



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, PORTLAND DISTRICT
PO BOX 2946
PORTLAND OR 97208-2946

Planning, Programs and Project
Management Division

MAR 21 2014

Juna Hickner
Oregon Department of Land Conservation and Development
635 Capitol St. NE, Suite 150
Salem, OR 97301-2540

Dear Ms. Hickner:

The US Army Corps of Engineers, Portland District (Corps) is requesting the Oregon Department of Land Conservation and Development's (OR DLCD's) concurrence with the Corps' Coastal Zone Management Act (CZMA) Consistency Determination (CD) (enclosed) for the proposed action of shoreline placement at the existing Pillar Rock Island upland dredged material placement site for the Columbia River Operations and Maintenance (CR O&M) dredging program at Pillar Rock Island, Clatsop County, Oregon.

The intent of adding shoreline placement as a dredged material placement method on Pillar Rock Island is to rebuild the upland site to the 2001 real estate boundaries (the real estate boundaries are depicted in the "Authorization for Entry" agreement granted by Oregon Department of State Lands to the Corps, 14 July 2006). Once the upland site is built back to the 2001 footprint, shoreline placement would be used to protect the upland site from future erosion.

The addition of shoreline dredged material placement at Pillar Rock Island will support the Columbia River Operations and Maintenance program. The Pillar Rock Island shoreline placement is a small component in a network of disposal sites, and the effects of placement at the site, including the benefits, are the same as other shoreline placement sites in the Columbia River estuary. Because the island is severely eroded, shoreline placement is required to rebuild the site footprint before upland placement can occur.

If you have any questions concerning this request, please contact Ms. Gretchen Smith, of my staff, at gretchen.v.smith@usace.army.mil.

Sincerely,

Joyce E. Casey
Chief, Environmental Resources Branch

Enclosure



**US Army Corps
of Engineers**®
Portland District

**COASTAL ZONE MANAGEMENT ACT CONSISTENCY DETERMINATION
For the Proposed Addition of a Shoreline Dredged Material Placement Site for the Columbia River
Operations and Maintenance Dredging Program at Pillar Rock Island, Clatsop County, Oregon
Prepared 20 March 2014**

INTRODUCTION

The U.S. Army Corps of Engineers, Portland District (Corps) proposes to conduct the placement action discussed in this document, which is a federal action, and the Corps is a federal agency. The Corps proposed placement action is consistent with the Oregon State (Oregon) Coastal Management Program (OCMP). The following assessment constitutes a Federal consistency determination with the enforceable provisions of the OCMP.

PROJECT SITE DESCRIPTION

Pillar Rock Island, which is in the Columbia River estuary, is a dredged material placement site for upland. The island is located at river mile 27.2 of Columbia River, in Clatsop County, Oregon. The linear island is oriented east to west and it is within the Lewis and Clark National Wildlife Refuge. Historically, the island was a shoal and past placement practices in the 1980s and 1990s increased the island elevation. The current dredged material placement site (Figure 1) on the island is approximately 52 acres. The island is in Clatsop County, Oregon. The site is located from approximate RM 26.8 to 28. At its closest point, the island is approximately 1,100 feet south of the CR FNC.

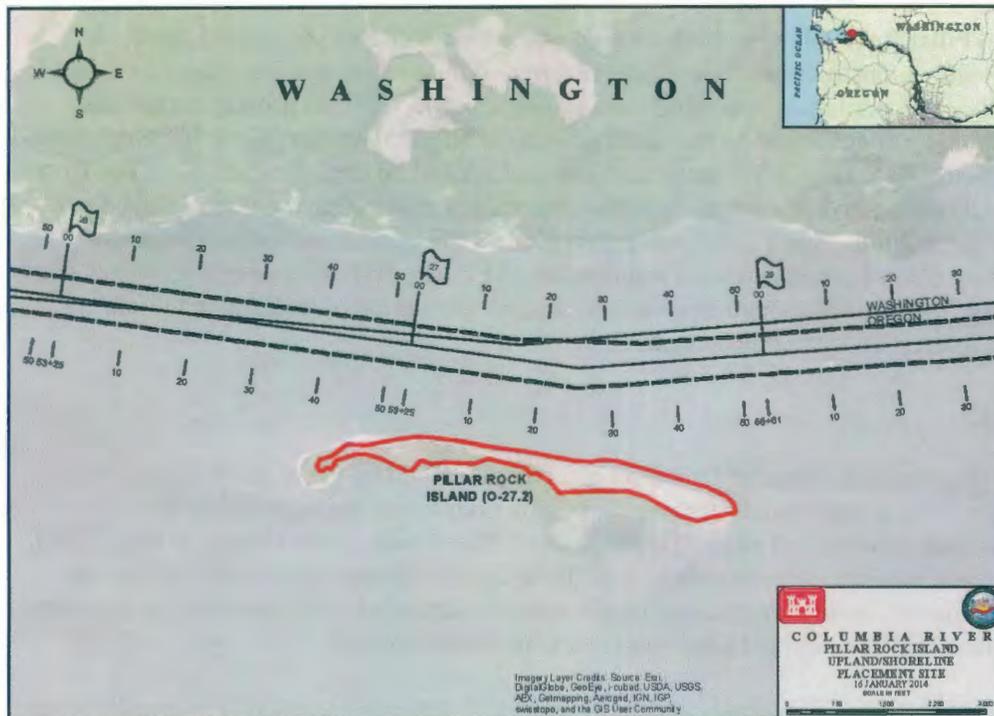


Figure 1. Pillar Rock Island.

The site is owned by the State of Oregon and the Port of Portland has a 25-year easement with Oregon DSL for placement by the Corps. The Port of Portland's easement from the Oregon DSL expires in 2030. The Corps placed material on the downstream and middle portions of the site in 2000 and on the upstream quarter of the site in 2001. Approximately 250,000 CY were placed in 2001. Much of the placement site is covered in sandy

dredged material. Stands of young cottonwoods, scattered shrubs, and forbs with grasses are visible on the island. The presence of vegetation is due to Corps limited use of the site in the past five years. The upstream edge of the island has eroded away. The downstream end of the island has two pile dikes approximately 500 ft and 700 ft long. Both pilings are located outside the placement site. These pilings run perpendicular to Pillar Rock Island.

The 500 acres that encompass the Pillar Rock Island placement area and adjacent shallow waters account for 1.5% of the 35,000 acres of the Lewis and Clark National Wildlife Refuge. There are approximately 430 acres of protected tidal flats and marsh located 250 ft to the south of the placement site, along the southern side of the island. 400 acres of the tidal flats are intertidal. 30 acres are estuarine wetlands. These aquatic habitats developed over time due to the wind and wave energy protection provided by the placement area. The island and tidal wetlands are used by waterfowl during the fall and winter and aquatic mammals throughout the year. Mudflats and intertidal marsh areas are used by shorebirds. Approximately 20 acres of unprotected intertidal shallow water habitat run along the north side of the island. The eroding northern shore is a steep slope that drops from 0' CRD to below -20 CRD within 150 ft from shore. Approximately 2 acres of sandy beach line the northern end of the island, backed by 31 acres of sandy, grassy uplands. A 100 ft wide riparian vegetation buffer runs east/west through the center of the island.

The Corps proposes to conduct shoreline placement at Pillar Rock Island (the island). The island is owned by Oregon Department of State Lands. A shoal has been present along this reach since at least the 1930s. Dredged materials were placed onto this shoal throughout the 1970s and 1980s, creating a permanent island. The shoal was developed as a dredged material placement site. The creation of Pillar Rock Island was expected to enhance wildlife habitat (Corps. *Columbia and Lower Willamette River Final Environmental Impact Statement*. Portland District. July 1975. [1975 EIS])

PROJECT HISTORY

Historically, the Corps has used Pillar Rock Island as both a beach nourishment site and an upland dredged material placement site (upland site). Construction of the island reverted to maintenance of the island footprint in the late 1980s or early 1990s. Beach nourishment was conducted throughout the 1990s to protect the upland placement site and protected shallow water habitat on the south side of the island. The last time Pillar Rock Island received beach nourishment was in 1997. The Corps last placed material upland on the island in 2001. The Corps received concurrence from DLCD for upland placement in 2003. Operational constraints precluded placement from occurring at this site during the 2000s. Since 2001, more than 32% of the upland site has eroded away. The operational constraints precluding upland placement were removed in 2012; however, the use of the upland site is no longer a viable option because there is not enough landmass to support placement of dredged materials. Shoreline placement serves the interest of upland placement.

FUTURE PROJECT ACTION

The intent of adding shoreline placement as a dredged material placement method on Pillar Rock Island is to rebuild the upland site to the 2001 real estate boundaries (the real estate boundaries are depicted in the "Authorization for Entry" agreement granted by Oregon Department of State Lands to the Corps, 14 July 2006). The shoreline placement site would directly abut the upland site; the upland placement site would not extend beyond the 2001 real estate boundaries. Incremental shoreline placement is intended to re-establish the shoreline over time; then, to protect the re-established upland placement site from future erosion.

Shoreline placement would involve direct sediment placement of up to 500,000 cubic yards (CY) annually from the 10-foot (ft) Columbia River Datum (CRD) contour, which is the approximate elevation of ordinary high water line at the site, down to the approximate 0-ft CRD contour. The post-placement equilibration process of the placed material on the shoreline is expected to extend in water approximately 200 ft beyond the real estate boundaries of the upland site. Shoreline placement actions would follow established industry-standard best management

practices. It is expected that this island will continue to experience high rates of erosion along the northern perimeter of the island.

The Pillar Rock Island shoreline placement is a small component in a network of disposal sites and the effects of placement at the site, including the benefits of placement, are the same as other shoreline placement sites in the Columbia River estuary. Because the island is severely eroded, shoreline placement is required to rebuild the site footprint before upland placement can occur.

Two years of shoreline placement will need to occur prior to placing material on the upland site. Shoreline placement will be continued as needed to maintain the existing upland disposal site. This site was used as a dredged material placement site until 2001. Operational constraints precluded placement of material on this site since then. Operational constraints were lifted in 2012; by then, Pillar Rock Island eroded beyond usability. Since 2001, placement of material dredged from shoals between river mile (rm) 25 and rm 35 of the Columbia River was placed in-water adjacent to the Columbia River Federal Navigation Channel. As a result, shoals reformed within this reach annually. Shoreline placement will allow for placed material to feed back into the Columbia River sediment budget at a slower rate, reducing the rate of shoaling occurring within this reach.

JURISDICTION AND CONSISTENCY REQUIREMENTS

The CZMA per 15 CFR 930.30 states “provisions of this subpart are intended to assure that all Federal agency activities including development projects affecting any coastal use or resource will be undertaken in a manner consistent to the maximum extent practicable with the enforceable policies of approved management programs.” Therefore, CZMA requires that federal actions be consistent, to the maximum extent practicable with the enforceable policies of the OCMP. According to Oregon Department of Land Conservation and Development (DLCD), the enforceable policies of the OCMP include: (1) the statewide planning goals, (2) the applicable acknowledged city or county comprehensive plans and land use regulations (those approved by the Land Conservation and Development Commission as being in compliance with the statewide planning goals), and (3) selected state authorities (e.g. those governing removal-fill, water quality, actions in the ocean shore, and fish and wildlife protection). The following discussion explains the content of the enforceable policies of the OCMP and how this project meets the requirements of such policies.

The Corps prepared its determination consistent with the content requirements described in 15 CFR 930.39, and has based its determination “upon an evaluation of the relevant enforceable policies of the management program” and has included or incorporated by reference commensurate supporting information. The Corps have evaluated its determination of effects in compliance with 15 CFR 930.33-39 as applicable. The Corps has also considered 15 CFR 930.22 when evaluating consistency to the “maximum extent practicable”.

In evaluating the determination of consistency for the addition of shoreline placement at Pillar Rock Island, it is also notable that shoreline placement has been conducted at Pillar Rock Island by the Corps numerous times in the past, most recently in 1997. In 1994 DLCD concurred with the Corp’s consistency determination that included Pillar Rock as an upland and beach nourishment site (page 16 of the EA, listed as O-27.2). Records show that in 1998 the Corps applied for a CZMA CD and was requested to provide a text and map amendment. In order to provide resolution at that time, the Columbia River Estuary Study Taskforce (CREST) to, on the behalf of the Corps, applied for a revision to the Dredged Material Management Plan and conducted procedural requirements (map amendment) when the Corps’ dredged material placement sites didn’t align with the Clatsop County Comprehensive Plan. This one action does not establish precedent for following local processes. Neither the CZMA nor the Oregon Administrative Rules require a Federal agency to apply for local permits or authorizations for federal agency activities.¹

¹ “Federal agencies are not required to file applications for state and local permits and other authorizations unless required to do so by provisions of federal law other than the CZMA. However, federal agencies are required to demonstrate that the proposed activity is consistent to the maximum extent practicable with the applicable state and local enforceable policies underlying the permits. While federal agencies are not required to apply for state and local permits and other authorizations

CONSISTENCY REVIEW

The Corps has determined that the following Statewide Planning Goals, Clatsop County Comprehensive Plan Goals, and zoning ordinances *may* be applicable to demonstrating the proposed project's consistency with the enforceable policies of the Oregon Coastal Management Plan. References:

Oregon's Statewide Planning Goals and Guidelines (March 12, 2010)
Oregon Revised Statutes Applicable to the Oregon Coastal Management Plan
Clatsop County Standards Document (amended March 29, 2013)
Columbia River Estuary Dredged Material Management Plan as defined in the Clatsop
Comprehensive Plan Goals and Policies (June 23, 2012)
Clatsop County Land and Water Development and Use Ordinance (March 29, 2013)
Clatsop County Comprehensive Plan Goals and Policies (June 23, 2012)

<<Corps responses are provided in bolded in between brackets.>>

Corps selection of a standard is highlighted **yellow**

Oregon Statewide Planning Goals and Guidelines

<<Oregon developed a Federally-approved coastal management plan consistent with the Coastal Zone Management Act (CZMA) of 1972. OCMP is based on Oregon's implementation of CZMA via Oregon Administrative Rules (OAR) 660-015-0000. This OAR is commonly referred to as Oregon's Statewide Planning Goals (SPGs). Application of SPGs at the local level for the proposed action is addressed in the Clatsop County Comprehensive Plan (the Plan). The Countywide Goals & Policies of Clatsop County corresponding to the Oregon Statewide Planning Goals & Guidelines are:>>

- **Goal 1 - Citizen Involvement:** *"To have continuity of citizen participation consisting of a seven member Planning commission, with each member representing diverse geographic areas of the County, thus providing a method of ensuring communication between the citizens, administrative departments, and the Board of County Commissioners."* For Clatsop County, Goal 1 calls for "the opportunity for citizens to be involved in all phases of the planning process."

<<The Corps' continual compliance with National Environmental Policy Act (NEPA) and Clean Water Act (CWA) demonstrates consistency with this goal. The Corps' 1975 EIS for the Columbia River Operations and Maintenance (CR O&M) program is the first recorded NEPA document for placement actions. Environmental Assessments were conducted for updates CR O&M program in 1983, 1989, and 1994. An Environmental Impact Statement was initiated in 1999 for the Columbia River Channel Improvement Project (CRCIP). A Record of Decision was signed in 2004. Construction of the CRCIP started in 2004. The CRCIP was completed in 2010. The Corps has since then returned to maintaining the Columbia River Federal Navigation Channel to the new channel prism. The Corps is updating the CR O&M program to reflect current operation and maintenance actions. An Environmental Assessment will be posted for Public Notice in April 2014.

The Corps has remained compliant with the CWA through renewals of Water Quality Certification (WQC) every 5 years since issuance of the CR O&M WQC in 1982. The CRCIP required the issuance of a new WQC for the construction of the deep-draft channel. The Corps has since completed construction of the deep-draft channel and is seeking a new WQC for the continued operations and maintenance of the

otherwise required by enforceable policies, where federal law authorizes a federal agency to do so the department will consider such applications when determining whether the federal activity or development project is consistent with the enforceable policies underlying the permit or authorization." OAR 660-035-0030(4).

deep-draft channel, of which includes shoreline placement at Pillar Rock Island. Oregon Department of Environmental Quality publishes the draft WQC for review by the public.>>

- **Goal 2 - Land Use Planning:** Clatsop County places land in one of 6 Plan designations. Most of the Columbia River Estuary is designated as “*Conservation Other Resources*”. These areas “*provide important resource or ecosystem support functions such as lakes and wetlands and federal, state, and local parks.*” Pillar Rock Island zoning and dredging and dredged material disposal is discussed below under the Clatsop County Land Use Provisions.

