - **Makah Tribe Response:** Thank you for sharing your Makah contact list. [This response included updated titles and emails for contacts.]
- **Makah Tribe Comment:** Timing of the project conflicts with another project on the breakwater- The proposed USACE outer breakwater repair plans have multiple conflicts with the planned construction of a multi-use barge loading facility (MBLF) on the Neah Bay outer breakwater. This important project for the Tribe is a result of USDOT grant awards (RAISE and PIDP) and construction is expected to commence March 2027 for upland work, with in-water work beginning in July 2027. There is an urgent need for the USACE to coordinate with PONB staff to deconflict these project plans and find a mutually beneficial path forward for both projects.
    - **USACE Response:** USACE was not informed about the multi-use barge loading facility project until this comment letter was received but will adjust the USACE project per request of the Makah Tribe and wait for the multi-use barge loading facility project to end before the outer breakwater repair project commences. From an engineering perspective, the outer breakwater is in good condition and a repair schedule can be adjusted. Updated information about the project schedule will be noted in the Final EA.
        - **Makah Tribe Response:** The MBLF is anticipated to be operational in Summer 2028.
            - **USACE Response:** Thank you, we will continue to coordinate with the Makah Tribe through the design process.
                - The Makah Tribe informed USACE that the MBLF project may be at a different location, but that the Tribe is assessing different site alternatives in an email on December 12, 2025.
- **Makah Tribe Comment:** Tsunami hazard mitigation- We recommend that USACE reference the Tsunami Maritime Response and Mitigation Strategy (2024) ahead of any work on the outer breakwater. This recent report discusses the importance of fortifying and armoring the outer breakwater as an important tsunami mitigation action for the PONB. The report also calls for collaboration with USACE on a study to assess the structural integrity and performance of the breakwater under extreme conditions, including tsunamis, storms, king tides, and sea level rise, as the breakwater's strength and resilience to these threats is not currently well understood. Gaining a thorough understanding of these elements

will allow the most efficient use of the repair project and for greater protection into the future.
    - **USACE Response:** USACE has reviewed the Tsunami Maritime Response and Mitigation Strategy (2024). USACE does have upcoming inspections scheduled in Neah Bay. Scott Brown and Victor Ramos can discuss more about the nature of inspections that are scheduled.
        - **Makah Tribe Response:** We request follow-up to discuss the nature of the scheduled inspections.
            - **USACE Response:** Thank you, we will continue to coordinate with the Makah Tribe through the design process.
- **Makah Tribe Comment:** Accounting for sea level rise- Although the Makah Reservation is experiencing vertical land uplift broadly, certain sites are currently at risk of sea level rise and erosion and the broader Reservation could face sea level rise impacts as soon as 2050. The current breakwater repair project has the opportunity to enhance the Tribe's preparedness for sea level rise and reduce the risks of associated hazards. We recommend that USACE account for the estimated sea level change in Neah Bay by potentially including an additional 1-3 foot rise along the breakwater.
    - **USACE Response:** If there is an engineering justification for increasing the breakwater height, the Water Resources Development Act of 2022 could allow for additional crest height. Analysis in 2010 for the breakwater design (USACE, 2010) suggests that sea level is expected to decrease in the area, there may not be an engineering justification for increased crest heights. Without an engineering justification, USACE could add a 1–2-foot tolerance for height in the specifications. Reference: USACE, 2010 Neah Bay, Washington Breakwater Repair. Repair Decision Document.
        - **Makah Tribe Response:** While the sea level may decrease in the short term due to vertical uplift, we expect sea level to overtake this decrease around 2050. Since breakwaters last for decades, Makah seeks to be prepared in advance. We request an additional 2 ft tolerance for height in the specifications.
            - **USACE Response:** We will add a 2 ft tolerance into the specifications.
- **Makah Tribe Comment:** Material sourcing- The Draft EA calls for sourcing materials as locally as possible. We request that USACE evaluates the feasibility of using Neah Bay Quarry materials for this project. The PONB would also like to explore other routes of recycling and reusing materials, such as existing concrete structures near the outer breakwater that are expected to be demolished prior to MBLF construction.
    - **USACE Response:** Rocks used for the outer breakwater must meet

specification requirements for use on the structure. At present quarry rock from the Neah Bay Quarry does not meet the requirements, but USACE is happy to review updated test results for this rock to reassess if it meets specification requirements. USACE may need to source quarry rock from multiple locations to ensure that ample materials are available. However, rock sourcing is generally decided by the project contractor and not USACE.

