



National Park Service
U.S. Department of the Interior

Cape Hatteras National Seashore
North Carolina

FINDING OF NO SIGNIFICANT IMPACT
Dredging of Oregon Inlet with Dare County Dredge

Recommended:

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Date

Approved:

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Date

INTRODUCTION

Dare County is seeking a Special Use Permit from Cape Hatteras National Seashore (Seashore) to utilize a privately-owned hopper dredge in the same manner and under the same conditions as what is currently authorized for the United States Army Corps of Engineers (USACE) to perform maintenance dredging of small and/or isolated, regularly occurring shoals within Oregon Inlet. The USACE authorization is defined in the USACE's 2004 Finding of No Significant Impact (FONSI) entitled "Use of Government Plant to Dredge in Federally Authorized Navigation Projects in North Carolina". The project is needed to maintain safe "best water" navigation on a year-round basis within the confines of Oregon Inlet and certain connecting channels from the sounds to the Atlantic Ocean for park visitors, county and federal agencies, commercial fishing industry, and the community.

Oregon Inlet, including the submerged lands, is situated within Seashore boundaries, which is administered as a unit of the National Park System (NPS) (16 U.S.C. § 459a-1). Activities within the Seashore, including navigation channel maintenance, must comply with the NPS Organic Act of 1916, the Seashore's enabling legislation, the NPS Management Policies, NPS regulations, Service wide guidance documents, and applicable park management documents. The USACE regulatory control over this project includes the dredging and discharge of dredged material within the confines of the Oregon Inlet corridor and the disposal areas, as a federally authorized navigation channel. The entire project corridor is approximately 2,300 acres, including the ocean bar and Pamlico Sound channels and the nearshore disposal area located at the north end of Pea Island.

In compliance with the National Environmental Policy Act (NEPA), the National Park Service (NPS) is adopting the Environmental Assessment (EA) the USACE drafted for their Section 404 permitting in which the NPS was a cooperating agency. The USACE reviewed Dare County's applicant prepared January 2019 Oregon Inlet Channel Maintenance Utilizing a New Privately-Owned Hopper Dredge draft environmental assessment which examined alternative actions and environmental impacts associated with the proposed project to dredge Oregon Inlet with a privately-owned hopper dredge.

The statements and conclusions reached in this finding of no significant impact (FONSI) are based on documentation and analysis provided in the USACE EA with supplemental analysis provided in the Dare County EA to support the NPS's decision. To the extent necessary, relevant sections of the USACE's EA are incorporated by reference below.

SELECTED ALTERNATIVE AND RATIONALE FOR THE DECISION

The EA analyzed two alternatives: a no action alternative and the preferred alternative. Under the no action alternative, a Special Use Permit would not be issued to Dare County. The USACE would continue to conduct maintenance dredging of the inlet when USACE funds and dredges are available. This alternative does not meet the project purpose and need as maintenance dredging by the USACE is not adequate to maintain safe navigation of the inlet and connecting channels on a year-round basis. Additionally, navigation after storm events will continue to be compromised due

to time-loss associated with dredge mobilization and lack of funding for the USACE to conduct the work. Additional alternatives were considered during the early planning stages, but were dismissed from further analysis for environmental, geological, technical, or economic reasons.

Based on the analysis presented in the USACE's EA, NPS will provide a special use permit based on the selected alternative, Onsite Alternative 1 – Oregon Inlet Maintenance Supplemented with a New Privately-Owned Hopper Dredge.

This alternative consists of utilizing the Dare County privately-owned, special purpose dredge to supplement dredging activities conducted by the USACE on a year-round basis. The dredge will operate in the same manner and under the same conditions as what is currently authorized by the USACE to perform maintenance dredging within Oregon Inlet and its connecting channels. Dare County proposes to operate within the confines of the USACE authorization by performing maintenance dredging that “follows the best water.” In some cases, the dredging footprint may change as the deep water migrates throughout the inlet. A dredging corridor has been established (Attachment B) and bathymetric surveying by the County will be performed prior to each dredge event to determine the location of the best water for the channel.

The dredging dimensions of the project will be: 1) a 14-foot deep by 400-foot wide channel through Oregon Inlet and the ocean bar, 2) an approximate 16,050-foot long portion of the channel from Oregon Inlet to Hell's Gate (12-feet deep by 100-feet wide), and 3) an approximate 2,850-foot long portion of Old House Channel (12-feet deep by 100-feet wide) (Attachment B).

Dare County will also utilize the existing nearshore disposal area in the ocean, within state owned waters, off the north end of Pea Island that is currently authorized by the USACE. Dare County will also dispose of dredged material within deep scour holes that may form beneath the remaining bridge pilings of Bonner Bridge, within NPS boundaries, that will serve as a public access fishing pier. No other disposal areas are authorized through the USACE under this action.

It is anticipated that approximately 615,000 cubic yards of material will be removed from the inlet and ocean bar annually by the privately-owned dredge. Working in conjunction with the USACE's dredges, the amount of material removed from the Oregon Inlet complex each year will average around 1,000,000 cubic yards.

The NPS and USACE will implement several resource protection measures to minimize the degree and/or severity of adverse effects on water quality, essential fish habitat, threatened and endangered species, recreational resources, and socioeconomics.

Rationale

Onsite Alternative 1 was selected because it best meets the project purpose to:

- Maintain safe navigation through Oregon Inlet.
- Dredge on a year-round basis to supplement the USACE maintenance dredging program

MITIGATION MEASURES

Measures will be taken to ensure the project has minimal environmental impacts while achieving the purpose and need. This includes permit terms and special conditions that are designed to reduce adverse impact to water quality, essential fish habitat, threatened and endangered species of concern, and the human environment. The permit special conditions can be found in Attachment C of this document.

PUBLIC INVOLVEMENT/AGENCY CONSULTATION

The USACE posted a public notice (PN) on January 31, 2019 on their Wilmington District Website at <http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx> which included specific plans and location information from Dare County's 404 permit application. The USACE also submitted the application and applicant prepared EA to consulting agencies for their comments. The NPS requested to become a consulting agency as a result of the public notice.

The USACE and NPS have made a "may affect, not likely to adversely affect" determination for all Federally listed endangered or threatened species (Table 1). The project will occur in deep water so intertidal areas will not be affected. West Indian manatee may occur within the project area and the project area is located within Piping Plover Critical Habitat Unit NC-01. By letter dated March 1, 2019, the Fish and Wildlife Service (FWS) concurred with the determination. Dare County has committed to comply with the Service's "Guidelines for Avoiding Impacts to the West Indian Manatee". The FWS West Indian Manatee guidelines will be incorporated into the conditions of the permit.

A Biologist with the North Carolina Wildlife Resources Commission (NCWRC) reviewed the project regarding impacts on fish and wildlife resources and year-round dredging. By letter dated March 6, 2019, NCWRC stated, "if all conditions of the USACE's 2004 FONSI are upheld, including dredge design, the NCWRC will have minimal concerns with year-round maintenance activities in the Oregon Inlet project area with regard to sea turtle impacts." NCWRC requests material placement on the managed bird islands continue as in prior years. The operation will mirror the operation scope and methodologies outlined by the 2004 FONSI and special conditions will be included in the permit to ensure the Dare County strictly adheres to the USACE's 2004 FONSI and to design their dredge to perform as the USACE special purpose dredges do.

