FINDING OF NO SIGNIFICANT IMPACT

AND

CLEAN WATER ACT SECTION 404 STATEMENT OF FINDINGS

2017-2024 Quillayute River Federal Navigation Channel Maintenance Dredging and Disposal

La Push, Clallam County, Washington

1. Background

The Seattle District, U.S. Army Corps of Engineers (Corps) is undertaking the following project under the Rivers and Harbors Act of 3 July 1930 (House Document 290, 71st Congress, 2nd session) and modified by the Rivers and Harbors Acts of 2 March 1945 (79th Congress, 1st Session) and 3 September 1954 (83rd Congress, 2nd Session). The project was constructed in 1932; Federal maintenance began in 1949 and has continued to the present.

The Quillayute River Federal Navigation Channel and boat basin are used by the local fishing fleet, recreational vessels, and the U.S. Coast Guard (USCG) station for navigation and moorage. Shoaling is occurring in the channel and marina and dredging is necessary to restore the area to its authorized depth of -10 feet below mean lower low water (MLLW), with an allowance for an additional two feet of overdepth. Maintenance dredging of the navigation channel is needed for vessels to safely access the marina, and so that the USCG can keep their response vessels stationed in this location for rescue missions.

2. Action

The Corps will dredge up to 100,000 cubic yards (cy) once every two years from the navigation channel and boat basin, which are maintained at -10 feet MLLW. Dredging occurs with a hydraulic pipeline dredge that can complete the project within 60 days, weather permitting; however, the work may take longer due to winter storms on the Washington Coast. Dredging is planned to begin in the fall of 2017, 2019, 2021, and 2023 and may use the full duration of the in-water work window that closes 1 March each year. This document is intended to cover the period from fall 2017 to 1 March 2024 to allow for completion of the work that starts in fall 2023. Disposal is proposed for three placement sites near the navigation channel; these are Site A, Site B, and First Beach. All placement sites at Quillayute are located in the nearshore zone or adjacent upland. Hydraulic dredging allows direct placement of material onto beneficial use sites.

3. Coordination

The Federal action is described in the Final Environmental Assessment (EA): Quillayute River Federal Navigation Channel Maintenance Dredging and Disposal 2017-2024, dated May 2017.

a. Letters of Comment and Responses

The Draft EA, the contents of which are consistent with a Clean Water Act (CWA) Section 404 Public Notice, has undergone a public comment period from 28 March 2017 to 26 April 2017.

b. Federal Agencies

The U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS), and the U.S. Department of the Interior, U.S. Fish and Wildlife Service (USFWS) are responsible for the Endangered Species Act of 1973 (ESA) listed species in Clallam County. The Corps has determined that the preferred alternative will have no effect to any ESA-listed species or critical habitat and has prepared documentation of this determination. The Corps did not consult on this "no effect" determination as it is not required.

The Corps has determined the proposed action will not reduce the quality and/or quantity of essential fish habitat (EFH) for Pacific salmon, coastal pelagic, and groundfish and no adverse effects to EFH are expected to result from the action. NMFS responded to consultation requests in 2009 and 2014 with the conservation measure of dredging "as infrequently as possible to prolong the periods between disruption of sediments and loss of benthic invertebrates that are prey items for several EFH species." The Corps accepted this conservation measure and responded that the requirement is met by dredging every two years or less rather than every year.

The Corps requested a 401 Water Quality Certification from the U.S. Environmental Protection Agency (EPA) and will comply with applicable conditions associated with the discharge of dredged material into the waters of the U.S. The EPA provided the Certification on 7 June 2017.

The Corps coordinated with the National Park Service and the Olympic Coast National Marine Sanctuary due to the proximity of the project to lands and natural resources under the jurisdiction of those agencies. The Draft EA was provided for their comment.

c. State and Local Agencies

The Corps has determined that the project is consistent to the maximum extent practicable with the enforceable policies of the approved Washington State Coastal Zone Management Program, particularly Clallam County's Shoreline Management Plan, and, therefore, in compliance with the Coastal Zone Management Act (CZMA).

The Corps prepared a Coastal Zone General Consistency Determination for maintenance dredging and submitted it to the Washington State Department of Ecology (Ecology) on 4 April 2017. Ecology responded with a letter of concurrence on 22 June 2017.

The Corps has consulted with the Washington State Historic Preservation Office (SHPO) and the Quileute Indian Tribe (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 effect (APE), and consultation with the SHPO and the Tribe, the Corps determined that there are no historic properties located within the APE and found there would be no historic properties affected by the continued maintenance dredging of the Quillayute River navigation channel. An initial letter to document the APE was sent to SHPO on 21 February 2017. The SHPO agreed with the Corps' determination of the APE on 27 February 2017. The Corps previously requested knowledge and concerns from the Quileute Tribe on the proposed APE on 11 September 2013. The Tribe did not comment. The Corps submitted its finding that there would be no historic properties affected to SHPO on 26 May 2017. SHPO agreed with the Corps' finding in a letter dated 30 May 2017.

d. Treaty Tribes.

The Tribe has had representation in this process through coordination with the Corps on matters involving frequency and areas of dredging to maintain navigability of the marina and access to ocean fisheries. Additionally, the Corps has consulted with tribal biologists regarding avoiding impacts to tribal fisheries resources. The Tribe has expressed support for maintenance of the authorized depths of the navigation channel and for beneficial use of dredged material.

4. Environmental Effects and Impacts

a. Summary of Effects

(1) The Final EA for the Quillayute River Federal Navigation Channel Maintenance Dredging and Disposal Project 2017-2024, dated March 2017, describes the effects of the proposed project.

(2) Pursuant to Section 404(b)(1) of the CWA and 40 CFR 230, an evaluation of placement of dredged material into the waters of the U.S. determined that the project will be consistent with the State's water quality standards. The Corps prepared a Section 404(b)(1) Evaluation that can be found in Appendix A of the EA.

The Corps requested a Water Quality Certification under section 401 of the CWA from the EPA. The Corps also prepared a coastal zone general consistency determination and submitted this document to Ecology. The 401 water quality certification and concurrence with the coastal zone general consistency determination were obtained

prior to the finalization of this EA/Statement of Findings/Finding of No Significant Impact (FONSI).

b. Compliance with Applicable Environmental Laws

The environmental laws listed below are applicable to the proposed action. An evaluation of environmental impacts under each of these regimes, as well as compliance with each of these laws, is documented in the Final EA:

- National Environmental Policy Act
- Endangered Species Act
- Marine Mammal Protection Act
- Magnuson-Stevens Fishery Conservation and Management Act
- Clean Water Act, Sections 404 and 401
- Coastal Zone Management Act
- National Historic Preservation Act
- Clean Air Act
- Native American Tribal Treaty Rights
- Migratory Bird Treaty Act
- Executive Order 13175 Consultation and Coordination with Indian Tribal Governments
- Executive Order 12898 Environmental Justice
- Executive Order 13186 Migratory Bird Habitat Protection
- Executive Order 11990 Protection of Wetlands

5. Determination

a. Results of the Environmental Analysis for the Quillayute River Federal Navigation Channel Maintenance Dredging and Disposal Project

The EA prepared for this project has resulted in this FONSI. The project will not constitute a major Federal action significantly affecting the quality of the human environment.

b. Alternatives

The Corps considered three alternatives in the EA for the Quillayute River Federal Navigation Channel Maintenance Dredging Project: (1) no action, (2) dredging and beneficial use with staggered start dates, and (3) dredging and beneficial use with a longer work window.

The Corps rejected Alternative 1 because it would not meet the project purpose and need. Both Alternative 2 and Alternative 3 meet the practicability, environmental acceptability, and engineering requirements consistency components of the Federal standard. Alternative 2 represents the practice that has been followed for each dredging episode since 2009. However, this alternative was rejected in favor of the

opportunity to improve safety for dredging contractors, reduce costs by increasing incentive to bid on the project, and gain greater reliability that the project can be completed prior to winter storms with Alternative 3. Alternative 3 is therefore the alternative that most fully implements the Federal standard.

c. Individual and Cumulative Environmental Effects

The episodes of maintenance dredging and disposal would cause a temporary effect to biological functions and minor, temporary loss of benthic invertebrates, but would maintain existing conditions. In consideration of past developments still in existence in the Quillayute estuary, and the limited amount of anticipated future alterations, the routine maintenance of the Federal navigation channel with associated placement sites is not a significant addition to cumulative impacts at the mouth of the Quillayute River. Beneficial use of dredged material at the nearshore zone placement sites is a countervailing effect to the impacts of constructing jetties at the mouth of the river. The short-term disruption of dredging is outweighed by the long-term benefit of providing stabilizing material to the jetties and avoiding further introduction of non-native rock material into the natural beach environment. The Corps therefore concludes that there will be no significant contribution to cumulative effects associated with the maintenance dredging and sediment placement actions.

d. Conditions in the Water Quality Certification

The Corps requested a water quality certification from the EPA. The Corps will comply with applicable conditions in the certification associated with the discharge of dredged material into the waters of the U.S. All construction work will be limited to the period of 1 September to 1 March to avoid impacts to salmonids and forage fish at vulnerable life stages.

e. Conditions in the CZMA General Consistency Concurrence

The Corps determined that this project is consistent to the maximum extent practicable with the enforceable policies of the approved Washington coastal management plan and obtained concurrence from Ecology on 22 June 2017.

6. Summary of Impacts and Compliance

Impacts of the work will be minor and temporary and will have a small spatial scale compared to the similar habitat area of the entire estuary and adjacent ocean beaches. This project has been determined to have no effect to species listed under the ESA. Dredging and disposal during the in-water work window of 1 September to 1 March will avoid and minimize impacts to fish and their prey. Estimated impacts from underwater noise to marine mammals do not rise to the level that requires a permit under the Marine Mammal Protection Act. The Corps prepared a 404(b)(1) analysis and received a Water Quality Certification from the EPA; this project will comply with Sections 401 and 404 of the CWA. The Corps prepared a general consistency

determination under the CZMA and received concurrence from Ecology. The project complies with the National Historic Preservation Act and the Corps has coordinated the work with the SHPO and the Tribe.

7. District Engineer's Findings and Conclusions

I have evaluated the dredging and disposal activity in light of the public interest factors prescribed in 33 CFR 336.1(c). The following factors were evaluated as considerations potentially impacting the quality of the human environment in the accompanying EA and coastal zone consistency evaluation: navigation and the Federal standard, water quality, coastal zone consistency, wetlands, endangered species, historic resources, scenic values, recreational values, fish and wildlife, and application of non-Federal land use policies. No additional impacts to state/regional/local land use classifications, determinations, and/or policies are anticipated as the project will maintain a federally authorized channel and boat basin that are already used for vessel transit and moorage. In accordance with 33 CFR 337.1(a)(14) and 325.3(c)(1), the following additional relevant factors were also considered: conservation, economics, shoreline erosion and accretion, safety, and property ownership.

The selected alternative represents the least costly alternative, constituting the discharge of dredged or fill material into waters of the U.S. in the least costly manner and at the least costly and most practicable location, is consistent with sound engineering practices, and meets the environmental standards established by the CWA Section 404(b)(1) evaluation process. Execution of the selected alternative, following considerations of all applicable evaluation factors, is in the public interest.

The Quillayute navigation channel and boat basin are ranked "low" by the Dredged Material Management Program (DMMP) agencies for concern for potential contamination in sediments and therefore are subject to a seven-year frequency determination for characterization of sediments. Sampling and testing of material are scheduled for August 2017 prior to the next dredging episode; however, the work may not occur until later in the fall. The Corps requested a recency extension from the DMMP agencies to cover the upcoming dredging. The DMMP agencies agreed that a recency extension is acceptable with the following caveats: areas within the boat basin identified in the 2015 ROV study containing anthropogenic items are not covered. The recency extension is valid through 28 February 2018 except as superseded by any new suitability determination issued prior to that date. Given that the Quillayute River channel material has been determined suitable for open-water disposal in each characterization since 1993, the Corps anticipates the suitability testing after February 2018 will show the material continues to be suitable for open-water disposal and re-characterization will not be required again for seven years. If the sediments to be dredged are determined to be not suitable, the accompanying EA will be re-evaluated and this FONSI amended as necessary prior to any subsequent maintenance dredging episodes involving the disposal of dredged material into waters of the U.S.

Furthermore, based on the attached EA, I have determined that the selected action will not have significant effects on the quality of the human environment and does not require preparation of an environmental impact statement.

14 Jul 17
Date

JOHN G.BUCK
Colonel, Corps of Engineers
District Commander

Final Environmental Assessment
and Clean Water Act, Section 404 Public Interest Review
Quillayute River Federal Navigation Channel Maintenance
Dredging and Placement 2017-2024
Clallam County, Washington

US Army Corps
of Engineers®
Seattle District

Environmental Assessment and Public Interest Review

Quillayute River Federal Navigation Channel Maintenance Dredging and Placement 2017-2024

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

Abstract:

In accordance with the National Environmental Policy Act (NEPA), this Environmental Assessment (EA) evaluates the impacts of the proposed maintenance of the Federal navigation channel from the mouth of the Quillayute River to the U.S. Coast Guard station, and the small boat basin at La Push, Washington. La Push is located on the northwest coast of the Olympic Peninsula, in Clallam County, Washington. Shoaling of the channel requires maintenance dredging approximately every two years to facilitate safe navigation. The document provides analysis of two action alternatives compared to taking no action. The navigation channel would be maintained between stations 0+00 and 35+00 to the authorized depth of -10 feet mean lower low water (MLLW) plus two feet of allowable overdepth. Specifically, the proposed dredging activities include a 3,500-foot long section of the authorized navigation channel, which varies in width from 100 to 275 feet, and the 335,000-square-foot boat basin. The total quantity estimated to be dredged and locally placed is up to 100,000 cubic yards of sediment per episode. Material temporarily placed at Site A would be pushed onto First Beach to reduce the risk of a breach in the South Jetty. Material dredged from the inner channel would be placed on the ocean side of Quillayute Spit in Site B. The duration of the work would be approximately 60 days if the dredge is able to work 24 hours per day, but may extend to 120 days if foul weather causes delays. Disruptions may occur due to weather or for avoiding disruption of Tribal fisheries. The dredging interval is approximately every two years depending on shoaling as indicated by physical surveys and depending on availability of funds, among other factors. Dredging events are planned to occur over a 7-year period beginning 2017 and ending in early 2024 to include the full duration of the fish work window that closes 28 February each year. The difference between the two action alternatives is regarding whether a staggered start date of 1 September and 1 October, depending on the placement site, should continue to be observed, or if it is preferable to begin the entire course of dredging and placement on 1 September.

This document is available online:
http://www.nws.usace.army.mil/Missions/Environmental/Environmental-Documents/

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1 Proposal for Federal Action

Under the Council on Environmental Quality regulations, 40 CFR § 1500.1(c) and 40 CFR § 1508.9(a)(1), implementing the National Environmental Policy Act (NEPA) of 1969 (as amended), the purpose of an Environmental Assessment (EA) is to "provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact" on actions authorized, funded, or carried out by the Federal government, and to assist agency officials to make decisions that are based on understanding of "environmental consequences, and take actions that protect, restore, and enhance the environment." This EA evaluates potential impacts of biannual maintenance dredging of the Quillayute River Federal Navigation Channel from September 2017 through February 2024. Pending funding availability, the U.S. Army Corps of Engineers (USACE) would perform dredging commencing in 2017, 2019, 2021, and 2023.

This document also integrates a review of factors underlying a determination of whether executing the project would be in the public interest, pursuant to Clean Water Act Section 404 and rules and regulations published as 33 CFR Part 335, "Operation and Maintenance of Army Corps of Engineers Civil Works Projects Involving the Discharge of Dredged or Fill Material into Waters of the U.S. or Ocean Waters"; 33 CFR Part 336, "Factors to be Considered in Evaluation of Army Corps of Engineers Dredging Projects Involving the Discharge of Dredged Material into Waters of the U.S. and Ocean Waters"; 33 CFR Part 337, "Practice and Procedure"; and 33 CFR Part 338, "Other Corps Activities Involving the Discharge of Dredged Material or Fill into Waters of the U.S."

The Quillayute River Federal Navigation Channel is located at the town of La Push in Clallam County, Washington. The channel and boat basin provide a harbor of refuge along the Washington Coast between Neah Bay and Grays Harbor. The authorized navigation channel dimensions allow safe navigation during all tide levels. When shoaling creates shallow areas within the channel, it presents a safety hazard to deep draft vessels, or deep draft vessels must wait for high tide to transit. Dredging would occur between 1 September and 28 February of each scheduled maintenance-dredging event.

1.1 Project Location

The town of La Push, Washington is wholly within the Quileute Indian Tribe's reservation land on the northwest coast of the Olympic Peninsula in Clallam County, Washington (T28N, R15W, Section 28). The Quillayute River navigation channel provides access for U.S. Coast Guard (USCG) vessels to reach the Pacific Ocean for rescue missions and provides access to the Quileute Indian Tribe's marina (Figure 1). The Quillayute River extends 5.6 river miles west from the confluence of the Bogachiel and Sol Duc Rivers, which drain a portion of the northwest slope of the Olympic Mountains in Clallam County, Washington. The Quillayute is joined by the Dickey River at Mora, flows a mile westward where an armored spit turns the river south, and flows another mile southward before entering the Pacific Ocean at La Push. The mouth of the river lies among rocky islands and sea stacks.

The area of analysis includes all of the lower half-mile of the Quillayute estuary, the marina and waterfront area of La Push including placement sites, the southern end of Quillayute Spit on the river and ocean sides, and the First Beach sediment placement area.

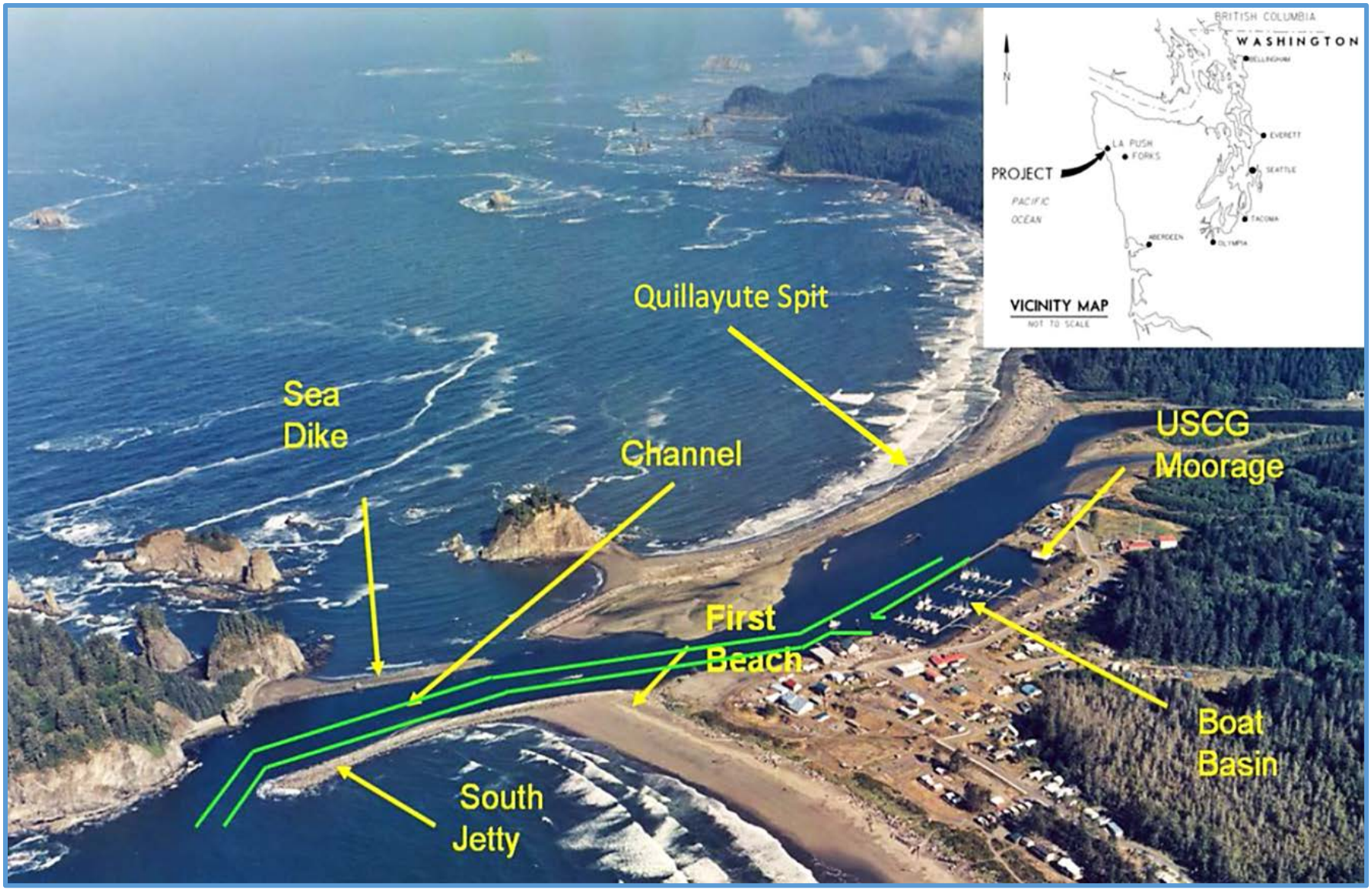

Figure 1. Federally authorized navigation features at the Quillayute River estuary, La Push, Washington

1.2 Authority

The Quillayute River Navigation Channel project and maintenance dredging by the Department of the Army was authorized by the Rivers and Harbors Act of 3 July 1930 (House Document 290, 71st Congress, 2nd session) and modified by the Rivers and Harbors Acts of 2 March 1945 (79th Congress, 1st Session) and 3 September 1954 (83rd Congress, 2nd Session).

Navigation Features

The project was constructed in 1932; Federal maintenance began in 1949 and has continued to the present. The purpose of the continuing maintenance of the various project features is to protect the navigational channel and the infrastructure and property of the community of La Push. The current project features were developed in 1962. Authorized features of the Federal navigation project include the following (Figure 1):

1. A small boat basin 1,070 feet long, 313 feet wide, and -10 feet below mean lower low water (MLLW), with a 1,500-foot timber training wall constructed to elevation +16 feet MLLW plus an authorized overdepth of two feet along the west side to reduce shoaling inside the boat basin, and a timber seawall at the downstream end to protect against ocean waves;
2. A rubble mound jetty 1,400 feet long at the east side of the river mouth at +15 feet MLLW;
3. A rubble mound dike 1,050 feet long, +8 feet MLLW, along the west side of the river between Quillayute Spit and James Island;
4. A navigation channel varying from 75 to 275 feet wide and -10 feet MLLW with an entrance channel southeast of James Island and extending 3,500 feet upstream ending with a settling basin alongside the marina's training wall.
5. Maintenance of Quillayute Spit, 2,080 feet long and +20 feet MLLW, a naturally occurring spit that is artificially maintained with armoring to protect the marina and town from ocean waves.

Due to the imprecise nature of dredging equipment, up to two feet of allowable overdepth may occur and this amount is factored into the total material to be removed. Maintenance of the upstream 900 feet of channel is not performed, as navigation access is no longer required to Smith's Slough.

1.3 Purpose and Need

The purpose of the action is to provide for safe navigation and moorage by maintaining the authorized depth of -10 feet MLLW (plus two feet of allowable overdepth), and to maintain the USCG moorage slips to provide adequate depth for vessels. The purpose for placement at the two beneficial use sites is to keep estuarine sediments in the natural system for beach nourishment that will enhance forage fish habitat and to add material to the Quillayute Spit and South Jetty that helps protect developments at La Push from damage by high river flows and ocean waves. Maintenance dredging of the navigation channel is needed because of the shoaling of riverborne sediments that reduce the depth of the channel especially across the bar at the mouth of the river. The rate of accretion of sediment requires removal approximately every 2 years to achieve adequate depth for safe navigation. The USCG Quillayute Station is the only vessel response point between Neah Bay and Grays Harbor and is therefore an important location for timely response to endangered mariners nearby in the Pacific Ocean. The marina at La Push offers a livelihood for approximately 325 Tribal members and 50 non-Tribal citizens including USCG personnel. The primary

commercial activity is fishing and fish processing, which generates approximately $4,000,000 in annual income. The channel must be maintained to support the navigation activities of this small community.

2 Proposed Action and Alternatives

The USACE has formulated, evaluated, and screened alternatives for determining the action that maximizes net benefits and minimizes costs. Alternatives were developed in consideration of project area problems and opportunities as well as objectives and constraints. This chapter describes the range of alternatives selected for detailed analysis.

2.1 Alternative 1 – No Action

The No-Action Alternative is analyzed as the future without-project conditions for comparison with the action alternatives. If the USACE takes no action to clear shoaling sediment from the Quillayute River channel and boat basin, this would cause continued shoaling posing a risk to the USCG's ability to carry out rescue missions, and to recreational boaters and commercial fishermen who may run aground when transiting the channel. Eventually, access to the marina would become unavailable. Discontinuing the present maintenance-dredging program would cause the Quillayute River Channel to shoal, preventing passage of most vessels. This would have significant economic effects to the Quileute Tribe at the town of La Push, and the USCG has stated that they would likely have to close this station. This alternative would not meet the project purpose and need, but is carried forward for evaluation purposes.

