

### NOTICE OF AVAILABILITY DRAFT ENVIRONMENTAL ASSESSMENT DRAFT FINDING OF NO SIGNIFICANT IMPACT

U.S. Army Corps of Engineers Planning, Environmental and Cultural Resources Branch 4735 E. Marginal Way S. Bldg. 1202 Seattle, WA 98134-2388 Public Notice Date: November 27, 2024 Expiration Date: December 27, 2024 Reference: PMP-24-02 Name: Grays Harbor North Jetty Maintenance Project

Interested parties are hereby notified that the U.S. Army Corps of Engineers, Seattle District (USACE) has prepared, pursuant to the National Environmental Policy Act (NEPA), a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for proposed repairs on the North Jetty near the city of Ocean Shores, Grays Harbor County, Washington. The purpose of the repair work is to ensure the Grays Harbor Federal Navigation Channel continues to function as authorized. The purpose of this notice is to solicit comments from interested persons, Tribes, groups, and agencies on USACE's proposed action under NEPA.

#### **COMMENT AND REVIEW PERIOD**

USACE invites submission of comments on the environmental impact of the proposed action. Comments will be considered in determining whether it would be in the best public interest to proceed with the proposed project. USACE will consider all submissions received before the expiration date of this notice. The nature or scope of the proposal may be changed upon consideration of the comments received. If significant effects on the quality of the human environment are identified and cannot be mitigated for, USACE would initiate preparation of an Environmental Impact Statement (EIS) and afford all the appropriate public participation opportunities attendant to an EIS.

#### **PUBLIC HEARING**

Any person may request within the comment period specified in this Notice, that a public hearing be held to consider this proposal. Requests for a public hearing must clearly set forth the following: the interest that may be affected, the way the interest may be affected by this activity, and the reason for holding a public hearing regarding this activity.

#### COMMENT SUBMISSION

Submit comments to this office, Attn: Planning, Environmental, and Cultural Resources Branch, 4735 E. Marginal Way S. Bldg. 1202, Seattle, WA, 98134-2388, no later than 30 days after the posting of this notice to ensure consideration. Comments not received within the comment period are deemed unexhausted and therefore forfeited.

In addition to sending comments via mail to the above address, comments may be emailed to zachary.m.wilson@usace.army.mil. This Notice and the Draft EA/FONSI can be found online at the link below.

Project Name: Grays Harbor North Jetty Maintenance Project

http://www.nws.usace.army.mil/Missions/Environmental/Environmental-Documents/

Posting Date: November 27, 2024 End of Comment Period: December 27, 2024



# Planning and Environmental and Cultural Resources

November 2024

Grays Harbor North Jetty Maintenance

# **Draft Environmental Assessment**

Grays Harbor County, Washington



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# **Acronyms and Abbreviations**

Term	Meaning
APE	Area of Potential Effects
BMP	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO <sub>2</sub> e	Carbon dioxide equivalent
CWA	Clean Water Act
су	Cubic yards
DAHP	Washington State Department of Archeology and Historic Preservation
dB	Decibel
dBA	Human Hearing Weighted Decibels
DMMP	Dredged Material Management Program
DPS	Distinct Population Segment
EA	Environmental Assessment
Ecology	Washington State Department of Ecology
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EJScreen	EPA Environmental Justice Screening Tool
EO	Executive Order

Term	Meaning
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FONSI	Finding of No Significant Impacts
GHG	Greenhouse Gases
V:H	Vertical to Horizontal ratio, measured in feet
HTL	High Tide Line
IPPC	Intergovernmental Panel on Climate Change
LWM	Large Woody Material
MLLW	Mean lower low water
MMT	Million Metric Tons
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service / NOAA Fisheries
NOAA	National Oceanic and Atmospheric Administration
NRHP	Nation Register of Historic Places
P.L.	Public Law
SHPO	Washington State Historic Preservation Office
Sp., Spp	species (singular and plural)
STA	station
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers, Seattle District
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington Department of Natural Resources
WSDOT	Washington Department of Transportation
WTP	Wastewater Treatment Plant

# **1** Proposal for Federal Action

The U.S. Army Corps of Engineers Seattle District (USACE) prepared this draft Environmental Assessment (EA) in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. § 4321 et seq.), regulations of the Council on Environmental Quality for implementing the procedural provisions of NEPA (40 CFR parts 1500-1508), and USACE procedures for implementing NEPA (33 CFR 230;

https://www.ecfr.gov/current/title-33/chapter-II/part-230). Pursuant to Section 102(C) of NEPA, this assessment evaluates the environmental consequences of the proposed Grays Harbor North Jetty Maintenance project.

### 1.1 Location of the Proposed Action

The proposed action is located at the North Jetty in Grays Harbor on the southwestern coastline of Washington, approximately 100 miles south of the Strait of Juan de Fuca and 45 miles north of the Columbia River (Figure 1, Figure 2). The harbor is 15 miles long and 11 miles wide and enclosed by two long spits; Point Brown to the north and Point Chehalis to the south. Grays Harbor contains a variety of habitats including riverine, estuarine, and marine areas associated with the navigation channel. Marine, shoreline, and upland habitats are associated with dredged material placement sites, which are near the mouth of Grays Harbor and on the Pacific Ocean coastline immediately to the south of the South Jetty (Figure 1). Grays Harbor is the fourth-largest estuary on the West Coast and is the second-largest estuary on the Washington coast, behind the Columbia River estuary. Grays Harbor is fed by several moderate to large sized river systems, including the Chehalis, Hoquiam, Humptulips, Wishkah, and Elk Rivers.

The inner harbor is heavily developed and supports industrial and marine port facilities flanking the cities of Hoquiam, Aberdeen, and Cosmopolis in Grays Harbor County, Washington. The navigation channel (Figure 2) provides shipping access from the Pacific Ocean upstream to Cosmopolis on the lower Chehalis River. The shoreline in these industrialized areas has been significantly altered by diking, armoring, and the construction of docks, port terminals, and overwater structures. The peninsulas forming north and south bounds of the estuary mouth are developed in and around the cities of Ocean Shores and Westport, respectively. The shorelines adjacent to these tourismfocused communities are armored to protect commercial, public, and residential properties from flooding and wave erosion. The North and South jetties have been constructed at the harbor mouth to protect and maintain the harbor entrance (Figure 2). The navigation channel runs through the middle of

the harbor in the approximate historical alignment of the Chehalis River outflow channel (Figure 2). The remaining Grays Harbor estuary is relatively undeveloped and is characterized by broad expanses of intertidal mudflats, eelgrass meadows, and fringe intertidal salt marsh.



Figure 1. Location and vicinity of North Jetty at Grays Harbor, Washington.



Figure 2. North Jetty at the entrance of the Grays Harbor Navigation Channel.

### 1.2 Authority

A system of navigation infrastructure was first authorized under the Rivers and Harbors Act of June 3, 1896, to provide a navigable channel across the ocean bar and harbor entrance (29 Stat. 202, Ch. 314). An appropriation for the North Jetty structural element was first enacted through the Rivers and Harbors Appropriation Act of March 2, 1907 (Public Law (P.L.) 59-168), which authorized erecting a jetty 9,000 feet long with reference to the Report of the Chief of Engineers contained in the House Committee on Rivers and Harbors Document 2, 59th Congress, 2nd Session; no crest elevation or other physical parameters of the North Jetty structure were expressed, and no purpose was prescribed but merely implied. Through the Rivers and Harbors Appropriation Act of June 25, 1910 (P.L. 61-264), an appropriation related to the North Jetty was authorized "in accordance with the Report of the Board of Engineers for Rivers and Harbors of March 1, 1910" (printed in House Rivers and Harbors Committee Document 29 for the 61st Congress, 2nd Session). That report

recommended extending the North Jetty by a further 7,000 feet. The report, adopted by express incorporation into the legislative authorization, recommended for the "crest of the whole North Jetty" a "mid-tide jetty" at specifically "+5 feet" elevation; the purpose to be served by the North Jetty (in conjunction with the South Jetty) was "to hold the main channel in position." The final amendment to the Grays Harbor Federal Navigation Project authorization relevant to the North Jetty was promulgated through the Rivers and Harbors Improvement Act of August 30, 1935 (P.L. 74-409), under which an appropriation related to the North Jetty was authorized in accordance with House "Rivers and Harbors Committee Document Numbered 2, Seventy-fourth Congress." The Report contained in the referenced document had recommended reconstruction of the North Jetty to elevation +16 feet above mean lower low water (MLLW). The prescribed purpose was to "assist in the maintenance of the bar channel": "The function is a double one; first, to confine and direct the currents over the bar to secure a scouring effect and, second, to prevent encroachment of sand into the entrance." The Seattle District Commander approved extension of the jetty crest elevation to this action's proposed height of +23 feet MLLW pursuant to the authority in Section 8101 of the Water Resources Development Act of 2022 (P.L. 117-263; USACE 2024a). Section 8101 instructs, when carrying out repair or maintenance of an authorized breakwater or jetty, the Secretary or delegee to ensure that the authorized purposes of the structure are met, including ensuring that the relevant harbor is protected from projected changes in wave action or height (including changes arising from sea level rise), "notwithstanding the authorized dimensions of the jetty or breakwater."

### 1.3 Project Purpose and Need

The proposed action will repair the functionally degraded sections of the North Jetty to their authorized and as-built dimensions, with update in crest elevation to conform to recent statutory mandates, to facilitate maintenance and operability of the Grays Harbor Federal navigation channel. Repairs will ensure the North Jetty continues to fulfill its authorized purposes of reducing maintenance effort and cost by providing training current to "confine and direct" flows to produce sediment scouring effect, preventing sediment encroachment into the harbor entrance, and protecting the harbor from projected changes in wave action, wave height, and sea level rise using the "least costly alternatives consistent with sound engineering practices and meeting the environmental standards" established by pertinent regime-specific regulations (33 CFR 335.7).

Construction of the North Jetty began in 1907. Intermittent work occurred on the North Jetty until 1942, and some portions of the jetty have not been maintained since that time. Within the past 15-20 years, the North Jetty has become heavily damaged from waves and currents, with a loss of 10 feet in crest elevation in some portions. Over time, this allowed sediment to pass over the jetty and deposit into the navigation channel which increased the cost of dredging to maintain navigable depths. Presently, the North Jetty's functionality has degraded due to settlement and rock displacement. Thus, the North Jetty performs insufficiently in preserving an efficient and effective general navigation channel for the safe operation of vessels, when functioning as a jetty and fulfilling its purpose of training current to provide scouring velocities; and performs insufficiently in maintaining an open outer bar channel permitting safe passage of all vessels, when functioning as a breakwater and fulfilling its purpose of providing a barrier against Pacific Ocean waves and the infill of sediment into the bar channel generated by those waves. As a result, higher volumes of dredging in the entrance are required. The North Jetty presently is not fully meeting its authorized purposes. The Grays Harbor navigation channel is thus vulnerable to changes in wave intensity, wave height, and projected sea level rise.

### **1.4 Pertinent Documents**

USACE repaired the North Jetty on two occasions in the last 50 years. Repairs occurred in 1976 and 2000. USACE also prepared an Environmental Impact Statement (EIS) to analyze channel improvements in 1982, 1989, and 2016. The following documents provide relevant environmental analyses.

- U.S. Army Corps of Engineers. 1982. Final EIS: Grays Harbor and Chehalis and Hoquiam Rivers, Channel Improvements for the Navigation Project.
- U.S. Army Corps of Engineers. 1989. Final EIS Supplement, Grays Harbor Navigation Improvement Project, Washington.
- U.S. Army Corps of Engineers. 2000. Final EA: North Jetty Major Maintenance Stations 95+00 to 145+00. Grays Harbor and Chehalis River Navigation Project. Grays Harbor County, Washington.
- U.S. Army Corps of Engineers. 2016. Grays Harbor Navigation Improvement Project Limited Re-evaluation Report, Appendix C: Supplemental EIS.
- U.S. Army Corps of Engineers. 2018. Final EA and Clean Water Act (CWA) Section 404 Public Interest Review: Grays Harbor and Chehalis River Federal Navigation Channel Maintenance Dredging and Placement 2018-2033.

# **2 Proposed Action and Alternatives**

USACE conducted a preliminary evaluation of the alternatives that would fulfill the purpose and need for the project described in section 1.3. Viable alternatives must restore the jetty's federally authorized purpose to provide scouring velocities, to reduce sediment deposition at the harbor entrance, and to protect the harbor. The Preferred Alternative must be the least costly alternative consistent with sound engineering practices and meeting the environmental standards established by pertinent regime-specific regulations.

The as-built condition as it existed at the time of the most recent major maintenance event conducted in each Repair Area (Figure 8) serves as the benchmark (pre-damage condition) for evaluating potential impacts arising from any alterations in the jetty's physical characteristics. Repairs to each of the three areas would ensure the North Jetty continues to fulfill its dual legislatively authorized purposes, and would ensure it is of sufficient size and structural integrity to continue to protect Grays Harbor from projected changes in wave action or height, including those arising from sea level rise.

### 2.1 Historic Operations and Management Strategy

Prior maintenance activities have repaired the jetty to ensure navigation functionality based on the design wave at that time. The design wave and water level determine the rock size and dimensions (crest height, width, side slopes) required to achieve a functional jetty structure. However, the design wave along the jetty has changed over time as water depths in the harbor have changed. This is a result of natural harbor morphology associated with jetty construction, channel improvements (deepening/channel realignments), as well as changes to mean sea level and offshore wave conditions. This has necessitated an increase in the jetty crest height over the project life to ensure structural stability and navigation functionality.

Major maintenance events to the north jetty occurred in 1976 and 2000 (Table 1). During each major maintenance event the crest elevation was constructed above the 1935 authorized height of +16 feet MLLW to provide additional jetty rock to extend the period between maintenance events. Prior experience with jetty construction on the Pacific Ocean indicated that settlement will occur and jetty stone near the crest will be displaced over time, and functionality would be lost over time without this measure, which would in turn reduce navigation reliability. The approach of extending maintenance intervals through placement of additional volumes of jetty rock is generally consistent with Engineering Regulation (ER) 1165-2-119, Modifications to Completed Projects, which provides "broad authority" as part of its responsibility for acceptable project

management to serve the public interest, for the Chief of Engineers to make "reasonable changes and additions to project facilities within the project boundaries as may be needed to properly operate or minimize maintenance."

#### 2.1.1 Summary of North Jetty Construction and Repair History

The shorelines on both the north and south sides of the entrance to Grays Harbor have undergone major changes since the Corps constructed the north and south Jetties. Following original construction in 1916 the North Beach shoreline advanced over 7,600 feet (Figure 3). This trend continued until the late 1980's. However, the trend began to reverse in the early 1990s as the length of the north jetty became a limiting factor for holding the shoreline position. Bypassing of sand around and over the jetty has led to recent shoreline recession on North Beach over the last 30 or more years.

Jetty construction and subsequent maintenance activities are summarized below. Key design parameters for each activity are listed in Table 1. Figure 4 displays the length and location of each activity.



Figure 3. North Beach and Damon Point shoreline change near the Grays Harbor North Jetty from 1989 to 1987.



Figure 4. North Jetty repair history - centerline profile relative to 2020 condition (blue line). 1916 original construction, 1942 reconstruction, 1976 major rehabilitation, 2000 major maintenance.

#### 2.1.2 Original construction (1907-1916)

The original project for the improvement of the entrance to Grays Harbor contemplated securing depths of 24 feet at MLLW by the construction of one jetty on the south side of the harbor entrance. However, these depths were only secured for a short period and were not permanent due to the shifting nature of sands to the north of the entrance. During the latter part of 1906 the Bar channel had seriously deteriorated without a reliable channel across the ebb shoal. As a result, the project authorization was modified to include construction of a second jetty approximately 9,000 feet long on the north side of the entrance. The inner 7,000 feet of jetty were constructed from 1907-1910. At this time, it was clear that the jetty needed to be extended to meet its intended function. In 1910 Congress authorized a 7,000-foot extension of the

jetty. By 1913 the north jetty was constructed to its fully authorized length. The period from 1913 to 1916 involved continuous repairs of the north jetty to mean high water. The outer 400 feet of the jetty head was constructed to an elevation of +30 feet MLLW in anticipation of settlement and rock displacement to provide for an extended life prior to the next maintenance (Figure 5). The morphological feedback of the shoals and channels at the entrance during jetty construction highlight the fact that initial designs of the jetty configuration required adaptive management during construction to meet the intended project purpose.



Figure 5. As-built cross sections following original North Jetty construction in 1916.

#### 2.1.3 North Jetty Reconstruction (1941-1942)

By 1940 the jetty had sustained major damage and most of the outer reach of the jetty rock had been displaced. The crest height was only at 0 feet MLLW along the outer 7,500 feet of jetty. From 1941 to 1942 an 8,828-foot length repair from Sta. 80+00 to 168+80 was completed. The jetty crest of the seaward head of the north jetty was reconstructed from +20 feet to +30 feet MLLW. After the north jetty was repaired, the North Beach shoreline advanced (Figure 3c). Between 1942 to 1959, sand accretion on North Beach amounted to approximately 2 million cubic yards (cy) per year.

#### 2.1.4 North Jetty Rehabilitation (1976)

By 1961 only 2,100 feet of the 1941-1942 reconstructed section of jetty was at or near design grade. As a result, large volumes of sand were transported over the north jetty into the harbor. This deposition ultimately started to create adverse impacts to navigation. In effort to reduce maintenance dredging demands in the federal channel, the north jetty was restored to a crest height of +20 feet MLLW (Figure 6). Approximately 200,000 tons of new rock was placed in 1976 to rehabilitate the outer 6,000 feet of jetty trunk (Sta. 100+00 to 160+00).



Figure 6. North Jetty construction and condition surveys between 1908 and 1960.

#### 2.1.5 North Jetty Major Maintenance (2000-2001)

Between 1976 and 1996 the trunk of the jetty subsided down to +14 feet MLLW. Overtopping waves created large amounts of water which inundated the land north of the jetty root (Figure 7). Drainage adjacent to the jetty became inadequate to convey the volume of water and threatened the stability of the jetty. In order to preserve the integrity of the foundation, in 2000-2001 5,000 feet of the north jetty was rehabilitated to +23 feet MLLW (Sta. 95+00 to 145+00).



Figure 7. Overland flooding from wave overtopping the North Jetty during a storm on December 3, 2007.

Design Parameter		1907- 1916	1942	1976	2000	
Stone Dens per c	ity (pound ubic foot)	-	-	165	167	
Structure Side slope (V:H)		1:1.25 and 1.15	1:2	1:2	1:2	
Crest Elevation (feet MLLW)		+8 to +30	+20 to +30	+20	+23	
Crest Width (feet)		8 to 28	30	30	30	
Armor	Minimum	0.5	8	8	10	
Stone Size	Maximum	16	-	-	55	
(tons)	Average	2	14	14	15	
Total Placed (tons)		845,989	568,420	200,000	103,000	
Beginning Station		0+00	80+00	100+00	95+00	
Ending Station		172+04	168+80	160+00	145+00	
Type of Construction		Original	Reconstruction	Major Rehabilitation	Major Rehabilitation	

Table 1. North Jetty construction and repair history.

#### 2.1.6 Impacts of Existence and Historic Maintenance of the North Jetty

As authorized and as implemented, the North Jetty project has a singular purpose of facilitating navigation, and has no prescribed secondary objective such as flood risk reduction or ecosystem restoration. Any consequences to the local environment and communities, over the course of the life of the North Jetty since completion of first construction in 1916 – in regimes such as induced coastal flooding; accretion or erosion of fast lands; or creation, elimination, or modification or wildlife, fish, or ESA-listed species habitat – are purely incidental to the existence and maintenance of the jetty structure in furtherance of this sole purpose of facilitation of general navigation and economization of the periodic required maintenance of the navigation channel.

The relevant physical parameters of jetty length, orientation, and footprint have not been modified since the most recent Congressional authorization in 1935. Alterations to the North Jetty crest elevation have been made since initial construction with the express purpose of preserving the continuous functionality of the structure to meet its twin navigation objectives of training scouring current and blocking sediment incursion into the general navigation channel. By anticipating settlement of the jetty structure, increasing structural resiliency and stability, and increasing the interval between required maintenance events, the increase in crest elevation has both economized Federal O&M funds and reduced the environmental impacts of repeated repair construction efforts.

The necessity of changes in jetty crest elevation was fully contemplated throughout the authorizing history of the North Jetty, as indicated by repeated adjustments in authorized crest height with a view toward efficient structure maintenance and consistent fulfillment of the navigation purpose; culminating in a broad mandate to anticipate the future need to adjust structural parameters to provide harbor protection from projected changes in wave action/height and changes in relative sea level, as reflected in Section 8101 of WRDA 2022.

The adjacent communities and natural environment have not experienced any consequence from the alteration in crest elevation over time, that was not an incidental consequence of the construction and perpetual existence of the North Jetty structure as originally authorized. Further raising of the crest elevation in this major maintenance episode, mandated by Section 8101 of WRDA 2022 to address changes in wave height/action and sea level, will similarly not generate any different nature – or new degree of significance or intensity – of non-navigation consequence. No reasonable property owner would rationally anticipate the upcoming alteration in crest elevation to generate new consequences not contemplated at the time of the last legislative amendment to the North Jetty authorization in 1935, which is the appropriate temporal benchmark from which to gauge change in circumstances. A reasonable property owner would have contemplated in 1935, and would now continue to contemplate, continued and unchanged risks of a cycle of accretion/erosion of fast land and coastal flooding irrespective of historic crest elevation changes, and irrespective of the crest elevation rise entailed in this upcoming repair action. This major maintenance episode thus will not engender any new taking of private property for public purposes.