<<Goal 2 also states that land use decisions are to be made in accordance with a comprehensive plan, and that local jurisdictions must adopt suitable “implementation ordinances” to put the plan’s policies into effect. The Corps’ upland use and proposed use of shoreline placement of dredged materials at Pillar Rock Island complies with Oregon’s standards for comprehensive planning. The Corps has historically used Pillar Rock as both an upland and shoreline placement site. Currently, the County’s zoning states this island as upland only, without the shoreline designation, but can be remedied by a text amendment to their zoning documents. The Corps does not have any authority to require the County to make the change nor does the Corps have a federal requirement to apply for an amendment to a County Plan. As stated above, though the Corps may have followed local processes for one time, this does not establish precedent.

In evaluating the determination of consistency for the shoreline placement action at Pillar Rock Island, it is notable that placement actions have been conducted on the island numerous times in the past, most recently in 1998. >>

- **Goal 5 - Open Space, Scenic and Historic Areas and Natural Resources:** “*To conserve open space and protect natural and scenic resources.*”

<<The Corps operates their navigation program in such a manner as to conserve open space and protect natural and scenic resources. The Corps is currently in Endangered Species Act (ESA) consultation with the US Fish and Wildlife Service (USFWS) for updates to the CR O&M program. Shoreline placement of dredged materials at Pillar Rock Island is included in the consultation. A Biological Opinion is expected May 2014.

The Corps has consulted with National Marine Fisheries Service (NMFS) for the CR O&M program. NMFS concurs that the modified action does not alter the effect conclusion outlined in the 2012 BiOp. An Environmental Assessment is being conducted to assess the CR O&M program effects to natural, cultural and scenic resources.

The following documents address Goal 5:

National Marine Fisheries Service. 2012. *Reinitiation of Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Columbia River Navigation Channel and Operations and Maintenance, Mouth of the Columbia River to Bonneville Dam, Oregon and Washington (HUCs 1708000605, 1708000307, 1708000108)*. NMFS No. 2011/02095. Northwest Region. Seattle, Washington, July 11, 2012. (2012 BiOp)

US Army Corps of Engineers. 1999. *Columbia River Channel Improvement Project Environmental Impact Statement*. Portland District. Portland, Oregon, August 1999.

US Army Corps of Engineers. 2003. *Columbia River Channel Improvement Project Final Supplemental*

Integrated Feasibility Report and Environmental Impact Statement and Record of Decision, Columbia River Navigation Improvement Project Oregon and Washington. Portland District. Portland, Oregon, January 9, 2004.

United States Fish and Wildlife Service. 2002. *Biological and Conference Opinions for the Columbia River Channel Improvement Project*. Tracking number 02-1743, 02-4943. Oregon State Office. Portland, Oregon. May 20, 2002. >>

- **Goal 6 - Air, Water, and Land Quality** *“To maintain and improve the quality of the air, water, and land resources of the state.”*

<<The Corps compliance with state and federal environmental laws demonstrates consistency with this goal. These laws include but are not limited to the ESA, NEPA, and the CWA.

This proposed addition of shoreline placement as an option at Pillar Rock Island will not affect compliance with the Clean Air Act and the State Implementation Plan. The project is not located in a non-attainment area; it is not a transportation project; and it will not qualify as a major stationary source of emissions of criteria pollutants.

The Corps completed ESA consultation with National Marine Fisheries Service (NMFS). This concluded in NMFS’s issuance of the 2012 BiOp. In the NMFS BiOp, the terms and conditions (T&Cs) include specific mandates for the timing of dredging and placement activities, water quality sampling and monitoring, operational constraints, dissuasion practices for avian species that consume juvenile salmonids, and construction requirements for in-water, upland, and shoreline dredged material placement sites.

The Corps has re-initiated ESA consultation with the United States Fish and Wildlife Service (USFWS) in March 2014. The biological assessment evaluates the effects on federally listed species and their critical habitats, specifically the effects to Streaked Horned Larks from the placement of dredged material on upland disposal sites.

The Corps has requested a CWA Section 401 Water Quality Certification (WQC) from the Oregon Department of Environmental Quality (DEQ) for the Columbia River Operation and Maintenance Program and a proposed water quality monitoring plan.

Additionally, under the National Environmental Policy Act the Corps is updating and submitting for public comment the Draft Environmental Assessment for the Columbia River Operation and Maintenance Program. These documents satisfy the substantive federal requirement of the Coastal Zone Management Act and also demonstrate consistency with the state and local use policies. >>

- **Goal 16 - Estuarine Resources** *“To recognize and protect the unique environmental, economic, and social value of each estuary and associated wetlands; and To protect, maintain, where appropriate develop, and where appropriate restore the long-term environmental, economic, and social values, diversity, and benefits of Oregon’s estuaries.”*

<<The Columbia River Estuary is classified as a “Development Estuary”. This classification allows for uses such as navigation development and dredged material disposal in conservation units. The EA and BA prepared for this action address direct, indirect, and cumulative effects on estuary resources and conclude that minimal adverse impact would result from this action. >>

- **Goal 17 - Coastal Shorelands** *“To conserve, protect, where appropriate, develop and where appropriate restore the resources and benefits of all coastal shorelands, recognizing their value for protection and maintenance of water quality, fish and wildlife habitat, water-dependent uses, economic*

resources and recreation and aesthetics. The management of these shoreland areas shall be compatible with the characteristics of the adjacent coastal waters; and to reduce the hazard to human life and property, and the adverse effects upon water quality and fish and wildlife habitat, resulting from the use and enjoyment of Oregon's coastal shorelands."

<< Disposal (dredged material placement) site selection, and the quality of the material to be disposed comply to the maximum extent practicable with appropriate sections of S4.232. The need for dredged material placement is evaluated the draft Environmental Assessment prepared for this action. If no placement occurs on Pillar Rock Island, it is projected that the island will erode back into a shoal in 10 years. The shoal would likely be a highly transient shoal, and would be considered unprotected, open shallow water habitat. The conversion of approximately 50 acres of upland habitat and approximately 50 acres of intertidal estuarine wetlands to shallow water habitat over 10 years would account for a reduction of 1.3% of habitat within the Lewis and Clark National Wildlife Refuge total acreage, from 1.5% to 0.2%. The loss of Pillar Rock Island within the Lewis and Clark National Wildlife Refuge will reduce the number island marshes used by migrating tundra swans and Canada geese to 19 islands. These refuge islands and marshes are heavily used during waterfowl migration.

If shoreline placement does not occur, the pilings located on the northern shore of Pillar Rock Island, which deflect flows around the island and protect downstream shallow water habitats, will be lost over time due to erosion of their footings. The weakening of piling will reduce the amount of vertical structure in and over-water, as well as the pockets of low current habitat on the downstream side of each piling. The pilings will be rendered ineffective for channel stabilization, increasing the dredging actions required along this reach. Overtime, the loss of upland and intertidal shallow water and estuarine wetlands at Pillar Rock Island will reduce the amount of terrestrial and shallow water aquatic habitats in the lower Columbia River estuary. The habitat will become fragmented and more susceptible to increased scouring by natural high-flow energy events, thereby reducing suitability for shallow water habitat use by NMFS ESA-listed species. The higher value intertidal estuarine wetland and shallow water habitat on the backside of the island will be exposed to higher river flows as the island erodes. These flows will fragment the currently protected habitats and reduce their amount and quality. Pillar Rock Island is designated critical habitat for Streaked Horned Larks (SHLA), a USFWS ESA-listed species, and the remaining suitable upland habitat will be lost over time. Pillar Rock Island is used by SHLA for foraging, breeding, and rearing young in sparsely vegetated uplands. The island would no longer provide potential over-wintering habitat for SHLA.

The Columbia River has not yet stabilized following the completion of channel improvements in 2010, and by necessity, the Network needs to be fully utilized to accommodate the increased volumes of dredged material removed from shoals in the Columbia River. To meet this need, the Corps is proposing to continue placing dredged materials on the existing dredged material placement network, including the addition of shoreline placement at Pillar Rock Island. This allows for strategic management of dredged material for conservation and operational purposes. The careful management of the Network will allow for greater flexibility for the CR O&M program. The Corps proposes to place up to 500,000 CY on the shoreline each year for the next five years. The initial 2014 placement will occur on the northern portion of the island to rebuild the site. Placement on the shoreline will be within the existing real estate boundaries of the island. No placement will be below ordinary low water. The placement sequence assumes 25,000 CY will be placed daily, working five to seven days a week, and requiring three days to move between work areas. Shoreline placement requires a 0.10-acre upland staging area. The sequence for each subsequent dredging year will be estimated during each year's annual coordination meeting with the USFWS. The proposed shoreline placement at Pillar Rock will facilitate use of the upland placement site, which is currently too narrow for placement to occur. Once the site reaches upland placement capacity, shoreline placement would be conducted periodically to protect the integrity of the upland site. Without the modification to the Pillar Rock Island to allow shoreline placement, the upland disposal site at the island will remain inaccessible and the island will continue to erode. >>

Oregon Revised Statutes (ORS) Applicable to the Oregon Coastal Management Plan

ORS 274 – Submersible and Submerged Lands: This statute applies to disposal of dredged material below ordinary high water of navigable state waters.

<<The action of placing dredged material will occur at and below the ordinary high water mark. Material placed above the high water mark has already been cleared for upland placement. This action is exempt from this statute as stated in Administrative Rule 141-085-0530.3 “Activities conducted by or on the behalf of any agency of the federal government acting in the capacity of navigational servitude in connection with a federally authorized navigation channel are exempt. Disposal of dredged material within the ordinary high water line of the same waterway is also exempt.”>>

ORS 496 – Application, Administration, and Enforcement of Wildlife Laws:

<<An Environmental Assessment (EA) will evaluate impacts to wildlife species within the proposed project area. Any state-listed species will be addressed through this EA. Endangered Species Act (ESA) evaluations were conducted for this proposed action. ESA consultation has been completed with the National Marine Fisheries Service. ESA consultation is being reinitiated with the United States Fish and Wildlife Service. Therefore, the Corps meets the requirements of this statute. Two emails from Jeff Fisher to Gretchen Smith, December 24, 2013 provided concurrence with the Corps proposed Pillar Rock Island shoreline placement site.

National Marine Fisheries Service. 2012. *Reinitiation of Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Columbia River Navigation Channel and Operations and Maintenance, Mouth of the Columbia River to Bonneville Dam, Oregon and Washington (HUCs 1708000605, 1708000307, 1708000108).* NMFS No. 2011/02095. Northwest Region. Seattle, Washington, July 11, 2012. (2012 BiOp)

United States Fish and Wildlife Service. 2002. *Biological and Conference Opinions for the Columbia River Channel Improvement Project.* Tracking number 02-1743, 02-4943. Oregon State Office. Portland, Oregon. May 20, 2002.>>

ORS – General Protective Regulations:

<<The EA will describe the mechanisms to be used to minimize habitat loss as a result of proposed shoreline placement at Pillar Rock Island.>>

ORS 468B – Water Quality:

<<The EA, Section 401 and Section 404(b)(1) evaluations prepared for this action will address all water quality evaluations required by this statute. The Corps submitted an application for a 401 WQC to DEQ on 29 Oct 2013. The DEQ is currently evaluating the application. It is expected that a WQC will be issued to the Corps by 15 May 2014.>>

Clatsop County Standards Document

S4.200. Columbia River Estuary Shoreland and Aquatic Use and Activity Standards. The Columbia River Estuary shoreland and aquatic area standards are requirements which apply to development uses and activities proposed in one or more management designations. The proposed action will be occurring in areas zoned as Conservation Shorelands (CS) and Aquatic Conservation Two (AC-2).

S4.232. Dredging and Dredged Material Disposal. Standards in this subsection are applicable to all Columbia River Estuary estuarine dredging operations and to both estuarine shoreland and aquatic dredged material disposal:

(1) Dredging in estuarine aquatic areas, subject to dredging and dredged material disposal policies and standards, shall be allowed only: << **DLCD has already concurred with the Columbia River Operations and Maintenance program and the dredging action is not subject to further consistency review under this determination (Concurrence letter from DLCD, 23 June 2003). Therefore this standard needs no further evaluation.>>**

(2) When dredging is permitted, the dredging shall be the minimum necessary to accomplish the proposed use. << **DLCD has already concurred with the Columbia River Operations and Maintenance program and the dredging action is not subject to further consistency review under this determination (Concurrence letter from DLCD, 23 June 2003). Therefore this standard needs no further evaluation.>>**

(3) Undesirable erosion, sedimentation, increased flood hazard, and other changes in circulation shall be avoided at the dredging and disposal site and in adjacent areas. << **The practice of shoreline placement of dredged material at Pillar Rock Island will stabilize the upland disposal site, thereby reducing undesirable erosion from the upland portion of the island. By conducting this action, it is expected that there would be no increase in undesirable erosion, sedimentation, increased flood hazard, and other changes in circulation. >>**

(4) The timing of dredging and dredged material disposal operations shall be coordinated with state and federal resource agencies, local governments, and private interests to protect estuarine aquatic and shoreland resources, minimize interference with commercial and recreational fishing, including snag removal from development drifts, and insure proper flushing of sediment and other materials introduced into the water by the project. << **DLCD has already concurred with the Columbia River Operations and Maintenance program and the dredging action is not subject to further consistency review under this determination (Concurrence letter from DLCD, 23 June 2003). Timing of the placement action has been coordinated with NMFS, USFWS, DOE, and DEQ. The Corps notifies the public prior to conducting any placement actions within the Network.>>**

(5) Bottom sediments in the dredging area shall be characterized by the applicant in accordance with U.S. Environmental Protection Agency, and Oregon Department of Environmental Quality standards. Information that may be required includes, but is not limited to, sediment grain size distribution, organic content, oil and grease, selected heavy metals, pesticides and other organic compounds, and benthic biological studies. The types of sediment tests required will depend on dredging and disposal techniques, sediment grain size, available data on the sediments at the dredging site, and proximity to contaminant sources. Generally, projects involving in-water disposal of fine sediments will require a higher level of sediment testing than projects involving disposal of coarse sediments. Projects involving upland disposal may be exempted from the testing requirement, depending on the nature of the sediments and the amount of existing sediment data available. Unavailable burdens on the permit applicant shall be minimized by considering the economic cost of performing the sediment evaluation, the utility of the data to be provided, and the nature and magnitude of any potential environmental effect. << **All relevant state and federal water quality standards will be met and sediments evaluated in accordance with the Sediment Evaluation Framework prior to dredged material placement. All Columbia River sediment from the federal navigation channel dredging are suitable for unconfined in-water placement. >>**

(6) Adverse short term effects of dredging and aquatic area disposal such as increased turbidity, release of organic and inorganic materials or toxic substances, depletion of dissolved oxygen, disruption of the food chain, loss of benthic productivity, and disturbance of fish runs and important localized biological communities shall be minimized. << **DLCD has already concurred with the Columbia River Operations and Maintenance program and the dredging action is not subject to further consistency review under this determination (Concurrence letter from DLCD, 23 June 2003). The Corps implements Best Management Practices to ensure placement actions do not exceed state water quality standards, introduce organic, inorganic, or toxic substances into the system, deplete dissolved oxygen, disrupt the food chain and cause loss of benthic productivity, and disturb localized biologic communities.>>**

(7) Impacts on areas adjacent to the dredging site such as destabilization of fine textured sediments, erosion, siltation and other undesirable changes in circulation patterns shall be minimized. << **DLCD has already concurred with the Columbia River Operations and Maintenance program and the dredging action is not subject to further consistency review under this determination (Concurrence letter from DLCD, 23 June 2003). Therefore this standard needs no further evaluation.>>**

(8) The effects of both initial and subsequent maintenance dredging, as well as dredging equipment marshaling and staging, shall be considered prior to approval of new projects or expansion of existing projects. Projects will not be approved unless disposal sites with adequate capacity to meet initial excavation dredging and at least five years of expected maintenance dredging requirements are available. << **DLCD has already concurred with upland placement at Pillar Rock (Concurrence letter from DLCD, 23 June 2003). Since 2001, over 32% of Pillar Rock Island has eroded away. There is not enough capacity on the current footprint for upland placement. Shoreline placement will allow for upland placement to occur on Pillar Rock Island. Shoreline placement will occur as needed in order to protect the integrity of the upland placement site. Once the upland placement footprint is restored, it is expected that Pillar Rock Island has a project life cycle greater than 5 years.>>**

