

**Final
ENVIRONMENTAL ASSESSMENT
NATIONAL REGIONAL SEDIMENT MANAGEMENT (RSM)
PROGRAM
WRDA 2016 SECTION 1122
BENEFICIAL USE PILOT PROJECT**

Barnegat Inlet, Ocean County, New Jersey

Prepared by:
U.S. Army Corps of Engineers
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10 July 2020



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



FINDING OF NO SIGNIFICANT IMPACT

NATIONAL REGIONAL SEDIMENT MANAGEMENT (RSM) PROGRAM WRDA 2016 SECTION 1122 BENEFICIAL USE PILOT PROJECT BARNEGAT INLET, OCEAN COUNTY, NEW JERSEY

The U.S. Army Corps of Engineers, Philadelphia District (USACE) has conducted an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended. The final Environmental Assessment (EA), dated 10 July 2020 and titled *National Regional Sediment Management Program WRDA 2016 Section 1122 Beneficial Use Pilot Project, Barnegat Inlet, Ocean County, New Jersey*, evaluates existing environmental, cultural, and socio-economic conditions and the effects of the pilot project on existing resources at the proposed project site in the region of the Barnegat Inlet Federal Navigation Project and immediate surrounding area. The EA also evaluates the effects on existing resources of not dredging Barnegat Inlet (No Action Alternative) and the current maintenance dredging and placement practices (Current Practice).

Section 1122 of Water Resources Development Act (WRDA) requires the USACE to establish a pilot program to carry out ten projects for the beneficial use of dredged material. The Barnegat Inlet Beneficial Use Pilot Project was one of ten projects selected from a field of 95 proposals, based on criteria contained in Section 1122 of WRDA, as having a high likelihood of delivering environmental, economic, and social benefits.

The purpose of the pilot project is to maintain the Barnegat inlet Federal navigation channel while using the dredged material beneficially through strategic placement in the nearshore zone fronting the Atlantic Ocean beach of the northern portion of Long Beach Island, New Jersey. The project includes pre- and post-placement monitoring surveys in support of the development of future beneficial use projects. There is considerable opportunity within the sediment-rich Barnegat Inlet complex to use dredged material from state and Federal navigation channels for beneficial use by placement on or near adjacent beaches, for marsh enhancement, and island creation. Such projects would improve overall coastal system resilience within the Barnegat Inlet region of New Jersey.

The Barnegat Inlet Federal Navigation Project, a complex and dynamic coastal system along the New Jersey Atlantic Coast, was adopted in House Document (HD) 73 19 in 1935, modified in HD 74 85 in 1937 and HD 79 358 in 1946 and again as a result of the Supplemental Appropriation Act of 1985. Originally constructed in 1940, the navigation project consists of a dual jetty system with an inlet channel that is 300 feet wide to an authorized depth of 8 feet Mean Low Water (MLW). The inlet channel extends from the outer bar in the Atlantic Ocean to the north end of the sand dike in Barnegat Bay. The Federal project channel then extends in a northwesterly direction from the gorge in the inlet to Oyster Creek channel to provide access to deep water in the bay and a connection to the New Jersey Intracoastal Water Way Federal



channel. Maintenance dredging for this Section 1122 pilot project will occur in the main inlet channel.

The pilot project will utilize a government-owned shallow-draft hopper dredge to dredge the Barnegat Inlet entrance channel to the authorized depth of 8 feet Mean Lower Low Water (MLLW) plus 2 feet of overdepth. In subsequent years, the channel would continue to be dredged once or twice per year as needed and as funding allows. The initial placement of sand will occur in the littoral zone fronting the Borough of Harvey Cedars. In subsequent years, dredged sand from the navigation channel within Barnegat Inlet will be placed anywhere in the nearshore zone along an approximate 3-mile stretch between Barnegat Inlet to Harvey Cedars, where it is most needed to provide a supplemental sand source to eroding beaches.

This pilot design will test an innovative placement concept to increase the length of time between nourishment cycles and provide additional material within the dynamic nearshore system to increase the profile near a documented erosional hot spot at Harvey Cedars beach. At the same time, the effort should reduce the amount of channel maintenance dredging required annually and institute a strategy for future maintenance dredging efforts to place in the nearshore template to support the federal shore protection project (Barnegat Inlet to Little Egg Inlet (LBI) Storm Risk Reduction project).

For all alternatives, the potential effects were evaluated, as appropriate. A summary assessment of the potential effects of the recommended plan are listed in Table 1:

Table 1: Summary of Potential Effects of the Recommended Plan

	Insignificant effects	Insignificant effects as a result of mitigation*	Resource unaffected by action
Aesthetics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aquatic resources/wetlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Invasive species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fish and wildlife habitat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Threatened/Endangered species/critical habitat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Historic properties	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other cultural resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Floodplains	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hazardous, toxic & radioactive waste	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hydrology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land use	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Navigation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise levels	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public infrastructure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



	Insignificant effects	Insignificant effects as a result of mitigation*	Resource unaffected by action
Socio-economics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental justice	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Soils	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tribal trust resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Water quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Climate change	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs), as applicable, will be implemented to minimize impacts. ¹ USACE will adhere to the Conservation Recommendations provided by the National Marine Fisheries Service (NMFS) to minimize potential impacts to diadromous fish and shark species. Dredging will occur outside of the recommended seasonal restricted periods and the dredge draghead will not be activated until it is resting on the bottom and deactivated prior to lifting. Appropriate actions will be taken to avoid adverse effects to the federally-listed seabeach amaranth during monitoring by incorporating a buffer zone for beach survey transects. Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (USFWS) concurred 1 May 2020 with our determination that the project is not likely to adversely impact the red knot, seabeach amaranth or piping plover. NMFS concurred 5 March 2020 that the project is not likely to adversely affect listed species or critical habitat for the following federally listed species: shortnose sturgeon, Atlantic sturgeon, loggerhead, Kemp’s ridley, green, leatherback sea turtles, and marine mammals. All terms and conditions, conservation measures, and reasonable and prudent measures resulting from these consultations shall be implemented in order to minimize take or endangered species and avoid jeopardizing the species.

Public review of the draft EA was initiated 3 April 2020 and completed on 30 June 2020. All comments submitted during the public review period were responded to in the Final EA and included in the Correspondence Appendix. Comments from state and federal agency review did not result in any changes to the final EA. All state and federally-mandated approvals have been received.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, USACE determined that no historic properties will be adversely affected by the recommended plan. The New Jersey State Historic Preservation Office concurred with our determination 15 April 2020.

¹ 40 CFR 1505.2(C) all practicable means to avoid and minimize environmental harm are adopted.