#### 2.1.7 Justification for Maintenance

Past condition of the north jetty crest height has been observed to have significant effect on jetty function and required maintenance intervals. First, the crest height of the jetty affects the ability to confine tidal currents through the harbor throat, thus facilitating the purpose of training current to enhance the scouring effect. If crest height is too low, waves may breach sections of the jetty and limit its ability to provide this function. Second, the crest height determines the quantity of sediment that is able to pass over the jetty into the harbor from North Beach, thus facilitating the second purpose of blocking sediment passage. Third, the crest height is related to the amount of damage sustained to the jetty cross-section during storm events. A low-crested jetty will sustain much greater damage during wave overtopping and necessitate frequent and costly maintenance to bring to jetty back to a functional state. A jetty that is frequently overtopped allows greater wave transmission into the harbor which would fail to ensure that Grays Harbor is sufficiently protected from wave action due to shortfalls in the physical parameters of the jetty structure, which would be inconsistent with Section 8101's requirements to ensure harbor protection. As a result, loss of crest height directly degrades jetty functionality at meeting the authorized purposes. Historic maintenance activities incorporated observations of past performance and integrated these findings into the design of each repair. Thus, a jetty with sufficient crest height is required to achieve the authorized purposes while also allowing for a cost-effective maintenance interval.

Observed changes in the shoreline and bathymetry over time have also affected jetty stability and functionality. Historically, following repairs to the north jetty the shoreline has advanced or been stable. Similarly, when the north jetty has degraded in condition, the shoreline has receded and the depths surrounding the jetty have increased. This is important because as the shoreline recedes, the jetty is exposed to larger wave energy and jetty damages accelerate. Thus, proactively maintaining the jetty would help minimize the scope of future maintenance activities.

Finally, future changes in mean sea level, wave action, and offshore wave height will also affect jetty stability and functionality. Adaptions to the jetty cross section (height, width, and sideslopes) and rock size to accommodate increase in wave action and a larger wave height, without increase in jetty footprint or prism cross-section below the high tide line, will be necessary to ensure a structurally stable jetty that comprises physical parameters sufficient to continue to meet its authorized purposes. Inadequate crest jetty height would allow frequent wave overtopping which would degrade the structural stability of the jetty, which in turn would reduce the functionality of the jetty to meet the legislatively authorized purposes, as required by Section 8101 of WRDA 2022, and thus fail to ensure the protection of navigation in Grays Harbor. Recent guidance promulgated in WRDA 2022, Section 8101 explicitly addresses this and how existing authorization should be interpreted in these situations.

#### 2.1.8 Jetty Condition and Functional Assessment

Major damage has occurred to the north jetty trunk. This section of jetty was last rehabilitated in 1976. The north jetty is currently rated as a D structural condition rating and a B functional rating according to the USACE National

Asset Management Operation Condition Assessment Level 1 Screening Tool (2024b).

- The jetty crest width has narrowed from 20 feet to only one stone width between Sta. 145+00 and 148+00. This reach is critical to jetty function as it is located near the land attachment (or root) of the jetty. Should a breach through this narrowed section of jetty occur, a significant amount of sediment would leak through the jetty back into the harbor. This would fail to provide assurances that the physical parameters of the jetty structure are sufficient to meet the purposes of the project, as required by Section 8101, and thus ensure protection of navigation in Grays Harbor.
- Subsidence along the trunk between Sta. 148+00 and 160+00 is also apparent. The head of the north jetty was originally constructed to Sta. 172+04; however, the outer 1,204 feet of the jetty was abandoned following the 1942 reconstruction. The 1976 repairs stabilized the jetty head at Sta. 160+00, and there has not been any appreciable head loss since this time.
- The majority of the jetty root was repaired in 2000. However, sections of the harborside sideslope have experienced sideslope failure. This has resulted in reduced crest width from Sta. 114+00 to 130+00. As the crest width has narrowed this has increased the discharge (volume of water per second) of wave overtopping and has created interior drainage problems. Localized rock displacement has developed on the landward sideslope of the jetty in areas and needs to be addressed to prevent jetty undermining in the future. In summer months, the rock blanket is buried by a layer of sand from windblown transport. In winter months during overtopping events the rock blanket becomes exposed, however there is no indication that this feature needs to be repaired.
- The tail of jetty between Sta. 80+00 to 95+00 was last repaired in 1942. This section is significantly below grade and a tidal channel (swale) has developed between the jetty and the City of Ocean Shores wastewater treatment plant. As the swale has channelized currents between the structures, sediment has been scoured out resulting in subsidence of the jetty over time. Reinforcing the jetty cross section with a more effective filter layer is recommended to prevent further deterioration of the jetty.

### 2.2 Alternative 1 – No Action

Under the No Action Alternative, USACE would not take any actions to repair the North Jetty. This alternative would allow the jetty to continue to deteriorate. Eventually the crest of the jetty would be breached by storm waves and the jetty rock matrix would continue to unravel. Over time significant volume of tidal flow and sediment would pass through the breaches in the jetty and adversely impact fulfillment of the current-training and sediment-blocking purposes, as well as the requirement of Section 8101 to ensure that the physical parameters are sufficient for the protection of navigation in Grays Harbor.

The No Action Alternative is not recommended as it does not meet the project's purpose and need. However, it is carried forward for further evaluation to serve as a baseline condition for assessing other alternatives.

# 2.3 Alternative 2 – North Jetty Repair by Land (Preferred Alternative)

Repairs to the North Jetty, including an increase of the crest height at the proposed elevation, would provide safer passage for vessels, improve current scouring of sediment, and improve protection of navigation in the harbor. Furthermore, repairs to the jetty tail would incidentally reduce the rate of shoreline erosion that is currently caused by incoming waves and would better protect a nearby Wastewater Treatment Plant in Ocean Shores, WA (WTP; see section 3.1.2). Alternative 2 meets the purpose and need for the proposed Federal action and fulfills the North Jetty's authorized purposes.

#### 2.3.1 Design

The proposed action consists of repairing three damaged segments of the North Jetty structure, as shown in Figure 8, so that the jetty is fully functional and fulfills its authorized purpose. North Jetty repairs would be broken into three different Repair Areas (Figure 8). The proposed elevations of the North Jetty would be +23 feet above MLLW in Repair Areas 1 and 2 and +20 feet above MLLW in Repair Area 3. The USACE would place rock (both new and reworked relic stone) between 0 feet MLLW and the top height (crest) of +23 feet above MLLW in Repair Areas 1 and 2 (Figure 9 and Figure 10), and between -3 feet below MLLW on the Harbor side (0 MLLW on the north/Ocean side) and a crest height of +20 feet above MLLW in Repair Area 3 (Figure 11). Relic rock would be retrieved throughout the repair from -3 feet below MLLW and above and reintegrated into the jetty. In the course of rehabilitation construction, the structure's sideslopes and profile would not be modified below the high tide line (HTL) in Repair Area 1 and would not be modified in Repair Areas 2 and 3. Thus, no portion of the rehabilitated structure would protrude further into waters of the United States on either the harbor side or the ocean side in the jurisdictional region below the HTL, as compared with the designed profile as it existed for each Repair Area.

The as-built condition as it existed at the time of the most recent major maintenance event conducted in each Repair Area (Figure 8) will serve as the benchmark (pre-damage condition) for evaluating potential impacts arising from any alterations in the physical characteristics of this passive engineered structure. Repairs to each of the three areas would permit the North Jetty to continue to fulfill its dual legislatively authorized purposes and would ensure the structure has sufficient size and structural integrity to continue to protect Grays Harbor from projected changes in wave action or height, including those arising from sea level rise. Table 2 displays the baseline and proposed repair parameters for each of the repair sections. The proposed repairs in Repair Areas 2 and 3 would be rebuilt to benchmark footprint and cross sections. The proposed +23 feet above MLLW crest elevation in Repair Area 1 is three feet taller than the last repair in 1976. The additional height in Repair Area 1 would be achieved by steepening the side slope from 1V:2H to 1V:1.5H above the HTL on the ocean side and establishing a crest width of 25 feet. Environmental effects of the proposed change in physical parameters in Repair Area 1, compared to reestablishing the as-built dimensions in Repair Area 1, would be minimized because the footprint occupied by the jetty toe would not change as compared with the benchmark status quo, and because a minor expansion of the cross-section would be generated by steepening the ocean-side slope only above the HTL. Since the change in the dimensions of Repair Area 1 would have discountable impacts, the effects of Repair Area 1 maintenance will not be separated from maintenance on Repair Areas 2 and 3 in the analysis below.

Materials used in jetty construction would be armor rock, core/chinking rock, and filter rock. Surface/armor layer rock will be deconstructed, and filter rock (approximately 6 to 24 inches in diameter) would be required if there is insufficient relic jetty rock (or base layer) on which to place larger armor rock. Core/chinking rock (approximately 3 feet in diameter) would fill in large areas between the filter/base layer and armor layer. Numerical wave modeling was performed to provide up-to-date design wave information along the full length of jetty. The modeling results were used to size the armor rock and identify an appropriate crest elevation to minimize the frequency of wave overtopping. It is estimated this repair would require 111,100 tons of new armor rock to be placed over 42 consecutive months. The armor rock would have a gradation of approximately 5 to 8 feet in diameter (10–55 tons) to achieve a well-interlocked mass. The proposed design would maintain the existing footprint on the sea floor. When possible, repairs would primarily occur on the outer layer of the jetty. In areas where the cross section of the North Jetty has significantly degraded with exposed core rock, mainly in Repair Area 3, the core layer would need to be rebuilt using new core rock, filter rock and reused relic armor rock. Manipulation of the jetty core would also be required prior to building an access road to the outer portions of Repair Area 1. However, excavation or removal of core stone would not occur. Filter rock would be placed on existing

grade (mainly sand) using a front-end loader and dozer to level out the layer. Smaller core rock would be placed on top of the filter rock, and the core layer would be capped with armor rock.

New rocks would be similar to armor rock used in the 2000 in Repair Area 2 and would be keyed into position and secured within the structure matrix to minimize potential degradation. As such, relic armor rocks that have fallen out of place from the 2000 repair found at elevations of -3 feet below MLLW or higher would be retrieved by a long reach excavator (reach of approximately 36-52 feet) and refitted/keyed into the jetty. The long reach excavator may be located on the North Jetty crest or anywhere above an elevation of +16 feet above MLLW. Retrieval of relic armor rock would only occur above the water line under low tide conditions. No relic armor rocks would be retrieved from within the water. Retrieval could occur throughout the project site, depending on where this relic rock has settled but it would be expected to occur adjacent to or in Repair Area 2. In areas where the jetty side slope has failed, relic rocks would be retrieved between -3 below and 0 feet MLLW and would be reworked into the structure matrix, along with new armor rock, to ensure a well-formed interlocked mass prior to proceeding up the slope with the proposed repairs.



Figure 8. The three segments proposed for repair at the North Jetty and the staging and access areas at Ocean Shores, Washington.



Figure 9. Proposed Repair Area 1 (Station [STA] 145+00 to 160+00) cross section with the 1976 repair footprint overlaid to illustrate modifications in geometry. Repair Area 1 would be repaired to an elevation of +23 feet MLLW, have a harbor-side slope of 1V:2H, and an ocean-side slope of 1V:1.5H above the HTL. The crest width would be established in this area at 25 feet.



Figure 10. Proposed Repair Area 2 (STA 95+00 to 145+00) cross section showing 2000 footprint overlay; the geometry of the proposed repair would be the same as the 2000 repair. Repair Area 2 would be repaired to an elevation of +23 feet MLLW and have a seaward and landward slope of 1V:2H. The crest width would be 30 feet.



Figure 11. Proposed Repair Area 3 (STA 85+00 to 95+00) cross section showing 1942 footprint overlay; the geometry of the proposed repair would be the same as the 1942 repair. Repair Area 3 would be repaired to an elevation of +20 feet MLLW and have a seaward and landward slope of 1V:2H.

	Repair Area 1		Repair Area 2		Repair Area 3	
Parameter	Baseline 1976 Repair	Proposed Repairs	Baseline 2000 Repair	Proposed Repairs	Baseline 1942 Repair	Proposed Repairs
Linear Feet	1,500	1,500	5,000	5,000	1,000	1,000
Rock size	10 to 20 tons	10 to 55 tons	10 to 55 tons	10 to 55 tons	1 to 10 tons	10 to 55 tons
Crest width (feet) MLLW	30	25	30	30	30	30
Crest height (feet) MLLW	+20	+23	+23	+23	+20	+20
Southern slope (feet)	1V:2H	1V:2H	1V:2H	1V:2H	1V:2H	1V:2H
Northern slope (feet)	1V:2H	1V: 1.5H	1V:2H	1V:2H	1V:2H	1V:2H
Rock placement elevation (feet) MLLW	0 to +20	0 <sup>1</sup> to +23	0 to +23	0² to +23	-3 to +20	-3 to +20

<sup>1</sup> Slope will remain 1V:2H below the high tide line.

<sup>2</sup> In areas where the jetty side slope has failed, relic armor stones at the toe between -3 and 0 ft MLLW will be reworked into the structure matrix to ensure a well-formed interlocked mass prior to proceeding up the slope with the proposed repairs.

#### 2.3.2 Staging and Construction

Equipment and rock stockpiles would be staged on the west side of the WTP (Figure 8). Two access routes for construction activities are located along the road adjacent to the jetty at parking lots at the east and west ends of East Ocean Shores Boulevard.

The proposed repair would use cranes, excavators, dump trucks, lowboy flatbed trailers, and bulldozers. All construction work would be conducted from land or from the jetty itself; no work would be conducted from the water via barge. The crane and excavator would place the rock along the jetty. Dump trucks and bulldozers would be used to construct a haul road on the crest of the jetty and transport materials for the jetty repair. Trucks would haul as many as 40 loads of quarry material daily to the stockpile area of the construction site. Construction would include the following activities:

- Construct temporary access roads from the project stockpile and staging area to the repair areas. The access roads would be crowned to drain overtopping water away from the backshore area. The access ramps up to the jetty would be removed prior to the end of work.
- Establish a designated stockpile and staging area located near the WTP.
- Transport rock materials for the jetty repair to the site's stockpile area using lowboy trailers and dump trucks, from quarry site(s) that would be determined by the construction contractor.
- Move materials around the staging area with an excavator and bulldozer.
- Place up to 20,000 tons of core/chinking and filter rock.
- Place up to 150,000 tons of armor rock.
- Place toe rock and retrieve relic armor rock during minus tides and above the water line to ensure it is properly interlocked with adjacent rocks. These activities performed below the HTL would not occur in the water.

The contractor would have the option to transport rock to the area by barge. However, under Alternative 2 the contractor would need to use an existing marine terminal to offload the rock, which would then be transported to the site by truck rather than direct offloading at the jetty, which is a scenario evaluated under Alternative 4. Off-loading from a barge directly to the jetty would not be permitted under Alternative 2.

#### 2.3.3 In-Water Work and Repair Timing

The in-water work window (construction work below HTL) is between July 16 and February 15. In addition, work on the lower (toe) portions of the repair sites would be done during periods of low tide within the in-water work window to avoid work in the water.

The repair is estimated to take approximately 42 months to complete. All work, including rock placement below the HTL, or retrieving relic armor rock from depths below the HTL, would occur only during the in-water work window between July 16 and February 15. Only construction that occurs on and adjacent to the jetty above the HTL and above the present water elevation, and on land, would occur during the remaining months. The repair would span 3 in-water work windows. Work may occur 24 hours a day, 7 days a week, depending on the work shifts the contractor chooses and weather and tide conditions, but it is likely workdays would be 10-12 hours long. This flexibility is required for cost efficiency and to take advantage of low tides to avoid in-water work. Placement and retrieval of rock below the HTL would occur during low tides to avoid any activities under the water. If working 12 hours daily, the contractor can place up to 1,000 tons of rock in a day depending on the equipment. Longer workdays would lead to a shorter duration for the project.

#### 2.3.4 Best Management Practices and Conservation Measures

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

- Prior to construction activities, all site limits would be marked using stakes and flagging.
- During construction, temporary sediment control measures would be implemented as necessary.
- Removal or scraping of native vegetation would be limited to the minimum amount needed to construct the project.
- Heavy equipment would be limited to the work area footprint to the extent possible throughout the project. Operation and staging of construction equipment would only occur above the high tide line. However, equipment would reach below the HTL during rock placement and retrieval to elevations at or above -3 feet MLLW.
- Upland travel routes to the active construction site would be clearly marked prior to commencing construction activities and maintained until all work is completed.
- There would be no discharge of oil, fuels, or chemicals to surface water or onto land or water.
- Equipment that would be used near or in the water would be cleaned prior to construction.

- Fueling will not occur on the outer breakwater, and biodegradable hydraulic fluids will be used as appropriate in any portion of the equipment that will work in the water. All equipment will use ultra-low sulfur fuel. A Fueling and Spill Recovery Plan will be developed prior to construction and will include specific BMPs to prevent spills and react quickly should a spill occur.
- Drive trains of equipment would not operate in the water.
- Construction equipment would be checked daily for vehicle-fluid drips or leaks. Any leaks and drips would be cleaned up and fixed promptly, or the equipment would be removed from the project site.
- All construction materials would be free of contamination, such as oils and excessive sediment.
- Temporary erosion control measures would be installed for all phases of work as required to prevent the discharge or accumulation of sediment into open water or off-site. A Certified Erosion and Sediment Control Lead would choose and install erosion control materials for specific site conditions as necessary. These could include silt fencing, mats, blankets, check dams, bonded fiber matrix, and straw. Accumulation of sediment in any adjacent swales or storm drains would be monitored daily and cleared to ensure continued service throughout construction.
- Water would be sprayed on material piles and during activities to reduce fugitive dust.
- A spill containment kit, including oil-absorbent materials would be kept on-site during construction in the event of a spill or if any oil product is observed in the water. If a spill were to occur, work would be stopped immediately, steps would be taken to contain the material, and appropriate agency notifications would be made. Staff would be trained on using the spill containment kit.
- All construction activity below the HTL would be performed during the established work window of July 16 to February 15, when sensitive marine species are less likely to be present. All work would be conducted above the water elevation in any state of tide.
- Work on the lower (toe) portions of the repair sites would be done during low tides, above the water elevation, to avoid work in the water.
- Prior to initiating the construction activities, including use of staging areas, use of access points, and placement of material on the jetty, Repair Area 3 would be surveyed for the presence of western snowy plovers, streaked horned larks, and other ESA-listed species. If possible, construction areas with nesting plovers and/or larks within 890 feet would be avoided until the birds have vacated the

area. However, it is critical to work during low tides to avoid in-water work to ensure accurate placement of materials and avoid water quality and underwater noise related impacts. The lowest tides overlap with the nesting season of both these birds, so complete avoidance may not be possible.

- Large woody material (LWM) within the project footprint would be cleared from the construction area and stockpiled for replacement along the backshore side of the North Jetty when jetty repairs have concluded. LWM is defined as trees, stumps, roots, and other woody debris greater than 12 inches in diameter and/or 5 feet in length. Extremely large pieces would be retained intact, where feasible. LWM stockpiles would not be located in environmentally sensitive areas, including wetlands. Preferred stockpile locations would be identified in upland staging areas.
- To avoid any changes in jetty prism below the HTL, the crest width would be established at 25 feet in Repair Area 1 as the crest elevation is increased.
- No alteration would be made to the jetty profile below the HTL, nor would any changes be made to the structure footprint in any Repair Area.
- No direct work on the North Jetty from the water via barge would be conducted. Instead, temporary access roads would be used to ensure all work is being done from the land.
- The extent for each repair area would be marked and heavy equipment in the repair areas would be limited and staged when equipment is not needed or in use.
- The removal of native vegetation would only be performed at the repair areas as necessary. Actions would ensure the lowest amount disturbance of nearby vegetation possible.
- Garbage, plastic, and debris found or created during construction would be removed from the site and disposed of in an approved upland facility. The storage methods and locations while workers are on site would occur upslope or landward of the HTL so the trash would not enter the water or cause degradation of water quality. Storage methods and locations would be animal, weather, and wind-proof.
- Escaped jetty rock would be retrieved within a prescribed depth stratum, reducing the amount of rock used and the presence of non-native rock in the area.
- Keying of armor rock would reduce risk of future escapement.
- Rock placement measures would be taken to reduce noise/vibration.
- Armor rock sizing has been identified via modeling to reduce risk of future jetty degradation.
- The crest elevation in Repair Area 1 would be raised to reduce risk of future jetty degradation, and address risk of projected changes to wave action/height, including those arising from sea level rise.
- The project would comply with State Water Quality Standards, including those for turbidity and dissolved oxygen.

# 2.4 Alternative 3 – Partial Repair of Jetty Root and Trunk

This alternative would mirror the repair of the same three jetty segments outlined in Alternative 2 with a reduced scope to repair the most critically damaged sections of the jetty root, specifically between Sta. 116+00 to 130+00 and 145+00 to 155+00 (Figure 12). These repairs would address the jetty in the interim but would not address all repair needs. Thus, in order to formulate a comparative alternative that would meet the project's purpose and need, the initial course of partial repair construction must be combined with additional repair events, both planned and unplanned, within the next 25 years to complete the full extent of necessary structural repairs on the entire length of all three segments. The collective course of repairs under Alternative 3 would be expected to generally cause more intense and prolonged adverse effects on the quality of the human environment, because those effects would be extended over a greater period of time; because there is a possibility of increased cumulative volume of scheduled repair work due to interim jetty degradation over the entire repair interval, caused by the reduced degree of initial repair effort; or because of the potential for unscheduled, urgent, or emergency repair work arising from interim degradation of the jetty structure which may generate exacerbated environmental impacts due to compressed planning timeframes, in-water work, and/or need for work outside the designated in-water work window. Future additional repairs would resemble the complete repairs described in Alternative 2. Because in order to meet the project purpose and need Alternative 3 must incorporate subsequent repair episodes over the repair project's projected 25-year life, although each repair episode would generate very similar nature and intensity of impacts as compared with Alternative 2, Alternative 3 would generate prolonged and possibly exacerbated environmental effects, and is carried forward for full evaluation on that basis.



