



MEMORANDUM FOR: The Record

FROM: Donna S. Wieting  
Director, Office of Protected Resources

SUBJECT: Adoption of U.S. Army Corps of Engineers Final Environmental Assessment for the Rehabilitation of the Jetty System at the Mouth of the Columbia River, Oregon and Washington.

### **Background**

#### *A. NMFS' Proposed Action*

The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) is proposing to issue a final rule and annual Letters of Authorization (LOAs) to the U.S. Army Corps of Engineers (Corps). The regulations will be valid for five years beginning May 1, 2016 through April 30, 2022. The regulations together with associated LOAs authorizes takes, by Level B harassment, of marine mammals incidental to the rehabilitation of the jetty system at the Mouth of the Columbia River (MCR) which includes Jetty A, North Jetty, and South Jetty, in Washington and Oregon.

The proposed action by NMFS is a direct outcome of the Corps' request for regulations and associated LOAs covering pile installation and removal activities for Jetty A, North Jetty and South Jetty. This type of in-water construction activity has the potential to cause local marine mammals to be behaviorally disturbed and, therefore, requires a permit from NMFS. NMFS promulgates regulations and issues LOAs pursuant to Section 101(a)(5)(A) of the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. §§ 1631 *et seq.*) and the regulations governing the taking and importing of marine mammals, 50 CFR Part 216. Under the MMPA, the Secretary of Commerce shall allow the incidental taking of marine mammals if the Secretary finds that the total of such taking will have a negligible impact on the species or stock, and will not have an unmitigable adverse impact on the availability of the species or stock for subsistence uses, provided that methods of take from the specified activity and other means of effecting the least practicable adverse impact on the species or stock and its habitat are prescribed. In addition, requirements related to monitoring and reporting must be established.

The Corps' proposed pile installation and removal activities for Jetty A, North Jetty and South Jetty are major components of the rehabilitation project planned for the entire MCR Jetty System located in Pacific County, Washington and Clatsop County, Oregon. On February 13, 2015, NMFS received an application from the Corps for the taking of marine mammals incidental to the rehabilitation of the Jetty System. On June 9, 2015, NMFS received a revised application. NMFS determined that the application was adequate and complete on June 12, 2015. NMFS



issued an incidental harassment authorization (IHA) to the Corps on August 31, 2015 (80 FR 53777, September 8, 2015) to cover pile installation and removal at Jetty A which is valid from May 1, 2016 through April 30, 2017. The Corps proposes to conduct additional work under a Letter of Authorization (LOA) that will permit the incidental take of marine mammals. A notice of receipt was published in the *Federal Register* on October 26, 2015 (80 FR 65214). On August 25, 2016 NMFS published a notice in the *Federal Register* of our proposal to issue regulations and subsequent LOAs with preliminary determinations (81 FR 58443). A corrected notice was published in the *Federal Register* on September 6, 2016 (81 FR 61160). The filing of the corrected notice initiated a 30-day public comment period. The Marine Mammal Commission (Commission) requested an extension for their comment letter which was granted. MMC submitted comments on November 15, 2016.

The Commission had general concerns regarding: incorporation of NMFS' *Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing-Underwater Acoustic Thresholds for Onset of Permanent and Temporary Threshold Shifts* (81 FR 51693, August 4, 2016) Level A harassment thresholds and subsequent determination of exclusion zones; using accurate Department of the Navy marine mammal database values for calculating cetacean density; employing the standard 15 minutes of clearance time for small cetaceans rather than 30 minutes; and removing references to activities which will not occur (*e.g.*, drilling) as part of this project. NMFS indicated to the Commission that their recommendations and corrections would be included in the *Federal Register* Notice of Issuance and final IHA.

Based on all the information presented in the application requests, NMFS will issue regulations and LOA's for pile-driving work on the MCR Jetty System. Below is a summary of the planned sequence and schedule for proposed rehabilitation activities that will require authorization under the MMPA via LOA for all three MCR Jetty locations. Details regarding the Corps' proposed rehabilitation project were described in Section 1 of the Corps' initial application submitted on February 3, 2015 and Section 1 of the Corps' Revised Final Environmental Assessment "Columbia River at the Mouth, Oregon and Washington Rehabilitation of the Jetty System at the Mouth of the Columbia River" (herein referred to as the Corps' Revised Final EA).

