



National Park Service
US Department of the Interior
Cape Lookout National Seashore
North Carolina

FINDING OF NO SIGNIFICANT IMPACT

**Maintenance Dredging of U.S. Army Corps of Engineers
and National Park Service Navigation Channels
Back Sound to Lookout Bight**

Recommended:

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Date

Approved:

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Date

INTRODUCTION

In compliance with the National Environmental Policy Act (NEPA), The U.S. Army Corps of Engineers, Wilmington District (USACE), conducted an environmental assessment (EA) associated with the dredging and maintenance dredging of transportation channels located from Back Sound to Lookout Bight, and the beneficial use of dredge materials for the protection of historic structures within Cape Lookout National Seashore, a unit of the National Park System. The National Park Service (NPS) has reviewed the EA and finds that the EA adequately covers the NPS action and complies with regulations and requirements for NEPA applicable to the NPS. In addition, the EA was circulated for public review and public involvement requirements have been met. For all of these reasons, the NPS adopts the USACE EA.

Cape Lookout National Seashore (Seashore) includes three main barrier islands (North Core Banks, South Core Banks, and Shackleford Banks), which consist mostly of wide, bare beaches with low dunes covered by scattered grasses, flat grasslands bordered by dense vegetation, and large expanses of salt marsh alongside the sound. There are no road connections to the mainland or between the islands. The project area centers on the estuarine shoreline in the vicinity of the Cape Lookout lighthouse and associated historic structures located within the influence of Barden Channel and at the juncture of Shackleford Banks and the south end of Core Banks.

The NPS operates the Cape Lookout National Seashore Visitors Center on Harkers Island, and a concession operated ferry service from Harkers Island is one of the primary means of visitor access to Cape Lookout and Shackleford Banks. Visitors also access the park by private boat, tour boat, or vehicle ferry vessel. In 2021, the seashore had 562,461 visitors park-wide, an average of 1,540 per day. Island Express Ferry Service carried 110,000 visitors. Safe navigable routes through the sound are the only practical way of accessing the park or facilities located on the barrier island – without navigable channels, public access to the seashore would be severely limited. Shoaling of the channels, and the resulting hazardous navigation (the United States Coast Guard was forced to remove navigation markers in 2018 and 2019 after the channels no longer met depth requirements), has restricted boating, visitation, and recreation opportunities in the area.

The Seashore is also responsible for the protection of cultural resources. The Cape Lookout Lighthouse Complex (Lighthouse, Keeper's Quarters, Summer Kitchen and Oil Shed) is endangered by continual erosion along the sound side shoreline. The Cape Lookout Lighthouse Complex is listed in the National Register of Historic Places under the name "Cape Lookout Light Station." Storms and high tides continue to erode the area, threatening the keeper's quarters and summer kitchen as well as the lighthouse itself.

The purpose of the project is to repair channels and guide future channel management, investment in channel maintenance, safe navigable channels, visitor use, and protection of cultural resources. The project is needed to:

- Protect Park resources and improve the visitor experience.
- Rehabilitate the deteriorated and storm damaged channels.
- Improve vessel flow and reduce safety risks to visitors accessing the park via boats.

- Address erosion of supporting structures at the Lighthouse Complex.

The EA analyzed three alternatives: alternative 1 No Action alternative which would result in no dredging of the Back Sound to Lookout Bight or NPS navigation channels; alternative 2 Maintenance Dredging of Back Sound to Lookout Bight with a navigation corridor for the full project via deepwater (no fixed channel); and alternative 3 Maintenance Dredging of Back Sound to Lookout Bight along fixed alignment for the northern portion and navigation corridor for the southern portion; NPS channels would follow natural deep-water (Partial Project Corridor alternative). The NPS action would be to provide a special use permit to allow these activities within the Seashore.