The National Marine Fisheries Service (NMFS) Habitat Conservation Division provides comments and recommendations pursuant to the authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). By letter dated March 8, 2019, NMFS reviewed the project and expressed no objection to the proposed project provided Dare County adheres to the specifications for dredge operation described in the 2004 FONSI. The Corps' initial determination stated proposed maintenance dredging may affect, but is not likely to affect adversely, essential fish habitat (EFH) or associated fisheries managed by South Atlantic Fishery Management Council, the Mid-Atlantic Fishery Management Council, or NMFS. Dare County will be required to adhere to the conditions described in the 2004 FONSI.

NMFS's Protected Resources Division (PRD) provides comments and recommendations under Section 7 of the Endangered Species Act of 1973, as amended. As stated previously, the USACE and NPS have made a "may affect, not likely to adversely affect" determination for all Federally threatened and endangered species (Table 1). PRD reviewed the project and stated they already had a Biological Opinion drafted for shallow draft dredge plants used by the USACE associated with the 2004 USACE FONSI for work in Oregon Inlet. They determined that dredges with such small horsepower, using small drag arms and low speeds, did not adversely affect any species of concern. Because there is a condition in the USACE permit for Dare County to build a dredge plant to those specifications to work inside a footprint that was already utilized by USACE covered under the FONSI, it was determined that individual consultation with PRD was not needed. However, some of the permit conditions from the South Atlantic Regional Biological Opinion (SARBO) will be included in the USACE permit to be able to monitor work being done by the dredge (Attachment C).

By letter dated January 22, 2018, the North Carolina State Historic Preservation Office provided comments and concerns over three (3) areas that contain the remains of shipwrecks located within the dredging corridor. Special conditions will be added to the permit to ensure these areas are avoided described in the letter dated January 28, 2019, from the North Carolina Department of Natural and Cultural Resources.

FINDING OF NO SIGNIFICANT IMPACT

CEQ regulations at 40 CFR Section 1508.27 identify ten criteria for determining whether the Selected Action will have a significant effect on the human environment. The NPS reviewed each of these criteria given the environmental impacts described in the EA and determined there will be no significant direct, indirect, or cumulative impacts under any of the criteria.

As described in the EA, the selected alternative has the potential for adverse impacts on threatened and endangered species of concern, fish and benthic habitat, water quality, and recreational resources; however, no potential for significant adverse impacts was identified. As defined by 40 CFR 1508.27, significance, as used in NEPA, requires consideration of context and intensity. The following considerations, included in 40 CFR 1508.27, are relevant to this finding of no significant impact.

Water Quality

Water quality can be measured by several different methods that quantify re-suspended sediments and the related effects of turbidity, light attenuation and water chemistry. Turbidity, expressed in Nephelometric Turbidity Units (NTU), quantitatively measures the clarity of water, considering the scattering and absorption of light by suspended particles. Total Suspended Solids (TSS) are solids that are present anywhere in the water column. TSS can include a wide variety of material, such as silt, decaying plant and animal matter, industrial wastes and sewage. Currently, there are no standards associated with TSS in North Carolina.

The North Carolina Department of Environmental Quality's Division of Marine Fisheries (DMF) maintains water quality sampling sites throughout the State. Two stations near the Oregon Inlet indicate good water quality levels, with enterococci levels within the EPA standards for swimming. These monitoring sites are located specifically at the northernmost beach access on Pea Island (Station ID #25) and at the Oregon Inlet Federal Campground (Station ID #23). Between April 2017 and October 2018, neither monitoring site exhibited enterococci levels about the EPA standard indicating that water quality, in terms of bacterial contamination, was good in the ocean waters around Oregon Inlet and no water quality advisories or alerts had been issued (NCDMF, 2018).

As described in Section 6.0 on page 16 and Section 6.8 on page 21 of the Corp's EA, the proposed project is not expected to have an appreciable effect on salinity, temperature, water chemistry, clarity, color, odor, taste, dissolved gas levels or increased/decreased nutrients or eutrophication within the water column.

Water fluctuations and salinities are not expected to be affected by the proposed project. Circulation patterns within the inlet complex will be changed slightly due to the proposed dredging activity. Since dredging activities have been conducted in the past and due to the dynamic nature of the inlet, dredging and disposal impacts are expected to be temporary and minimal. There will be a temporary increase in turbidity levels in the project area during dredging activities. Turbidity will be short-term (duration of activity) and localized. The grains of well-sorted sand with a low silt percentage will allow for a short suspension time and containment of sediment during and after dredging. The dynamic nature of the inlet also supports rapid assimilation of sediments. The settling time for the sand grains will be minimal and thus, light penetration will return to normal in a short period of time. Due to the dynamic nature of the inlet and the composition of the spoil material (sand and shell fragments) the impacts are expected to be short-term and minimal. Also, mitigation measures as required in permit conditions will be employed to control the levels of particulates in the water column. Therefore, minimal impacts on the near shore and estuarine environments are anticipated. A condition of the Section 401 Water Quality Certification states that a turbidity standard of 25 NTU's shall not be exceeded. The conditions of the water quality certification will be incorporated into the USACE permit.

Dredged material will be discharged in a manner that allows for water flow and currents to rapidly disperse the material, minimizing the effects on aquatic life. The dredged material will be discharged in an authorized near shore disposal area in the Atlantic Ocean at the north end of Pea Island as well as deep scour holes beneath the remaining Bonner Bridge pilings. The dredged material will consist of sandy material and will allow for a short suspension time and containment of sediment during and after disposal. As a result, the mixing zone will be confined to the smallest practicable area within the disposal site. The material will likely disperse in areas down-drift of the disposal site by way of natural sediment transport, but the dispersion is not expected to result in adverse environmental effects. Additionally, the Section 401 Water Quality Certification contains conditions for maintaining appropriate sediment and erosion control measures.

Since maintenance dredging and disposal is ongoing, the proposed minimal impact dredging methodologies, low suction/slow speed dredge plant, and permit terms and conditions

implemented to avoid and minimize impacts to species, effects are expected to be moderate and short term to water quality.

Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) of 1976, amended on October 1996 and also referred to as the Sustainable Fisheries Act, was enacted by the U.S. Congress to protect marine fish stocks and their habitat, prevent overfishing while achieving optimal yield and minimize bycatch to the extent practicable. Congress defined Essential Fish Habitat (EFH) as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity". The MSFCMA requires that EFH be identified for all fish species federally managed by the Fishery Management Councils (FMC) and the National Marine Fisheries Service (NMFS).

In close coordination, both the South Atlantic Fisheries Management Council (SAFMC) and the Mid-Atlantic Fisheries Management Council (MAFMC) manage marine fisheries in the federal waters off the North Carolina coast. Aside from the life-stage based EFH defined for managed fish species, the SAFMC and MAFMC have designated eight habitats as EFH. Of those habitats, only marine/estuarine water column, intertidal flats, seagrass, and oyster reef and shell banks are found in proximity of the project area.

Brief descriptions and effects determinations for all EFH categories near the proposed Project Areas are continued below since they were not included in detail in the USACE EA.