1. Jetty A Repair and Head Stabilization required an IHA for the first year of pile installation and some pile removal related to the construction and maintenance of a barge offloading facility. The barge facility is used for activities associated with the rehabilitation at all Jetty locations. Construction and stone placement commenced in 2016 and will continue through 2017.
2. North Jetty Repair and Head Stabilization will require an LOA for pile installation and removal for the offloading facility. Construction activities are planned to commence in 2016 and are expected to continue through 2019.
3. South Jetty Interim Repair and Head Determination will require an LOA for pile installation and removal at two barge offloading facilities. For this Jetty and planned activities, the work season generally extends from April through October each year, with extensions, contractions, and additional work windows outside of the summer season

varying by weather patterns. Pile installation for offloading facilities is prohibited from October 1 until April 30 as that is the primary feeding season Southern resident killer whales when they may be present at the MCR plume.

### *B. The Corps' Proposed Action*

As described in the Corps' *Revised Final EA for the Columbia River at the Mouth, Oregon and Washington Rehabilitation of the Jetty System at the Mouth of the Columbia River, June 2012* the Corps proposes to conduct major rehabilitation and repairs of the jetty system, which is part of the Corps' MCR navigation project. The purpose of the proposed action is to perform modifications and repairs to the jetty system which would strengthen the jetty structures, extend their functional life, and maintain deep-draft navigation.

### *C. Comparison of the Corps' Proposed Action to NMFS' Proposed Action*

The Corps proposes to conduct major rehabilitation and repairs of the North and South Jetties and Jetty A. Installation and removal of piles with a vibratory hammer would introduce sound waves into the MCR area intermittently for up to 7 years (depending on funding streams and construction sequences).

The Revised Final EA describes the construction of four offloading facilities. A vibratory hammer will be used for pile installation due to the soft sediments (sand) in the project area and only untreated wood will be used, where applicable. No impact driving will be necessary under this LOA. The piles will be located within 200 ft (60.96 m) of each jetty structure. The presence of relic stone may require locating the piling further from the jetties so that use of this method is not precluded by the existing stone. The dolphins, Z- and H-piles would be composed of either untreated timber or steel piles installed to a depth of approximately 15 to 25 ft (4.5 – 7.6 m) below grade in order to withstand the needs of offloading barges and heavy construction equipment.

In the Revised Final EA it was assumed that pile installation and removal would occur for about 10 hours per day over the span of about 67 days. Approximately 96 piles and up to 373 sections of sheet pile to retain rock fill would be installed and removed totaling 469 initial installation and 469 removal events, over the span of about 67 days. In order to round the math, NMFS assumed 68 days, so that each of the four offloading facilities will take about 17 days total for installation and removal. Since the notice of proposed rulemaking was published, the Corps has submitted an addendum in November 2016 revising their project estimates to include only 5 hours of daily vibratory operations. The addendum is available at:

<http://www.nmfs.noaa.gov/pr/permits/incidental.htm>. The vibratory duration, or number of days, remains the same at 17 days per facility. However, only one of the two sites at the South Jetty will be constructed resulting in a total of three offloading facilities. Note that Jetty A pile installation, requiring 10 pile driving days and now completed, was covered under the Incidental Harassment Allowance. Jetty A pile extraction is not expected to occur until May 2017 and, therefore, will be covered under this Letter of Authorization. The Corps is still assuming a seven-day duration for the extraction at Jetty A. Additionally, pedestrian surveys on South Jetty outside of the construction seasons will take six additional days. In the Corps' updated

addendum, the number of piles to be driven and/or extracted decreased from 96 to 52 while the number of sheet or Z- or H- piles went down from 373 to 139. A total of 55 days of work will be required, consisting of 41 days associated with installation and extraction at Jetty A, North Jetty and South Jetty, eight days of maintenance at the South Jetty and six days of pedestrian surveys at South Jetty as shown in Table 1. The result is decreased impacts to marine mammals compared to impacts originally described in the proposed rule.