The statements and conclusions reached in this finding of no significant impact (FONSI) are based on documentation and analysis provided in the USACE Channel from Back Sound to Lookout Bight Maintenance of U.S. Army Corps of Engineers and U.S. National Park Service Navigation Channels, Carteret County, North Carolina Environmental Assessment (August 2023) and its associated decision file. The EA was made available for public review from April 14, 2023, through May 15, 2023. Comments received were summarized and responses provided by USACE (Appendix B). Comments resulted in clarifications to the EA, which have been provided in the response to comments.

Appendix B summarizes the public comments, including USACE responses to comments, received on the EA. No changes to the EA were necessary as a result of public comments received. As required by NPS Management Policies 2006 (NPS 2006), a finding of non-impairment is included as Appendix A.

SELECTED ALTERNATIVE AND RATIONALE FOR THE DECISION

Based on the analysis presented in the EA and after considering public comments, the USACE and NPS selected alternative 3 (Proposed Action and also the NPS preferred alternative). Under the selected alternative, the USACE and the NPS will dredge within a navigation corridor for the Back Sound to Barden Channel portion of the project (existing navigation channel) and allow for dredging of a natural deep-water corridor from Bardon Channel to Lookout Bight including NPS natural deep-water routes, via hydraulic pipeline dredge and/or shallow draft Government Plant dredge. Placement options for dredged material would include Sandbag Island bird island, Morgan Island bird island, NPS sound side (cultural resource protection) and oceanside beaches, side casting of material, and within deep scour holes. NPS will provide a special use permit to allow USACE to implement the alternative within the Seashore.

RATIONALE

The USACE and NPS selected alternative 3 (preferred alternative) because:

- It satisfies the purpose and need by guiding future channel management and investing in channel maintenance, safety, and visitor use of the channels.
- It protects park cultural resources, improves visitor experience, and addresses the existing safety and congestion issues within the sound and channel approached to the Seashore.

- It includes mitigation measures and construction methods that avoid and minimize impacts on natural and cultural resources and there is no potential for significant adverse impacts to Seashore resources.

MITIGATION MEASURES

Under its Organic Act, the NPS has the authority to develop and direct mitigation for impacts to resources under its jurisdiction. This authority is in addition to the requirements that may be created by the need to comply with laws and regulations that manage resource impacts overseen by other agencies. To meet these obligations, the NPS has developed Management Policies and Director's Orders that identify the authorities (laws, regulations, and executive orders) directing how impacts and mitigation to resources will be managed and identifying the policies and procedures by which the NPS will comply with these authorities. A full listing of NPS policies is available from the NPS Office of Policy website at: <https://npspolicy.nps.gov/index.cfm>.

The USACE collected information and coordinated with Tribes and Federal, State, and local agencies. The data collection, agency coordination, and findings of the Project Development Team (PDT) resulted in the Proposed Action. The Proposed Action considers the natural ecosystem and habitat that supports the significant resources in the project area. Mitigations include:

- The USACE has considered resource agencies' concerns by reducing dredging and placement of dredged material within the majority of the project area to a time when marine species are less active or not present. The USACE has committed to the protection of sea turtle nesting habitat by restricting dredged material placement on NPS oceanside beaches between November 16 through April 30. Likewise, to protect nesting shorebirds, placement of dredged material on bird islands and NPS sound side beaches would occur from September 1 through March 31. Government owned shallow draft plant dredging would occur from October 1 through March 31 to protect fisheries resources.
- Submerged aquatic vegetation (SAV) beds are located throughout the project area. To protect these resources, prior to any dredging event, USACE would identify locations of SAV beds using the State's online database and recent aerial imagery.
- Federally listed species would be protected by following the National Marine Fisheries Service's (NMFS) 2020 South Atlantic Regional Biological Opinion for Dredging and Material Placement Activities in the Southeast United States (SARBO), as well as the U.S. Fish and Wildlife Service's (USFWS) Guidelines for Avoiding Impacts to the West Indian Manatee (2017) and the 2017 North Carolina Coastal Beach Sand Placement, Statewide Programmatic Beach Placement Biological Opinion (SPBO).
- A beach template has been designed with a specific elevation and berm width and height in accordance with NPS regulations. Two geotechnical investigations involving the collection of vibrocores were performed across the project area (Figure 10), the first was in 2004-2005, and the second was in 2022. The purpose of these investigations was to analyze the subsurface sediments and determine whether the sediments were suitable for beach or bird island placement. The native grain size was determined for the sound side beach in front of the Cape Lookout Lighthouse. Only properly sized sand will be used for beach placement.