2.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

This alternative consists of the maintenance dredging of up to 100,000 cubic yards (cy) approximately once every 2 years from the navigation channel and the boat basin, which are maintained at -10 feet MLLW. Dredging occurs with a hydraulic pipeline dredge. This type of dredge is a vessel with an intake pipeline extended to the sea floor and an output pipeline extended to the material placement location. The suction pipe is outfitted with a cutting implement that disturbs and breaks up the sediment so it can be sucked up into the pipeline. An impeller on the vessel provides the suction power as well as the pushing power to discharge the sediments through the output pipeline to deliver the material to the placement location. The sediment moves in a slurry that is at least 50% water to provide the transport power. A bull dozer moves the output pipeline along the placement area as material accumulates.

The size of dredge typically used at La Push would be able to move an average of 1,500 cy of material per day and complete the project within roughly 60 days, weather permitting; however, the work may take up to 120 days due to winter storms on the Washington Coast. This productivity rate assumes the dredge would be in operation 24 hours per day with short periods of down time for shift changes and mechanical maintenance. Dependent on funding, dredge years are anticipated to be 2017, 2019, 2021, and 2023 and dredging could extend the full duration of the in-water work window that closes 1 March each year. This document is intended to cover the period from Fall 2017 to 1 March 2024 to allow for the possibility that dredging may be required throughout the work window to complete the work that starts in fall 2023.

Placement is proposed for 3 sites in the vicinity of the navigation channel; these are named "Site A", "Site B", and "First Beach". All placement sites at Quillayute are located in the nearshore zone or adjacent

uplands. Dredging is by hydraulic dredge allowing direct placement of material onto beneficial use placement sites.

The established work window has staggered start dates based on an agreement between the USACE, Washington Department of Fish and Wildlife (WDFW), National Park Service (NPS), Environmental Protection Agency (EPA), and the Quileute Tribal Natural Resource Managers. The proposed start date for dredging is 1 September for material dredged from the outer channel for placement of up to 15,000 cy at Site A (described below). Dredging of the inner channel and boat basin may commence 1 October with placement of approximately 85,000 cy at Site B (described below). Placement of material at Site B and First Beach may not begin until after 1 October of any year to protect surf smelt spawning habitat.

Former Placement Sites 1 and 2A

Former Site 1 is located on the western side of Quillayute spit and has been used in conjunction with former Site 2A for placement of material on the spit (Figure 2). Use of this location keeps riverborne material within the nearshore environment and enhances the integrity of Quillayute Spit. The two existing sites are approximately 300 feet apart near the southern terminus of the spit. Site 1 is 1.2 acres and 2A is 1.61 acres. The names of these two sites are now obsolete as the USACE is proposing to combine and lengthen the placement areas to become placement Site B.

Placement Site B

Wave action continues to damage areas along the entire Quillayute spit, eroding material from the toe of the riprap. The USACE is proposing to merge Site 1 and Site 2A, and increase the overall footprint to stretch from the northern end to the southern end of the riprapped spit. The new placement site is designated Site B and would be approximately 3,000 feet long, 75 feet wide, with an area of approximately 6 acres (Figure 2). The USACE expects to place up to 85,000 cy per dredge episode within Site B. The focus for each placement event would be limited to those areas identified in need of nourishment. Technical input from USACE coastal engineers and analysis of the latest site conditions will factor into the selection of specific placement locations along Site B. Placement at Site B would keep riverborne material within the nearshore environment. The fate of the material would enhance the shoreline in the drift cell down current (northward) of the placement site and help preserve the armored layer to buttress the protective spit.

Dredged material placement is typically via hydraulic pipeline dredge with the outlet just over the crest of the jetty armoring and above MHHW (+8.45 feet MLLW at this location) to minimize suspended sediment in the water (Figure 3). Material that enters the water directly, primarily during higher tides, moves along by longshore currents and deposits in the intertidal zone further down current to the north. The contractor uses a bulldozer to place the pipeline at the correct location for placement (Figure 3).

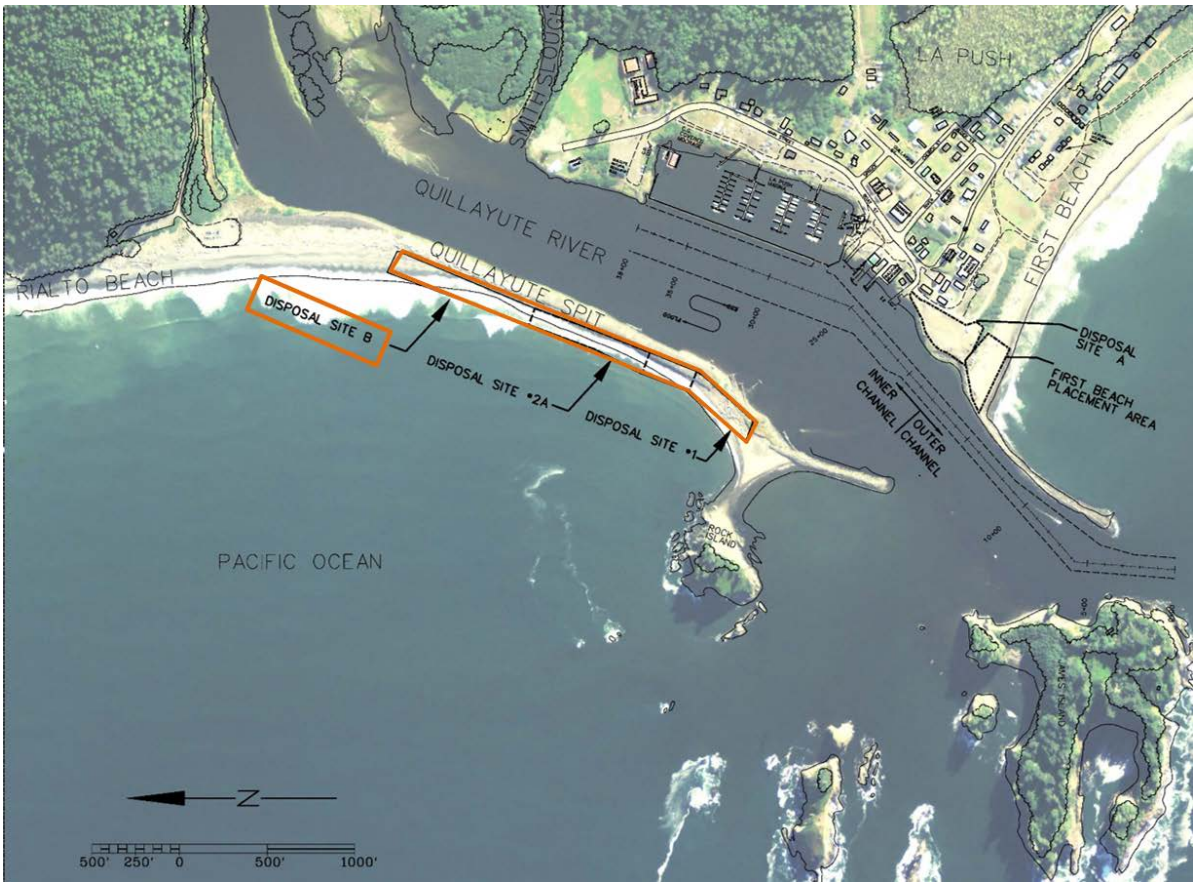

Figure 2. Quillayute River Navigation Channel routine maintenance dredging and placement project area configuration as of 2016.

Figure 3. Bulldozer on riverside of Quillayute Spit with pipeline and sediment placement on the ocean side of the spit at Site B.

Placement Site A

Site A is a 1.75-acre site on the Quileute Tribe's reservation at the southwest corner of the town of La Push (Figure 2). The area used for material placement has capacity for approximately 15,000 cy per placement episode. Up to 60,000 cy could be placed at Site A over the next 7 years if 4 dredging events are executed. Dredged material is typically placed via hydraulic pipeline dredge. The contractor uses a bulldozer and/or excavator to create a suitably sized basin and then uses the onsite material to surround the basin with a berm. The basin inside the berm would be of sufficient size to allow turbid water to settle, before allowing the water to return to the Quillayute River through an outfall weir that directs the clean water onto riprap to prevent shoreline erosion. Turbidity levels of discharged decant water are monitored and managed in accordance with the conditions of the Clean Water Act (CWA), Section 401 Water Quality Certification issued by the U.S. Environmental Protection Agency. The Quileute Tribe has used the material for construction purposes in the past, but in recent years, it has been used at First Beach to protect the jetty root as described in the following section. Material that is not placed onto First Beach may be available for tribal reuse in upland areas; however, the environmentally preferable placement locations are those where the sediment can remain in the marine ecosystem.

First Beach Placement Area

The area of the First Beach site is 1.51 acres (Figure 2). Up to 15,000 cy of dredged material placed per episode in upland Site A is pushed onto the sloped bank at First Beach with a bulldozer. Once fully drained within Site A's bermed basin, the dredged material is transported over the top of the bank at First Beach down to where it intersects the shoreline, not to extend below MLLW. A bulldozer grades the material to a slope varying between 5:1 and 20:1 depending on height of the bank and quantity of available material (Figure 4). For Alternative 2, material at Site A may be placed after 1 October onto First Beach to protect the root of the South Jetty that erodes during coastal storm events at the discretion of the USACE. This allows time for decanting of water from the material and avoids the period of surf smelt spawning. Once in place, the material moves with natural erosive forces (wave action and longshore currents) to assume its final contours and sediment gradations. The material placed consists of sand with a small fraction of gravel and cobble from the outer river channel. Placing dewatered material on the beach would prevent elevated levels of turbidity in the waters surrounding First Beach. In 2012, 5,000 cy was placed at this site. Up to 60,000 cy could be placed in this site over the next 7 years. The purpose for placement is to protect the South Jetty at First Beach.

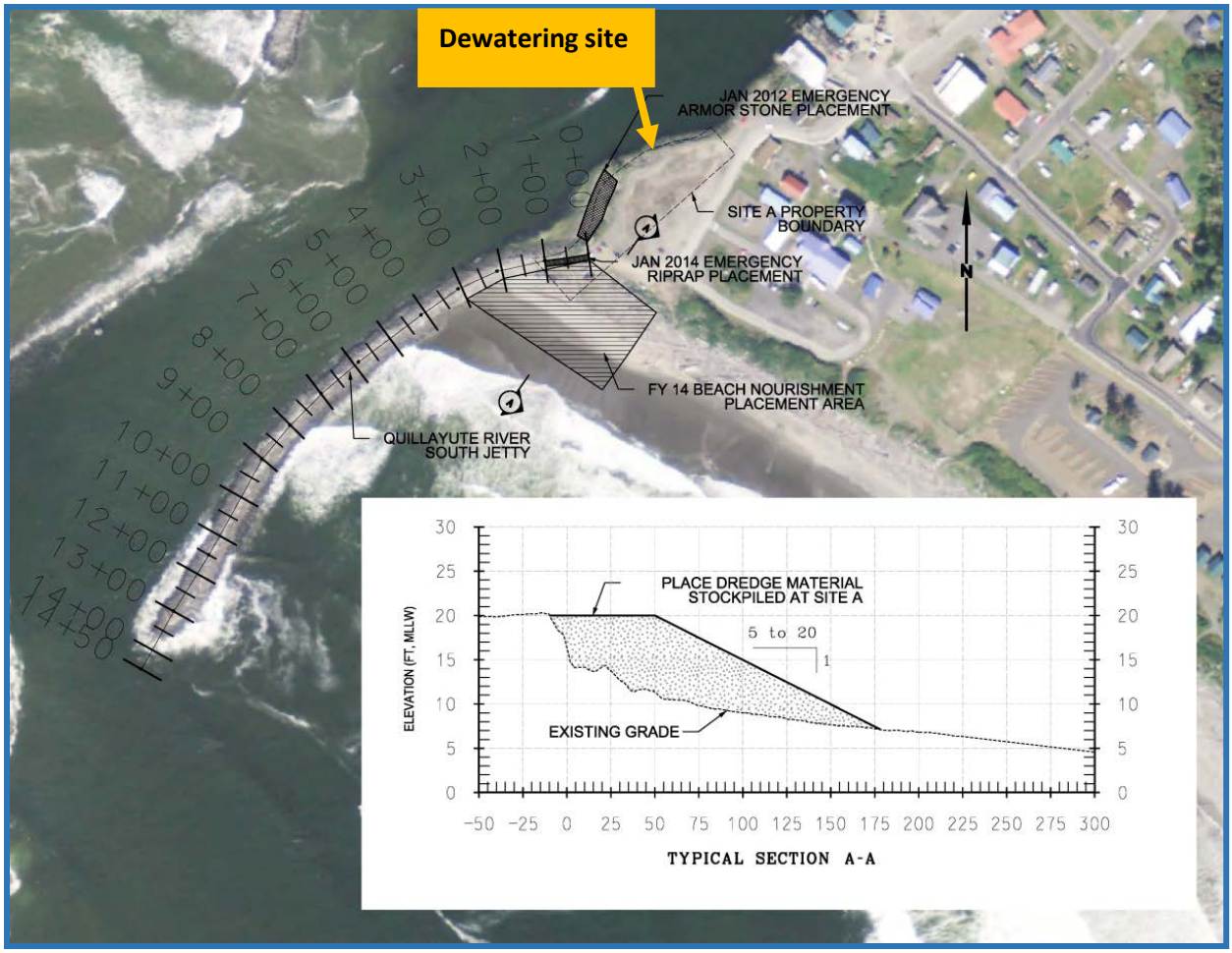

Figure 4. Location, footprint, and grading profile of material placed at First Beach.

It is important that material dredged from the Quillayute River navigation channel be utilized within the system on the ocean side of the rocky islands and armored spit to simulate the natural sediment transport processes that have been interrupted due to the armoring of Quillayute Spit and construction of jetties. The aquatic placement and beneficial use of dredged materials also reduces future maintenance needs of the navigation features that protect the waterfront developments. Therefore, alternatives that involve large quantities of material to be placed upland would likely be rejected in favor of the environmentally preferable alternative of aquatic beneficial use.

2.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window (Agency Preferred Alternative)

All dredging and placement actions for Alternative 3 would be identical to those described in Alternative 2 with the exception of the start date for dredging the inner channel and boat basin, which would be allowed to commence on 1 September with placement at Site B rather than waiting until 1 October. The reason for waiting until after 1 October would be to reduce risk for impacts to the surf smelt population that spawns along Rialto Beach and to avoid marbled murrelet nesting season as a nest has been identified near the Rialto Beach parking lot for daily visitors. To begin dredging and placement at Site B on 1 September would mean accepting some greater risk of disturbance to surf smelt habitat. That risk for

potential negative effects to surf smelt spawning is weighed against benefits of increasing the work window to include a month of calmer weather on the Washington Coast for maintenance dredging activities. Additionally, marbled murrelet fledglings may be present in the nest in late September and may be disturbed by machinery operating on Quillayute Spit. However, based on analyses by USFWS (2012, 2015) regarding risks to marbled murrelets, these risks of impacts from Alternative 3 appear to be low and are not substantially greater than Alternative 2. Dredging occurs outside the distance range of 0.25 mile for auditory disturbance. Only the delivery of the bulldozer will be closer than 0.25 mile and then the dozer will drive beyond that radius. This action would occur in the last 3 weeks of nesting season in which observations have shown over 95% of fledging has occurred (USFWS 2012); therefore, there is less than 5% chance there would still be a juvenile at the nest recorded near the Rialto Beach daily visitor parking area on the day the bulldozer is delivered and deployed. Additionally, ambient sound includes traffic on the road and in the parking lot that are closer to the nest than our activity of driving on the road to the auxiliary parking lot that is farther away from the recorded nest site. Transport of material from Site A to First Beach would commence after 1 October as with Alternative 2.

In previous years, the USACE followed an advisory fish window that recommended no dredged material placement on the ocean side of the spit until after 1 November to ensure the surf smelt spawning and incubation season had passed; this date is based on a recommendation by NPS (Fradkin 2001). Dredging during the winter storm season has posed a variety of problems for dredgers including risks to human safety and loss of machinery during storms. No dredging occurred at the dangerous bar across the outer channel from 2003 until emergency dredging was necessary in March 2007, which meant that dredging had to be conducted during the juvenile salmon outmigration period. Multiple times in the past 15 years, the USACE has received no bids on the contract for the work worth roughly $1,000,000 each time. Market research surveys of dredge operators concluded that the potential contractors are not willing to risk safety of crew and equipment for the job of dredging during winter months on the Washington Coast. Dredgers report that being able to start earlier and finish the work by mid-October would be better incentive for them to bid on and perform the available work. When the USACE receives no bids on advertised contracts, an additional solicitation must be prepared as an emergency action, which adds to project cost and risk of dredging in the stormy winter months. The in-water work window cannot be extended into the springtime due to the presence of sensitive fish species and the fisheries activities that increase traffic around the marina. During coordination efforts to determine the level of risk to surf smelt from beginning material placement at Site B on 1 September, WDFW standards were consulted as a frame of reference; WDFW allows material placement during forage fish spawning as long as the placement is farther than 2,080 feet (one mile is 5,280 feet) from a documented spawning bed (B. Burkle, pers. comm. 2017).

The NEPA requires each Federal action agency to identify the preferred alternative. Based on analysis of costs, feasibility, application of the Federal standard, and effects to environmental resources detailed in this document, Alternative 3 is the agency preferred alternative.

3 Affected Environment and Effects of the Alternatives

This section provides information on the existing conditions of 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 selecting the preferred

alternative include considering which of the alternatives would be the least costly, environmentally acceptable, consistent with engineering practices, and meets the purpose and need of the project.

3.1 Hydraulics and Geomorphology

The Quillayute River drainage basin occupies the northwest corner of the Olympic Mountain Range and experiences 120-140 inches of rainfall per year. The basin is composed of old sandstones and conglomerates, and a broad upland surface that is underlain by Pleistocene marine sands, silts, and gravels, and mantled by glacial outwash. Because of these sources of material, as well as a history of timber harvest in the central basin, the river transports a moderate bedload of variously sized sediment depending on seasonal discharges. A single storm event of higher river stages can deliver significant quantities of gravel and sand to the estuary.

The Quillayute River enters the Pacific Ocean at La Push among rocky islands and sea stacks. Low tide exposes mixed sand and gravel bars in the estuary. The coastal beach zone on the ocean side of Quillayute jetty consists of cobble, gravel, and sand distributed into strata along the beach; large drift logs dominate the beach within the storm tide zone. Large ocean swells overtop the jetty during some winter storms.

Many of the natural features of the estuary have been stabilized to protect developments at La Push from damage by high river flows and ocean waves. The intertidal estuarine areas at the mouth of the Quillayute River have a mostly diked or riprapped shoreline, including the stabilized Quillayute Spit, the sea dike at James Island, and the South Jetty. The result is a channelized river with a large amount of non-native riprap in the aquatic ecosystem, which prevents some of the natural processes at this location. Additionally, stabilization of the Quillayute Spit has interrupted the sediment transport process in the littoral drift cell that feeds Rialto Beach to the north causing substantial erosion over the past two decades.

3.1.1 Alternative 1 – No-Action

Under the No-Action alternative, sediment would continue to accumulate in the navigation channel. Shoaling of sediment begins to hamper vessel passage to and from the marina across the bar. The current patterns in the channel would change and become more difficult to navigate. Temporary closures of the bar reach occur when sediment accumulation has made this reach too shallow for safe navigation during storms or low tides. Continued shoaling would result in less water depth throughout the channel and, if allowed to continue unimpeded, could reduce or eliminate vessel traffic. Eventually, enough sediment would accumulate that the channel between the harbor and the ocean would no longer be navigable.

3.1.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

This alternative uses a work window of dredging with placement at upland Site A beginning 1 September with no placement of dredged materials on First Beach and Site B until 1 October. The proposal is to conduct up to 4 maintenance dredging episodes over the next 7 years. Dredging would maintain the modified estuary as it is to provide safe and reliable access through the navigation channel to the marina. Hydraulics and geomorphology would remain the same as present conditions throughout the navigation channel, boat basin, and placement sites. Placement of material at Site B would partially replace the sediment transport process, reduce erosion at the toe of the riprap, and would supply sediment to the littoral drift cell that delivers sediment northward along Rialto Beach compared to the No-Action Alternative. The majority of material that accumulates, especially in the inner navigation channel and boat

basin, has an appropriate grain size distribution to help maintain the surf smelt spawning habitat. Therefore, placement of dredged material at Site B is a beneficial use of the dredged material that would move northward in the drift cell over weeks and months. In each of the 4 maintenance episodes, Site B would receive up to 85,000 cy of sediment.

Placement of dredged material at Site A with subsequent placement onto First Beach would help to protect the South Jetty from erosion. Removal of dredged material from Site A for upland uses would further disrupt the already impaired sediment transport and deposition process; however, this material is available if coastal engineers determine it is not needed at the South Jetty. In each of the 4 maintenance episodes, Site A would receive up to 15,000 cy.

3.1.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

Alternative 3 would allow dredging as well as beneficial use placement on Site B and Site A to begin on 1 September with transport to First Beach beginning 1 October. The effects of Alternative 3 to hydraulics and geomorphology of the estuary and navigation features would be the same as those for Alternative 2. The primary benefit of opening the work window for beach placement beginning 1 September is that dredging contractors could complete the work by mid- to late October to avoid winter storms on the coast, which puts safety of crew and equipment at risk. The earlier start and completion date would help the project garner bids from more contractors thereby making the project more competitive. Having more contractors interested in performing the work would help avoid situations in which there are no bids and emergency dredging must be conducted, potentially extending beyond the end of the in-water work window in a more environmentally damaging time of year.

3.2 Sediments

Sediments at the river mouth are smooth gravel and cobble decreasing in size to sand near the shore. The grain size distribution in the boat basin is primarily sandy silt and the channel is nearly all sand with some gravel. The outer channel material is mostly gravel and cobbles as large as 6 inches in diameter. The earliest suitability determination on record is from 1993 and sediments were approved for aquatic placement. The latest sediment characterization occurred in 2011 and included sediments in the boat basin; the sediment is suitable in accordance with the Dredged Material Management Program (DMMP) for open-water, upland, and nearshore placement. There is no heavy industrialization within the community nor upstream of the project site and sediments are ranked “low” for concerns with contamination. In 2013, the DMMP agencies established a seven-year frequency determination for the Federal entrance channel and boat basin based on previous testing history (USACE 2013). The next suitability determination is due in August 2017; however, the work may not occur until later in the fall. The Corps requested a recency extension from the DMMP agencies to cover the upcoming dredging. The DMMP agencies agreed that a recency extension is acceptable with the following caveats: areas within the boat basin identified in the 2015 ROV study containing anthropogenic items are not covered. The recency extension is valid through 28 February 2018 except as superseded by any new suitability determination issued prior to that date. Given that the Quillayute River Channel material has been determined suitable for open-water placement in each characterization since 1993, the USACE anticipates suitability testing after February 2018 will show the material continues to be suitable for open-water placement and re-characterization will not be required again within the seven-year period of this action.

If negative test results are obtained in future sediment testing the USACE would reopen this EA and its conclusion and reevaluate the finding of no significant impact (FONSI) as necessary.

3.2.1 Alternative 1 – No-Action

The No-Action Alternative would have no effect on the sediments in the Quillayute River or the nearshore zone of Quillayute Spit or First Beach. This alternative would allow sediment to continue accumulating, which would eventually jeopardize the ability for safe navigation through the channel. Without placement of dredged material at First Beach, the need for an emergency repair of a breach of the South Jetty is more likely, and may be done with angular quarried rock, which is less appropriate than the native material. This alternative would not meet the project purpose and need because the Quillayute River Navigation Channel would not maintain its authorized depth as regularly performed bathymetric surveys have shown.

3.2.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

This alternative would return the navigation channel to its authorized depth. The direct effect of this alternative on sediments would be removal of accumulated surface sediments and exposure of underlying sediments to the water and currents of the channel. The dredged material placed at the beneficial use placement sites would have essentially the same grain size distribution and would match the coarseness of the material in place at the beneficial use sites. Removal of sediments from the navigation channel with placement at the nearshore zone sites would substitute for the natural sediment transport and deposition processes in the Quillayute estuary.

In past practices, placement at Site A has typically removed up to 15,000 CY from the estuarine environment; however, with relocation of material to First Beach, this sediment would return to the nearshore zone. The composition of First Beach in the winter, when the material would be placed, is mostly gravel and cobble. In the summer, sand washes up onto higher elevations and buries this coarser material. The material placed on First Beach from the outer channel is a sand/gravel/cobble mixture and is expected to integrate quickly with the natural composition of the beach material and profile. In the winter, the sand would disperse to lower elevations by wave activity and in the summer, it would likely wash back up on the higher beach. The approximately 4 maintenance episodes over the next 7 years may provide sufficient material to avoid more substantial reinforcement of the South Jetty, compared to what may be required under the No-Action Alternative.

The material dredged from the inner navigation channel and boat basin would be pumped hydraulically to the ocean side of Quillayute Spit for placement along Site B. The material that accumulates in the boat basin is deemed appropriate grain size distribution to help maintain the surf smelt spawning habitat, and to cover the riprap of the Quillayute Spit. Additionally, the coarse-grained material plays a critical role in protecting the spit and sea dike structures from wave damage and erosion (Schuldt 1974).