**Table 1. Estimated Days of Pile Driving and Removal Activities\***

Jetty	Timeframe (Install)	Timeframe (Removal)	Timeframe (Maint.)	Pile Type & Number	Duration (Install)	Duration (Removal)	Duration (Maint)
Jetty A		May 2017		4 – 24" dia Piles + 19 H-piles		7 days	
North	May 2018	Sep 2019		24 – 24" dia Piles + 20 H-piles	10 days	7 days	
South	May 2020	Sep 2021	May-June 2020 + May-June 2021	24 – 24" dia Piles + 100 Z/Sheet piles	10 days	7 days	8 days
Totals					20 days	21 days	8 days

\*Six days of pedestrian surveys will also be required

**Alternatives and Impact Assessment**

*A. Summary of the Alternatives Considered by the Corps*

The Corps analyzed four alternatives in the Revised Final EA, including:

No Action Alternative

For the No Action Alternative, no planned large-scale rehabilitation action would be taken to slow down the large, physical processes (larger waves, increased storm activity, and others) that are negatively impacting the structural stability the MCR jetty system. Those larger physical processes include landward recession of the jetty head, shrinking of the ebb tidal shoal, foundation erosion, and adjacent shoreline erosion. The lengths of each jetty would continue to recede landward with the expected response of the surrounding morphology including continued shrinking of adjacent underwater shoals and the overall shrinking of the ebb tidal shoal. Much of the material eroded from the inlets' shrinking shoals would be transported into the MCR inlet, thereby adding to requirements for regular maintenance dredging. The underwater sand shoals upon which the jetties are built would continue to erode, leaving deeper water depths along the jetties. The deeper water (over the eroded shoals) would allow larger waves to attack the jetties resulting in greater jetty deterioration and greater foundation erosion. Wave and current action within the MCR inlet would increase.

However, on a smaller scale more immediate actions may be taken to address specific jetty sections and localized processes via an intermittent or fix-as-fails repair strategy. The No Action Alternative could be somewhat characterized as a fix-as-fails approach. Depending on the condition and rate of damage to the jetty cross-section for either repair strategy, maintenance actions may be conducted as a normally planned operation, in an expedited fashion, or on an emergency basis. A fix-as-fails approach involving minimal, site-specific emergency repairs is how the jetties have been maintained historically.

Alternative 1 (Preferred Alternative): The proposed action for Jetty A, North Jetty and South Jetty includes scheduled repair and head stabilization at a level reduced relative to head-capping. Scheduled repairs would address the loss of cross-section, reduce future cross-section instability, and stabilize the head (terminus). Scheduled cross-section repairs are primarily above mean lower low water (MLLW), with a majority of stone placement not likely to extend below -5 feet MLLW. The jetty head (Southern-most end section) would be stabilized at approximately station (STA) 89+00 with large armoring stone placed on relic jetty stone that is mostly above MLLW. Stations (STA) indicate lineal distance along the jetty relative to a fixed reference point (0+00) located at the landward-most point on the jetty root (See Application Figure 2). Construction of three offloading facilities will be necessary to transport materials to the Jetty A, North Jetty and South Jetty.

Alternative 2: A Base Condition was considered under which the Corps would maintain current base condition requiring interim repairs with and without head stabilization. This alternative would require constant monitoring and ultimately result of in loss of functionality of the structure over time.

Alternative 3: Immediate rehabilitation options were developed and evaluated for the Jetty System which would include rehabilitation of two types of small templates, allow head recession and hold the jetties' end state. However, additional analysis demonstrated that a resilient jetty system could be achieved at a lower cost utilizing the Preferred Alternative.