- **Makah Tribe Response:** Please continue to coordinate with Makah, as the quarry state may change, and quality rock may be present at the time of these repairs.
  - **USACE Response:** Thank you, we will continue to coordinate with the Makah Tribe through the design process.

- **Makah Tribe Comment:** Tribal permitting requirements**-** In addition to state and federal permitting requirements laid out in the Draft EA (Section 8: Environmental Compliance; Appendix F - FONSI), there are multiple Makah permitting requirements that must be considered and detailed in the Draft EA before the project moves any further. These requirements include:
  - **Makah Land Use Committee Review**: The Neah Bay Breakwater Repair Project is subject to approval by the Makah Tribe's Trust Land Review Committee (Committee) process. The Committee is composed of staff members from several departments at the tribal organization including the Environmental Division, Tribal Historic Preservation Office, Land Use and Transportation, Realty, Public Works, Forestry, and Wildlife, to ensure compliance with the Tribe's regulations. Actions that affect trust lands submit requests to the Committee, who has the opportunity to request and provide feedback prior to the action.
    - **USACE Response:** USACE will coordinate with the land use committee for the proposed project.
      - **Makah Tribe Response:** [Contacts were shared.] They can initiate the review with the Land Use Committee.
        - **USACE Response:** Thank you, we will continue to coordinate with the Makah Tribe through the design process.
  - **Makah Coastal Zone Management:** Resolution Number 18-79 of the MTC states that "the Makah Tribe possesses the full authority to regulate and protect the land and water uses on the coastal zone and possesses the planning capability for developing policies, programs, criteria, standards and methods for dealing with land and water uses." The Makah Coastal Zone Management authority will review the project with respect to CZM issues. The Makah Fisheries Management Department will issue a

CZM compliance certification document based on their project review.

- **USACE Response:** USACE met with the Makah Tribe's Fisheries Management Department on August 22, 2024 to discuss the project, which has remained unchanged since that meeting. In this meeting, a Section 401 prefiling meeting, USACE notified Lizz Miller (meeting attendee from the Makah Tribe's Fisheries Management Department) that the project may be Section 404 exempt. Lizz noted this was fine, but that the Tribe would like USACE to perform Water Quality Monitoring. USACE said that the project's budget will be reviewed and, if possible, a monitoring plan for turbidity would be drafted and shared with the Makah Tribe's Fisheries Management Department. USACE asked about the Coastal Zone Management Program and was told there were no requirements from the Makah Tribe but that the Fisheries Management Department would like to see and review the Consistency Determination (CD) USACE submitted to Ecology. USACE shared the CD and Water Quality Monitoring Plan with the Makah Tribe Environmental Division on December 3, 2024. There have been no additional concerns or comments since these documents were shared.
    - **Makah Tribe Response:** Thank you for this note. We will coordinate closer to the start date of the repairs to issue a formal certification.
        - **USACE Response:** Thank you, we will continue to coordinate with the Makah Tribe through the design process.

- **Makah Section 401 Water Quality Certification:** The Makah Fisheries Management Department, under the direction of the MTC, shall be the tribal agency responsible for collecting, reviewing, evaluating, processing, approving or denying all applications to the Tribe for certification pursuant to Section 401 of the Federal Clean Water Act, 33 U.S.C. § 1341. For procedural details for complying with this tribal permit, please review Appendix B of the Makah Tribe Water Quality Standards for Surface Water.
    - **USACE Response:** USACE had a Section 401 prefiling meeting with the Makah Tribe's Fisheries Management Department on August 22, 2024. Lizz Miller attended the meeting, but Ryan Erhart and Carter Richards were notified and coordinated with in emails leading up to and after the meeting as well. In the meeting, the project was discussed, and it was noted that the project may be

Section 404 exempt. On October 30, 2024, USACE notified the Makah Tribe's Fisheries Management Department that the project was Section 404 exempt. However, USACE committed to performing water quality monitoring for turbidity during activities in water per the request of the Makah Tribe in the email as well. No additional concerns or comments were shared.

