

# **FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

for the

## **SUPPLEMENT**

to the

### **Revised Final Environmental Assessment Columbia River at the Mouth, Oregon and Washington**

#### **REHABILITATION OF THE JETTY SYSTEM AT THE MOUTH OF THE COLUMBIA RIVER (MCR)**

**Clatsop County, Oregon, and Pacific County, Washington**

I find the selected course of action described as the Revised Preferred Alternative will not significantly affect the quality of the human environment, and an environmental impact statement is not required. The Revised Preferred Alternative is clarified in the *Supplement to the Revised Final Environmental Assessment, Columbia River at the Mouth, Oregon and Washington, Rehabilitation of the Jetty System at the Mouth of the Columbia River* (U.S. Army Corps of Engineers or Corps, May 2013) (also known as SEA), and the Preferred Alternative is described in the *Revised Final Environmental Assessment for Columbia River at the Mouth, Oregon and Washington, Rehabilitation of the Jetty System at the Mouth of the Columbia River* (Corps, July 2012) (EA). The SEA and EA in combination with applicable environmental clearance documentation provide a basis for the evaluation and conclusions, and by reference are incorporated herein. The Preferred Alternative and Preferred Alternative are used interchangeably with Proposed Action in this document.

#### **PURPOSE AND NEED**

The purpose of the selected action described in the EA is to perform modifications and repairs to the North and South Jetties and Jetty A at the Mouth of the Columbia River (MCR) to strengthen the jetty structures, extend their functional life, and maintain deep-draft navigation. The SEA clarifies the work of the preferred alternative as it relates to the foredune augmentation at Clatsop Spit (Spit) adjacent to the South Jetty root. The preferred alternative as it relates to the South Jetty foredune augmentation will: protect and stabilize the foredune, prevent further foredune erosion, and reduce the risk of foredune breaching and breaching of both Clatsop Spit and the South Jetty root. Foredune augmentation is a component of the selected action clarified in the SEA and described as a larger suite of repair and rehabilitation actions at the MCR jetty system in the EA.

The foredune south of the jetty root is presently in a condition of advanced deterioration. During the 1970's, the South Jetty foredune had a crest elevation of 30 and 40 ft North American Vertical Datum 88 (NAVD) and a 50-100 ft crest width. Presently, the foredune crest has been reduced to less than 25 ft NAVD along much of the project's 1,100 ft reach. The high-crested foredune prevents storm-induced

overtopping from reaching the backshore and protects the narrow strip of low-lying land that separates the ocean from the jetty lagoon called Trestle Bay. The fore-dune is now a relatively narrow feature on an otherwise, flat low-elevation area adjacent to a tidal marsh. Between 2003 and 2007, the concave shoreline area receded more than 40 feet, further reducing the protective ability of the fore-dune.

Under the present condition of wave and surge exposure, the affected South Jetty fore-dune is vulnerable to being completely overtopped and eroded by wave surge action within the next 1-3 years. Once overtopped, the jetty root and shore face south of the South Jetty is expected to continue to erode and recede, resulting in a predicted shoreline breach into Trestle Bay in about 8-16 years. Such a breach is predicted to cause a secondary flow pathway to develop from the Columbia River estuary to the ocean thereby; re-directing hydraulic flow from the existing inlet, threatening inlet stability, and disrupting navigation at the MCR. In the 1920's such a breach did occur. It is advantageous to stabilize the fore-dune now, before it is completely eroded, so that the stabilizing treatment can utilize the fore-dune as a buttress. This stabilization of the South Jetty fore-dune is required to maintain the jetty's functional purpose of providing deep-draft navigation at the MCR.

## **BACKGROUND**

### **Authority**

Features of the MCR navigation project were authorized by the River and Harbor Acts of 1884, 1905, and 1954. Congress authorized the improvement of the MCR for navigation through various pieces of legislation and public laws. The authority for maintenance of the MCR jetties comes from its original authority for construction of the project and then with Corps' policies for the operations, maintenance, and management of a Corps' project (Chapter 11 of EP 1165-2-1).