3.2.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

The effects to sediments in the Quillayute River estuary and beach placement sites would be the same as for Alternative 2.

3.3 Water Quality

The Washington State Department of Ecology (Ecology) classified the fresh/estuarine waters of the Quillayute River and the coastal marine waters as extraordinary (WAC 173-201A-210), suitable for primary

contact recreational uses, and suitable for shellfish harvest, wildlife habitat, harvesting, commerce and navigation, boating, and aesthetics. No part of the 5.6-mile Quillayute River is on the 303(d) list for any water quality parameters; however, First Beach is listed as Category 2 for bacteria and the Dickey River, a tributary to the Quillayute, is listed as Category 5 for temperature. Dissolved oxygen (DO) in the navigation channel does not typically reach levels sufficiently low to cause aquatic organisms harm (below 4 mg/L) because flushing from tidal currents keeps the water oxygenated. The frequent flushing of tidewater from the Pacific Ocean controls water temperatures in the project area. Aside from logging and a road network in the sub-basins of the upper watershed tributaries to the Quillayute causing increased temperature and sedimentation, there is little other disturbance that might affect water quality.

3.3.1 Alternative 1 – No-Action

The No-Action Alternative would have no effect to water quality in the Quillayute estuary or at any placement sites.

3.3.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

This alternative would have a minor, short-term degradation of water quality related to turbidity and dissolved oxygen (DO) in a small area immediately down-current from the active dredging operations. Dredging operations would cause turbidity due to short-term resuspension of sediments in the water column; the amount of resuspended sediment would decrease with distance from the dredging. The area affected by turbidity would be only slightly wider than the dredging equipment as currents move the suspended sediments. The down-current distance would likely be 300 feet or less as the sediments stay close to the sea floor where the cutterhead is operating and disturbing the substrate. These water quality characteristics are of low concern for the aquatic biota in the project area because most mobile organisms that could be affected by turbidity or minor reductions in dissolved oxygen would be able to avoid or escape the affected area without measurable harm. These effects would occur in each of the approximately 4 dredging episodes over the next 7 years. Dredging takes 60 to 120 days in each event; however, many of those days have no dredging due to rough weather in which the water quality has natural turbidity from storm events.

Dissolved oxygen (DO) may decline around dredging operations when the suspension of anoxic sediments creates elevated chemical oxygen demand. Temporary decreases in DO associated with increased suspended sediments are possible in the immediate dredging plume area. During dredging operations, DO in the navigation channel is not expected to reach levels sufficiently low to cause aquatic organisms harm (below 4 mg/L) because flushing from tidal currents would keep the water oxygenated. It is unlikely that the sediments to be dredged are strongly anoxic because the bulk of the sediment typically has a low percentage of fine materials. Short-term effects of decreases in DO could include avoidance of the dredging area by mobile aquatic organisms, and reduced foraging opportunity during and immediately after dredging as fish avoid areas of depressed DO. Given the amount of tidal exchange in the project area and low likelihood for substantial amounts of anoxic sediments, it is unlikely that DO would have measurable changes due to dredging and would therefore not cause harm to aquatic organisms.

Runoff from the temporary holding location at Site A would be controlled by setting up a containment berm using a bulldozer to scrape up the surface layer of material at Site A, and then protecting intrusion from vehicles by placing ecology blocks at the side facing the street. Before dredged material is placed at

Site A, a water control weir would be placed within the berm so that water draining from the dredged material can runoff onto the armoring on the riverbank. The purpose of the weir structure is to regulate the release of ponded water from the containment area. Proper weir design and operation can control re-suspension and withdrawal of settled solids. Weir design provides the capability for selective withdrawal of the clarified upper layer of ponded water. Controlling the weir crest elevation within the pond maintains adequate ponding depth during the dredging operation. Once the crest of the pond overtops the height of the interior side of the weir, clarified water flows into the center of the weir. Water drains from the exterior side of the weir through a pipe of sufficient length and diameter to pipe the water to the desired location, which is an outfall onto a hard surface such as rip rap to ensure no erosion of riverbank soils and to avoid turbidity. The most popular type of weir is the rectangular weir, which gives greater control of water entering the weir, its ease of construction, and installation. Weir crest elevations are usually controlled by placing boards within the weir structure.

The material placed at First Beach would come from Site A consisting of the coarser outer entrance channel material that has drained of water. Once transported onto First Beach, this clean material would integrate with the natural profile and composition by summer. The USACE received a Water Quality Certification from the EPA and will comply with all required conditions associated with the discharge of dredged or fill material into waters of the U.S. contained in the certification. No release of contaminants is expected due to the clean nature of the dredged material. Based on the short-term, minor effects to water quality, there would be no significant impact to this resource.

Material that is pumped to Site B during active dredging exits a pipeline as a slurry and falls onto the beach as a mix of sand and water (Figure 3). During most tide levels, the sediment falls onto the beach surface and the water quickly drains into the coarse sediment of the beach. During higher tide levels, the slurry of sand and water often mixes with ocean water as the waves run up the beach. This can generate a small visible turbidity plume during the hour the tide reaches this height; however, the power of ocean waves moves vast quantities of sediment around the beach creating wide areas of visible ambient turbidity even when no dredging is occurring. Therefore, the minor amount of dredged material entering the water for the short duration of high tide is not considered a significant effect.

3.3.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

The effects to water quality parameters in the Quillayute River and beach placement sites would be the same as for Alternative 2; however, the total duration of effects may be shorter if the dredger can begin on 1 September and complete all of the work before winter storm weather begins in October and November. Therefore, intensity of turbidity may be the same, but total duration may be shorter than Alternative 2. Compared to the No-Action Alternative, effects to water quality would be slightly detrimental to aquatic life, but would not constitute a significant impact.

3.4 Vegetation

The coastal beach zone consisting of the jetties, dike, and rocky habitat are mostly devoid of vegetation, but may have some attached micro- and macroalgae. According to the Washington Department of Natural Resources, subtidal kelp forests occur offshore from the project area and around James Island (WDNR 2014). Rockweeds and other periphyton grow on the large rock of the South Jetty during spring, summer, and fall months. The beach grass/scrub zone is a narrow zone typically above the line of driftwood. This

area primarily hosts dunegrass (*Leymus mollis*), yarrow (*Achillea millefolium*), English plantain (*Plantago lanceolata*), tansy ragwort (*Senecio jacobaea*), and oxeye daisy (*Leucanthemum vulgare*). Other species present include goldenrod (*Solidago* spp.), vetch (*Vicia* spp.), hawksbeard (*Crepis* spp.), and everlasting (*Anaphalis margaritacea*). The scrub zone is thought to be an older successional zone on accreting sandy areas. Common plants there are twinberry (*Lonicera involucrata*), salal (*Gaultheria shallon*), Sitka willow (*Salix sitchensis*), and red alder (*Alnus rubra*).

The intertidal estuarine areas at the mouth of the Quillayute River have a mostly diked or riprapped shoreline. At low tide, mixed sand and gravel bars become exposed. Further upstream past the marina, sparsely vegetated sand and gravel bars exist in the low water areas and the riverbanks become steep above the mean water line. A few patches of brackish marsh have been observed with typical salt-tolerant plant species. The vegetation on the riverbanks is almost exclusively freshwater species. Emergent marshes occur on intertidal shores of unconsolidated substrate that are colonized by erect, rooted, herbaceous hydrophytes. Perennial plants dominate most of the growing season in most years. Emergent marshes tend to form in the mixing region where tidal energy generates flood tide periods with high settling of suspended sediments. The lowest water vegetation is comprised mainly of hairgrass (*Deschampsia caespitosa*), pea (*Lathyrus* spp.), Douglas aster (*Aster subspicatus*), and curly dock (*Rumex crispus*). The high water vegetation zone is comprised principally of common rush (*Juncus effusus*), silverweed (*Argentina egedii*), sedge (*Carex* spp.), and redtop (*Agrostis gigantea*).

The sand flats primarily host forbs and graminoids. The most common species in this area are dune grass, reed canary grass (*Phalaris arundinacea*), silverweed, and thistle (*Cirsium* spp.). Other less abundant species include English plantain and yarrow, while woody species are absent. An area of sedge wet meadow lies just upstream from the project area in the last bend of the river. This is a seasonally saturated freshwater wetland dominated by sedge (*Carex* spp.) and common rush. Woody species are absent.

Both maritime forest and broadleaf mixed forest stand near the project area. The maritime forest is adjacent to local wetlands and the river floodplain, and is comprised of Sitka spruce (*Picea sitchensis*) and red alder with occasional patches of sedges and willows. The broadleaf mixed forest community is dominated by red alder groves with some Sitka spruce, ash (*Fraxinus* spp.), and hemlock (*Tsuga heterophylla*). The understory is dominated by salmonberry (*Rubus spectabilis*), buttercups (*Ranunculus* spp.), and piggyback (*Tolmiea menziesii*), with small invasions of typical non-native plants.

3.4.1 Alternative 1 – No-Action

The No-Action Alternative would have no effect to any vegetation or tidal wetlands in the project area. While shoaling may eventually create shallower aquatic habitats within the estuary, the processes that allow tidal wetlands to develop are substantially degraded making low likelihood for wetland creation to occur in the absence of the dredging project.

3.4.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

Placement of dredged material has potential to bury dunegrass; however, this species is expected to recolonize the placement area quickly due to recruitment of plants from adjacent unaffected areas and because the deposited material erodes rapidly off the beach exposing habitable substrate. This is likely to occur in each spring growing season, so dredging 4 times over the next 7 years would maintain the same

pattern that has been occurring for the past couple of decades of maintenance dredging episodes. Compared to the No-Action Alternative, dunegrass may be intermittently reduced in aerial coverage. No other vegetation would experience effects of the dredging and placement operations.

3.4.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

The effects to vegetation would be the same as for Alternative 2.

3.5 Fish

The Quileute Tribe Fisheries Department conducted an environmental resources survey of the Quillayute River estuary in 1979 and 1980 to assist the USACE in scheduling dredging and other maintenance activities for impact avoidance and minimization based on timing (Chitwood 1981). Information on fish resources from this study is incorporated below as well as information from more recent sources.

Forage Fish

Forage fish are a critical prey item for many fish and wildlife species. Two distinct sizes of surf smelt (*Hypomesus pretiosus*) have been found in the estuary (60-100mm and 120-250mm), possibly representing one-year-old and two to three-year-old age classes, respectively. The majority of the smelt were caught in the lower and mid estuary. The surf smelt are known to spawn on Rialto Beach May through September with the peak in July and August (Fradkin 2001). Other forage fish captured during sampling include Pacific herring (*Clupea pallasii*), sand lance (*Ammodytes hexapterus*), and anchovy (*Engraulis mordax*) (Chitwood 1981). No Pacific smelt were captured during the Tribe's 1979-80 study and none have been reported since that time. According to WDFW Forage Fish Spawning Data, there are no recorded detections of sand lance or Pacific herring spawning along this reach of the Washington Coast (WDFW 2016a).

Timing, location, and beach substrate suitability are the primary parameters of concern for effects of dredged material placement on beach spawning forage fish. Three studies of surf smelt spawning on the Washington Coast, representing 7 sampling years between 1997 and 2014, have included sample sites at or near the proposed placement sites. Fradkin (2001) found greater spawning density at the north end of the Rialto Beach study area, which was approximately 0.5-mile north of the beach placement sites on Quillayute Spit. Timing of spawning in this study was similar to previous observations of the spawning occurring March to September with a peak in July and August. Only one year of the study observed spawning in September, and no winter spawning at this area during a year of relatively abundant spawning activity. ICF (2010) only detected eggs in the gravel in late July and early August even though sampling continued into November, which coincides with previous evidence that peak spawning is in July and August. The location of eggs was north of former placement Site 2A, and north of the end of proposed placement Site B. This study found that grain size distribution in the study area is more favorable for surf smelt spawning to the north of proposed Site B. Additionally, the beach profiles transition from unfavorable in placement Site B to favorable for surf smelt just north of the end of Site B. WDFW has conducted two years of a forage fish study with sample sites along the entire Washington Coast (Langness et al. 2015). Sampling occurred October 2012 through October 2014 and found no eggs in the substrate of Rialto Beach in the first year, and minimal evidence of spawning in the second year at a location approximately 1.3 miles north of the Quillayute Spit. One egg was identified in gravel at the southeast end of First Beach.

Based on coastal shoreline surveys for beach spawning fish, WDFW has mapped spawning locations. Surf smelt spawning locations are documented to the north and south of the project area; each site is slightly less than one mile away from Site B and First Beach placement areas (Figure 5). Sampling efforts have detected a minimal number of eggs in the gravel at each site (Langness et al. 2015).

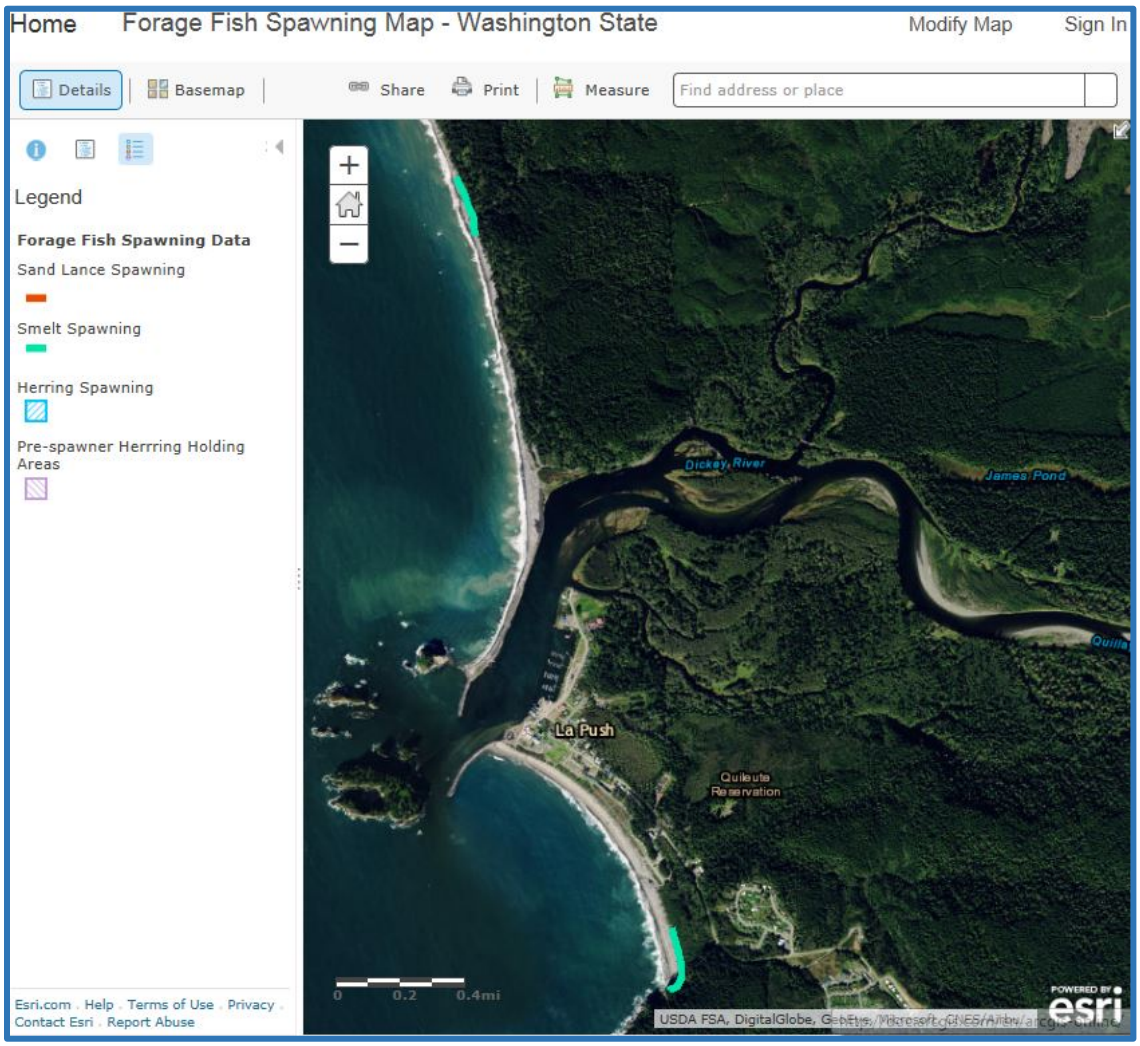

Figure 5. Documented surf smelt spawning locations near La Push, Washington (WDFW 2017).

Salmonids

The Quillayute River watershed supports six anadromous salmonid species: Chinook (*Oncorhynchus tshawytscha*), coho (*O. kisutch*), chum (*O. keta*), pink (*O. gorbuscha*), and sockeye (*O. nerka*) and steelhead (*O. mykiss*). Chinook are the most important fishery species for the Quileute Tribe and steelhead are a popular sportfishing target in the river. Fish usage of the estuary occurs throughout the year, although the greatest numbers appear in summer and the least in winter. Continuing outmigration studies have shown that maximum usage of the estuary by young-of-the-year Chinook consistently occurs between April and September; coho predominantly outmigrate between April and August each year. Three hatcheries in the watershed release salmon parr in early March for their river rearing and outmigration stage. No bull trout have been captured in any sampling effort or recorded in any studies of the estuary.

Other Pelagic and Demersal Fish

Small numbers of other fish captured during sampling included saddleback gunnels (*Pholis ornata*), starry flounder (*Platichthys stellatus*), sculpins (Scorpaniformes), rockfish (*Sebastes* spp.), perch (Percidae), threespine stickleback (*Gasterosteus aculeatus*), and shad (*Alosa sapidissima*) (Chitwood 1981). The rocky habitat along the South Jetty likely hosts reef dwelling fish like rockfish and lingcod (*Ophiodon elongates*).

3.5.1 Alternative 1 – No-Action

The No-Action Alternative would have no negative effects to fish species; however, if the Quillayute jetty remains in place and beach nourishment material is not provided, the surf smelt spawning beach to the north would be starved of sediment. It is difficult to speculate on whether eroding beach conditions would continue to support spawning habitat without the input of dredged material from the river.

3.5.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

The proposed action may cause temporary effects to water quality including increased suspended solids and small decreases in dissolved oxygen in the immediate dredging area. The temporary increases in suspended solids could affect juvenile salmon in the immediate dredging area through decreased visibility for foraging activities and impaired oxygen exchange due to clogged or lacerated gills. However, the available evidence indicates that total suspended solids (TSS) levels sufficient to cause such effects would be limited in extent. LeGore and Des Voigne (1973) conducted 96-hour bioassays on juvenile coho salmon using re-suspended Duwamish River sediments from five locations. Up to 5% sediment in suspension (28,800 mg/l dry weight), well above levels expected to be suspended during dredging, had no acute effects. Salo et al. (1979) reported a maximum of only 94 mg/l of sediment in solution in the immediate vicinity of a working dredge in Hood Canal. This indicates that turbidity would be elevated on a temporary and localized basis by dredging, but that TSS levels sufficient to cause adverse effects on salmon would be very limited in extent. Any turbidity would primarily be at the bottom of the water column at 10 feet deep in the center of the channel and juvenile salmon are surface-oriented in shallow water at the margins of the river. Additionally, the in-water work window avoids substantial overlap between the timing of dredging and salmon outmigration; therefore, any effects would occur to very few if any juvenile salmonids. Due to very little coincidence of timing and location, effects of dredging 4 times in the next 7 years would be discountable.

Adult salmonids are expected to avoid areas of increased turbidity, while juveniles would be less able to avoid such areas. Juvenile salmon are unlikely to frequent areas of dredging as they stay close to the shorelines during migration and feeding; however, fish that use the calmer waters of the boat basin may be susceptible to disturbance by dredging activities. Dredging would only occur during the in-water work window, which protects the sensitive life stage of out-migrating juvenile salmonids as well as forage fish spawning to avoid exposure to increased suspended sediments.

Since 2001, the USACE has scheduled dredging and placement on the Quillayute Spit to occur after 1 November based on a recommendation from NPS (Fradkin 2001). In 2010, the USACE considered the results of a surf smelt study conducted in 2009 that looked for impacts of beach placement to the surf smelt population that spawns on Rialto Beach. Results from this study showed no surf smelt eggs present during the timing of proposed material placement on the beach. The beach profile analysis shows the beach is a highly dynamic environment and the substrate shifts significantly through storms as well as

seasonally between summer and winter; massive amounts of beach material move with each tide cycle and especially in storm events (ICF 2010). The USACE estimates that the quantity of material placed from dredging is a minor fraction of all the material transported in this drift cell. Surveys conducted by WDFW and local tribes have contributed information regarding timing and location of surf smelt spawning activity. Two years of coastwide forage fish surveys detected minimal evidence of forage fish spawning at Rialto Beach and First Beach (Langness et al. 2015). The location in which two eggs were detected in beach sediments is nearly 1 mile away from dredged material placement Site B. The sample location in which one egg was detected is approximately 1 mile southeast of where material is relocated onto First Beach.

For Alternative 2, the USACE would continue to adhere to the start dates for dredging and placement as were established for the project's 2009-14 EA for each of the approximately 4 dredging episodes over the next 7 years. The two components relevant to work windows are (1) dredging the outer channel with placement at upland Site A and possible subsequent relocation of that material on First Beach, and (2) dredging the inner channel and boat basin with placement at Site B on the Quillayute Spit. Dredging would occur during a work window of 1 September through 28 February for each dredging episode, with no beach placement (Site B and First Beach) until after 1 October to avoid surf smelt. This later start date is more conservative than the coastwide forage fish work window opening of 15 September due to the historical surf smelt spawning at Rialto Beach north of Site B and at the south end of First Beach. Dredging the outer channel may commence 1 September with upland placement at Site A. Based the results reported by WDFW (Langness et al. 2015), spawning activity does not appear to be substantial enough to conclude the September 1 and October 1 start dates pose a risk to surf smelt.

3.5.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

Alternative 3 would allow beach placement to commence on 1 September at Site B instead of waiting until 1 October as in Alternative 2. The other date change for this alternative is to allow beach placement of dewatered material from Site A onto First Beach beginning 1 October instead of waiting until 1 November as in past practices. Placing material at Site B beginning 1 September would add beneficial sediment to the beach environment at the end of the surf smelt spawning season for a very low level of risk of disturbance, and waiting until 1 October for placement at First Beach avoids spawning season entirely. Surf smelt eggs incubate in gravel for 2 to 4 weeks depending on water temperature and wave action (Penttila 1978). Placement on or near incubating eggs poses a risk of mortality due to smothering. As a frame of reference, for this reason WDFW requires a distance of at least 2,080 feet between hydraulic projects and documented spawning areas based on Quinn et al. (2015) produced in support of WDFW's Hydraulic Project Approval Program. The proposed placement sites are nearly a mile (one mile is 5,280 feet) away from the documented spawning and are therefore low risk for egg mortality. The beach zone along the Quillayute Spit and northward along Rialto Beach is highly dynamic with dramatically shifting sediment as shown in the surveys of beach profiles throughout the 2009 sampling season of July through November (ICF 2010). Hundreds of thousands of cubic yards of material can shift during a single tide cycle. Assuming average dredging productivity, the quantity of material that may be placed in September would be approximately 45,000 cy at Site B. Due to the availability of Site A, up to 15,000 cy can be dewatered and held for placement First Beach until after 1 October. As described in the analysis for Alternative 2, this quantity is a small fraction of all material shifting around in the littoral drift cells in the study area. Because surf smelt spawning is almost a mile away from the placement areas and spawning is nearly

complete by early September, the risk of turbidity effects to fish and smothering of eggs is very low, although slightly greater than Alternative 2 and the No-Action Alternative.

3.6 Wildlife

The USACE conducted wildlife surveys in 2002 focusing on the navigation maintenance project area. Four habitat areas were identified: the revetted/modified beach, the sea stacks with coves, estuarine river area, and the developed waterfront (SAIC 2003).

Researchers identified 35 bird species across the four habitats studied. Most of the observed species (60%) use the estuary, while 20% appeared more on the revetted beach, and 17% of the species occurred within the sea stacks marine habitat. During low tide, gulls loaf on the exposed intertidal area, and spotted sandpipers and whimbrels feed in the shallow margins. Cormorants and mergansers commonly inhabit the estuary and river area. The cove between sea stacks commonly hosts scoters, pigeon guillemots, and cormorants. Petrel Island is an important nesting area of common murres and peregrine falcons. Several other bird species roost within the sea stacks including brown pelicans. Bald eagles appear often throughout the project area. Marbled murrelets occur in the area and one nest has been documented.

Harbor seals (*Phoca vitulina*) appear frequently in the estuary, and occasionally a California sea lion (*Zalophus californianus*) is seen. River otters (*Lutra canadensis*) feed in the estuary and river. Common terrestrial mammals along the beach and riverbank include raccoon (*Procyon lotor*), Douglas squirrel (*Tamiasciurus douglasii*), and black-tailed deer (*Odocoileus hemionus*).

3.6.1 Alternative 1 – No-Action

The No-Action Alternative would have no effect on marine mammals, birds, or terrestrial wildlife.