Pursuant to the Clean Water Act of 1972, as amended, the discharge of dredged or fill material associated with the recommended plan has been found to be compliant with Section 404(b)(1) Guidelines (40 CFR 230). The Clean Water Act Section 404(b)(1) Guidelines evaluation is included in the Final EA.

Water Quality Certification pursuant to Section 401 of the Clean Water Act was obtained from the New Jersey Department of Environmental Protection on 28 May 2020. All conditions of the Water Quality Certification shall be implemented in order to minimize adverse impacts to water quality.

A determination of consistency with the New Jersey Coastal Zone Management Program pursuant to the Coastal Zone Management Act of 1972 was obtained from the New Jersey Department of Environmental Protection on 28 May 2020. All conditions of the consistency determination shall be implemented in order to minimize adverse impacts to the coastal zone.

All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed. Based on this report, the reviews by other Federal, State and local agencies, Tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

21 July 2020

Date

David C. Park
Lieutenant Colonel, Corps of Engineers
District Commander

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**National Regional Sediment Management (RSM) Program
WRDA 2016 Section 1122 Beneficial Use Pilot Project
Barnegat Inlet, Ocean County, New Jersey**

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1.0 Introduction and Project Authority

Section 1122 of the Water Resources Development Act (WRDA) 2016 authorizes the U.S. Army Corps of Engineers (USACE) to establish a pilot program to carry out 10 projects for the beneficial use of dredged material from federal and non-federal navigation channels consistent with all applicable environmental laws. The ten selected pilot projects must meet the Section 1122 statutory language for the following purposes to produce public economic or environmental benefits:

- reducing storm damage to property and infrastructure;
- promoting public safety;
- protecting, restoring, and creating aquatic ecosystem habitats;
- stabilizing stream systems and enhancing shorelines;
- promoting recreation;
- supporting risk management adaptation strategies; and
- reducing the costs of dredging and dredged material placement or disposal, such as for projects that use dredged material as construction or fill or other civic improvement objectives.

Of 95 proposals evaluated based on Section 1122 criteria, the 10 selected by the USACE Headquarters evaluation board were deemed to have a high likelihood of environmental, economic and social benefits, and exhibiting geographic diversity. One of the 10 pilot projects selected is located in USACE's Philadelphia District and is the subject of this Environmental Assessment: Beneficial Use Pilot Project Barnegat Inlet, New Jersey (the Barnegat Inlet project or project).

Under the Section 1122 program, transportation of the material beyond the Federal Standard will be at a 100% federal cost. Implementation Guidance for Section 1122 was signed by the Acting Assistant Secretary of the Army (Civil Works) on January 3, 2018. Draft Guidance for Major Subordinate Commands (MSC) and District Commands was provided by the USACE Director of Civil Works in January 2019. The New Jersey Department of Environmental Protection's (NJDEP) Bureau of Coastal Engineering will serve as the non-federal sponsor. The NJDEP's Division of Fish and Wildlife and the New Jersey Department of Transportation's Office of Maritime Resources (NJDOT/OMR) also have significant interest in the Barnegat Inlet project and innovative techniques of dredging and dredged material placement. In fulfillment of the National Environmental Policy Act (NEPA) of 1969, this Environmental Assessment provides a comprehensive alternatives evaluation for decision-makers and the concerned public of the physical, biological, and social effects of human activities on the environment.

2.0 Purpose and Need for Action

The purpose of this project is to maintain the Barnegat Inlet Federal Navigation Channel to authorized depth by dredging sand from the shoaled portions of the channel and to use the material beneficially with a nearshore placement to support the shore protection project along Long Beach Island. This Barnegat Inlet project and the Section 1122 program in the Philadelphia District USACE in general also seek to develop innovative approaches for the beneficial use of dredged material and potential habitat creation/restoration in Barnegat Bay that will inform and support beneficial use projects in the future and keep sediments in the natural system. There is considerable opportunity within the sediment-rich Barnegat Inlet

complex to use dredged sediments from state and federal channels for beneficial use through placement on adjacent beaches, for marsh enhancement, and island creation. Such projects would improve overall coastal system resilience within the Barnegat Inlet region and other regions of New Jersey.

3.0 Project Location and Objectives

3.1 Location

The Section 1122 pilot project will be implemented in two phases located in the region of the Barnegat Inlet Federal Navigation Project, a complex and dynamic coastal system along the New Jersey Atlantic Coast. This Environmental Assessment addresses Phase 1 of the pilot project. The study area includes the channel within Barnegat Inlet between the north and south jetties and a 1-mile length of Atlantic Ocean beachfront at Harvey Cedars with subsequent year placements along eroded areas from Barnegat Light south to Harvey Cedars on Long Beach Island, Ocean County, New Jersey (Figure 1). Phase 2 of the pilot project will address maintenance dredging needs and potential beneficial use of dredged material for the Oyster Creek portion of the authorized navigation channel in Barnegat Bay and will be evaluated in a separate report, pursuant to the NEPA.

Currently, the Philadelphia District USACE maintains two authorized projects in the area. (1) **BARNEGAT INLET FEDERAL NAVIGATION CHANNEL**. The Federal Navigation Project was adopted in House Document (HD) 73-19 in 1935, modified in HD 74-85 in 1937 and HD 79-358 in 1946 and again as a result of the Supplemental Appropriation Act of 1985. Originally constructed in 1940, the navigation project consists of a dual jetty system with an inlet channel that is 300 feet wide to an authorized depth of 10 feet Mean Low Water (MLW) (Figure 2). The inlet channel extends from the outer bar in the Atlantic Ocean to the north end of the sand dike in Barnegat Bay. The federal project channel then extends in a northwesterly direction from the gorge in the inlet to Oyster Creek channel to provide access to deep water in the bay and a connection to the New Jersey Intracoastal Waterway (NJIWW) federal channel. An additional portion of the project includes a channel which is 8 feet deep and 200 feet wide connecting Barnegat Light Harbor with the main inlet channel. Although originally completed in 1940, the Supplemental Appropriation Act of 1985 contained language stating that the existing project had not worked as projected and, in fact, created a hazard to navigation. This Act provided funds to implement a number of improvements, including a new south jetty 4,270 feet long, generally parallel to the north jetty, extending from the Barnegat Lighthouse to the top of the “old” south jetty, a navigation channel 300 feet wide by 10 feet deep MLLW from the outer bar in the Atlantic Ocean to the north end of the sand dike in Barnegat Bay, and jetty sport fishing facilities on the new jetty.