Figure 12. Location of the critically damaged sections of the North Jetty (circled in red).

# 2.5 Alternative 4 – North Jetty Repair by Barge

This alternative would involve repairing the same three sections as Alternative 2 (Preferred Alternative) but would include delivering rock via barges on the waterward side of the jetty. Barge transport would necessitate the construction of a barge mooring dock adjacent to the jetty, which would significantly impact the nearshore marine environment. Given the scope of repairs and difficulty of access to the North Jetty by water, USACE staff determined that designing and implementing a temporary material offloading facility adjacent to the North Jetty would generate considerable additional adverse environmental impacts and introduce additional cost, inconsistent with the principles of 33 CFR 335.7, thus making this alternative infeasible. This alternative is not carried forward for detailed consideration.

# 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, chemical, biological, and socioeconomic characteristics of the project area. Factors for recommending the Preferred Alternative include considering which of the alternatives would meet the purpose and need of the project, be the least costly alternative consistent with sound engineering practices and meeting the environmental standards established by pertinent regime-specific regulations. Table 3 identifies the resources were excluded

from detailed analysis if they are not potentially affected by the alternatives or have no material bearing on the decision-making process.

Table 3. List of resources	considered	for detailed	effects	analysis	and rationale	for their
inclusion or exclusion.				-		

Resource	Included in Detailed	Rationale for inclusion or exclusion
	Analysis	
Socioeconomic Resources	Yes	The proposed project would repair a navigation structure that supports commerce. Analysis is required to determine the extent of potential socioeconomic effects
Hydrology and Geomorphology	Yes	The proposed project would repair a human-made navigational structure. Analysis is required to determine the extent of potential effects to hydrology and geomorphology.
Wetlands	No	No wetlands occur within the project footprint. Therefore, no analysis is required.
Groundwater	No	No groundwater would be affected. Therefore, no analysis is required.
Water and Sediment Quality	Yes	The proposed action includes work below the HTL. Analysis is required to determine the extent of potential effects to water quality and sediments.
Air Quality and Greenhouse Gas Emissions	Yes	The proposed action involves construction equipment that would generate exhaust. Analysis is required to determine the extent of potential effects to air quality conditions.
Noise	Yes	The proposed action involves construction equipment that would generate noise. Analysis is required to determine the extent of potential effects from noise.
Hazardous, Toxic, and Radiological Waste	No	The recommended alternative would not 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.
Benthic Invertebrates	Yes	The proposed action could impact benthic invertebrates. Analysis is required to determine the extent of potential effects to benthic invertebrates.
Fish	Yes	The proposed action could impact fish. Analysis is required to determine the extent of potential effects to fish.

Resource	Included in Detailed Analysis	Rationale for inclusion or exclusion	
Wildlife (birds and mammals)	Yes	The proposed action could impact wildlife. Analysis is required to determine the extent of potential effects to wildlife.	
Vegetation	Yes	The proposed action could affect terrestrial and marine vegetation. Analysis is required to determine the extent of potential effects to vegetation.	
Threatened and Endangered Yes Species		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 the extent of potential effects to listed species and designated critical habitat.	
Invasive Species	No	The action would not affect invasive species. Introduction of invasive species from outside sources is not a concern. Therefore, no analysis is required.	
Cultural Resources	Yes	The proposed action could impact cultural resources. Analysis is required to determine the extent of potential effects to cultural resources.	
Recreation	Yes	The proposed action could impact recreation. Analysis is required to determine the extent of potential effects to recreation.	
Public Services and Utilities	No	The proposed action would have no effect on electricity, water, wastewater and stormwater collection, sewer and solid waste, natural gas, oil/petroleum, or telecommunications services. Therefore, no analysis is required.	
Public Health and Safety	No	All material would be suitable for aquatic environment placement, so no impacts to public health or safety are anticipated. Therefore, no analysis is required.	
Environmental Justice	Yes	Analysis is required to determine the extent of potential effects to marginalized communities.	
Land-based Transportation and Traffic	Yes	The proposed action involves construction equipment that would use surface roads. Analysis is required to determine the extent of potential effects to land-based transportation and traffic.	

# 3.1 Socioeconomic Resources

Typical socioeconomic analysis considerations include employment, population, income, economic growth, and public infrastructure. The North Jetty is one component of the Federal navigation channel servicing the Port of Grays Harbor. Existing infrastructure within the immediate vicinity of the project includes the navigation features (see North and South Jetties and navigation channel in Figure 2), the Westhaven Cove Small Boat Basin, and its associated breakwaters near the city of Westport.

Consequently, USACE developed an area of economic analysis that encompasses Grays Harbor County, Washington, rather than limiting the analysis only to the physical project area at Ocean Shores.

Main local employers include the Port of Grays Harbor, Stafford Creek Prison, the Quinault Tribe's casino and resort, Grays Harbor College (Aberdeen), Ocean Spray, several lumber companies, seafood processers, and manufacturers. The most recent Census reports that in 2020, 9.8 percent of the population was below the poverty level (U.S. Census 2020). State and Local government is the largest employer in the county. The region also supports many small businesses. Charter fishing and nearby beach destinations attract tourists. For instance, the Quinault rainforest and beaches offer multiple types of outdoor recreation opportunities. Historical attractions highlight the area's timber, manufacturing, and industrial heritage.

The Grays Harbor Federal navigation channel is critical to the regional economy by providing access for shipping at the Port of Grays Harbor, vessel traffic for commercial and recreational fishing out of Westport Marina and other sites around the bay. According to a 2013 economic impact study, the Port's activities generated over 5,700 direct, indirect, and induced jobs throughout the region generating \$341 million in personal income and local consumption (Martin Associates 2014).

# 3.1.1 No Action Alternative

Under the No Action Alternative, the North Jetty would continue to deteriorate and result in loss of functionality to the federal navigation channel. The degradation of the structure has been exacerbated by a rise in local mean sea level and larger waves impacting the jetty. Areas on the jetty trunk have settled to elevations less than +15 feet MLLW. As a result, the entire structure is experiencing progressive damage with each storm event. It is anticipated the No Action Alternative would increase cost as a result of increased maintenance dredging in the Bar and Entrance Reaches of the navigation channel. This would result in a loss of channel reliability and higher probability of economic consequences to shipping if the channel is unable to be maintained to its authorized depth. Additionally, further deterioration of the structure could require inwater work which would lead to increased environmental costs.

#### 3.1.2 Preferred Alternative

At present, the North Jetty performs insufficiently in fulfilling its authorized purpose. The Preferred Alternative would allow the North Jetty to continue to perform its authorized purpose in a more effective and sustainable manner, which assists in maintenance of a navigation channel across the ocean bar by (1) confining and directing tidal currents over the bar to generate a scouring effect, and (2) preventing encroachment of sand into the entrance. The Preferred Alternative would also reduce the risk of a breach of the structure which will avert increased socioeconomic impacts by preventing significant amounts of sediment leaking through the jetty back into the harbor and impact vessel traffic and/or increase the volume of channel dredging required. The Preferred Alternative would address all existing damage areas and ensure structural stability over the design life. As a result, this alternative would provide the highest level of reliability for safe and efficient operation of the federal navigation channel over the project life cycle.

Construction activities would not adversely affect tourism or commercial/recreational fisheries, which are the two major sectors of the economy of Grays Harbor County.

Prime recreational destinations occur in the project area, so tourists and residents may experience temporary inconveniences due to construction traffic during rock deliveries to the site. Rock deliveries would cause an increase in traffic along the route to the site but would not occur on other city roads. These disruptions are not expected throughout the entire 42-month duration of the project.

Routine maintenance and repairs would avoid an emergency action caused by a breach or catastrophic collapse of the North Jetty, which would be more disruptive and expensive than scheduled maintenance work.

Based on this information, the negative effects to socioeconomic resources from the repairs would be temporary and negligible and are not expected to deter tourists from visiting Grays Harbor County. Ultimately, the proposed project would ensure a fully functional deep draft navigation channel providing long-term benefits to socioeconomic resources.

# 3.1.3 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects to socioeconomic resources as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty for repair. This means the North Jetty would still remain at risk for an emergency action caused by a breach or catastrophic collapse where repairs were not made. As a result, this alternative would provide the lowest level of reliability for safe and efficient operation of the federal navigation channel over the project life cycle.

# 3.2 Hydrology and Geomorphology

The coastline along the North Jetty is a high-energy area, subjected to direct tidal, wave, and wind action. Grays Harbor is a broad, shallow estuary that traps sediment from its freshwater river sources and oceanic inputs coming from as far away as the Columbia River. On average, sediment compositions for Grays Harbor are 30 percent silt/fines and 70 percent sand and gravel (Peterson et al. 1984). Sand input to Grays Harbor is typically 56 percent ocean derived and 44 percent river sand (Peterson et al. 1984).

Sediments around Ocean Shores are primarily deposited from the Pacific Ocean. The coastal currents and wave climate contribute to a net regional sediment transport to the north along the continental shelf in Washington. Additionally, wind-generated waves are common in the area and can significantly impact the suspension and movement of shallow water sediments. In the winter, the longshore transport of sediment is directed toward the north, and sand is eroded from beaches due to winter storm waves. In the summer, transport of sediment generally shifts to the south because swells predominantly enter the area from the northwest, which tend to move sand onto the beach. The seasonal reversal of sediment dynamics causes transport of sand around and through the North Jetty and back into the harbor. This source of sediment, prior to the North Jetty's construction, resulted in the formation of Damon Point (Figure 2).

Currents and sediment dynamics changed when the North Jetty was raised from a midtide height of +5 feet MLLW in 1916 to a height above the HTL of +20 feet MLLW in 1942, altering the amount of sediment transported into the North Bay (Kraus et al. 2003). Sources of sediment into the North Bay were therefore reduced (Kraus et al. 2003). As such, sediment transport dynamics coupled with the condition and authorized dimensions of the jetties caused a deepening of the navigation channel and changes in current that ultimately reduce the sediment supply and cause net export of sand from Grays Harbor. Loss of sediment, caused by the North Jetty's presence, resulted in a sediment deficit causing the gradual erosion of the shoreline east of the Ocean Shores WTP (Kraus et al. 2003). Degradation of the North Jetty in Repair Area 3 has also caused more wave energy to enter the North Bay of Grays Harbor. As a result, there has been an increase in the rate of erosion along the shoreline of Ocean Shores and the Oyhut Wildlife Recreation Area between 1987-2001 (Figure 2; Kraus et al. 2003). Since 2006, the rate of erosion has further increased in the area (David Michalsen, USACE Coastal Engineer, pers. comm. 2024).

NOAA projections related to climate change (2023) predict sea level rise and increasing wave energy in the area (Reguero et al. 2019). These projections ultimately increase the risk of the North Jetty's progressive failure. During inclement weather, storm surges coupled with high tides breach and overtop the jetty. These factors make the harbor susceptible to greater wave energy. The Federal navigation channel also is

compromised from greater sediment accumulation and wave activity when the North Jetty is in degraded condition.

#### 3.2.1 No Action Alternative

Under this alternative, the North Jetty would continue to degrade and remain at risk of developing a breach. A low-crested jetty will sustain much greater damage during wave overtopping and necessitate frequent and costly maintenance to bring the jetty back to a functional state. A jetty that is frequently overtopped allows greater wave transmission into the harbor which would fail to ensure that Grays Harbor is sufficiently protected from wave action due to shortfalls in the physical parameters of the jetty structure. As a result, loss of crest height directly degrades jetty functionality at meeting the authorized purposes. Historic maintenance activities incorporated observations of past performance and integrated these findings into the design of each repair. Thus, a jetty with sufficient crest height is required to achieve the authorized purposes while also allowing for a cost-effective maintenance interval. Inadequate crest jetty height would allow frequent wave overtopping which would degrade the structural stability of the jetty, which in turn would reduce the functionality of the jetty to meet the legislatively authorized purposes, as required by Section 8101 of WRDA 2022, and thus fail to ensure the protection of navigation in Grays Harbor.

This would increase the cost to maintain the Federal navigation channel and the environmental impacts of maintenance dredging and disposal. The environmental impacts of routine maintenance dredging are discussed in the USACE's Final EA for maintenance dredging at Grays Harbor (2018) and are hereby incorporated by reference.

# 3.2.2 Preferred Alternative

The Preferred Alternative would return the North Jetty to its authorized functions including generating a scouring effect at the entrance of the Federal navigation channel to reduce sediment accumulation. This alternative would repair all major damage areas, the jetty head, the entire root, and tail. This would address all existing damage areas and reduce the risk of a breach and overtopping of the structure. As a result, this alternative would provide the highest level of reliability for safe and efficient operation of the federal navigation channel over the project life cycle. There may be minimal and temporary impacts to hydrology and geomorphology during construction, primarily from staging and access activities. The staging and access areas will be restored to pre-existing conditions after repairs are completed.

Completed repairs would not have a significant impact on the physical characteristics of the project area because the action would maintain the hydrologic and geomorphologic conditions that initiated at original construction more than 100 years ago. While there is a slight increase in armor rock size due to advances in engineering practices (e.g., numerical wave monitoring), the increase in size would result in a more stable structure that would require less frequent maintenance. Overall, establishing the proposed jetty dimensions (Table 1) would result in less destruction via wave energy than in its current damaged condition. Effects on hydrology and geomorphology would maintain the changes initiated by the construction of the Federal structure.

# 3.2.3 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects to hydrology and geomorphology as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty for repair. This means the North Jetty would still remain at risk for an emergency action caused by a breach or catastrophic collapse where repairs were not made. As a result, this alternative would provide the lowest level of reliability for safe and efficient operation of the federal navigation channel over the project life cycle.

# 3.3 Water and Sediment Quality

The Washington State Department of Ecology (Ecology) classified the fresh/estuarine waters of Grays Harbor west of longitude 123°59' as "excellent, suitable for primary contact recreational uses and shellfish harvest." Grays Harbor is listed as "suitable for wildlife habitat, harvesting, commerce and navigation, boating, and aesthetics" (WAC 173-201A-612). However, minor issues are present. According to Ecology's Water Quality Assessment, two sites near the project area are listed under section 303(d) of the CWA as Category 2 for bacteria (fecal coliform) and Category 4 due to presence of invasive exotic species (Ecology 2024). One small area of outer Grays Harbor, southeast of the project area, is on the 303(d) list (Category 5) for one water quality parameter, dieldrin, which in 2008 was found in mussel tissue samples collected near Westhaven Marina (Ecology 2024). The Washington Department of Ecology (Ecology) rates the waters for aquatic life adjacent to the North Jetty as excellent (Ecology 2023). Turbidity levels in Grays Harbor and the adjacent Pacific Ocean nearshore area naturally vary from high levels found in the inner harbor during high flow conditions in the Chehalis River to low levels during low flow times. Storm events increase turbidity levels as rainwater washes sediment into streams and rivers. Turbidity in estuaries like Grays Harbor can change with the shifting tides, and turbidity in the nearby Pacific Ocean is low at most times. Potential point and non-point sources of contaminants in Grays Harbor and the adjacent Pacific Ocean are associated with past and present land uses. Industrial development within Grays Harbor includes paper mills, timber and wood products industries, marine vessel moorage and repair, and fish processing. The Ocean Shores WTP discharges into the harbor mouth immediately south of the North Jetty. The city's sewage is subject to secondary treatment. Effluent complies with National Pollutant Discharge Elimination System standards, except on extreme high flow days when discharge may slightly exceed water quality requirements and

discharge occurs during the ebb tide. The Chehalis River and other rivers that enter Grays Harbor receive runoff from adjacent terrestrial landscapes that can move contaminants from land to the aquatic environment, including the navigation channel.

#### 3.3.1 No Action Alternative

The No Action Alternative would have no effect on the water or sediment quality in Grays Harbor because no repairs would be made to the jetty. This alternative would not meet the purpose and need for the proposed action because the jetty would continue to degrade, allowing sediment to accumulate at a faster rate in the navigation channel. Without repairs, USACE anticipates a scour channel developing on the landward side of the jetty near the WTP. Left unaddressed, the scour channel would damage the foundation of the jetty and possibly the armored dike protecting the WTP. If the dike is damaged, the WTP is at risk of sustaining damage too that could potentially lead to impacting water quality in the surrounding waters. Impacts could extend beyond increases in turbidity and could cause wastewater and sewage to enter Grays Harbor.

#### 3.3.2 Preferred Alternative

The Preferred Alternative would repair 7,500 linear feet of the North Jetty. Under the Preferred Alternative, no in-water work would occur because the contractor is only allowed to work on areas below the HTL during low tides when no water is present. The material placed on the jetty face below the HTL would be large armor stones free of contaminants, silt, and debris. Retrieval and reworking of relic rock and placement of new rocks may dislodge sand that has accumulated at the lower elevations of the jetty face that would mix with the water during incoming and high tides, which would cause minor, short-term impacts to water quality, mainly elevated turbidity, after recovering and refitting relic armor rock and placing new rock below the high tide line. In these events, turbidity could occur after low tides when water returns to areas where rock was placed or retrieved.

This could cause discrete minor increases in turbidity near the North Jetty. Therefore, effects on water and sediment quality would be temporary and minor in scope.

#### 3.3.3 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects to water and sediment as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty in the interim but would not address all repair needs. The collective course of repairs under this alternative would be expected to generally cause more intense and prolonged adverse effects on the quality of the human environment for the reasons outlined in section 2.4. As a result, the multiple partial repairs are expected to generate more turbidity compared to the Preferred Alternative.

# 3.4 Air Quality and Greenhouse Gas Emissions

In accordance with the Clean Air Act (CAA), the Environmental Protection Agency (EPA) set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to the environment and public health. The six principal pollutants are ozone, lead, particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide. The EPA has established threshold levels for criteria pollutants for nonattainment or maintenance areas (i.e., areas where the air quality does not meet the NAAQS). Ocean Shores and Grays Harbor are in an attainment area, and the thresholds do not apply to "routine maintenance and repair activities" that would result in an increase in emissions that is clearly *de minimis* (40 CFR 93.153(c)(2)).

Since Grays Harbor County is a CAA attainment area for the six principal pollutants, air quality meets all NAAQS. The Olympic Region Clean Air Agency monitors air quality along the Washington Coast in the project area. The Air Quality Index reported for Grays Harbor County, Washington is rated as good. Coastal winds disperse local emissions from residential and vehicular sources. The topography of the local area is flat with no valleys that can trap air pollutants.

Greenhouse gases (GHGs) contribute to climate change by absorbing energy and slowing the rate at which energy (such as heat or light) escapes into space, essentially insulating and warming the Earth. The concern for Federal projects is whether the contribution of GHGs to the atmosphere is in large enough quantities as to outweigh the benefit of executing the proposed action.

GHG emissions are often reported as a carbon dioxide (CO<sub>2</sub>) equivalent (CO<sub>2</sub>e), which provides a common unit of measure to compare different GHG emissions. In 2019, the most recent data for Washington State, total GHG emissions were estimated at 102.1 million metric tons (MMT) of carbon dioxide equivalent (CO<sub>2</sub>e). This is an increase of 6.9 percent of CO<sub>2</sub>e measured in 2018, and 9.3 percent increase over total GHG emissions in 1990, the baseline level of CO<sub>2</sub>e (Ecology 2022). The largest contributor of GHGs in the state is the transportation sector because of the fossil fuels burned in cars, trucks, ships, trains, and airplanes. In 2019, the transportation sector contributed an estimated 40.3 MMT of CO<sub>2</sub>e emissions (Ecology 2022). The second-largest contributions to GHG emissions in 2019 were produced from fossil fuel combustion in the industrial sector in Washington State (25.3 MMT of CO<sub>2</sub>e; Ecology 2022). The third-largest contributions to GHG emissions in 2019 were produced from electricity generation (21.9 MMT of CO<sub>2</sub>e; Ecology 2022).

In 2021, GHG emissions in the United States totaled 6,340.2 MMT of CO<sub>2</sub>e, or 5,586.0 MMT of CO<sub>2</sub>e after accounting for sequestration from the land sector (EPA 2023). Overall, net emissions increased 6.4 percent from 2020 to 2021 (EPA 2023). However, from 2019 to 2020, emissions sharply declined largely due to the impacts of the

coronavirus (COVID-19) on travel and other economic activity. In 2021, CO<sub>2</sub> emissions from fossil fuel combustion increased by 6.8 percent relative to the previous year. The increase in total GHG emissions was driven largely by an increase in CO<sub>2</sub> emissions from fossil fuel combustion due to economic activity rebounding after the height of the COVID-19 pandemic (EPA 2023).

As concentrations of GHGs continue to increase due to the contribution of anthropogenic sources, the Earth's temperature is also increasing above past levels. The Earth's average land and ocean surface temperature has increased by about 2.0 degrees Fahrenheit (°F) from the 1850 – 1900s to the decade of 2011 - 2020 (IPCC 2021). The last four decades have each been the warmest decade successively at the Earth's surface since at least 1850 (IPCC 2021). Other aspects of the climate are also changing, such as rainfall patterns, snow and ice cover, and sea level. Global mean sea level increased by about 7.9 inches between 1901 and 2018. The average rate of sea level rise between 2006 and 2018 was estimated at 0.15 inches per year (IPPC 2021). Global surface temperature is expected to continue to increase until at least mid-century. A global warming of about 2.7°F to 3.6°F would be exceeded during the 21st century unless deep reductions in CO<sub>2</sub> and other GHG emissions occur in the coming decades (IPCC 2021).