3.6.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

Routine biannual maintenance dredging of the Federal navigation channel with its associated placement sites would have a low level of disturbance to wildlife due to noise and presence of humans on the dredge vessel. This may have the effect of temporarily displacing a small number of birds and marine mammals including cormorants, mergansers, sandpipers, sea lions, and harbor seals that commonly use the estuary.

Harbor seals are frequently present in the estuary and boat basin regardless of boat traffic. They typically avoid vessels, so the presence of the dredge may cause similar avoidance behavior. The dredge is no larger than the typical fishing vessels that use the marina and is therefore not expected to cause more than the usual amount of disturbance to birds or marine mammals; however, the constant noise from the operating dredge may cause marine mammals to avoid the estuary during the 60 to 120 days of dredging. They would be expected to return to normal once the dredging is complete in approximately late November, depending on seasonal weather conditions.

Operation of hydraulic dredge machinery and associated vessels is categorized as non-impulsive sound and has been measured at 100 to 110 dB RMS with frequencies in the range of 70 to 1,000 Hz in a study in Cook Inlet, Alaska (Clarke et al. 2002). A study involving the specific dredge most often used in the Quillayute River recorded maximum sound pressure levels in the range of 155 dB to 161 dB with a rare peak at 177 dB; measurements were 4 meters away from the cutter head (SAIC and RPS Evans-Hamilton 2011). Based on the recently released technical guidance for assessing the effects of underwater anthropogenic sound on marine mammals, dredging at Quillayute would be below the sound exposure

level (SEL) that causes a temporary threshold shift in hearing ability of seals and sea lions; the SEL for non-impulsive sound is 181 dB and 199 dB for seals and sea lions, respectively (NMFS 2016). Additionally, sound would attenuate quickly with distance from the dredge and would not cause any greater harm than avoidance of the immediate dredging area. This effect would be expected to occur in each of the 4 proposed dredging episodes over the next 7 years and is assumed to continue the same level of effect that has likely occurred in recent decades of biannual maintenance dredging.

3.6.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

The effects of Alternative 3 would be the same for wildlife as those described for Alternative 2 with the exception of potential for disturbance of young marbled murrelets and other birds that may still be fledging, which is typically complete by mid-August but may include early September. This is described further for marbled murrelets in section 3.8 regarding threatened and endangered species.

3.7 Benthic Invertebrates

The USACE studied abundance and distribution of the benthic intertidal organisms in July 1980 (Chitwood 1981), and the study was replicated in 2002 (SAIC 2003). Researchers found 27 taxa among the 21 sampling sites located on ocean beaches and in the estuary. The greatest numbers of epibenthic taxa occurred on the boulders comprising the dike. The greatest densities of infaunal organisms were found in subtidal mud sediments and in the cobble/gravel habitat in the estuary. The predominant species in these areas were amphipods and oligochaetes, while amphipods and nemertean worms were the most abundant taxa on the outer coast beaches. In the bay between James and Rock Islands, the dominant species included several polychaete families, amphipods, oligochaetes, and isopods. Bivalve mollusks were found only in this bay. The only species of crab found during the Tribe's 1979-80 sampling was the Dungeness (*Cancer magister*). This species uses the estuary most heavily in the spring and summer months; very few were found during the winter (Chitwood 1981).

3.7.1 Alternative 1 – No-Action

The No-Action Alternative would have no negative effects to benthic invertebrates. The navigation channel is dredged every 2 to 3 years so there may be a lack of long-lived invertebrates in the channel. Therefore, ceasing a maintenance dredging program may allow greater biodiversity to develop into a more stable community in the channel over a period of many years after the last dredging event.

3.7.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

Dredging the channel and boat basin would disrupt the benthic community and cause direct mortality to smaller organisms that are unable to avoid the dredging operation. This would occur every other year per the proposed schedule of 4 dredging events over 7 years. The dredging area is small relative to the total benthic area covered by the invertebrate populations; the loss of a relatively small number of crabs to hydraulic dredging compared to total habitat available around the project area would not impact the total population. Rate of entrainment depends on the density of crabs in the dredging footprint. Based on environmental studies of the project area (Chitwood 1981, SAIC 2003), the USACE anticipates loss of a few crabs, but not enough to impact population abundance or commercial and recreational catch rates.

Placement of dredged material at Site B and First Beach would cause mortality of invertebrates present in the narrow strip of beach habitat where material lands (see Figure 3 in section 2). Larger organisms

such as crabs would be able to flee the area and are rarely observed at the higher tide elevations where the sediment is placed. Sediments would be the same type and coarseness as those already present in the beneficial use sites and the depth of the total habitat area available would not change. In a relatively short period, organisms would reestablish in the placement area due to recruitment from adjacent non-disturbed areas. Based on these factors, effects to benthic invertebrate populations and their habitat at the placement sites would be minor and discountable.

Within the dredged areas, the species that dominate this benthic invertebrate community are expected to return to pre-dredging conditions within 3 months after dredging is complete. The community in the channel is likely adapted to the dredging cycle and populated with short-lived species with an overall lower biodiversity compared to natural conditions in estuaries that are not regularly dredged (McCauley et al. 1977). The less frequently dredged areas of the boat basin might experience minor changes due to their proximity to the areas that are dredged more often (e.g. USCG slips), but are not likely to have a notably different community structure (Skilleter et al. 2006). The temporary loss and shift in community structure of benthic invertebrates would not substantially affect the broader estuarine community and biodiversity in the project area.

3.7.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

The effects to benthic invertebrates would be the same as for Alternative 2.

3.8 Threatened and Endangered Species

In accordance with Section 7(a)(2) of the Endangered Species Act of 1973 (ESA), federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed and proposed threatened or endangered species. To satisfy the requirements of the Act, the USACE has analyzed the potential effects to all ESA-listed species that may occur in the project area. These appear in Table 1 along with their critical habitat status.

Most of the species that are recorded as potentially occurring in Clallam County either are offshore whales and turtles or are otherwise absent from the project area. The fish species (green sturgeon, bull trout, and eulachon) have never been captured in sampling efforts or recorded as present in the project area. Northern spotted owls are in the old growth forest several miles away in Olympic National Park, but not present in the lower Quillayute estuary where the project occurs. Likewise, the project area does not contain any habitat that would attract streaked horned lark for breeding or feeding.

One marbled murrelet nest has been recorded in the forest approximately 1 mile northeast of the project area (WDFW 2016b; Harke, pers. comm. 2017). According to USFWS (2012), the nesting season in Washington State begins 1 April as marbled murrelets establish nest sites and the season is considered over after September 23 when over 99% of fledglings have left the nests.

Table 1. Species listed under the Endangered Species Act with their status, critical habitat, and potential for occurrence in the project area.

Species	Federal Listing	Year Listed	Critical Habitat in Project Area	Potential Occurrence (Likely, Unlikely, or Absent)
Coast/Puget Sound bull trout (*Salvelinus confluentus*)	Threatened Critical Habitat Designated	1998 2010	Yes	Unlikely
Northern spotted owl (*Strix occidentalis caurina*)	Threatened Critical Habitat Designated	1990 2012	No	Unlikely
Marbled murrelet (*Brachyramphus marmoratus*)	Threatened Critical Habitat Designated	1992 1996	No	Likely
Southern green sturgeon (*Acipenser medirostris*)	Threatened Critical Habitat Designated	2006 2009	No	Unlikely
Eulachon (Pacific smelt) (*Thaleichthys pacificus*)	Threatened Critical Habitat Designated	2010 2011	No	Unlikely
Streaked Horned lark (*Eremophila alpestris strigata*)	Threatened	2013		Unlikely
Short-tailed albatross (*Phoebastris albatrus*)	Endangered	1970		Absent
Southern Resident killer whale (*Orcinus orca*)	Endangered Critical Habitat Designated	2005 2006	No	Absent
Humpback whale (*Megaptera novaeangliae*)	Endangered	1970		Absent
Blue Whale (*Balaenoptera musculus*)	Endangered	1970		Absent
Fin whale (*Balaenoptera physalus*)	Endangered	1970		Absent
Sei whale (*Balaenoptera borealis*)	Endangered	1970		Absent
Sperm whale (*Physeter macrocephalus*)	Endangered	1970		Absent
Leatherback sea turtle (*Dermochelys coriacea*)	Endangered Critical Habitat Designated	1970 2012	No	Absent
Loggerhead sea turtle (*Caretta caretta*)	Endangered	1978		Absent
East Pacific green sea turtle (*Chelonia mydas*)	Endangered Critical Habitat Designated	1978 1998	No	Absent

3.8.1 Alternative 1 – No-Action

This alternative would have no effect on ESA-listed species or their designated critical habitat.

3.8.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

For Alternative 2, beach placement at Site B would not begin until after 1 October. The bulldozer required for moving the pipeline onto the sediment placement area would not be transported along the roadway or into the auxiliary parking area at Rialto Beach until after 1 October and would therefore not disturb marbled murrelets during nesting season. By avoiding working during the nesting season, this alternative would have no effect to marbled murrelets.

The USACE has determined this alternative would have no effect to ESA-listed species because either they are not likely to be present in the action area, or the timing of the work avoids disturbance to the species. Documentation of this analysis and determination is on file and was provided to the Services for their information in conjunction with consultation on other dredging projects.

3.8.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

Effects to all ESA-listed species would be the same for Alternative 3 as described for Alternative 2 with the potential exception of marbled murrelets. For Alternative 3, placement of dredged materials would begin 1 September, which is within the final month when young murrelets may still be present on nests. The disturbance may occur from noise of delivering the bulldozer to the offloading area at the auxiliary parking area as well as operating the bulldozer on Quillayute Spit to move the pipeline along Site B. The potential effect to birds would be an extremely low probability of one abandoned feeding attempt of a fledgling if the truck with bulldozer arrived/offloaded during that feeding. Additionally, the noise of the sediment slurry moving through the metal pipeline could cause adult murrelets to avoid foraging in the ocean near the sediment placement area. The range at which marbled murrelets are not disturbed by machinery noise is a distance of at least 0.25 mile. The northern end of Site B is approximately 0.8 mile away from the forest stand that contains a nesting tree; therefore, the noise of the hydraulic machinery associated with dredged material placement at Site B would not be within 0.25 mile from the nesting location and would thus not adversely affect nesting behavior.

Observing specific avoidance measures can prevent disturbance to marbled murrelets during the nesting season. If any nests become occupied at 0.25 mile or closer, the USACE would implement avoidance and minimization measures to ensure marbled murrelets are not disturbed during the nesting and fledging season.

The two key avoidance measures to prevent disturbance to nesting marbled murrelets are to adhere to specific times and locations for construction work. USFWS recommends a Limited Operating Period of working only from 2 hours after sunrise to 2 hours before sunset to avoid disturbance to adult and juvenile murrelets during active feeding periods on the nests (USFWS 2012). If a nest site were reported occupied closer than 0.25 mile to the project area, then the USACE would implement the conservation measure of hauling the bulldozer for its delivery to Site B along the NPS road to the Rialto Beach auxiliary parking lot during the Limited Operating Period. This period is from 0900 to 1700 based on sunrise and sunset times in the month of September.

According to USFWS, a “No Effect Determination” is justified when the noise from road machinery will be a greater distance than 0.25 mile and will only occur during the Limited Operation Period (USFWS 2015), which is the case for the proposed action at Quillayute. If a nest site were established closer than 0.25 mile to the project area in the future, then observing the timing and location avoidance measures through 23 September would be employed to maintain no effect to marbled murrelets.

The USACE has revised the No Effect memorandum with the updated project schedule and impact avoidance measures to be employed if necessary. Based on the distance of the project area away from the nest site, and the timing of the onset of work, the construction activities would not cause a significant impact to marbled murrelets.

3.9 Cultural Resources

The Corps has coordinated its review of cultural resources impacts under Section 106 of the National Historic Preservation Act (NHPA). The Corps has determined the area of potential effect (APE) for both direct and indirect effects to be the Quillayute River navigation channel and all dredging placement sites. The SHPO agreed with the Corps' determination of the APE on February 27, 2017.

A Corps staff archaeologist conducted a records search and literature review for the APE, including a records search of the archaeological and historic site records at the Washington State Department of Archaeology and Historic Preservation (DAHP) online database and a review of archival records available at the Corps, Seattle District. The literature review revealed that there are multiple archaeological sites in the vicinity that are of historic and cultural significance to the Quileute Tribe, although these properties are located outside the APE and their significant values would not be affected. There are no properties listed in the National Register of Historic Places or the Washington State Historic Site Register in the project vicinity, and no cultural resources have been recorded within the APE.

3.9.1 Alternative 1 – No-Action

The No-Action Alternative would have no effect to cultural resources.

3.9.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

Alternative 2 would have no effect on cultural resources. There are no cultural resources located within the APE and the Corps has arrived at a determination of No Historic Properties Affected.

3.9.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

Alternative 3 would have the same level of effects as Alternative 2 and the Corps has arrived at a determination of No Historic Properties Affected.

3.10 Indian Treaty Rights

In addition to the Federal government's responsibilities under NHPA, the Federal government must consider the effects its actions may have on American Indian treaty rights. The Federal basis of a tribe's legal status rests within the context of U.S. Constitutional provisions for Federal government's powers for treaty making with other sovereign nations, and American Indian tribes' inherent sovereignty. One of the treaty-reserved rights is the ability to conduct fishing activities at all Usual and Accustomed locations. Tribal fisheries are central to the cultural and economic existence of the Tribes and their members.

3.10.1 Alternative 1 – No-Action

The No-Action Alternative would reduce access and capability for Native American fishing to occur due to shoaling in the channel and loss of navigability of the waterway.

3.10.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

Maintenance dredging would keep the channel open and navigable for fishing vessels to launch and access Usual and Accustomed fishing and shellfishing locations. The Quileute Tribe has expressed support for maintenance dredging of the channel and boat basin as vital to exercising their fishing and shellfishing rights and critical for the economic stability of the community. Maintenance dredging would have a positive effect on tribal economics by providing access to Usual and Accustomed fishing areas at all tide stages and supports a charter fishing business as well as transient moorage for recreational fishing boats.

Thus, maintaining the project to authorized dimensions is important to the tribe because fishing is an important economic and cultural activity for the tribe.

3.10.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

Alternative 3 would have greater benefits to tribal fishing rights than Alternative 2 because opening the work window for beach placement beginning 1 September would attract more dredging contractors to bid on the project. This would have the result of much higher probability that the work would be executed in any given year compared to the long history of receiving no bids and being underfunded for the high dollar amounts that contractors bid. The high bids and no bids at all are due to the risk to life and property associated with dredging on the Washington Coast during the fall and winter storm season. Therefore, having an earlier start date would make the project more attractive to dredgers and would compel bids that are more competitive. The overall effect would be a less expensive and more reliable project, which would benefit tribal fishermen who need to transit the channel for access to ocean fisheries.

3.11 Air Quality and Greenhouse Gas Emissions

The Olympic Region Clean Air Agency does not monitor air quality along the Washington Coast in the project area because the northern coast is within the Olympic National Park and has no cities or industrial complexes; the air quality is at low risk for health concerns. There are no significant sources of air pollution within the project area, and onshore winds disperse local emissions from residential and vehicular sources. Due to the cleansing effect of ocean storms and westerly winds, the air quality in the project area is considered excellent. The project area is in an attainment zone for all air quality parameters meaning that it meets National Ambient Air Quality Standards (NAAQS).

Anthropogenic sources of greenhouse gases (primarily carbon dioxide, methane, and water vapor) have been increasing over the past 150 years, and have reached a rate of contribution that is causing global climate change. The concern for Federal projects is the contribution of greenhouse gases to the atmosphere in such large quantities as to outweigh the benefit of executing the proposed action.

3.11.1 Alternative 1 – No-Action

The No-Action Alternative would have no effect on regional or local air quality and would have no output of greenhouse gases.

3.11.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

Construction activities associated with the proposal would create air emissions from operating equipment in each of the 4 dredging episodes over the next 7 years. The EPA established 100 tons per year (TPY) as the threshold level for the requirement of a conformity determination for key NAAQS pollutants in a non-attainment or maintenance area; the 100 TPY threshold applies separately to each pollutant (40 CFR 93 § 153). As shown in (Table 2), based on the South Coast Air Quality Management District model for non-road emissions (2016), the estimated annual emissions from the operation of the dredges and associated support vessel would be less than 2 TPY for each pollutant of concern and would not exceed the 100 TPY threshold.

Table 2. Estimated emissions in metric tons per year for pollutants of concern using SMAQMD (2016).

Air Pollutant	Estimated annual emissions in metric tons
Reactive Organic Gasses (ROGs)	0.1
Carbon Monoxide (CO)	0.2
Nitrogen Oxides (NOx)	1.5
Sulfur Dioxide (SOx)	<0.001
Particulate Matter (PM2.5)	0.1

The proposed action would not occur in a nonattainment or maintenance area. Each dredging event will occur in the fall and winter months when the typical weather of wind and rain would be expected to disperse air pollutants. Emissions are not expected to cause adverse health effects or result in violation of applicable air quality standards, therefore, impacts will be inconsequential.

Operation of the dredge and associated support vessels would emit greenhouse gasses, primarily carbon dioxide and nitrous oxides from burning fossil fuels. In each of the 4 dredging episodes, the roughly 60 days of work would emit an estimated 141.3 metric tons of carbon dioxide and 1.5 tons of nitrous oxides. When compared to the global emissions measured at nearly 7,000 million metric tons in 2014 (EPA 2016), the minor contribution of the proposed dredging would not constitute a measurable effect among the impacts of climate change and sea level rise and is therefore not considered a significant impact.

3.11.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

Alternative 3 would have the same effects as those described for Alternative 2.

3.12 Recreation and Scenic Values

Recreation opportunities in the project area are primarily boating, surfing, beach walking, and fishing. The rugged wilderness character of the area attracts travelers from throughout the Pacific Northwest and farther away. Sportfishing is a popular activity at La Push; anglers fish for salmon, halibut, rockfish, and lingcod. Surfing has been gaining popularity at the beaches on the south side of town, which also bring in campers and backpackers. Cabin rental and recreational vehicle parking is highest in summer, but winter storm watching can bring visitors to La Push in the non-typical tourist season. Visitors to Rialto Beach north of the project area often walk southward along Quillayute Spit. A wide variety of bird species occur around the offshore rocks as well as along the wilderness beaches north and south of town and this area is extremely popular among nature photographers due to the wilderness scenery.

3.12.1 Alternative 1 – No-Action

The No-Action Alternative would have a negative effect on recreation by reducing the ability for recreational vessel use of the navigation channel that provides access to the marina, at least for the larger recreational fishing vessels. This alternative would have no effect to the ability of the public to enjoy the popular scenic viewpoints of the town's waterfront and public beaches.

3.12.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

Maintenance dredging the channel and boat basin as well as providing added protection to the South Jetty and Quillayute Spit would benefit recreational vessel traffic. These vessels need the ability to continue using the marina and transiting the bar for access to ocean sailing and recreational fisheries as well as refueling and restocking boat supplies and groceries. For the 60 to 120 days of dredging activity every

other year, the dredge would be visible from the shore of the marina, and could be seen as an industrial interruption to the viewscape of the Quillayute River estuary. However, the marina itself is a built environment with vessel traffic, so the presence of a dredge would not be a substantial degradation of the local aesthetics and would not be a permanent fixture. Site A becomes unavailable as a parking area for viewing the sunset during the months of September and October; however, other parking is available. The placement of material from Site A onto First Beach would cause a slight decrease to the aesthetic value of this specific location due to the change from a natural beach slope to an artificial shape of graded sand material. However, this impact would be minor in spatial scale and temporary for only the few weeks it takes for tides to shape the sediment. People walking south from Rialto Beach might encounter the bulldozer and outfall pipe, which would be a minor and temporary disruption of the natural characteristics of the wilderness beach.

3.12.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

Alternative 3 would have the same effects to recreation and aesthetics as Alternative 2 compared to the No-Action Alternative, although more visitors are expected at Rialto Beach during September compared to October. Therefore, more individuals would encounter the bulldozer and outfall pipe south of Rialto Beach at placement Site B.

3.13 Socioeconomic Resources

The project area is contained within the Quileute Tribe's 594-acre Reservation. This area contains the Quileute Headquarters building, a museum, a school, a seafood company, ocean front resorts, fish hatchery, the USCG station, the Quileute Natural Resources building, marina, convenience store, and additional amenities. In 2000, there were 128 housing units in the community, of which 91% were occupied and 9% were vacant. Of the occupied housing units, 87% were owner occupied and 13% were renter occupied. The USCG Station Quillayute River hosts approximately 30 active-duty personnel.

According to the 2000 U.S. Census, La Push had a population of 371, with a gender distribution of 57% male and 43% female. In 2000, about 83% of residents were American Indian and Alaska Native, 11% White, 0.5% Black, 0.3% of some other race, and 5% of two or more races. Approximately 5% of residents identified as Hispanic or Latino. A small percentage of residents (4%) were foreign-born having come from Mexico, Canada, and Australia. The median age in La Push in 2000 was 27.5, significantly lower than the national median age of 35.3. Of the population age 18 years and over, 53% had graduated from high school or continued on to higher education, 4% had received a bachelor's degree or higher, and 2% had received a graduate or professional degree according to the 2000 U.S. Census. The Census reports that in 1999 the income of 35% of the population was below the poverty level. Fishing and fishing-related tourism are the two most significant sources of income for the community. The more recent 2010 U.S. Census does not include information specific to the town of La Push.

The rugged wilderness character of the area attracts travelers from throughout the northwest for activities such as sportfishing, surfing, and camping. Cabin rental and recreational vehicle parking bring tourist dollars to the local area.

3.13.1 Alternative 1 – No-Action

The No-Action Alternative poses a substantial risk to the socioeconomic well-being of the tribal community. Ocean access for fishing vessels in the marina is critical for the tribe to exercise treaty-reserved fishing rights, which is the largest source of income in La Push. Marina access also attracts recreational fishing vessels to the coastal fisheries resources thereby providing economic inputs to the La Push community. Additionally, in years when dredging has not been possible, the USCG has suggested that the Quillayute Station may have to close. The absence of the more than 30 USCG staff would remove this source of economic input to the local community.

3.13.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

The dredging project has important socioeconomic benefits for the Quileute Tribe and the town of La Push. Maintaining the navigability of the channel and boat basin, as well as providing added protection to the root of the South Jetty and Quillayute Spit would preserve the socioeconomics of the town of La Push and the Quileute Tribe by maintaining access through the navigation channel and providing sufficient depth for moorage in the marina. Tribal fishermen would be able to continue participating in local fisheries, and the Quileute Tribe would benefit from the ability to host transient mariners. The Quileute Tribe supports the placement of dredged materials on First Beach to protect the South Jetty and on Quillayute Spit to maintain protection of the town from ocean waves. Maintaining navigability for the USCG station and harbor of refuge are also important socioeconomic resources for the local area.

3.13.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

Alternative 3 would have essentially the same and perhaps slightly better effects to socioeconomic resources as Alternative 2 compared to the No-Action Alternative. Allowing an earlier start date for placement on the beach placement sites would compel more dredging contractors to bid on the project, which may have the effect of driving the price of the project downward while also ensuring greater reliability that the work would get done.

3.14 Public Health and Safety

The USCG maintains the Quillayute River Station within the boat basin of the Quileute Tribe's marina, which provides the only harbor of refuge between Neah Bay and Grays Harbor. The USCG monitors safety conditions for mariners in this locale and limits vessel traffic across the bar that forms in the entrance reach of the Federal navigation channel. As time progresses after dredging, the entrance reach of the channel fills in across the bar that forms between outgoing river flows and the tidal currents from the ocean. The USCG issues vessel restrictions for crossing the bar and occasionally must close the bar to all vessel traffic. Heavy weather and the shallow bar depth cause these dangerous conditions.

Wind speeds and wave heights are the primary parameters of concern during October through February. A storm with annual probability will have winds that exceed 55 miles per hour (mph) and a storm with 20% probability will have winds that exceed 76 mph (Ecology 2017). Wave heights on the Washington Coast are an average of 4 to 6 feet in the summer and 7 to 10 feet in the winter; storms can cause wave heights of 23 feet at sea that become 30 to 33 feet high at the shoreline (Tillotson and Komar 1997).

3.14.1 Alternative 1 – No-Action

In rough weather conditions that coincide with lower tides, the USCG must move their vessels out of the safe harbor and take up position outside the bar to be able to respond if needed for rescues. In addition, the berths for USCG rescue vessels can experience shoaling as the navigation channel fills in leaving limited options for vessel moorage and safety. The No-Action Alternative would exacerbate these conditions and would eventually cause the USCG to close this station.

3.14.2 Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates

Executing routine maintenance dredging to authorized depths would provide the USCG with full access for ingress and egress of the channel for search and rescue missions. The restriction of no beach placement of dredged materials until after 1 October has caused a lack of dredging contractors who are willing to do the work due to the risk of life and safety in winter storms on the coast. The USACE has had to initiate emergency dredging operations of a limited scope to focus on clearing shoaled material from the bar to ensure the USCG rescue operations can occur and so that tribal fishing vessels do not run aground while exercising treaty-reserved fishing rights.