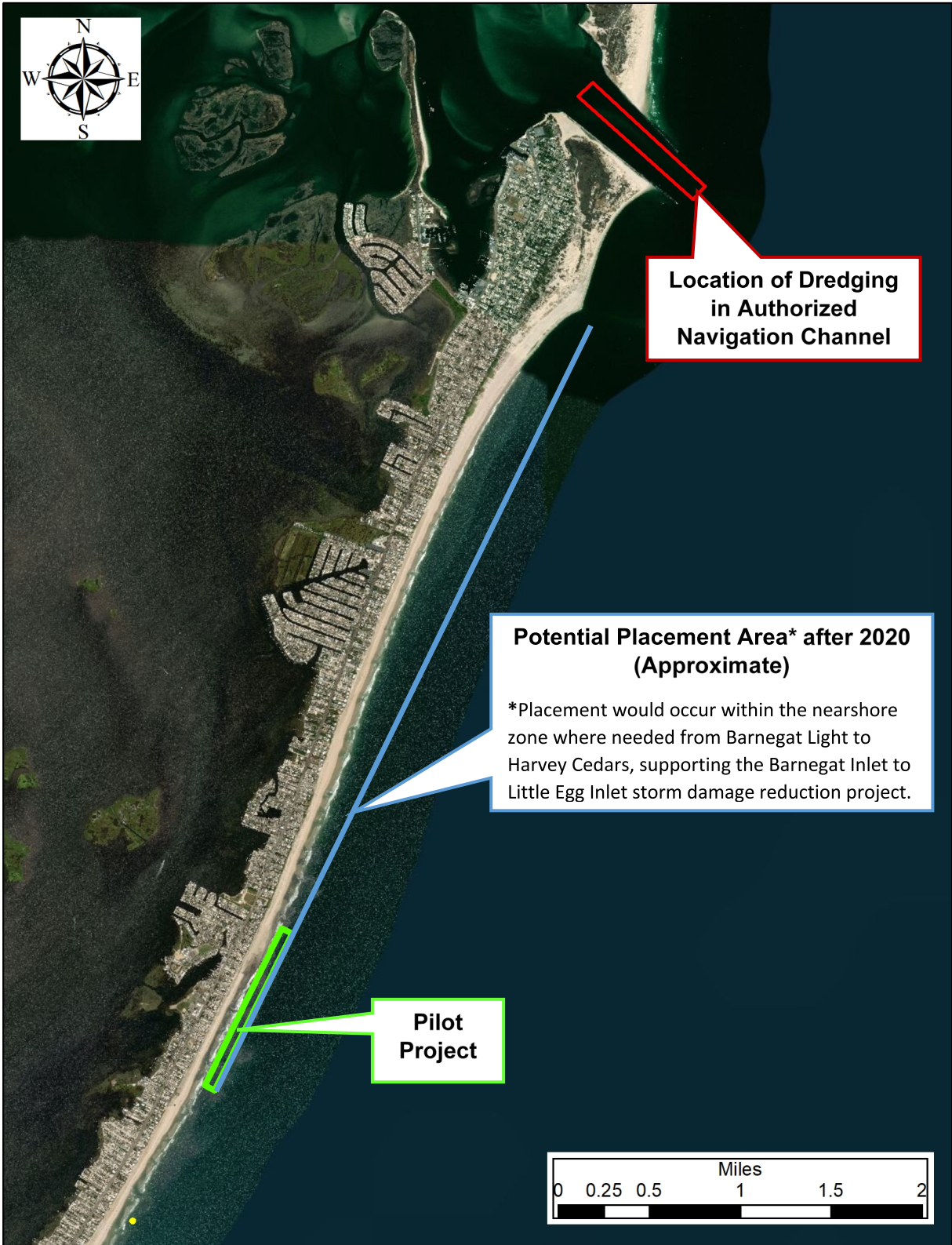


Figure 1. Barnegat Inlet Study Area

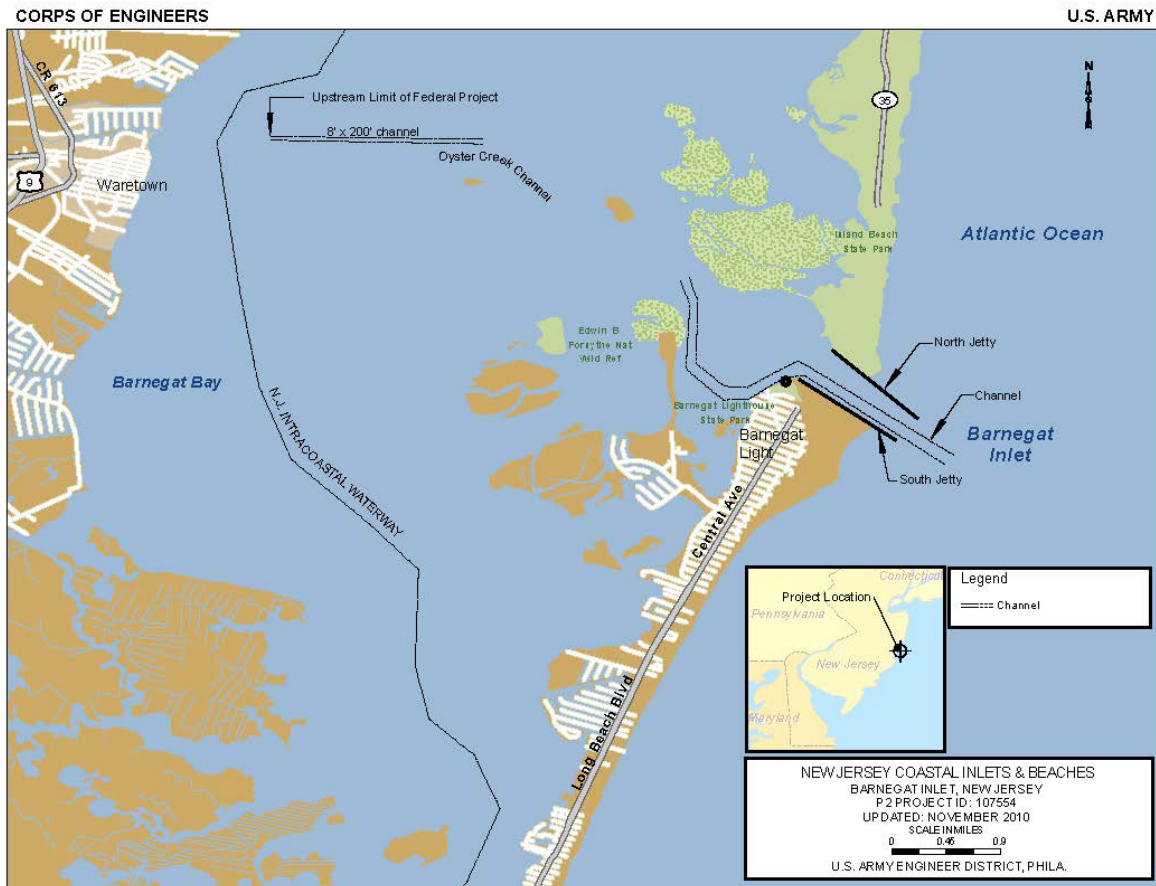


Figure 2. Barnegat Inlet Federal Navigation Project.