#### 3.4.1 No Action Alternative

Under this alternative, there would be no direct effect on regional or local air quality and GHG emissions because no repairs would be made to the jetty. An indirect effect of the No Action Alternative is that the rate of sedimentation in the entrance of the bay would increase, which would require greater volumes of annual dredging to maintain the authorized depth of the navigation channel. This increased dredging would cause an increase in dredging-related air pollutants and GHG emissions.

# 3.4.2 Preferred Alternative

Under the Preferred Alternative, cranes, excavators, dump trucks, and bulldozers used for the North Jetty repair would contribute to air pollution via GHG emissions. The GHG emissions calculations were conservatively estimated to include the maximum impacts possible to perform the proposed action. To consider the maximum emissions possible, emissions were calculated for equipment from 2007. These conservative estimates were calculated for equipment that has become more fuel efficient over the years. Additionally, the maximum potential horsepower for each piece of equipment was used to calculate emissions. The analysis assumed that operations would occur for up to 240 days per year. It was also assumed that all motorized equipment would operate 10 hours per day, 7 days a week. The conservative analysis found that the proposed maintenance could emit an estimated 3,336.11 metric tons of carbon dioxide and 8.30 metric tons of nitrogen oxides (Table 4).

Air Pollutant of Concern	Estimated Annual Emissions (metric tons)
Nitrogen Oxide (NOx)	35.85
Reactive Organic Gasses (ROGs)	3.58
Carbon Monoxide (CO)	12.27
Particulate Matter (PM10)	1.32
Sulfur Dioxide (SO2)	0.033
Carbon Dioxide (CO2)	3,375.49

Table 4. Estimated Greenhouse gas emissions for the proposed project in metric tons (Appendix A).

In 2020, the Washington Legislature set new GHG emission limits from multiple sectors to combat climate change. Under the law, the state is required to reduce emissions levels with a goal of net-zero carbon emissions by 2050. Ecology requires facilities and state agencies to report emissions over 10,000 metric tons of CO<sub>2</sub>e to help the state develop policies to reduce GHG emissions and track progress. The closest facility with emissions over 10,000 metric tons of CO<sub>2</sub>e is a petroleum systems facility in Hoquiam that emits a reported 19,751 metric tons of CO<sub>2</sub>e annually. To contrast, the estimated emissions emitted from the proposed action are 5,809.67 metric tons of CO<sub>2</sub>e.

When compared to the total gross United States GHG emissions in 2021 (6,340.2 MMT of CO<sub>2</sub>e; EPA 2023), or to Washington State's GHG emissions in 2019 (102.1 MMT of CO<sub>2</sub>e; Ecology 2022) the minor contribution from the Preferred Alternative would not constitute a measurable effect among the impacts of climate change and associated sea level rise. This does not discount that under the Preferred Alternative, an estimated 5,809.67 metric tons of CO<sub>2</sub>e would contribute to the global climate change. However, it is unlikely that the North Jetty Maintenance project would generate enough GHG emissions to measurably change the global or national climate.

GHG emissions generated under the Preferred Alternative are considered minor because the proposed action would only contribute to emissions for a maximum of 42 months of construction. The use of ultra-low sulfur fuel is required by the EPA and is essentially the only kind of fuel available in Washington State (40 CFR 1090.300 and 1090.305; Philip Gent, Environmental Engineer, Air Quality Program, Ecology pers. comm. 2024). As such, only ultra-low sulfur fuel would be used for equipment. With cleaner, more efficient engines, it is expected that GHGs emitted during repairs at the North Jetty would be lower than the estimated emissions in Table 4.

Emissions from the proposed repair action would be exempt from conformity requirements for Federal actions under 40 CFR §93.153(c)(2)(iv) because the project constitutes routine maintenance and repair activities of existing facilities, and any

increase in emissions generated by the action would be de minimis. Additionally, the area has no topographical features that would prevent rapid dissipation of construction equipment emissions. Emissions would not cause adverse health effects or result in violation of applicable air quality standards. Therefore, impacts would be inconsequential when compared with the No Action Alternative (40 CFR 93.153(c)(2)).

#### 3.4.3 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects to fish as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty in the interim but would not address all repair needs. The collective course of repairs under this alternative would be expected to generally cause more intense and prolonged adverse effects on the quality of the human environment for the reasons outlined in section 2.4. As a result, the multiple partial repairs are expected to generate more emissions than the Preferred Alternative.

# 3.5 Noise

The dominant airborne sounds in the project area are the constant sound of ocean waves and wind across a landscape of residences and businesses. Other sources of noise include vessel traffic passing through the entrance channel to Grays Harbor, vehicular traffic at the nearby residential and commercial buildings, and occasional maintenance trucks accessing the sewage treatment facility on the southeast end of town.

Airborne noise in this section is primarily referred to in weighted decibels (dBA) perceived by the human ear. In water, noise is primarily in decibels (dB). As a nondensely populated township, background airborne noise for the area is expected to be approximately 65 dBA (WSDOT 2020a). Underwater noise caused by harbor activities and traffic could be as high as 135 dB (Caltrans 2015) or as low as 75 dB on the Washington coast (Erbe 2002; Erbe et al. 2012). Underwater noise can also vary greatly depending on depth and water temperature (Kongsberg Maritime Limited 2015).

#### 3.5.1 No Action Alternative

Under the No Action Alternative, no repair actions would occur along the North Jetty. Without construction, additional noise outputs from any machinery or vehicles would not occur (i.e., the baseline noise levels would remain unchanged). As a result, there would be no impacts of airborne or underwater noise under the No Action Alternative.

#### 3.5.2 Preferred Alternative

Under the Preferred Alternative, the North Jetty would be repaired, and heavy equipment would be used for repairs. The equipment and construction activities would generate airborne and underwater noise.

#### Airborne Noise

In WSDOT's Construction Noise Impact Assessment (2020a), factors including estimated construction equipment noise, estimated background noise, estimated traffic noise, ground conditions, and point or line source noise are used to determine the maximum distance needed for construction related noise to attenuate to background levels. Heavy equipment used in the project includes a crane, excavator, dump truck, and bulldozer. The maximum average noise generated from each piece of equipment at 50 feet (Lmax<sup>b</sup>) is listed below in Table 5.

Equipment	Impact Device (Y/N)	Maximum Average Noise at 50 feet (L <sub>max</sub> <sup>b</sup> )
Bulldozer	No	86 dBA
Crane	No	79 dBA
Dump Truck	No	73 dBA
Excavator	No	87 dBA

Table 5. WSDOT's (2020a) estimated maximum average noise and vibration potential (impact device) of construction equipment in weighted dBA.

To account for more than one piece of equipment being used at a time, WSDOT (2020) rules for adding different noise sources together for a given project were followed. As a result, the highest estimated airborne noise generated from the proposed action is 90 dBA.

Noise generation that continues for a certain distance, like traffic, is considered a line source, while noise that travels from one localized position is considered a point source. Generally, all construction activities are considered a point source (WSDOT 2020). Following WSDOT's (2020a) equation for measuring the distance that sound will attenuate to background, USACE estimates that airborne noise generated by construction activities would attenuate to background noise at 890 feet. Airborne noise effects would endure for approximately 42 months at varying degrees within this radius.

Throughout the project area, animals could be affected by sound. The impact of airborne noise on animals varies based on weather, topography, time of day, reproductive status, and exposure to similar noises (Delaney and Grubb 2003). Rock transport and placement operations would produce noise above ambient levels, so some disturbance to feeding activities could occur, especially near Repair Area 3, which is adjacent to the Oyhut Wildlife Recreation Area. There are no sources readily available, that have been studied and quantified, of airborne disturbance that may be similar to the noise and impact vibration of the process of placing and manipulating

armor stone to key in each piece. However, as a conservative analogy, this analysis applies the airborne effects of use of hammer drill equipment, which would generate approximately 75 dBA at 50 feet (WSDOT 2020). Noise of this magnitude will not alter the maximum airborne noise generated from project activities. The impact of vibration on animals is not yet well understood.

For the community, noise impacts are expected to be minimal. The construction area would be closed to the public. Furthermore, construction and road noise is a common occurrence. However, there will be an increase in noise generated by work after daylight hours since repairs could occur at any time, day or night.

#### **Underwater Noise**

Actions can cause noise impacts under water, even if they occur above ground. Noise generating activities below the high tide line include work on the North Jetty footprint and retrieval of escaped relic armor rock. The effects of rock placement underwater have not been studied in detail (Wyatt et al 2008, Kongsberg Maritime Limited 2015), however it is expected that noise generated from construction activities under the preferred alternative may be lower than the noise generated from dredging and pile driving projects. For an analysis of noise impacts under the preferred alternative, underwater pile driving was used as a reference since its impacts on aquatic species have been measured, and the proposed action will generate rumbling of equipment and impact noise of placement of rock (Table 6 and Table 7).

Project Location	Water	Pile Size	Pile	Hammer	Attenuation rate
	Depth (m)	(inches)	Type	Type	(dB/10m)
Entrance Channel, Grays Harbor	5	24	Steel Pipe	Vibratory	3

Table 6.	Proxy pile	driving	project	for estimating	underwater	noise.

Table 7	Proxv	, proi	ect-based	estimates	of underwater	noise	caused	by pile	e drivina
	FIUNY	pioj	ect-baseu	estimates		1056	causeu	by plic	= unving.

Type of Pile	Hammer Type	Estimated Peak Noise Level (dB <sub>PEAK</sub> )	Estimated Pressure Level (dB <sub>RMS</sub> )	Estimated Single Strike Sound Exposure Level (dB <sub>sSEL</sub> )
24" Steel Pipe	Vibratory	193	179	168

Other factors like ambient noise and depth need to be considered to understand the effects of the preferred alternative. Ambient sound level data has been recorded at some open water locations on the West Coast. Data pulled from Table 4-3 (Caltrans 2015, with citations), indicate ambient sound levels for a large marine bay and heavy commercial boat traffic (Elliot Bay, WA) and a large marine inlet and some recreational boat traffic (Hood Canal, WA) are 147-156 dB, 132-143 dB and 115-135dB, respectively. In areas with less boat traffic, average ambient noise has been estimated to be 75 dB in the Strait of Juan de Fuca and coasts of British Columbia and Washington (Erbe 2002, Erbe et al 2012). Grays Harbor likely ranges between 75-132 dB depending on the given location. Work on the lower elevations of the North Jetty will occur during low tides. As depth increases, sound can travel greater distances underwater (Kongsberg Maritime Limited 2015). Since there will be no water present when work is performed below the high tide line, noise is expected to attenuate close to the jetty. Due to the sound frequency of pile driving (50-1,000 hz) the soft sediment type often found in mudflats, like those the project area, and a low water depth of approximately 1 foot or less, noise is not expected to propagate (WSDOT 2020).

Underwater sound is not expected to impact humans. However, the sound waves generated by construction activities could affect in-water animals in several ways including altered behavior, physical injury, or mortality. More is known about the potential effects of anthropogenic sounds on marine mammals than on fish and marine turtles. There is such limited information on turtle hearing that, currently, fish provide a better analog for turtles as turtles' hearing range more approximates that of fishes than of any marine mammal (Popper et al 2014).

Fish and marine mammals have been divided up into categories to determine exposure:

- Marine mammals are divided according to their hearing ranges: low-frequency (LF) cetaceans (baleen whales), mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales), high-frequency (HF) cetaceans (true porpoises, Kogia, river dolphins, etc.), Phocid pinnipeds (true seals) and Otariid pinnipeds (sea lions and fur seals) (NMFS 2016a).
- Fish are divided in categories based on the presence or absence of a swim bladder: fishes with no swim bladder or other gas chamber (flatfish), fishes with swim bladders in which hearing does not involve the swim bladder or other gas volume (salmonids and sturgeon), and fishes in which hearing involves a swim bladder or other gas volume (Atlantic cod and herring) (Popper et al 2014).

More has been learned about the potential death or injury to aquatic species as a result of anthropogenic sound, and efforts to remain in compliance with applicable laws and regulations have required the development of guidance by resource agencies to assess the effects of anthropogenic sound on aquatic species. The following are interim noise thresholds for salmonids and sturgeon for pile driving (Hastings 2002, NMFS et al 2008), which can be conservatively analogized to the underwater noise and vibration consequences of placement and manipulation of armor stone pieces of up to 55 tons:

- 150 dBRMs<sup>1</sup> for harassment for continuous noise<sup>2</sup> for fish of all sizes
- 187 dB cumulative SEL<sup>3</sup> for injury of fish  $\geq 2$  grams<sup>4</sup>
- 183 dB cumulative SEL for injury of fish < 2 grams
- 206 dB<sub>peak</sub><sup>5</sup> for injury of fish of all sizes

Noise impacts from pile driving would cause fish harassment (150 dB). Pile driving noise can cause temporary injury to fish with swim bladders if they are exposed to the continuous sound for over 48 hours. However, they would likely swim away from the area of noise before injury could happen. Impacts from underwater pile driving are not expected to cause injury to fish without swim bladders regardless of their size.

Since construction activities under the preferred action are expected to generate less noise than pile driving, no injury to fish from noise impacts is expected. Noise generated in the direct vicinity of construction activity could cause fish harassment and would likely to cause fish to avoid the project area. Avoidance of working below the water elevation in the project area when activities take place below the high tide line will lower the chances of noise propagation from areas away from the North Jetty.

Overall, airborne and underwater noise from the repairs would cause low level irritation for the wildlife and community near the project area. This noise, however, is not expected to cause injury to aquatic and terrestrial wildlife since levels would not be high enough as compared with ambient conditions, attenuation would occur near the project location, and wildlife would likely avoid areas of elevated noise. Effects of noise would be temporary and negligible over time.

# 3.5.3 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects of noise as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty in the interim but would not address all repair needs. The collective course of repairs under this alternative would be expected to generally cause more intense and prolonged adverse effects on the quality of the

<sup>&</sup>lt;sup>1</sup> Decibels root mean square over a period of time

<sup>&</sup>lt;sup>2</sup> Vibratory pile driving is characterized as continuous noise

<sup>&</sup>lt;sup>3</sup> Decibels sound exposure level over a 24 hour period (cumulative)

<sup>&</sup>lt;sup>4</sup> Injury thresholds are based on pile driving (pulsed noise)

<sup>&</sup>lt;sup>5</sup> Peak sounds in decibels

human environment for the reasons outlined in section 2.4. As a result, multiple partial repairs would generate more prolonged noise compared to the Preferred Alternative, and could generate sounds with greater adverse propagation conditions depending on the circumstances of subsequent construction episodes.

# 3.6 Benthic Invertebrates

As one of the few rocky sites on the southern coast of Washington, the jetty is considered an isolated habitat patch due to its distance from similar rocky habitats. The nearest naturally exposed bedrock patches are Point Grenville, 26.7 miles to the north, and Cape Disappointment, 43.5 miles to the south. These three locations are separated by long stretches of sandy beach along the coast. Similar anthropogenic rocky habitats are jetties at Westport and the Columbia River mouth. The sessile (i.e., anchored immobile) species documented on the North Jetty include anemones, mussels, and barnacles. The documented mobile species include Nemertean worms, chitons, limpets, snails, sea stars, isopods, and amphipods (Dethier et al. 2003). Despite the relatively isolated location, the North Jetty supports organisms with a wide range of life-history traits regardless of their ability to propagate and disperse (Dethier et al. 2003).

# 3.6.1 No Action Alternative

Under the No Action Alternative, no short-term effects would occur to any of the invertebrate species that dwell among the armor stones within the intertidal and subtidal zones of the jetty structure. Populations are likely at an equilibrium level since the last repairs occurred 20 years ago or more. Over a long period, as the jetty continues to erode and deteriorate, some rock may become displaced and covered with sand. Therefore, a portion of the benthic invertebrate community may change to species associated with a sandy substrate.

# 3.6.2 Preferred Alternative

Under the Preferred Alternative, repairs on the North Jetty are expected to have effects on the immediate intertidal environment, primarily due to the probability of crushing the anchored species that cannot move out of the way during armor rock placement and retrieval of relic rock. However, it is expected that sessile species will recolonize the new rock. Mobile species may experience temporary, minor turbidity when rock is placed and inadvertently displaces sand within the jetty. There would be minor impacts to benthic communities in the hard sand and rock intertidal areas due to rock placement below the HTL. It is assumed that benthic macro-invertebrate populations quickly recolonize the habitat in an area after this type of proposed action occurs. After construction is completed, benthic organisms from adjacent areas would recolonize the newly placed stones by recruitment, resulting in formation of a similar community within a year. Effects on benthic invertebrates would be temporary and negligible.

# 3.6.3 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects to benthic invertebrates as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty in the interim but would not address all repair needs. The collective course of repairs under this alternative would be expected to generally cause more intense and prolonged adverse effects on the quality of the human environment for the reasons outlined in section 2.4. As a result, this alternative would have greater impacts to benthic invertebrates than the Preferred Alternative.

# 3.7 Fish

The Washington Department of Fish and Wildlife (WDFW) does not have records of forage fish spawning occurring in the project area (WDFW 2014). Outer Grays Harbor, including the area immediately offshore of the North Jetty, supports fish species important to commercial and recreational fisheries. Pelagic species include coho (*Oncorhynchus kisutch*), Pacific herring (*Clupea pallasii*), northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), and surf smelt (*Hypomesus pretiosus*). Sandy intertidal fish species along the Washington coast include starry flounder (*Platichthys stellatus*), staghorn sculpin (*Leptocottus armatus*), sand lance (*Ammodytes hexapterus*), sand sole (*Psettichthys melanostictus*), redtail surfperch (*Amphistichus rhodoterus*), sanddab (*Citharichthys sordidus*), and surf smelt (*Hypomesus pretiosus*). These fish species likely inhabit the sandy areas beyond the jetty footprint.

After the original jetty construction, subtidal and intertidal habitat around the North Jetty changed substantially. While a variety of fish species are abundant in Grays Harbor, the North Jetty only supports a few bottom dwelling species that settle among the large armor rock such as lingcod (*Ophiodon elongatus*) and rockfish (*Sebastes* spp.) that occupy habitat created by the portion of the jetty that remains submerged at mean higher high water. Lingcod and rockfish provide sport-fishing opportunities, but they also prey on migrating juvenile salmonids.

# 3.7.1 No Action Alternative

Under the No Action Alternative, the North Jetty would continue to erode and deteriorate, and the jetty rock would continue to be displaced and eventually covered with sand. As a result, the fish community may change to those species associated with a sandy substrate.

# 3.7.2 Preferred Alternative

Under the Preferred Alternative, maintenance of the North Jetty, there would be no changes to the jetty footprint below the high tide line.

Some smaller road material would be placed between the larger rocks on top of the jetty so that vehicles can work safely from the structure. This road material would be placed between 7 and 14 feet above the HTL. During severe storms, some of this smaller material could be washed into the harbor causing temporary turbidity and associated minor sedimentation. During such events, the incremental effects of temporary turbidity levels would be minimal considering the high background turbidity. The effect of any temporary turbidity increase on fish would be elevated due to construction, but that increment would be nearly immeasurable. As a result, the proposed work is not expected to substantially alter marine habitat for fish, nor would it affect feeding, refuge, or spawning habitat. Furthermore, work is proposed during low tides and above the water line, so there would be no direct impact to fish as they would not be present in the location of rock placement or retrieval.

Underwater noise vibrations caused by rock placement (discussed in section 3.5.2) that fish would detect is unlikely to propagate beyond a minimal distance from the jetty footprint and is not expected to cause injury to fish. However, the level of noise generated by repairs is expected to occur over many months , which could cause the fish to disperse to other areas along the jetty where noise is not propagating. This relocation could cause temporary competition for space and resources. Fish would repopulate the area when the work is finished and thereby alleviate temporary competitions. No work (i.e., rock placement and fugitive rock retrieval) would occur below the water line, and work below the HTL would be restricted to the approved inwater work window (see section 2.2.4) at the lowest possible tides. Thus, work would occur at times with the least potential impacts to fish. Fish would be able to swim away from the areas affected by noise and escape associated vibration uninjured. Construction-related effects on fish would be temporary and negligible.

# 3.7.3 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects to fish as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty in the interim but would not address all repair needs. The collective course of repairs under this alternative would be expected to generally cause more intense and prolonged adverse effects on the quality of the human environment for the reasons outlined in section 2.4. As a result, this alternative would have greater impacts to fish than the Preferred Alternative.

# 3.8 Wildlife

The expansive mud and sand tidal flats of Grays Harbor make up one of four major staging areas on the west coast of North America within the Pacific Flyway, which extends from northern Alaska to the southern tip of South America. Shorebirds use Grays Harbor most heavily in April and May. Bird enthusiasts have conducted various

bird surveys along the North Jetty. They have reported the following shorebirds near the jetty (eBird 2020): ruddy turnstone (*Arenaria interpres*), black turnstone (*A. melanocephala*), western sandpiper (*Calidris mauri*), spotted sandpiper (*Actitis macularius*), sanderling (*Calidris alba*), whimbrel (*Numenius phaeopus*), long-billed dowitcher (*Limnodromus scolopaceus*), long-billed curlew (*N. americanus*), semi-palmated plover (*Charadrius semipalmatus*), dunlin (*Calidris alpine*), black-bellied plover (*Pluvialis squatarola*), marbled godwit (*Limosa fedoa*), and killdeer (*Charadrius vociferous*). Small sandpipers, dowitchers, and knots forage on mudflats with a high silt content, while plovers prefer sandier substrates. Turnstones usually forage among cobble and rock, a substrate type that occurs only locally in Grays Harbor.

While nearly 1 million shorebirds feed and rest on the mudflats and saltmarsh during their annual spring migration, none of this habitat is located within the project area of the project. The nearest mudflat habitat area is over 1,000 feet east of the construction area. The most common birds likely to be on the North Jetty are species of gulls and cormorants.