3.14.3 Alternative 3 – Dredging and Beneficial Use with Longer Work Window

Alternative 3 would have essentially the same and perhaps slightly better effects to public health and safety as Alternative 2 compared to the No-Action Alternative. Allowing an earlier start date for placement on the beach placement sites would compel more dredging contractors to bid on the project, which may drive the price of the project downward while having greater reliability that the work would get done.

4 Cumulative Effects Analysis

The NEPA defines cumulative effects as the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR §1508.7).

The lower Quillayute River has endured significant hydrological modifications to support the marina, USCG station, and flood protection features to protect the town of La Push. The river has been channelized to the point that sediment is no longer naturally delivered to the adjacent ocean beaches, which exhibit signs of erosion. Past construction actions in the project area include initial construction of the boat basin and navigation channel in 1932 and Federal maintenance beginning in 1949 continuing to the present. Additional project features were constructed in 1962 and include a timber training wall 1,500 feet long with elevation at +16 feet MLLW, the South Jetty at 1,400 feet long and +15 feet MLLW, and the sea dike at James Island 1,050 feet long at +8 feet MLLW. As part of routine operations and maintenance, the navigation channel is maintained to authorized depth of -10 feet MLLW.

Actions undertaken to repair navigation features include the following:

- 1954-55: Upper spit breach repaired with sand
- 1960s: Drift logs cabled together and beach material relocated to low spots in the spit to prevent breaches

- 1960s: Dredged material from the boat basin averaging 50,000 CY per year was placed on the spit to prevent breaching but was unreliable
- 1971: 300,000 CY of sand, gravel, and cobbles were dredged from the river and deposited on the spit. Regular monitoring revealed an annual erosion rate of roughly 100,000 CY
- 1974: 50,000 tons of 10- to 1,000-pound rocks and boulders were placed along the middle 1,600 feet of the spit to reduce the growing expense of repairs
- 1981: The lower spit, south of Rock Island, received material from maintenance dredging plus an additional 39,000 tons of armor rock and spalls
- 1979: An additional 90,000 tons of the large rocks were place on the spit; repairs were made to the South Jetty
- 1982: The USACE added 56,000 tons of spalls and larger armor rock on the spit to extend the protection longer than the estimated four to five years; repairs were made to the South Jetty
- 1982-96: Through routine maintenance dredging of the navigation channel, material was placed on the portion of the spit that had not been armored with large rocks
- 1996: A winter storm caused an 800-foot breach in the spit north of the previously placed armoring. The USACE repaired the breach with 205,000 tons of armor rock along a 1,900-foot section of the spit with a riprap toe on the riverside of the spit to prevent undermining of the armoring by river currents
- 2000: The USACE repaired the South Jetty
- 2012 and 2014: Stockpiled dredged material was placed at First Beach to prevent a breach in the South Jetty
- 2016: The USACE repaired a breach in the Quillayute jetty and replaced planks in the timber training wall at the marina

Construction and repair of navigation features described above is linked to a loss of 6.8 acres of beach habitat, 3.4 acres of beach grass, 2.8 acres of sandbar, and a gain of 7.6 acres of rocky habitat (SAIC 2003). However, these habitat losses can also be linked to activities in the upper watershed such as past forestry practices that caused unnatural rates of sedimentation and erosion. The only near-term USACE action anticipated to occur at the Quillayute River Navigation Channel project site includes potential repair of the sea dike to authorized height of +8 feet MLLW, and continued maintenance dredging of up to 100,000 cy every other year.

Dredging quantities of the past 25 years appear in Table 3. The average quantity dredged is 59,250 cy and the greatest amount dredged in this period occurred in 1995 when 89,496 cy were removed. While quantity of shoaling might be decreasing, the USACE has analyzed impacts of dredging and placement of 100,000 cy to account for a worst case scenario.

Table 3. Quantities dredged from the Quillayute Navigation Channel and boat basin by year for the past 25 years.

Year of dredging	Quantity (in cubic yards)
1993	51,349
1995	89,496
1998	53,461
1999	83,089
2003	33,821
2007	56,067
2009	60,254
2011	58,960
2015	46,751

The proposed episodes of maintenance dredging and placement would cause a temporary effect to biological functions and minor, temporary loss of benthic invertebrates, but would maintain authorized depths. In consideration of past developments still in existence in the Quillayute estuary, and the limited amount of known future alterations, the proposed routine maintenance of the Federal navigation channel with associated placement sites is not a significant addition to cumulative impacts at the mouth of the Quillayute River. Beneficial use of dredged material at the nearshore zone placement sites is a countervailing effect to the impacts of constructing jetties at the mouth of the river. The short-term disruption of dredging is outweighed by the assumed long-term benefit of providing stabilizing material to the jetties to help reinforce against erosive forces and avoiding further introduction of non-native rock material into the natural beach environment. The USACE therefore concludes that there would be no significant contribution to cumulative effects associated with the proposed maintenance dredging and placement actions.

5 Conservation Measures

The primary conservation measure concerns the timing of in-water work and placement of dredged materials. Dredging would only occur within the allowed in-water work window for the protection of juvenile salmon and spawning surf smelt. A secondary conservation measure is to dredge as infrequently as possible. The shoaling rate for the past several decades has necessitated sediment removal at least from the bar reach of the outer channel every 2 years. Dangerous conditions develop when it is dredged less frequently and becomes too shallow for the larger vessels. The proposed action includes several measures that would be employed to avoid and minimize any adverse effects, including the following:

a. All dredging would occur during the in-water work window coordinated with the Quileute Tribe and WDFW to protect salmon and forage fish.
b. No work would occur during the spring months when macroalgae are most susceptible to harm from increases in turbidity.
c. All work would occur in areas previously disturbed by the navigation project; no new dredging of greater widths or depths would occur.
d. Turbidity would be visually monitored during construction, and the contractor would adhere to the conditions in the water quality certification.

e. Delivery of the bulldozer would avoid disturbance of marbled murrelets by scheduling the arrival of the bulldozer to occur between 0900 and 1700 at the Rialto Beach parking area. The bulldozer would then be driven greater than 0.25-mile away for the duration of dredging and placement.
f. For placement of sediment at First Beach, all large wood pieces would be moved out of the placement zone and then replaced on the beach after sediment placement to maintain their availability as a resource in the nearshore zone.

6 Coordination

The USACE has coordinated with Federal and state agencies and tribes regarding maintenance dredging of the Quillayute Navigation Channel. Coordination would continue through the period of proposed maintenance dredging through 2024 to notify regulatory agencies, stakeholders, and adapt to changing conditions. During the development of this EA, the USACE consulted and coordinated with the following entities and agencies:

- Quileute Indian Tribe
- U.S. Environmental Protection Agency
- National Park Service
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- Washington Department of Archaeology and Historic Preservation
- Washington Department of Fish and Wildlife
- Washington Department of Natural Resources
- Washington Department of Ecology

7 Environmental Compliance

The USACE has analyzed the environmental effects of the alternatives and the following sections describe how the preferred alternative complies with all pertinent environmental laws and executive orders.

7.1 National Environmental Policy Act

The National Environmental Policy Act (NEPA) (42 U.S.C. §4321 et seq.) commits Federal agencies to considering, documenting, and publicly disclosing the environmental effects of their actions and to solicit public comment on the proposal. As required by NEPA, this EA describes existing environmental conditions in the project area, the proposed action and alternatives, potential environmental effects of the proposed project, and measures to minimize environmental effects. Alternative 3 is the agency preferred alternative. The USACE is published the Draft EA for a 30-day public comment period per NEPA requirement. The USACE received no comments on the Draft EA and has prepared a Finding of No Significant Impact.

7.2 Endangered Species Act

The Endangered Species Act (16 U.S.C. §1531-1544), Section 7(a) requires that Federal agencies consult with NMFS and USFWS, as appropriate, to ensure that proposed actions are not likely to jeopardize the

continued existence of endangered or threatened species or adversely modify or destroy their critical habitats. The USACE has determined that the preferred alternative will have no effect to any ESA-listed species or designated critical habitat and has prepared documentation of this determination. Based on coordination with NMFS and USFWS, the USACE has determined it need not request consultation on this "no effect" determination. Documentation of the analysis is included as Appendix B.

7.3 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) of 1972 (16 U.S.C. §1361-1407) restricts harassment of marine mammals and requires interagency consultation in conjunction with the ESA consultation for Federal activities. All marine mammals are protected under the MMPA regardless of whether they are endangered, threatened, or depleted. Marine mammal species that have been observed in the action area include harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), and killer whale (*Orcinus orca*) far offshore.

The primary concern for marine mammals in dredging projects is underwater noise from construction. The USACE has compared the estimated noise from dredging and the guidance on assessing impacts and concluded that there is no requirement for an Incidental Harassment Authorization.

7.4 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), (16 U.S.C. §1801 et. seq.) requires Federal agencies to consult with NMFS on activities that may adversely affect Essential Fish Habitat (EFH). The objective of an EFH assessment is to determine whether the proposed action(s) "may adversely affect" designated EFH for relevant commercial, federally managed fisheries species within the proposed action area. The assessment also describes conservation measures proposed to avoid, minimize, or otherwise offset potential adverse effects to designated EFH resulting from the proposed action.

The project area has been designated as Essential Fish Habitat (EFH) for various life stages of 50 species of groundfish, 5 coastal pelagic species, and 2 species of Pacific salmon. The USACE has determined that the proposed action would not reduce the quality and/or quantity of EFH for Pacific salmon, coastal pelagic, and groundfish EFH and no adverse effects to EFH are expected to result from the proposed action. The USACE submitted this determination to NMFS in June 2009. NMFS responded with the conservation measure of dredging "as infrequently as possible to prolong the periods between disruption of sediments and loss of benthic invertebrates that are prey items for several EFH species." The USACE accepted this conservation measure and responded in July 2009 that the requirement is met by dredging every two years or less, rather than every year. The USACE consulted again in February 2014 and received the same determination on 3 March 2014. Upon further coordination between agencies, NMFS informed the USACE that there is no further need for consultation under EFH unless there is a change to the proposed action such as timing, area, depth, or frequency of dredging. The expansion of placement Site B does not affect any additional EFH that was not already consulted upon.

7.5 Clean Water Act

The Clean Water Act (33 U.S.C. §1251 et seq.) establishes a Federal policy of protecting the waters of the U.S. Corps regulations implementing the Act require selecting the means of placement of dredged or fill material into water that, after considering all reasonable and practicable alternatives, represents the least

costly alternative that is consistent with sound engineering practices and meets the environmental standards of the Section 404(b)(1) evaluation guidelines. The sections of the Clean Water Act that apply to the proposal are 401 regarding discharges to waterways and 404 regarding fill material in waters and wetlands.

Section 401

Any project that involves placing dredged or fill material in waters of the U.S. or wetlands, or mechanized clearing of wetlands, requires a water quality certification from EPA or the state agency as delegated by EPA. For this project on tribal land, EPA has authority for Section 401 compliance. The USACE coordinated with EPA to certify that the proposed Federal action would not violate established water quality standards. The USACE submitted documentation necessary for EPA's individual 401 review. The EPA provided a 401 Water Quality Certification on June 7, 2017.

Section 404

Under the "Federal standard" implementing Section 404, no discharge of dredged or fill material may take place unless it can be demonstrated that disposal would occur in the least costly, environmentally acceptable manner, consistent with engineering requirements established for the project. To comply with Section 404, it is necessary to avoid negative effects to waters of the U.S. wherever practicable, minimize effects where they are unavoidable, and compensate for effects in some cases. The USACE has prepared a Section 404(b)(1) Evaluation and public interest review, which appears in Appendix A. The findings are that there would be no significant adverse effects to aquatic ecosystems functions and values and that this project is within the public interest. The incremental difference between Alternatives 2 and 3 is so minimal that they can be considered equivalent in terms of environmental impacts; therefore, either could be considered an environmentally acceptable practicable alternative. Alternative 2 was not designated as preferred due to the opportunity to further improve safety for dredging contractors, reduce risk of grounding vessels, and reduce costs by increasing incentive to bid on the project, and gain greater reliability that the project can be completed prior to winter storms with Alternative 3.

7.6 Coastal Zone Management Act

The Coastal Zone Management Act of 1972 as amended (16 U.S.C. §1451-1464) requires Federal agencies to conduct activities in a manner that is consistent to the maximum extent practicable with the enforceable policies of the approved State Coastal Zone Management Program. The Clallam County Shoreline Master Program update is underway with no specific date announced for finalization. The USACE is substantively consistent with the enforceable polices of the Clallam County Shoreline Master Program and provided documentation of this through a general consistency determination submitted to Ecology in March 2017 (see Appendix C). Ecology responded with a letter of concurrence on June 22, 2017.

7.7 National Historic Preservation Act

Section 106 of the National Historic Preservation Act (16 USC 470) requires Federal agencies to take into account the effects of proposed federal undertakings historic properties included or eligible for the National Register of Historic Places. The implementing regulations for Section 106 (36 C.F.R. § 800) requires Federal agencies to consult with various parties, including the Advisory Council on Historic Preservation, the State Historic Preservation Office (SHPO), and Indian tribes, to identify and evaluate historic properties, and to assess and resolve effects to historic properties.

The Corps has consulted with the Washington SHPO and the Quileute Tribe (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 effect (APE), and consultation with the SHPO and the Tribe, the Corps determined that there are no historic properties located within the APE and found there would be no historic properties affected by the continued maintenance dredging of the Quillayute River navigation channel. An initial letter to document the APE was sent to SHPO on February 21, 2017. The SHPO agreed with the Corps' determination of the APE on February 27, 2017. The Corps previously requested knowledge and concerns from the Quileute Tribe on the proposed APE on September 11, 2013. The Tribe did not comment. The Corps submitted its finding that there would be no historic properties affected to SHPO on May 26, 2017. SHPO agreed with the Corps' finding in a letter dated May 30, 2017.

7.8 Clean Air Act

The Clean Air Act (CAA) as amended (42 U.S.C. §7401, et seq.) prohibits Federal agencies from approving or conducting any action that does not conform to an approved state, tribal, or Federal implementation plan. Under the CAA General Conformity Rule (Section 176(c)(4)), Federal agencies are prohibited from approving any action that causes or contributes to a violation of a NAAQS in a nonattainment area. According to 40 CFR Section 93.153 (c)(2)(ix), the requirement for a conformity determination is waived where the proposal will result in a clearly *de miminis* increase in emissions, as long as the project involves maintenance dredging and disposal operations in which no new depths are required and approved disposal sites are used. The proposed action is maintenance dredging and placement at approved sites with no new widths or depths, in an attainment area where no more than *de minimis* increase in emissions would be generated, and is therefore exempt from the requirement for a General Conformity Determination.

7.9 Native American Tribal Treaty Rights

In the mid-1850s, the United States entered into treaties with many Native American tribes in the Northwest. These treaties guaranteed the signatory tribes the right to "take fish at usual and accustomed grounds and stations . . . in common with all citizens of the territory" [*U.S. v. Washington*, 384 F. Supp. 312 at 332 (WDWA 1974)]. In *U.S. v. Washington*, 384 F. Supp. 312 at 343 - 344, the court resolved that the Treaty tribes had the right to take up to 50 percent of the harvestable anadromous fish runs passing through those grounds, as needed to provide them with a moderate standard of living (Fair Share). Over the years, the courts have held that this right comprehends certain subsidiary rights, such as access to their "usual and accustomed" fishing grounds. More than *de minimis* effects to access to usual and accustomed fishing area may violate this treaty right [*Northwest Sea Farms v. Wynn*, F. Supp. 931 F. Supp. 1515 at 1522 (WDWA 1996)]. In *U.S. v. Washington*, 759 F.2d 1353 (9th Cir 1985) the court indicated that the obligation to prevent degradation of the fish habitat would be determined on a case-by-case basis. The Ninth Circuit has held that this right encompasses the right to take shellfish [*U.S. v. Washington*, 135 F.3d 618 (9th Cir 1998)].

The Quileute Indian Tribe has had representation in this process through coordination with the USACE on matters involving frequency and areas of dredging to maintain navigability of the marina and access to ocean fisheries. Additionally, the USACE has consulted with tribal biologists regarding avoiding impacts to tribal fisheries resources. The tribe has expressed support for maintenance of the authorized depths of

the navigation channel and for beneficial use of dredged material to reduce erosion of the Quillayute Spit and the South Jetty with placement of sediment at Site B and Site A, respectively.

The Corps has concluded the following:

(1) The work protects access to usual and accustomed fishing and gathering areas;

(2) The work will not cause the degradation of fish runs in usual and accustomed fishing grounds or with fishing activities or shellfish harvesting and habitat; and

(3) The work will not impair the Treaty tribes' ability to meet moderate living needs.

7.10 Migratory Bird Treaty Act and Executive Order 13186 Migratory Bird Habitat Protection

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. will take measures to protect identified ecosystems of special importance to migratory birds against pollution, detrimental alterations, and other environmental degradations. EO 13186 directs Federal agencies to evaluate the effects of their actions on migratory birds, with emphasis on species of concern, and inform the USFWS of potential negative effects to migratory birds.

Implementation of the preferred alternative would not have any direct and deliberate negative effects to migratory birds: there would be no adverse effect on habitat and the project would 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 the Quillayute River estuary. Dredging is scheduled to occur after the critical nesting period.

7.11 Executive Order 13175 Consultation and Coordination with Indian Tribal Governments

Executive Order 13175 (November 6, 2000) reaffirmed the Federal government's commitment to a government-to-government relationship with Indian tribes, and directed Federal agencies to establish procedures to consult and collaborate with tribal governments when new agency regulations would have tribal implications. The USACE has a government-to-government consultation policy to facilitate the interchange between decision makers to obtain mutually acceptable decisions. In accordance with this Executive Order, the USACE has engaged in regular and meaningful consultation and collaboration with the federally recognized tribe in the project area, the Quileute Indian Tribe.

7.12 Executive Order 12898, Environmental Justice

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" provides that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. Environmental justice concerns may arise from impacts on the natural and physical environment, such as human health or ecological impacts on minority populations, low-income populations, and Indian tribes or from related social or economic impacts.

The USACE evaluated the nature and location of the proposed construction site and used the EPA Environmental Justice Viewer to determine whether minority populations, low-income populations, or Indian tribes are present in the action area and may be affected. The USACE has analyzed the potential effects of the alternatives on communities within a 3-mile radius of the proposed action and found that there would be no disproportionately high and adverse human health impacts to any environmental justice communities. The Quileute Indian Tribe has expressed support for the project.

7.13 Executive Order 11990, Protection of Wetlands

Executive Order 11990 entitled Protection of Wetlands (May 24, 1977) requires Federal agencies to take action to avoid adversely impacting wetlands wherever possible, to minimize wetlands destruction and to preserve the values of wetlands, and to prescribe procedures to implement the policies and procedures of this Executive Order. The preferred alternative of staggered start dates of dredging with beneficial use of dredged material would have no effect to any tidal wetlands, as dredging would maintain existing conditions and the placement sites are sufficiently distant so as not to influence any wetlands.

8 Public Interest Evaluation Factors for Maintenance Dredging Activities

The USACE conducted an evaluation of the dredging and placement activity in light of the public interest factors prescribed in 33 CFR 336.1(c). These factors include: navigation and the Federal standard for dredged material disposal; water quality; coastal zone consistency; wetlands; endangered species; historic resources; scenic and recreation values; fish and wildlife; marine sanctuaries; and applicable state/regional/local land use classifications, determinations, and/or policies. Of these, navigation and the Federal standard, water quality, coastal zone consistency, wetlands, endangered species, historic resources, scenic values, recreational values, and fish and wildlife have been evaluated in this EA. The factor of marine sanctuaries established under the Ocean Dumping Act has been considered; the USACE has consulted with staff from the Olympic Coast National Marine Sanctuary and there are no sanctuary effects of dredging or placement. The factor of application of non-Federal land use policies was considered in connection with the coastal zone consistency evaluation; no additional impacts to state/regional/local land use classifications, determinations, and/or policies are anticipated as the project would maintain a federally authorized channel that is already used for vessel traffic.

In accordance with 33 CFR 337.1(a)(14) and 325.3(c)(1), the USACE considered the following additional relevant factors:

- Conservation: This action would entail maintenance dredging, and would not involve any new channel construction or change to channel depths. The effects on fish and wildlife, including marine mammals and ESA-listed species, have been fully evaluated. This project would conserve dredged material as a resource as beneficial use in the nearshore zone to return the sediments to the littoral system.
- Economics: As reflected in this EA, the local community relies on the availability and full utility of the channel, the use of which this action would perpetuate. The preferred alternative is the least costly alternative that would meet the project's purpose and need. The economic benefits

afforded through accomplishing maintenance dredging to the authorized depths outweigh the Federal costs of the action and the costs the region would incur with an eventual return to the pre-construction conditions that would ensue under the No-Action Alternative.

- Shoreline erosion and accretion: The effects on shoreline erosion and accretion appear in the hydraulics and geomorphology section of this EA. Overall, the proposed placement sites would reduce negative effects of shoreline erosion.
- Safety: Maintenance dredging to the authorized depths and providing a navigable waterway for the safe and efficient transit of commercial, tribal, and recreational vessels serves the interests of safety.
- Property ownership: Maintaining use of the navigation channel provides full utilization of the private vessel ownership interests by tenants of and visitors to the small boat basin adjacent to the channel.

As provided in 33 CFR Sections 335.4, 336.1(c)(1) and 337.6, the USACE has fully considered, on an equal basis, all alternatives that are both reasonable and practicable, i.e., available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. The necessary budget resources are available and adequate to fully support the action. The preferred alternative represents the least costly alternative, constituting the discharge of dredged or fill material into waters of the United States in the least costly manner and at the least costly and most practicable location, is consistent with sound engineering practices, and meets the environmental standards established by the Clean Water Act Section 404(b)(1) evaluation process. Execution of the preferred alternative, following consideration of all applicable evaluation factors, would be in the public interest.

9 Summary

As described, the proposed Federal action of dredging for channel maintenance with placement of dredged materials at Site A, Site B, and First Beach would not have significant impacts to the environment of the Quillayute River estuary and Pacific Ocean beaches. Adhering to the in-water work window and limiting work to the designated project footprints is sufficient to avoid significant impacts to natural resources. As needed, the USACE would conduct periodic sampling and analysis of the sediments to be dredged to assure continued suitability for unrestricted aquatic disposal, and in light of the historic record of determinations expects test results to continue supporting aquatic and beach placement. The DMMP agencies have approved a recency extension through February 2018. If negative test results are obtained in future sediment testing, the USACE would reopen this EA and its conclusion and reevaluate the finding of no significant impact (FONSI) as necessary. The USACE has achieved full compliance with all environmental laws including ESA, CWA, and CZMA and has documented this compliance in the FONSI.

10 References

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Final Environmental Assessment
and Clean Water Act, Section 404 Public Interest Review
Quillayute River Federal Navigation Channel Maintenance
Dredging and Placement 2017-2024

Appendix A

Clean Water Act Section 404(b)(1) Evaluation

Quillayute River Federal Navigation Project
Maintenance Dredging
La Push, Clallam County, Washington

Substantive Compliance for
Clean Water Act, Section 404(b)(1) Evaluation

1. Introduction. The purpose of this document is to record the evaluation and findings regarding this project pursuant to Section 404 of the Clean Water Act (CWA).

The following action is covered by this document: routine maintenance dredging of the Quillayute River Federal Navigation Channel and boat basin with placement of dredged sediments at Site B and First Beach designated placement sites and the return water from the Site A sediment placement area. Work will be conducted at the direction of the U.S. Army Corps of Engineers (USACE). The proposed action is for maintenance dredging of approximately 100,000 cubic yards (cy) once every 2 years from the navigation channel and the boat basin, which are maintained at -10 feet below mean lower low water (MLLW). Dredging occurs with a hydraulic pipeline dredge that would be able to move approximately 1,500 cy of material per day and complete the project within roughly 60 days, weather permitting; however, the work may take up to 120 days due to winter storms on the Washington Coast. Dredge years are anticipated to be 2017, 2019, 2021, and 2023 and the full duration of the fish work window that closes 1 March each year. This document is intended to cover the period from fall 2017 to 1 March 2024 to allow for the possibility that dredging may be required throughout the work window to complete the work that starts in fall 2023.

The information contained in this document reflects the findings of the project record. Specific sources of information included the following:

a. U.S. Army Corps of Engineers. 1986. Final Environmental Impact Statement – Quillayute River Navigation Project Operations and Maintenance. U.S. Army Corps of Engineers, Seattle District.
b. CWA, 404(b)(1) Evaluation (see below).
c. Public Interest Review (see below).

This document addresses the substantive compliance issues of the Clean Water Act 404(b)(1) Guidelines [40 CFR §230.12(a)] and the Regulatory Program of the Corps of Engineers [33 CFR §320.4(a)].

2. Description of the Proposed Discharge. The Quillayute River Federal Navigation Channel is located at the town of La Push in Clallam County, Washington. The town of La Push is wholly within the Quileute Indian Tribe's reservation land on the northwest coast of the Olympic Peninsula. Public Notice CENWS-PM-ER-17-04 and the Environmental Assessment, Quillayute River Federal Navigation channel Maintenance Dredging and Placement 2017-2024, dated March 2017, describe the maintenance dredging of the authorized channel and boast basin and beneficial use of the sediments.