(2) BARNEGAT INLET TO LITTLE EGG INLET STORM DAMAGE REDUCTION PROJECT. This New Jersey Shore Protection Study was authorized under resolutions adopted by the Committee on Public Works and Transportation of the U.S. House of Representatives and the Committee on Environment and Public Works of the U.S. Senate in December 1987. The Barnegat Inlet to Little Egg Storm Damage Reduction project addresses coastal erosion along the ocean coast fronting 17 miles along Long Beach Island. The project provides for restoration of a protective berm 125 feet wide at an elevation of +8 feet North American Vertical Datum (NAVD) and a 30 foot wide dune with crest elevation of +22 feet NAVD. The dune incorporates grasses and sand fencing along the project length. The project includes periodic nourishment at 7-year intervals for a 50-year project life. The beach nourishment project is evaluated in a 1999 Environmental Impacts Statement (EIS) and 2014 Environmental Assessment (EA):

- *Barnegat Inlet to Little Egg Inlet Final Feasibility Report and Integrated Environmental Impact Statement (1999 EIS)*
- *Final Environmental Assessment Barnegat Inlet to Little Egg Inlet (Long Beach Island), New Jersey, Storm Damage Reduction Project (USACE 2014)*

From 2007 through 2013, USACE constructed 4.5 miles of the Long Beach Island shoreline within the municipalities of Surf City, Harvey Cedars, the Brant Beach section of Long Beach Township, and a small portion of Ship Bottom adjacent to Surf City utilizing sand obtained from an authorized offshore borrow area. Additional emergency repair placements were conducted due to subsequent impacts from severe Nor'easter storms. After Superstorm Sandy, the Disaster Relief Appropriations Act, 2013 was passed which authorized and appropriated funding to complete the remaining sections of the Barnegat Inlet to Little Egg Inlet shore protection project. The remaining sections were constructed while previously constructed sections underwent periodic nourishment.

3.2 Objectives

One of the USACE missions is to ensure safe navigation in federally-authorized channels. The present and future objective is to continue to seek opportunities to utilize high quality dredged material as a resource to provide social, economic, and environmental benefits. The Section 1122 pilot project team will utilize and build on lessons learned, partnerships, and monitoring data for recently constructed projects in coastal New Jersey. Ongoing collaborative efforts with the Engineering with Nature and Regional Sediment Management (RSM) Programs will also contribute to developing and constructing innovative natural and nature-based features using Barnegat Inlet channel sediments. Specific project objectives include:

- Promote public safety by dredging the full inlet channel to the authorized depth plus overdepth (an additional 2 feet allowed for inaccuracies in the dredging process to achieve the required grade), providing approximately 200,000 cubic yards (cy) of sand for beneficial use and to support safe navigation for commercial and recreational boating use.
- Reduce dredging and dredging costs by clearing the entire inlet channel in this dredging and placement operation. This action is expected to reduce future maintenance dredging quantities on an annual basis as opposed to continuing the practice of dredging smaller quantities twice annually to obtain minimal navigable channel depths.
- Use an RSM approach in order to keep dredged sediment in the natural system most effectively and optimized in support of the federal shore protection project.
- Reduce storm damage at erosion hotspots between Barnegat Light and Harvey Cedars through the beneficial use placement of dredged material.
- Improve coastal resiliency by placing sediment in the nearshore to support beaches.
- Improve recreational opportunities by protecting shorelines, protecting habitat for wildlife viewing, and promoting safe and reliable navigation channels.
- Reduce dredging and dredged material placement costs by combining dredge mobilizations, leveraging funds and objectives across business lines and promoting beneficial use to build natural infrastructure.
- Monitor and evaluate the potential to reduce hot spot vulnerability and increase the beach nourishment interval.
- Establish trust with stakeholder groups/natural resource agencies.
- Use monitoring results to understand design and processes associated with sand movement along the New Jersey Atlantic coast for application to future shoreline protection projects.

The initial objective of this project under the Section 1122 program is to beneficially use high quality sand obtained by dredging the Barnegat Inlet federal navigation entrance channel to

authorized depth and placing the material in the nearshore depth of closure zone fronting the community of Harvey Cedars, Long Beach Island as a supplemental sand source for the authorized Barnegat Inlet to Little Egg Inlet Storm Damage Risk Reduction Project. The beach fronting Harvey Cedars is an erosional hotspot that has undergone several emergency beachfills to restore damages to the berm and dune from wave attack and storm inundation. The project will be monitored post-construction to provide valuable scientific information in support of potential future beneficial uses of high quality dredged material.

4.0 Alternatives

4.1 No Action – No Dredging

Under the No Action Alternative maintenance dredging within the Barnegat Inlet navigation channel would not occur. The No Action Alternative would allow the sedimentation of Barnegat Inlet to progress and the channel would eventually become unnavigable. Barnegat Inlet is critical to a large fishing fleet consisting of full-time commercial, charter, and recreational vessels. The US Coast Guard designates this site as a “Surf Station” due to the hazardous inlet and requires a safe channel to fulfill their Homeland Security mission and critical life safety, search and rescue operations. The Barnegat Inlet project requires dredging to provide a safe, reliable navigation channel for one of the most dangerous inlets on the east coast. No material would be placed in the nearshore zone fronting the community of Harvey Cedars. Natural processes would continue to bypass sand around the south jetty to the ocean beach of Barnegat Light. The selection of the No Action Alternative would not meet the purpose and need of the proposed action, but is included as required by NEPA regulations.

4.2 Current Practice

The Federal Navigation Channel through Barnegat Inlet is currently dredged twice each year for approximately 20 days per year (i.e., approximately 10 days per event), as funding permits, using the USACE-owned, shallow-draft, split-hull hopper dredges, the Currituck or Murden. The dredges remove critical shoaling from the navigation channel to maintain navigable depths, although not necessarily to the full authorized navigation depth. When fully loaded, the Murden requires 9-10 feet of draft and the Currituck requires 8 feet of draft for placement in the nearshore littoral system. The current practice is to place the sediments downdrift of the ebb shoal of the inlet on the south side adjacent to Barnegat Light, thereby keeping the material in the system and supporting downdrift shorelines ([Figure 3](#) and [Figure 4](#)).

Current maintenance dredging keeps the channel minimally navigable. Critical limiting depths of 3 to 4 feet MLW are still present in portions of the federal channel, creating life safety concerns for vessel operators and the US Coast Guard. Significant shoaling typically requires dredging to be conducted two times per year, and as funding allows, but current dredging operations are not sufficient to clear the 300-foot wide channel to authorized depth.