#### *B. Summary of Alternatives Considered by NMFS*

##### No Action Alternative:

CEQ regulations require consideration and analysis of a No Action Alternative for the purposes of presenting a comparative analysis to the action alternative. NMFS does not authorize the Corps' project, however NMFS does authorize the incidental take of marine mammals under its jurisdiction in connection with these activities and prescribe methods of taking and other means of effecting the least practicable impact on the species stocks and habitats. Under the No Action Alternative, NMFS would not issue regulations and associated LOAs for the proposed action. The Corps could choose not to proceed with their proposed activities or to proceed without an Authorization. If they choose the latter, the Corps would not be exempt from the MMPA prohibitions against the take of marine mammals and would be in violation of the MMPA if take of marine mammals occurs. For purposes of this adoption memo, we characterize the No Action Alternative as the Corps not receiving an Authorization and the Corps conducting the project

without the protective measures and reporting requirements required by an Authorization under the MMPA. We take this approach to meaningfully evaluate the primary environmental issues – the impact on marine mammal species or stocks from these activities in the absence of protective measures.

#### Alternative 1 (Preferred Alternative)

The Proposed Action constitutes Alternative 1 and is the Preferred Alternative. Under this alternative, we would issue regulations and associated LOAs to the Corps for rehabilitation of the Jetty System allowing the incidental take, by Level B harassment, of six species of marine mammals subject to the mandatory mitigation and monitoring measures and reporting requirements set forth in the proposed regulations and LOA's, if issued.

#### C. *Environmental Consequences*

The affected environment and the environmental consequences are discussed in the EA within subsections arranged by resource type including fish and wildlife, water quality, cultural and historic resources, socio-economic resources and cumulative effects.

In the Marine Mammals section, the EA addresses whales that could occur in the vicinity of the vicinity of the MCR project include humpback, gray and southern resident killer whales. All of these species are migratory, generally are not found close to shore, and are highly mobile. Moreover, the MCR is not preferred habitat for these species, they are unlikely to feed in the vicinity of the jetties, and jetty work will have inconsequential impacts on their prey base. The South Jetty is an important year-round, non-breeding haulout site for Steller sea lions. Their use of the South Jetty is concentrated more in the winter months while it is least used during the May-July breeding season when adults disperse to rookeries. Stabilization of the jetty head and placing jetty rock near the head will disturb Steller sea lions by forcing them to move off haul out areas; however, they will be able to haul out elsewhere in the vicinity. Prey resources for sea lions are not expected to be affected. The proposed action is not likely to adversely affect Steller sea lions.

Acoustic effects to cetaceans and pinnipeds from pile installation will be damped by the use of vibratory hammers, and will be temporary and intermittent. The impacts are expected to attenuate to background levels near the source. Therefore, sound levels are not expected to reach harmful levels as defined by NMFS in the *Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing-Underwater Acoustic Thresholds for Onset of Permanent and Temporary Threshold Shifts* (81 FR 51693, August 4, 2016). The preferred alternative is not expected to measurably affect these cetacean and pinniped species such that there will be an adverse effect to the population or species.

To comply with the MMPA, the Corps submitted to NMFS an LOA application to authorize the potential harassment of the following marine mammal species near Jetty A, North Jetty and South Jetty. A summary of the take estimates is provided in the table below.

**Table 1. Estimated Percentage of Species/Stocks That May Be Exposed to Level B Harassment**

Species	Total proposed authorized takes over 5 years/average annual take (rounded)	Abundance	Percentage of total stock taken annually over 5 year LOA period
Killer whale (Western transient stock)	20/4	243	1.6%
Humpback whale (California/Oregon/Washington stock)	15/3	1,918	0.1%
Gray whale (Eastern North Pacific Stock)	81/16	18,017	<0.01%
Harbor porpoise	1,638/328	21,487	1.5%
Steller sea lion	23,481/4,696	63,160-78,198	7.4-6.0%
California sea lion	6,796/1,359	296,750	0.5%
Harbor seal	836/167	24,732	0.7%

The environmental consequences to the marine environment are of particular importance for NMFS’ evaluation in reaching a decision on whether to issue an MMPA incidental take authorization. In particular, because NMFS’ proposed action is specific to authorizing unintentional take of marine mammals, the key factors considered in the decision are related to NMFS’ statutory responsibilities under the MMPA. The primary documents supporting NMFS’ decision are the Corps’ Revised Final EA, a NMFS biological opinion and the Corps’ application for an LOA.