Placement is proposed for 3 placement sites around the vicinity of the navigation channel; these are Site A, Site B, and First Beach. Site B and First Beach placement sites are located in the

nearshore zone; Site A is an upland site. Dredging is by hydraulic dredge allowing direct placement of material onto beneficial use sites.

Site B is approximately 3,000 feet long, 75 feet wide, with an area of approximately 6 acres. The USACE expects to place approximately 85,000 cy per dredge episode within Site B. Dredged material placement is typically via hydraulic pipeline dredge with the outlet just over the crest of the jetty armoring and above mean higher high water (+8.45 feet MLLW at this location) to minimize suspended sediment in the water. Material that enters the water directly, primarily during higher tides, moves along by longshore currents and deposits in the intertidal zone further down current to the north. The contractor uses a bulldozer to place the pipeline at the correct location for placement and for grading the sediment to natural beach profiles. The focus for each placement event would be limited to those areas identified as in need of nourishment. Placement at Site B would keep riverborne material within the nearshore environment. The fate of the material would enhance the shoreline in the drift cell down current (northward) of the placement site and buttress the protective spit.

Site A is a 1.75-acre site on the Quileute Tribe's reservation at the southwest corner of the town of La Push. The area used for material placement has capacity for approximately 15,000 cy per placement episode. Dredged material is placed via hydraulic pipeline dredge. The contractor uses a bulldozer and/or excavator to create a suitably sized basin and then uses the onsite material to surround the basin with a berm. The basin inside the berm would be of sufficient size to allow turbid water to settle, before allowing the water to return to the Quillayute River through an outfall weir that directs the clean water onto riprap to prevent shoreline erosion.

The area of the First Beach site is 1.51 acres. Up to 15,000 cy of dredged material is pushed onto the sloped bank at First Beach with a bulldozer. Once fully drained of water, the dredged material is transported over the top of the bank at First Beach down to where it intersects the shoreline, not to extend below MLLW. A bulldozer grades the material to a slope varying between 5:1 and 20:1 depending on height of the bank and quantity of available material. Material that has dewatered at Site A would be placed at the discretion of the USACE onto First Beach to protect the root of the South Jetty that erodes during coastal storm events. Once in place, the material moves with natural erosive forces (wave action and longshore currents) to assume its final contours and sediment gradations. The material placed consists of sand with a small fraction of gravel and cobble from the outer river channel.

3. Project Need. Maintenance dredging of the navigation channel is needed because of the shoaling of riverborne sediments that reduce the depth of the channel especially across the bar at the mouth of the river. The rate of accretion of sediment requires removal approximately every 2 years to achieve adequate depth for safe navigation. The U.S. Coast Guard and tribal fishing vessels are the primary users of this channel.

4. Project Purpose. The purpose of the action is to provide for safe navigation and moorage by maintaining the authorized depth of -10 feet MLLW plus two feet of allowable overdepth, and to maintain the USCG moorage slips to provide adequate depth for vessels. The purpose for placement at the two beneficial use sites is to keep estuarine sediments in the natural system for beach nourishment and to add material to the Quillayute Spit and South Jetty structural navigation features to reduce risk of breaching.

5. Availability of Less Environmentally Damaging Practicable Alternatives to Meet the Project Purpose. The alternatives evaluated for this project were as follows:

a. *Alternative 1 (No Action)*. The No-Action Alternative is analyzed as the future without-project conditions for comparison with the action alternatives. If the USACE takes no action to clear shoaling sediment from the Quillayute River channel and boat basin, this would cause continued shoaling posing a risk to the USCG's ability to carry out rescue missions, and to recreational boaters and commercial fishermen who may run aground when transiting the channel. Eventually, access to the marina would be unavailable. Discontinuing the present maintenance-dredging program would cause the Quillayute River Channel to shoal, preventing passage of most vessels. This would have significant economic effects to the Quileute Tribe at the town of La Push, and the USCG has stated that they would likely have to close this station. This alternative would not meet the project purpose and need, but is carried forward for evaluation purposes.

b. *Alternative 2 – Dredging and Beneficial Use with Staggered Start Dates*. This alternative is as described in Section 2 Project Background. The regulated placement is at Site B and First Beach as well as the runoff from material contained at upland Site A.

The established work window has staggered start dates based on an agreement between the USACE and the Washington Department of Fish and Wildlife (WDFW), National Park Service (NPS), the Environmental Protection Agency (EPA), and the Quileute Tribal Natural Resource Managers. The proposed start date for dredging is 1 September for material dredged from the outer channel for placement of up to 15,000 cy at Site A. Dredging of the inner channel and boat basin may commence 1 October with placement of approximately 85,000 cy at Site B. Placement of material at Site B and First Beach may not begin until after 1 October of any year to protect surf smelt spawning habitat.

c. *Alternative 3 – Dredging and Beneficial Use with Longer Work Window.* All dredging and placement actions for Alternative 3 would be identical to those described in Alternative 2 with the exception of the start date for dredging the inner channel and boat basin, which would be allowed to commence on 1 September with placement at Site B rather than waiting until 1 October. The reason for waiting until 1 October is to reduce risk for impacts to the surf smelt population that spawns along Rialto Beach. To begin dredging and placement at Site B on 1 September would mean accepting some greater risk of disturbance to surf smelt habitat. That risk for potential negative effects to surf smelt spawning is weighed against benefits of increasing the work window to include a month of calmer weather on the Washington Coast for maintenance dredging activities.

Findings. The USACE rejected Alternative 1 because it would not meet the project purpose and need. Alternative 2 is the least environmentally damaging practicable alternative that meets the purpose and need; however, the incremental difference between Alternatives 2 and 3 is so minimal that they can be considered equivalent in terms of environmental impacts. Therefore, either could be considered the least environmentally damaging practicable alternative. Alternative 2 was not selected due to the opportunity to improve safety for dredging contractors, reduce risk of grounding vessels, reduce costs by increasing incentive to bid on the project, and gain greater reliability that the project can be completed prior to winter storms with Alternative 3.

6. Significant Degradation, Either Individually or Cumulatively, to the Aquatic Environment

a. *Impacts on Ecosystem Function*. The runoff from Site A containment area is clean water that drains from the dredged material, which has been determined suitable for aquatic disposal and will be tested again prior to dredging. The basin inside the berm allows turbid water to settle before allowing the water to return to the Quillayute River through an outfall weir that directs the clean water onto riprap to prevent shoreline erosion. The material placed at First Beach would come from Site A consisting of the coarser outer entrance channel material that has drained of water. Once transported onto First Beach, this clean material would integrate with the natural profile and composition by summer. The USACE anticipates receiving a water quality certification from the EPA and would comply with all required conditions associated with the discharge of dredged or fill material into waters of the U.S. contained in the certification. No release of contaminants is expected due to the clean nature of the material. Based on the short-term, minor effects to water quality, there would be no significant impact to this resource.

Material that is pumped to Site B during active dredging exits a pipeline as a slurry and falls onto the beach as a mix of sand and water. During most tide levels, the sediment falls onto the beach surface and the water quickly drains into the coarse sediment of the beach. During higher tide levels, the slurry of sand and water often mixes with ocean water as the waves run up the beach. This can generate a small visible turbidity plume during the hour the tide reaches this height; however, the power of ocean waves moves vast quantities of sediment around the beach creating wide areas of visible turbidity even when no dredging is occurring. Therefore, the minor amount of dredged material entering the water for the short duration of high tide is not considered a significant effect.

b. *Impacts on Recreational, Aesthetic and Economic Values*. No significant adverse effects on recreation, aesthetics, or the economy are anticipated.

Findings. The USACE has determined that there would be no significant adverse effects to aquatic ecosystem functions and values.

7. Appropriate and Practicable Measures to Minimize Potential Harm to the Aquatic Ecosystem

a. *Impact Avoidance Measures*. The primary avoidance measure concerns the timing of in-water work and placement of dredged materials. Dredging would only occur within the allowed in-water work window for the protection of juvenile salmon and spawning surf smelt. Avoiding dredging in the springtime also prevents introducing turbidity into kelp beds during a sensitive time of year. Another avoidance measure is to dredge as infrequently as possible; the USACE schedules dredging to occur every other year rather than every year.

b. *Impact Minimization Measures*. The USACE will minimize impacts to marbled murrelets by observing a Limited Operations Period in which the bulldozer will be delivered to Quillayute Spit during the daytime when the birds are least likely to be disturbed by the activity. The bulldozer will move farther than 0.25 mile away to minimize noise that could disturb birds on nests. Additionally, the USACE will minimize dredging by not

adding width or depth to the maintenance area footprint. Dredging and placement will occur farther than 0.25 mile away from the nearest suitable nest site.

c. *Compensatory Mitigation Measures*. There will be no compensatory mitigation measures because the work will not have more than a negligible change to any habitat characteristics. The placement of dredged material will occur at areas that have previously received fill material and will emulate the natural sediment transport process that has been interrupted by stabilization and armoring of the Quillayute Spit and South Jetty. Placement of the dredged material is expected to maintain and enhance surf smelt spawning habitat as the material enters the littoral drift cells along the beaches.

Findings. The USACE has determined that all appropriate and practicable measures have been taken to minimize potential harm. There are no practicably available placement alternatives that would be less costly and still be consistent with engineering and environmental requirements, while meeting the project need for disposition of dredged material.

8. Other Factors in the Public Interest.

a. *Fish and Wildlife*. The USACE is coordinating with State and Federal agencies, as well as the Quileute Tribe, to assure careful consideration of fish and wildlife resources. The USACE prepared an analysis of effects to threatened and endangered species in accordance with the ESA. The USACE will assure full compliance with the ESA prior to and during project implementation.

b. *Water Quality*. The USACE will obtain a Section 401 Water Quality Certification from the EPA. The USACE will abide by the conditions in the Water Quality Certification to ensure compliance with State water quality standards.

c. *Historic and Cultural Resources*. Since the proposed dredging is confined to the removal of recently deposited sediments within the previously dredged channel width and depth boundaries, no submerged cultural resources will be affected by the project.

d. *Activities Affecting Coastal Zones*. The USACE is substantively consistent with the enforceable polices of the Clallam County Shoreline Master Program and provided documentation of this consistency determination to Ecology in March 2017.

e. *Environmental Benefits*. Placement of dredged materials at Site B at and First Beach would keep riverborne material within the nearshore environment. The material would enhance the shoreline in each drift cell down current of the placement sites. The dredged material is the same grain size distribution as the material at the placement sites. Adding sediment to the erosional zones will reduce the need for adding less natural material such as riprap for reinforcement of the navigation structures.

f. *Navigation*. A minor, temporary disruption of navigation traffic may result from dredging and placement operations. A “Notice to Mariners” will be issued before dredging and placement operations are initiated. The action will have an overall benefit for navigation by returning the Federal navigation channel to its authorized depth. This allows vessel

entry and exit to the USCG station and marina and reduces the number of times each winter that the bar is closed for navigation during storms.

Findings. The USACE has determined that this project is within the public interest based on review of the public interest factors.

9. **Conclusions**. Based on the analyses presented in the Environmental Assessment, as well as the following 404(b)(1) Evaluation and General Policies analysis, the USACE finds that this project complies with the substantive elements of Section 404 of the Clean Water Act.

404(b)(1) Evaluation [40 CFR §230]

Potential Impacts on Physical and Chemical Characteristics (Subpart C)

1. **Substrate [230.20]** The surface substrate at Site B and First Beach placement sites consists of sand, gravel, and cobbles. Dredged materials placed at these sites will be similar particle size and will integrate with the natural beach sediments. Placement is considered a beneficial use to maintain the characteristics of the forage fish spawning habitat. Runoff from Site A sediment containment area will be clean water directed onto riprap to prevent erosion of riverbank substrate.

2. **Suspended Particulate/Turbidity [230.21]** The discharge of dredged material at Site B will result in a temporary increase in turbidity and suspended particulate levels only during high tides when the effluent reaches the ocean water. The material will rapidly sink to the bottom, while a small percentage of finer material is expected to remain in suspension. Increases in turbidity associated with placement operations will be minimal (confined to the areas in the immediate vicinity of the placement site) and of short duration (currents will disperse any suspended material within hours of placement). Material placed at First Beach will be dewatered at Site A prior to placement and is therefore not expected to cause noticeable turbidity. Runoff from Site A will be clean water because sediment will have settled out from the water before the water flows through the weir structure. No turbidity is anticipated from Site A runoff water.

3. **Water Quality [230.22]** No significant water quality effects are anticipated. The material placed at First Beach would come from Site A consisting of the coarser outer entrance channel material that has dewatered. Once transported onto First Beach, this clean material would integrate with the natural profile and composition by summer. The USACE anticipates receiving a water quality certification from the EPA and would comply with all required conditions associated with the discharge of dredged or fill material into waters of the U.S. contained in the certification. No release of contaminants is expected due to the clean nature of the material. Based on the short-term, minor effects to water quality, there would be no significant impact to this resource. Material that is pumped to Site B during active dredging exits a pipeline as a slurry and falls onto the beach as a mix of sand and water. During most tide levels, the sediment falls onto the beach surface and the water quickly drains into the coarse sediment of the beach. During higher tide levels, the slurry of sand and water often mixes with ocean water as the waves run up the beach. This can generate a small visible turbidity plume during the hour the tide reaches this height; however, the power of ocean waves moves vast quantities of sediment around the beach creating wide areas of visible turbidity even when no dredging is occurring. Therefore, the minor amount of dredged material entering the water for the short duration of high tide has a negligible effect to water quality. Prior to placement, all of the sediments will have been tested and approved for open water placement under the guidelines of the Dredged Material Management Program (DMMP) administered by the USACE, EPA, Ecology, and Washington Department of Natural Resources. Any material that does not meet DMMP guidelines will be disposed of in an approved upland disposal site and thus will not affect water quality. The runoff from Site A containment area is

clean water that drains from the dredged material, which has been determined suitable for aquatic disposal and will be tested again prior to dredging. Sediment will have settled out from the water before the water flows through the weir structure. No change to water quality is anticipated.

4. **Current Patterns and Water Circulation [230.23]** The placement of material will not obstruct flow, change the direction or velocity of water flow/circulation, or otherwise change the dimensions of the receiving water body.

5. **Normal Water Fluctuations [230.24]** The placement of material will not impede normal tidal fluctuations. The receiving sites are along the shoreline of the Pacific Ocean. Runoff from Site A is not of a quantity that could affect water fluctuations.

6. **Salinity Gradients [230.25]** The placement of material will not divert or restrict tidal flows and thus will not affect salinity gradients.

Potential Impacts on Biological Characteristics of the Aquatic Ecosystem (Subpart D)

1. **Threatened and Endangered Species [230.30]** Pursuant to Section 7 of the ESA, the USACE analyzed potential effects of placement at Site B and First Beach placement sites and runoff from Site A on protected species. The USACE has determined that the preferred alternative will have no effect to any ESA-listed species or critical habitat and has prepared documentation of this determination. Based on coordination with NMFS and USFWS, the USACE has elected not to request consultation on this "no effect" determination. Documentation of the analysis is an appendix to the EA.

2. **Aquatic Food Web [230.31]** Turbidity associated with placement operations may interfere with feeding and respiratory mechanisms of benthic, epibenthic, and planktonic invertebrates. Placement of dredged material at Site B and First Beach would cause mortality of invertebrates present in the narrow strip of beach habitat where material lands. Larger organisms such as crabs would be able to flee the area and are rarely observed at the higher tide elevations where the sediment is placed. Sediments would be the same type and coarseness as those already present in the beneficial use sites and the depth of the total habitat area available would not change. In a relatively short period, organisms would reestablish in the placement area due to recruitment from adjacent non-disturbed areas. Based on these factors, effects to benthic invertebrate populations and their habitat at the placement sites would be minor and discountable. Potential effects of placement operations on salmonids will be reduced and/or avoided through implementation of timing restrictions. Placement of dredged material may risk a low level of disturbance to spawning surf smelt; however, the sediment provides a long-term benefit to their habitat. Runoff from Site A would have no effect to the aquatic food web.

3. **Wildlife [230.32]** Noise associated with placement operations may have an effect on bird and marine mammals in the project area. The effects of any sound disturbance would likely result in displacement of animals, but not injury. Limited operating periods will avoid disturbance to the marbled murrelet nesting area. Increases in turbidity associated with dredged material placement could reduce visibility, thereby reducing foraging

success for any animals in the area. Any reduction in availability of food would be highly localized and would subside rapidly upon completion of the placement operations. Placement operations are not expected to result in a long-term reduction in the abundance and distribution of prey items. Runoff from Site A would have no effect to wildlife.

Potential Impacts to Special Aquatic Sites (Subpart E)

1. **Sanctuaries and Refuges [230.40]** The Olympic Coast National Marine Sanctuary is located near but does not include the placement areas. No effects of the project are expected to extend to the Sanctuary.

2. **Wetlands [230.41]** Dredged material will not be discharged in wetlands. Use of the designated placement sites will not alter the inundation patterns of wetlands in the project area. Runoff from Site A will have no effect to any wetlands.

3. **Mudflats [230.42]** Dredged material will not be discharged onto mudflats. Use of the designated placement sites will not alter the inundation patterns of nearby mudflats.

4. **Vegetated Shallows [230.43]** Dredged material will not be discharged onto or directly adjacent to vegetated shallows.

5. **Coral Reefs [230.44**] Not applicable.

6. **Riffle and Pool Complexes [230.45]** Not applicable.

Potential Effects on Human Use Characteristics (Subpart F)

1. **Municipal and Private Water Supplies [230.50]** Not applicable.

2. **Recreational and Commercial Fisheries [230.51]** Tribal commercial and subsistence fisheries and non-tribal sportfishing are popular activities at La Push; anglers fish for salmon, halibut, rockfish, and lingcod. Maintenance dredging would keep the channel open and navigable for fishing vessels to launch and access fishing and shellfishing locations. Maintenance dredging provides access to fishing areas at all tide stages and supports a charter fishing business as well as transient moorage for recreational fishing boats.

3. **Water-related Recreation [230.52]** Recreation opportunities in the project area are primarily boating, surfing, beachwalking, and fishing. Only temporary disruptions to beachwalking at Site B and First Beach placement sites would occur during the months of September and October while placement is in progress. Runoff from Site A will have no effect to water-related recreation. The project would have no permanent detriment to recreation and would in fact improve conditions for recreational vessels.

4. **Aesthetics [230.53]** The rugged wilderness character of the area attracts travelers from throughout the Pacific Northwest and farther away. The placement of material from Site A onto First Beach would cause a slight decrease to the aesthetic value of this specific

location due to the change from a natural beach slope to an artificial shape of graded sand material. However, this impact would be minor in spatial scale and temporary for only the few weeks it takes for tides to shape the sand. People walking south from Rialto Beach might encounter the bulldozer and outfall pipe, which would be a minor disruption of the natural characteristics of the wilderness beach.

5. **Parks, National and Historic Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves [230.54]** The project is adjacent to a National Park. No changes to any park resources are anticipated to result from placement.

Evaluation and Testing (Subpart G)

1. **General Evaluation of Dredged or Fill Material [230.60]** The material to be placed is predominantly coarse sand, gravel, and cobbles. The areas to be dredged will be tested in accordance with DMMP guidelines and only material that is within those guidelines will be placed in the nearshore zone. Any materials that do not meet DMMP guidelines would be disposed of in an approved upland disposal site.

2. **Chemical, Biological, and Physical Evaluation and Testing [230.61]** The sediments in the footprint of the proposed dredging areas will undergo testing conducted in accordance with DMMP procedures. The material in the dredge area is expected to meet DMMP guidelines and to be suitable for open-water placement based on the history of suitability determinations at this site. Testing of the material to be dredged will occur immediately preceding dredging and placement actions. Any material determined not suitable for open water placement will be disposed in an approved upland site. Only material that meets DMMP guidelines will be placed in the nearshore zone placement sites.

Action to Minimize Adverse Effects (Subpart H)

1. **Actions Concerning the Location of the Discharge [230.70]** The effects of the discharge are minimized by the choice of placement sites. The placement sites have been designated for dredged material discharge. The discharge will not disrupt tidal flows. The location of the proposed discharge has been planned to minimize negative effects to the environment.

2. **Actions Concerning the Material to be Discharged [230.71]** Concentrations of chemicals of concern in the materials to be discharged are low, therefore no treatment substances nor chemical flocculates will be added before placement. The potency and availability of any pollutants present in the dredged material will remain unchanged.

3. **Actions Controlling the Material after Discharge [230.72]** No containment levees or capping are necessary because the clean material is intended to serve as beach nourishment. Clean water will be decanted from Site A through a weir for discharge to the riverbank.

4. **Actions Affecting the Method of Dispersion [230.73]** The placement sites have been selected by making beneficial use of currents and circulation patterns to predict the direction of dispersion of the discharge.

5. **Actions Related to Technology [270.74]** Appropriate machinery and methods of transport of the material for discharge will be employed. All machinery will be properly maintained and operated.

6. **Actions Affecting Plant and Animal Populations [270.75]** The USACE has coordinated with the local Native American Tribe and the State and Federal resource agencies to assure there will be no greater than minimal effects to plant, fish, and wildlife resources.

7. **Actions Affecting Human Use [230.76]** The discharge will not result in damage to aesthetic features of the aquatic landscape. The discharge will not increase incompatible human activity in remote fish and wildlife areas.

8. **Other actions [230.77]** Not applicable.

Application by Analogy of the General Policies for the Evaluation of Public Interest [33 CFR §320.4, used as a reference]

1. **Public Interest Review [320.4(a)]** The USACE finds these actions to be in compliance with the 404(b)(1) guidelines and not contrary to the public interest.

2. **Effects on Wetlands [320.4(b)]** No wetlands will be altered by the placement of material from dredging operations.

3. **Fish and Wildlife [320.4(c)]** The USACE has coordinated with the local Native American Tribe and the State and Federal resource agencies to assure there will be no greater than minimal effects to fish and wildlife resources.

4. **Water Quality [320.4(d)]** The USACE will obtain a 401 Water Quality Certification from the EPA and will abide by the conditions of the Certification to ensure compliance with water quality standards.

5. **Historic, Cultural, Scenic, and Recreational Values [320.4(e)]** The USACE has consulted with representatives of interested Tribes, the State Historic Preservation Office, and other parties and has determined that the planned undertaking will have no effect on historic properties. No wild and scenic rivers, historic properties, National Landmarks, National Rivers, National Wilderness Areas, National Seashores, National Recreation Areas, National Lakeshores, National Parks, National Monuments, estuarine and marine sanctuaries, or archeological resources will be adversely affected by the proposed work.

6. **Effects on Limits of the Territorial Sea [320.4(f)]** Not applicable.

7. **Consideration of Property Ownership [320.4(g)]** The two placement sites and containment at Site A are on Quileute tribal reservation land. Access to Site B is through Federal property of the National Park Service and right of entry is obtained prior to construction.

8. **Activities Affecting Coastal Zones [320.4(h)]** The USACE is substantively consistent with the enforceable polices of the approved State Coastal Zone Management Program including the Clallam County Shoreline Master Program and has prepared a consistency determination in compliance with the Coastal Zone Management Act.

9. **Activities in Marine Sanctuaries [320.4(i)]** The Olympic Coast National Marine Sanctuary (OCNMS) is located near but does not include the placement areas. No effects of the project are expected to extend to the Sanctuary. The USACE has coordinated with OCNMS staff for consideration of natural resources.

10. Other Federal, State, or Local Requirements [320.4(J)]

a. National Environmental Policy Act. An Environmental Assessment (EA) has been prepared to satisfy the documentation requirements of NEPA.

b. Endangered Species Act. In accordance with Section 7(a)(2) of the Endangered Species Act of 1973, as amended, federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed threatened or endangered species. Pursuant to Section 7 of the ESA, the USACE analyzed potential effects of placement at Site B and First Beach placement sites and runoff from Site A on protected species. The USACE has determined that the preferred alternative will have no effect to any ESA-listed species or critical habitat and has prepared documentation of this determination. Based on coordination with NMFS and USFWS, the USACE has elected not to request consultation on this “no effect” determination. Documentation of the analysis is an appendix to the EA.

c. Clean Water Act. The USACE must demonstrate compliance with the substantive requirements of the Clean Water Act. This document records the USACE’s evaluation and findings regarding this project pursuant to Section 404 of the Act. Public Notice CENWS-PM-ER-17-04 served as the basis for seeking a Section 401 Water Quality Certification from the EPA. The USACE will abide by applicable conditions of the Water Quality Certification associated with the discharge of dredged material into the waters of the U.S. to ensure compliance with water quality standards.

d. Coastal Zone Management Act. The Coastal Zone Management Act of 1972 (CZMA), as amended, requires federal agencies to carry out their activities in a manner that is consistent to the maximum extent practicable with the enforceable policies of the approved Coastal Zone Management Program. The proposed action is considered consistent to the maximum extent practicable with the State Program.

e. Marine Protection, Research, and Sanctuaries Act. Section 102 of the Marine Protection, Research, and Sanctuaries Act (MPRSA) authorizes the EPA to promulgate ocean

dumping criteria and designate ocean disposal sites. This project will not involve ocean disposal of dredged material.

f. National Historic Preservation Act. The National Historic Preservation Act (16 USC 470) requires that the effects of proposed actions on sites, buildings, structures, or objects included or eligible for the National Register of Historic Places must be identified and evaluated. The USACE has initiated consultation with the Washington SHPO and the Quileute Tribe. The USACE has determined no historic properties would be affected.

g. Fish and Wildlife Coordination Act. The Fish and Wildlife Coordination Act (16 USC 470) requires that wildlife conservation receive equal consideration and be coordinated with other features of water resource development projects. A Fish and Wildlife Coordination Act Report (FWCA) is not required for the proposed placement of sediments because the FWCA does not apply to operations and maintenance activities on existing projects.