(9) Dredging for maintenance of existing tidegate drainage channels and drainage ways is limited to the amount necessary to maintain and restore flow capacity essential for the function (the drainage service provided by the tidegate) of tidegates and to allow drainage and protection of agricultural and developed areas. Tidegate maintenance dredging does not include enlarging or extending the dimensions of, or changing the bottom elevations of, the affected tidegate drainage channel or drainage way as it existed prior to the accumulation of sediments. <<**Does not apply to this action. Therefore this standard needs no further evaluation.>>**

(10) Dredging of subtidal estuarine areas as a source of fill material for dike maintenance, in all aquatic area designation, may be allowed upon the applicant's demonstration that: <<**Does not apply to this action. Therefore this standard needs no further evaluation.>>**

(11) Dredging for mining and mineral extraction, including sand extraction, shall only be allowed in areas deeper than 10 feet below MLLW where the project sponsor demonstrates that mining and mineral extraction in aquatic areas is necessary because no feasible upland sites exist and that the project will not significantly impact estuarine resources. The estuary bottom at the project site shall be sloped so that sediments from areas shallower than 10 feet below MLLW and other areas not included in the project do not slough into the dredged area. Dredging as part of an approved dredging project which also provided fill for an approved fill project shall not be subject to this standard. <<**Does not apply to this action. Therefore this standard needs no further evaluation.>>**

(12) When proposing dredging for sand extraction, the project sponsor shall first consider obtaining the material from a shoaled area within a federally authorized navigation channel that is currently shallower than its authorized depth. Said dredging shall be coordinated with the U.S. Army Corps of Engineers. The dredging depth shall not exceed the authorized channel depth plus any over-dredging that the Corps would normally perform while maintaining the site. <<**Does not apply to this action. Therefore this standard needs no further evaluation.>>**

(13) Dredged material disposal shall occur only at designated sites or at new sites which meet the requirements of the Dredged Material Disposal Site Selection Policies. **DLCD has already concurred with upland placement at Pillar Rock (Concurrence letter from DLCD, 23 June 2003). Pillar Rock Island is an upland material placement site; the action of beach nourishment meets the purpose of the DMDS beach nourishment as outlined in the Plan.>>**

(14) Proposals for in-water disposal of dredged materials, including flowlane disposal, beach nourishment, estuarine open-water disposal, ocean disposal, and agitation dredging, shall:

(A) Demonstrate the need for the proposed action and that there are no feasible alternative disposal sites or methods that entail less damaging environmental impacts; and <<The intent of shoreline placement is to restore and protect an authorized placement site for Federal Navigation Channel maintenance. The action provides the added benefit of environmental protection of a natural resource. If no placement occurs on Pillar Rock Island, it is projected that the island will erode back into a shoal in 10 years. The shoal would likely be a highly transient shoal, and would be considered unprotected, open shallow water habitat. The conversion of approximately 50 acres of upland habitat and approximately 50 acres of intertidal estuarine wetlands to shallow water habitat over 10 years would account for a reduction of 1.3% of habitat within the Lewis and Clark National Wildlife Refuge total acreage, from 1.5% to 0.2%. The loss of Pillar Rock Island within the Lewis and Clark National Wildlife Refuge will reduce the number island marshes used by migrating tundra swans and Canada geese to 19 islands. These refuge islands and marshes are heavily used during waterfowl migration.

If shoreline placement does not occur, the pilings located on the northern shore of Pillar Rock Island, which deflect flows around the island and protect downstream shallow water habitats, will be lost over time due to erosion of their footings. The weakening of piling will reduce the amount of vertical structure in and over-water, as well as the pockets of low current habitat on the downstream side of each piling. The pilings will be rendered ineffective for channel stabilization, increasing the dredging actions required along this reach.

Overtime, the loss of upland and intertidal shallow water and estuarine wetlands at Pillar Rock Island will reduce the amount of terrestrial and shallow water aquatic habitats in the lower Columbia River estuary. The habitat will become fragmented and more susceptible to increased scouring by natural high-flow energy events, thereby reducing suitability for shallow water habitat use by NMFS ESA-listed species. The higher value intertidal estuarine wetland and shallow water habitat on the backside of the island will be exposed to higher river flows as the island erodes. These flows will fragment the currently protected habitats and reduce their amount and quality. Pillar Rock Island is designated critical habitat for Streaked Horned Larks (SHLA), a USFWS ESA-listed species, and the remaining suitable upland habitat will be lost over time. Pillar Rock Island is used by SHLA for foraging, breeding, and rearing young in sparsely vegetated uplands. The island would no longer provide potential over-wintering habitat for SHLA.

>>

(B) Demonstrate that the dredged sediments meet state and federal sediment testing requirements and water quality standards (see Dredging Standard 5); and << DLCD has already concurred with the Columbia River Operations and Maintenance program and the dredging action is not subject to further consistency review under this determination (Concurrence letter from DLCD, 23 June 2003).>>

(C) Not be permitted in the vicinity of a public water intake. <<There is no known public water intake near the project vicinity.>>

(15) Proposals for in-water estuary disposal shall be coordinated with commercial fishing interests, including, but not limited to: development drift captains at the dredging and disposal site, the Columbia River Fisherman's Protective Union, Northwest Gillnetters Association, and the State fishery agencies. In-water disposal actions shall avoid development drifts whenever feasible. When it is not feasible to avoid development drifts, impacts shall be minimized in coordination with fisheries interests through:

(A) Disposal timing,

(B) Gear placement,

(C) Choice of disposal area within the drift, and

(D) Disposal techniques to avoid snag placement.

<<The Corps submits a Notice to Mariners to the US Coast Guard. The US Coast Guard publishes the Notice to Mariners. The Corps will include any potential shoreline placement actions at Pillar Rock into the Notice to Mariners at that time.>>

(16) Flowlane disposal, estuarine open water disposal and agitation dredging shall be monitored to assure that estuarine sedimentation is consistent with the resource capabilities and purposes of affected natural and conservation designations. The monitoring program shall be established prior to undertaking disposal. The program shall be designed to both characterize baseline conditions prior to disposal and monitor the effects of the disposal. The primary goals of the monitoring are to determine if the disposal is resulting in measurable adverse impacts and to establish methods to minimize impacts. Monitoring shall include, at a minimum, physical measurements such as bathymetric changes and may include biological monitoring. Specific monitoring requirements shall be based on, at a minimum, sediment grain size at the dredging and disposal site, presence of contaminants, proximity to sensitive habitats and knowledge of resources and physical characteristics of the disposal site. << **DLCD has already concurred with the Columbia River Operations and Maintenance program and the dredging and in-water placement action is not subject to further consistency review under this determination (Concurrence letter from DLCD, 23 June 2003). Therefore this standard needs no further evaluation.>>**

(17) Flowlane disposal shall be in Aquatic Development areas identified as low in benthic productivity and use of these areas shall not have adverse hydraulic effects. Use of flowlane disposal areas in the estuary shall be allowed only when no feasible alternative land or ocean disposal sites with less damaging environmental impacts can be identified and the biological and physical impacts of flowlane disposal are demonstrated to be insignificant. The feasibility and desirability of alternative sites shall take into account, at a minimum: << **DLCD has already concurred with the Columbia River Operations and Maintenance program and the dredging and in-water placement action is not subject to further consistency review under this determination (Concurrence letter from DLCD, 23 June 2003). Therefore this standard needs no further evaluation.>>**

(18) Ocean disposal shall be conducted such that: << **DLCD has already concurred with the Columbia River Operations and Maintenance program and the dredging and in-water placement action is not subject to further consistency review under this determination (Concurrence letter from DLCD, 23 June 2003). Therefore this standard needs no further evaluation.>>**

(19) Beach nourishment shall only be conducted at sites identified in the Dredged Material Management Plan. New sites may be added to the Plan by amendment after an exception to Oregon Statewide Planning Goal 16 for the site has been approved. Beach nourishment shall be conducted such that: **The Corps does not have any authority to require the County to make the change nor does the Corps have a federal requirement to apply for an amendment to the Dredged Material Management Plan.**

(A) The beach is not widened beyond its historical profile. The historical profile shall be defined as the widest beach profile that existed prior to June 1986. <<**The Corps proposed action is to remain within the upland placement site footprint that DLCD concurred with for the Columbia River Operations and Maintenance program (Concurrence letter from DLCD, 23 June 2003).>>**

(B) The material placed on the beach consists of sand of equal or greater grain size than the sand existing on the beach. <<**See standard 5.>>**

(C) Placement and subsequent erosion of the materials does not adversely impact tidal marshes or productive intertidal and shallow subtidal areas. <<**This action has the added benefit of protecting tidal marshes and productive intertidal and shallow subtidal areas adjacent to the placement site.>>**

(D) Efforts are made to maintain a stable beach profile. <<**The Corps grades the beach profile between 10-15% as required by NMFS.>>**

(E) Dredged material is graded at a uniform slope and contoured to minimize juvenile fish stranding and hazards to beach users. Use of beach nourishment sites shall be allowed only when no feasible land or ocean sites with less damaging environmental impacts can be identified. The feasibility and desirability of alternative sites shall take into account, at a minimum: <<**The Corps grades the beach profile between 10-15% as required by NMFS.>>**

(F) Operational constraints such as distance to the alternative sites; << **Shoreline placement is required at Pillar Rock Island, to protect the upland placement site at Pillar Rock Island. There is no suitable alternative actions that can be conducted to restore and protect the Pillar Rock Island upland site.>>**

(G) Sediment characteristics at the dredging site; <<See standard 5>>

(H) Timing of the operation; <<**Timing of the placement action has been coordinated with NMFS, USFWS, DOE, and DEQ. The Corps notifies the public prior to conducting any placement actions within the Network.>>**

(I) Environmental Protection Agency constraints on the use of designated ocean disposal sites; <<**Does not apply to this action. Therefore this standard needs no further evaluation.>>**

(J) The desirability of reserving some upland sites for potentially contaminated material only. <<**Does not apply to this action. Therefore this standard needs no further evaluation.>>**

(20) Except as noted below, land disposal and site preparation shall be conducted such that: <<**The proposed action is not considered land disposal. Therefore this standard needs no further evaluation.>>**

(21) Land disposal sites which are not intended for dredged material disposal or development use within a two year period following disposal shall be revegetated as soon as site and weather conditions allow, unless habitat management plans agreed upon by resource management agencies specify that open sand areas should remain at the site. The project sponsor shall notify the City and state and federal permitting and resource management agencies when disposal is completed and shall coordinate revegetation with these agencies. The notification shall be sent to at least the following agencies: the local jurisdiction, U.S. Army Corps of Engineers, Soil Conservation Service, Division of State Lands, Oregon Department of Fish and Wildlife. Revegetation of a disposal site does not preclude future use of the sites for dredged material disposal. The disposal site design shall be reviewed to determine if wetlands or other habitats will form on the site during the period between disposal actions. The disposal permit may be conditioned to allow future disposal actions to fill the created wetlands or habitats. <<**The proposed action is not considered land disposal. Therefore this standard needs no further evaluation.>>**

(22) The final height and slope after each use of a land dredged material disposal site shall be such that: <<**The proposed action is not considered land disposal. Therefore this standard needs no further evaluation.>>**

S4.235. Filling of Aquatic Areas and Non-Tidal Wetlands.

This subsection applies to the placement of fill material in tidal wetlands and waters of the Columbia River Estuary. These standards also apply to fill in non-tidal wetlands in shoreland designations that are identified as "significant" wetlands under Statewide Planning Goal 17.

(1) Fill in estuarine aquatic areas may be permitted only if all of the following criteria are met:

(A) If required for navigation or for other water-dependent uses requiring an estuarine location, or if specifically allowed under the applicable aquatic zone; and <<**This action is required to maintain the Federal Navigation Channel and protect a Corps asset.>>**

(B) If a need (i.e. a substantial public benefit) is demonstrated; and <<**refer to standard 14 of S4.200. Columbia River Estuary Shoreland and Aquatic Use and Activity Standards.>>**

(C) The proposed fill does not unreasonably interfere with public trust rights; and <<**This action has been approved by ODSL through the real estate easement agreement and serves at the best interest to the public trust rights.>>**

(D) Feasible alternative upland locations do not exist; and <<**There are no alternative upland placement sites within the project vicinity. The action is to protect the existing and available placement site.>>**

(E) Adverse impacts, as identified in the impact assessment, are minimized. <<**The Corps follows Best Management Practices to minimize impacts to the natural, human, and cultural environment.>>**

(2) A fill shall cover no more than the minimum necessary to accomplish the proposed use. <<The Corps proposed action is to remain within the upland placement site footprint that DLCD concurred with for the Columbia River Operations and Maintenance program (Concurrence letter from DLCD, 23 June 2003).>>

(3) Aquatic area fills using either dredged material or other easily erodible material shall be surrounded by appropriately stabilized dikes. <<Does not apply to this action. Therefore this standard needs no further evaluation.>>

(4) Aquatic areas shall not be used for disposal of solid waste. <<Does not apply to this action. Therefore this standard needs no further evaluation.>>

(5) Projects involving fill may be approved only if the following alternatives are examined and found to be infeasible:

(A) Construct some or all of the project on piling; <<This is not a feasible action. >>

(B) Conduct some or all of the proposed activity on existing upland; <<The intent of shoreline placement is reestablish the upland placement site at Pillar Rock Island.>>

(C) Approve the project at a feasible alternative site where adverse impacts are less significant. <<There are no alternative upland placement sites within the project vicinity. The action is to protect the existing and available placement site at Pillar Rock Island.>>

Columbia River Estuary Dredged Material Management Plan

<<The *Columbia River Estuary Dredged Material Management Plan* is a document developed by the Columbia River Estuary Study Taskforce group in 2002 (and since updated in 2007 and 2013), outlining Clatsop County's dredged material placement sites. >>

Page 31 and 32 of the *Dredged Material Management Plan* specifies special conditions for dredged material actions for Pillar Rock Island. As stated in the document, the special conditions on use (include but not limited to):

- 1) The southern boundary of the site shall be leveed [sic] to prevent dredged material or associated runoff from entering the tidal wetlands south of the site.
- 2) The site is within the known home range of a nesting pair of bald eagles and is used by nesting geese, gulls, and terns. Prior to undertaking disposal, the dredging project proponents shall consult with the U.S. Fish and Wildlife Service, the Washington Department of Fish and Wildlife, and the Oregon Department of Fish and Wildlife to determine methods of reducing potential impacts to bald eagles and nesting geese, gulls, and terns.
- 3) Prior to undertaking disposal, the dredging project proponent shall consult with the Columbia River Fisherman's Protection Union, Salmon for All, the NW Gillnetters Association, other known fishing organizations, and the state fishery agency to determine project timing and disposal methods that will minimize impacts to the gillnet fishery.
- 4) Prior to undertaking disposal, the dredging project proponent shall consult with the state fishery agency, National Marine Fisheries Service, and U.S. Fish and Wildlife Service to determine project time and disposal methods that will minimize impacts to juvenile salmon.

<<All special condition provisions will be met by the Corps.>>

Clatsop County Land and Water Development and Use (Ordinance 80-14)

<<Pillar Rock Island is classified as Conservation Shorelands (CS) and Aquatic Conservation Two (AC-2). Additionally, two special purpose (overlay) districts modify the requirements of the underlying zones: the Shoreland Overlay District and Dredged Material Disposal Overlay District. The Columbia River Estuary

Coastal Shorelands (/SO) boundary is identified on the Columbia River Estuary Resource Maps dated July 2002. The boundaries of the Dredged Material Disposal (DMD) Overlay District are identified on the Columbia River Estuary Resource Base Maps dated September 30, 1983.

Dredging and placement of dredged material is an allowed use under Section 3.664 (2) in the Conservation Shorelands Zone and Section 3.784 (3) in the Aquatic Conservation Two Zone. Dredged material placement at the Pillar Rock upland disposal site is an approved use in the Comprehensive Plan. Shoreline placement at Pillar Rock Island is necessary to rebuild and maintain the upland dredged material placement site.>>

SECTION 3.660. CONSERVATION SHORELANDS ZONE (CS).

Section 3.662. Purpose and Areas Included.