Estuarine and Marine Water Columns

The SAFMC and MAFMC designate estuarine and marine water columns as EFH. The SAFMC defines the estuarine and marine water columns as the medium of transport for nutrients and migrating organisms between river systems and the open ocean (SAFMC, 1998). The estuarine water column is organized into salinity categories ranging from 0 ppt to > 30 ppt according to the method of classification utilized. The marine water column is divided into oceanographic zones that are defined by physical parameters of the water column such as temperature, salinity, density and others. Three oceanographic zones are defined for the North Carolina area including outer shelf (131 to 230 ft.), mid-shelf (66 to 131 ft.) and inner shelf (0 to 66 ft.). These zones are influenced by the Gulf Stream, winds, tides and freshwater runoff (SAFMC, 1998). Marine water column environments in proximity to the Project Area include the inner shelf waters and surf zone waters in proximity to Oregon Inlet. Managed fish species that utilize marine water column EFH in North Carolina waters are managed by the ASMFC, NCDMF, NMFS, SAFMC and MAFMC. The estuarine water column environment within the project area encompass the waters on the soundside of the Bonner Bridge in proximity to the connecting channels.

Intertidal Flats

The SAFMC designates intertidal flats as EFH that serve as benthic nursery areas, refuges and feeding grounds. Benthic nursery areas provide a low energy environment where predation pressure is low and suitable prey is abundant (flounders, red drum, gray snapper,

blue crab and penaeid shrimp utilize this EFH as nurseries). Intertidal flats serve as areas of refuge since they provide safety from predation and adverse physical conditions, such as tidal currents. As feeding grounds, intertidal flats provide prey for those species adapted to feeding in shallow water (SAFMC, 1998). Intertidal flats are ephemeral features located within Pamlico Sound and along the shoulders of Oregon Inlet on Bodie Island and Pea Island.

Seagrass

Seagrass, or submerged aquatic vegetation (SAV), is generally defined as submerged lands that are vegetated with one or more species of submerged aquatic vegetation or have been vegetated by one or more species of submerged aquatic vegetation within the past 10 annual growing seasons. The average physical requirements of water depth (six feet or less), average light availability (secchi depth of one foot or more) and limited wave exposure that characterize the environment suitable for growth of SAV are also required to meet the general definition. (NC Marine Fisheries Commission (NCMFC) (15A North Carolina Administrative Code (NCAC) 03I.0101(4)(i)). In terms of their value as EFH, seagrass bed ecosystems are utilized by larval and juvenile fishes for foraging, spawning and escape from predation. Commercial and sport fishes in their larval and juvenile stages, such as gag grouper (*Mycteroperca microlepis*), gray snapper (*Lutjanus griseus*), bluefish (*Pomatomus saltatrix*), flounder species (*Paralichthys* sp.), fish of the Clupeidae family and others are found in seagrass beds in the early spring and summer (ASMFC, 2016). No SAV resources are found within the proposed project area.

Oyster Reefs and Shell Banks

The SAFMC defines this habitat as the natural structures found between (intertidal) and beneath (subtidal) tide lines that are composed of oyster shell, live oysters and other organisms that are discrete, contiguous and clearly distinguishable from scattered oysters in marshes and mudflats and from wave-formed shell windows (SAFMC, 1998). The SAFMC has designated oyster reefs as EFH for red drum (NMFS, 2010). The North Carolina Division of Marine Fisheries differentiates potential shellfish habitat by strata types. Just to the west of the project is designated as "subtidal unvegetated shell" habitat.

Managed Species

Managed species that have the marine water column listed as an EFH and that may be present in the project area include coastal migratory pelagics, highly migratory species; snapper grouper complex; shrimp; summer flounder, scup and black seabass; red drum; bluefish and spiny dogfish.

As described in the USACE's EA in Sections 6.4.1 on page 17, Section 6.8 on pages 22 and 23 and Section 9.0 on pages 29-31, there will be immediate localized impacts originating from the removal and covering of substrate and the abrupt increased sedimentation at the disposal area which may temporarily affect fish and benthic organisms present in the immediate work areas but will likely not have permanent appreciable effect on aquatic resources during dredging and the disposal of dredged material.

Fish and other adult species are expected to leave the project areas during dredging activities and are expected to return upon completion of the project. Larvae and early juvenile stages of many managed species pose a greater concern to the activities associated with Dare County's proposed action than adults because their powers of mobility are either absent or poorly developed, leaving them subject to transport by tides and currents. Because of the dynamic nature of the channel bottom in Oregon Inlet, benthic resources of this area are limited. The project will result in mortality of benthic species during dredging and spoil deposition, but species from nearby unaffected areas are expected to recolonize the affected areas upon completion of the project given that the disposed material will be consistent with the material found within the dredged areas.

Dredging and disposal operations conducted during project construction may impact the estuarine and marine water columns in the immediate vicinity of the discharge at the nearshore disposal area and adjacent to the bridge pilings of the Bonner Bridge. These impacts may include minor and short-term suspended sediment plumes and related turbidity, as well as the release of soluble trace constituents from the sediment. Outside the project area, turbidity increases resulting from the actual dredging will be less than 25 NTUs and are, therefore, considered insignificant.

A dredging corridor has been established for the proposed project that defines the limits of where dredging activity may occur (Attachment B). Based on NOAA's most recent assessment of SAV locations in the area, some patchy seagrass beds are found within the dredging corridor. A 100' buffer surrounding these mapped resources will be employed such that dredging activity will not directly affect mapped seagrass beds. Oyster reefs and shell banks near the proposed project area have the potential to be affected by sedimentation caused by the channel maintenance dredging. A 100' buffer will be created around verified shellfish features within the proposed dredging corridor which will serve to reduce the potential for direct impacts.

Threatened and Endangered Species of Concern

The federally threatened and endangered (T&E) species under consideration within this environmental assessment were identified through consultation with the National Marine Fisheries Service (NMFS) and the Fish and Wildlife Service (FWS) (Table 1). These species, as described in detail below, could be present in the project area based upon their historic geographic range. However, the actual occurrence of a species in the project area will depend upon the availability of suitable habitat, the seasonality of occurrence, migratory habits and other factors.

Table 1: Federally Listed Species Affected by Selected Alternative

Common Name	Scientific Name	Federal Status	Determination	Consultation Agency
Mammals				
West Indian Manatee	<i>Trichechus manatus</i>	Endangered	May affect, not likely to adversely affect	FWS, NMFS
Reptiles				
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	May affect, not likely to adversely affect	FWS, NMFS
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered	May affect, not likely to adversely affect	FWS, NMFS
Kemp's Ridley sea turtle	<i>Lepidochelys kempii</i>	Endangered	May affect, not likely to adversely affect	FWS, NMFS
Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened-NWA DPS ¹	May affect, not likely to adversely affect	FWS, NMFS
Green sea turtle	<i>Chelonia mydas</i>	Endangered ²	May affect, not likely to adversely affect	FWS, NMFS
Fish				
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	Endangered	May affect, not likely to adversely affect	NMFS
Atlantic sturgeon	<i>Acipenser oxyrinchus</i>	Endangered–Carolina DPS ³	May affect, not likely to adversely affect	NMFS
Giant manta ray	<i>Manta birostris</i>	Threatened	May affect, not likely to adversely affect	NMFS
North Atlantic right whale	<i>Eubalaena glacialis</i>	Endangered	May affect, not likely to adversely affect	NMFS

As described in Section 10.0 on pages 32-35 of the USACE's EA, encounters with threatened and endangered species may be a possibility during dredge operations. Therefore, the proposed project may affect, but is not likely to adversely these species in the near-shore waters within the project boundary. Should one of these species be observed, prescribed mitigation procedures contained within the permit's special conditions will immediately go into effect, and the dredge will either stop operations, or relocate to a different area. Marine mammals in the vicinity of the dredge and disposal areas during dredging activities are least likely to be affected because of their ability to

¹ Conant, T.A., P.H. Dutton, T. Eguchi, S.P. Epperly, C.C. Fahy, M.H. Godfrey, S.L. MacPherson, E.E. Possardt, B.A. Schroeder, J.A. Seminoff, M.L. Snover, C.M. Upite, and B.E. Witherington. 2009. Loggerhead sea turtle (*Caretta caretta*) 2009 status review under the U.S. Endangered Species Act. Report of the Loggerhead Biological Review Team to the National Marine Fisheries Service, August 2009. 222 pages.