Figure 3. Current placement areas for dredging of Barnegat Inlet for routine maintenance dredging conducted twice per year. Red box is preferred, just outside of ebb shoal/nodal point and should be utilized as much as possible. Yellow box is used when placement operations are limited during higher sea conditions.



Figure 4. The Currituck placing sand in the nearshore zone of Barnegat Light during maintenance dredging operations (July 2015). This photo depicts the typical placement operation within the red box shown in Figure 3.

4.3 Beneficial Use of Inlet Sediments (Proposed Action)

Under this alternative, the project will utilize the shallow draft split-hull hopper dredge Murden to dredge the Barnegat Inlet channel to the authorized depth of 10 feet MLLW plus 2 feet of

overdepth, providing approximately 200,000 cy of sand. In subsequent years, it is anticipated that the channel would continue to require maintenance dredging but the quantity to remove annually would be significantly reduced (approximately 50,000 cy).

Initially, the pilot project would entail a nearshore placement within the depth of closure of the authorized beachfill design fronting Harvey Cedars south of the nodal point. The proposed placement location is located approximately 3 miles south of the current nearshore placement site south of the inlet. The Dredge Murden has a draft of about 8-10 feet when fully loaded. Given that the mean ocean tide range at Harvey Cedars is about 4 feet, and that the mid-tide elevation is approximately 0 feet NAVD88, discharge of the dredged sand would typically take place at depths no shallower than about -10 feet NAVD88. Annual USACE monitoring surveys of the beach and nearshore at Harvey Cedars indicate that the zone between -10 feet and -20 feet NAVD88 is about 300 feet wide in the cross-shore direction; i.e., the bottom slopes at about 1V:30H between -10 and -20 feet.

The initial proposed placement site is approximately 1 mile long and consists of 10 designated polygons (300 feet wide by 500 feet long) located within the -10 to -20-foot NAVD88 contours (NAVD88) (Figure 5 and Figure 6). The dredge will approach the beach bow-first as close into the breaking waves as the -10 foot NAVD88 contour allows, then open the hopper to slowly release approximately 500 cy per haul. This area of Harvey Cedars is an erosional “hotspot” and it is anticipated that the nearshore placement will help to mitigate shoreline erosion in this area. The operation would continue for approximately 45-60 days until the inlet shoals are removed and the channel returned to authorized depth.

Because this is an innovative pilot project using a Government-owned dredge with operational flexibility, the exact drop locations will depend on maximizing placements to retain the material within the littoral zone where it is most needed, and will depend on surf, wind, and tide conditions at the time of the discharges. USACE will have a hydrographic survey vessel and crew on site at the beginning of the nearshore placement project for an estimated one-week period, and periodically thereafter until all sand has been placed. Based on institutional knowledge of sediment transport and surf zone dynamics characteristics of the ocean coast of New Jersey, the material is expected to disperse towards the shoreline. Subsequent surveys will assess the location of the material over time. In subsequent years, placement may occur where it is most needed within the nearshore zone from the inlet south to Harvey Cedars (see Figure 1). The beach profile adjacent to the placement site will be monitored before, during and after placement.

This alternative meets the objectives pursuant to Section 1122 of the WRDA and is the proposed action. The nearshore placement designed under the Section 1122 pilot project will test an innovative placement concept to potentially increase the length of time between nourishment cycles and provide additional material to increase the profile near a documented erosional beach hot spot. At the same time, the effort should reduce the amount of channel maintenance dredging required annually and institute a strategy for future maintenance dredging efforts to place in the nearshore template to better support the federal shore protection project.



Figure 5. Location for the construction of the nearshore placement site at the southern half of Harvey Cedars, NJ.

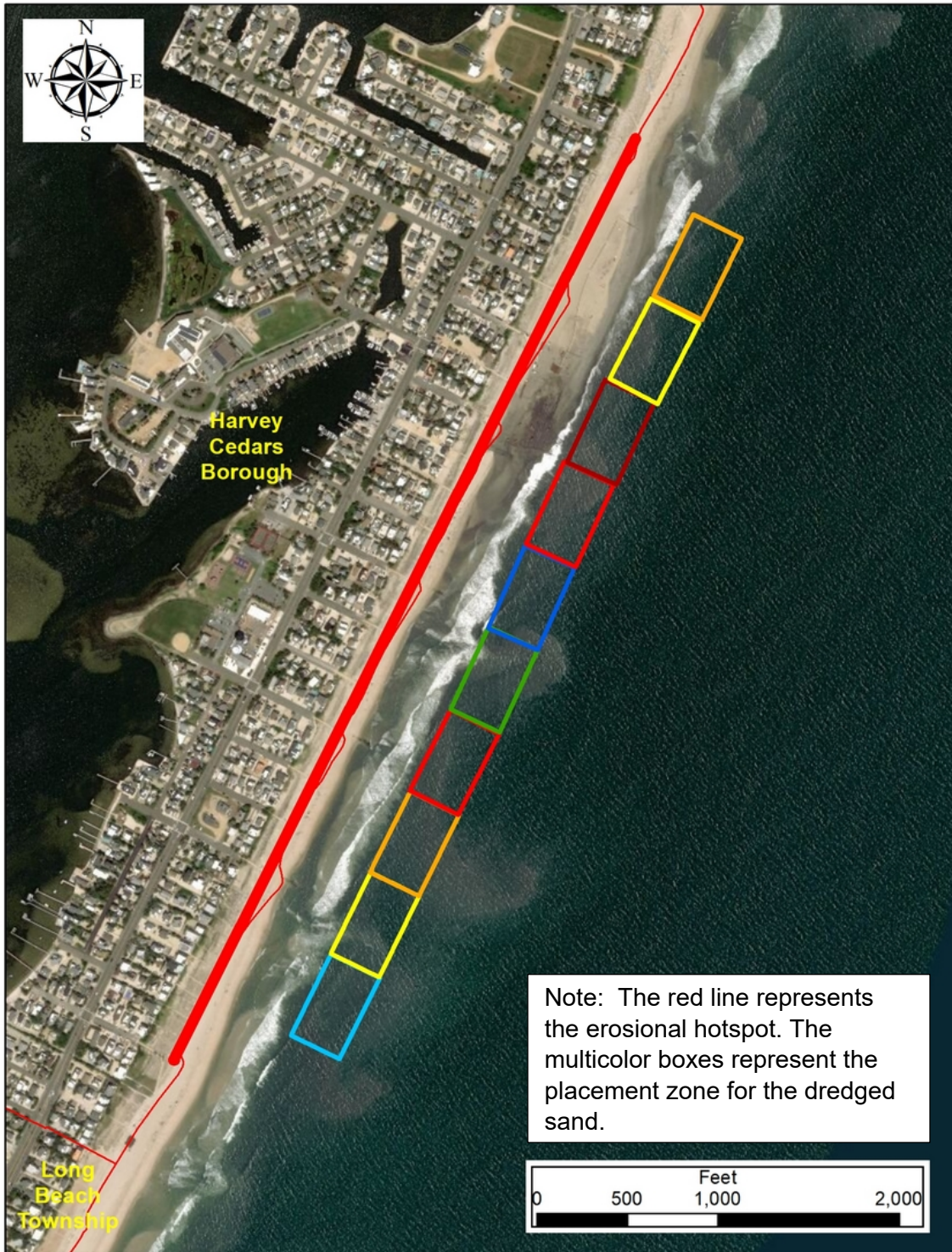


Figure 6. Planned beneficial use placement zone along Harvey Cedars, NJ.