- **Makah Tribe Response:** Thank you for this note. We will coordinate closer to the start date of the repairs to issue a formal certification.
    - **USACE Response:** Thank you, we will continue to coordinate with the Makah Tribe through the design process.

- **Completion of Section NHPA 106 Consultation:** While USACE initiated Section 106 NHPA consultation (Appendix E), the Tribe has not yet responded to agree to the boundary of the area of potential effects (APE) or assisted in identifying historic properties that may be of cultural significance to the Tribe. This consultation must be revisited and fully carried out before proceeding.
    - **USACE Response:** An APE letter was shared with the Makah Tribe (Janine Ledford and Chairperson TJ Greene) on November 8, 2024. USACE did not receive a response from the Tribe. USACE resent the APE letter to the requested contacts on May 7, 2025.
        - **Makah Tribe Response:** Yes, the Tribe wishes to revisit this. This must occur closer to the start time of the repairs, as the consultation will depend on the staging areas. Please also add Makah Tribal Historic Preservation Office.
            - **USACE Response:** USACE resent the APE letter to the contacts listed above on November 21, 2025 and again on December 18, 2025. We will continue to coordinate with the Makah Tribe through the design process.

- **Makah Tribe Comment:** Makah recognition on Makah land- Section 6coordinate, "Construction and development near the project location is primarily conducted by state, local, and Federal agencies." This should be corrected to state, "Construction… is primarily conducted by the Makah Tribe, state, local, and Federal agencies."
    - **USACE Response:** Thank you. This was an error on USACE's end where boilerplate language was not adjusted accordingly. This will be fixed in the Final EA.
- **Makah Tribe Comment:** Makah fishing- Section 3.7 of the Draft EA reads, "Fish

represent a major source of the Makah Indian Tribe's traditional diet supports a fishing industry in the area." Beyond grammatical errors, this should be edited to accurately capture the importance of fishing to the Makah Tribe. We suggest "The Makah Tribe has a treaty-protected right to fish in the Makah Usual and Accustomed Treaty Area and is the largest tribal fishing fleet in the United States by landings, earning $6-8M per year. Over 60% of the local economy is supported by fishing income and virtually all households depend on first foods for nutritional security, with fish being a significant contributor."
    - **USACE Response:** Thank you, this will be added into the Final EA.
- **Makah Tribe Comment:** Incorrect contacts- The Water Quality Monitoring Plan contacts need to be updated.
    - **USACE Response:** Thank you. This will be adjusted in the Final EA.
- **Makah Tribe Comment:** Conflicting records on construction dates- Section 6.2 says the inner marina breakwater was constructed in the 1950's, but it was constructed in the mid-1990s.
    - **USACE Response:** Thank you, this will be adjusted in the Final EA.
- **Makah Tribe Comment:** Table 6 inaccuracies- There are multiple inaccuracies for the "Past, current and future projects" detailed in Table 6. According to our records, the sewer outfall repair did not occur, nor did the dock expansion for spill response vessels or reconstruction of the Snow Creek facilities. The table also lacks the removal of the High Tide Seafood Pier that was conducted by DNR in 2024 and the 2024 Neah Bay Channel Dredging conducted by USACE. Section 6.2 identifies the channel dredging project but incorrectly states that it occurred in 2023.
    - **USACE Response:** Thank you. This will be adjusted in the Final EA. Some of these details came from mapping applications from different state and Federal agencies. These errors will be shared with the relative mapping applications/groups sharing this information as well.
- **Makah Tribe Comment:** Sediment transport issues- Section 3.2 details the hydraulics and geomorphology that influence Neah Bay but does not document the recent shift in sediment transport that has filled in the fish gap of the USACE Neah Bay Inner Breakwater. The fish gap was constructed to allow for fish passage out of the marina. However, sediment transport has filled the gap and is flowing into the marina, creating an increased risk of vessel grounding near E dock. The Makah Tribe has raised this issue to USACE and is working internally on the next steps of applying for planning funds to address the issue. While this issue may be outside the scope of the outer breakwater project, this issue must be addressed as soon as possible and should be discussed at the government-to-government consultation. We see potential for USACE to utilize the overflowed sand in the fish gap as fill material, if feasible, or otherwise combine the two

pieces of work. Further, please adjust the language in Section 3.2 to reflect the nature of this issue in this Draft EA and in all future documents that include this project area.