This zone is intended to conserve Columbia River Estuary shorelands which provide important resource or ecosystem support functions and to designate areas for long term uses of renewable resources that do not require major alterations of the estuary, except for the purpose of restoration. They are managed for the protection and maintenance of water quality, fish and wildlife habitat, water-dependent uses, economic resources, aesthetic values and recreation. Uses of these shorelands shall be compatible with characteristics and uses of the adjacent estuarine waters.

Section 3.664. Permitted Developments.

The following uses and activities and their accessory uses and activities, are permitted in the CS zone under a Type I procedure, Section 2.015, and subject to the provisions of Section 3.670, Development Standards:

(8) Dredged material disposal including beach nourishment at sites designated in the Comprehensive Plan.

<<The proposed action is dredged material disposal at Pillar Rock Island.>>

Section 3.666. - Section 3.668. –

<<Section not applicable.>>

Section 3.670. Development Standards.

- (1) All uses and activities shall satisfy applicable regional policies contained in the Comprehensive Plan, Estuarine Resources and Coastal Shorelands Element.
- (2) All uses and activities shall satisfy applicable Columbia River Estuary Shoreland and Aquatic Use and Activity Standards contained in the Development and Use Standards document.
- (3) All other applicable ordinance requirements shall be satisfied.
- (4) Shoreline setbacks shall meet the requirements of development standards S4.237, Riparian Vegetation Protection.
- (5) When a proposal includes several uses, the uses shall be reviewed in aggregate under the more stringent procedure.
- (6) Uses that are water-dependent must meet the criteria in Section S4.243(1). Uses that are water-related must meet the criteria in Section S4.243(2).
- (7) Uses that are not water-dependent shall not preclude or conflict with existing or probable future water dependent uses on the site or in the vicinity.

Section 3.674. State and Federal Permits.

If any state or federal permit is required for a development or use, an applicant, prior to issuance of a development permit or action, shall submit to the Planning Department a copy of the state or federal permit.

<< The Corps will provide permits upon request.>>

SECTION 3.780. AQUATIC CONSERVATION TWO ZONE (AC-2).

Section 3.782. Purpose and Areas Included.

The purpose of the AC-2 zone is to conserve designated areas of the Columbia River Estuary for long term uses of renewable resources that do not require major alterations of the estuary, except for the purpose of restoration. They are managed for the protection and conservation of the natural resources and benefits found in these areas. The AC-2 zone includes areas needed for maintenance and enhancement of biological productivity, recreational resources, aesthetic values, aquaculture and open water portions of the estuary. The AC-2 zone includes areas of smaller or of less biological importance than those in the Aquatic Natural zone and Aquatic Conservation One zone. Areas that are partially altered and adjacent to existing development of low to moderate intensity which do not possess the resource characteristics of other aquatic areas are also included in this zone.

Section 3.784. Permitted Developments.

<<Section not applicable.>>

Section 3.786. Review Developments.

The following uses and activities, and their accessory uses and activities, are allowed as Review Uses in the AC-2 zone under a Type II procedure, Section 2.020, when authorized in accordance with Sections 5.040-5.051 development and Uses Permitted with Review. These uses and activities are also subject to the provisions of Section 3.770, Development Standards:<<**The Corps is not authorized to conduct a Type II procedure but identifies their action under review development as:**>>

- (1) Individual docks, and boat ramps for public use where neither dredging nor filling for navigation access is needed.
- (2) Pipelines, cables and utility crossings.
- (3) Maintenance and repair of existing structures or facilities, including dikes. <<**The Corps considers the Federal Navigation Channel a structure.**>>
- (4) Installation of tidegates in existing functional dikes.
- (5) Structural shoreline stabilization.
- (6) Water dependent portions of an aquaculture facility which do not involve dredge or fill or other estuarine alteration other than incidental dredging for harvest of benthic species or removable in-water structures such as stakes or racks.
- (7) Estuarine enhancement.
- (8) Bridge crossings.
- (9) Piling in conjunction with the review uses (1) through (9) listed above, pursuant to the applicable standards in Section S4.208.
- (10) Dredging in conjunction with the review uses (2) through (11) listed above, pursuant to the applicable standards in Section S4.232.
- (11) Filling in conjunction with the review uses (2) through (7), (10), and (11) listed above, pursuant to the applicable standards in Section S4.235. It must be determined that the following uses and activities, and their accessory uses and activities, meet the resource capability of the Aquatic Conservation zone in which they occur, subject to the procedures in Sections 5.860-5.880 Resource Capability Determination.
- (12) Dredging to obtain fill material for dike maintenance.
- (13) Temporary alterations.
- (14) Temporary uses involving an existing structure or involving new facilities requiring minimal capital investment and no permanent structures.
- (15) Piling, dredging or filling associated with the review uses (16) through (18) listed above, pursuant to the applicable standards in Sections S4.208, S4.232, and S4.235.

Section 3.788. Conditional Developments.

<<Section not applicable.>>

Section 3.790. Development Standards.

- (1) All uses and activities shall satisfy applicable regional policies contained in the Comprehensive Plan, Estuarine Resources and Coastal Shorelands element. <<**This action satisfies the Comprehensive Plan as described in this document.**>>

(2) All uses and activities shall satisfy Columbia River Estuary Shoreland and Aquatic Use and Activity Standards contained in the Development and Use Standards Document. <<**This action satisfies the Columbia River Estuary Shoreland and Aquatic Use and Activity Standards as described in this document.**>>

(3) All other applicable ordinance requirements shall also be satisfied. <<.>>

(4) A proposal which requires new dredging, fill, in-water structures, riprap, net log storage areas, water intake or withdrawal and effluent discharge, in-water disposal of dredged material, beach nourishment, application of pesticides and herbicides, or other activities which could affect the estuary's physical processes or biological resources is subject to an Impact Assessment, Sections 5.810-5.840. <<**see appendix a.**>>

(5) When a development permit proposal includes several uses, the uses shall be reviewed in aggregate under the more stringent procedure. <<**Not applicable because the proposed action is not a development permit.**>>

(6) For an expanded water-dependent commercial use of surface area (see Section 3.768, (6)), the following criteria are established and may be required by the Planning Commission:

(A) That the need for additional aquatic area cannot be met at other alternative locations in the County; <<**There are no alternatives that meet the requirements for the proposed action within the operational constraints of the placement program.**>>

SECTION 4.080. SHORELAND OVERLAY DISTRICT (/SO).

Section 4.082. Purpose.

The purpose of this district is to manage uses and activities in coastal shoreland areas which are not designated as a Shoreland Zone in a manner consistent with the resources and benefits of coastal shorelands and adjacent estuarine aquatic areas.

Section 4.084. Designation of Shoreland Overlay District.

This overlay district refers to areas described on official Clatsop County Zoning Maps. It does not include shoreland areas of the Columbia River Estuary designated Marine Industrial Shoreland, Conservation Shoreland, or Natural Shoreland. Included in this overlay district are:

(1) Areas subject to ocean flooding and lands within 100 feet of the ocean shore or within 50 feet of an estuary or a coastal lake.

(2) Areas of geological instability in or adjacent to the shoreland boundary when the geologic instability is related to or will impact a coastal water body.

(3) Natural or man-made riparian resources, especially vegetation which function to stabilize the shoreline or maintain water quality and temperature necessary for the maintenance of fish habitat and spawning areas.

(4) Areas of significant shoreland and wetland biological habitats whose habitat quality is primarily derived from or related to the association with coastal and estuarine areas.

(5) Areas necessary for water-dependent and water-related uses, including uses appropriate for port facilities and navigation, dredged material disposal and mitigation sites, and areas suitable for aquaculture.

(6) Areas of exceptional aesthetic or scenic quality, where the quality is primarily derived from or associated with the coastal or estuarine areas.

(7) Areas of recreational importance or public access which utilize coastal waters or riparian resources.

(8) Locations of archaeological or historical importance associated with the estuary.

(9) Coastal headlands.

(10) Dikes and their associated inland toe drains.

Section 4.086. Categories of Coastal Shorelands.

There are two categories of Coastal Shorelands as described below:

(1) Category 1:

(A) Those shorelands described in the Estuarine and Coastal Shoreland Element of the Comprehensive Plan as:

1) Significant, non-estuarine marshes;

2) Riparian resources;

3) Significant fish and wildlife habitat;

4) Exceptional aesthetic resources;

5) Historical and archaeological sites.

(2) Category 2:

(A) All shorelands which do not fall within 1(A)1-5 and are not currently designated Marine Industrial Shorelands, Conservation Shorelands or Natural Shorelands are the second category of Coastal Shorelands.

Section 4.088. Developments Permitted with Category 1 Coastal Shorelands.

<<Section not applicable.>>

Section 4.090. Developments Permitted within Category 2 Coastal Shorelands.

Within coastal shorelands defined in Section 4.086(2) the following uses and activities are permitted if otherwise allowed in the underlying zone, and subject to the requirements and standards of the use in the underlying zone:

(1) Uses allowed in Section 4.088 above.

(2) Single family dwellings, provided that, if possible, the dwelling is to be located on a portion of the property outside of the Coastal Shoreland boundary.

(3) Limited home occupation.

(4) Home occupation in an existing building.

(5) Signs.

(6) Water-dependent recreation.

(7) Projects for the protection of habitat, nutrient, fish, wildlife and aesthetic resources.

(8) Aquaculture.

(9) Utilities as necessary for public service.

(10) Water-dependent commercial and industrial uses. <<The Federal Navigation Channel is a water-dependent commercial resource.>>

Other uses and activities within Category 2 Coastal Shorelands are allowed under a Type IV procedure upon findings that such uses and activities are compatible with the objectives of the Comprehensive Plan to protect riparian vegetation and wildlife habitat.

Section 4.092. Development Standards.

(1) All uses and activities in the Columbia River Estuary Shoreland Overlay District will satisfy applicable Columbia River Estuary Shoreland and Aquatic Area Use and Activity Standards contained in the Development and Use Standards Document. <<The Corps will to the maximum extent practicable. All elements have been addressed above.>>

(2) If a proposal involves several uses, the standards applicable to each use shall be satisfied. << The Corps will to the maximum extent practicable.>>

(3) For parcels totally within the Coastal Shorelands Boundary, structures shall be sited according to lot line setbacks and Riparian Vegetation Standards in S4.500 et seq. <<There will be no permanent structures constructed within the Coastal Shorelines Boundary for this action.>>

SECTION 4.160. DREDGED MATERIAL DISPOSAL SITE RESERVATION OVERLAY DISTRICT (/DMD).

Section 4.162. Purpose.

The intent of this district is to designate dredged material disposal sites in the County with respect to present and expected water-dependent development and navigational access requirements in the Columbia River Estuary and to protect these sites for dredged material disposal operations.

Section 4.164. District Boundaries.

The /DMD Site Reservation District conforms to the description of dredged material disposal sites in the Columbia River Estuary Dredged Material Management Plan of the County's Comprehensive Plan. Revisions to the Columbia River Estuary Dredged Material Management Plan must be recorded by amendment to the Comprehensive Plan. <<Review the P20.5. DREDGING AND DREDGED MATERIAL DISPOSAL section of this document. P20.5(15) of the Plan state: CREST's Columbia River Estuary Dredged Material Management Plan (CREDMMP) is an essential source of information for Clatsop County's DMD planning

and policies. The county will consider the CREDMMP in adopting and amending its DMD plan and will periodically revise the plan to keep it consistent with the CREDMMP.

P20.5(16) of the Plan state: In order to ensure the adequacy of identified dredged material disposal site capacities for anticipated disposal requirements, an analysis of the dredge material disposal site inventory shall be completed periodically, in conjunction with each update CREST's Columbia River Estuary Dredged Material Management Plan. The County shall cooperate with other jurisdictions on the Columbia River Estuary in monitoring of dredge material site availability and in dredged material disposal plan update.

<<The Corps will inform CREST and the county that the CREDMMP may need to be updated to reflect this update of disposal operations at Pillar Rock Island. The Corps is not authorized to maintain the CREDMMP.>>

Section 4.166. Dredged Material Disposal Sites.

The purpose of site designations is to protect important dredged material disposal sites from incompatible and preemptive uses that may limit their ultimate use for the deposition of dredged material, and to ensure that an adequate number of sites will be reserved in order to accommodate dredged material disposal needs resulting from five years of existing and expected water-dependent development and navigation projects.

<< DLCD has already concurred with upland placement at Pillar Rock (Concurrence letter from DLCD, 23 June 2003). Since 2001, over 32% of Pillar Rock Island has eroded away. There is not enough capacity on the current footprint for upland placement. Shoreline placement will allow for already designated upland placement to occur on Pillar Rock Island. Shoreline placement will occur as needed in order to protect the integrity of the upland placement site. Once the upland placement footprint is restored, it is expected that Pillar Rock Island has a project life cycle greater than 5 years.>>

Section 4.168. Uses Allowed in Dredged Material Disposal Sites.

Dredged material disposal including beach nourishment designated in the Comprehensive Plan's background report Columbia River Estuary Dredged Material Management Plan is permitted with standards under a Type I procedure if the site is located upland or in the coastal shoreland boundary. Dredged material disposal including beach nourishment designated in the Comprehensive Plan and located in aquatic areas may be allowed as a Review Use under a Type II procedure.<<refer to section Section 3.790. Development Standards.>> In addition, only those development uses and activities permitted, permitted with review or conditionally permitted in the underlying zone which are determined not to preempt the site's future use for dredged material disposal are allowed, subject to the policies and procedural requirements of the underlying zone.

Section 4.170. Removal of Dredged Material Disposal Site Designation.

<<This section is not applicable to the proposed action.>>

SECTION 5.040. DEVELOPMENT AND USE PERMITTED WITH REVIEW.

<<This section is not applicable as the proposed action is not considered a development action. >>

SECTION 5.800. COLUMBIA RIVER ESTUARY IMPACT ASSESSMENT AND RESOURCE CAPABILITY DETERMINATION.

<<Impact Assessment - Appendix A.>>

Section 5.840. Impact Assessment Conclusion.

Based on the information and analysis in Section 5.830, one of the following four conclusions shall be reached:

(1) The proposed uses and activities do not represent a potential degradation or reduction of estuarine resource.

(2) The proposed uses and activities represent a potential degradation or reduction of estuarine resources. The Impact Assessment identifies reasonable alterations or conditions that will eliminate or minimize to an acceptable level expected adverse impacts.

(3) The proposed uses and activities will result in unacceptable losses. The proposed development represents irreversible changes and actions and unacceptable degradation or reduction of estuarine resource properties will result.

(4) Available information is insufficient for predicting and evaluating potential impacts. More information is needed before the project can be approved.

Section 5.860. Resource Capability Determination.

Some uses and activities in Columbia River Estuary Natural and Conservation Aquatic zones are allowed only if determined to meet the resource capabilities of the area and if determined to be consistent with the purpose of the affected zone. Some uses and activities in Development Aquatic zones are allowed only if determined to be consistent with the purpose of the zone.

<<This section is not applicable to the proposed action.>>

Section 5.870. Resource Capability Procedure.

<<This section is not applicable to the proposed action.>>

Clatsop County Comprehensive Plan Goals and Policies (June 23, 2012)

P20.5. DREDGING AND DREDGED MATERIAL DISPOSAL

Policies in this subsection are applicable to all estuarine dredging operations and to both estuarine shoreland and aquatic dredged material disposal in the Columbia River Estuary. Clatsop County Comprehensive Plan Goals and Policies 76 June 23, 2012

1. Dredging shall be allowed only: **<< DLCD has already concurred with the Columbia River Operations and Maintenance program and the dredging action is not subject to further consistency review under this determination (Concurrence letter from DLCD, 23 June 2003). Therefore this standard needs no further evaluation.>>**

2. Dredging and dredged material disposal shall not disturb more than the minimum area necessary for the project and shall be conducted so as to minimize impacts on wetlands and other estuarine resources. Loss or disruption of fish and wildlife habitat and damage to essential properties of the estuarine resource shall be minimized by careful location, design, and construction of:

(a) Facilities requiring dredging, **<<not applicable.>>**

(b) Sites designated to receive dredged material, and **<<The Corps proposed action is to remain within the upland placement site footprint that DLCD concurred with for the Columbia River Operations and Maintenance program (Concurrence letter from DLCD, 23 June 2003).>>**

(c) Dredging operation staging areas and equipment marshalling yards. Dredged materials shall not be placed in intertidal or tidal marsh habitats or in other areas that local, state, or federal regulatory agencies determine to be unsuitable for dredged material disposal. Exceptions to the requirement concerning disposal in an intertidal or tidal marsh area include use of dredged material as a fill associated with an approved fill project or placement of dredged materials in the sandy intertidal area of a designated beach nourishment site. Land disposal shall enhance or be compatible with the final use of the site area.