### **MCR Navigation Project**

The MCR navigation project consists of a 0.5-mile wide federal navigation channel extending for about 6 miles through a jettied entrance between the Columbia River and Pacific Ocean. The North Jetty and Jetty A are located in Pacific County, Washington, near the cities of Ilwaco and Long Beach on the Long Beach Peninsula. The South Jetty is located in Clatsop County, Oregon near the cities of Warrenton/Hammond and Astoria. The fore-dune augmentation is immediately adjacent to the South Jetty root at the neck of Clatsop Spit in Fort Stevens State Park.

The MCR is the ocean gateway for maritime navigation to and from the Columbia-Snake River navigation system. Approximately \$20 billion of commerce passes through the MCR jetty system annually. The ocean entrance at the MCR is characterized by large waves and strong currents and is considered one of the world's most dangerous coastal inlets.

Since the EA and FONSI, further design has been done related to the fore-dune augmentation. The SEA clarifies the particulars of that work and further describes the impacts that were not entirely covered in the EA before the design evolved.

Since completion of the EA, the Corps' proposed design to augment the existing fore-dune adjacent to the South Jetty evolved to reflect the following modifications: (1) the locations of the associated construction access and staging areas were altered; (2) there will be minor wetland impacts; (3) newly proposed compensatory mitigation to offset fill in wetlands and waters of the U.S; and (4) an adjustment in the project design will result in fill to 404 waters of the U.S. (4).

This FONSI specifically addresses fore-dune augmentation components of the Preferred Alternative as described in the EA and its revisions clarified in the SEA, although the Preferred Alternative EA

includes a greater suite of actions to address major rehabilitation and repair of the entire MCR jetty system.

### **THE PROPOSED ACTION, PREFERRED ALTERNATIVE**

The Proposed Action is a cobble berm, dynamic revetment feature, which was described as cobble fill in the EA. The cobble fill design in the EA did not extend below the Clean Water Act (CWA) Section 404 jurisdictional ordinary high water (OHW) elevation. However, the SEA describes the evolution of the design, and these changes now result into OHW of the waters of the U.S. . The EA did not anticipate fill in wetland or waters of the U.S. for a staging and access area south of the jetty root, nor did it account for fill as a result of the cobble placement. Therefore, new compensatory mitigation has been proposed for unavoidable fill impacts to these wetlands.

The Corps designed the dune augmentation feature to key-into the existing fore-dune, and it will be comprised of a gravel bedding layer, a core of angular or rounded cobble, and a 4-ft deep rounded cobble overlay. The dynamic revetment (cobble/gravel berm) will be constructed along the ocean side of the fore-dune. The feature's dimensions are approximately: 1,100 linear feet of cobble-sized stone (1 - 6 inches diameter); crest width 65-feet (ft) wide; crest height 22-ft NAVD; and slope, 1 vertical (v):5 horizontal (h), (resulting in about 150-ft total structure width ocean-ward from the edge of the existing dune). The total cobble fill volume is about 43,000 cubic yards (cy) of material (not including the excavated and replaced sand) and associated excavation for keying-in the base of the structure is about 18,000 cy of sand. Approximately one-half of the quantity will feature a rounded cobble overlay, similar to material that is commonly found on many composite beaches within the Pacific Northwest (PNW). Also, a 50-ft wide portion near the middle of the revetment will be somewhat "hardened" without the rounded overlay in this portion in order to allow emergency vehicle access to the beach. However, at Oregon Parks and Recreation Department's (OPRD or Park) request, the access will be gated so that it is only available to Park and Corps staff and emergency vehicles.

To document post-construction performance and to verify no adverse impact to adjacent shore areas, the Corps will develop a monitoring plan in cooperation with the State of Oregon Department of Geology and Mineral Industries (DOGAMI).

The Corps will access to the site through the Park along the Jetty Access Road. Dune access will occur via unpaved improvement to an existing sand road (Access Road A, see SEA page 14 for details) that traverses the shore pine forest between the Jetty Access Road and shoreline. A small loop road enclosing an additional staging area will be constructed immediately adjacent to the dune/beach access site. The Corps might conducted limited staging and stockpile activities at a second, more northern existing unimproved roadway (Access Road B), as well as in Parking Area B. The Corps will restrict traffic extending west on Access Road B to avoid effects to cultural resources (the trestle) and further disturbance to the dune. Driving will be limited along the beach to protect razor clam beds and reduce vehicular impacts on beaches. Post will entail minor roadway patching for damages caused by haul trucks.