² Federal Register Notice Vol. 81, No. 66, Wednesday, April 6, 2016

³ <https://www.fisheries.noaa.gov/species/atlantic-sturgeon>

avoid the disturbed areas. Monitoring activities before, during, and after dredging will be required and must be in conformance with the conditions of the permit in order to reduce impacts to threatened and endangered species.

One of the major threats to the West Indian manatee is collisions with watercrafts, which can result in serious injury or mortality. Manatees are present seasonally in North Carolina and are most commonly sighted in the Intracoastal Waterway or sounds and bays. There is also substantial SAV, a primary food source for manatees, within the Pamlico Sound in proximity to the areas historically dredged by the USACE and contracted pipeline dredges. The number of manatees potentially occurring in the project area is not known with certainty but is presumed to be low with the greatest likelihood of occurrence during the warmer months, in particular, June through October. It is therefore considered possible, but unlikely, that a manatee may be present in the Pamlico Sound or Oregon Inlet during the warmer months. Should dredging coincide with this period, manatee and vessel interactions are possible while the dredge is underway. Operation of the privately-owned dredge will also comply with the precautions outlined within the FWS's "Guidelines for Avoiding Impacts to the West Indian Manatee" (Attachment C). As such, due to its rare occurrence in the area, the nature of the proposed construction activities, and compliance with the guidelines, the Dare County dredge is not likely to adversely impact the manatee.

Sea turtles utilize different habitats in different phases of their life cycle. While sea turtles spend most of their life within the marine environment, they also utilize the beach for nesting purposes. Navigation maintenance dredging and beach nourishment activities, both part of the Status Quo Alternative, may lead to several effects on swimming and nesting sea turtles. Dredging and sand placement activities occurring outside the typical environmental windows recommended for sea turtles (November 16 through March 31 for hopper dredges; November 16 through April 30 for cutterhead dredges) could exacerbate these impacts as construction will coincide with warmer water temperatures and periods of increased sea turtle activity within North Carolina waters and beaches. It is likely that sea turtles will be in the vicinity during dredging activities. Measures to minimize potential impacts will be followed including the requirement of having on-board sea turtle monitors to reduce the likelihood of lethal take. Small modified-hopper dredges are known to have little to no impact on sea turtles due to their low operating speeds and low draghead suction as stated in the 1999 NMFS Biological Opinion associated with the 2004 USACE FONSI. It is unlikely that an incidental take will occur. Therefore, the proposed project may affect, but is not likely to adversely affect sea turtles in the near-shore waters within the project boundary. Permit conditions will address avoidance and minimization measures as well as monitoring procedures should a sea turtle be spotted during dredging activities or in the event of a take.

Dredging and disposal activities will not occur near spawning and juvenile Atlantic sturgeon and therefore will not pose any impacts. Although unlikely, the only potential for interaction with this species will be adult individuals within, or migrating through, the inlet and the disposal sites. The size and mobility of adult Atlantic sturgeon that will occur in these areas makes it highly unlikely that any adverse impacts will occur. It is therefore determined that the potential impacts to Atlantic sturgeon are insignificant and unlikely to affect this species adversely.

The potential for Atlantic sturgeon to be present in the dredging area creates the possibility for interactions with the dredge and draghead. Any Atlantic sturgeon passing through the inlet will likely be subadults or adults and will therefore be larger than 36 inches. The size and inherent mobility of these individuals are expected to allow them to avoid approaching slow-moving dredges and entrainment in the small dragheads. These conclusions are consistent with those made for shortnose sturgeon in the 1999 NMFS Biological Opinion regarding the use of special-purpose dredges and sidecast dredges in U.S. Coastal waters.

Although it is highly unlikely, adult shortnose sturgeon may be present in areas where dredging will occur. Encounters in or near the dredge site will be most likely to occur in the winter and spring, after spawning and the migrations to feeding areas in downstream estuarine waters (NMFS, 1999). These individuals will be larger than 45 cm in length, which is too large to become entrained by the small dragheads used on the privately-owned dredge that will be built to Corps' special purpose dredge standards. Furthermore, because of their mobility, it is presumed these individuals will be capable of avoiding and out maneuvering the slow-moving dredges, greatly reducing any chances of collision or interaction with the dredge at the disposal sites.

The North Atlantic right whale is the species of whale with the highest likelihood of being in the vicinity of the dredge activity. All other whale species, including finback whales, are not expected to utilize waters in the immediate vicinity of the proposed project. Marine mammal observers will be required to be stationed on board dredge(s) to alert crews to take evasive action and suspend work to avoid collisions. Dare County will also be required to participate in the Right Whale Early Warning System as well as follow any conditions set forth in the permit and the SARBO that reduce potential impacts. Effects of the proposed project on the North Atlantic right whale are insignificant or discountable.

Recreational Resources

The area offshore of the northern Outer Banks, including the waters off Oregon Inlet, is considered one of the prime sportfishing regions along the East Coast due to its proximity to the Gulf Stream and extended seasons of abundant fishing opportunities (e.g. marlin, tuna). The recreational sport fishery is vast and includes large "headboat" recreational fishing vessels, smaller "for-hire" charter fishing vessels, and private fishing boats. As of 2014, it was estimated that 109,000 Oregon Inlet fishing trips are taken per year by North Carolina residents and an additional 153,000 trips are taken by non-residents (Dumas et. al, 2014).

As described in Section 6.4.3 on page 18 and Section 9.1 on pages 30 and 31 of the EA, the project will be expected to result in navigation channels that are more consistent with the authorized federal project which will have a beneficial effect on the safety of recreational boating interests. The addition of the new privately-owned special purpose dredge will result in an increased number of days of safe navigability through Oregon Inlet due to the increased dredge plant capacity when combining the USACE current capacity with this additional dredge. With the increase in dredge capacity, recreational opportunities such as offshore recreational fishing will be positively impacted. Recreational activities that do not rely on navigability through Oregon Inlet (such as surf fishing, swimming, surfing, and bird watching), however, will not be impacted by this

alternative. Water-related recreation (fishing, watersports, boating) occurs within the project area and safe navigation of the inlet will support thousands of recreational fishermen each year.