5.0 Existing Environment

This section describes the existing and projected future conditions for each of the resources that reasonably may be impacted by the project. Existing and projected future condition descriptions include physical, chemical, biological and sociological conditions. These conditions are described without implementation of the alternative actions (No Action: no dredging activity and continued navigation use as at present) as well as Current Practice (*i.e.* current maintenance dredging and disposal and continued navigation as at present).

5.1 Air Quality

The Clean Air Act requires that all areas of the country be evaluated and then classified as attainment or non-attainment areas for each of the National Ambient Air Quality Standards. Areas can also be found to be “unclassifiable” under certain circumstances. The 1990 amendments to the act required that areas be further classified based on the severity of non-attainment. The classifications range from “Marginal” to “Extreme” and are based on “design values”. The design value is the value that actually determines whether an area meets the standard. For the 8-hour ozone standard for example, the design value is the average of the fourth highest daily maximum 8-hour average concentration recorded each year for three years. Ground-level ozone is created when nitrogen oxides (NO_x) and volatile organic compounds (VOCs) react in the presence of sunlight. NO_x is primarily emitted by motor vehicles, power plants, and other sources of combustion. VOCs are emitted from sources such as motor vehicles, chemical plants, factories, consumer and commercial products, and even natural sources such as trees. Ozone and the pollutants that form ozone (precursor pollutants) can also be transported into an area from sources hundreds of miles upwind. The study area falls within the Philadelphia-Wilmington Atlantic City, PA-NJ-MD-DE Area. The entire state of New Jersey is in non-attainment and the project site is located in an area classified as being “Marginal.” A “Marginal” classification is applied when an area has a design value of 0.085 ppm up to but not including 0.092 ppm (NJDEP 2012 Ozone Summary as cited in USACE 2014).

Greenhouse gases (GHG) trap heat in the atmosphere. Carbon dioxide is the most abundant GHG and enters the atmosphere through burning fossil fuels (coal, natural gas and oil), solid waste, trees and wood products, and also as a result of certain chemical reactions (e.g. manufacture of cement). Carbon dioxide is removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle. Methane is emitted during the production and transport of coal, natural gas and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills. Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste. Hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for stratospheric ozone-depleting substance (e.g., chlorofluorocarbons, hydrochlorofluorocarbons, and halons) (USEPA, 2016). The largest source of GHG emissions from human activities in the United States is from burning fossil fuels for electricity, heat and transportation. The USEPA tracks total U.S. emissions and reports the total national GHG emissions and removals associated with human activities.

Ambient air quality is monitored by the NJDEP Division of Air Quality and is compared to the National Ambient Air Quality Standards (NAAQS) throughout the state, pursuant to the Clean

Air Act of 1970. Six principal "criteria" pollutants are part of this monitoring program, which include ozone (O₃), carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter (PM₁₀ and PM_{2.5}), and lead (Pb). Sources of air pollution are broken into stationary and mobile categories. Stationary sources include power plants that burn fossil fuels, factories, boilers, furnaces, manufacturing plants, gasoline dispensing facilities, and other industrial facilities. Mobile sources include vehicles such as cars, trucks, boats, and aircraft. New Jersey air quality data from air monitoring sites can be accessed from www.njqinow.net/. New Jersey air quality has improved significantly over the past 40 years, but exceeds the current standards for ozone throughout the state and for fine particles in urban areas. With the exception of Warren County, outside of the project study area, New Jersey has attained the sulfur dioxide, lead and nitrogen dioxide standards.

5.2 Water Quality

Water quality within the coastal waters of New Jersey is comparable to that of similar coastal water bodies along the New York Bight and is indicative of similar coastal tidal river and estuary complexes along the Mid-Atlantic coast (USFWS 1997). Factors that influence coastal water quality over time include the influence of major coastal freshwater rivers, tides, seasons, ocean current fluctuations, nutrient enrichment, water depth, biotic communities, and extent of development.

Water quality in Barnegat Inlet, the Atlantic Ocean, and other surface waters in the study area are generally good (USACE 2014). Exceptions are occasional waste discharges or offshore oil spills. The state of New Jersey has classified the water along the ocean side of Long Beach Island as approved for the harvest of oysters, clams and mussels, except for one mile of beach off of Surf City that is rated prohibited. It is expected that the primary cause of non-point source pollution be related to development on land and/or the activities that result from land development. Sources might include run-off of petroleum products, fertilizers and animal wastes from roadways and lawns. When it is generated on land, such non-point source pollution is carried by rainwater, which can drain to surface or ground water and ultimately reach the ocean (USACE 2014).

5.3 Sediment Quality and Hazardous, Toxic, and Radioactive Waste

Previous testing and maintenance dredging efforts indicate that sediment in the inlet is greater than 90 percent sand and presumed to be free of chemical contamination by New Jersey's Dredging Technical Manual on the Management and Regulation of Dredging Activities and Dredged Material Disposal in New Jersey's Tidal Waters (NJDEP, 1997). Due to a larger mean grain size (>0.0625 mm) and insignificant smaller fines content, the sand in the inlet and in the nearshore zone fronting the resort residential beaches of Long Beach Island are more stable and produce less turbidity than fine-grained silty sediments typical of freshwater environments. No facilities with potential HTRW impacts are known to occur near the Study Area.

5.4 Biological Resources

5.4.1 Terrestrial Habitats

The study area is completely aquatic; however, the barrier island adjacent to the study area influences wildlife that inhabits the study area. Barrier islands include sandy beaches along the ocean and inlets, vegetated primary and secondary dunes, open sandy upland areas, and undeveloped back-bay areas. Beach habitat is important habitat of shorebirds and

invertebrates such as ghost crabs. Beach habitat is sparsely vegetated, with only a few species growing in the upper beach.