The Corps will survey existing vegetation to be removed, including stem counts for affected shore pine, to inform the replanting plan for site restoration. The Corps will minimize removal of vegetation and trees including vegetation at the dune crest and will limit any required clearing to leeward side of the dune in order to maintain dune stability. The Corps will dispose of removed trees at an approved location. The Corps will replant shore pine replanting at a ratio no less than 1:5, removal to re-planting. Restoration plans will be coordinated with the OPRD ensure the replanting plan meets Park needs to the extent practicable. Site stabilization and restoration will be compliant with the National Pollutant Discharge Elimination System (NPDES) permit.

Approximately 0.08 acre of interdunal depressional palustrine wetlands will be permanently impacted. The Corps has coordinated will purchase compensatory mitigation bank credits when they are released from a newly- approved mitigation bank that came on-line in April near Long Beach WA. Though most of the dynamic revetment will be behind/above the Clean Water Act 404 jurisdictional elevation and in the dry sands, the depth required to key-in the toe is below this OHW elevation. Therefore, about 3.79 acres of sandy shoreline habitat in 404 waters of the U.S. inundated during astronomical high tides and wave surge events will be converted with the placement of cobble materials. As compensatory mitigation, the Corps will to participate in marine debris removal (much of which is currently as a result of the Japanese tsunami). This will be commensurate with the project's habitat conversion impacts because it will help protect the beach ecosystem by removing artificial debris that could have severe biological, chemical, and physical effects on water quality. This also will improve recreational and aesthetic conditions along the ocean shores, which supports both the CWA beneficial use designations and the coastal communities.

Construction is scheduled to occur in late summer to early fall 2013. Project implementation will take up to 4 months and will occur between June and October 31.

### **ENVIRONMENTAL EFFECTS**

The EA and SEA analyzed the effects of the proposed action on numerous resources such as: land use; water resources; cultural resources; species listed as threatened and/or endangered (T&E) under the Endangered Species Act (ESA); etc. The Corps findings with respect to the environmental effects of the proposed action on those resources measurably affected or with residual minor issues are set forth below. These findings are based on the evidence and conclusions set forth in the EA and SEA. The SEA describes the modifications related to the fore-dune augmentation component of the Preferred Alternative in the EA and the resulting effects.

As described in the SEA, advantages in using a dynamic revetment for shore protection rather than a hard armoring or other design approach include lower cost, simpler construction, ability to accommodate shore face recession (profile lowering), and reduction in adverse impacts to adjacent shoreline. Design considerations balanced the size and footprint of the dune stabilization feature, the feature's indirect impacts, and the expected return period or frequency of maintenance/replenishment requirements. In addition, the proposed dynamic revetment approach will not require beach and dune restoration, as it can be constructed to protect the shoreline in its existing condition. It also will be more reflective of coastal beach materials, and more aesthetically appealing and recreationally accessible for beach users.

Further, proposed construction storage, staging, stockpiling, and access areas have avoided and minimized impacts, including effects to wetlands, dunes, riparian areas, shore pine forests, and cultural resource sites. As much as possible, proposed project site locations have taken advantage of already developed and disturbed areas such as existing roads and parking lots. Placement of the staging and access areas considered impacts to mature shore pine vegetation, cultural resources, and dune stability. Construction access to the site via travel along the beach will be prohibited, and equipment access to and activity on the beach will be restricted as much as possible to only that which is required to place and construct the stabilization structure. Most of the activities will occur in the dry sands, and clam bed elevations have been identified so they will be avoided during construction.

### **Aquatic Resources**

The Corps analyzed effects to Waters of the U.S. under Section 404 (b) (1) of the Clean Water Act. The following discussion is part of that analysis. The Corps concluded that these actions will not have unacceptable adverse impacts affecting ecosystems of concern. The Corps is proposing compensatory mitigation to offset unavoidable fill in wetlands and waters.