<<The proposed action is not considered land disposal.>>

3. The timing of dredging and dredged material disposal operations shall be coordinated with state and federal resource agencies, local governments, and private interests to protect estuarine aquatic and shoreland resources, minimize interference with recreational and commercial fishing operations, including snag removal from gillnet drifts, and insure proper flushing of sediment and other materials introduced into the water by the project. **<<Timing of the placement action has been coordinated with NMFS, USFWS, DOE, and DEQ. The Corps notifies the public prior to conducting any placement actions within the Network.>>**

4. The effects of both initial and subsequent maintenance dredging, as well as dredging equipment marshalling and staging, shall be considered prior to approval of new projects or expansion of existing projects. Projects will

not be approved unless disposal sites with adequate capacity to meet initial excavation dredging and at least five (5) years of expected maintenance dredging requirements are available.

<< DLCD has already concurred with upland placement at Pillar Rock (Concurrence letter from DLCD, 23 June 2003). Since 2001, over 32% of Pillar Rock Island has eroded away. There is not enough capacity on the current footprint for upland placement. Shoreline placement will allow for upland placement to occur on Pillar Rock Island. Shoreline placement will occur as needed in order to protect the integrity of the upland placement site. Once the upland placement footprint is restored, it is expected that Pillar Rock Island has a project life cycle greater than 5 years.>>

5. Dredging subtidal areas to obtain fill material for dike maintenance may be allowed subject to Columbia River Estuary Dredging Standard S4.232(10). **<<Does not apply to this action. Therefore this standard needs no further evaluation.>>**

6. Dredging for mining and mineral extraction, including sand extraction, shall only be allowed in areas deeper than 10 feet below MLLW where the project sponsor demonstrates that mining extraction in aquatic areas is necessary because no feasible upland sites exist and that the project will not significantly impact estuarine resources. The estuary bottom at the project site shall be sloped so that sediments from areas shallower than 10 feet below MLLW and other areas not included in the project do not slough into the dredged area. Dredging as part of an approved dredging project which also provides fill for an approved fill project shall not be subject to the mining and mineral extraction policies and standards. **<<Does not apply to this action. Therefore this standard needs no further evaluation.>>**

7. Where a dredged material disposal site is vegetated, disposal should occur on the smallest land area consistent with sound disposal methods (e.g., providing for adequate dewatering of dredged sediments, avoiding degradation of receiving waters). Clearing of land should occur in stages and only as needed. It may, however, be desirable to clear and fill an entire site at one time, if the site will be used for development immediately after dredged material disposal. Reuse of existing disposal sites is preferred to the creation of new sites provided that the dikes surrounding the site are adequate or can be made adequate to contain the dredged materials. **<<Does not apply to this action. Therefore this standard needs no further evaluation.>>**

8. Disposal of dredged materials in intertidal areas shall only be allowed at designated beach nourishment sites or to provide fill material for an approved intertidal fill project.

<< P20.5(15) of the Plan state: CREST's Columbia River Estuary Dredged Material Management Plan (CREDMMP) is an essential source of information for Clatsop County's DMD planning and policies. The county will consider the CREDMMP in adopting and amending its DMD plan and will periodically revise the plan to keep it consistent with the CREDMMP.>>

P20.5(16) of the Plan state: In order to ensure the adequacy of identified dredged material disposal site capacities for anticipated disposal requirements, an analysis of the dredge material disposal site inventory shall be completed periodically, in conjunction with each update CREST's Columbia River Estuary Dredged Material Management Plan. The County shall cooperate with other jurisdictions on the Columbia River Estuary in monitoring of dredge material site availability and in dredged material disposal plan update.

The Corps will inform CREST and the county that the CREDMMP may need to be updated to reflect this update of disposal operations at Pillar Rock Island. The Corps is not authorized to maintain the CREDMMP.>>

9. When identifying land dredged material disposal sites, emphasis shall be placed on sites where:
(a) The local comprehensive plan land use designation is Development, provided that the disposal does not preclude future development at the site; **<< DLCD has already concurred with upland placement at Pillar Rock (Concurrence letter from DLCD, 23 June 2003). Since 2001, over 32% of Pillar Rock Island has**

eroded away. There is not enough capacity on the current footprint for upland placement. Shoreline placement will allow for upland placement to occur on Pillar Rock Island. Shoreline placement will occur as needed in order to protect the integrity of the upland placement site. Once the upland placement footprint is restored, it is expected that Pillar Rock Island has a project life cycle greater than 5 years.>>

(b) The potential for the site's final use will benefit from deposition of dredged materials; **<<shoreline placement of material will protect Pillar Rock Island from reverting back into an open, shallow water shoal. Pillar Rock Island has been designated critical habitat for a USFWS ESA-listed species, streaked horned larks.>>**

(c) Material may be stockpiled for future use; **<<Does not apply to this action. Therefore this standard needs no further evaluation.>>**

(d) Dredged spoils containing organic, chemical, and/or other potentially toxic or polluted materials will be properly contained, presenting minimal health and environmental hazards due to leaching or other redistribution of contaminated materials; **<<There are no contaminants present in the project area.>>**

(e) Placement of dredged material will help restore degraded habitat; or where **<<shoreline placement of material will protect Pillar Rock Island from reverting back into an open, shallow water shoal. Pillar Rock Island has been designated critical habitat for a USFWS ESA-listed species, streaked horned larks.>>**

(f) Wetlands would not be impacted. Important fish and wildlife habitat, or areas with scenic, recreational, archaeological, or historical values that would not benefit from dredged material disposal and sites where the present intensity or type of use is inconsistent with dredged material disposal shall be avoided. The use of agricultural or forest lands for dredged material disposal shall occur only when the project sponsor can demonstrate that the soils can be restored to agricultural or forest productivity after disposal use is completed. In cases where this demonstration cannot be made, an exception to the Agricultural Lands Goal or Forest Lands Goal must be taken and included as an amendment to the Comprehensive Plan prior to the use of the site for dredged material disposal. The use of shoreland water dependent development sites for dredged material disposal shall occur only when the project sponsor can demonstrate that the dredged material placed on the site will be compatible with current or future water dependent development. Dredged material disposal shall not occur in significant Goal 17 shorelands or wetlands habitats. Engineering factors to be considered in site selection shall include: size and capacity of the site; dredging method; composition of the dredged materials; distance from dredging operation; control of drainage from the site; elevation; and the costs of site acquisition, preparation and revegetation. **<<The proposed action is consistent with Goal 17 as reviewed in this document.>>**

10. Estuarine in-water disposal sites shall be in areas identified as low in benthic productivity, unless the disposal is to provide fill material for an approved fill project, and where disposal at the site will not have adverse hydraulic effects. Estuarine in-water disposal sites shall only be designated and used when it is demonstrated that no feasible land or ocean disposal sites can be identified and biological and physical impacts are minimal. An in-water disposal site shall not be used if sufficient sediment type and benthic data are not available to characterize the site. **<<The proposed action is not considered an in-water disposal site.>>**

11. Flow lane disposal shall only be allowed in Development designated areas within or adjacent to a channel where: **<<The proposed action is not considered an in-water disposal site.>>**

12. Dredged material disposal at beach nourishment sites shall only be used to offset the erosion and not to create new beach or land areas. Beach nourishment sites shall not be designated in areas where placement or subsequent erosion of the dredged materials would adversely impact tidal marshes or productive intertidal or shallow subtidal areas. **<<The reestablishment of the Pillar Rock Island upland footprint is expected to indirectly protect shallow subtidal, productive intertidal, and tidal marshes.>>**

13. Dredged material disposal sites with adequate capacity to accommodate anticipated dredging needs for at least a five year period shall be identified and designated.

<< DLCD has already concurred with upland placement at Pillar Rock (Concurrence letter from DLCD, 23 June 2003). Since 2001, over 32% of Pillar Rock Island has eroded away. There is not enough capacity on the current footprint for upland placement. Shoreline placement will allow for upland placement to occur on Pillar Rock Island. Shoreline placement will occur as needed in order to protect the integrity of

the upland placement site. Once the upland placement footprint is restored, it is expected that Pillar Rock Island has a project life cycle greater than 5 years.>>

14. Dredged Material Disposal Sites: Sites essential for meeting anticipated disposal needs shall be planned and zoned for dredge materials disposal. Designated disposal sites shall be protected from incompatible and preemptive uses to ensure adequate sites will remain available to accommodate disposal needs. Incompatible and preemptive uses include: << **DLCD has already concurred with upland placement at Pillar Rock (Concurrence letter from DLCD, 23 June 2003).**>>

15. CREST Dredged Material Management Plan - CREST's Columbia River Estuary Dredged Material Management Plan (CREDMMP) is an essential source of information for Clatsop County's DMD planning and policies. The county will consider the CREDMMP in adopting and amending its DMD plan and will periodically revise the plan to keep it consistent with the CREDMMP. <<< **The Corps will inform CREST and the county that the CREDMMP may need to be updated to reflect this update of disposal operations at Pillar Rock Island. The Corps is not authorized to conduct local revision procedures.**>>>

16. In order to ensure the adequacy of identified dredged material disposal site capacities for anticipated disposal requirements, an analysis of the dredge material disposal site inventory shall be completed periodically, in conjunction with each update CREST's Columbia River Estuary Dredged Material Management Plan. The County shall cooperate with other jurisdictions on the Columbia River Estuary in monitoring of dredge material site availability and in dredged material disposal plan update. << **The Corps will inform CREST and the county that the CREDMMP may need to be updated to reflect this update of disposal operations at Pillar Rock Island. The Corps is not authorized to maintain the CREDMMP.**>>

17. New dredging in Aquatic Conservation management units may be permitted for the following if the dredging is consistent with the resource capabilities of the affected management unit:
<< **Not applicable.**>>

Statement of Consistency

The Corps has completed resource inventories and impact assessments for various other state and federal laws, including but not limited to the Endangered Species Act (ESA), the National Environmental Policy Act (NEPA), the Clean Water Act (CWA), and the National Historic Preservation Act (NHPA). The Corps has received a Biological Opinion from National Marine Fisheries Service (NMFS) and anticipates a Letter of Concurrence and Biological Opinion from U.S. Fish and Wildlife Service (USFWS) regarding this project as a component of the larger suite actions for Columbia River Operations and Maintenance program. The Corps has requested a Water Quality Certification (WQC) from DEQ as required under CWA Section 401, the application was submitted 29 October 2013. DEQ has issued a Public Notice confirming receipt of WQC application. The Corps submitted information to DEQ in a Joint Permit Application, which included the Corps' evaluation related to water quality impacts. The Corps has also determined that there is *No Potential to Affect* for cultural resources and has prepared a memorandum for the record regarding cultural resources. Information provided for this consistency determination can be found in further detail in all of this documentation, which is available upon request. Based on the above evaluation, the Corps has determined that the action proposed at Pillar Rock Island is consistent with the OCMP.



**US Army Corps
of Engineers** ®
Portland District

Appendix A

Impact Assessment

The proposed shoreline placement operation has been evaluated through the draft EA, the BAs, and subject to extensive scientific analysis and modeling. The draft EA also makes provisions to continually assess and minimize adverse environmental impacts over the course of the project through the use of a variety of monitoring actions.

Impact Assessment

A complete Impact Assessment includes the following information:

- (1) Aquatic life forms and habitat, including information on both the extent of and impacts on: habitat type and use, species present (including threatened or endangered species), seasonal abundance, sediments, and vegetation.
- (2) Shoreland life forms and habitat, including information on both the extent of and impacts on: habitat type and use, species present (including threatened or endangered species), seasonal abundance, soil types and characteristics, and vegetation present.
- (3) Water quality, including information on: sedimentation and turbidity, dissolved oxygen, biochemical oxygen demand, contaminated sediments, salinity, water temperatures, and expected changes due to the proposed use or activity.
- (4) Hydraulic characteristics, including information on: water circulation, shoaling patterns, potential for erosion or accretion in adjacent areas, changes in flood levels, flushing capacity, and water flow rates.
- (5) Air quality, including information on quantities of particulates and expected airborne pollutants.
- (6) Public access to the estuary and shoreline, including information on: proximity to publicly-owned shorelands and public street ends; effect of public boat launches, marinas and docks; and impact on inventoried public access opportunities.
- (7) Navigation, including information on: distance from navigation channels, turning basins and anchorages; proximity to range markers.
- (8) Demonstration that proposed structures or devices are properly engineered.
- (9) Demonstration that the project's potential public benefits will equal or exceed expected adverse impacts.
- (10) Demonstration that non-water dependent uses will not preempt existing or future waterdependent utilization of the area.
- (11) Determination of methods for mitigation and accommodation of the proposed development, based on items (1) through (10) above, in order to avoid or minimize preventable adverse impacts.

The assessment has been provided in the following document.

(1) Aquatic life forms and habitat, including information on both the extent of and impacts on: habitat type and use, species present (including threatened or endangered species), seasonal abundance, sediments, and vegetation.

Shoreline placement at on the northern shore of Pillar Rock Island would occur in open, unprotected shallow water habitat due to direct exposure to Columbia River's high flow events. There are pilings adjacent to the northern shore that protects the island from erosion, which in turn protects the shallow water and estuarine wetland habitats to the south of the island. There are approximately 20 acres of shallow water habitat (less than 20' water depth and within 100' of the shore) on the north side of Pillar Rock Island and approximately 430 acres of shallow water habitat on the south, protected, side of the island. There are approximately 50 acres of intertidal estuarine wetlands on the southern, protected, side of the island. Based on 2012 aerial photography, there are approximately two (2) acres of open beach shoreline habitat, approximately 31 acres of grass-shrub dominated uplands, and approximately 17 acres of woody riparian vegetation on Pillar Rock Island.

The continued placement of dredged materials will temporarily disrupt or alter aquatic and terrestrial communities. Temporary disturbance will range from a few hours for the water column during in-water placement and a few days on the riverbed, to a few years on upland placement sites for woody vegetation to become re-established. The level of habitat disturbance will continue at its current rate when sites in the network are utilized for aquatic, beach/shoreline, or upland placement. Aquatic communities are expected to re-colonize placement sites quickly. Terrestrial communities are expected to take longer to recover because it may take one or more growing seasons for the site vegetation to grow and provide the ecological functions and values.

Placement of dredged material on the northern shoreline of Pillar Rock Island would protect high-quality shallow-water aquatic habitat to the south of the Island by preventing the breaching of the upland island. Terrestrial habitats on the island would be restored overtime through shoreline and upland placement actions. The new shoreline edge and its adjacent shallow water habitat would be available for use by aquatic species after the placement action concludes. It will restore shallow water habitat north of the island to its prior location in the river. These aquatic and terrestrial habitats would continue to benefit island communities, including federally-listed species and their designated critical habitats. Shoreline placement at Pillar Rock Island would indirectly protect the structural integrity of the pile dikes downstream of the placement site. In turn, these pile dikes will continue to protect the shallow water habitat on the south side of the island by deflecting high flows away from the area.

Shoreline placement of material on the Pillar Rock Island will not affect an established vegetative community. Shoreline placement will require placement of sediments at the shoreline-water interface where vegetation does not exist. The placement action will occur on an eroding sandy shoreline. It is unlikely that a vegetation community would become established along this shoreline due to tidal and wave erosion. The shoreline placement along the north shore of Pillar Rock Island is highly erosive, with little to no vegetation present. Placement of material on the shoreline of Pillar Rock Island will protect the established estuarine habitats on the backside of the island. As the shoreline is rebuilt to baseline footprint, a vegetation community has the potential to become re-established in uplands. The restoration of the island's footprint will allow future upland placement on the site.

Aquatic and terrestrial wildlife species inhabit or periodically utilize the Pillar Rock Island site and adjacent waters. Aquatic species found adjacent to the island include: smallmouth bass, largemouth bass, bullhead, carp, catfish, channel crappie, crawfish, eulachon, yellow perch, northern pike minnow, Chinook salmon, chum salmon, coho salmon, sockeye salmon, American shad, steelhead, white and

green sturgeon, suckerfish, trout, coastal cutthroat trout, and walleye. Terrestrial species that utilize the island streaked horned larks, terns, cormorants, gulls, pelicans, migratory songbirds, eagles, osprey, crows, mice, nutria, waterfowl, and shoreline birds.