- **USACE Response:** The fish gap is not related to this project as it will require completely different construction methods and is covered under different authorities. USACE is monitoring sediment transport in Neah Bay to provide information for future work on the fish gap. USACE is happy to discuss the fish gap, but it cannot be tied into breakwater repairs. Sediment drift changes and findings from recent monitoring (if available) will be noted in the Final EA.
    - **Makah Tribe Response:** Thank you. Makah is pursuing fish gap repairs with the appropriate authorities.

- **Makah Tribe Comment:** Threatened and endangered species- Section 3.8 identifies ESA-listed species and their potential occurrences in the project action area. Makah Fisheries Management staff has reviewed this section for accuracy and identified elements in need of clarification, including for bull trout, Southern Resident Killer Whales (SRKW), humpback whales, and marbled murrelets. Table 4 at the beginning of this section would benefit from additional information in the caption on how potential occurrence is measured. Designations of “likely” and “unlikely” are purely qualitative and it should be explained how those are determined. The table states that **bull trout** have likely occurrences in the project area, but the narrative below the table argues that they are not likely to travel as far as Neah Bay. Similarly, the table lists **Chinook salmon** as unlikely when this is incorrect. A Chinook fishery occurs directly adjacent to the outer breakwater during summer months and it is likely that resident individuals from Puget Sound are present during the winter and spring seasons as well. Puget Sound Chinook are probably not the only listed Evolutionarily Significant Unit (ESU) that would be in the project area. Our catch records show that Chinook from the Columbia River are commonly caught in marine area 4B too. The narrative about **steelhead** should note that the Olympic Peninsula Distinct Population Segment of steelhead are currently a candidate species for ESA listing.6 Table 4 lists **SRKW** occurrence as unlikely, but the subsequent narrative states that “SRKW could be present near the outer breakwater during the repair, and Neah Bay is considered killer whale critical habitat.” It should be noted that the Shields et al. 2023 citation does not include any data from the Western Strait region and thus does not directly address SRKW distribution in the project area, and we recommend the authors of the EA reference Olson et al. 2018 and Hauser et al. 2007 for long term averages of SRKW behavior in the area. The Makah Fisheries department has encountered SRKW near Koitlah Point and Waadah Island, though their use of the area is rare. It should be further noted that the water

depth at the entrance of Neah Bay does not preclude killer whales from entering the bay as killer whales (presumably transients) enter Neah Bay and transit along the inside of the breakwater annually. For **humpback whale** occurrence, it should be noted that "the Makah Tribe surveys the western Strait of Juan de Fuca for marine mammals. These surveys document that humpback whales do commonly use the western Strait of Juan de Fuca but are rarely observed in waters less than 50 feet (J. Scordino, Makah Tribe marine mammal biologist, personal communication). We encourage the authors to reevaluate the likelihood of **marbled murrelet** occurrence. A better source for citizen reported bird sightings (rather than iNaturalist) is eBird, which is hosted by Cornell University. Data can either be accessed through the web or through contacting one of the regional or county data compilers. Further, Washington Department of Fish and Wildlife (WDFW) conducts annual, at-sea surveys for marbled murrelet population distribution and abundance, including in the Western Strait.