- Visitors to Seashore beaches could be disturbed by operations; however, placement would occur outside of peak tourist season, thereby having less of an effect (September 1 through April 30).
- To ensure proper operation of dredge cutter and drag heads, all apparatus will be fixed to the sea floor prior to engagement of pumps and would be limited to the October 1 – March 31 timeframe for Government plant dredging and September 1 – March 31 for pipeline dredging when placing material from Back Sound onto Sandbag and/or Morgan Island and November 16 – April 30 for pipeline dredging when placing material on CALO oceanside beach.
- All necessary State and Federal authorizations (Coastal Zone Management Act consistency, Section 401/404 permits, etc.) will be obtained prior to work commencing and all conditions will be met.
- USACE will abide by the NMFS 2020 SARBO and relevant PDCs.
- The Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531–1543), provides a program for the conservation of threatened and endangered (T&E) plants and animals and the habitats in which they are found. In accordance with Section 7 (a)(2) of the ESA, USACE has coordinated with the USFWS and NMFS to ensure that effects of the proposed project would not jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat of such species.
- The NPS will provide interpretation to educate visitors about the unique features and significance of the Lighthouse historic district, including its natural and cultural resources. The interpretation will also address the impact of the undertaking on the historic district and its contributing features, including any changes to the landscape, visitor use patterns, and visual character of the area.
- The NPS will provide interpretation to educate visitors about dredging operations and public access to the National Seashore.
- The conservation measures will remain in place until all work is complete, all vessels have left the area, and all equipment is removed from beaches and/or bird islands. To protect historic and archaeological resources, a 150 meter no dredging buffer will be established around the wreck of the Olive Thurlough. All inadvertent discovery policies of the USACE and NPS will be adhered to.
- Any changes in the proposed plan will be coordinated in advance with resource agencies.

OTHER ALTERNATIVES ANALYZED IN THE EA

In addition to the selected alternative described above (alternative 3), the EA analyzed a no-action alternative (alternative 1), and Maintenance Dredging of Back Sound to Lookout Bight with a navigation corridor for the full project (no fixed channel – alternative 2).

The no-action alternative was not selected because it would not meet the purpose and need for taking action. Under the no-action alternative, the channels would continue to fluctuate between inaccessible and marginally accessible preventing or severely limiting public access to the National Seashore and there would be limited ability to protect the Cape Lookout Lighthouse complex from continued erosion. Limited channel capacity would remain at the current level, where it is unsafe and insufficient to meet demand.

Alternative 2, Maintenance Dredging of Back Sound to Lookout Bight with a navigation corridor for the full project (no fixed channel). This alternative allows for dredging of natural deep-water throughout the full project corridor via hydraulic pipeline dredge and/or shallow draft Government Plant dredge. Placement options for dredged material would include Sandbag Island bird island, Morgan Island bird island, NPS sound side and oceanside beaches, side casting of material, and within deep scour holes. Impacts of this alternative would be generally the same as alternative three and have been practiced for some time without success. Serious shoaling has in fact intensified, and there is no reason to believe long-term success would result from this alternative. While some useable sand for cultural resource protection would result from this alternative, it would be limited and there is no reason to believe there would be sufficient quantities to protect the Lighthouse complex. Alternative 2 would be less effective and Alternative 3 best meets the purpose and need of the project.