Many species of marine mammals occur around Grays Harbor and offshore in the Pacific Ocean. Various cetaceans (whales, dolphins, porpoises) and pinnipeds (seals and sea lions) pass through the waters around the project area. Gray whales (*Eschrichtius robustus*) migrate along the Washington coast in spring and fall; some individuals remain at Neah Bay during the summer and occasionally enter Grays Harbor estuary. Harbor seals (*Phoca vitulina*) use intertidal flats and islands in Grays Harbor as haul-out areas and pupping grounds. Other marine mammals that occur in the area include Dall's porpoise (*Phocoenoides dalli*), Pacific striped dolphin (*Stenella coeruleoalba*), harbor porpoise (Phocoena phocoena), and California sea lions (*Zalophus californianus*). Neither seals nor sea lions have been recorded hauling out on the North Jetty (Jeffries et al 2000; Oleson et al 2009). According to the WDFW Seal and Sea Lion Atlas, only harbor seals have been recorded hauling out in the north basin of Grays Harbor, and the sightings nearest to the project area are over 3 miles away (Jeffries et al 2000).

# 3.8.1 No Action Alternative

Under the No Action Alternative, degradation of the North Jetty could change the wildlife community as it becomes less advantageous for hunting, perching, and hauling out.

# 3.8.2 Preferred Alternative

The project's in-water work window of 16 July to 15 February, during which all construction activity below the high tide line would be conducted, avoids the spring migration of shorebirds that use the mudflats primarily in April and May. Work on the North Jetty is most likely to disturb shorebirds. Rock transport and placement

operations would produce noise above ambient levels and vibration, so some disturbance to shorebird feeding activities could occur. The proposed action would not physically alter any nesting or roosting habitat. Shorebirds' prey availability would not be affected because no foraging habitat is in the project area. Other bird species that may feed on invertebrates of the intertidal zone of the jetty would be displaced only from an immediate construction area while the remaining sections (not under immediate construction) of jetty intertidal habitat would still be available. There would be a disturbance over three consecutive years (approximately 42 months) to varying degrees depending on the location and nature of the work. Disturbance to wildlife from noise would occur whenever construction is occurring and is likely to cause many birds to occupy other areas around the jetty that would not be as impacted by noise or construction is complete. Effects on bird foraging habitat would be temporary and negligible.

The project is not expected to have any detrimental effects on any marine mammals that might be in the area. The lowest elevations of the jetty face that need armor rock are at -3 feet below MLLW, and work below the high tide line would be accomplished during the lowest tides available during the in-water work window. The tide levels are predicted to be as low as -3 feet below MLLW each July and -2.5 feet below MLLW each August. Also, relic armor rock that is no longer attached to the jetty would be removed to the best extent possible. For rock placement and removal that occurs above and below the high tide line, the noise and vibration from machinery during placement and removal could be a minor disturbance, but this activity is not one of the underwater noise sources of concern for marine mammals. The USACE expects marine mammals that could occur in close proximity to the North Jetty, like seals and sea lions, would avoid the area due to presence of heavy machinery and associated noise. Therefore, USACE has determined that effects on wildlife would be temporary and negligible.

#### 3.8.3 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects to wildlife as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty in the interim but would not address all repair needs. The collective course of repairs under this alternative would be expected to generally cause more intense and prolonged adverse effects on the quality of the human environment for the reasons outlined in section 2.4. As a result, this alternative would have greater impacts to wildlife than the Preferred Alternative.

# 3.9 Vegetation

Sparse vegetation is present around the North Jetty. Above the high tide line, the North Jetty is primarily composed of rock and beach grass. Vegetation consists of the invasive non-native European beachgrass (*Ammophila arenaria*), as well as native dunegrass (*Leymus mollis*), beach pea (*Lathyrus japonicas*), and coastal strawberry (*Fragaria chiloensis*). Invasive plants such as Scott's broom (*Cytisus scoparius*) and Himalayan blackberry (*Rubus bifrons*, syn. *R. armeniacus*) are present in areas further upland and away from marine waters.

Within the project area of the North Jetty repair, Washington Department of Natural Resources (WDNR) surveys show no marine vegetation is present (WDNR 2021). This is likely due to the high wave energy and sandy substrates present in the area (WDNR 2021). While there are sparse patches of eelgrass (*Zostera* spp.) in Grays Harbor (WDNR 2000), conditions that support eelgrass are not present along the North Jetty or in the entrance channel. Macroalgae beds around the North Jetty are rare because the bed substrates are predominantly fine grained and lack the hard surfaces necessary for holdfast anchoring. The estuary supports productive populations of invertebrates, fish, sea birds, and supports periodic foraging by several other marine species including migratory fish and marine mammals.

# 3.9.1 No Action Alternative

Under the No Action Alternative, no immediate impacts to the plant community would occur. However, degradation of the North Jetty could change the plant community over time.

# 3.9.2 Preferred Alternative

The Preferred Alternative would impact sparse vegetation growing above the HTL within the repair, access, and staging area footprints. It would be difficult for this sparse vegetation to reestablish in staging and access areas during the approximate 42 months of construction. However, these species are adapted to areas disturbed by tides, waves, and wind and have been observed recolonizing areas impacted by construction within 3 years (Rubin et al 2023). Beach grass present in the area is expected to be a mixture of native American dunegrass (*Leymus mollis*) and European beachgrass (*Ammophila arenaria*). Both are rhizomatous perennial grasses. Any algae attached to the rocks on the lower elevations of the jetty that are 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 in 3 years (Rubin et al 2023). There would be no impact to eelgrass from repairs because no eelgrass is in the project footprint, and the closest documented patch of eelgrass is 0.8

mile away from the North Jetty (WDNR 2000). Therefore, USACE has determined that the effects on vegetation would be temporary and negligible.

#### 3.9.1 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects to vegetation as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty in the interim but would not address all repair needs. The collective course of repairs under this alternative would be expected to generally cause more intense and prolonged adverse effects on the quality of the human environment for the reasons outlined in section 2.4. As a result, this alternative would have greater impacts to vegetation than the Preferred Alternative.

# 3.10 Threatened and Endangered Species

The USFWS and NMFS list 21 species that may occur in the Grays Harbor area. These species are federally listed for protection under the Endangered Species Act (ESA). However, only six of these have any likelihood of occurring in the project area, defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). Table 8 lists these six species and their critical habitat status. In accordance with Section 7(a)(2) of the Act, federally funded, constructed, permitted, or licensed projects must take into consideration effects to federally listed, proposed, and candidate species. The project area includes the jetty structure, the adjacent staging and access areas, the city road that parallels the jetty, surrounding areas affected by elevated turbidity and noise, and the intertidal area to the east of the jetty.

Species common name	Scientific Name	Listing Status	Critical Habitat Designated; Occurs in the Project Area
Western Snowy Plover	Charadrius nivosus nivosus	Threatened	Yes, occurs in the project area
Streaked Horned Lark	Eremophila alpestris strigata	Threatened	Yes, occurs in the project area
Marbled Murrelet	Brachyramphus marmoratus	Threatened	Yes, none in the project area
Southern Resident Killer Whale	Orcinus orca	Endangered	Yes, none in the project area
Coastal/Puget Sound Bull Trout	Salvelinus confluentus	Threatened	Yes, occurs on the project area
Southern DPS Green Sturgeon	Acipenser medirostris	Threatened	Yes, occurs in the project area
Southern DPS Eulachon	Thaleichthys pacificus	Threatened	Yes, none in project area

Table 8. ESA-listed species and critical habitat that may occur in the project area.

#### 3.10.1Western Snowy Plover

Western snowy plovers are small shorebirds that can be found along the Pacific Coast in the Americas. They prefer to live in areas with sparse vegetation like sandy beaches. Grays Harbor is considered the northernmost overwintering range for western snowy plover (WDFW 1995). Western snowy plover sightings have occurred in the project area in 2001 and 2017 (eBird 2024), and south of the project area at Twin Harbors State Park beach and Grayland Beach, approximately 5 miles to the south and 11 miles to the south, respectively, in March and April 2019 (Scuderi, pers. comm. 2019). High pedestrian traffic and dog usage of the North Jetty combined with the existing rip rap habitat, makes the shoreline of the North Jetty unsuitable for plover nesting. It is very unlikely that western snowy plovers regularly over winter in Grays Harbor.

#### 3.10.2 Streaked Horned Lark

Streaked horned larks are songbirds that can inhabit prairies and beaches in Washington. Males have distinct feathers resembling horns that protrude slightly above their head. The residential and developed characteristics of the North Jetty, as well as recreational use for jogging and dog walking at the site, greatly limit nesting opportunities for streaked horned larks and likely prevent the establishment or success of nests. Streaked horned larks may temporarily perch on the North Jetty due to its proximity to the Damon Point and Oyhut Wildlife Area to the north and east of the project site. Historically, Damon Point, a sand spit located to the east of the North Jetty and managed as a natural area by Washington Department of Natural Resources (WDNR), was a nesting site for streaked horned larks (Stinson 2016). Streaked horned larks have not been detected on Damon Point since 2013, and the habitat condition has degraded since then (USFWS 2021). Streaked horned larks have been found at six sites on the Washington coast: Leadbetter Point, Graveyard Spit, and Midway Beach in Pacific County and Damon Point, Oyhut Spit, and Johns River Island in Grays Harbor County. Sites used by larks on the Washington coast are mainly on land managed by state agencies including WDNR, WDFW, and Washington State Parks. USFWS stated that larks have been documented nesting along the beach just east of the Water Treatment Plant (2013).

#### 3.10.3 Marbled Murrelet

As a seabird and forest bird, the marbled murrelet fishes along the Pacific Coast, then flies inland to nest in mossy old-growth trees. Speich and Wahl (1995) found that marbled murrelets are generally present in Grays Harbor during the fall, winter, and spring, and are rarely seen in August and September. The highest numbers of murrelets occur in habitats closer to shore, generally in the Grays Harbor channel out to the 50-meter depth contour. The average estimated population density of marbled murrelets in the Grays Harbor area is less than one bird per square kilometer (approximately equal to 0.4 square miles) as observed during at-sea population surveys performed in 2009-2014 (Lynch et al. 2016).

#### 3.10.4 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 congregations 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 congregate prey and assist with foraging. Their core range during the spring, summer, and fall includes the inland waterways of Puget Sound, Strait of Juan de Fuca, and Southern Georgia Strait. Their presence has been documented in the coastal waters off Oregon, Washington, Vancouver Island, and more recently off the coast of central California in the south and off Haida Gwaii to the north. Little is known about the winter movements and range of the SRKW (NMFS 2005). SRKWs show a strong preference for Chinook salmon (primarily Fraser River Chinook salmon), with chum salmon as the second-most preferred fish (NMFS 2008). SRKW could occur in the mouth of Grays Harbor during their winter migration period. SKRW have been sighted and tracked in Washington coastal waters in the vicinity of Grays Harbor during March and April (Krahn et al. 2004; NMFS 2008) but have not been observed inside Grays Harbor or near the project area.

#### 3.10.5 Bull Trout

Bull trout are native to the Pacific Northwest, and can be found in both coastal, lake, and freshwater environments, where they can grow up to 3.5 feet long. Bull trout have been observed within Grays Harbor and use marine waters in Grays Harbor for forage, migration, and overwintering habitat. Bull trout do not appear to spawn in the Chehalis River basin, and probably originate from spawning populations of native char in Olympic Peninsula drainages like the Hoh and Quinault Rivers (Jeanes et al. 2003; Goetz et al. 2004). These fish are most likely sub-adult or adult and move through the mouth of Grays Harbor between February and June with potential entry into the harbor in fall (Goetz et al. 2004; Jeanes and Morello 2006). Bull trout primarily use inland estuary areas near the river confluence rather than the outer harbor (Jeanes et al. 2003; Jeanes and Morello 2006). Prey species of bull trout sub-adult and adult life stages i.e., forage fish and juvenile salmonids, concentrate in nearshore waters where organisms from lower trophic levels are abundant. They are not typically found in high energy, armored shoreline areas (Hayes et al. 2011).

# 3.10.6 Eulachon

Eulachon are small smelt that occur in the Pacific Ocean and spawn in its major tributaries. Adult eulachon have been reported in rivers draining into Grays Harbor, especially the Wynoochee River (WDFW and ODFW 2001; Willson et al. 2006). WDFW and Oregon Department of Fish and Wildlife (2001) noted that "in 1993, when the eulachon run into the Columbia River was delayed (presumably due to cold water conditions), they were noted in large abundance in the Quinault and Wynoochee rivers, outside the Columbia Basin." Deschamps et al. (1970) reported the capture of a single adult eulachon in a seine catch in March 1966 and stated, "It is unlikely that the Chehalis system (which drains into Grays Harbor) has a run of any consequence, although strays or feeding fish from other areas probably visit the upper harbor at times." Simenstad et al. (2001) recorded eulachon as "rare" in sloughs of the Chehalis River estuary in 1990 and 1995. It appears that eulachon are sporadic visitors to Grays Harbor and occasionally spawn in Grays Harbor rivers (QIN 2014). However, WDFW expanded annual monitoring efforts to the Chehalis River in 2015 and found significant evidence of spawning during the season ending in April 2015 (NMFS 2016b). These observations have occurred primarily outside the in-water work window for the proposed project, which begins on July 16 and ends February 15.

# 3.10.7 Green Sturgeon

Green sturgeon are among the largest and longest-living freshwater fish, reaching up to 7 feet long and 350 pounds, and are found in Washington estuaries. Green sturgeon are opportunistic predators that eat a variety of prey and switch foods as prey availability changes (Turner 1966). Green sturgeon typically feed on benthic invertebrates, such as shrimp, crabs, worms, mollusks, and epibenthic crustaceans.

Lindley et al. (2011) documented tagged individuals in Grays Harbor during June to October. Large juvenile and small adult green sturgeons are common in the saltwater and mixing zones of Grays Harbor and Willapa Bay during high salinity periods, with the highest abundances from July through early October (Monaco et al. 1990). Green sturgeon are found in the estuary of Grays Harbor, but not in the marine waters or near the North Jetty, according to WDFW research (Heironimus et al. 2023). As a result, green sturgeon are likely not present in the project area.

#### 3.10.8No Action Alternative

The No Action Alternative would have no effect on any ESA-listed species or critical habitat because no repairs to the jetty would occur.

#### 3.10.9 Preferred Alternative

Because the footprint occupied by the jetty toe would not change as compared with the benchmark status quo, and because a minor expansion of the cross-section would be generated by steepening the ocean-side slope only above the HTL, the proposed change in physical parameters in Repair Area 1 would have insignificant and discountable effects to listed species or their designated critical habitat. Because the change in the dimensions of Repair Area 1 would have discountable impacts to ESA listed species, the effects of Repair Area 1 maintenance can be analyzed together with maintenance of Repair Areas 2 and 3 in the analysis below.

USACE submitted a Biological Assessment to USFWS and NMFS on April 8, 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 negligible.

#### 3.10.9.1 Streaked Horned Lark

Streaked horned larks are most likely to be present adjacent to construction activities in Repair Area 3. Streaked horned lark nesting season extends mid-April through mid-August. Some construction in Repair Area 3 would occur below the high tide line, as necessary, between 16 July and 15 February, and other portions of the work at higher elevations would occur outside the in-water work window. The total construction duration is approximately 42 months, which encompasses 3 nesting seasons. The in-water work window would commence each year after the May to early-June peak of nesting season for streaked horned larks but overlaps with the later portion of the nesting season, which runs through mid-August. Work outside the in-work window in Repair Area 3 on higher elevations of the jetty would occur during the peak nesting season. Activities in Repair Area 3 have the potential to disturb birds in the Oyhut Wildlife Area. There is no direct overlap with nesting habitat and the construction footprint since all rehabilitation access would occur from the jetty itself. However, some level of adverse effect via airborne noise disturbance is possible.

As described in section 3.5.2, noise levels and associated vibration from the construction machinery would likely attenuate to background at the edge of the project area but might dissuade birds from landing on and around the jetty during construction. For any streaked horned larks resting or nesting in the Oyhut Wildlife Area, there is potential to disturb birds within the project area. Construction activity would likely displace any resting lark or discourage larks from landing on and around the jetty.

Surveys for streaked horned lark would occur prior to initiating construction in the areas with streaked horned lark critical habitat overlaps the project area (Repair Area 3). The North Jetty does not contain ideal habitat for streak horned lark nesting. Although unlikely, any part of Repair Area 3 that have nesting larks would be recorded. A buffer would be created to avoid disruption of nesting streaked horned larks, and construction in the area would be halted until the birds have vacated the area. However, it is critical to work during low tides and avoid work underwater to ensure accurate placement of materials and avoid water quality and underwater noise related impacts. The in-water work window overlaps with the end of streaked horned larks' nesting season. Since it is imperative to perform work below the high tide line during the in-water work window complete avoidance of streaked horned larks may not be possible.

#### 3.10.9.2 Western Snowy Plover

Impacts would be like those described for streaked horned lark. Western snowy plovers are most likely to be present adjacent to construction activities in Repair Area 3. Western snowy plover nesting season extends late April through September. Some of construction in Repair Area 3 would occur below the high tide line, as necessary, between 16 July and 15 February, and other portions of the work at higher elevations would occur outside the in-water work window. The total construction duration is approximately 42 months, which would encompass 3 nesting seasons. The in-water work window would commence each year at the end of nesting season for western snowy plovers but overlap with the later portion of the nesting season, which runs through mid- September. Work outside the work window in Repair Area 3 on higher elevations of the jetty would occur during the nesting season.

As described for streaked horned lark, analysis suggests the construction noise would attenuate to background levels outside of the project area. There is no direct overlap with nesting habitat and the construction footprint since all rehabilitation access would occur from the jetty itself, but some level of harassment via noise and associated vibration disturbance is possible.

Due to the amount of human and dog traffic in the project area, western snowy plovers are not expected to be in much of the project area at this time other than for temporarily perching on or flying over the jetty. Resting plovers may stop along the shoreline within the project area during September-October but would only use wintering sites south of the project area during December-February. Construction activity would likely displace a resting plover or discourage plovers from landing on and around the jetty.

Surveys for western snowy plover will occur prior to initiating construction. Although they are less likely to be found compared to streaked horned larks, the same actions taken for nesting streaked horned larks will be employed if western snowy plovers are found nesting in the project area. The in-water work window overlaps with western snowy plovers' nesting season. Since it is imperative to perform all work below the high tide line during the in-water work window, complete avoidance of western snowy plovers may not be possible.

#### 3.10.9.3 Marbled Murrelet

Noise associated with construction operations could result in localized disruption to murrelets foraging in the project area. Construction machinery would operate adjacent to suitable foraging habitat, but associated effects would be in a localized area with respect to this species' foraging range. Marbled murrelets are relatively opportunistic foragers. They have flexibility in prey choice, which likely enables them to respond to changes in prey abundance and location (USFWS 1996). If murrelets are present in the immediate vicinity of maintenance activities and if they are disturbed while foraging, they would likely move without permanent injury to foraging.

#### 3.10.9.4 Southern Resident Killer Whale

Any noise generated by the proposed action would be temporary and within the project area where SRKW are not expected to occur. Chinook salmon are one of the preferred prey species of SRKW. Adult Chinook are known to use Grays Harbor to access spawning grounds in nearby rivers and use estuarine habitat. Adult salmon can easily avoid the project area and their prey resources would not likely be affected by the proposed action. SRKW presence is unlikely within the project area. If present, SKRW would be able to quickly leave the affected area.

#### 3.10.9.5 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 low level, intermittent noise. The work window occurs when bull trout are in low abundance, and sequencing of construction would include placing the lowest elevation material during the lowest tides to avoid in-water work. In the unlikely event of bull trout presence during jetty maintenance, 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. It has been observed that new substrate would be recolonized with invertebrates within a year (section 3.6).

#### 3.10.9.6 Green Sturgeon

Green sturgeon typically occur at greater depths than where the repair work would take place. Temporary elevated noise and turbidity would be localized. Since all work below the HTL would be conducted outside the water, any noise from rock placement would attenuate to background levels and elevated turbidity would dilute by the time it reaches depths at which green sturgeon are present. Like bull trout, green sturgeon are hearing generalists (the swim bladder is not connected to hearing) and are unlikely to be injured by low level, 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.

#### 3.10.9.7 Eulachon

Elevated noise and turbidity have the potential to disturb eulachon, although both would be localized and not likely to reach depths where eulachon (osmerids) are present. Osmerids are close relatives of salmonids, which are hearing generalists; therefore, eulachon are assumed to be hearing generalists (Hastings and Popper 2005). Eulachon would not be injured by low level, intermittent noise. The likelihood of rock placement on the face of the North Jetty causing a measurable impact to the eulachon southern DPS would be discountable because eulachon are a pelagic species and no in-water work will occur in the intertidal zone.

# 3.10.1 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects to threatened and endangered species as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty in the interim but would not address all repair needs. The collective course of repairs under this alternative would be expected to generally cause more intense and prolonged adverse effects on the quality of the human environment for the reasons outlined in section 2.4. As a result, this alternative would have greater impacts to threatened and endangered species than the Preferred Alternative.

# 3.11 Cultural Resources

The Grays Harbor North Jetty was constructed between 1907 and 1910, reconstructed between 1935 and 1942, and partially reconstructed in 1966. Since the North Jetty 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 North Jetty is not eligible for the NRHP due to a lack of integrity and received concurrence on this determination from the Washington State Historic Preservation Officer (SHPO) on April 23, 2024.