11. **Safety of Impoundment Structures [320.4(k)]** Not applicable.
12. **Floodplain Management [320.4(l)]** Placement operations will not alter any floodplain areas.
13. **Water Supply and Conservation [320.4(m)]** Not applicable.
14. **Energy Conservation and Development [320.4(n)]** Not applicable.
15. **Navigation [320.4(o)]** This project will maintain the navigability of the Quillayute River Navigation Channel. The placement activities will not impede navigation.
16. **Environmental Benefits [320.4(p)]** Placing dredged material at Site B and First Beach would add beneficial sediment to the beach environment.
17. **Economics [320.4(q)]** Maintaining the navigation channel and placing material within the nearshore ecosystem at the project site is an economic benefit for the local community. Tribal fishermen would be able to continue participating in local fisheries, and the Quileute Tribe would benefit from the ability to host transient mariners. Maintaining navigability for USCG station and harbor of refuge are also important socioeconomic resources for the local area. USACE has determined that this project is economically justified.
18. **Mitigation [320.49(r)]** Potential effects of placement operations will be avoided and minimized through implementation of timing restrictions. No compensatory mitigation is required for the project.

Final Environmental Assessment
and Clean Water Act, Section 404 Public Interest Review
Quillayute River Federal Navigation Channel Maintenance
Dredging and Placement 2017-2024

Appendix B

Endangered Species Act Analysis and Effects Determination

CENWS-PM-ER **22 March 2017**

MEMORANDUM FOR RECORD

SUBJECT: Endangered Species Act (ESA) "No Effect" Determination for Quillayute River Navigation Channel project

1. Introduction.

a. Project Location/Project Area. The Quillayute River Navigation Channel project is located on the northwest coast of the Olympic Peninsula in Clallam County, Washington (T28N, R15W, Section 28). The town of La Push is about 50 miles southwest of Port Angeles and 15 miles west of Forks. The navigation channel, which extends to the mouth of the Quillayute River at James Island and the end of the South Jetty, is part of the Quileute Tribe's reservation and provides access to the Quileute Tribe's marina, the only U.S. Coast Guard (USCG) station and harbor of refuge between Neah Bay and Grays Harbor.

b. Proposed Action. The Quillayute River Navigation Channel project consists of routine maintenance dredging of up to 100,000 cubic yards (cy) of material from the navigation channel and USCG basin typically occurring once every two years. The navigation channel is dredged to the authorized depth of -10 feet below mean lower low water (MLLW) plus 2 feet authorized overdepth. The project includes the 3,000-foot long navigation channel, which varies from 100 to 275 feet wide, and a 115,000-square-foot area within the boat basin.

Dredging will be accomplished with a hydraulic dredge with pipeline, which is expected to achieve a rate of roughly 1,500-4,000 cy per day. The dredging is expected to take 60 to 120 days with some interruptions due to weather and mechanical maintenance. Disposal of the dredged sand and gravel will occur at three disposal sites; these are Site A, Site B, and First Beach. Material from the outer channel will be disposed at Site A on the south corner of the Tribe's reservation land during the month of September. A seepage berm will be constructed to allow water to drain toward the Quillayute River. Dredged material is drained of water within hours of placement due to the coarseness of the material allowing water to drain quickly. The quantity of material expected to be placed at this site is up to 15,000 cy. Once decanted, but not before 1 October to avoid potential risk to surf smelt eggs on the adjacent beach area, the material at Site A will be placed onto First Beach above the mean higher high water (MHHW) line to feed the beach through natural erosive processes. This will help prevent erosion of the root of the South Jetty. Material from the inner channel and boat basin will be placed along the length of Site B as needed to reduce the risk of breaching of the Quillayute Spit. The Corps will complete all work within the in-water work window of 1 September to 1 March.

2. Threatened and Endangered Species in Project Vicinity.

Clallam County contains 16 species listed under the ESA that potentially occur in the project area (Table 1).

Table 1. Threatened and endangered species, in Clallam County, Washington.

Species	Federal Listing	Year Listed	Critical Habitat in Project Area	Potential Occurrence (Likely, Unlikely, or Absent)
Coast/Puget Sound bull trout (*Salvelinus confluentus*)	Threatened Critical Habitat Designated	1998 2010	Yes	Unlikely
Northern spotted owl (*Strix occidentalis caurina*)	Threatened Critical Habitat Designated	1990 2012	No	Unlikely
Marbled murrelet (*Brachyramphus marmoratus*)	Threatened Critical Habitat Designated	1992 1996	No	Likely
Southern green sturgeon (*Acipenser medirostris*)	Threatened Critical Habitat Designated	2006 2009	No	Unlikely
Eulachon (Pacific smelt) (*Thaleichthys pacificus*)	Threatened Critical Habitat Designated	2010 2011	No	Unlikely
Streaked Horned lark (*Eremophila alpestris strigata*)	Threatened	2013		Unlikely
Short-tailed albatross (*Phoebastris albatrus*)	Endangered	1970		Absent
Southern Resident killer whale (*Orcinus orca*)	Endangered Critical Habitat Designated	2005 2006	No	Absent
Humpback whale (*Megaptera novaeangliae*)	Endangered	1970		Absent
Blue Whale (*Balaenoptera musculus*)	Endangered	1970		Absent
Fin whale (*Balaenoptera physalus*)	Endangered	1970		Absent
Sei whale (*Balaenoptera borealis*)	Endangered	1970		Absent
Sperm whale (*Physeter macrocephalus*)	Endangered	1970		Absent
Leatherback sea turtle (*Dermochelys coriacea*)	Endangered Critical Habitat Designated	1970 2012	No	Absent
Loggerhead sea turtle (*Caretta caretta*)	Endangered	1978		Absent
East Pacific green sea turtle (*Chelonia mydas*)	Endangered Critical Habitat Designated	1978 1998	No	Absent

3. Effects to Listed Species and Critical Habitat.

a. Bull trout.

The Coastal/Puget Sound bull trout distinct population segment was listed as a threatened species in October 1999 under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531, *et seq*). Bull trout populations have declined throughout much of the species' range; some local populations are extinct, and many other stocks are isolated and may be at risk (Rieman and McIntyre 1993). Combinations of factors including habitat degradation, expansion of exotic species, and exploitation have contributed to the decline and fragmentation of indigenous bull trout populations.

Despite the seemingly favorable conditions of the Quillayute estuary, no bull trout were caught in either the 1979-80 sampling efforts (Chitwood 1981) or the 2002 biological inventory study (SAIC 2003). Additionally, the Five-Year Review on the status of bull trout (USFWS 2004) does not list the Quillayute River as a core area for population distribution. Bull trout critical habitat for the coast, Unit 27, does not include Quillayute River or its tributaries, the Dickey, Calawah, and Sol Duc Rivers. According to the Washington Department of Fish and Wildlife (WDFW 2004), the Quillayute/Sol Duc River stock that had been labeled bull trout/Dolly Varden was determined through genetic analysis to be only Dolly Varden. WDFW reports that there are no historic reports of native char being caught on hook and line gear in the Sol Duc River, a tributary of the Quillayute. Bull trout designated critical habitat includes the nearshore area of the Washington coast, but Quileute Tribal lands along the coast are excluded (USFWS 2010).

Baseline water quality and habitat conditions will not be degraded by the proposed action. The dredging will produce only short-term, localized disturbances. During the dredging, turbidity is not expected to increase substantially above ambient conditions due to the large grain size of the material. Indirect effects to bull trout through their prey species, such as the local population of surf smelt, will be minimized through the timing restriction, and by adaptive management of dredging timing to avoid impacts to surf smelt based on continuing study results. The epibenthic fauna that will be impacted do not appear to constitute a significant fraction of bull trout or forage fish diets.

The proposed project will have **no effect** on bull trout. This determination is based on the low likelihood that bull trout will be present in the action area during construction activities, and the lack of impacts to bull trout prey items. The Quillayute River is not designated as critical habitat. There will be **no effect** on bull trout designated critical habitat.

b. Marbled murrelet.

The marbled murrelet was listed as a threatened species in October 1992 under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531, *et seq*). Primary causes of population decline include the loss of nesting habitat and direct mortality from gillnet fisheries and oil spills.

Marbled murrelets spend most of their lives in the marine environment, where they forage within two miles from shore. Carter (1984) found that the preferred habitat of murrelets in marine waters is close to shore in relatively shallow water, usually less than 100 meters deep, and in protected areas; murrelets are seldom observed in embayments. This preference tends to rule out a shoreline feature such as the narrow channel of the lower Quillayute River. Murrelets often aggregate near localized food sources and distribute through a feeding area to forage solitarily or in pairs, termed “best possible spacing” by Carter (1984). This strategy in which birds are loosely associated with others serves to decrease the need for searching for food, and wider spacing reduces competition for food. Prey species include herring, sand lance, anchovy, osmerids, seaperch, sardines, rockfish, capelin, smelt, as well as euphasiids, mysids, and gammarid amphipods. Marbled murrelets also aggregate, loaf, preen, and exhibit wing-stretching behaviors on the water.

Marbled murrelets have experienced a 4% rate of population decline throughout 2001 to 2012 in Washington State (Lance et al. 2013). Although USFWS' primary concern with respect to declining marbled murrelet populations is loss of terrestrial nesting habitat, marine habitat is also critical to marbled murrelet survival. In the marine environment, USFWS is primarily concerned with direct mortality from gillnets and spills of oil and other pollutants (USFWS 1996), as well as noise impacts caused by construction activities such as pile driving and dredging (Myers 2008 pers. comm.).

Marbled murrelets have been recorded off shore from the Quillayute River mouth within 5,000 meters of the shoreline during summertime surveys (Lance and Pearson 2007). No marbled murrelet sightings near the Quillayute were recorded during the 1979-80 field observations (Chitwood 1981) or wildlife surveys in 2002 (SAIC 2003). Over the past 10 years, the Corps has informally consulted with USFWS regarding ESA-listed species in the project area; USFWS stated they have low concern for impacts to species under their jurisdiction and recommended the Corps document a "No Effect" determination for this project. In 2016, however, USFWS reported that there is a nest site near the project area (Jensen 2016 pers. comm.). The WDFW Priority Habitat and Species database shows the border of the nearest detection area is 0.2 mile away from the Rialto Beach daily visitor parking lot (WDFW 2016); a forest stand is considered occupied if the stand is contiguous. At this location, the forest stand is contiguous, so although the border of the detection area is 0.2 mile away, the action area based on noise effects includes an occupied marbled murrelet nest area. The Corps received an additional report from USFWS with a more precise detection of an occupied nest site that is 0.8 mile away from the north end of placement Site B (Harke, pers. comm. 2017). The Corps has considered this new information; if a nest site were established closer than .025 mile to the project area in the future, then observing location avoidance measures and Limited Operating Period through 30 September would be employed to maintain no effect to marbled murrelets. According to USFWS (2012), the nesting season in Washington State begins 1 April as marbled murrelets establish nest sites and the season is considered over after September 23 when over 99% of fledglings have left the nests. Each nest typically has only 1 fledgling and rarely a second. Baseline conditions in the reported nest location include significant personal vehicle traffic and thousands of visitors to the Rialto Beach area of Olympic National Park throughout the summer, coinciding with nesting season. Seasonal park visitor traffic diminishes in September compared to the peak, but remains highly active on weekends.

Dredging the Quillayute River navigation channel is not likely to disturb or displace any marbled murrelets because the waters where dredging will occur are not their preferred foraging habitat, as stated above. Marbled murrelets are relatively opportunistic foragers, and they have flexibility in prey choice, which likely enables them to respond to changes in prey abundance and location (USFWS 1996). This indicates that if murrelets are disturbed while foraging, they would likely move without significant injury. Placement of dredged material at Site B will occur no closer than 0.26 mile away from the Rialto Beach parking area, which was reported as the edge of the forest stand in which marbled murrelets were detected. The nearest possible nest site according to WDFW is another 0.2 mile away from the parking lot. The recently reported nest site is 0.8 mile away from the project area.

If a marbled murrelet nest site were detected within 0.25 mile of the project area, then the Corps would modify the project description to observe a Limited Operating Period. The USACE can avoid noise disturbance by hauling the bulldozer for its delivery to Site B along the National Park Service road to the Rialto beach auxiliary parking lot during the Limited Operating Period, which would be from 0900 to 1700 based on sunrise and sunset times in the month of September. The range at which marbled murrelets are not disturbed by machinery noise is a distance of at least 0.25 mile, according to USFWS. The northern end of Site B is approximately 0.26 mile away from the edge of the forest stand that contains a nesting tree; therefore, dredged material placement at Site B will be no closer than 0.25 mile from the nearest possible nesting location and is 0.8 mile away from the nearest detected nest site. The Corps used a worst case scenario when analyzing the distance and risk of disturbance by measuring the distance from the nearest end of the placement area to the edge of the forest; actual distance is likely to be greater based on preferred nesting habitat and the border of the documented area of detection. Based on timing and location of construction activities through the end of nesting season on 23 September, there would be no effect to marbled murrelets. According to USFWS, a "No Effect Determination" is justified when the noise from road machinery will be a greater distance than 0.25 mile and will only occur during the Limited Operation Period (USFWS 2015), which is the case for the proposed action at Quillayute. If a nest site were established closer than 0.25 mile to the project area in the future, then observing the timing and location avoidance measures through 23 September would be employed to maintain no effect to marbled murrelets.

Maintenance of the Quillayute River navigation channel is not expected to result in a long-term reduction in the abundance and distribution of murrelet prey items. Reduction in prey availability is expected to rebound rapidly upon completion of the construction work. Critical habitat was designated for the marbled murrelet on May 24, 1996 (USFWS 1996). This designation included only terrestrial nesting habitat. Approximately 100,000 acres of critical habitat for marbled murrelets exists in the forested area about 10 miles southeast of La Push.

Since construction activities will have no effect on nesting habitat or the murrelet food base, and the effects of any construction noise disturbance are expected to be inconsequential, the proposed project will have **no effect** on the marbled murrelet. The project will have **no effect** on designated critical habitat for murrelets since no critical habitat is located near the project.

c. Other Species.

The proposed start date for dredging and disposal is 1 September for any dredge year (typically every other year) with placement at First Beach after 1 October. The Corps has proposed a dredging and disposal start date of 1 September for review by the Washington Department of Fish and Wildlife (WDFW), National Park Service, Environmental Protection Agency, and the Quileute Tribe. Surf smelt research conducted in 1997-2000 (Fradkin 2001) resulted in a recommended in-water work window of 1 November to 1 March. Implementation of this work window has proven problematic and impractical due to the heavy weather season on the Washington coast, lack of willing dredging contractors, and risk to human life and safety from dredging during storm season. To better understand the risk to surf smelt, the Corps conducted surf smelt and habitat monitoring in 2009 (ICF 2010) to learn more about the surf smelt population that spawns on Rialto Beach. This monitoring found that there was no or

perhaps very little spawning along the Quillayute Spit in 2009. Additionally, the beach profile surveys confirmed past monitoring results that show the beach is a highly dynamic environment and the substrate shifts significantly through storms as well as seasonally between summer and winter (ICF 2010). The Corps has analyzed data collected by WDFW and the Quileute Tribe in 2012-2014 (Langness et al. 2015). There were not enough eggs found during the sampling to indicate the disposal area is spawning habitat. Based on these findings, the Corps has concluded that there is no harm to surf smelt caused by material disposal at Site B. The dredged material disposed at Site B comprises an extremely small fraction of the total quantity of substrate that shifts around in this reach. The timing and location of material placement are sufficient to avoid impacts to surf smelt. Furthermore, the dredged material placement constitutes a beneficial use of sediment as it reduces erosion and delivers riverborne sediments to the marine nearshore zone to continue the sediment transport process that has been interrupted by artificial stabilization of Quillayute Spit.

The Pacific eulachon was listed as a threatened species March 2010 under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531, *et seq*). However, there is no record of their presence in the Quillayute River or estuary. The presence of the sea turtle species, whale species, Taylor's checkerspot butterfly, Northern spotted owl, short-tailed albatross, and green sturgeon have never been recorded in the action area, or presence is so transitory that any temporal effects to these species from construction activities would not cause disruption of behavior or lead to measurable reductions in their prey base. The landward extent of designated critical habitat for leatherback sea turtles, found at 33 CFR § 80.1380 (NMFS 2012), abuts the seaward extent of the authorized Federal navigation channel. The extent of maintenance dredging ends upstream of the end of the channel; therefore, effects of dredging are not expected to extend into designated leatherback sea turtle critical habitat. Critical habitat for green sturgeon has been designated along the Washington coast, but Quileute tribal land is excluded (NMFS 2009), and effects are not expected to extend beyond the tribal boundary.

Blue whales may feed around the continental shelf off of Washington and Oregon in summer; however, the species is most abundant off of California (NMFS 1998). Humpback whale sightings along the Washington coast are uncommon, and they mainly use those waters as a migration corridor between Alaskan and tropical waters (Wolman 1986). The preferred habitat for all of these whale species is the open ocean, not coastal waters or shallow estuaries.

Given the distributions of these species, the Corps believes the proposed project will have **no effect** on these species or their critical habitat (as designated).

4. Conclusion. **No Effect** to the listed species or their critical habitats as listed in Table 1.

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Appendix C

Coastal Zone Management Act General Consistency Determination

Coastal Zone Management Act General Consistency Determination

Quillayute River Navigation Channel
Maintenance Dredging and Placement

The Coastal Zone Management Act of 1972, as amended, requires Federal agencies to carry out their activities in a manner that is consistent to the maximum extent practicable with the enforceable policies of the approved state Coastal Zone Management (CZM) Programs. The Shoreline Management Act (SMA) of 1972 (RCW 90.58) is the core of authority of Washington's CZM Program. Primary responsibility for the implementation of the SMA is assigned to local governments.

As described in 16 U.S.C. 1453 Section 304(1), "Excluded from the coastal zone are lands the use of which is by law subject solely to the discretion of or which is held in trust by the Federal Government, its officers or agents." The routine maintenance dredging and placement activities proposed by the U.S. Army Corps of Engineers (Corps) occur entirely within Quileute Tribal reservation land. The placement of approximately 100,000 cubic yards (cy) below mean higher high water on the Quillayute Spit and First Beach is anticipated to supplement natural sediment transport along the beach within land controlled by the Quileute Tribe and National Park Service, which are exempt from the Clallam County Shoreline Master Program (SMP). However, this sediment will exit the boundaries of property controlled by the Quileute Tribe and the National Park Service and disperse through natural processes to land and water controlled by the Olympic Coast National Marine Sanctuary, which includes "Waters of Statewide Significance," which is subject to the Clallam County SMP. Upon dispersal, these sediments are reasonably anticipated to generate effects on the uses and resources of the State coastal zone.

1. INTRODUCTION

The proposed Federal action analyzed in this general consistency determination is for maintenance dredging of the Quillayute River Navigation Channel on a recurring basis for the indeterminate future commencing in 2017. This general consistency determination extends for a similar indeterminate length of time, provided that material modifications are not made to the description of the maintenance dredging action, and that relevant environmental conditions do not change.

The Quillayute River Navigation Channel project consists of maintenance dredging of up to 100,000 cy of sediment from the navigation channel and boat basin approximately once every two years. The navigation channel and the boat basin are maintained at the authorized depth of -10 feet below mean lower low water (MLLW) plus two feet of allowable overdepth. Dredging will be conducted with a hydraulic pipeline dredge.

The Corps maintains three areas of the lower Quillayute estuary: the outer channel, the inner channel, and the boat basin. The inner channel begins upstream at station 6+00 and extends downstream to station 20+00. The outer channel is station 20+00 to 35+00. This reach of the

river mouth includes the bar, a ridge that forms at the river and ocean interface. Dredged sediment is proposed for placement at three locations around the navigation channel: Site A, Site B, and First Beach. Site A is an upland site on the Quileute Tribal reservation. Site B is on the west side of Quillayute Spit, located south of Rialto Beach. First Beach placement area is located directly south of Site A, above MLLW, at the western end of the 1-mile-long First Beach. Further detail regarding the project description and its anticipated effects are described in the Draft Environmental Assessment and Clean Water Act, Section 404 Public Interest Review, Quillayute River Federal Navigation Channel Maintenance Dredging and Placement 2017-2014, dated March 2017.

The USACE is seeking concurrence with this General Consistency Determination from the Washington Department of Ecology (Ecology) per CZMA Section 307 (c). Under 15 CFR Section 930.36(c), a Federal agency and a State coastal zone management authority may mutually agree on a general consistency determination for a repetitive activity, such as maintenance.

Under Washington's program, Federal projects that are reasonably anticipated to affect uses or resources of the coastal zone must demonstrate consistency with the six enforceable policies of the approved State coastal zone management program. Each of these Washington policies is addressed below.

A. State Environmental Policy Act (SEPA)

The proposed action is a Federal action subject to NEPA, but not SEPA as there is no state action to be taken for this project. USACE has complied with the requirements of NEPA regarding this project.

B. Clean Water Act

The Federal Clean Water Act requires Federal agencies to protect waters of the United States. USACE prepared a Section 404(b)(1) evaluation to document its findings demonstrating compliance. USACE prepared and distributed a Section 404 Public Notice for public comment in connection with an Environmental Assessment prepared for this project. Dredged material would be discharged upland at Site A, as well as at Site B on Quillayute Spit and at First Beach as described above. No wetlands would be affected by the project.

Water Quality Certification under Section 401 of the Act for discharges of dredged or fill material into the waters of the U.S. assures compliance with state water quality standards. The USACE is seeking a 401 Water Quality Certification from the U.S. Environmental Protection Agency and would comply with applicable requirements and conditions associated with the discharge of dredged material into the waters of the U.S. Coordination will be concluded prior to the finalization of the EA.

C. Clean Air Act

Section 176 of the Clean Air Act (CAA), 42 USC 7506(c), prohibits Federal agencies from undertaking any action that does not conform to an approved state or Federal implementation plan. Maintenance dredging and disposal activities under this project would result in an increase in emissions that is clearly *de minimis* and would constitute maintenance dredging where no new depths are required and no new disposal sites are designated, so the project is exempt from any requirement to conform to a State Implementation Plan under 40 CFR 93.153 (c)(2)(ix).

D. Ocean Resources Management Act

The proposed action includes sites on The Quillayute River where it meets the Pacific Ocean. The enforceable policies of Chapter 43.143 RCW apply to coastal waters of the Pacific Ocean. The proposed action consists of maintenance dredging and disposal activities for safe transit of vessels in and out of the small boat harbor at La Push. There would be no significant long-term impacts to coastal or marine resources or uses of the Pacific Ocean.

E. Energy Facility Site Evaluation

The proposed project does not involve siting of energy facilities in the State of Washington and this policy does not apply to the proposed action.

F. Shoreline Management Act

This determination of consistency with the Coastal Zone Management Act is based upon review of applicable sections of the State of Washington Shoreline Management Program, and policies and standards of the Clallam County Shoreline Management Master Program (SMP). Clallam County's SMP was adopted in 1976 and last amended in 1992; an update drafted in 2014 is under review as of March 2017. Applicable sections of the plan are presented below with the Corps' consistency determination in ***bold italics***.

2. WASHINGTON STATE COASTAL ZONE MANAGEMENT PROGRAM

The Shoreline Management Act of 1972 (RCW 90.58) is the core of authority of Washington's CZM Program. Primary responsibility for the implementation of the SMA is assigned to local government. Clallam County has no jurisdiction over waters in or adjacent to the Quileute Tribal Reservation lands.

3. CLALLAM COUNTY SHORELINE MASTER PROGRAM

Clallam County's jurisdiction over the Quillayute River is stated as being "from the confluence of the Sol Duc and Bogachiel Rivers (S 20, T28N, R15W) downstream to Olympic National Park boundary (S 24, T28N, R15W), which does not include the Quileute Reservation or the Olympic National Park. The Shoreline Management Act applies to all marine waters of the state below the Ordinary High Water Mark (OHWM), as does local shoreline jurisdiction. The Pacific Ocean coastline has been designated a "Shoreline of Statewide Significance," a category in which specific priority uses are preferred.

The proposed project footprint is located on a "Marine Beach" in an area designated as "Natural."

<u>Chapter 2 – Goals and General Policies; VI</u>

Governmental units shall be considered in this Master Program as bound by the same requirements as private interest. The fact that a shoreline use is advocated by a governmental unit shall not be considered in a different light than a private use, except insofar as it is of benefit to the general public. The guiding policy in every instance will be its effect upon the public good as concerns the shorelines.