FINDING OF NO SIGNIFICANT IMPACT

The NPS reviewed the environmental impacts described in the EA and determined that no significant direct, indirect, or cumulative impact will occur to any of the park's resources as a result of implementation of the selected alternative. As described in the EA, the selected alternative has the potential for adverse and beneficial impacts on Park resources, including visitor use and experience, vegetation, fish and fish habitat resources, threatened and endangered species, and cultural resources. However, under the selected alternative, no significant adverse impacts were identified.

VISITOR USE AND EXPERIENCE

Once the channels have been restored, visitors will once again be able to safely navigate the four-mile trek through the sound to Cape Lookout National Seashore without fear of running aground or having to navigate next to another vessel. Ferry service will not have to cancel trips at low tide, enabling visitors to travel to the park on a regular schedule, and do it safely. The United States Coast Guard will be able to install navigational signs that were removed when the channel became too shallow, making visual navigation easier and safer. The visitor experience and use of facilities will expand when we are able to reopen the Lighthouse Summer Kitchen (currently closed and endangered as waves often contact the foundation). The Lighthouse complex will be secured from erosion so that visitors may use the area freely and without concern.

Short-term impacts on visitor use and experience will be adverse during the 6-month construction period and during subsequent maintenance dredging. Navigation channels may be closed temporarily, and sand placement to protect the Lighthouse complex will necessitate closing the beach temporarily. The park will implement a public information program to notify visitors of the closure and make them aware of available trip planning information to help them choose alternative destinations. Visitation and congestion could increase at other park destinations during this time. Additionally, short-term, adverse impacts to visitor use and experience could occur as visitors adjust to interruptions in ferry service to access the park, but long-term benefits are expected from improved channel access experience with a less stressful arrival experience, infrastructure protection, and less access congestion.

The selected alternative will have adverse impacts on visitor use and experience, but the NPS has determined the impacts will not be significant because:

- The restored channels will improve visitor safety and the quality of visits by reducing congestion, return the channels to a navigable condition, and result in the placement of navigational signs by the USCG.
- Ensure the protection of the Cape Lookout Lighthouse complex remains in tact for visitor use.
- Short-term, adverse impacts to visitor experience as visitors adjust to navigating reservation and shuttle systems will be outweighed by long-term, beneficial impacts.

VEGETATION

Vegetation in the project area principally consists of submerged aquatic vegetation (SAV). SAV provides food and shelter for multiple species important to the overall system ecology; commercial and recreational fisheries; and other species including shellfish, manatees, and sea turtles. Species highly associated with SAV habitat include bay scallops, shrimp, hard clams, blue crabs, sea trout, gag grouper, and flounder.

SAV is prolific in shallow estuaries of Back Sound and Lookout Bight as shown in NC Department of Environmental Quality's 2019-2020 SAV mapping data (Figure 12). SAV was also identified using aerial imagery of the 2022 growing season (April – October). Although SAV can quickly populate shallow bottom when conditions are conducive, currents, sand movement, and turbid water in the project area can minimize or eliminate the presence of SAV. This is expected in open, unprotected areas and areas following designated and undesignated navigation routes. In November 2022, a ground-truthing survey resulted in no SAV being present within and immediately adjacent to USACE and NPS channels, as well as Sandbag Island. The nearest SAV identified during the November survey was a small “patchy” cluster approximately 250 feet west of the Channel in Back Sound (Figure 12), which could be affected by dredging and dredged material placement (side casting). In July 2023, an additional ground-truthing survey resulted in SAV being identified, specifically in twenty-five patchy areas within the overall 25-acre footprint of Sandbag Island, and in several, approximately 400 square-foot patches within a 500 linear foot portion of the USACE channel. SAV is also present to the south and southwest of Sandbag Island. Dredging would avoid known areas of SAV to the maximum extent practicable by identifying the presence of SAV using the State's online database and recent aerial imagery. Government plant dredging and placement activities would occur during the recommended timeframe of October 1 – March 31 to avoid the SAV growing season, thereby making impacts to SAV insignificant.