The primary dune is susceptible to salt spray and wind, and is dominated by American beachgrass (*Amophila breviligulata*), sea rocket (*Cakile edentula*), seaside goldenrod (*Solidago sempervirens*), seaside spurge (*Euphorbia polygonifolia*), and seabeach pursulane (*Susuvium maritimum*). The back side of the primary dunes and the secondary dunes are more protected and provide suitable conditions for beach heather communities (*Hudsonia tomentosa*) and scrub thickets composed of bayberry (*Myrica pennsylvanica*), wax myrtle (*M. cerifera*), beach plum (*Prunus maritima*) and poison ivy (*Toxicodendron radicans*).

Open-sandy (unvegetated) upland areas on islands and spits in the Barnegat Inlet project area provide important habitat for colonial nesting birds. The majority of the ocean coast of Long Beach Island is developed with residential homes. Vegetation in these areas are limited to grassy strips, fields, lawns, and ornamental plantings, and waste areas that may harbor a number of non-native plant species.

5.4.2 Aquatic Habitats

Aquatic habitats within the Study Area are marine and include nearshore waters of the inlet and ocean beaches and associated benthic habitats. Benthic habitats of the nearshore waters include intertidal and subtidal sand substrates. Intertidal habitat occurs between the high and low tide lines and is subject to diurnal tidal fluctuations. The intertidal sand substrate is exposed during low tide twice daily. Subtidal habitat includes the waters seaward of the low tide, and the substrate is continually submerged. In Barnegat Inlet the mean tidal range is 3.1 feet with a maximum flood current of 2.2 knots and a maximum ebb current of 2.5 knots. The tides are diurnal with two floods and two ebbs during a 24.48 hour period.

The substrate within the project area is sand. Nearshore waters are strongly influenced by weather and the adjacent high-energy sandy beach which influence sediment transport. Along beach areas, shifting sands and pounding surf affect the available habitat. Fauna inhabiting the intertidal zone of the beach have evolved special adaptations that allow them to live in this extreme environment. Most are excellent burrowers and as such are capable of resisting long periods of environmental stress. At the base of the food chain are detritus and biota washed in from the ocean in the form of beach wrack, including drying seaweed, tidal marsh plant debris, decaying marine animals, and other material deposited on the shoreline. Near the base of the food chain are benthic invertebrates that live on microscopic algae, plants, and animals within the sand or mud.

No wetlands or submerged aquatic vegetation (SAV) or macroalgae have been documented in the inlet, which is already disturbed and dredged twice per year, or in the nearshore area of Harvey Cedars.

5.4.3 Wildlife

The inlet and ocean beach provide shelter, nesting, and foraging habitat that support marine benthic and fish species and migratory shorebirds, raptors, reptiles and mammals. Wildlife species that utilize these habitats include federal and state listed threatened and endangered species including the following, which are discussed in greater detail under Section 5.5:

- piping plover (*Charadrius melodus*)
- roseate tern (*Sterna dougallii*)

- red knot (*Calidris canutus*)
- black skimmer (*Rynchops niger*)
- least tern (*Sternula antillarum*)
- roseate tern (*Sterna dougallii*)
- bald eagles (*Haliaeetus leucocephalus*)
- peregrine falcons (*Falco peregrinus*)
- northern harrier (*Circus cyaneus*)
- short eared owl (*Asio flammeus*)
- osprey (*Pandion haliaetus*)
- barred owl (*Strix varia*).

The following provides general information on the semi-aquatic and marine species within major wildlife groups that utilize the Barnegat Inlet project area.

Birds such as the sanderling (*Calidris alba*) forage on invertebrates such as beach fleas (amphipods such as *Orchestia agilis*), flies on the upper beach and on mole crabs (*Emerita talpoida*) and coquina clam on the outer beach. The willet (*Tringa semipalmata*) forages primarily on the outer beach on mole crabs. Ghost crabs (*Ocypode quadrata*) are another common invertebrate on the upper beach, which provide forage for species such as sea gulls (Family Laridae) The upper beach provides nesting habitat for colonial nesters, such as black skimmers (*Rynchops niger*) and solitary nesters such as piping plover (*Charadrius melodus*). Migratory shorebirds and gulls visit the New Jersey barrier beaches during spring and fall migrations but greater numbers occur in the backbay lagoons and mudflats.

The project area is heavily developed as a coastal residential resort and provides limited habitat for amphibians, reptiles and mammals. Species that may occur in the area of the inlet and the oceanfront beaches include eastern garter snake (*Thamnophis sirtalis*), American toad (*Bufo americanus*), raccoon (*Procyon lotor*), white-footed mouse (*Peromyscus leucopus*), house mouse (*Mus musculus*), Virginia opossum (*Didelphia virginiana*), and red fox (*Vulpes vulpes*).

5.4.4 Aquatic Invertebrates

Benthic invertebrate communities vary spatially and temporally as a result of factors such as sediment type, water quality, depth, temperature, predation, and competition. The invertebrates inhabiting the beach intertidal zone have evolved special locomotory, respiratory, and morphological adaptations that enable them to survive in disruptive habitat. Most are excellent and rapid burrowers and tolerant to environmental stress. Typical invertebrate infauna include the mole crab (*Emerita talpoida*), haustoriid amphipods (*Haustorius* spp.), coquina clam (*Donax variabilis*), and spionid worm (*Scolecopsis squamata*). The epifaunal blue crab (*Callinectes sapidus*), and lady crab (*Ovalipes ocellatus*) are also found in the intertidal zone. These invertebrates are prey to various shore birds and nearshore fishes.

Subtidal nearshore waters are predominantly large grain and fine grain sand with some shell fragments. Benthic invertebrates in nearshore subtidal habitats include polychaete worms, mollusks, and arthropods (specifically crustaceans).

Other specialized habitats include the rock jetties on both sides of Barnegat Inlet and debris have invertebrate communities dominated by sponges, hydroids, and barnacles. These

invertebrates may act as food sources for both juvenile and adult fish species that also utilize vertical cover and niche habitat provided by the rock.

5.4.5 Fisheries

Barnegat Inlet and the coastal waters of New Jersey support many nearshore fish species. Several fish species are continuously present in coastal habitats, while others are present only during certain periods (e.g. during spring many fish species use specific habitats for spawning). Thus the distribution and abundance of important indicator fish species vary both temporally and spatially.