USACE initiated Section 106 of the National Historic Preservation Act (NHPA) consultation with the SHPO and the Confederated Tribes of the Chehalis Reservation, the Hoh Indian Tribe, Quileute Tribe of the Quileute Reservation, the Quinault Indian Nation, and the Shoalwater Bay Indian Tribe of the Shoalwater Bay Indian Reservation for this undertaking on July 23, 2020. An expanded Area of Potential Effects (APE) letter was provided to the SHPO and Tribes on January 5, 2022, and received SHPO concurrence on January 14, 2022. USACE received a response from the Chehalis and Quinault Tribes requesting further information. Per the Tribes' request, USACE furnished the Quinault Tribe with a copy of the final cultural report for the project on April 15, 2024.

A literature review and records search within the Washington Information System Architectural and Archeological Records Data system found available published and archival records, prior survey reports, archaeological site forms, and historic property forms within 1 mile of the APE. The search found no previously identified archaeological sites located within or adjacent to the project's APE. The APE was surveyed with sample shovel testing by Secretary of the Interior- qualified USACE archaeologists on September 2, 2020. No archaeological material was identified as a result of this survey effort. USACE received SHPO concurrence on a finding of no historic properties affected by the Grays Harbor North Jetty Repair Project on April 23, 2024.

#### 3.11.1No Action Alternative

The No Action Alternative would have no effect to any cultural resources because there would be no repairs to the jetty.

# 3.11.2 Preferred Action Alternative

The preferred alternative would have no effect on cultural resources because there are no cultural resources located within the APE.

# 3.11.3 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have no effect on cultural resources because there are no cultural resources located within the APE.

# 3.12 Recreation

Grays Harbor County hosts a wide variety of recreational opportunities, and tourism increases significantly during the summer months. The economy of the city of Ocean Shores relies heavily on recreation. The city of Ocean Shores lies to the north of the North Jetty. The beach along Ocean Shores is open to the public and is over 7 miles long. Pedestrian use has cut paths through the dunes; the damage is visible in aerial imagery. On the beach north of the North Jetty, surfers and beach goers enjoy the extensive coastline and ocean waves in the area. Other recreation around Ocean

Shores includes beach combing, bird watching, and fishing. Visitors also frequent Damon Point and Ocean City State Park near Ocean Shores. Many recreational and commercial vessels pass through the navigation channel daily.

#### 3.12.1No Action Alternative

Over time, the No Action Alternative could reduce recreation because the jetty would continue to erode without structural repairs. Eventually, the North Jetty could become so degraded as to adversely impact water-oriented recreational uses in Grays Harbor. Further shoreline erosion inland could also impact recreational opportunities in and around Ocean Shores.

#### 3.12.2 Preferred Alternative

Under the Preferred Alternative, North Jetty maintenance, recreational activities around the jetty would be temporarily impacted due to construction. Although the North Jetty was not congressionally authorized for recreation, there is recreation around the North Jetty that could be impacted. For instance, access to the beach through the project footprint would be limited by construction activities. In addition, there would be temporary noise disturbance to the surrounding area, including anyone using the Oyhut Wildlife Recreation Area during construction in Repair Area 3. Recreational facilities and navigation structure would not be changed as a result of the repair effort. However, USACE does not anticipate long-term impacts to recreation from the proposed action. Effects on recreation would be temporary and negligible.

# 3.12.3 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects to recreation as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty in the interim but would not address all repair needs. The collective course of repairs under this alternative would be expected to generally cause more intense and prolonged adverse effects on the quality of the human environment for the reasons outlined in section 2.4. As a result, this alternative would have greater impacts to recreation than the Preferred Alternative.

# 3.13 Environmental Justice

Executive Orders (EOs):

- 1. EO 12898: Environmental Justice in Minority Populations and Low-Income Populations,
- 2. EO 14008: Tackling the Climate Crisis,
- 3. EO 13985 & 14091: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government
- 4. EO 14096: Revitalizing Our Nation's Commitment to Environmental Justice for All

"Environmental Justice" is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income regarding the development, implementation, and enforcement of environmental laws, regulations, and policies, with no group bearing a disproportionate burden of environmental harms and risks. Environmental justice and disproportionate impacts to disadvantaged communities shall be considered throughout the Civil Works programs and in all phases of project planning and decision-making, consistent with the goals and objectives of various Administration policies.

EO 12898 directs Federal agencies to take appropriate steps to identify and address any disproportionately high and adverse human health or environmental effects of Federal programs, policies, and activities on minority and low-income populations. Minority populations constitute those persons who identify as Black, Hispanic, Asian American, American Indian/Alaskan Native, or Pacific Islander. A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population. EO 14008 updates EO 12898 and has expanded Federal agencies' responsibilities for assessing environmental justice consequences of their actions. EO 13985, EO 14091, and EO 14096 charge the Federal Government with advancing equity for all, including communities that have long been underserved, and addressing systemic racism in our Nation's policies and programs.

#### 3.13.1 Analysis Methods

USACE analyzed demographic data to assess the approximate locations and potential concerns of low-income and minority populations in the community of concern. The analysis relied on the EPA's EJScreen tool and the White House Council on Environmental Quality (CEQ) Climate and Economic Justice Screening Tool (EPA 2024c; CEQ 2024).

EJScreen is EPA's environmental justice mapping and screening tool that provides a nationally consistent dataset and approach for combining environmental and demographic socioeconomic indicators. Using the tool, USACE analysts chose a geographic area on the EJScreen map. The tool then synthesized demographic socioeconomic and environmental information for that area to express them in the context of 13 indicators or indexes. The environmental justice indexes are exposure to toxic air pollutants including particulate matter, ozone, and lead, proximity to superfund sites, hazardous waste, and wastewater discharge. Demographic indexes are the percentages of the population that are people of color, low income, unemployed, with limited English speakers, less than a high school education and population under 5 or over 64. Vulnerability to flood, wildfire, and sea level rise due to climate change and lack of health, housing, transportation, and food services are also analyzed. The environmental justice index uses the concept of "excess risk" by looking at the level

above the national average the block group's demographics. USACE analysts applied the EJScreen assessment of the 13 indicators within an affected radius around the project area of approximately 5 miles. USACE compared indicators for the project area to those in the city of Ocean Shores and Washington State. EPA considers a project to be in an area of potential environmental justice concern when an EJScreen analysis for the impacted area shows one or more of the 13 environmental justice indexes at or above the 80th percentile in the nation and/or state (EPA 2024b). The area consisting of the repair and 5-mile buffer and town of Ocean Shores are not over the 80th percentile for any of the environmental justice indexes (EPA 2024c; Appendix B).

The CEQ's Climate and Economic Justice Screen Tool is a geospatial mapping tool used to identify disadvantaged communities that face burdens. The tool has an interactive map and uses datasets that are indicators of burdens. Communities are considered disadvantaged if they are in a census tract that meets the threshold for at least one of the tool's categories of burden and corresponding economic indicator or are on the lands of a federally recognized Tribe. USACE researched this additional information from the CEQ tool to ensure it rigorously investigated the existence of environmental justice communities or issues of concern.

# 3.13.2 Analysis Results

Detailed data generated from the EJScreen report can be found in Appendix B and online at the following link: https://www.epa.gov/ejscreen.

From the EJScreen research, USACE found that the aggregate minority population is estimated to be 12 percent of the total population in the affected area. Within the state of Washington, minorities comprise 32 percent of the population, and in the U.S., they make up 39 percent (EPA 2024a; Appendix B). The town of Ocean Shores has an estimated aggregate minority population of 15 percent, which is more than that of the population within 5 miles of the project area (EPA 2024a; Appendix B).

The aggregate low-income population percentage within 5 miles of the project area and town of Ocean Shores is greater than the state average. The aggregate low-income population is estimated at 29 percent within 5 miles of the project area, 24 percent in the state of Washington, and 31 percent for the United States (EPA 2024a; Appendix B). The aggregate low-income population is estimated at 28 percent in the town of Ocean Shores (EPA 2024a; Appendix B).

The percentage within 5 miles of the project area and the town of Ocean Shores does not exceed 50 percent. Therefore, affected area is not considered to have a high concentration of minority or low-income persons based on CEQ criteria.

The area around the project is above the 50th percentile for members of the population who are unemployed, limited English speakers, less than a high school education, and those over the age of 64.
Using the CEQ's Climate and Economic Justice Screening Tools, USACE found the project site is not located within a disadvantaged tract (CEQ 2024). Communities are considered disadvantaged if they are in a census tract that meets the threshold for at least one of the tool's categories of burden and corresponding economic indicator or are on the lands of a federally recognized Tribe. The project site is located within a partially disadvantaged tract (CEQ 2024). In the area, energy costs are a high portion of household income (93rd percentile), heart disease is high (92nd percentile), and 11 percent of the population over 25 years old does not have a high school diploma (CEQ 2024). Detailed information from the CEQ tool can be found at the following URL: https://screeningtool.geoplatform.gov/en/.

#### 3.13.3No Action Alternative

Under the No Action Alternative, the North Jetty would continue to degrade and would impact the Federal navigation channel. This could impact the economy of Grays Harbor County and could disproportionately affect EJ communities. Additionally, degradation of the North Jetty could alter habitat and species composition in Grays Harbor which could impact fishing and Tribal harvest.

#### 3.13.4 Preferred Alternative

The Preferred Alternative would not disproportionally affect low income or minority populations. The area is under all EJ index thresholds. While the project would cause an increase of GHG emissions, all emissions would be *de minimis* (Table 4). As a result, EJ indexes during the project would remain unaffected. The North Jetty Repair would use heavy machinery and require the development of a temporary access road. Thus, the largest impact to Ocean Shores would be elevated noise within 890 feet of the project area (see section 3.5.2).

USACE also engaged with Tribal Nations, which are environmental justice communities in the project area and informed them about the proposed action (section 8.12). The proposed action would not directly or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin, nor would it have a disproportionate effect on minority or low-income communities.

Since the North Jetty repairs would maintain the Federal navigation channel, this Preferred Alternative could provide a universal benefit to all persons around the project area. This benefit would include disadvantaged minority, low-income, and Tribal communities.

#### 3.13.1Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects to environmental justice as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty in the interim but would not address all repair needs. The collective course of repairs under this alternative would be expected to generally cause more intense and prolonged adverse effects on the quality of the human environment for the reasons outlined in section 2.4. As a result, this alternative would have greater impacts to environmental justice than the Preferred Alternative.

#### 3.14 Land-Based Transportation and Traffic

Ocean Shores contains two north-south oriented roads that are the primary thoroughfare through the town. Both roads go through residential and commercial areas. Highway 109, a two-lane road, is the only road leading to Ocean Shores, both from the north and the east. Traffic is highest during the summer months, when there is an increase in visitors to the area. Traffic counters at the city of Ocean Shores entrance note a steady increase in vehicles from 2008 to 2019 (WSDOT 2020b).

#### 3.14.1No Action Alternative

The No Action Alternative would have no immediate effect to land-based transportation or traffic because no repairs would be made to the jetty.

#### 3.14.2 Preferred Alternative

Under the Preferred Alternative, truck traffic for rock delivery would cause minor impacts to traffic, both on the way to and within Ocean Shores, especially during the summer tourist season in July and August. The construction contractor would determine the size of the truck fleet and truck capacity. Table 9 shows the estimate of trucks per day and number of days per event, assuming there is a twelve-truck fleet.

Material	Transport Equipment	Tons per Day	Frequency over 120 days
Armor Rock	55-ton lowboy	150,000	2 cycles/day
Chinking/Filter Rock	15-ton double dump trailer	20,000	4 cycles/day
Haul Road Material	15-ton double dump trailer	20,000	4 cycles/day

Table 9. Estimated trucks and delivery of materials per day.

The number of days is not necessarily additive, and there could be delivery of different materials on the same days, depending on the contractor's schedule. These trucks are unlikely to cause traffic jams/backups since Ocean Shores is not a metropolitan area, but they could slow down traffic behind the trucks until they can be safely passed. A fleet of trucks would be transporting materials to and from the project location and would not all travel together at the same time. As a result, these impacts would be minor and temporary and are not expected to cause substantial impacts to traffic in and

around Ocean Shores. Trucks would also be driving from quarries with material or a shipping terminal. The impacts of traffic from material transport to Ocean Shores would be minimal. Effects on traffic in the area would be temporary and negligible.

#### 3.14.1 Partial Repair of Jetty Root and Trunk

The partial repair of the North Jetty's root and trunk would have similar effects to landbased transportation and traffic as those described for the Preferred Alternative. However, repairs conducted would only target the most critical areas of the jetty in the interim but would not address all repair needs. The collective course of repairs under this alternative would be expected to generally cause more intense and prolonged adverse effects on the quality of the human environment for the reasons outlined in section 2.4. As a result, this alternative would have greater impacts to land based transportation and traffic than the Preferred Alternative.

## 4 Mitigation

As outlined in 40 CFR § 1508.1(s)(1-5) 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 the following:

- 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."

No compensatory mitigation under CWA Section 404 is required for this action as there is no discharge to wetlands, streams, or other aquatic resource. Adverse effects to ESA-listed species would be minimized by working in the authorized work window; minimized by employing BMPs and conservation measures (section 2.3.5); and no significant impacts to commercially important species or protected marine mammals are anticipated to occur based on the analyses in this document.

# **5 Unavoidable Adverse Impacts**

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, including shorebird nesting.
- 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

The CEQ regulations implementing NEPA define cumulative effects as the impact on the environment which 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 (40 CFR §1508.1).

### 6.1 Affected Environment

The Grays Harbor area is a drowned coastal valley that was historically sheltered from ocean currents by bay bars (i.e., sand bars that formed naturally at the outlet of the Chehalis River estuary). The Harbor is surrounded on three sides by low hills, and its waters can be divided into estuarine and oceanic components. Fresh water inflow to the estuary comes predominantly from the Chehalis, Hoquiam, and Humptulips Rivers. The Chehalis River contributes about 80 percent of the total freshwater flow. The predominant physical features of the Harbor are the expansive mudflats that cover 63 percent of the Harbor's surface area at MLLW, and the water surface ranges from about 94 square miles at mean higher high water to 38 square miles at MLLW. Grays Harbor includes significant hydrological modifications to support a navigation channel that allows safe transit from the Pacific Ocean to the mouth of the Chehalis River.

### 6.2 Past Actions

Construction and repair of navigation features and other anthropogenic activities are linked to a loss of nearly 15,000 acres of estuarine habitat, or about 30 percent of the historical estuary (Smith and Wenger 2001). Wetlands were filled to build the cities of

Aberdeen and Hoquiam, several rivers have become channelized and lost their riparian zones due to diking, and the intertidal zone has lost habitat from activities associated with log processing and lumber mills (Smith and Wenger 2001; USACE 2014). Shoreline armoring (riprap), dikes, and development have modified the Grays Harbor shoreline (Sandell et al. 2015).

#### 6.3 **Present Actions**

Presently, the coastal beach zone of Grays Harbor consists of developed areas with jetties, dikes, marinas, and ports, as well as natural areas of sand beaches, salt marshes, meadows, and brackish marshes.

Construction and development near the project location is primarily conducted by state, local, and Federal agencies. The region is also heavily logged. In a 2017 report (WDNR 2018), Grays Harbor County provided 311,600 board feet of lumber and approximately 11 percent of total timber harvested for Washington state. Besides logging, actions near the project area are primarily associated with development, navigation, and port maintenance (Table 10). These projects continue to degrade natural habitat and important features like wetlands, alter sediment transport dynamics, disrupt marine areas through dredging, and develop open spaces. Maintenance of the Federal navigation channel also perpetuates impacts of noise and disturbance caused by vessel traffic and heightens the risk of pollutant discharge into the Pacific Ocean and Grays Harbor estuary.

### 6.4 Future Actions

In general, future activities near the North Jetty, Grays Harbor estuary, and city of Ocean Shores would cause similar impacts to those from the proposed North Jetty Maintenance project. These activities would consist of further development as populations increase and the use of the coastal area increases.

### 6.5 Conclusion

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 (Table 10). Most impacts of the proposed project, aside from changes in hydraulics, would only last the length of construction. More importantly, the proposed action would not significantly alter habitat, species presence, and ecological resources since it would maintain the already existing structures and status quo of the area.

Table 10. Past, current, and future projects near the North Jetty project location. Projects listed below are WA State Department of Ecology and U.S. Army Corps of Engineers permitted projects.

Project Name	Location	Type of Project	Year of Construction	Action Agency/Entity
Grays Harbor Maintenance Dredging	Grays Harbor	Maintenance dredging of Grays Harbor Federal navigation channel	2024	USACE Civil Works
Oyhut Bay Expansion	Ocean Shores	Construction of the multi-million-dollar Oyhut Bay Seaside Village expected to have approx. 200 homes when complete	2024	Grays Harbor County
Residential Docks	Ocean Shores	Construction of various residential docks built on private property	Ongoing	City of Ocean Shores
No name	Ocean Shores	Discharge of up to 100 cy of sand and gravel fill within 0.15 acres of a wetland	2024	USACE Regulatory
No name	Ocean Shores	Discharge of up to 10 cy of rock and culvert within 115 square feet of a wetland, clean fill and a wider culvert will be replaced	2023	USACE Regulatory
Terminal 2 Advanced Maintenance Dredging	Hoquiam	Advanced maintenance dredging requested to address increased sedimentation at terminal 2 in the Port of Grays Harbor	2023	Port of Grays Harbor via Dept Ecology
Duck Lake Hazard Tree Removal	Ocean Shores	Removal of hazardous trees in the duck lake complex	2023	City of Ocean Shores via Dept Ecology

Project Name	Location	Type of Project	Year of Construction	Action Agency/Entity
Placemarker Planned Unit Development	Pacific Beach	Convert approx. 17 acres into 82 single family detached lots, 4 two family lots, and 9 condo/apartment lots with up to 68 units. This includes development of retail, open space tracts, parks, and recreation units	2023	Placemarker Homes LLC via Dept of Ecology
Oyehut Drainage Maintenance Project	Ocean Shores	Cleaning refuse, invasive species, and muck from the Oyehut stormwater conveyance in Ocean Shores	2022	City of Ocean Shores via Dept Ecology
City of Ocean Shores High Dune Trail	Ocean Shores	Construction of an ADA complaint trail between Ocean Shores Blvd and Pacific Ocean, 2 wetlands intersect the trail that will contain boardwalk instead of asphalt	2022	City of Ocean Shores via Dept Ecology
City of Ocean Shores Dune Firebreak	Ocean Shores	Firebreak clearing on dunes in Ocean Shores	2020 & 2021	City of Ocean Shores via Dept Ecology
No name	Ocean Shores	Development on residential property with a mapped wetland that will be filled (750 cy). Mitigation plan and credits were purchased through City of Ocean Shores	2021	City of Ocean Shores via Dept Ecology
No name	Ocean Shores	Bank stabilization of protective rip rap on residential lot and city street	2020	City of Ocean Shores via Dept Ecology
No name	Ocean Shores	Bulkhead repair on private property along shoreline involving fill	2019	City of Ocean Shores via Dept Ecology
No name	Ocean Shores	Construction of wastewater collection system (6,720 square feet) at wastewater treatment plant	2019	City of Ocean Shores via Dept Ecology

# 7 Coordination

USACE is coordinating with Federal and state agencies and Tribes regarding the proposed maintenance of the North Jetty. At the start of the project and during the environmental review and compliance process, the USACE is in contact with the following agencies and entities:

- Confederated Tribes of the Chehalis Reservation
- Cowlitz Indian Tribe
- DAHP
- Ecology
- EPA
- Hoh Indian Tribe
- NMFS
- WDFW
- Quinault Indian Nation
- Quileute Tribe of the Quileute Reservation
- Shoalwater Bay Indian Tribe of the Shoalwater Bay Indian Reservation

USACE is releasing this Draft EA and Draft Finding of No Significant Impacts (FONSI) for the proposed project for a 30-day public review and comment period. Details of the comment period are provided in the notice of availability provided at the start of this Draft EA.

# 8 Environmental Compliance

This EA is prepared pursuant to Sec. 102(C) of the NEPA, and includes compliance with other laws, regulations and EOs 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. Neither 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.

#### 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. Based on iNaturalist observations (2024), no bald eagles or nests have been observed near the project area, and the closest potential nest may be 1-mile northeast from the project location based on eagle sightings recorded (iNaturalist 2024). The proposed project is not expected to cause take of either bald or golden eagles since there are no known nests near the repair site.

### 8.3 Clean Air Act of 1972

The Clean Air Act 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, removal and 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 occur only during construction activities (section 3.4.2). The project area is part of an attainment area (EPA 2024d). 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 4), and thus a conformity determination is not required, pursuant to 40 C.F.R. 93.153 (c)(2)(iv).

### 8.4 Clean Water Act, as Amended of 1948 and 1972

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 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 turbidity. The proposed North Jetty maintenance requires work below the HTL. BMPs, including restrictions on fueling and prevention of fluid leaks from construction equipment, would be employed to avoid discharge of pollutants

into the water (section 2.3.4). Moreover, no work would be conducted below the water line. Instead, work would occur during low tides to avoid the need for in-water work.

Three sections of the CWA are pertinent to the proposed action. Section 401 covers water quality and evaluation of the effects discharges would have on water quality considerations, including standards. Section 402 addresses non-point discharges including, but not limited to, stormwater runoff from construction sites. Section 404 addresses discharge of fill into Waters of the United States. Requirements of those three CWA sections are briefly discussed below.

#### 8.4.1 Sections 404 and 401

The USACE does not issue itself permits but complies with the substantive requirements of the CWA. The USACE is responsible for the compliance of its civil works projects with Sections 401 and 404 under the CWA. While project activities will occur below the HTL in the Grays Harbor, there will be no regulated discharge in accordance with 404(f)(1)(B) from the project into waterbodies and wetlands. Work that is exempt from regulation under Section 404 is defined as follows.

Pursuant to CWA Section 404(f)(1)(B), "[T]he discharge of dredged or fill material . . . for the purpose of maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, and bridge abutments or approaches, and transportation structures...is not prohibited by or otherwise subject to regulation under this section..."