FISH AND FISH HABITAT

The 1996 Congressional amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) (Public Law 94-265) set forth new requirements for the National Marine Fisheries Service (NMFS), regional fishery management councils (FMC), and other Federal agencies to identify and protect important marine and anadromous fish habitat. These amendments established procedures for the identification of Essential Fish Habitat (EFH) and a

requirement for interagency coordination to further the conservation of federally managed fisheries. The EFH assessment is included in the body of the EA and was coordinated with NMFS Habitat Conservation Division (HCD) upon its circulation. The USACE has agreed to continue communication with NMFS HCD throughout the project implementation.

The EFH assessment includes fish species managed under MSFCMA that may occur in the vicinity of the project. Categories of EFH and Habitat Areas of Particular Concern (HAPC) for managed species are identified as potentially occurring in southeastern states in the Fishery Management Plan Amendments of the South Atlantic Fishery Management Council.

Essential fish habitat for coastal migratory pelagic species includes sandy shoals of capes and offshore bars, high profile rocky bottom, and barrier island oceanside waters from the surf to the shelf break zone. All coastal channels are state-designated nursery habitats of particular importance to coastal migratory pelagics (for example, in North Carolina, this would include all Primary Nursery Areas (PNA) and all Secondary Nursery Areas).

Essential fish habitat for snapper-grouper species includes coral reefs, live/hard bottom, submerged aquatic vegetation, artificial reefs, and medium to high profile outcroppings on and around the shelf break zone from shore to at least 600 feet (at least 2,000 feet for wreckfish) where the annual water temperature range is sufficiently warm to maintain adult populations of members of this largely tropical complex. EFH includes the spawning area in the water column above the adult habitat and the additional pelagic environment, including Sargassum, required for larval survival and growth up to and including settlement.

Essential fish habitat for spiny lobster includes nearshore shelf/oceanic waters; shallow subtidal bottom; seagrass habitat; unconsolidated bottom (soft sediments); coral and live/hard bottom habitat; sponges; algal communities (Laurencia); and mangrove habitat (prop roots).

Additionally, HAPC were reviewed using the EFH Mapper to identify their location in the vicinity of the project area. The HAPC are special habitat areas designated by NMFS to further the conservation and enhancement of EFH. The NMFS Mapper shows HAPC present within the inshore areas of Lookout Bight and Back Sound, and outer portions of beach placement areas (EFH Mapper 2022). Areas of HAPC for penaeid shrimp include all coastal channels, all state-designated nursery habitats of particular importance to shrimp, and state-identified overwintering areas. The project area also contains HAPC for snapper-grouper complex and summer flounder.

SAV provides food and shelter for multiple species important to the overall system ecology; commercial and recreational fisheries; and other species including shellfish, manatees, and sea turtles. Species highly associated with SAV habitat include bay scallops, shrimp, hard clams, blue crabs, sea trout, gag grouper, and flounder.

SAV is prolific in shallow estuaries of Back Sound and Lookout Bight as shown in NCDEQ's 2019-2020 SAV mapping data (Figure 12). SAV was also identified using aerial imagery of the 2022 growing season (April – October). (See Vegetation Section in the EA).

Oyster beds are present in subtidal and intertidal waters and reefs fringing salt marshes along

estuarine shorelines. Sandy, high-energy areas are not conducive for oyster establishment or growth; therefore, shellfish beds are not expected to be present within areas of dredging and placement. There are no NCDMF listed artificial reefs or oyster sanctuaries within the project area.

The Atlantic blue crab spawns in high salinity, soft-bottom channel habitat such as that of Barden Channel and Back Sound. According to *An Assessment of Fisheries Species to Inform Time-of-Year Restrictions for North Carolina and South Carolina* (Wickliffe, 2019), spawning occurs during the months of April through September, so female blue crabs are present in the channel during these months. New Crab Spawning Sanctuaries were established in April 2020 under the Blue Crab Fishery Management Plan, Amendment 3. During March 1 – October 31, channels are now closed to use of trawls, pots, fishing equipment, and mechanical methods for oysters and clams to protect females that congregate in channel systems to spawn. The spawning season is April – October, therefore, to avoid possible dredging-related effects to spawning blue crabs, no dredging would occur during this time.