With the preferred alternative, minor navigation disruptions may occur during the dredging and disposal events. These impacts have occurred on a regular basis when the USACE conduct maintenance dredging of the inlet. These impacts will be minimal and short term. During operations, indirect effects may include increased noise levels and visual effects to visitors recreating in the immediate area. All impacts will be temporary and cease with completion of each dredge event. Indirect effects are expected to include increased use of the inlet by commercial and recreational boaters. Immediately after a dredge event, the direct effects will be a navigation channel that is more consistent with the authorized federal project. Shoaled areas of the inlet and connecting channels will be removed allowing for safer navigation in and around Oregon Inlet.

In the immediate project area during maintenance dredging events, direct effects to visitors will be the dredging and the disposal activity itself. Dredges will be located within the inlet complex during these events possibly having a short-term, temporary impact on navigation. Dredges will also be traversing the inlet to and from disposal locations. The disposal sites are located within the Oregon Inlet complex and while navigability of the inlet may be affected during maintenance dredging events, it is anticipated that those impacts will be short-term and minimal and will have no negative effect on human use.

Dare County also proposes to dispose of dredged material within deep scour holes that may form beneath the remaining bridge pilings of the old Bonner Bridge that will be utilized as a public access fishing pier. During dredging operations, indirect effects may include increased noise levels and visual effects visitors recreating in the immediate vicinity of northern Pea Island National Wildlife Refuge. All effects would be temporary and cease with completion of each dredging event.

Socioeconomics

A recent economic study of Oregon Inlet by Dumas et.al (2014) suggested that five key business sectors contribute most of the Oregon Inlet's economic impact to Dare County, the region, and the state. These sectors include commercial fishing, seafood packing/processing, boat building and support services, recreational fishing, and tournament fishing. Oregon Inlet is considered one of the most commercially vital inlets along coastal North Carolina (Dumas et al., 2014). Users include fishermen from the communities of Wanchese, Manteo, Manns Harbor, and Stumpy Point (all in Dare County) as well as additional communities from other coastal counties (e.g. Hyde, Pamlico). A significant number of jobs in the tourism industry are related to sport fishing, which is dependent on the inlet for access to the ocean fishing grounds which contain the fish species prized by sport fishermen. Due to the relative shallow and dangerous conditions, fewer fishermen choose to operate through Oregon Inlet compared to in the recent past. Potential trips are frequently lost or shortened due to these dangerous inlet conditions, resulting in reduced catch. The shallow draft conditions force commercial boats reduce catch to lighten tonnage so that they might be able to pass through the inlet with less chance of grounding.

Under recent conditions at Oregon Inlet where the USACE, Dare County, and the State continue to perform maintenance dredging on a regular basis, the five business sectors contribute an economic impact of \$403.5 million in revenues while supporting 3,319 jobs in Dare County. When incorporating nearby counties including Dare, Currituck, Camden, Pasquotank, Perquimans, Tyrell, and Hyde, the regional economic impact of the inlet amounts to \$423.3 million while supporting 3,601 jobs. At a larger scale, the study cites an overall statewide economic impact of \$548.4 million and 4,348 jobs. If the inlet were to be navigable throughout the entire year, the 2014 study stated that these business sectors could potentially provide a total annual economic impact of 5,120 jobs and \$642.2 million to Dare County, 5,590 jobs and \$678.4 million to the region, and 5,397 jobs and \$693.0 million to the state of North Carolina (Dumas et.al, 2014).

As described in Section 6.4.3 on page 18 and Section 9.1 on pages 30 and 31 of the EA, project activities will be a positive benefit to commercial fisheries, as well as seafood processing/packing and boat building because Oregon Inlet is considered to be one of the most commercially vital inlets in the Outer Banks. The project will provide an overall long-term benefit to the local and State economy though the safe navigability of Oregon Inlet.

The expected benefits from the proposed project are decreases in losses and damages to both recreation and commercial vessels from shoaling, reduced US Coast Guard costs from rescues of grounded boats, increased commercial fishing efficiency, saving of human life and property, and offsetting beach erosion on Pea Island National Wildlife Refuge.

There will be no significant impacts on public health, public safety, or unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the NPS selected alternative will not violate any federal, state, or local environmental protection law.

CONCLUSION

As described above, the selected alternative does not constitute an action meeting the criteria that normally requires preparation of an environmental impact statement (EIS). The selected alternative will not have a significant effect on the human environment in accordance with Section 102(2)(c) of NEPA.

Based on the foregoing, it has been determined that an EIS is not required for this project and, thus, will not be prepared.

Attachment A – Non-Impairment Determination

Attachment B – Project Area

Attachment C – Mitigation Measures for Selected Alternative

ASMFC. 2016. Atlantic States Marine Fisheries Commission- Submerged Aquatic Vegetation. Online at: <http://www.asmfc.org/habitat/hot-topics#SAV>. Accessed: January 2020.

Dumas, Christopher F., John Whitehead, Craig Landry. 2014. A study of the economic impacts of Oregon Inlet Navigability to Dare County, the Surrounding Region, and the state of North Carolina. With: Moffatt & Nichol, Inc., Raleigh, NC. 240 pp.

NCDMF (North Carolina Division of Marine Fisheries). 2018. Online Recreational Water Quality Sampling Data. Online at: <http://portal.ncdenr.org/web/mf/rwq-sampling-data>. Accessed: October 22, 2018.

SAFMC (South Atlantic Fishery Management Council). 1998. Final Habitat Plan for the South Atlantic Region: Essential Fish Habitat Requirements for Fishery Management Plans of the South Atlantic Fishery Management Council. The Shrimp Fishery Management Plan, The Red Drum Fishery Management Plan, The Snapper Grouper Fishery Management Plan, The Coastal Migratory Pelagics Fishery Management Plan, The Golden Crab Fishery Management Plan, The Spiny Lobster Fishery Management Plan, The Coral, Coral Reefs, and Live/Hardbottom Habitat Fishery Management Plan, The Sargassum Habitat Fishery Management Plan, and The Calico Scallop Fishery Management Plan. Prepared by the South Atlantic Fishery Management Council, Charleston, South Carolina, October 1998.

USACE (U.S. Army Corps of Engineers). 2004. Finding of No Significant Impact, Use of Government Plant to Dredge in Federally Authorized Navigation Projects in North Carolina. US Army Corps of Engineers Wilmington District, September 2004.

Attachment A – Non-Impairment Determination

INTRODUCTION

This non-impairment determination has been prepared for the selected alternative, as described in the Finding of No Significant Impact for Dredging of Oregon Inlet with Dare County Dredge Environmental Assessment (EA).

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of the Interior and the NPS to manage units "to conserve the scenery, natural and historic objects, and wild life in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wild life in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (54 U.S.C. 100101).

NPS *Management Policies 2006* (NPS 2006), Section 1.4.4, explains the prohibition on impairment of park resources and values:

"While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them."

An action constitutes impairment when its impacts "harm the integrity of park resources or values, including the opportunities that otherwise will be present for the enjoyment of those resources or values" (NPS 2006, Section 1.4.5). To determine impairment, the NPS must evaluate the "particular resources and values that will be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts: (NPS 2006, Section 1.4.5).

National park system units vary based on their enabling legislation, natural and cultural resources present, and mission. Likewise, the activities appropriate for each unit and for areas in each unit also vary. For example, an action appropriate in one unit could impair resources in another unit. As stated in the NPS *Management Policies 2006* (sec. 1.4.5), an impact on any park resource or value may constitute an impairment, but an impact will be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or

- identified in the park's general management plan or other relevant NPS planning documents as being of significance.