Pursuant to 33 U.S.C. 323.4(a)(2), the implementing definition of "maintenance" is: "Emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Maintenance does not include any modification that changes the character, scope, or size of the original fill design. Emergency reconstruction must occur within a reasonable period of time after damage occurs in order to qualify for this exemption."

Below and waterward of the HTL, 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, and the project is therefore exempt from regulation under Section 404 of the CWA. Since the project does not result in any jurisdictional discharge into waters of the U.S. pursuant to 404(f)(1)(B), a Section 401 Water Quality Certification is not required.

#### 8.4.2 Section 402

Section 402 of the CWA is triggered when a construction site would have greater than 1-acre of ground disturbance (EPA 2024e). Section 402 of the CWA is triggered by the proposed project because the area of disturbance would be greater than 1 acre. A Storm Water Pollution Prevention Plan would be prepared, and an application submitted to the EPA for coverage under the EPA Construction General Permit prior to construction.

### 8.5 Coastal Zone Management Act of 1972

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, which includes State laws. USACE determined that this project is substantively consistent with the enforceable polices of the State Clean Air Act, State Water Pollution Control Act, and the State Shoreline Management Act. The Shoreline Management Act is locally implemented through the Grays Harbor County Master Programs. On September 5, 2024, USACE sent a Coastal Zone Management Act Consistency Determination to Ecology requesting concurrence that the proposed repairs are consistent to the maximum extent practicable with the enforceable policies of the approved Coastal Zone Management Program. Concurrence was received from Ecology on October 14, 2024 (Appendix C).

### 8.6 Endangered Species Act of 1973

In accordance with Section 7(a)(2) of the ESA of 1973, 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 the project may affect and is likely to adversely affect streaked horned lark and Western snowy plover and their designated critical habitat. The project may affect but is not likely to adversely affect marbled murrelet, eulachon, green sturgeon, and their critical habitat, SRKW and their critical habitat, and bull trout and their critical habitat. The USACE provided a Biological Assessment to USFWS and NMFS for these species on April 8, 2024. Concurrence was received from NMFS on August 21, 2024. Consultation with USFWS is ongoing.

# 8.7 Magnuson-Stevens Fishery Conservation and Management Act of 1976

The Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et. seq.), as amended by the Sustainable Fisheries Act of 1996 (P.L. 104-267), requires Federal agencies to consult with NMFS regarding actions that may adversely affect essential fish habitat (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, five coastal pelagic species, and two 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 North Jetty would maintain the same habitat as present conditions. USACE determined the proposed action may adversely affect EFH, because of two main factors:

1) placement and reworking 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 jetty during higher tides. USACE included an EFH analysis in the biological assessment submitted to NMFS on April 8, 2024. In a letter dated August 21, 2024, and clarified in an email on September 11, 2024, NMFS determined that the project would not adversely affect EFH.

### 8.8 Marine Mammal Protection Act of 1972

The Marine Mammal Protection Act 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 Marine Mammal Protection Act regardless of whether they are endangered, threatened, or depleted. The most common marine mammal species observed in the project area includes humpback

whale, gray whale, harbor seal, California sea lion, and harbor porpoise. Killer whales and Steller sea lions appear infrequently near Grays Harbor.

The primary concern for marine mammals is underwater noise from construction. The effects to marine mammals of rock placement along the jetty in the intertidal zone are not expected to rise to the level of take (78 FR 30875, 78 FR 4541). The 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.

### 8.9 Migratory Bird Treaty Act of 1918 and Executive Order 13186 Responsibilities of Federal Agencies to Protect Migratory Birds

The Migratory Bird Treaty Act (16 U.S.C. § 703-712) as amended protects over 800 bird species and their habitat and commits that the U.S. would 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 not cause direct and deliberate depredation, injury or harm or result in the degradation of habitat for migratory birds. Birds are assumed to be habituated to the noise and activity of the Grays Harbor estuary. Therefore, a permit application for "take" of migratory birds is not required.

### 8.10 National Environmental Policy Act of 1970

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 affect the quality of the human environment. Major Federal actions determined not likely to have significant effects on the quality of the human environment may be evaluated through an EA.

This draft EA is available for public review and comment. A draft FONSI has also been prepared and is being circulated for public comment (Appendix E). USACE invites submission of comments on the environmental impact of the proposed action. USACE would consider all submissions received during the comment period. The nature or scope of the proposal may be changed upon consideration of the comments received and this EA updated. If significant effects on the quality of the human environment are identified and cannot be mitigated for, the USACE would initiate an EIS and afford all the appropriate public participation opportunities attendant to an EIS.

#### 8.11 National Historic Preservation Act of 1966

Section 106 (54 U.S.C. § 306108) of the NHPA (54 U.S.C. § 300101) requires Federal agencies evaluate the effects of Federal undertakings on historical, archaeological, 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.

USACE initiated consultation with the Washington State Historic Preservation Office (SHPO) and the Confederated Tribes of the Chehalis Reservation, Hoh Indian Tribe, Quileute Tribe of the Quileute Reservation, Quinault Indian Nation, and Shoalwater Bay Indian Tribe of the Shoalwater Bay Indian Reservation on July 23, 2020. An expanded Area of Potential Effects (APE) letter was provided to SHPO and the Tribes on January 5, 2022, and USACE received concurrence from SHPO on January 14, 2022 (Appendix D). A Secretary of Interior qualified USACE archaeologist conducted research and a field investigation of the project area to identify any potential historic properties, archaeological resources, or resources that are culturally significant. On April 15, 2024, USACE provided the SHPO with all necessary NHPA documentation for consultation. The SHPO concurred with USACE's determination of no historic properties affected for the proposed project on April 23, 2024. USACE will continue to evaluate the project and prepare the necessary documentation for compliance with Section 106 of the NHPA and its implementing regulations under 36 CFR § 800, which will be concluded in the final EA, and any commitments will be addressed in the NEPA decision document.

### 8.12 Native American Tribal Treaty Rights & Tribal Consultation under EO 13175, Consultation and Coordination with Indian Tribal Governments

The United States has a unique, legally affirmed Nation-to-Nation relationship with American Indians and Alaska Native Tribal Nations, which is recognized under the Constitution of the United States, treaties, statutes, EOs, and court decisions. The United States recognizes the right of Tribal Governments to self-govern and supports Tribal sovereignty and self-determination. The United States also has a unique trust relationship with and responsibility to protect and support Tribal Nations.

Between 1778 and 1871, the United States entered into about 400 treaties with various Indian Nations on a Government-to-Government basis. Under the United States Constitution, treaties are accorded precedence equal to Federal law. Treaty rights are binding on all Federal and state agencies, and take precedence over State constitutions, laws, and judicial decisions. Treaty terms, and the rights arising from them, cannot be rescinded or cancelled without explicit and specific evidence of Congressional intent – indicating that Congress was aware of the conflict between its intended action on the one hand and Indian treaty rights on the other, and chose to resolve the conflict by abrogating the treaty. A right enumerated in a treaty ratified by the Senate may only be superseded by a subsequent act of Congress.

USACE has a trust policy to consult with, and consider views of, federally recognized American Indian Tribes when proposing an action that may have the potential to significantly affect Tribal rights, resources, and lands. See Department of Defense Instruction (DODI) 4710.02, Section 3, Subject: DOD Interactions with Federally Recognized Tribes (24 September 2018). USACE discharges that duty by notifying, consulting with, and meaningfully considering Tribal concerns that are raised through this consultation process.

In the 1850s, in exchange for the cession of their ancestral lands, numerous Tribes in the Pacific Northwest entered into treaties with the United States to secure for themselves, amongst other considerations, the preservation of fishing rights in the ceded areas. These treaties were negotiated and signed by the then-Governor of the Washington Territory, Isaac I. Stevens, and are collectively known as the "Stevens Treaties."

In 1974, many (but not all) of the Stevens Treaties signatory Tribes' "usual and accustomed grounds" within Puget Sound were delineated in a Federal court adjudication, U.S. V. Washington, 384 F. Supp. 312 (W.D. Wash. 1974). The Stevens treaties reserved the signatory Tribes' 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. at 332). Federal case law has recognized that the signatory Tribes also reserved the right to take up to 50 percent of the harvestable anadromous fish runs passing through those grounds (Fair Share). Over the years, the courts have held that this right also comprehends certain subsidiary rights, such as access to their "usual and accustomed" fishing grounds. See Northwest *Sea Farms v. USACE*, 931 F. Supp 1515 (W.D. Wash.1996).

USACE evaluated impacts to fish and wildlife from this project and sent letters to the Confederated Tribes of the Chehalis Reservation, Hoh Indian Tribe, Quileute Tribe of the Quileute Reservation, Quinault Indian Nation, Cowlitz Indian Tribe, and Shoalwater Bay Indian Tribe of the Shoalwater Bay Indian Reservation requesting comments on the proposed project and providing the opportunity to initiate government-to-government consultation on March 20, 2024. To date, USACE has not received comments from any of the contacted Tribes. USACE evaluated impacts to historic resources and sent letters to the Confederated Tribes of the Chehalis Reservation, Hoh Indian Tribe, Quileute Tribe of the Quileute Reservation, Quinault Indian Nation, and Shoalwater Bay Indian Tribe of the Shoalwater Bay Indian Reservation on July 23, 2020, and notified Tribes of an updated APE on January 4, 2022.

### 8.13 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 of the floodplain, and to avoid direct and indirect support of floodplain development where there is a practicable alternative. The proposed repair to the North Jetty does not constitute a major rehabilitation project, require extensive engineering and development, or change the project footprint. The proposed repair does not directly affect either the modification or occupancy of floodplains and does not directly or indirectly impact floodplain development.

### 8.14 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. No wetlands would be destroyed, lost, or degraded by the proposed action.

# 9 Summary of Assessment

The No Action Alternative does not meet the purpose and need of the proposed Federal action. The Preferred Alternative fulfills the project's purpose and need by restoring the North Jetty's authorized purposes to provide scouring velocities, to reduce sediment deposition at the harbor entrance, and protect the harbor using the "least costly alternative consistent with sound engineering practices and meeting the environmental standards" (33 CFR 335.7), and would be economically superior to, and generate fewer adverse environmental effects, than Alternative 3. Based on the above analysis, USACE does not expect the proposed Grays Harbor North Jetty Maintenance Project to

constitute a major Federal action significantly affecting the quality of the human environment, and therefore would not require preparation of an EIS. Public comments are invited on this draft EA and will be considered prior to finalization of this EA and FONSI.

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Appendix A Emission Calculations

#### Analysis of Emissions of Potential Air Pollutants

Despite the limited role of the state in regulating nonroad engine emissions, we calculated emissions of construction equipment as a means of supporting our analysis of air quality impacts associated with this proposed project (Table B-1). We calculated emissions using the South Coast (California) Air Quality Management District (AQMD) tool (http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/off-road-mobile-source-emission-factors) and compared project emissions to the Federal Clean Air Act de minimis thresholds (40 CFR 93.153(b)(1) and (2)), WA State's exemption levels (WAC 173-400-110, Table 110(5)) and insignificant emissions levels (WAC 173-401-530), and ORCAA's (regional agency for Grays Harbor County) threshold levels for registration and reporting (https://www.orcaa.org/about/air-quality-regulations/) (Table B-2). De minimis levels are "the minimum threshold for which a conformity determination must be performed for criteria pollutants" (40 CFR 93.153). A conformity determination ensures that a Federal action does not interfere with a state's plan to attain or maintain national ambient air quality standards. Emissions below de minimis levels are "trivial levels of emissions that do not pose a threat to human health or the environment" (WAC 173-400-020(4)). "Insignificant emissions" do not require testing, monitoring, recordkeeping and reporting unless the permitting authority determines that to be necessary (WAC 173-401-530(2)(c)).

	HP	pieces	hrs/day	days	g/CO/hr	tons CO	g/ROG/hr	tons ROG	g/CO2/hr	tons CO2	g/NOx/hr	tons NOx	g/PM/hr	tons PM	g/SOx/hr	tons SOx
Highway Tandem Dump Truck (2 x 14cy)	415	8	10	120	428.6814	4.1153411	130.1697	1	123527.9	1185.868	1294.089	12.42326	47.67592	0.457689	1.212467	0.01164
Highway Dump Truck Triple Axle 55-ton Lowboy Trailer	415	4	10	120	428.6814	2.0576705	130.1697	1	123527.9	592.9342	1294.089	6.21163	47.67592	0.228844	1.212467	0.00582
Offroad haul truck	510	2	10	240	428.6814	2.0576705	130.1697	1	123527.9	592.9342	1294.089	6.21163	47.67592	0.228844	1.212467	0.00582
Dozer	364	1	4	240	961.4598	0.9230014	183.4564	0	120143.5	115.3378	1661.52	1.595059	70.89196	0.068056	1.179248	0.001132
Crawler Crane	340	1	10	60	384.8021	0.2308813	96.22751	0	81692.16	49.01529	954.7776	0.572867	37.13863	0.022283	0.801835	0.000481
Excavator 1200 - Long reach	760	1	10	240	573.5702	1.3765684	174.2146	0	175727.4	421.7458	1848.757	4.437016	65.50929	0.157222	1.766891	0.004241
Excavator 800	512	1	8	240	347.1226	0.6664755	104.0824	0	106020	203.5585	1079.97	2.073543	38.89776	0.074684	1.040621	0.001998
Front End Loader	320	1	6	240	440.2297	0.6339307	114.6826	0	107504.6	154.8067	1181.113	1.700802	44.31244	0.06381	1.055193	0.001519
Water Truck	320	1	2	240	428.6814	0.2057671	130.1697	0	123527.9	59.29342	1294.089	0.621163	47.67592	0.022884	1.212467	0.000582
						12.27		3.58		3375.49		35.85		1.32		0.0332

Table B-1. Emission estimates for the proposed project calculated using the AQMD tool.

Although the USACE does not obtain local permits, we examined ORCAA's regulations as an illustrative standard of consistency (https://www.orcaa.org/about/air-quality-regulations/) because it is the local permitting authority under WCAA: "Permitting authority' means Ecology or the local air pollution control authority with jurisdiction over the source" (WAC 173-400-030(69)). ORCAA's requirements for new source review do not apply to nonroad engines: "All stationary sources exempt from registration under Regulation 4 are still required to comply with other applicable air pollution requirements...Nonroad engines" (Rule 4.1 Regulation Reguired, Regulation 4 Registration). We included ORCAA's emission thresholds for registration and reporting in Table B-2. These thresholds do not apply to nonroad engines of the size that is needed for the North Jetty Maintenance project, as is explained further here. ORCAA's Notice of Intent to Operate (NIO) applies to nonroad engines, "with a cumulative maximum rated brake horsepower greater than 500 BHP and less than or equal to 2000 BHP" (WAC 173-400-035(4)) and "with a cumulative maximum rated brake horsepower greater than 2000 BHP" (WAC 173-400-035 (5)). The cumulative rated brake horsepower of the nonroad engines needed for the North Jetty Maintenance project is 2,417 BHP. This is within the range that would require notification under the regulations. According to WAC 173-400-035, "all nonroad engines must use ultra-low sulfur diesel or ultra-low sulfur biodiesel (a sulfur content of 15 ppm or 0.0015% sulfur by weight or less), gasoline, natural gas, propane, liquefied petroleum gas (LPG), hydrogen, ethanol, methanol, or liquefied/compressed natural gas (LNG/CNG). A facility that receives deliveries of only ultra-low sulfur diesel or ultra-low sulfur biodiesel is deemed to be compliant with this fuel standard." Nonroad engines are required to use ultra-low sulfur diesel but "are not subject to emission limits set by the state implementation plan" (Section 15.05 Emission Standards, (a) and (b)).

We used a conservative approach to the calculation of emissions with the AQMD tool (Table B-1). For example, we used 2007 equipment estimates and the 500 HP level available in the model to calculate crawler crane emissions even though a 340 HP crawler crane is anticipated to fit the needs of the project. The calculation was based on the maximum number of pieces of construction equipment expected to be used, an average fleet age of 16 years, higher HP for the equipment than required for the work, and maximum expected duration of the project. Assumptions are further detailed in the Table B-2 footnotes.

The emissions estimated for the North Jetty repair fall below EPA *de minimis* thresholds that are generally regulated or monitored, and reasonable measures will be taken to minimize emissions as defined in WAC 173-400-040 and explained

in the CAA portion of Ecology's questionnaire. The level of detail in this analysis is appropriate for the level of severity of the potential impacts to air quality within the coastal zone from the proposed action.

Table B-2. Comparison of conservative estimate of pollutant emissions for the North Jetty Maintenance project to EPA and Washington State *de minimis,* insignificant, and exemption levels and Olympic Region Clean Air Agency's thresholds for registration and emissions.

Pollutant	EPA's <i>de</i> <i>minimis</i> Threshold * (maintenance area) (tons/yr) (40 CFR 93.153(b)(2))	EPA's <i>de</i> <i>minimis</i> Threshold * (non- attainment area (NAA)) (tons/yr) (40 CFR 93.153(b)(1))	WA State's "Exemption levels" for exemption from New Source Review (WAC 173-400-110, Table 110(5)) (tons/yr)	WA State's "Insignificant Emission Thresholds" + (tons/yr) (WAC 173-401-530)	Olympic Region Clean Air Agency's "Registration and Reporting Threshold Levels" ^ (tons/yr)	Estimated emissions for North Jetty Maintenance Project (tons/yr) #	
Carbon monoxide (CO)	100	100	5	5	5	12.27	
Lead (Pb)	25	25	0.005	0.005	0.005		
NO <sub>2</sub>	100	100	[see NOx]	[see NOx]	[see NOx]	[see NOx]	

Nitrogen oxide (NOx)	100	Inside O <sub>3</sub> transport region: 100 Outside an O <sub>3</sub> transport region: 10-50 (extreme to serious NAA) or 100 (other NAAs)	2	2	2	35.85
Ozone/ Volatile Organic Compounds, total	Inside O <sub>3</sub> transport region: 50 Outside O <sub>3</sub> transport region: 100	Inside O <sub>3</sub> transport region: 50 Outside an O <sub>3</sub> transport region: 10-50 (extreme to serious NAA) or 100 (other NAAs)	2	2	2	3.58
Ozone- depleting substances, total			1	2	1	
PM (total)			1.25 [total suspended particulates]		1.25	

Particle pollution PM2.5	Direct emissions, SO2, NOx, VOC, Ammonia: 100	100 (moderate NAA) 70 (serious NAA)	0.5		0.5	
Particulate Pollution PM10	100	100 (moderate NAA) 70 (serious NAA)	0.75	0.75	0.75	1.32
Sulfur dioxide (SO <sub>2</sub> )	100	100	2	2	2	0.033
Carbon dioxide (CO2)						3375.49
Methane (CH₄)						
Fluorides				0.15		
Hydrogen sulfide (H <sub>2</sub> S)				0.5		
Sulfuric acid mist				0.35		
Total reduced sulfur (incl H <sub>2</sub> S)				0.5		

Toxic air pollutants (TAP)	The <i>de minimis</i> emission rate specified for each TAP in WAC 173-460- 150++	The <i>de minimis</i> emission rate specified for each TAP in WAC 173- 460-150++.
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\* EPA's de minimis emissions levels: 40 CFR 93 § 153 defines de minimis levels, i.e., the minimum threshold for which a conformity determination must be performed, for various criteria pollutants in various areas (https://www.epa.gov/general-conformity/de-minimis-emission-levels and https://www.epa.gov/general-conformity/de-minimis-tables). General conformity ensures that the actions taken by Federal agencies, such as airport construction, do not interfere with a state's plans to attain and maintain national standards for air quality. "For Federal [non-transportation] actions ..., a conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the rates in paragraphs (b)(1) [table of de minimis levels for nonattainment areas] or (2) [table of de minimis levels maintenance areas] of this section" (40 CFR 93.153(b)).

+ Insignificant emission thresholds: WAC 173-401-530(4) lists "criteria for identifying insignificant emission units or activities for purposes of the operating permit program." (WAC 173-401-530(1)) "Testing, monitoring, recordkeeping and reporting are not required for insignificant emissions units and activities unless determined by the permitting authority to be necessary . . ." (WAC 173-401-530(2)(c)). "An emission unit or activity shall be considered insignificant if it qualifies under subsection (1)(b), (c) or (d) of this section, or if its actual emissions, based on methods approved by the permitting authority, are below the practical quantification limit (PQL), or are less than or equal to all of the following threshold levels: [see column above] (WAC 173-401-530(4)).

++ WAC 173-460-150 is a table of hundreds of pollutants and their small quantity emission rates and de minimis levels.

^ ORCAA Regulations (https://www.orcaa.org/about/air-quality-regulations/):

Regulation 6, Rule 6.1 Notice of Intent to Operate, (A) Notice of Intent to Operate may be filed with the Agency in lieu of a Notice of Construction for the following sources: (1) Temporary Portable Stationary Sources. Relocation of temporary portable stationary sources having a valid Order of Approval from Ecology or a local air pollution control agency in the State of Washington. (2) Stationary Sources based on Potential to Emit. Any stationary source that will have a combined uncontrolled potential to emit from all emission units less than: (i) 0.5 tons per year of any criteria pollutant; and, (ii) 1.0 tons per year of total criteria pollutants and VOC combined; and, (iii) 0.005 tons per year of lead; and, (iv) The de minimis emission rate specified for each Toxic Air Pollutant listed in WAC 173-460-150; and, (v) 1.0 tons per year of ozone depleting substances combined.