The State of North Carolina defines Primary Nursery Areas (PNAs) as tidal saltwater, which provides essential habitat for the early development of commercially important fish and shellfish (15 NCAC 3B .1405). It is in these estuarine areas that many fish species undergo initial post-larval development. PNAs are designated by the North Carolina Marine Fisheries Commission (NCMFC). The NCMFC does not classify the project area as PNA.

Anadromous Fish Spawning Areas (AFSA) are designated and regulated by the NCMFC and NCWRC. Barden Channel provides anadromous fish access to the Neuse and Pamlico Rivers, however Drum Channel and Ocracoke Channel to the north provide much more direct routes. The Neuse and Pamlico Rivers contain spawning areas upstream for species such as Atlantic sturgeon, blueback herring, alewife, hickory shad, and striped bass. It is possible for these species to be present in the project area during migration periods.

Overall, the selected alternative of dredging USACE and NPS channels and associated dredged material placement activities is not expected to adversely affect any type of EFH or EFH-related species present within the project area. Avoidance and minimization measures are listed below that USACE has committed to follow:

- All Government plant dredging would take place between October 1 – March 31.
- Pipeline dredging and associated beach placement and bird island placement would only occur during the relevant timeframes for the protection of nesting sea turtles (November 16 – April 30) and birds (September 1 – March 31).
- Prior to each dredging event, SAV in the project area would be identified using the State's online SAV database and recent aerial imagery; SAV will be avoided to the maximum extent practicable.
- Placement onto Sandbag or Morgan Island via control-of-effluent would utilize methodologies that will avoid impacts to adjacent SAV beds to the maximum extent practicable.
- All necessary State and Federal authorizations (CZMA consistency, Section 401/404 permits, etc.) will be obtained prior to work commencing and all conditions will be met.
- USACE will abide by the NMFS 2020 SARBO and relevant PDCs.

- Government plant dredging and placement activities would occur during the recommended timeframe of October 1 – March 31 to avoid the SAV growing season, thereby making impacts to SAV insignificant.
- Any changes in the proposed plan will be coordinated in advance with resource agencies.

THREATENED AND ENDANGERED SPECIES

The Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531–1543), provides a program for the conservation of threatened and endangered (T&E) plants and animals and the habitats in which they are found. In accordance with Section 7 (a)(2) of the ESA, USACE has coordinated with the USFWS and NMFS to ensure that effects of the proposed project would not jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat of such species.

The proposed action may affect, but is not likely to adversely affect, leatherback, loggerhead, Kemp’s Ridley, and green sea turtles (swimming) under NMFS purview; West Indian manatee; Atlantic sturgeon; giant manta ray; and roseate tern. The proposed action may affect, and is likely to adversely affect, leatherback, loggerhead, Kemp’s Ridley, and green sea turtles (nesting) under USFWS purview; piping plover; red knot; and seabeach amaranth. The proposed action may affect, and is likely to adversely affect, piping plover designated Critical Habitat and red knot Critical Habitat proposed for designation. The potential effects to endangered species and Critical Habitat will not adversely affect any species at the population level.

The placement of beach quality dredged material and the associated construction activities during the November 16 – March 31 timeframe may have minor and temporary impacts on piping plover and red knot foraging, sheltering, and roosting habitat. It may have impacts on the physical and biological features for piping plover and red knot wintering and migration habitat. Bird island placement of dredged material onto Sandbag or Morgan Islands, and NPS beaches is expected to enhance nesting habitat for piping plovers.