    - **USACE Response:** USACE will add pertinent information regarding research of species in the area and appreciates that these resources are shared. Updated resources will be added to the Final EA. Additionally, a note will be added in the ESA documents for this project that these resources/ this information were shared and recommended by the Makah Tribe for use as well to ensure they are used for future projects in the areas. USACE submitted a Biological Assessment to the Services (U.S. Fish and Wildlife Service [USFWS] and National Marine Fisheries Service [NMFS]) for this project on 24 July 2024. Letters of concurrence noting that the project could affect but is not likely to adversely affect all ESA listed species and their critical habitat in the study area were received on 29 October 2024 (NMFS) and 12 March 2025 (USFWS). The letters of concurrence for USACE's analysis are appendices in the Draft EA and will also be included in the Final EA. The information for likely and unlikely occurrences noted in the EA are part of USACE's template document that is used to draft the Biological Assessment submitted to the Services. Definitions for unlikely and likely occurrences can be added in the Final EA to add clarity for the reader.

- **Makah Tribe Comment:** Wildlife- For all bird data, please consider using eBird (Cornell University) data accessed from the web or requesting data directly from a regional or county coordinator. A quick review of their website shows that 300 species have been reported in Neah Bay alone (hotspot Neah Bay--town and bay only), not including hotspots that look toward Waadah Island and the Strait or Cape Flattery and other parts of the Makah Reservation.
    - **USACE Response:** Thank you. This information and bird data will be corrected using both eBird and iNaturalist in the Final EA.

- **Makah Tribe Comment:** State endangered species – pinto abalone- Pinto abalone (*Haliotis kamtschatkana*) are listed as a state-endangered species and WDFW and partners are actively managing the species for recovery (Sowul et al. 2022). The Makah Tribe and WDFW have knowledge of abalone present on the breakwater. The Tribe recommends that USACE consult with the Tribe and WDFW to find a safe solution for identifying abalone that may be present at the site of the repairs and safely removing abalone that may be impacted in the course of these needed repairs. Given the sensitive nature of this species, the EA should avoid specifically listing the presence and location of abalone on the breakwater but may consider including that abalone are present in the Western Strait per Dimond et al. 2022.
    - **USACE Response:** Thank you, USACE has researched pinto abalone and gathered survey methods from recent research of pinto abalone in Southeast Alaska (White and Raimondi 2020). Some survey techniques may present safety concerns and not be possible along the breakwater. USACE will coordinate with WDFW and update the Makah Tribe on relevant information and methods to address pinto abalone concerns if deemed necessary. All updates will be incorporated into the Final EA.
        - **Makah Tribe Response:** Thank you. Please coordinate this with the Marine Ecologist.
            - **USACE Response:** Thank you, USACE cannot perform pinto abalone translocation for this project but will notify the Tribe and any other listed contacts on when work will occur below 0 feet MLLW on the outer breakwater.
- **Makah Tribe Comment:** Vegetation – eelgrass- Eelgrass is more prevalent and abundant than noted in the EA. A 1988 University of Washington contract report to USACE (Simenstad et al. 1988) identifies a large eelgrass bed at the western end of Neah Bay. This report has been corroborated by tribal data and projects and is still present to this day. Eelgrass is present in the vicinity of the inside western section of the breakwater and should be considered in the repair. In 2025 and 2026, the Makah Tribe's Fisheries Department will be conducting a comprehensive, bay-wide assessment of eelgrass inside of Neah Bay, which may be helpful to inform this project. Any data held by USACE that shows current or historic distribution of eelgrass (e.g. 2017 survey data) in Neah Bay would be invaluable for this project and we would request that data on eelgrass distribution be shared with the Tribe.
    - **USACE Response:** Thank you, USACE will find the surveys from 2017 and share them with the Makah Tribe. USACE would benefit greatly from any recent eelgrass presence data since it is a dynamic species that can shift in location annually. The proposed project will not deviate from the

project footprint, which was the primary reason eelgrass impacts were considered minimal. This was corroborated by Ecology when the USACE received concurrence on its CD on December 26, 2024. If available, the Makah Tribe's eelgrass survey data will be referenced and used in the Final EA, if the Makah Tribe is amenable.

- **Makah Tribe Response:** Thank you. Please coordinate with the Marine Ecologist.
    - **USACE Response:** Thank you, we will continue to coordinate with the Makah Tribe through the design process and have updated language in the EA in coordination with the Makah Tribe's Marine Ecologist.