Consistent: The Corps is authorized to maintain the Quillayute River Navigation Channel and to place dredged material on the Quillayute Spit. The public is served by having access to the harbor of refuge and other services in the marina, and by the U.S. Coast Guard being able to transit the river mouth to engage in rescue missions. In addition, Quillayute Spit and adjacent beach under National Park Service control have experienced high rates of erosion. Placement of dredged material will contribute natural sediment to the shoreline and slow the rate of erosion of sediment from the beach.

<u>3.02 Natural Environment; B. Objective</u>
In placing a shoreline in the category of a Natural Environment, it is intended to preserve, maintain or restore such a shoreline as a natural resource relatively free of human influence; to discourage or prohibit those activities which might destroy or degrade the natural characteristics which make these shorelines unique and valuable.

Consistent: Channel dredging and placement of dredged sediments will not destroy or degrade the natural characteristics present along the Quillayute Spit and Rialto Beach shoreline. Once placement of the dredged material is completed, the placement area will not have any appearance of human influence. Material placed at First Beach will be graded to an even slope and will appear natural after several high tides.

<u>3.02 Natural Environment; C. Use Element Policies; 5. Shoreline Use Element</u>
The use of a shoreline of a Natural Environment should be limited to those activities which preserve the natural features unchanged.

Consistent: Corps coastal engineers recommend placement of dredged sediment on the Quillayute Spit as a method of reducing erosion along this reach of shoreline and on First Beach to reduce risk of breaching the root of the South Jetty. All natural features of the Quillayute Spit and First Beach shorelines will remain unchanged.

<u>3.02 Natural Environment; C. Use Element Policies; 6. Conservation Element</u>
Activities on shorelines of a Natural Environment should be confined to those which conserve the features and characteristics which are an integral part of this environment. The scenic vistas and aesthetic qualities should be preserved without alteration.

Consistent: All dredged material is naturally delivered riverborne sediments and marine-derived gravel. The proposed dredging and placement of dredged sediment will not alter any aesthetic qualities of the natural shoreline.

<u>3.02 Natural Environment; C. Use Element Policies; 7. Historical/Cultural Element</u>
In general, shorelines of historic, cultural, scientific or educational value shall be regarded as belonging in a Natural Environment. As such, any change or alteration which tends to change or degrade this value should be prohibited. The only activities which should be permitted should be those designed to preserve, protect or restore such features.

Consistent: The Corps has coordinated with the Quileute Tribe and State Historic Preservation Office for approved placement sites to avoid impacts to cultural resources.

Hydraulic dredging allows direct placement of dredged sediment onto two beneficial use sites: Site B and the First Beach Site. These sites keep estuarine sediments in the natural system for beach nourishment that will enhance forage fish habitat, and add material to the Quillayute Spit and South Jetty, which helps protect infrastructure at La Push from damage by high river flows and ocean waves.

The Corps has determined that the timing and location of sediment placement at Quillayute Spit and First Beach are sufficiently separated from the timing and location of surf smelt spawning as to have no detrimental effect and would in fact have beneficial effects to the spawning habitat.

4.01 Marine Beaches; A. Natural Environment; 1. The building of structures such as jetties, groins, and bulkheads is prohibited.

Consistent: No new jetties, groins, bulkheads or other structures will be constructed as part of the routine maintenance of the navigation channel.

4.01 Marine Beaches; A. Natural Environment; 2. Piers and jetties of historic value or those built before 1971 shall be allowed to remain.

Consistent: Navigational features under the Corps authority were constructed in 1962 and will not be altered as part of the proposed maintenance dredging and placement of dredged sediment.

4.01 Marine Beaches; A. Natural Environment; 3. The accumulation of driftwood or other material washed in from the sea must not be disturbed.

Consistent: Materials on the marine beaches will not be removed or disturbed. A bulldozer will move a few large pieces of driftwood to set the sediment placement pipeline. All driftwood pieces will remain on site and will be replaced to their approximate pre-construction locations.

4.01 Marine Beaches; A. Natural Environment; 4. Removal of sand and rock is prohibited.

Consistent: No sand or rock will be removed from the natural marine beach environment. Sand and rock sediments will be deposited as a result of the proposed work in an effort to keep the natural materials within the estuarine and marine ecosystem.

4.01 Marine Beaches; A. Natural Environment; 5. The dumping of any material is prohibited.

Consistent: The Corps has coordinated the placement of dredged material with the Quileute Tribe, U.S. Environmental Protection Agency, Washington Department of Ecology, and Washington Department of Fish and Wildlife, each of whom has expressed the need for the dredged material not to be removed from the estuarine and marine environment. Up to 100,000 cy of sand and gravel will be placed at a rate of roughly 1,500 cy per 24-hour period. This material is expected to be carried along the marine beach and incorporated into the overall natural environment along the Quillayute Spit and First Beach.

4.01 Marine Beaches; A. Natural Environment; 6. The forest and vegetation and cliffs and benches within the wetlands behind the beach shall not be disturbed.

Consistent: No forest, vegetation, cliffs, or benches within the wetlands behind the beach shall be disturbed as part of this project.

4.01 Marine Beaches; A. Natural Environment; 7. Excavations or the removal of material from the shoreline or the cliffs behind are prohibited.

Consistent: Dredging is proposed as routine maintenance of the navigation channel. No excavations or removal of material from the shoreline or cliffs behind will occur as part of this project.

4.01 Marine Beaches; A. Natural Environment; 8. Any activity which would contribute to erosion along the shoreline is prohibited.

Consistent: Corps coastal engineers recommend placement of dredged sediment on the Quillayute Spit and at First Beach as a method of reducing erosion along this reach of shoreline.

4. GENERAL STATEMENT OF CONSISTENCY

Based on the above evaluation, the Corps has determined that the proposed placement of up to 100,000 cy of dredged material approximately every other year on a recurring basis for the indeterminate future commencing in 2017, complies with the policies, general conditions, and activities as specified in the Clallam SMP adopted in 1976 and approved by the Director of the Washington Department of Ecology, as well as the other applicable enforceable policies of the State Coastal Zone Management Program. The proposed action is considered to be consistent to the maximum extent practicable with the enforceable policies of the approved State Coastal Zone Management Program, and in particular the State of Washington Shoreline Management Act and the policies and standards of the Clallam County Shoreline Master Program.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
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June 22, 2017

Ms. Nancy Gleason
Environmental Coordinator
Seattle District, Corps of Engineers
Post Office Box 3755
Seattle, WA 98124

Re: Coastal Zone Federal Consistency – Quillayute River Navigation Channel Maintenance dredging at the town of La Push in Clallam County, Washington

Dear Ms. Gleason:

The Department of Ecology (Ecology), Shorelands and Environmental Assistance Program received your request for a Coastal Zone Consistency Determination for a maintenance dredge and disposal of up to 100,000 cubic yards of material starting in 2017. Dredging and disposal will occur approximately every other year on a recurring basis into the future.

Upon review of the Corps of Engineers request, the draft Environmental Assessment and EPA 401 Water Quality Certification, Ecology agrees that this project is consistent to the maximum extent practical with the enforceable policies of the Washington's Coastal Zone Management Program and will not result in any significant impacts to the State's resources.

If you have any questions regarding this letter please contact Loree' Randall at (360) 407-6068.

Sincerely,

Brenden McFarland
Section Manager
Environmental Review and Transportation Section
Shorelands and Environmental Assistance Program

cc: Loree' Randall, Ecology

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ECOSYSTEMS,
TRIBAL AND PUBLIC
AFFAIRS

June 7, 2017

Evan R. Lewis
Chief, Environmental and Cultural Resources Branch
U.S. Army Corps of Engineers, Seattle District
P.O. Box 3755
Seattle, Washington 98124-3755

Dear Mr. Lewis:

The U.S. Army Corps of Engineers, Seattle District has requested a new Clean Water Act (CWA) Section 401 water quality certification for maintenance dredging at the Quillayute River Navigation Project beginning on September 1, 2017 (Public Notice CENPS-PM-ER-17-04, dated March 28, 2017). The current project proposes to hydraulically dredge up to a total of 100,000 cubic yards (CY) of material from the outer and inner channels, and the marina/boat basin, to bring the project to an authorized depth of -10' mean lower low water (MLLW) plus 2 feet of overdepth. Dredged material disposal will occur primarily as direct beach nourishment on the ocean side of the Quillayute spit at "Site B". In addition, up to 15,000 CY of the coarsest material dredged from the outer portions of the entrance channel, may be placed and dewatered at upland "Site A". After October 1, 2017, dewatered Site A material may be moved to the upper elevations of "First Beach", adjacent to the South Jetty, to help protect the jetty root from wave action and erosion. Recent bathymetry indicates a low volume of material currently in the outer channel, therefore, it is our understanding that placement of dredged material at Site A is unlikely this dredging cycle.

For federal actions allowing discharges into navigable waters, §401 of the CWA requires that the Corps obtain certification that the discharge will comply with the applicable provisions of sections 301, 302, 303, 306 and 307 of the CWA. The U.S. Environmental Protection Agency provides certification in any case where a state has no authority to give such a certification (33 U.S.C §1341(a)). Washington State lacks jurisdiction over activities occurring on Quileute Tribal lands. The EPA's coordination with the Quileute Tribe and other federal and state agencies indicates no outstanding unresolved issues associated with the project as proposed. The most recent public notice, Public Notice CENPS-PM-ER-17-04, dated March 28, 2017, "U.S Army Corps of Engineers, Quillayute River Federal Navigation Channel Maintenance Dredging and Disposal Between 2017 and 2024, La Push, WA" requested water quality comments be submitted to this office. The EPA received no comments or requests based on the public notice. The Corps also received no comments on the referenced public notice.

In accordance with §402 of the CWA, the Corps' activity must also be reviewed to determine whether any NPDES permitting is necessary. For this project, the EPA has determined that the 2017 NPDES General Permit for Discharges from Construction Activities (NPDES Permit # WAR10I000 - *NPDES General Permit for Discharges from Construction Activities in Indian country within the State of Washington*), also called the CGP, may apply insofar as the dredged material is proposed for dewatering,

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and construction vehicles and equipment supporting the dredging activity will be stored in adjacent upland areas (e.g., at Site A) during the duration of this project. The 2017 NPDES CGP, as issued by the EPA to address construction activities in Indian Country within the State of Washington, may therefore be necessary for the management of runoff from the project. Because the site disturbance size threshold which triggers the need for this permit is ≥ one-acre (43,000 sq. ft.), and Site A typically falls below this disturbance size threshold, the 2017 CGP does not automatically apply in this situation. However, for this project, the EPA considers any BMPs required under the CGP that minimize the discharge of pollutants associated with construction, vehicle and equipment storage, and dewatering of dredged materials [such as management of any fuel, oil, sediment, etc. from discharging in runoff from the site(s)] to be required for this §401 certification (see enclosure).

Specific conditions addressing the proposed project are enclosed. The EPA has no objections to the project under §401 and §402 of the CWA, provided that the detailed project description and drawings in the referenced public notice and Final Environmental Assessment Quillayute River Federal Navigation Channel Maintenance Dredging and Placement 2017-2024 (Final EA 2017-2024), as well as the conditions in this letter and enclosure, are followed. Please note that the EPA prefers that all project dredged material be placed in the nearshore environment to feed the littoral drift cells in the area and to protect area beaches. It is EPA's clear preference that any material placed at Site A be used for nourishment at First Beach and not for upland construction projects. If material is not required at Site A for ultimate use at First Beach, that material should be placed at Site B to protect the Quillayute spit.

Please note that this letter does not exempt the Corps from compliance with other requirements of the Quileute Tribe or other federal, state or local agencies. If you have any questions, or for further coordination on this project, please contact Justine Barton of my staff at (206) 553-6051 or by electronic mail at barton.justine@epa.gov, or contact me at (206) 553-1841.

Sincerely,

Jill A Nogi

Jill A. Nogi, Unit Manager
Environmental Review and Sediment Management

Enclosure

cc: Mel Moon, Director, Quileute Tribe
Frank Geyer, Deputy Director, Quileute Tribe
Steven Fradkin, Coastal Ecologist, Olympic National Park
Carol Bernthal, Olympic Coast National Marine Sanctuary
Don Hubner, NMFS
Martha Jensen, USFWS
Bob Burkle, Theresa Powell, Chris Waldbillig, WDFW
Nancy Gleason, USACE
John Pell, USACE

QUILLAYUTE RIVER NAVIGATION PROJECT MAINTENANCE DREDGING WATER QUALITY CERTIFICATION CONDITIONS

Project Description and Context

The objective of the proposed work is to maintenance dredge the Quillayute River navigation channel and boat basin to authorized widths and depths. The work is proposed to occur from September 1, 2017 to March 1, 2018. Up to 100,000 cubic yards (CY) will be dredged from the outer channel, inner channel, and the boat basin, with disposal of material primarily on the ocean side of the spit at Site B to nourish the spit and Rialto Beach via littoral drift. For this dredging cycle, dredging and placement at Site B may begin September 1st. Also beginning September 1st, up to 15,000 CY of coarse sediments from the outer channel may be dredged and deposited upland at Site A for dewatering and subsequent rehandling/regrading to intertidal areas of First Beach near the South Jetty. Rehandling of dewatered material from Site A to First Beach will occur after October 1st, with placement not to extend below Mean Lower Low Water (MLLW). Mean Higher High Water (MHHW) is + 8.5' MLLW at this location. Placement at First Beach is intended to help prevent the flanking of the jetty root by waves. The proposed dredging and disposal alternatives are described in Public Notice CENPS-PM-ER-17-04, dated March 28, 2017. Dredged depths will be to -10 feet MLLW, with an additional 2 feet of allowable overdepth. Dredging and remote-operated vehicle (ROV) surveys in the past have indicated the potential for debris in the dredge prism, especially in the marina boat slips. The contractor is expected to remove any and all debris from Sites A and B, and from First Beach, should any anthropogenic debris be dredged and transported to those sites.

The navigation project was first authorized by the River and Harbor Act of July 3, 1930, and modified in 1945 and 1954. Dredging of the project most recently occurred in fall of 2015, and is anticipated to occur every two years, dependent on funding.

401 Certification General Conditions

1. For purposes of this certification, the term "Tribe" refers to the points-of-contact for the Quileute Indian Tribe, Natural Resources Department: Director Mel Moon, office phone 360-374-3133, email: mel.moon@quileutenation.org, or Deputy Director Frank Geyer, office phone 360-374-2027, email: frank.geyer@quileutenation.org.
2. All submittals to the EPA Region 10 required by the conditions of this certification must be sent to the EPA's point-of-contact: Justine Barton, U.S. Environmental Protection Agency, ms OERA-140, 1200 Sixth Avenue, Seattle, WA 98101. Phone 206-553-6051; email: barton.justine@epa.gov.
3. Work authorized by this certification is limited to the work describe in the Corps' Public Notice (PN), CENPS-PM-ER-17-04, dated March 28, 2017, and the associated Final Environmental Assessment Quillayute River Federal Navigation Channel Maintenance Dredging and Placement 2017-2024 (Final EA 2017-2024). This certification will cease to be valid if the project is constructed or operated in a manner not consistent with the project description as found in those documents.
4. Access to the project area must be provided for site inspections to ensure the conditions of this certification are met.

5. This certification does not exempt the Corps from, and is provisional upon, compliance with other statutes, codes or requirements administered by the Quileute Indian Tribe, or other federal, state and local agencies.
6. A copy of this certification and any tribal or federal permit requirements and conditions must be kept on the project site, and kept readily available for reference by construction supervisors, managers and foremen, or tribal, Corps or EPA inspectors.

Project Specific Conditions

1. Notification and Pre- and Post-Project Construction Coordination

a. The Corps of Engineers shall notify the EPA and tribal points of contact at least seven days before the pre-construction meeting, and at least seven days before commencing initial work. The contractor's Environmental Protection Plan (EPP) shall be provided for EPA's review, preferably prior to the pre-construction meeting. The EPP and pre-construction meeting shall clearly address the best management practices discussed in Sections 2, 3, 4, and 5 below.

b. No later than 60 days following completion of the project, the Corps of Engineers shall submit as-built drawings, including final dredging and placement volumes at each site, to the EPA and tribal points of contact.

c. Sediment sampling in the navigation channel and boat basin last occurred consistent with the Dredged Material Management Program (DMMP) on October 5, 2010; with all material found to be acceptable for beach placement as documented in a Suitability Determination (SD) dated January 6, 2011. Project sediments will require re-characterization as of October 5, 2017, based on the past sampling date, and current project ranking. Given this deadline, it is our understanding that the District will re-characterize dredged material this summer, and that appropriate documentation via the interagency DMMP will be completed for all project dredged material prior to October 5, 2017.

d. As of September 1, 2017, project dredging and placement at Site B may begin. In addition, up to 15,000 CY of coarse material may be placed at upland Site A. The Corps may move material from Site A to First Beach starting October 1, 2017. Per a Corps letter to the Quileute Tribe dated May 20, 2009, the ultimate fate of all dredged material placed at Site A must be reported to the Corps and the EPA on an annual basis. The Corps and Tribe have accounted for Site A material from the 2015-2016 dredging season -- confirmed via email and personal communications among Justine Barton, John Pell and Frank Geyer. The Corps and Tribe shall provide EPA with an accounting for all material dredged and placed at Site A during the 2017-2018 dredging season. This accounting is required prior to the issuance of any future certification for this project.

2. Construction Staging Areas and Heavy Equipment Best Management Practices (BMPs)

a. Staging and work areas (including at Site B) shall be identified and specified to EPA and the Quileute Tribe at least seven days prior to construction. Any work that affects intertidal or shallow subtidal habitats, including vegetation, in staging areas shall be coordinated with the

EPA and the Tribe. Alteration or disturbance of existing beach and intertidal vegetation shall be held to a minimum.

b. Debris holding methods/areas shall be identified by the contractor. Debris may be encountered in the boat basin and removed at the point of dredging, as well as removed from Sites A and B and First Beach.
c. The contractor should be prepared to identify barge access methods and location(s) during the pre-construction meeting, as well as plans specific to their equipment and schedule that will minimize barge impacts to beach and intertidal areas during loading and unloading of heavy equipment, dredging pipeline, etc.
d. To protect the Quillayute River and adjacent coastal waters and their designated uses from potential discharges of oils and grease, the contractor shall identify all equipment staging, cleaning, maintenance, refueling and fuel storage areas. These activities shall take place within specified location(s). Fuel hoses, oil drums, oil or transfer valves and fittings, etc., shall be checked regularly for drips and leaks, and shall be maintained and stored properly to prevent spills into tribal or state waters.
e. All vehicles shall be inspected daily for fluid leaks before the onset of operations. Any leaks detected shall be repaired in the vehicle staging area, if possible, and before the vehicle resumes operation. Inspections shall be documented in a record that is available for review on request by the Corps, EPA or Tribe. This is especially important for any equipment used on the spit and intertidal areas to move pipeline and rework dredged material.
f. Any discharge of oil, fuel or chemicals into tribal or state waters, or onto lands with a potential for entry into tribal or state waters, is prohibited.

3. Construction BMPs

a. Work in and near the Quillayute River and Pacific Ocean shall be done so as to minimize turbidity, prevent erosion of existing nearshore and beach areas, and prevent other water quality impacts. Best management practices shall be used to minimize turbidity, both at the dredging and placement sites. At the pre-construction meeting, the contractor will be asked to provide a description of Site A dewatering management with an emphasis on minimizing turbidity in any return flows to the Quillayute River, and preventing riverbank erosion.
b. During construction, the operation of heavy equipment shall be held to the minimum necessary within all intertidal and nearshore areas. Alteration or disturbance of existing beach and intertidal vegetation shall also be held to a minimum.
c. Construction debris and equipment shall be stored upland of mean higher high water (+8.5' MLLW) so that it cannot enter tribal or state waters, or degrade water quality. All natural habitat features on the beach larger than 12 inches in diameter, including trees, stumps, logs and large rocks, shall be retained on the beach following construction. Natural materials may be moved if necessary to allow access or placement of material in nearshore areas; however, it should then be replaced at similar elevations following construction.
d. In 2015, the EPA and Corps worked to assess and map debris within the marina using the EPA Region 10 remotely operated underwater vehicle (ROV). Areas of the marina with debris – e.g. slips where sunken vessels are located, must be avoided during dredging. No anthropogenic debris of any sort associated with dredged material is allowed to remain on Sites A and B, or on First Beach post-placement. Garbage, plastic and any other anthropogenic debris encountered during construction shall immediately be removed, stored,

and ultimately disposed in an appropriate designated upland facility. This includes debris pulled from the dredging area(s) as well as debris that makes it through the pipeline to Sites A and B. It is required that the contractor specifically monitor for debris at active placement locations at least twice/day and record this activity. Any beach debris will be removed when observed, whether during planned monitoring or other activities on site, and the contractor shall identify a secure method for storing debris found on the spit. Methods and locations for debris storage, as well as the appropriate upland disposal facility for final disposal, shall be identified by the contractor at the pre-construction meeting.

e. If during site development or ongoing operations an area of potential archeological significance is uncovered, work in the immediate vicinity shall be halted and the Quileute Tribe and State Historic Preservation Office notified immediately.

f. Following placement of dredged material on the spit and/or First Beach, no pits or depressions that could trap fish shall remain.

4. Water Quality Compliance/Spill Prevention and Control

Any in-water work out of compliance with the provisions of this certification, or conditions causing distressed or dying fish, or any discharge of oil, fuel or chemicals into tribal or state waters, or onto land with a potential for entry into tribal or state waters, is prohibited. If these occur, the operator shall immediately take the following actions:

a. Cease operations.

b. Assess the cause of the water quality problem, and take appropriate measures to correct the problem and/or prevent further environmental damage.

c. In the event of finding distressed or dying fish, the operator shall take water samples in the affected area and, within the first hour of such conditions, make every effort to have the water samples analyzed for dissolved oxygen. The operator shall notify the EPA and the Tribe immediately. Depending on the specifics of the situation, the EPA, in coordination with the Corps and Quileute Tribe, may require the operator to conduct water quality monitoring to ensure ongoing operations are consistent with applicable water quality standards for dissolved oxygen and turbidity, before allowing the work to resume.

d. In the event of discharge of oil, fuel, or chemicals into tribal or state waters, or onto land with a potential for entry into tribal or state waters, containment and cleanup efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Cleanup shall include proper disposal of any spilled material and used cleanup materials.

e. Spills into tribal or state waters, spills into land with a potential for entry into tribal or state waters, or other significant water quality impacts, shall be reported immediately to the Natural Resources Department of the Quileute Tribe, the U.S. Coast Guard (Quillayute Station), Ecology's Southwest Regional Office at (360) 407-6300, and the EPA at (206) 553-1263. Notification will include information on the nature of the problem, and any actions taken to correct the problem.

5. Specific Water Quality Standards and Points of Compliance

In the absence of other appropriate standards, state water quality criteria for the immediately adjacent "extraordinary quality" coastal waters will be applied, except as modified within specific points of compliance as defined below (reference 173-201A-210 and -400 WAC).

a. Dissolved Oxygen. The marine "extraordinary quality" aquatic life dissolved oxygen criteria is a lowest 1-day minimum of 7.0 mg/L. Should background DO be lower than the criteria, and due to natural conditions, then dredging and disposal considered cumulatively, may not cause DO to decrease more than 0.2 mg/L within the points of compliance. For dredging in the estuary and dewatering at Site A, the point of compliance is at a horizontal distance of 200 feet plus the depth of water at the point of dredging or overflow, as measured during mean lower low water. For placement at Site B on the spit, and reworking of material from Site A to First Beach, the point of compliance is at a horizontal distance of 300 feet from the activity.

b. Turbidity. The marine "extraordinary quality" aquatic life turbidity criteria for any action is a one day maximum increase of 5 nephelometric units (NTU) over background when the background is 50 NTU or less, or a 10% increase in turbidity when the background turbidity is more than 50 NTU. For estuaries or marine waters, the point of compliance is 150 feet from the in-water activity (dredging, overflow related to dewatering, nearshore placement).

All other applicable water quality criteria shall remain in effect within the points of compliance, and all water quality criteria are to be met outside the points of compliance (reference 173-201A-210 WAC).

In addition, any water quality effects, after the application of reasonable BMPs, are intended only for the duration of time necessary to complete dredging, dewatering and placement operations. Unavoidable DO and turbidity effects within the points of compliance are intended for brief periods of time and is not authorization to exceed those standards for the entire duration of dredging and placement. In no case does this certification authorize degradation of water quality that significantly interferes with or becomes injurious to characteristic water uses or causes long-term harm to the Quillayute River estuary and adjacent waters.

6. Construction Timing

All dredging and placement operations at Sites A and B may begin September 1, 2017, and must be completed before March 1, 2018. Rehandling of dewatered material from Site A to First Beach may begin October 1, 2017, and must be completed before March 1, 2018.

Expiration and Amendment

This certification is valid through February 28, 2018. The certification date may be extended beyond this date at the discretion of the EPA, in consultation with the Quileute Tribe. Extension of this certification requires a written request, made within 30 days of the expiration date, to the EPA.

The EPA point-of-contact for amendments, modifications, or any other changes to this certification is Justine Barton, U.S. Environmental Protection Agency, ms OERA-140, 1200 Sixth Avenue, Seattle, WA 98101. Phone 206-553-6051; email: barton.justine@epa.gov.