Consequently, dredging may affect, but is not likely to adversely affect, sea turtles, sturgeon, or manta rays under NMFS purview (SARBO, 2020). Dredged material placement activities may affect and will likely adversely affect sea turtles, piping plover, red knot, and seabeach amaranth (SPBO, 2017). It is expected that the proposed project may affect, but is not likely to adversely affect, the roseate tern, since placement of material will be conducted during the November 16 – March 31 timeframe. Adverse effects to T&E species will be avoided and/or minimized to the maximum extent practicable by implementation of the SARBO PDCs and USFWS 2017 SPBO terms and conditions.

Pipeline and Government Plant dredging is not expected to have adverse impacts on listed marine species present (sea turtles, Atlantic sturgeon, giant manta ray) within the Back Sound to Barden Channel area. According to the 2020 SARBO, the risk to ESA-listed species under NMFS purview from activities covered under this EA including dredging and dredged material placement using the proposed equipment, effects from noise, water quality changes, and blocking migration were determined to be insignificant and would not result in take. These risks

to ESA-listed species under USFWS purview are also expected to be low and these species will be able to avoid disturbances without harm.

CULTURAL RESOURCES

The environment at the Seashore has deterred extensive human settlement in the area (NPS 1978). Human occupation of the Outer Banks region initially occurred over 3,000 years ago by a hunting-fishing-gathering people. Earlier peoples may have used the area, but there is a strong likelihood that wave action or other natural processes removed any very early sites long ago, since the dynamic geomorphology of the barrier islands is not considered conducive to the in-situ preservation of archaeological resources (Ehrenhard 1976; NPS 2007).

Little is known about the nomadic hunters on the islands, and specific information about the area up to the time of Colonial English occupation is lacking (Ehrenhard 1976). Shell midden sites on the sound side of Shackleford Banks and in the vicinity of the Harkers Island shell point area of Cape Lookout are the only remains of early human occupation; recent fieldwork has revealed that relatively intact and archeologically significant prehistoric middens may exist, but erosion and inundation threaten these sites, and none have undergone full evaluation for National Register standing. Few sites are known to occur on Core Banks, which has apparently suffered from periodic cycles of island breaching and reformation as channels opened and closed at various points along the length of the island.

Most of the archaeological sites identified at the Seashore are historic structures and ruins located in Portsmouth Village and Cape Lookout Village. The majority of these sites date to the late nineteenth and twentieth centuries and are associated with the villages and historic districts which have been recorded on Core Banks.

The Cape Lookout Light Station, situated near the western bank of Barden Channel, was listed on the National Register in 1973 and contains prehistoric and historic archaeological remains, as well as supporting historic structures; the Light Station also contributes to the National Register listed Cape Lookout Village Historic District. Erosion threatens the Light Station due to the progressive increase and eastward encroachment of a large shoal off the east end of Shackleford Banks. The shoal is constricting the bend in the tidal channel and forcing the channel against the opposite shore, in the immediate vicinity of the Light Station. The expansion of this shoal is naturally occurring as a result of the unrestricted littoral drift influx to Barden Channel from Shackleford Banks. Historic aerial photography indicates that this eastward shoal encroachment had been occurring long before any dredging in the throat or ocean bar of the channel.

The Outer Banks are also known as the Graveyard of the Atlantic and shipwreck debris washes onto CALO beaches regularly. The only systematic (i.e., intentional) surveys to identify and record this evidence of CALO's maritime past were conducted by the Surface Interval Diving Company in April 2002 (SIDCO 2002) and NPS Southeast Archeological Center's (SEAC) hurricane damage assessment in 2003 (Schwadron et al. 2003) and focused on Core Banks areas. Shipwrecks and other submerged cultural resources are considered to have high potential within the proposed project area; however, previous disturbances, including dredging, have already affected such resources to a certain unknown degree, although their locations are known. Archaeological field investigations of the eastern end of Shackleford Banks were not

able to successfully identify the location of shore whaling stations or camps associated with the 19th century community of Diamond City based solely on surface survey, but fieldwork was able to identify features that appear to be associated with the community itself. However, projected locations for historic whaling camps indicate that these sites may actually be situated underwater within the mouth of Barden Channel (Jateff 2007).