NMFS, Permits and Conservation Division (PR1), Office of Protected Resources sent a request for consultation under section 7(a)(2) of the Endangered Species Act (ESA) to the West Coast Region (WCR), Protected Resources Division on August 12, 2016 for the issuance of a LOA to the Corps. To meet the requirements under section 7(a)(2), the WCR sent a memo to PR1 on August 25, 2016 referencing an existing formal consultation that analyzed the same effects and take as the proposed issuance of the LOA. The WCR previously consulted with the Corps on the major rehabilitation of the jetty system at the MCR and issued a biological opinion on March 18, 2011 (NMFS 2010/06104). NMFS analyzed the effects of the action and concluded in the biological opinion that the effects of pile driving and pile removal activities at the MCR jetties were likely to adversely affect, but not likely to jeopardize the continued existence of humpback whales. Since the biological opinion was finalized, NMFS has published a final rule which identified 14 distinct population segments (DPSs) of humpback whales (81 FR 62259; September 8, 2016). Three proposed DPSs could occur in the action area, the Hawaii DPS, the Mexico DPS and the Central America DPS. The Mexico DPS is listed as threatened while the Central America DPS is listed as endangered.

Subsequent to the completion of the 2011 biological opinion, the WCR prepared an Incidental Take Statement (ITS) to be appended to the biological opinion. The WCR compared the ITS, as well as the effects analysis and conclusions in the biological opinion, with the amount of and

conditions of take proposed in the LOA. The WCR determined that the effects of NMFS' issuing an LOA to the Corps for the taking of humpback whales incidental to construction activities are consistent with those described in the 2011 biological opinion. The extent of the takes analyzed in the biological opinion ranged from 0 - 19 whales per day, which is more than the 15 individual takes being authorized under the MMPA over the five-year authorization period. In addition, the short-term potential displacement or deflection around the action area and the small number of takes would also not be expected to have population level impacts or jeopardize any of the proposed DPSs that could occur in the action area. The 2011 biological opinion remains valid and the MMPA authorization provides no new information about the effects of the action, nor does it change the extent of effects of the action, or any other basis to require re-initiation of the opinion. Based on the conclusions in the biological opinion, the takes would not jeopardize the continued existence of two humpback whale DPSs that may be present near the project area that are currently listed under the ESA, and no further consultation was needed.

EFH has been identified in the waters surrounding Jetty A. Effects on EFH by the project and issuance of the Authorization assessed here would be temporary and minor. The main effect would be short-term disturbance that might lead to temporary and localized relocation of the species for which EFH has been designated or their food. The actual physical and chemical properties of the EFH would not be impacted. Therefore, NMFS, Office of Protected Resources, Permits and Conservation Division has determined that the issuance of an Authorization for the taking of marine mammals incidental to the project would not have an adverse impact on EFH, and an EFH consultation is not required.

NMFS also reviewed the Corps' application to determine whether the total taking resulting from the activities would have a negligible impact on the affected species or stocks of marine mammals, would not have an unmitigable adverse impact on the availability of those species or stocks of marine mammals intended for subsistence uses, and that the permissible methods of taking and requirements pertaining to the mitigation, monitoring, and reporting of such takings are set forth. As supported by the EA, NMFS has made the requisite findings under the MMPA and will include these findings in the LOA.

#### *D. Scoping and Public Input*

An initial draft EA was distributed for a 30-day public review in June 2006. Six comment letters were received based on the June 2006 EA. Since the current range of alternatives and project description changed, comments received on the June 2006 EA may no longer be relevant to the current proposed alternatives. Due to changes in the project description, a revised draft EA was prepared. The revised 2010 draft EA (*Revised Draft Environmental Assessment Columbia River at the Mouth, Oregon and Washington Rehabilitation of the Jetty System at the Mouth of the Columbia River, January 2010*) was informed by and revised to reflect and address the above comments, as appropriate. The revised draft EA was issued for a 30-day public review period in January 2010. The revised draft EA was provided to federal and state agencies, organizations and groups, and various property owners and interested publics. In addition, a public information meeting was held in Astoria, Oregon on February 3, 2010. After a presentation by the Corps about the MCR jetty rehabilitation project, the public was invited to ask questions and talk to



Corps staff about the project. Another public information meeting to describe likely construction techniques was also held on June, 4, 2010, at Fort Vancouver, WA to solicit input from potential construction contractors and to provide additional information regarding the feasibility of the Major Rehabilitation and Repair approach. The Revised Final EA was issued by the Corps' in June 2012 and featured a reduced scope. The preferred alternative (Proposed Action) was described in the 2011 NMFS biological opinion and was updated in the 2012 Revised Final EA (as a reduced project scope relative to the biological assessment and biological opinion).