The significance and importance of each resource, based on the Seashore's enabling legislation, is discussed under the analyzed resource sections below.

The resource impact topics carried forward and analyzed for the NPS selected alternative in the environmental assessment and for which an impairment determination is contained in this attachment was water quality, essential fish habitat, and threatened and endangered species of concern. Each resource or value for which impairment is assessed and the reasons why impairment will not occur is described below.

Water Quality

The selected action may result in some adverse impacts to water quality. There will be a temporary increase in turbidity levels in the project area during dredging activities. Turbidity will be short-term and localized with minimal adverse impacts to natural resources. Also, best management practices as required in permit conditions will be employed to control the levels of particulates in the water column. A condition of the Section 401 Water Quality Certification states that a turbidity standard of 25 Nephelometric Turbidity Units (NTU's) shall not be exceeded. The conditions of the water quality certification will be incorporated into the Corps permit. Because adverse impacts will be temporary, minimal, and localized and NTU's will not be exceeded, the NPS has determined that the selected action will not result in an impairment of water quality within the Seashore.

Essential Fish Habitat

The selected action may result in some adverse impacts to aquatic species and habitat analyzed in the EA. Fish and other mobile species are expected to leave the project areas during dredging activities and are expected to return upon completion of the project. Because of the dynamic nature of the channel bottom in Oregon Inlet, benthic resources of this area are limited but the project will result in mortality of benthic species during dredging and spoil deposition, however, benthic species from nearby unaffected areas are expected to recolonize the affected areas upon completion of the project given that the disposed material will be consistent with the material found within the dredged areas. As a result, aquatic species will continue to be present in the project area, and there will be no impairment of aquatic species within the Seashore.

Assessment of the significance of entrainment is difficult, but most studies indicate that the significance of impact is low. Only a very small percentage of marine and estuarine larvae are subject to entrainment; therefore, dredging performed by the privately-owned dredge is not expected to significantly impact these life forms at local or regional population levels. As a result, the NPS has determined that the selected action will not result in an impairment of essential fish habitat within the Seashore.

Threatened and Endangered Species

The selected action may result in some adverse impacts to federally listed threatened and endangered species analyzed in the EA during project activities, however, it is not expected that the

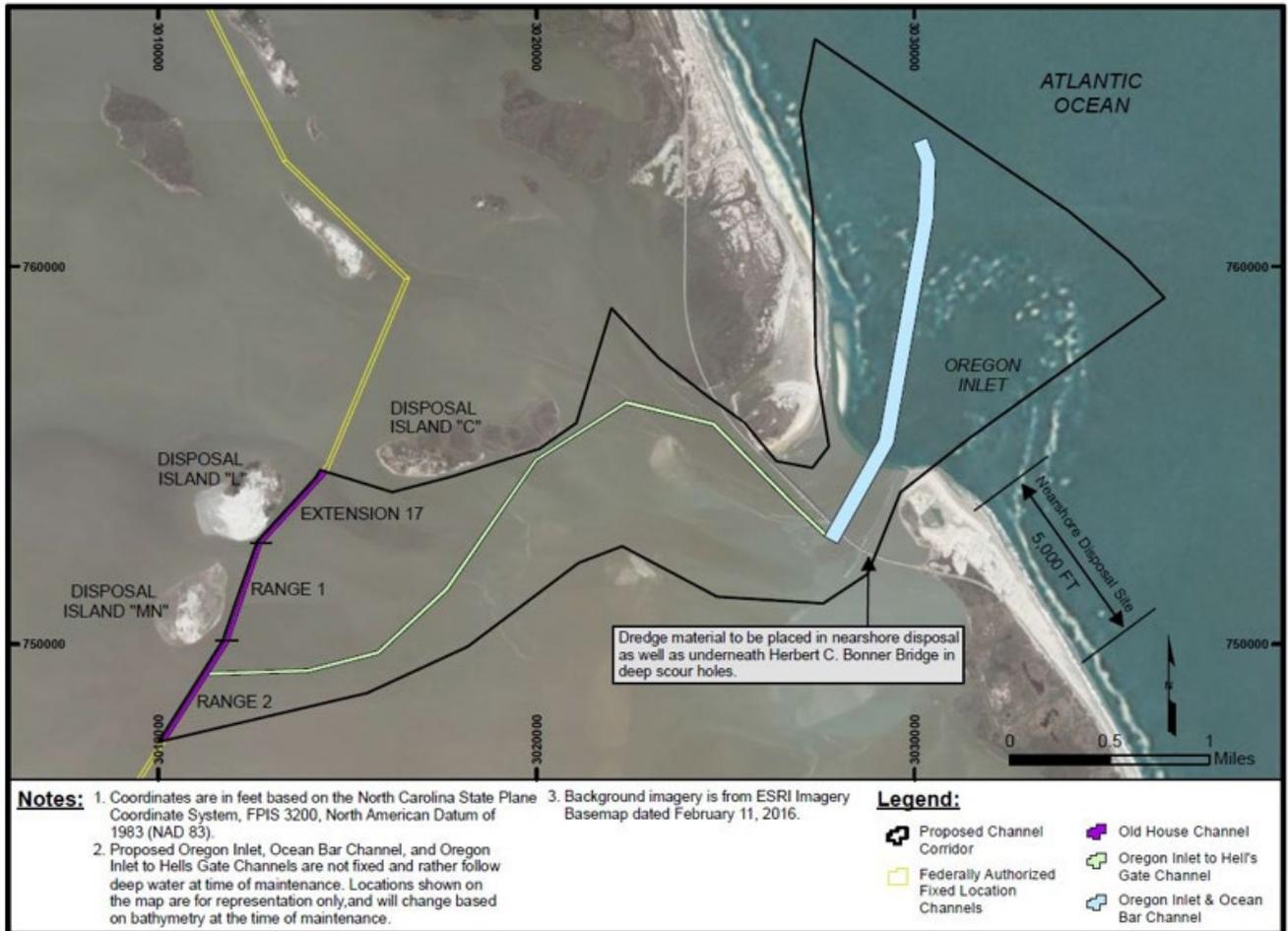
selected action will reduce these species population or meaningfully interfere with habitat use and availability for these species overall. These species will continue to be present in the project area and there will be no impairment to these species within the Seashore.

Should one of these federally listed threatened and endangered species identified in the 2004 EA and FONSI be observed, prescribed mitigation procedures contained within the permit's special conditions will immediately go into effect, and the dredge will either stop operations, or relocate to a different area. Marine mammals in the vicinity of the dredge and disposal areas during dredging activities are least likely to be affected because of their ability to mobilize and avoid the disturbed areas. Monitoring activities before, during, and after dredging will be required and must be in conformance with the conditions of the permit in order to reduce impacts to threatened and endangered species. Because species would likely mobilize and avoid work areas and mitigations are in place to stop work or relocate to avoid identified threatened and endangered species, the NPS has determined that the selected action will not result in an impairment to threatened and endangered species within the Seashore.