# Assumptions for conservative calculation of emissions for the North Jetty Maintenance project using California's South Coast Air Quality Management District calculator for nonroad engines (http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies/off-road-engines ): 1) maximum duration specific for equipment; 2) operation specific for equipment; (3) equipment type with maximum likely horsepower (HP) (equivalent of full-time operation of 2 offroad trucks (500 HP, 240 days, 10 hrs/day), 1 crawler crane (500 HP, 10 hrs/day), 1 long reach excavator (760 HP, 240 days, 10 hrs/day), 1 excavator (500 HP, 240 days, 8 hrs/day), and 1 front end loader (320 HP, 240 days, 6 hrs/day)), and 4) average age of equipment in fleet of 16 years (average model year of 2007).

## No sources of fluorides (e.g., coal burning, fertilizer manufacturing from phosphate rock, aluminum production, oil drilling and refining) are associated with this project. (Fluoride is listed as an air contaminant in the definition of "emission threshold" at WAC 173-400-030(30).)

Appendix B Environmental Justice Analysis



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EJScreen Community Report

#### **Environmental Justice & Supplemental Indexes**

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to these for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the <u>EJScreen website</u>.

EJ INDEXES
The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color
populations with a single environmental indicator,

#### EJ INDEXES FOR THE SELECTED LOCATION



#### SUPPLEMENTAL INDEXES

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation. Report for 5 miles Ring around the Area

https://ejscreen.epa.gov/mapper/ejscreen\_SOE.aspx

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#### EJScreen Community Report

#### **EJScreen Environmental and Socioeconomic Indicators Data**

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE In state	USA AVERAGE	PERCENTILE In USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m <sup>3</sup> )	4.97	7.02	3	8.08	3
Ozone (ppb)	45.4	49.8	6	61,6	0
Diesel Particulate Matter (µg/m³)	0.0345	0.355	2	0.261	2
Air Toxics Cancer Risk* (lifetime risk per million)	20	27	2	25	5
Air Texics Respiratory HI*	0.2	0.39	1	0.31	4
Toxic Releases to Air	25	1,800	12	4,600	13
Traffic Proximity (daily traffic count/distance to road)	0.4	190	1	210	1
Lead Paint (% Pre-1960 Housing)	0,083	0,23	39	0,3	32
Superfund Proximity (site count/km distance)	0.011	0.18	2	0.13	5
RMP Facility Proximity (facility count/km distance)	0,045	0,4	7	0,43	8
Hazardous Waste Proximity (facility count/km distance)	0.045	1.6	5	1.9	8
Underground Storage Tanks (count/km <sup>2</sup> )	0.67	6.3	38	3.9	42
Wastewater Discharge (toxicity-weighted concentration/m distance)	0	0.024	0	22	0
SOCIDECONOMIC INDICATORS					
Demographic Index	21%	28%	37	35%	33
Supplemental Demographic Index	13%	12%	64	14%	50
People of Color	12%	32%	17	39%	26
Low Income	29%	24%	67	31%	53
Unemployment Rate	4%	5%	49	6%	48
Limited English Speaking Households	1%	4%	52	5%	57
Less Than High School Education	9%	8%	69	12%	56
Under Age 5	1%	6%	14	6%	18
Over Age 64	38%	16%	95	17%	95
Low Life Expectancy	20%	18%	72	20%	56

\*Divergenting/set entropy and toxics cancer risk, and all toxics resignation hazed index are from the PINs Ar Toxics Data Johane which is the Agency's engeins, comprehensive explantion of air toxics in the United States. This effort are to prioritizes are toxics, ensistence surfaces of the United States are soft to the United States are provide toxics and an exercise of estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Johate are reported to one significant figure and any additional significant figures here are due to founding. Note information on the Toxics Data Johate are from due to the Interview reage optimization of the toxics of a Johate and any additional significant figures and any additional significant figure and any additional soft areas of the second state prioritized and the second state and be found at the Interview reage optimization and the second state prioritize to an explored and the second state and the second and the Interview reage optimization of the Interview reagence of the Interview rea

#### Sites reporting to EPA within defined area:

Superfund	
Hazardous Waste, Treatment, Storage, and Disposal Facilities	
Water Dischargers	
Air Pollution	
Brownfields	
Taxic Release Inventory	

#### Other community features within defined area:

#### Other environmental data:

Air Non-attainment	No
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 5 miles Ring around the Area

https://eiscreen.epa.gov/mapper/eiscreen\_SOE.aspx

Schools
 1

 Hospitals
 0

 Places of Worship
 6
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EJScreen Community Report

### EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS						
INDICATOR VALUE STATE AVERAGE STATE PERCENTILE US AVERAGE US PERCENTILE						
Low Life Expectancy	20%	18%	72	20%	56	
Heart Disease	8.9	5.3	97	6.1	91	
Asthma	11,1	10.5	71	10	81	
Cancer	8,8	6,3	94	6,1	94	
Persons with Disabilities	24.8%	13.1%	96	13.4%	95	

CLIMATE INDICATORS							
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE		
Flood Risk	17%	11%	81	12%	81		
Wildfire Risk	0%	12%	0	14%	0		

CRITICAL SERVICE GAPS							
INDICATOR VALUE STATE AVERAGE STATE PERCENTILE US AVERAGE US PERCENTILE							
Broadband Internet	10%	9%	65	14%	45		
Lack of Health Insurance	10%	6%	82	9%	66		
Housing Burden	No	N/A	N/A	N/A	N/A		
Transportation Access	Yes	N/A	N/A	N/A	N/A		
Food Desert	Yes	N/A	N/A	N/A	N/A		

Report for 5 miles Ring around the Area

www.epa.gov/ejscreen



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EJScreen Community Report

## **Environmental Justice & Supplemental Indexes**

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the <u>EJScreen vebsite</u>.

EJ INDEXES The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator, EJ INDEXES FOR THE SELECTED LOCATION



#### SUPPLEMENTAL INDEXES

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

NaNNaN 100 90 80 70 PERCENTILE 60 50 40 30 -27 25 22 19 20 10 State Percentile 4 na Percenti Nat Air Toxios Respirator HI\* Particulate Matter Diese Particulat Mater Air Toxics Cancer Risk\* Ozon Leed Paint RMP Facility To Air Discharge Storage Tanks

These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation. Report for City: Ocean Shores

https://ejscreen.epa.gov/mapper/ejscreen\_SOE.aspx

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EJScreen Community Report

# **EJScreen Environmental and Socioeconomic Indicators Data**

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE In state	USA AVERAGE	PERCENTILE In USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m³)	4.9	7.02	2	8.08	3
Ozone (ppb)	45.3	49.8	5	61,6	0
Diesel Particulate Matter (µg/m <sup>3</sup> )	0.0336	0.355	2	0.261	2
Air Toxics Cancer Risk* (lifetime risk per million)	20	27	2	25	5
Air Toxics Respiratory HI*	0.2	0.39	1	0.31	4
Toxic Releases to Air	20	1,800	11	4,600	12
Traffic Proximity (daily traffic count/distance to road)	0.41	190	1	210	1
Lead Paint (% Pre-1960 Housing)	0,027	0,23	22	0,3	20
Superfund Proximity (site count/km distance)	0.011	0.18	1	0.13	4
RMP Facility Proximity (facility count/km distance)	0,044	0,4	7	0,43	8
Hazardous Waste Proximity (facility count/km distance)	0.044	1.6	4	1.9	8
Underground Storage Tanks (count/km <sup>2</sup> )	0.18	6.3	27	3.9	31
Wastewater Discharge (toxicity-weighted concentration/m distance)	N/A	0.024	N/A	22	N/A
SOCIDECONOMIC INDICATORS					
Demographic Index	21%	28%	39	35%	35
Supplemental Demographic Index	12%	12%	62	14%	48
People of Color	15%	32%	23	39%	31
Low Income	28%	24%	64	31%	51
Unemployment Rate	4%	5%	51	6%	50
Limited English Speaking Households	1%	4%	54	5%	60
Less Than High School Education	10%	8%	72	12%	59
Under Age 5	1%	6%	10	6%	14
Over Age 64	41%	16%	96	17%	96
Low Life Expectancy	19%	18%	55	20%	42

"Diese garliggbie native, at toxics cancer risk, and air toxics respiratory having index are from the EVS Ar Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of at toxics in the United States. This elevit and to promited are toxics, respiratory having index are from the EVS Ar Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of at toxics in the United States. This elevit are toxic, respiratory having index are from the EVS Ar Toxics Data Update, are to the at toxics called previde to node states. This elevit are toxics and at toxics are toxics and at toxics are toxics and at toxics are toxics and toxics are toxics. The advect toxic are toxics and toxics are toxics are toxics and toxics are toxics are are toxics and toxics are toxics are toxics are toxics are toxics are toxics and toxics are toxics and toxics are to

Sites reporting to EPA within defined area:	
Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	4
Air Pollution	0
Brownfields	0
Taxic Release Inventory	0

Other	community	features	within	defined	area:
0	oon and any	100.00			

Schools	1
Hospitals	0
Places of Worship	6

#### Other environmental data:

Air Non-attainment .	No
moaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	No
Selected location contains an EPA IRA disadvantaged community	No

Report for City: Ocean Shores

Col

#### 2/7/24, 1:49 PM

EJScreen Community Report

# **EJScreen Environmental and Socioeconomic Indicators Data**

HEALTH INDICATORS						
INDICATOR VALUE STATE AVERAGE STATE PERCENTILE US AVERAGE US PERCENTILE						
Low Life Expectancy	19%	18%	55	20%	42	
Heart Disease	9.5	5.3	98	6.1	95	
Asthma	11.4	10.5	82	10	85	
Cancer	9,7	6,3	98	6,1	97	
Persons with Disabilities	25.4%	13.1%	97	13.4%	95	

CLIMATE INDICATORS							
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE		
Flood Risk	11%	11%	70	12%	68		
Wildfire Risk	0%	12%	0	14%	0		

CRITICAL SERVICE GAPS						
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE	
Broadband Internet	11%	9%	67	14%	48	
Lack of Health Insurance	11%	6%	86	9%	71	
Housing Burden	No	N/A	N/A	N/A	N/A	
Transportation Access	Yes	N/A	N/A	N/A	N/A	
Food Desert	No	N/A	N/A	N/A	N/A	

Report for City: Ocean Shores

www.epa.gov/ejscreen

Appendix C Coastal Zone Management Act Coordination



October 14, 2024

U.S. Army Corps of Engineers Seattle District ATTN: Zach Wilson 4735 E. Marginal Way South, Bldg. 1202 Seattle, Washington 98134

Re: Coastal Zone Management Federal Consistency Decision for Grays Harbor North Jetty Maintenance Project, Ocean Shores, Grays Harbor County, Washington

Dear Zach Wilson:

On September 5, 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 September 13, 2024, and received no comments.

The proposed activity includes repairing three damaged segments of the North Jetty Structure to authorized dimensions using armor rock, core rock, and filter rock. The project is located at the North Jetty in Ocean Shores, Grays Harbor 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:

Grays Harbor North Jetty Maintenance Aquatics ID No. 144471 October 14, 2024 Page 2 of 3

- 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 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.

#### Filing an appeal

#### 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,

Zou Kandell

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

Grays Harbor North Jetty Maintenance Aquatics ID No. 144471 October 14, 2024 Page 3 of 3

Sent via e-mail: Zachary.M.Wilson@usace.army.mil

E-cc: Vanessa Pepi, U.S. Army Corps of Engineers Caren Crandell, U.S. Army Corps of Engineers Jessica Hausman, Ecology <u>fedconsistency@ecy.wa.gov</u> Appendix D National Historic Preservation Act Section 106 Consultation Documentation



Allyson Brooks Ph.D., Director State Historic Preservation Officer

April 23, 2024

Collin Ray Chief, Planning, Environmental, and Cultural Resources Branch US Army Corps of Engineers - Seattle District

In future correspondence please refer to: Project Tracking Code: 2020-04-03081 Property: Grays Harbor North Jetty Repair Project Re: Not Eligible for the National Register

Dear Collin Ray:

Thank you for contacting the Washington State Department of Archaeology and Historic Preservation (DAHP) regarding the above referenced proposal. This action has been reviewed on behalf of the State Historic Preservation Office (SHPO) under provisions of Section 106 of the National Historic Preservation Act of 1966 (as amended) and 36 CFR Part 800. Our review is based upon documentation provided in your submittal.

First, we concur that Property ID: 725581, the Grays Harbor North Jetty is not eligible for listing in the National Register of Historic Places due to a lack of integrity. We also concur that no historic resources will be affected by the current project as proposed.

As a result of our concurrence, further contact with DAHP on this proposal is not necessary. However, if new information about affected resources becomes available and/or the project scope of work changes significantly, please resume consultation as our assessment may be revised. Also, if any archaeological resources are uncovered during construction, please halt work immediately in the area of discovery and contact the appropriate Native American Tribes and DAHP for further consultation.

Thank you for the opportunity to review and comment. If you have any questions, please feel free to contact me.

Sincerely,

Mide

Maddie Levesque, M.A Architectural Historian (360) 819-7203 Maddie.Levesque@dahp.wa.gov

State of Washington • Department of Archaeology & Historic Preservation P.O. Box 48343 • Olympia, Washington 98504-8343 • (360) 586-3065 www.dahp.wa.gov



# Appendix E Draft FONSI

This is a draft FONSI that will be finalized with the Final EA. This appendix may be updated in the Final EA with public comments and responses.

# FINDING OF NO SIGNIFICANT IMPACT (FONSI) GRAYS HARBOR NORTH JETTY MAINTENANCE PROJECT GRAYS HARBOR COUNTY, WASHINGTON

The U.S. Army Corps of Engineers, Seattle District (USACE) is conducting an environmental analysis in accordance with the National Environmental Policy Act (NEPA) of 1969. The Draft Environmental Assessment (EA) dated **DATE OF EA**, for the Grays Harbor North Jetty Maintenance Project. The project addresses safe passage of marine traffic in the Grays Harbor Federal Navigation Channel to sustain the associated economic benefits to the towns of Ocean Shores, Westport, and the port of Grays Harbor, Grays Harbor County, Washington.

The Draft EA, incorporated herein by reference, evaluates various alternatives to perform maintenance on the North Jetty to ensure functionality of the Grays Harbor Federal Navigation Channel. One Federal action requiring NEPA compliance is analyzed in the Draft EA summarized below.

**Proposed Action:** The preferred alternative is Alternative 2 – North Jetty Maintenance. USACE proposes to repair three damaged sections of the North Jetty structure as described in the Draft EA, so that the jetty is fully functional and achieves its authorized purpose. Repair Area 1 is 1,500 feet, Repair Area 2 is 5,000 feet, and Repair Area 3 is 1,000 feet. The total length requiring maintenance is 7,500 linear feet. The USACE will place rock (both new and reworked relic stone) from an elevation of 0 feet MLLW to the top height (crest) of +23 feet above MLLW in Repair Areas 1 and 2 and -3 feet below MLLW to +20 feet above MLLW in Repair Area 3. The details of construction sequencing and placement method can be found in section 2.3 of the Draft EA. The repairs on the North Jetty are expected to take approximately 42 consecutive months (3.5 years) of continuous construction. All work below the high tide line will be performed during the Washington Department of Fish and Wildlife in-water work window, from July 16 to February 15, and above the waterline, to ensure the lowest possible impacts to the aquatic environment and species. Work conducted outside of the in-water work window will be restricted to areas of the North Jetty above the high tide line.

**Alternatives:** In addition to a "no action" plan (Alternative 1), the preferred alternative (Alternative 2) and Alternative 3 were evaluated. Alternative 4, repairing the North Jetty via barge, was removed from further analysis since it was not environmentally or economically feasible. For alternatives 1, 2, and 3, the

potential effects were evaluated, as appropriate. The No Action Alternative does not satisfy the project's purpose and need, but the National Environmental Policy Act (NEPA) requires analysis of the No Action Alternative to set the baseline from which to compare other alternatives. Alternative 3 was not designated as the Preferred Alternative because Alternative 2 would be economically superior and would generate fewer adverse environmental effects. A summary assessment of the potential effects of the recommended plan are listed in Table 1.

		Insignificant	Descurres
	Incinuifi	effects resulting	Resource
	insignin-		unanected
	cant effects	minimization*	by action
Aesthetics			X
Air Quality	Х		
Aquatic Resources/Wetlands			Х
Invasive Species			Х
Fish and Wildlife Habitat		Х	
Threatened/Endangered Spe-		Х	
cies/Critical Habitat			
Historic Properties			Х
Other Cultural Resources			Х
Floodplains			Х
Hazardous, Toxic & Radioactive			Х
Waste			
Hydrology and Geomorphology	Х		
Land Use			Х
Navigation	Х		
Noise Levels	Х		
Public Infrastructure	Х		
Socioeconomic Resources			Х
Environmental Justice			Х
Soils			Х
Tribal Trust Resources	Х		
Water and Sediment Quality		Х	
Climate Change	X		

Table 1: Summary of Potential Effects of the Proposed Action.

\*No compensatory mitigation is proposed. Impact minimization is described below.

**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 Draft EA (Section 2.3.5) will be implemented, if appropriate, to minimize impacts.

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

**Public Review:** USACE invites submission of comments on the proposed action as outlined in the Draft EA. All comments submitted during the public review period will be responded to in the Final EA and FONSI.

**Treaty Tribes: The** Confederated Tribes of the Chehalis Nation, Cowlitz Indian Tribe, Hoh Indian Tribe, Quileute Tribe, Quinault Indian Nation, and the Shoalwater Bay Indian Tribe were contacted regarding the proposed maintenance on the North Jetty, and the USACE will continue to coordinate throughout the project to meet Tribal Treaty obligations.

# Compliance:

# a. Endangered Species Act of 1973:

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 prepared and submitted a biological assessment to USFWS and NMFS on April 8, 2024, initiating formal consultation with the USFWS and informal consultation with NMFS. For ESA listed species managed under USFWS, USACE determined that the Grays Harbor North Jetty project may affect and is likely to adversely affect western snowy plover, streaked horned lark, and their critical habitats. The project also may affect and is not likely to adversely affect marbled murrelet and have no effect on their critical habitat. USACE determined that the project may affect and is not likely to adversely affect green sturgeon and their critical habitat, bull trout and their critical habitat, and southern resident killer whale and their critical habitat. Concurrence was received from NMFS on August 21, 2024. Consultation with the USFWS is ongoing.

# b. Migratory Bird Treaty Act Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds:

Maintenance work on the North Jetty will not have any direct and deliberate negative effects to migratory birds. There will be no adverse effect on habitat and the project will only have minor and temporary effects to a small number of individual birds that may be present in the project area. No permit application for "take" of migratory birds is thus required. These birds are assumed to be habituated to the noise and activity of Ocean Shores and the marine traffic entering and leaving the Grays Harbor Federal Navigation Channel.

# c. Magnuson-Stevens Fishery Conservation and Management Act of 1976:

NMFS also reviewed the likely effects of the proposed maintenance action on Essential Fish Habitat (EFH) and concluded that the action would not adversely affect EFH for Pacific Coast Salmon, Pacific Coast Groundfish and Coastal Pelagic species.

# d. Coastal Zone Management Act of 1972:

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. USACE sent a Coastal Zone Management Act (CZMA) Consistency Determination outlining this determination to the Washington Department of Ecology on September 5, 2024. Concurrence was received from Ecology on October 14, 2024.

# e. Clean Water Act of 1972:

USACE determined that the proposed repairs are exempt from regulation under Clean Water Act sections 404 and 401. The proposed project does not include the placement of fill falling under the jurisdiction of Section 404 of the Clean Water Act (CWA) 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.

# f. National Historic Preservation Act of 1966:

USACE consulted with the Washington State Historic Preservation Officer and the Confederated Tribes of the Chehalis Nation, Cowlitz Indian Tribe, Hoh Indian Tribe, Quileute Tribe, Quinault Indian Nation, and the Shoalwater Bay Indian Tribe for this project. Based on the results of literature and records review, the absence of known or recorded cultural resources within the Area of Potential Effects, and consultation with the SHPO and the Tribe, the USACE determined that there are no historic properties located within the APE and found there will be no historic properties affected by maintenance of the North Jetty, a component of the Grays Harbor Federal Navigation Channel. An initial letter to document the APE was sent to SHPO on 5 January 2022. The SHPO agreed with USACE determination of the APE on January 14, 2022. USACE previously requested knowledge and concerns from the Confederated Tribes of the Chehalis Nation, Cowlitz Indian Tribe, Hoh Indian Tribe, Quileute Tribe, Quinault Indian Nation, and the Shoalwater Bay Indian Tribe on 5 January 2022. The Tribes did not comment. SHPO agreed with the USACEs' finding in a letter dated April 23, 2024.

# g. Clean Air Act of 1972:

The project area is part of an attainment area. USACE 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*, and thus a conformity determination is not required, pursuant to 40 C.F.R. 93.153 (c)(2)(iv).

# h. Native American Tribal Treaty Rights and Tribal Consultation under Executive Order 13175, Consultation and Coordination with Tribal Governments

Native American Tribes that may be affected by the proposed action include the Confederated Tribes of the Chehalis Nation, Cowlitz Indian Tribe, Hoh Indian Tribe, Quileute Tribe, Quinault Indian Nation, and the Shoalwater Bay Indian Tribe. USACE sent letters to these Tribes requesting comments on the proposed project and providing the opportunity to initiate government-to-government consultation on March 20, 2024. To date, USACE has not received comments from any of the contacted Tribes.

# i. Other Laws Considered for Environmental Compliance:

The following applicable environmental laws and regulations have also been considered and coordination with appropriate agencies and officials has been completed.

- American Indian Religious Freedom Act
- Bald and Golden Eagle Protection Act
- Marine Mammal Protection Act of 1972
- Executive Order 11988 Floodplain Management
- Executive Order 11990 Protection of Wetlands

**Finding**: All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on the analysis presented in the Draft EA, which has incorporated or referenced the best information available as well as the reviews by other Federal, State, 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.

Date

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