All scoping comments have been considered by the Corps, and addressed, where appropriate, in this EA. NMFS did not submit comments during the NEPA process. Instead, NMFS worked with the Corps through the MMPA incidental take authorization process for the issuance of an IHA.

### **Mitigation, Monitoring And Reporting Measures**

The LOA includes detailed mitigation, monitoring, and reporting measures that must be implemented by the Corps when conducting pile driving and removal activity in the proposed action area. These mitigation, monitoring, and reporting measures are described below.

#### *Mitigation*

- (1) Time Restriction: For all in-water pile driving activities, the Corps shall operate only during daylight hours when visual monitoring of marine mammals can be conducted.
- (2) Establishment of Level B Harassment (ZOI).
- (3) Establishment of shutdown zones.
- (4) The Corps is authorized to utilize only vibratory driving under this IHA.
- (5) Use of Soft-start: The project will utilize soft start techniques for vibratory pile driving. Whenever there has been downtime of 20 minutes or more without vibratory driving, the contractor will initiate the driving with soft-start procedures described above.
- (6) In order to minimize impact to Southern Resident killer whales, in-water work will not be conducted during their primary feeding season extending from October 1 until April 30. Installation could occur from May 1 through September 30 each year.

#### *Monitoring*

- (1) Two individuals meeting the minimum qualifications identified in Section 13 of the application by the Corps will monitor shutdown and Level B harassment zones during all vibratory pile driving.
- (2) The Corps will employ two vessels to monitor shutdown and disturbance zones for pile-driving and removal activities at the North Jetty and South Jetty offloading facilities. Section 16 of the Application indicates roughly where these vessels will be located. These vessels will be traversing across the delineated disturbance zones associated with the site at which active pile driving is occurring.
- (3) A hydroacoustic monitoring plan shall be employed using an appropriate method reviewed and approved by NMFS to ensure that the harassment isopleths are not extending past the initial distances established.

### *Reporting*

- (1) The Corps is required to submit a draft monitoring report to the Office of Protected Resources, NMFS, within 90 days of the conclusion of monitoring.

### **NMFS Review**

The Office of Protected Resources has reviewed the Corps' Final EA and concludes that the impacts evaluated by the Corps' are substantially the same as the impacts of NOAA's proposed action to issue regulations and a LOA for the take of marine mammal incidental to rehabilitation of Jetty System at the MCR. In addition, the Office of Protected Resources has evaluated the Final EA and found that it includes all required components for adoption by NOAA including:

- a discussion of the purpose and need for the action;
- a listing of the alternatives to the proposed action;
- a description of the affected environment;
- a succinct description of the environmental impacts of the proposed action and alternatives, including cumulative impacts; and
- a listing of agencies and persons consulted, and to whom copies of the Final EA are sent.

### **Conclusion and Findings**

NOAA's proposed action is to issue regulations and an LOA to the Corps for the incidental take of marine mammals, by Level B harassment, related to the rehabilitation of Jetty System at the MCR. NMFS' issuance of regulations and the LOA is conditioned upon the implementation of mitigation and monitoring measures as described in the Corps' application and NMFS *Federal Register* notice (81 FR 58443). These measures include timing restrictions; use of only vibratory hammers for pile driving; establishment of shutdown and Level B harassment zones around each driven pile; land and vessel-based monitoring of the action area for marine mammals, and; implementation of a hydroacoustic monitoring plan.

Based on this review and analysis, NMFS' Office of Protected Resources has adopted the EA under the Council on Environmental Quality's Regulations for Implementing the National Environmental Policy Act (40 CFR 1506.3) and issued a separate FONSI.