CONCLUSION

In conclusion, as guided by this analysis, good science and scholarship, advice from subject matter experts and others who have relevant knowledge and experience, and the results of public involvement activities, it is the Superintendent's professional judgment that there will be no impairment of park resources and values from implementation of the selected alternative. The NPS has determined that implementation of the selected alternative will not constitute an impairment of the resources or values of Cape Hatteras National Seashore. This conclusion is based on consideration of the park's purpose and significance, a thorough analysis of the environmental impacts described in the EA, comments provided by the public and others, and the professional judgment of the decision maker guided by the direction of NPS *Management Policies 2006*.

Attachment B - Project Area



Attachment C - Mitigation Measures for Selected Alternative

Coastal Resources

- The Permittee shall fully abide by all conditions of the CAMA Major Development #49-19, issued on June 24, 2019, by the North Carolina Division of Coastal Management.

Cultural Resources

- The Permittee shall conduct a comprehensive underwater archeological survey by a qualified archaeologist prior to the dredging of any of the previously “un-dredged areas” identified by the Division of Coastal Management. Potential effects on these resources shall be assessed prior to initiation of any dredging activities within “un-dredged areas” and appropriate no-work zones established, if deemed necessary. Only after the report has been reviewed by the Corps and proper coordination conducted with the Underwater Branch, will dredging in the additional areas be permitted.
- The Permittee shall avoid the remains of trawlers *Lois Joyce*, *Elizabeth Christine* and the tug *W.G. Townsend* as identified and described in the letter dated January 28, 2019, from the North Carolina Department of Natural and Cultural Resources.
- If submerged cultural resources are encountered during the operation, the Permitted must immediately notify the Corps and the NPS so that coordination can be initiated with the Underwater Archeology Branch of the North Carolina Department of Natural and Cultural Resources. In emergency situations, the Permittee shall immediately contact the Underwater Archeology Branch, at telephone (910) 251-7321, so that a full assessment of the artifacts can be made.

Water Resources

- The Permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).
- Violations of these permit conditions or violations of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act shall be reported to the Corps in writing and by telephone to: Attn: Mr. Josh Pelletier, 2407 West 5th Street, Washington, North Carolina, 27889, and by telephone at: (910) 251-4605, or email josh.r.pelletier@usace.army.mil, within 24 hours of the Permittee’s discovery of the violation.

Threatened and Endangered Species

- The Permittee shall implement all necessary measures to ensure the authorized activity does not kill, injure, capture, harass, or otherwise harm any federally listed threatened or endangered species. While accomplishing the authorized work, if the Permittee discovers or observes an injured or dead threatened or endangered species, the National Park Service, Cape Hatteras National Seashore, Chief of Resource Science and Stewardship Tracy Ziegler at tracy_ziegler@nps.gov and the U.S. Army Corps of Engineers, Wilmington District

Washington Field Office, Attn: Josh Pelletier at (910) 251-4605, or josh.r.pelletier@usace.army.mil will be immediately notified to initiate the required Federal coordination.

- In order to protect the endangered West Indian manatee (*Trichechus manatus*) the Permittee shall implement the U.S. Fish and Wildlife Service's Manatee Guidelines, and strictly adhere to all requirements therein. The guidelines can be found at http://www.fws.gov/nc-es/mammal/manatee_guidelines.pdf.
- No material will be placed above mean low water (MLW) to avoid impacts to the federally listed Seabeach amaranth (*Amaranthus pumilus*), Piping Plover (*Charadrius melodus*), Red Knot (*Calidris rufa*), Green sea turtle (*Chelonia mydas*), Hawksbill sea turtle (*Eretmochelys imbricata*), Kemp's ridley sea turtle (*Lepidochelys kempii*), Leatherback sea turtle (*Dermochelys coriacea*) and Loggerhead sea turtle (*Caretta caretta*) and their habitat.
- The Permittee's contractor is required to participate in the Right Whale Early Warning System to protect North Atlantic right whales. If a right whale or any other species of whale is reported within the area, then the contractor will be required to follow the enclosed NMFS's Southeast Region Vessel Strike Avoidance Measures and Reporting for Mariners (revised February 2008) (Attachment B), except where specific measures below are in conflict, in which case the measures in this Opinion govern (e.g., a speed restriction to a maximum of 10 knots at all times in right whale calving areas [i.e., federally-protected areas off the southeastern U.S. coast designated and implemented for the protection of right whales and their calves during their calving/migration season] for vessels 65 ft. in length or greater). By law, vessels shall maintain a 500-yd buffer between the vessel and any North Atlantic right whale [as required by federal regulation 50 CFR 224.103 (c)].
- If a sea turtle is observed within 100 yards of construction operations, all appropriate precautions shall be implemented to ensure protection of the species, including cessation of operation if an animal moves within 50 feet of any moving equipment. Additionally, the conditions require avoiding collisions with swimming sea turtles, monitoring of siltation barriers for entanglement, operation at "no wake/idle" speeds in the construction area, and reporting any collision with and/or injury to a sea turtle to the National Park Service, Cape Hatteras National Seashore Sea Turtle Hotline at (252) 216-6892, and to U.S. Army Corps of Engineers, Regulatory Division, Washington Regulatory Field Office, Attn: Mr. Josh Pelletier, 2407 West 5th Fifth Street, Washington, North Carolina, 27889, and by telephone at: (910)251-4605.
- Any take concerning a manatee, sea turtle, sturgeon (shortnose or Atlantic), or whale (Atlantic only); or sighting of any injured or incapacitated manatees, sea turtles, or whales shall be immediately reported to the National Park Service, Cape Hatteras National Seashore, Attn: Tracy Ziegler at (252) 475-9016, or tracy.ziegler@nps.gov, and U.S. Army Corps of Engineers, Wilmington District Washington Field Office, Attn: Mr. Josh Pelletier at (910) 251-4605, or josh.r.pelletier@usace.army.mil as well as U.S Army Corps of Engineers, Wilmington District Environmental Resources Section, Attn: Mrs. Teresa Russell at (910) 251-4725, or Teresa.E.Russell@usace.army.mil . A copy of the incidental take report shall be provided within 24 hours of the incident. The Permittee shall also immediately report any collision with and/or injury to a manatee to the United States Fish and Wildlife Service. If a

sea turtle is taken by the dredge (live or dead), the Permittee shall email a PDF version of the incidental take report to NOAA-Fisheries Southeast Region at the following email address within 24 hours of the take: takereport.nmfsser@noaa.gov, to the National Park Service, Cape Hatteras National Seashore, Chief of Resource Science and Stewardship Tracy Ziegler at tracy_ziegler@nps.gov, and to Wilmington District Project Manager Mr. Josh Pelletier at josh.r.pelletier@usace.army.mil.