#### ***Surrounding Water Resources***

As noted, the dynamic revetment will involve temporary removal and permanent fill below 404 waters of the U.S. The functional hydraulic and hydrologic effects of this fill have been somewhat avoided and minimized based on the structure's ability to better accommodate natural erosional and depositional coastal processes while maintaining the shoreline protection required for the navigational jetty structure. Though most of the structure will be behind/above the 404 jurisdictional elevation and in the dry sands, the depth required to key-in the toe is below this elevation, and the structure will be inundated during astronomical high tide and wave surges. Therefore, 3.79 acres of sandy shoreline habitat below Section 404 OHW is being converted with the placement of cobble materials. To offset this conversion as compensatory mitigation, the Corps will participate in marine debris removal, and this will be commensurate with habitat conversion impacts because it will help protect the beach ecosystem by removing artificial debris that can have severe biological, chemical, and physical effects on water quality and the coastal community. The Corps has coordinated with OPRD and Oregon Department of Fish and Wildlife (ODFW) to determine the most beneficial approach for marine debris removal and will incorporate tsunami debris removal guidance from the Oregon Marine Debris Partnership listed on the OPRD website during its marine debris removal actions.

#### ***Wetlands***

Approximately 0.08 acre of interdunal, depressionnal palustrine wetlands will be permanently impacted due to unavoidable construction activities and avoidance of cultural resources. Potential mitigation sites for wetland impacts on the Spit and within Corps existing property boundary are extremely limited. In-kind mitigation for these interdunal depressionnal wetlands typically occur in-basin. Having exhausted all avoidance and minimization measures, the Corps will purchase compensatory mitigation credits from an out-of-basin mitigation bank. The Corps will purchase these credits from a mitigation bank that was approved in April 2013 near Long Beach WA. Though it is out-of-basin, (Columbia rather than Pacific Ocean), it has appropriate, in-kind wetland credits. This mitigation is considered suitable because: there are no mitigation banks or in lieu fee locations with service areas applicable to the project location; the affected wetland type limits the potential pool of banks with similar wetland types; and there are current limitations for on-site wetland restoration or creation.

#### **Cultural Resources**

The Corps will avoid impacts to cultural resources and has developed an inadvertent discovery protocol. The Corps determined that the proposed action will have *no* effect to properties on or eligible to the National Register of Historic Places and sent letters Oregon State Historic Preservation Office (SHPO) in January and May 2013. In their letter dated May 9, 2013, SHPO concurred with the Corps' determination.

#### **ESA-Listed Species**

Changes to the preferred alternative will not introduce new effects to T&E listed species that were previously analyzed under the Biological Opinion with National Oceanic Atmospheric Administration National Marine Fisheries Service (NMFS) (March 18, 2011) and informal consultation and U.S. Fish and Wildlife Service (USFWS) (February 23, 2011).

On October 18, 2012, the Corps confirmed with NMFS the disturbance as a result of proposed updates to the dune augmentation will remain within the scope of the existing consultation with NMFS and that no marine mammals Incidental Harassment Authorization Permit will be required for this dune augmentation work at MCR. On May 3, 2013 the Corps requested NMFS adopt its Conference Report as a letter of concurrence for its *may affect, not likely to adversely affect* determination on designated critical habitat for leatherback turtles, eulachon, and Lower Columbia River coho salmon.

On February 1, 2013, the Corps confirmed with USFWS that the proposed actions will remain within the scope of the consultation and that no snowy plover monitoring will be required at this time. In the SEA the Corps also determined that there will be no-effect to streaked horned lark or its critical habitat, which was listed by USFWS subsequent to the EA.

### **PUBLIC AND AGENCY INVOLVEMENT**

Components of the South Jetty foredune stabilization have been included in broader discussions involving major repair and rehabilitation of the MCR jetty system since 2010. The public and agency outreach are described and can be found in the EA and the revised provisional Finding of No Significant Impact that the Corps signed in July 2012 (2012 FONSI). The draft SEA was issued on April 19, 2013 for a 15-day public comment period. Six responses were received: one in support and the rest were information requests or pertained to actions on the jetty proper. These documents have been available to the public on the Corps' website.

The Corps met onsite with Oregon Parks and Recreation Department (OPRD or Parks) on September 19, 2012, and again on March 18, 2013, to discuss the project, and the Corps has coordinated regularly by email and phone with the agency prior to and since these site visits.