The continued upland and aquatic placement of dredged materials will disrupt wildlife. Disturbances will range from a few hours for temporary access during placement. The level of habitat disturbance will continue at its current rate. Vegetation succession is expected to continue at its current rate and it is primarily affected by the growing season and precipitation events.

If material is not placed at Pillar Rock Island, it will result in the loss of the Pillar Rock Island site in 10 years and its upland wildlife habitat. The shallow water habitat south of the island will be fragmented and reduced by increased erosion and river currents, thereby reducing shallow water and wetland habitat for wildlife and will result in an overall reduction of terrestrial, wetland, and nearshore habitat for aquatic and terrestrial wildlife species in the Columbia River estuary.

Shoreline placement will restore the upland footprint of Pillar Rock Island, which will increase the area of potential upland wildlife habitat. The restoration of the site will maintain the intertidal wetlands and shallow water wildlife habitat on the south side of the island and will increase amount of upland wildlife habitat in the Columbia River estuary as the site is restored to its previous extent. Future upland placement on the island will restart vegetation succession on the site, which is crucial for the development of breeding and rearing habitat for some upland species, such as terns and larks.

ESA-listed species under NMFS jurisdiction:

The federally listed threatened and endangered species or managed fisheries under the jurisdiction of the NMFS that may occur in the proposed project area are shown in Tables 3, 4, and 5.

Table 1. ESA-listed Anadromous Salmonids under NMFS Jurisdiction.

Evolutionarily Significant Unit	Status	Critical Habitat	Federal Register (FR) Citation
Chinook Salmon (<i>Oncorhynchus tshawytscha</i>)			
Snake River spring/summer run	Threatened	Yes	70 FR 37160; June 28, 2005
Snake River fall run	Threatened	Yes	70 FR 37160; June 28, 2005
Lower Columbia River	Threatened	Yes	70 FR 37160; June 28, 2005
Upper Columbia River spring run	Endangered	Yes	70 FR 37160; June 28, 2005
Upper Willamette River	Threatened	Yes	70 FR 37160; June 28, 2005
Coho Salmon (<i>Oncorhynchus kisutch</i>)			
Lower Columbia River	Threatened	Yes	70 FR 37160; June 28, 2005
Chum Salmon (<i>Oncorhynchus keta</i>)			
Columbia River	Threatened	Yes	70 FR 37160; June 28, 2005
Sockeye Salmon (<i>Oncorhynchus nerka</i>)			
Snake River	Endangered	Yes	70 FR 37160; June 28, 2005
Steelhead (<i>Oncorhynchus mykiss</i>)			
Snake River Basin	Threatened	Yes	71 FR 834; January 1, 2006
Lower Columbia River	Threatened	Yes	71 FR 834; January 1, 2006
Middle Columbia River	Threatened	Yes	71 FR 834; January 1, 2006
Upper Columbia River	Threatened	Yes	71 FR 834; January 1, 2006
Upper Willamette River	Threatened	Yes	71 FR 834; January 1, 2006

Table 2. ESA-listed Fish and Marine Wildlife Species under NMFS Jurisdiction.

Species	Status	Critical Habitat	Federal Register (FR) Citation
Southern DPS* Green Sturgeon (<i>Acipenser</i>)	Threatened	Yes	71 FR 17757; April 7, 2006
Southern DPS Pacific Eulachon	Threatened	Yes	75 FR 13012; March 18, 2010

Steller Sea Lion (<i>Eumetopias jubatus</i>)	Threatened	Yes	55 FR 49204; November 26, 1990
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*DPS = Distinct Population Segment

Table 3. EFH in the Action Area.

Fishery Management Plan with EFH	EFH affected	EFH conservation plan
Pacific Coast Salmon	Yes	Yes
Pacific Coast Groundfish	Yes	Yes
Coastal Pelagic Species	Yes	Yes

The Corps has previously consulted with NMFS on the CR O&M program addressing effects to the ESA-listed species and EFH stated above.

National Marine Fisheries Service. 2012. *Reinitiation of Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Columbia River Navigation Channel and Operations and Maintenance, Mouth of the Columbia River to Bonneville Dam, Oregon and Washington (HUCs 1708000605, 1708000307, 1708000108)*. NMFS No. 2011/02095. Northwest Region. Seattle, Washington, July 11, 2012. (2012 BiOp)

The addition of shoreline placement at Pillar Rock Island, the Puget Island sump, and the updated Network capacities are within the range of effects previously consulted upon in 2012. The Corps provided the revised information to NMFS to update the Corps federal action for this consultation.

The Proposed Action alternative will restore the upland footprint of Pillar Rock Island through shoreline placement, which will shift shallow water habitat north to its previous extent. The restoration of the site will maintain the existing pile dikes and intertidal wetlands and shallow water habitats on the south side of the island. These protected habitats provide high value resources for ESA-listed species. The direct effects from shoreline placement at Pillar Rock is within the range of effects considered in the NMFS 2012 Biological Opinion. The Proposed Action alternative will help maintain the amount of riparian, wetland, and shallow water habitats in the Columbia River estuary through the protection of the habitats south of the island. The indirect effects from shoreline placement at Pillar Rock is within the range of effects considered in the NMFS 2012 Biological Opinion.

ESA-listed species under USFWS jurisdiction:

The federally listed threatened and endangered species under the jurisdiction of USFWS that may occur in the proposed project area are shown in Table 6.

Table 4. ESA-listed Wildlife Species under USFWS Jurisdiction.

Species	Status	Critical Habitat	Federal Register
Short-tailed Albatross (<i>Phoebastria albatrus</i>)	Endangered	(none)	65 FR 46643 46654; July 31, 2000
Marbled Murrelet (<i>Brachyramphus marmoratus</i>)	Threatened	Designated	57 FR 45328 45337; October 1, 1992
Western Snowy Plover (<i>Charadrius nivosus nivosus</i>)	Threatened	Designated	58 FR 12864 12874; March 5, 1993
Columbian White-tailed Deer (<i>Odocoileus virginianus leucurus</i>)	Endangered	(none)	32 FR 4001; March 11, 1967
Northern Spotted Owl (<i>Strix occidentalis caurina</i>)	Threatened	Designated	55 FR 26114 26194; June 26, 1990
Oregon Silverspot Butterfly (<i>Speyeria zerene hippolyta</i>)	Threatened	Designated	45 FR 44935; October 15, 1980
Bull Trout (<i>Salvelinus confluentus</i>)	Threatened	Designated	63 FR 31693 31710; June 10, 1998
Streaked Horned Lark (<i>Eremophila alpestris strigata</i>)	Threatened	Designated	78 FR 61506; October 3, 2013

Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	Threatened, proposed	(none)	78 FR 61621; October 3, 2013
Water Howellia (<i>Howellia aquatilis</i>)	Threatened	(none)	58 FR 19795 19800; April 16, 1993

The Corps has previously consulted with USFWS on the O&M of the CR FNC.

United States Fish and Wildlife Service. 2002. *Biological and Conference Opinions for the Columbia River Channel Improvement Project*. Tracking number 02-1743, 02-4943. Oregon State Office. Portland, Oregon. May 20, 2002.

United States Fish and Wildlife Service. 2010. *Letter of Concurrence for Operations and Maintenance of the Columbia River Federal Navigation Project*. Reference number 13420-2010-I-0165. Oregon State Office. Portland, Oregon. September 29, 2010.

The Corps' 2010 BA for the Columbia River dredging and dredged material placement program, for which the dredging and placement action and range of effects is very similar to the proposed action, received USFWS concurrence on September 29, 2010, as listed above. Therefore, the potential effects of the preferred alternative for bull trout, marbled murrelet, and Columbian white-tailed deer are consistent with previous determinations and do not require re-initiation of consultation. In addition, the Corps determined the proposed action will have "no effect" to western snowy plover, northern spotted owl, short-tailed albatross, Oregon silverspot butterfly, and water howellia. Therefore, these species do not require ESA consultation.

Placement activities can facilitate the creation and/or maintenance of suitable SHLA habitat and the Corps has worked with USFWS and its partners to minimize potentially adverse effects and maximize the beneficial effects of dredged material placement actions throughout the lower Columbia River for SHLA.

Beginning in April 2013, the Corps sought active participation from USFWS on ways to avoid and minimize potential adverse effects to streaked horned larks (SHLA) and its habitats.

On 3 March 2014, the Corps re-initiated formal ESA consultation with USFWS and submitted a Biological Assessment (BA) on the CR FNC O&M dredging program. The BA included the addition of shoreline placement at Pillar Rock Island.

The continued dredging work and subsequent upland and aquatic placement of dredged materials may affect ESA-listed species and their habitats. The duration of effects may range from a few hours during dredging and placement, to a few years on upland placement sites for vegetation to become re-established. The level of habitat disturbance will continue at its current rate.

The Proposed Action alternative will restore the upland footprint of Pillar Rock Island through shoreline placement, which will increase the available upland habitat for SHLA over time. Newly restored uplands that have partial vegetation can support breeding SHLA and promote their recovery. Shoreline placement will shift shallow water habitat north to its previous extent. The restoration of the site will maintain the existing pile dikes and intertidal wetlands and shallow water habitats on the south side of the island. These protected habitats provide high value resources for ESA-listed species. The direct effects from shoreline placement at Pillar Rock to SHLA will be addressed during the pending ESA consultation with USFWS.

The Proposed Action alternative will help maintain the amount of upland, riparian, wetland, and shallow water habitats in the Columbia River estuary. The indirect effects from shoreline placement at Pillar Rock will increase the amount and suitability of habitat for SHLA. Indirect effects to SHLA will be addressed in the pending ESA consultation with the USFWS.

(2) Shoreland life forms and habitat, including information on both the extent of and impacts on: habitat type and use, species present (including threatened or endangered species), seasonal abundance, soil types and characteristics, and vegetation present.

Refer to Impact Assessment 1 for wildlife species impact.

The shoreline is comprised of sand. Please refer to Impact Assessment 3 for sand composition.

There is no vegetation present on the shoreline.

(3) Water quality, including information on: sedimentation and turbidity, dissolved oxygen, biochemical oxygen demand, contaminated sediments, salinity, water temperatures, and expected changes due to the proposed use or activity.

Water quality assessment for this reach was determined by accessing via EPA's 303(d)1 list. 303(d)1 lists are categorized by watersheds. Pillar Rock Island is situated in watershed hydrologic unit code 17080006. The watershed boundary comprises of the mainstem Columbia River, from the mouth of the Columbia River (MCR) to river mile 31, and all tributaries that feed into the Columbia River downstream of river mile 31. The Columbia River is listed under Section 303(d) of the CWA as water quality limited for temperature from the MCR to Bonneville Dam (river mile 145 of the Columbia River). The listing of temperature is only pertinent for the summer months. Modeling work on a temperature total maximum daily load for the Columbia River and the Snake River, from its mouth at the Columbia to its confluence with the Salmon River, discloses that the major impacts to temperature occur as a result of impoundments behind dams, and with the confluence of the Snake River.

This reach is also water quality limited under Section 303(d) for the toxics parameters of DDE (DDT metabolite), dioxin, polychlorinated biphenyls (PCB), and arsenic. Other listed toxics parameters of potential concern include hexavalent chromium; manganese; iron; copper; and zinc. The closest toxin listed upstream of Pillar Rock Island at river mile 29 is PCB.

The Corps regularly evaluates sediments from federal navigation channels to determine if dredged materials will be acceptable for in-water placement in accordance with the requirements of the Clean Water Act and the Marine Protection, Research, and Sanctuaries Act. Project sediment sampling is typically performed on a 10-year rotational cycle, unless an event occurs that warrants more frequent sampling. The sediment testing conducted for the Columbia River Federal Navigation Channel from river mile 3 to river mile 106.5, as tested in 2008, led to a determination of all dredged material suitable for unconfined, in-water placement without further characterization. The analyses indicated a mean grain-size of 92% sand, with a range of 10.6% to 100%. Total organic carbon averaged 0.25%, and had a range of .4% to 1.8%. Levels of metals were consistent with historical values and did not approach Sediment Evaluation Framework screening levels. Mean grain-size for the Columbia River is 0.40 mm, with the following sediment composition of 0.037% gravel (0.0% to 2.0%), 48.15% sand (21.2% to 97.5% range), 41.925% silt (4.0% to 63.1% range), and 9.875% clay (0.3% to 17% range).

Placement of dredged material on the Pillar Rock Island northern shoreline would only cause water quality impacts where the material is discharged onto the beach. This discharge would increase turbidity in the water/shore interface zone as sediment is placed both directly into the water and/or subsequently moved by earth-moving equipment into the water to create the shoreline profile. The turbidity plume is not expected to extend outside of the immediate placement area because the material is sand with minimal fines, which settles to the bottom very quickly. It is expected that the shoreline will be subsequently eroded by the hydraulic processes along this reach. All construction equipment will follow a spill management plan. It is expected that the use of construction equipment and materials will not impact water quality.

(4) Hydraulic characteristics, including information on: water circulation, shoaling patterns, potential for erosion or accretion in adjacent areas, changes in flood levels, flushing capacity, and water flow rates.

Hydraulic characteristics:

Shoreline trends on Pillar Rock Island between 2001 and the present, show marked erosion along the entire length of the island on the channel (northern) side, except for a slight accretional area on the downstream end. As the sediment is eroded from the upstream end of the island, it is transported downstream and supplies an increased amount of sediment to the downstream end of the island. There are 2 pile dikes located at this downstream end: OR Pile Dike 26.86 and OR Pile Dike 27.08. The accretional area of the island is located at OR Pile Dike 26.86 for which a beach connection has persisted over time and which continues to maintain trapped sediment transported from the upstream source. OR Pile Dike 27.08 is no longer beach connected allowing flow between the end of the pile dike and the island; thus, increasing erosional stresses on this area of the island while allowing eroded sediment to supply the beach at OR Pile Dike 26.86.

The last placement of dredged material on Pillar Rock Island occurred in 2001 (USACE, 2013). The shoreline has retreated significantly since that time, up to 200 feet at some locations. By 2011, the footprint of the upland site was reduced by approximately 730,000 ft² (16.7 acres). This correlates to a 33% reduction in size of the island placement site footprint over the 10-year time period. It also provides an average annual rate of loss in footprint size of 73,000 ft²/yr (1.67 acres/yr).

The volume of material eroded from Pillar Rock Island between 2001 and 2011 was estimated using the following dimensions:

- Vertical Extent of Erosional Area is estimated to span the equivalent of 45 feet (from elevation +25ft to -20ft).
- The top, or crest height, of dredged material previously placed on the island can be observed in the 2009 topography ranging from +20 to +30 ft (CRD), averaging +25 ft (CRD).
- The bottom, or toe, of the retreating island cross-sectional profile varies significantly, but, on average, is located at elevation -20 ft (CRD).
- Horizontal Extent of Erosional Area is estimated to cover 730,000 ft².
- The 2001 Pillar Rock Island Upland Placement Site footprint covered 2,247,260 ft² or 51.59 acres (**Figure 2**).
- By 2011, the footprint was reduced by approximately 730,000 ft² or 16.76 acres.

These estimated dimensions provide an approximate volume of island erosion of 1.2M cy ($730,000 \times 45 / 27 = 1,216,667$) over this 10-year time period, averaging 120,000 cy/year. **Figure 1** shows color contours of bed erosion (browns) and deposition (blues) that occurred between 2000 and 2011 within and around the channel adjacent to the island. Sand wave activity can be identified as the localized areas exhibiting minor bed elevation changes (fainter browns and blues). The Washington side of the channel (area outlined in red) is predominantly accretional (blue color contours). The most distinctive feature is a large area of significant accretion (darkest blues) that has occurred on the Washington side in the area of an existing scour hole. The Oregon side of the channel (area outlined in green) is predominantly erosional (brown color contours). The total volume of erosion on the Oregon side (area outlined in green) for the 11-year time period is 1.4M cy (averaging 127,000 cy/yr). The patterns of erosion and accretion are consistent with the depth-averaged velocity magnitudes and vector directions generated from the 2009 calibration run of the Corps' Columbia River AdH model (USACE, 2012) (**Figure 2**).