Shell Point was most recently investigated by McNeil prior to shore stabilization efforts at Harkers Island (NPS 2007). These investigations included shovel testing along the shoreline and artifacts including historic material, pottery, and shell were noted. Test units were also excavated in an area of potentially intact shell deposits along the southern shore, but no such remains were encountered during the excavation. Test units in the harbor area of Harkers Island, approximately 0.25 miles north of the proposed dredging area, recorded prehistoric pottery and flake materials at depths of approximately 50cm below modern disturbances.

Regarding USACE's Federal channels within the proposed project area, including those following natural deep water between Barden Channel and Lookout Bight, compliance with Section 106 of the National Historic Preservation Act (NHPA) has been previously coordinated and documented in the "Final Environmental Statement, Maintenance Dredging, Channel from Back Sound to Lookout Bight, N.C.", dated November 1975 and filed with the Council on Environmental Quality on March 10, 1976. Similarly, Section 106-related considerations regarding NPS actions in the project area are described in the "Environmental Assessment, National Park Service, Cape Lookout National Seashore, Protection of Lighthouse and Associated Historic Structures", dated December 2005, and in the "Environmental Assessment for National Park Service, Cape Lookout National Seashore, Harkers Island Shore Protection Project", dated August 2006.

Coordination with the North Carolina State Historic Preservation Office (SHPO) has been completed. By letter dated May 9, 2022, USACE informed SHPO of the proposed action and anticipated effects to cultural resources, historic properties, and known shipwrecks. By letter dated June 16, 2022, SHPO provided a response stating, "The Cape Lookout Bight and Back Sound areas contain six recorded submerged archaeological sites, most notably the wreck of the Olive Thurlow (CLS0004), that lie adjacent to the channel. While we find that the Area of Potential Effect (APE) of the proposed maintenance dredging would have no adverse effect on the noted archaeological sites, we ask that an adequate buffer area of 150 square meters be provided surrounding the shipwrecks. The purpose of this buffer is to prevent further deterioration and damage of the archaeological resource, as well as to prevent possible damage to dredge machinery." Correspondence with SHPO is included in Appendix B. USACE will implement the requested 150 square meter buffers around known shipwrecks in the proposed project area. Dredging would not occur within buffered areas.

The proposed action would have no adverse effect on historic properties or shipwrecks listed, or eligible for listing, on the National Register of Historic Places since identified buffer areas will be avoided during dredging activities. The proposed action is in compliance with Section 106 of the National Historic Preservation Act and the Abandoned Shipwreck Act.

PUBLIC, AGENCY, AND TRIBAL CONSULTATION

The EA was released for public comment on April 14, 2023, and remained open for comment for 30 days. Two meetings were held with state and federal resource agencies to resolve concerns raised during the scoping period. On October 28, 2022, and June 1, 2023, USACE held virtual meetings to discuss the placement of material onto Sandbag Island, which has SAV present along the west and south sides. The placement plan, attached as Appendix B of the EA, reflects changes made to address concerns raised by agencies.

The Selected Alternative and the environmental impacts of the Selected Alternative are thoroughly addressed in the EA. The EA was made available to an extensive list of Tribes and local, State, and Federal regulatory agencies, elected officials, and members of the public for a 30-day review and comment period. A list of recipients is included as Appendix G of the EA. All comments received during public review were considered and all comments and responses are included in Appendix H of the EA.

The final USACE EA/Finding of No Significant Impact has been made available to the list of recipients in Appendix G of the EA and may also be accessed on the Wilmington District Website at: <http://www.saw.usace.army.mil/Missions/Navigation/Dredging/>. The NPS FONSI will be made available on the NPS Planning, Environment, and Public Comment website at <https://parkplanning.nps.gov/cal>.

CONCLUSION

As described above, the selected alternative does not constitute an action meeting the criteria that normally requires preparation of an environmental impact statement. 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 environmental impact statement is not required for this project and, thus, will not be prepared.

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