The Corps has completed compliance documentation with other resource agencies including the following Oregon state agencies: Department of Land Conservation and Development (DLCD), and the Oregon Department of Environmental Quality (DEQ). The Corps Consistency Determination and Water Quality Finding were posted for comment by DLCD and DEQ, respectively. The Corps received a Clean Water Act Section 401 Water Quality Certification from DEQ on May 15, 2013 for actions related the foredune augmentation.

The Corps has also committed to the formation of a modified interagency Adaptive Management Team (AMT) to keep resource agency partners apprised of any potential project changes or challenges during implementation. In addition, the Corps Portland District established a web site to keep the public informed about the repair/rehabilitation of the MCR jetties located at <http://www.nwp.usace.army.mil/Missions/Currentprojects/MouthoftheColumbiaRiverJettyRehabilitation.aspx>.

### **FINAL DETERMINATION**

In fulfilling the authorization, the Corps also is required to take into account other applicable legal mandates. While acknowledging the impacts discussed in the SEA, EA, and outlined above, the Corps is required by the National Environmental Policy Act (NEPA) to determine if the impacts of the selected alternative are significant. 40 Code of Federal Regulations (CFR) 1508.27 lists ten tests of significance, and federal agencies need to determine whether impacts rise to the level of *significantly affecting the human environment*. Following are the ten tests from (1) to (10):

- 1) [Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.] Beneficial impacts of this project

are primarily related to maintaining safe and reliable navigation at MCR. Augmentation of the fore-dune at the South Jetty will ensure the navigational functionality of the structure, reduce the need for emergency dredging, and help to avoid a potential breach of the Clatsop Spit. Environmental impacts are addressed in the SEA and EA as outlined above. A finding of no significant environmental effects is not biased by the beneficial effects of the action.

2) [*The Degree to which the Action Affects Public Health and Safety.*] Construction effects are considered short-term, localized, and temporary, and as such will have no significant adverse effects on public health and safety. Work area boundaries and proper signage will ensure public exclusion from construction zones. Once construction and repairs are completed, the resilience of the jetty structure and the maintenance of a reliable and safe navigation channel and entrance will be greatly improved. The reduced need for emergency dredging in less-than-favorable sea conditions (most of the breaches will likely occur in the winter) and the presence of a maintained navigation system with functional jetty structures is a benefit to public health and safety, particularly those that involve vessel passage at the MCR.

3) [*Unique Characteristics of Geographical Area.*] The construction site for the dune augmentation is located in Fort Stevens State Park. The park is located on accreted land that formed as a result of the jetties, and with jetty deterioration their shorelines also are receding. Though there will be some interruption to visitors via altered traffic flows and reduced access to certain portions of the Parks during construction, and this is will not rise to the level of significance because effects will be temporary, seasonally concentrated, and of limited geographic scope. Historic and cultural resources will be protected by project design, and riparian areas including wetlands and shorelines will be buffered where feasible, and compensatory wetland mitigation will offset any unavoidable impacts. There will not be any significant adverse effects to Essential Fish Habitat (EFH) or critical habitat. There are no prime farmlands, wild and scenic rivers, wilderness, ecologically critical areas, or other unique natural features in the project area, and therefore no significant effects on unique geographical characteristics.

**Wetlands:** In accordance with Executive Order 11990, Protection of Wetlands, the Corps closely evaluated the proposed plan and its wetland impacts. The Corps developed and refined the design and planned construction methods to take advantage of opportunities to avoid and minimize the project's ecological impacts to habitats and species. There will be permanent unavoidable fill effects to wetlands and shallow-water habitat. Approximately 0.08 acre of interdunal depression palustrine wetlands and 3.79 acres of sandy shoreline habitat below Ordinary High Water will be permanently impacted. These will be offset by compensatory mitigation, which includes purchase of mitigation bank credits and participation in marine debris removal.

4) [*Highly Controversial Effects on the Quality of the Human Environment.*] The effects of the proposed action on the environment have been closely by the Corps and resource agencies such as Department of Environmental Quality (DEQ), Department of Land Conservation and Development (DLCD), the SHPO, NMFS and USFWS. The results of these coordination efforts show that the project will have no significant negative effects on the quality of the human environment in or near MCR or adjacent action areas. Further, a majority of the public comments received on the EA were positive regarding the anticipated effects from repairing and rehabilitating the jetty system, including fore-dune augmentation. Any concerns, questions, and support expressed by commenters were addressed in the EA and SEA as to demonstrate reasoning in support of the determination. Therefore, the effects on the quality of the human environment are not highly controversial. There is no known scientific controversy over the impacts of the project. The types of activities proposed have taken place previously in the same location and in similar areas, and the resulting effects are well-known and understood.