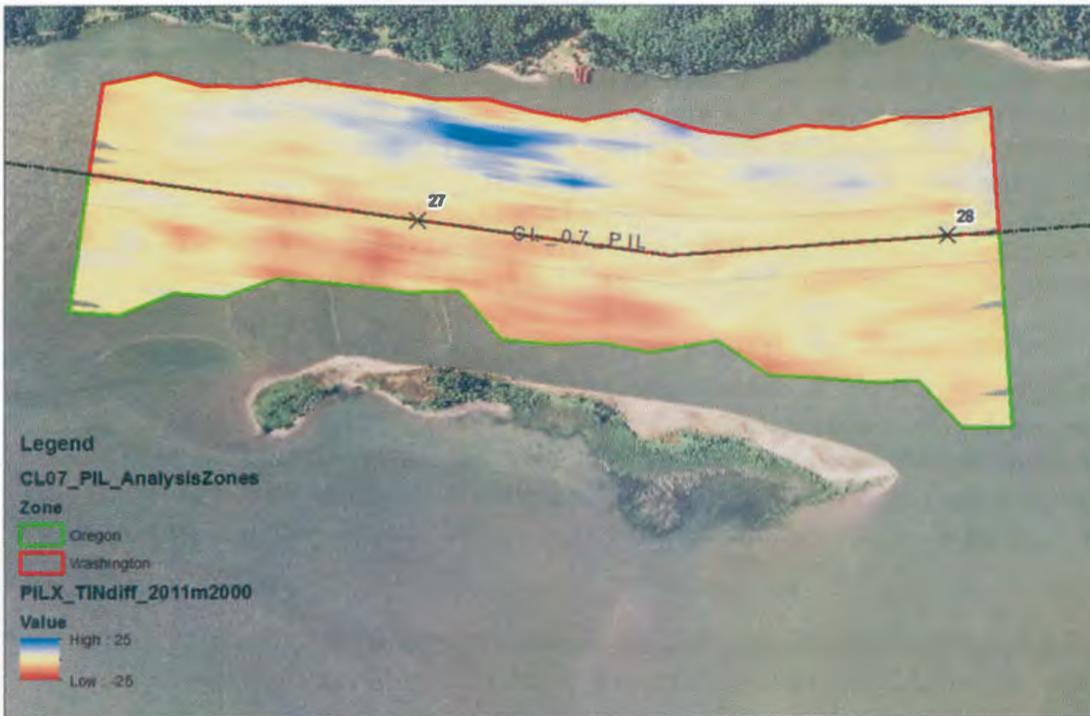


Figure 1. Patterns of Erosion (brown) and Accretion (blue) in and around the FNC along Pillar Rock Island between 2000 and 2011.

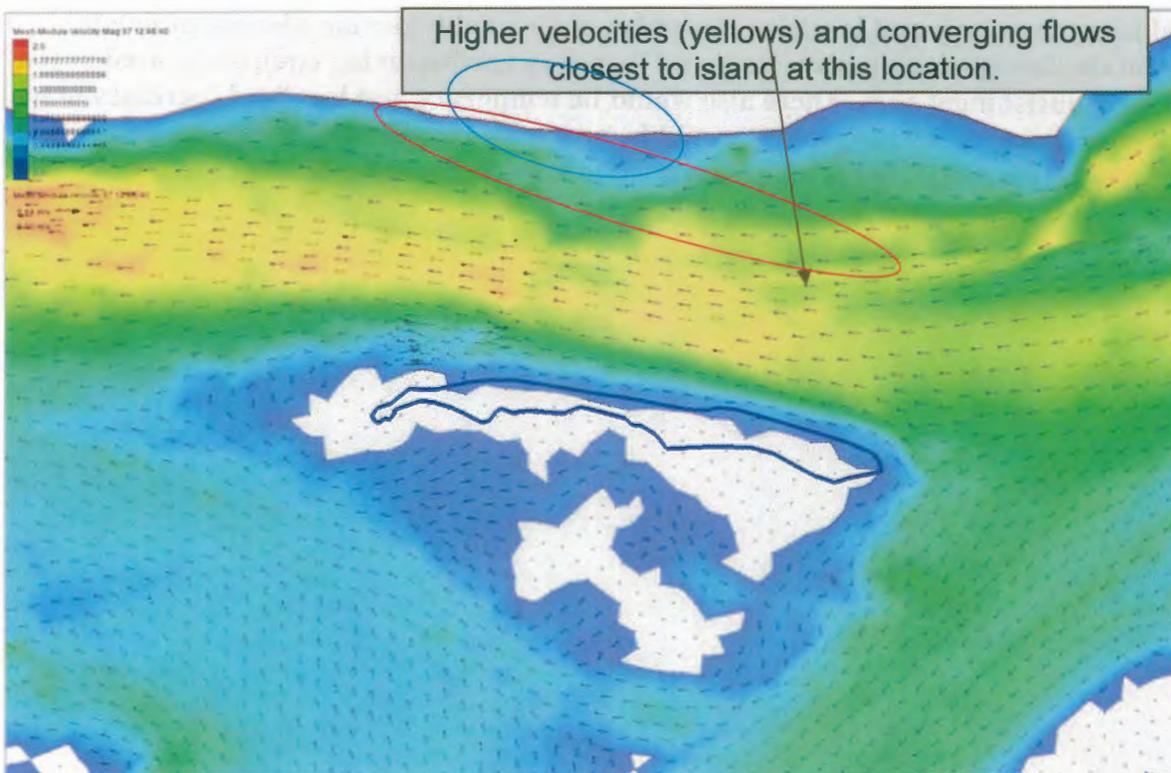


Figure 2. Flow velocity direction (arrows) and magnitude (color contours) adjacent to Pillar Rock Island for a 2009 simulated ebb tide on the Columbia River when approximately 387 kcfs is passing Vancouver, WA.

(5) Air quality, including information on quantities of particulates and expected airborne pollutants.

The lower Columbia River climate is characterized by wet winters, relatively dry summers, and mild temperatures throughout the year. Along the lower elevations of the immediate coast, normal annual precipitation is between 65 to 90 inches. Occasional strong winds strike the Oregon Coast, usually in advance of winter storms. Wind speeds can exceed hurricane force, and in rare cases have caused significant damage to structures or vegetation. Damage is most likely at exposed coastal locations, but it may extend into inland valleys as well. Such events are typically short-lived, lasting less than one day. The prevailing wind directions are The prevailing winds along the Lower Columbia River comes from the east out of the Columbia Gorge during the fall and winter months (from about October to March), and from the west off of the ocean during the spring and summer months (April to September).

The lower Columbia River currently meets the NAAQS.² In 1996, Portland of Oregon and Vancouver of Washington were listed as not meeting NAAQS; EPA designated these areas nonattainment status. Both Portland and Vancouver implemented a stricter SIP. In 2011, the region was removed from the nonattainment list. The region is currently meeting NAAQS; the maintenance SIP provides the region strategy for ensuring attainment status with a focus on emission reductions from on-road vehicles, non-road vehicles, paints and household products, and industry.

Recently the Corps replaced the older combustion engines on their dredges in order to meet California Air Quality standards. The Port of Portland intends on updating the engine on the contract pipeline dredge. California Air Quality standards are stricter than those of Oregon and Washington.

There would be a temporary and localized reduction in air quality during placement due to emissions from the dredge during placement and from any earth-moving equipment used at the shoreline/beach nourishment sites. There also would be temporary and localized increases in noise levels from this equipment. These impacts would be minor and temporary in nature, and would cease once placement is completed. This action meets air quality standards.

² <http://www.deq.state.or.us/aq/forms/annrpt.htm>

(6) Public access to the estuary and shoreline, including information on: proximity to publicly-owned shorelands and public street ends; effect of public boat launches, marinas and docks; and impact on inventoried public access opportunities.

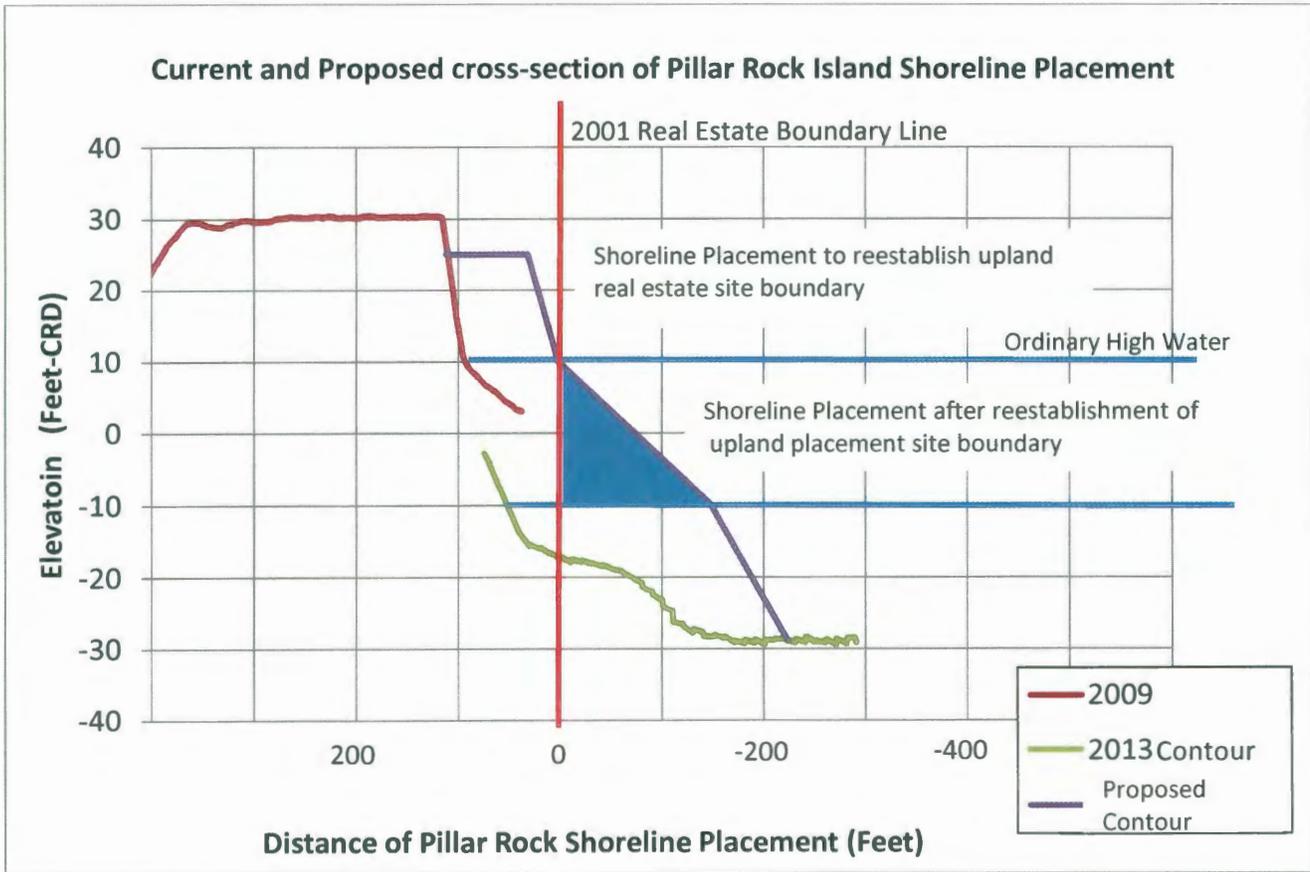
Pillar Rock Island is not easily accessible by the public; there are no public boat launches, marinas and docks accessible. Access to Pillar Rock Island only be gained by boat and may be used as a recreational area if boat landing is successful. Placement of dredged material would occur on the Pillar Rock Island northern shoreline, maintaining a footprint accessible by boats. Recreational and fishing users would continue to use this area when placement actions are not occurring. Pillar Rock Island would remain available for recreational use. There would be no change to the Lewis and Clark National Wildlife Refuge footprint.

(7) Navigation, including information on: distance from navigation channels, turning basins and anchorages; proximity to range markers.

The site is located from approximate RM 26.8 to 28. At its closest point, the island is approximately 1,100 feet south of the CR FNC.

(8) Demonstration that proposed structures or devices are properly engineered.

The proposed beach nourishment action will be graded to a slope between 10 and 15% as required by NMFS.



(9) Demonstration that the project's potential public benefits will equal or exceed expected adverse impacts.

This project will provide benefit to the public by maintaining public lands. The intent of shoreline placement is to restore and protect an authorized placement site for Federal Navigation Channel maintenance. The action provides the added benefit of environmental protection of a natural resource. If no placement occurs on Pillar Rock Island, it is projected that the island will erode back into a shoal in 10 years. The shoal would likely be a highly transient shoal, and would be considered unprotected, open shallow water habitat. The conversion of approximately 50 acres of upland habitat and approximately 50 acres of intertidal estuarine wetlands to shallow water habitat over 10 years would account for a reduction of 1.3% of habitat within the Lewis and Clark National Wildlife Refuge total acreage, from 1.5% to 0.2%. The loss of Pillar Rock Island within the Lewis and Clark National Wildlife Refuge will reduce the number island marshes used by migrating tundra swans and Canada geese to 19 islands. These refuge islands and marshes are heavily used during waterfowl migration.

If the placement action does not occur, overtime, the loss of upland and intertidal shallow water and estuarine wetlands at Pillar Rock Island will reduce the amount of terrestrial and shallow water aquatic habitats in the lower Columbia River estuary. The habitat will become fragmented and more susceptible to increased scouring by natural high-flow energy events, thereby reducing suitability for shallow water habitat use by NMFS ESA-listed species. The higher value intertidal estuarine wetland and shallow water habitat on the backside of the island will be exposed to higher river flows as the island erodes. These flows will fragment the currently protected habitats and reduce their amount and quality. Pillar Rock Island is designated critical habitat for Streaked Horned Larks (SHLA), a USFWS ESA-listed species, and the remaining suitable upland habitat will be lost over time. Pillar Rock Island is used by SHLA for foraging, breeding, and rearing young in sparsely vegetated uplands. The island would no longer provide potential over-wintering habitat for SHLA.

(10) Demonstration that non-water dependent uses will not preempt existing or future water dependent utilization of the area.

The Corps proposed action is to remain within the upland placement site footprint that DLCD concurred with for the Columbia River Operations and Maintenance program (Concurrence letter from DLCD, 23 June 2003). By maintaining the initial existing footprint (as concurred with in 2003), this action will not preempt existing or future utilization of the area.

(11) Determination of methods for mitigation and accommodation of the proposed development, based on items (1) through (10) above, in order to avoid or minimize preventable adverse impacts.

Shoreline placement actions would follow established industry-standard best management practices to avoid or minimize preventable adverse impacts.

Inventory

Project Location and Description

Pillar Rock Island is located in the lower Columbia River estuary from RM 26.8 to 28. At its closest point, the island is approximately 1,100 feet (ft) south of the Federal Navigation Channel (FNC). The island is oriented east to west. Between 2003 and 2013, over 32% of Pillar Rock Island eroded away, primarily from the north side of the island. Please see figure one for a map of the Pillar Rock Island. Please see figure two for the current and proposed cross-section of the proposed shoreline placement action.

Physical Conditions

There are tidal flats and a marsh located to the south of the Pillar Rock Island upland and proposed shoreline placement site. A 100 ft to 250 ft wide swath of woody vegetation lines the southern boundary of the upland dredged material placement site. Down-slope from the vegetated section, tidal flats and a marsh run along the southern perimeter of the island. These low-lying marsh and aquatic habitats have developed over time due to hydrologic and aeolian influences. Presently, the low-lying marsh and aquatic habitat is protected by the dredged material placement site and pile dikes. The upland dredged material placement site and pile dikes protect the south side of the island from being scoured out by Columbia River flows. Stands of young cottonwoods, scattered shrubs, and forbs with grasses are visible on the island. The presence of vegetation is due to Corps limited use of the site in the past five years. The typical riverine/eustarine energy environment for Pillar Rock Island is highly seasonal and variable from day-to-day, influenced by a wide range of changing weather and hydraulic events. There is currently not enough land mass for upland placement of dredged materials. Once the shoreline is re-established to the 2001 real estate boundaries, occasional placement would be required to maintain the new shoreline profile.

Bathymetry

A colorscale bathymetric image is provided in figure three. If contour numbers are desired as the form of bathymetric information, the images can be requested via the Corps' File Transfer Protocol site as the maps are too large to be emailed.