Dredging Operations

- The Permittee shall limit their work so that it does not exceed the scope of work at Oregon Inlet described in the document entitled "Finding of No Significant Impact, Use of Government Plant to Dredge in Federally Authorized Navigation Projects in North Carolina, dated September 2004," as well as the corresponding opinion from National Marine Fisheries Service dated March 9, 1999.
- Vessels operating under this authorization shall operate at speeds of 1 to 3 knots with draghead size ranging from 2 feet by 2 feet to 2 feet by 3 feet. Draghead pumps will operate at an average of 350-horsepower and will not exceed 400-horsepower.
 - a) The Permittee shall ensure that baskets or screening is installed over the hopper inflow(s) and openings range from 5 inches by 5 inches to 5 inches by 8 inches. The method selected shall depend on the construction of the dredge used and shall be approved by the Corps prior to commencement of dredging. The screening shall provide 100% screening of the hopper inflow(s). The screens and/or baskets shall remain in place throughout the performance of the work.
 - b) The drag head shall always be buried a minimum of 6 inches in the sediment. Although the over depth prism is not the required dredging prism, the Permittee shall achieve the required prism by removing the material from the allowable over depth prism.
 - c) The Permittee shall not raise the drag head off the bottom to increase suction. The primary adjustment for providing additional mixing water to the suction line should be through water ports. To ensure that suction velocities do not drop below appropriate levels, the Permittee shall monitor production meters throughout the job and adjust primarily the number and opening sizes of water ports. Water port openings on top of the drag head or on raised standpipes above the drag head shall be screened before they are utilized on the dredging project. If a dredge section includes sandy shoals on one end of tract line and mud sediments on the other end of the tract line, the equipment shall be adjusted to eliminate drag head pick-ups to clear the suction line.
 - d) During turning operations, the pumps must either be shut off or reduced in speed to the point where no suction velocity or vacuum exists.
 - e) When initiating dredging, suction through the drag heads shall be allowed just long enough to prime the pumps, and then the drag heads must be placed firmly on the bottom. When lifting the drag heads from the bottom, suction through the drag heads shall be allowed just long enough to clear the lines, and then must cease. Pumping water through the drag heads shall cease while maneuvering or during travel to/from the disposal area. If the required dredging section includes

compacted fine sands or stiff clays, a properly configured arrangement of teeth may enhance dredge efficiency, which reduces total dredging hours, and "turtle takes." The operation of a drag head with teeth must be monitored for each dredged section to ensure that excessive material is not forced into the suction line. When excess high-density material enters the suction line, suction velocities drop to extremely low levels causing conditions for plugging of the suction pipe. Dredge operators should configure and operate their equipment to eliminate all low-level suction velocities. Pipe plugging cannot be corrected by raising the drag head off the bottom. Arrangements of teeth and/or the reconfiguration of teeth should be made during the dredging process to optimize the suction velocities.

- The Permittee shall implement the DQM system during dredging and dredged material disposal. The Permittee's DQM system must be certified by the DQM Support Center within one calendar year prior to the initiation of the dredging/disposal. Questions regarding certification should be addressed to the DQM Support Center at 877-840-8024. Additional information about the DQM System can be found at <http://dqm.usace.army.mil/>. The Permittee is responsible for ensuring that the DQM system is operational throughout the dredging and disposal project and that project data are submitted in accordance with the specifications provided at the aforementioned website. In the event the DQM system becomes inoperable, dredging activities will cease and the Permittee must contact the U.S. Army Corps of Engineers, Regulatory Division, Washington Regulatory Field Office, Attn: Mr. Josh Pelletier, 2407 West 5th Fifth Street, Washington, North Carolina, 27889, and by telephone at: (910) 251-4605. Dredging shall not commence until the system has been repaired and verified by the DQM support center and the Regulatory Project Manager notified. The data collected by the DQM system shall, upon request, be made available to the Regulatory Division of the U.S. Army Corps of Engineers, Wilmington District.
- All dredged material excavated by a special purpose dredge shall be placed in the approved nearshore disposal site off Pea Island in -10MLW to -14MLW depths as well as deep scour holes around Bonner Bridge as depicted in Attachment B.
- A project report summarizing the results of the dredging and the sea turtle take (if any) must be submitted to USACE and the NPS within 30 working days of completion. Reports shall contain information on project location, start-up and completion dates, cubic yards of material dredged, problems encountered, incidental takings (include photographs, if available) and sightings of protected species, mitigating actions taken (if relocation trawling, the number and species of turtles relocated), screening type (inflow, overflow) utilized, daily water temperatures, name of dredge, names of endangered species observers, percent observer coverage, and any other information the BOEM and/or contractor deems relevant. This report must be provided to NMFS's Protected Resources Division and notification of take shall be provided to NMFS at the following email address within 24 hours; takereport.nmfs@noaa.gov.
- Upon removal of sea turtle and/or parts from the draghead or screening, observers shall take photographs as to sufficiently document major characteristics of the turtle or turtle parts including but not limited to dorsal, ventral, anterior, and posterior views. For all photographs taken, a backdrop shall be prepared to document the dredge name, observer

company name, contract title, time, date, species, load number, location of dredging, and specific location taken (draghead, screening, etc.). Carcass/turtle parts shall also be scanned for flipper and Passive Integrated Transponder (PIT) tags. Any identified tags shall be recorded on the "Sea Turtle Incidental Take Form".

- "Endangered Species Observer Program Forms" located on the web site indicated in Special Condition number 36 below. Turtle parts which cannot be positively identified to species, on board the dredge or barge(s) shall be preserved by the observer(s) for later identification. A tissue sample shall be collected from any lethally taken sea turtle and submitted under the process stated in the "Protocol for Collecting Tissue Samples from Turtles for Genetic Analysis" found in the CONSTRUCTION FORMS AND DETAILS below. All genetic samples collected shall be submitted to NMFS within 30-days of collection and verification of submittal to NMFS shall be provided to the U.S. Army Corps of Engineers, Wilmington District Project Manager. After all data collection is complete, the sea turtle parts shall be placed in plastic bags, labeled as to the time, date, and dredged reach of collection, kept frozen and transported to the Sea Turtle Hospital, Surf City, North Carolina. If no local facility is capable of receiving the sea turtle/parts, they shall be marked (spray paint works well), weighted down and disposed of in accordance with the direction of the Wilmington District Project Manager.
- The Permittee shall provide a digital camera, with an image resolution capability of at least 300 dpi, in order to photographically report all incidental takes, without regard to species, during dredging operations. Immediately following the incidental take of any threatened or endangered species, images shall be provided, via email, CD or DVD to the Corps in .JPG or .TIF format and shall accompany incidental take forms. The nature of findings shall be fully described in the incidental take forms including references to photographs.
- The Permittee shall maintain a log detailing all incidents, including sightings, collisions with, injuries, or killing of manatees, sea turtles, sturgeon (Shortnose or Atlantic), or whales occurring during the contract period. The data shall be recorded on forms available on the website as indicated in Special Condition number 35 below. All data in original form shall be forwarded directly to the Wilmington District within 10 days of collection. Following project completion, a report summarizing the above incidents and sightings shall be submitted to:
 - a. U.S Army Corps of Engineers, Wilmington District Washington Regulatory Field Office 2407 West 5th Street Washington, North Carolina, 27889
 - b. Environmental Resources Branch U.S. Army Corps of Engineers, Wilmington District 69 Darlington Avenue Wilmington, North Carolina, 28403
 - c. National Marine Fisheries Service Protect Species Management Branch 263 13th Avenue South St. Petersburg, Florida, 33701
 - d. North Carolina Wildlife Resources Commission Habitat Conservation Program 943 Washington Square Mall, Washington, North Carolina, 27889
 - e. North Carolina Wildlife Resources Commission 1507 Ann Street, Beaufort, North Carolina, 28516
 - f. National Park Service, Cape Hatteras National Seashore, 1401 National Park Drive, Manteo, NC 27954