5) [Highly Uncertain, Unique, or Unknown Risks.] There are no unique risks associated with implementing the proposed action. Uncertainty and risk of jetty failure or a potential breach are actually expected to increase in the absence of the proposed action. Fore-dune augmentation at the South Jetty and all associated construction activities will be done using Best Management Practices to protect aquatic and cultural resources and in accordance with all terms and conditions of the applicable compliance documents. The proposed action will not provide unique or uncertain risks beyond those addressed in the environmental documentation for this project.

6) [Future Precedents.] The Corps is authorized to maintain the Federal Navigation Channel (FNC) in the Columbia River and at its entrance. Proposed actions further described in the SEA are a subset of priority components identified and described as the Preferred Alternative for the larger suite of major rehabilitation and repair actions evaluated in the EA. Fore-dune augmentation to protect the South Jetty root as part of maintenance of the MCR does not set a precedent for future actions outside of those previously authorized by Congress. Safe and reliable navigation is a beneficial effect and does not constitute an irrevocable or irretrievable step toward future changes in the scope, scale, orientation, or design of the current jetty system, nor in the current and historic method or approach to maintaining the navigational system at MCR. For these reasons, the action will not establish a precedent for future actions with significant effects.

7) [Significant Cumulative Impacts.] The SEA and EA considered the effects of implementing the proposed action in association with past, present, and reasonably foreseeable actions in and near the MCR and South Jetty project site. The potential cumulative effects associated with the proposed action were evaluated with respect to each resource evaluation category, and significant cumulative adverse effects were not identified.

8) [National Register of Historic Places and Other Historical and Culturally Significant Places]. The Corps has determined that the proposal will have *no effect* to properties on or eligible to the National Register of Historic Places, and SHPO concurred in their response letter dated May 9, 2013.

9) [Endangered or Threatened Species or Habitat.] Changes to the preferred alternative will not introduce new effects to T&E listed species that were previously analyzed under the Biological Opinion with National Oceanic Atmospheric Administration National Marine Fisheries Service (NMFS) (March 18, 2011) and informal consultation and U.S. Fish and Wildlife Service (USFWS) (February 23, 2011).

On October 18, 2012, the Corps confirmed with NMFS the disturbance as a result of proposed updates to the dune augmentation will remain within the scope of the existing consultation with NMFS and that no marine mammals Incidental Harassment Authorization Permit will be required for this dune augmentation work at MCR. On May 3, 2013 the Corps requested NMFS adopt its Conference Report as a letter of concurrence for its *may affect, not likely to adversely affect* determination on designated critical habitat for leatherback turtles, eulachon, and Lower Columbia River coho salmon.

On February 1, 2013, the Corps confirmed with USFWS that the proposed actions will remain within the scope of the consultation and that no snowy plover monitoring will be required at this time. In the SEA the Corps also determined that there will be no-effect to streaked horned lark or its critical habitat, which was listed by USFWS subsequent to the EA.

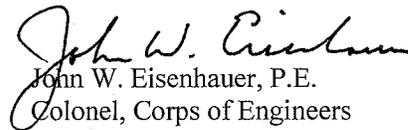
10) [Other Legal Requirements.] Discussion of compliance with applicable environmental laws or requirements is identified in the SEA and EA. This project will not violate any environmental laws and regulations.

**CONCLUSION**

The Corps has received all applicable environmental clearance documents, including State Clean Water Act Section 401 Water Quality Certification (WQC), concurrence from the SHPO, and state's concurrence with the Coastal Zone Management Act (CZMA) Consistency Determination (CD).

I reviewed the existing environmental documentation to determine if conditions have changed or whether existing documentation and clearances continue to adequately describe the effects of the proposed action. I have determined these impacts, both individually and cumulatively, are not *significant* as defined under NEPA, and that an environmental impact statement is not required. This determination is based on the information and analyses contained in the EA and SEA.

Date: 17 MAY 13

  
John W. Eisenhauer, P.E.  
Colonel, Corps of Engineers  
District Commander