Geological structure and hazards

The channels and banks of the Columbia River are comprised of deeply incised river valleys, where banks are typically vegetated and consist of basalt, silt, and clay deposit. The river thalweg is primarily comprised of fine and medium grained sand. Current thalweg depths are typically around 50 ft deep with deeper spots occurring along outside bends. Pillar Rock is situated at the head of the Columbia River estuary. The name of Pillar Rock Island is based on the presence of a 70-ft tall basaltic column situated approximately 2,300 ft north of the island. Pillar Rock Island was originally a shifting shallow sandy bar, almost fully inundated during high tides. This mid-channel sandy bar was likely formed by gradual fluvial/estuarine depositional processes. Corps placement practices from the 1970s onward gradually built the sandy bar above the high tide line. Continual placement at this site eventually built up enough permanent landmass allowing for the establishment of a vegetated terrestrial habitat. The extent of the previously used upland dredged material placement site on the island is approximately 56 acres. Much of the island is comprised of sandy dredged material. Typical elevations on the island range from 0 ft Columbia River Datum (CRD) line to approximately 24 ft CRD towards the center of the island. The island interior is relatively level. Steep 5 to 30 ft banks line the north perimeter of the island. Two pile dikes extend north from the downstream portion of the island.

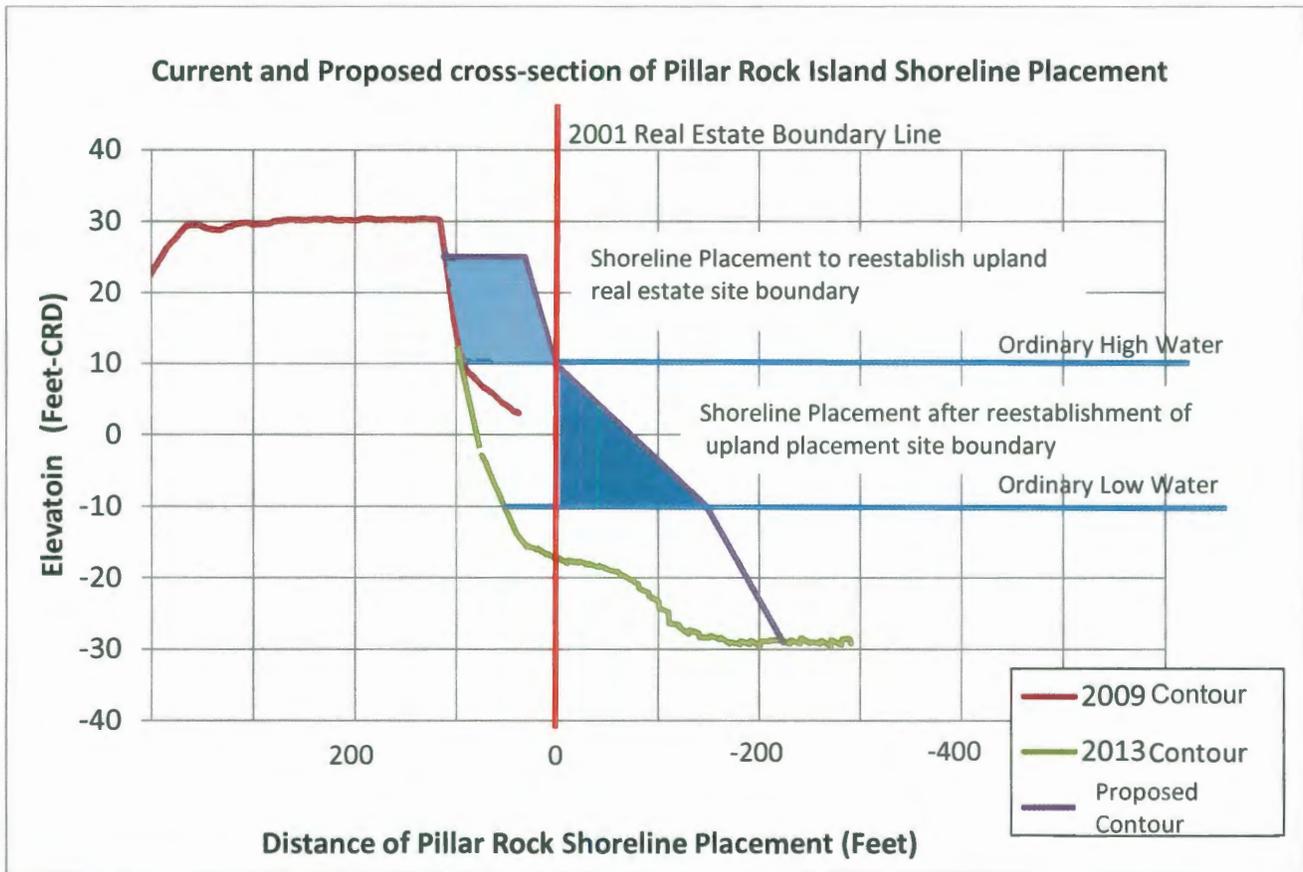


Figure 2. Cross-shore Profile of Pillar Rock Island

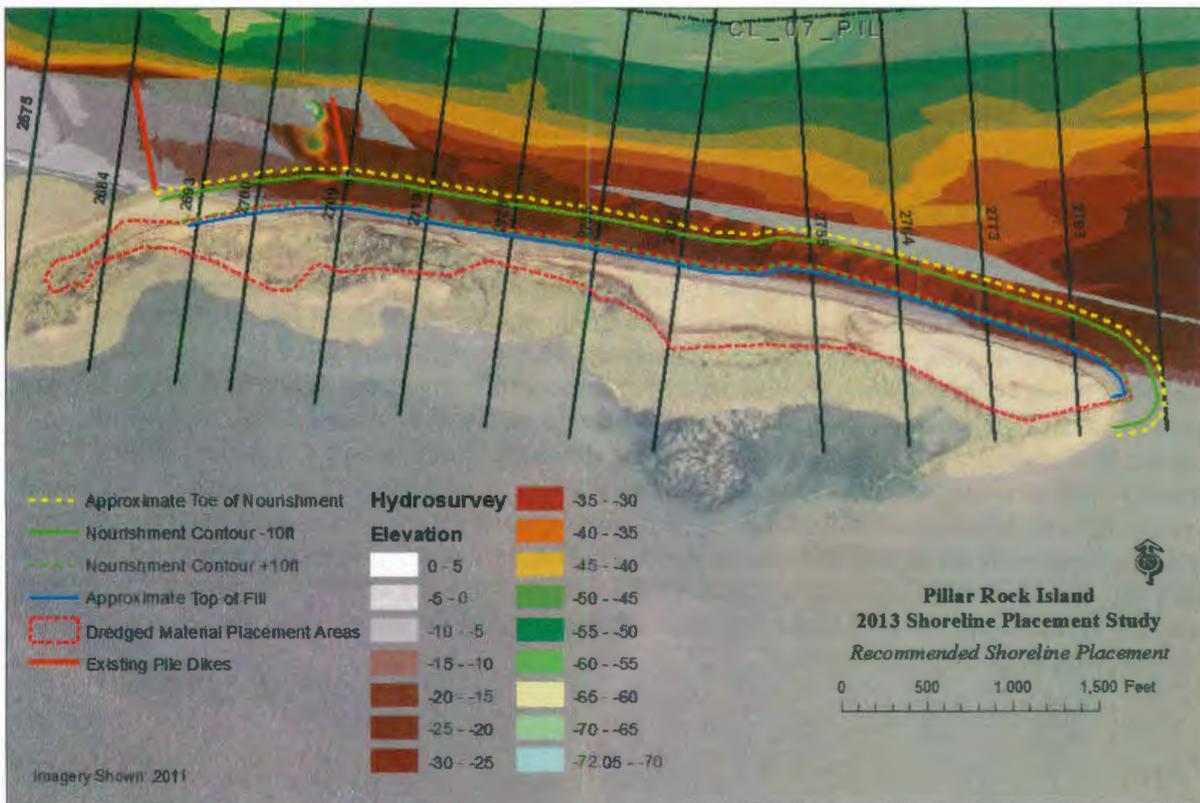


Figure 3. Bathymetry of Pillar Rock Island

Biological Features

Pillar Rock Island supports several different types of habitat. Pillar Rock is an elongated narrow island, approximately 1.25 miles from east to west and 0.25 miles at its widest point from north to south. The northern side of the island is perimetered by a narrow sandy beach. The sandy beach is lined by a steep embankments ranging from 5 to 30 ft tall. Atop the embankment, the profile gently flattens. The center section of the island is covered in sand. Grasses intersped with shrubs are established throughout the sandy areas. To the south of the sandy area is a thin buffer of woody vegetation. The woody vegetation slopes gradually down into a tidally influenced wetland. Alongside this wetland is a mixture of wide sandy beaches and tidal mudflats. Some aquatic vegetation is evident along this reach.

Native estuarine vegetation habitat within the Lower Columbia River is typically comprised of fringing intertidal marshes and intertidal island marshes. Pillar Rock Island is sandy, created as a result of natural shoaling processes; and intentionally developed via placement of dredged material. Active dredged material placement sites typically do not support robust, woody established plant communities, due to lack of nutrients and the xeric composition of placed dredged material. Patches of invasive vegetation like scotch broom and European beach grass may be intersped across this site. High tide lines that perimeter this site is more likely to support vegetative communities due to naturally occurring nutrient and debris deposition within this zone. Established estuarine riparian habitats commonly found are stands of cottonwoods and alders.

Approximately 44 acres of the island have been designated as critical habitat for streaked horned larks (larks), an endangered species recently listed as “Threatened” by United States Fish and Wildlife Service (USFWS) under the Endangered Species Act (ESA). The Corps has been coordinating our actions with USFWS. Consultation has been initiated with USFWS in January 2014. Larks have been observed on Pillar Rock Island. The island and tidal wetlands are used by waterfowl during the fall and winter. The mudflats and intertidal marsh areas are used by a variety of shorebirds. This island is within the Lewis and Clark National Wildlife Refuge.

The Corps informed National Marine Fisheries Service (NMFS) of the proposed updates to the dredged material network as established in the 2012 *Reinitiation of Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Columbia River Navigation Channel Operations and Maintenance, Mouth of the Columbia River to Bonneville Dam, Oregon and Washington* Biological Opinion (2012 BiOp). In the 2012 BiOp, NMFS concluded that the proposed action is not likely to jeopardize the continued existence of Lower Columbia River (LCR) Chinook salmon (*Oncorhynchus tshawytscha*), Upper Willamette River (UWR) spring-run Chinook salmon, Upper Columbia River (UCR) spring-run Chinook salmon, Snake River (SR) spring/summer run Chinook salmon, SR fall -run Chinook salmon, Columbia River chum salmon (*O. keta*), LCR coho salmon (*O. kisutch*), SR sockeye salmon (*O. nerka*), LCR steelhead (*O. mykiss*), UWR steelhead, Middle Columbia River (MCR) steelhead, LCR steelhead, Snake River Basin (SRB) steelhead, southern green sturgeon (*Acipenser medirostris*) and eulachon (*Thaleichthys pacificus*), or result in the destruction or adverse modification of designated critical habitats of any of those species (except for LCR coho, which no critical habitat has been officially determined). The Corps received concurrence of no change to the 2012 BiOp determination via informal consultation with NMFS for the proposed dredged material placement network updates and an amendment of no destruction or adverse modification to proposed designated critical habitat for LCR Coho.

Water Quality

Water quality assessment for this reach was determined by accessing via EPA’s 303(d)1 list. 303(d)1 lists are categorized by watersheds. Pillar Rock Island is situated in watershed hydrologic unit code 17080006. The watershed boundary comprises of the mainstem Columbia River, from the mouth of the Columbia River (MCR) to river mile 31, and all tributaries that feed into the Columbia River downstream of river mile 31. The Columbia River is listed under Section 303(d) of the CWA as water quality limited for temperature from the MCR to

Bonneville Dam (river mile 145 of the Columbia River). The listing of temperature is only pertinent for the summer months. Modeling work on a temperature total maximum daily load for the Columbia River and the Snake River, from its mouth at the Columbia to its confluence with the Salmon River, discloses that the major impacts to temperature occur as a result of impoundments behind dams, and with the confluence of the Snake River.

This reach is also water quality limited under Section 303(d) for the toxics parameters of DDE (DDT metabolite), dioxin, polychlorinated biphenyls (PCB), and arsenic. Other listed toxics parameters of potential concern include hexavalent chromium; manganese; iron; copper; and zinc. The closest toxin listed upstream of Pillar Rock Island at river mile 29 is PCB.

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Cultural and socio-economic uses

Cultural, historical or archeological sites

Portland District staff archaeologists have reviewed the proposed action and concluded that there would be no effect on historic properties as there are no properties found within the proposed shoreline dredged material placement site. The Oregon State Historic Preservation Office concurs with the no effect to historic or archeological resources determination as determined by the Corps' Portland District archaeological staff.

Socio-Economic Resources

The following socioeconomic information was taken from the draft community profiles prepared by the NMFS (2006) and U.S. Census data. The MCR area encompasses Pacific County, Washington, near the communities of Ilwaco and Long Beach on the Long Beach Peninsula and Clatsop County, Oregon, near the communities of Warrenton and Astoria.

Warrenton, Oregon

Warrenton had a total population of 4,096 people in the 2000 Census and 4,989 people in the 2010 Census. A total of 82.4% of the population lived in family households in 2000. In 2000, the main occupational fields were education, health, and social services (19.3%) and retail (18.6%). The agriculture, forestry, fishing and hunting occupations represented 3.4% of the employed population, and 14.2% of the labor force was employed by local, state, or federal governments. Warrenton's per capita income was \$16,874, compared to the national average of \$21,587. The median household income was \$33,472, which was lower than the national average of \$41,944. About 14.2% of the population was living below the poverty level, which was higher than the national average of 12.4%.

In 2000, Warrenton residents owned 52 vessels that participated in commercial fisheries. A total of 334 commercial vessels delivered landings to the Astoria-Warrenton port complex in 2000. These fishery landings

included (data shown represents landings in metric tons/value of said landings/number of vessels landing): coastal pelagic fish (5907 t/\$794,612/29), crab (1399 t/\$6,530,137/92), groundfish (45,284 t/\$12,980,569/151), highly migratory fish species (1682 t/\$3,273,354/112), other fish species (178 t/\$633,751/84), salmon (52 t/\$138,537/82), and shrimp (3947 t/\$3,816,430/48). In 2000, there were at least four seafood processors operating in Warrenton with about 168 employees. Approximately 39,523,763 pounds of fish were processed at a value of \$22,361,265. In 2000, the top three processed products in the community, in terms of pounds landed and revenue earned, were Dungeness crab, flounder, and shrimp. In 2003, at least two outfitter guide businesses and two licensed charter vessel businesses were based in Warrenton. For the Astoria-Warrenton port complex, the 2000 recreational salmonid catch in the Ocean Boat Fishery was 766 Chinook and 13,712 coho salmon. The recreational non-salmonid catch totaled 1,533 fish, with most being black rockfish (*Sebastes melanops*).

Fort Stevens State Park is situated just outside of Warrenton. This 3,700-acre, year-round park is a very popular recreation area and offers camping, beachcombing, freshwater lake swimming, 9 miles of bicycle trails, 6 miles of hiking trails, wildlife viewing, a historic shipwreck, and a historic military area. Fort Stevens is also known for providing quality recreational fishing and clamming access.

Astoria, Oregon

Astoria had a total population of 9,813 people in the 2000 Census and 9,477 people in the 2010 Census. While the fishing industry has long formed the economic foundation of Astoria, the largest employers in 2003 were the U.S. Coast Guard, the Astoria School District, the Columbia Memorial Hospital, Clatsop County, and the Clatsop Community College. Other main industries in Astoria in 2000 were education, health and social services, retail trade, recreation, and accommodation and food services. According to the 2000 Census 17.1% of the surveyed population worked for the local, state, or federal government and 2.5% were in the armed forces. Astoria's per capita income was \$18,759, compared to the national average of \$21,587. The median household income was \$33,011, which was lower than the national average of \$41,944. About 15.9% of the population was living below the poverty level, which was higher than the national average of 12.4%.

In 2000, Astoria residents owned 184 vessels that participated in commercial fisheries. For information about commercial fishery landings, see the Warrenton data reported above. There were at least four seafood processors operating in Astoria in 2000. About 154 employees were employed by these processors and about 10,119,325 pounds of fish were processed at an estimated value of \$16,870,071. The top three processed products were flounders, Dungeness crab, and shrimp. Astoria had at least six outfitter guide businesses in 2003, and six licensed charter vessel businesses.