More than 60 species of estuarine, marine, and anadromous fish use nearshore waters as a feeding area. Generally, there is an inshore and somewhat northward movement in the spring and summer. In the fall and winter the movement is generally offshore and southerly. Man-made structures such as groins and jetties add habitat diversity in the nearshores area. Juvenile and larval finfish such as black sea bass (*Centropristis striata*), summer flounder (*Paralichthys dentatus*), winter flounder (*Pseudopleuronectes americanus*), and striped bass (*Morone saxatilis*) utilize these areas for feeding and protection from predators. In a study conducted at Peck Beach, Cape May County, 178 species of saltwater fishes were recorded (USACE 2001). Of these, 156 were from the nearshore waters. Of the 124 species recorded in nearby Great Egg Harbor Inlet, 28 are found in large number in offshore waters. Eighty seven species were found in the nearshore ocean, bay and inlets adjacent to Peck Beach. Of these, 46 were located in the near shore waters.

Essential Fish Habitat

Essential Fish Habitat (EFH) is defined in the Magnuson-Stevens Fishery Conservation and Management Act (MSA), (PL 94-265 as amended through October 11, 1996 and 1998) as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity”. Regulations further clarify EFH by defining “waters” to include aquatic areas that are used by fish and may include aquatic areas that were historically used by fish where appropriate. Habitat Areas of Particular Concern (HAPCs) is a subset of EFH that is rare, stressed by development, provides important ecological functions for federally managed species, or is especially vulnerable to anthropogenic (or human impact) degradation. A purpose of the MSA is to “promote the protection of EFH in the review of projects conducted under federal permits, licenses, or other authorities that affect, or have the potential to affect such habitat.” An EFH assessment is required for a federal action that could potentially adversely impact EFH of federally managed species.

Managed fish species are those species that are managed under a federal fishery management plan. The Guide to EFH Designations in the Northeastern United States Volume IV (NOAA 1999) and the EFH Mapper (NMFS 2019) were used to determine EFH designated for federally managed fish species and life stages within the Barnegat Inlet project area (Table 1). It is important to note that EFH is defined by textual descriptions contained in the fishery management plans developed by the regional Fishery Management Councils (FMCs), in this case primarily the New England and Mid-Atlantic FMCs. All SAV (macroalgae and seagrasses) is designated HAPC for summer flounder; however, there are no SAVs in the project area. As such, there are no HAPC in the project area. Based on the species and life stages present in the project area and the description of the habitat in the project area in sections 5.2.1, 5.2.2, and 5.2.4, EFH present in the project area includes:

- Coastal and estuarine waters including
 - pelagic (open water)
 - demersal (near the bottom)
- Intertidal and sub-tidal benthic substrate is predominantly sand

EFH assessments also examine the potential effects on prey species for the managed fish species potentially occurring within the area. Prey species are defined as being a forage source for one or more designated fish species. They are normally found at the bottom of the food web in a healthy environment. Prey species found in the project area estuaries include killifish, mummichogs, silversides and herrings. A list of species with early life stages collected in Barnegat Inlet is presented in [Table 2](#). Additionally, aquatic invertebrates described in Section 5.2.4 can also serve as prey for federally managed species.

[Table 1. Habitat Requirements of Federally Managed Species within the Barnegat Inlet Study Area.](#)

Managed Species	Eggs	Larvae (neonate for sharks and skates)	Juveniles	Adults
Atlantic cod (<i>Gadus morhua</i>)	--	X	--	--
Atlantic sea scallop (<i>Placopecten magellanicus</i>)	X	X	X	X
Red Hake (<i>Urophycis chuss</i>)	X	X	X	X
Silver hake or whiting (<i>Merluccius bilinearis</i>)	X	X	--	--
White hake (<i>Urophycis tenuis</i>)	--	--	--	X
Pollock (<i>Pollachius virens</i>)	--	X	--	--
Yellowtail flounder (<i>Pleuronectes ferruginea</i>)	X	X	X	X
Winter flounder (<i>Pleuronectes americanus</i>)	X	X	X	X
Windowpane flounder (<i>Scopthalmus aquosus</i>)	X	X	X	X
Witch flounder (<i>Glyptocephalus cynoglossus</i>)	X	X	--	--
Ocean pout (<i>Zoarces americanus</i>)	X	--	--	X
Atlantic sea herring (<i>Clupea harengus</i>)	--	--	X	X
Monkfish (<i>Lophius americanus</i>)	X	X	--	--
Little skate (<i>Leucoraja erinacea</i>)	NA	NA	X	X
Winter skate (<i>Leucoraja ocellata</i>)	NA	NA	X	X
Clearnose skate (<i>Raja eglanteria</i>)	NA	NA	X	X
Bluefish (<i>Pomatomus saltatrix</i>)	--	X	X	X
Atlantic butterfish (<i>Peprilus tricanthus</i>)	X	--	X	X

Atlantic mackerel (<i>Scomber scombrus</i>)	X	--	--	--
Longfin inshore squid (<i>Doryteuthis (Amerigo) pealeii</i>)	X	X	X	X
Summer flounder (<i>Paralichthys dentatus</i>)	--	X	X	X
Scup (<i>Stenotomus chrysops</i>)	--	--	X	X
Black sea bass (<i>Centropristus striata</i>)	--	--	X	X
Surfclam (<i>Spisula solidissima</i>)	NA	NA	X	X
Spiny dogfish (<i>Squalus acanthias</i>)	NA	NA	X	X
Bluefin tuna (<i>Thunnus thynnus</i>)	--	--	X	--
Skipjack tuna (<i>Katsuwonus pelamis</i>)	--	--	--	X
Yellowfinin tuna (<i>Thunnus albacares</i>)	--	--	X	--
Common thresher shark (<i>Alopias vulpinus</i>)	NA	X	X	X
Dusky shark (<i>Charcharinus obscurus</i>)	NA	X	X	X
Sandbar shark (<i>Cahcharinus plumbeus</i>)	NA	X	X	X
Sand tiger shark (<i>Odontaspis Taurus</i>)	NA	X	X	--
Smoothhournd shark complex (Atlantic stock)	X	X	X	X
Tiger shark (<i>Galeocerado cuvieri</i>)	NA	--	X	X
White shark (<i>Carcharodon carcharias</i>)	NA	X	--	--

Notes: X = EFH present in the project area; -- = EFH not present in the project area; NA = no EFH designated for this life stage.

Table 2. Distribution of Early Life History Stages of Fishes Found in Various Barnegat Bay Coastal Habitats.

Species	Life Stage
American eel (<i>Anquilla rostrata</i>)	J
Conger eel (<i>Conger oceanicus</i>)	
Blueback herring (<i>Alosa aestivalis</i>)	ELJ
Alewife (<i>A. pseudoharengus</i>)	ELJ
American shad (<i>A. sapidissima</i>)	J
Atlantic menhaden (<i>Brevoortia tyrannus</i>)	ELJ
Atlantic herring (<i>Clupea harengus</i>)	LJ
Striped anchovy (<i>Anchoa hepsetus</i>)	
Bay anchovy (<i>A. mitchilli</i>)	ELJ
Inshore lizardfish (<i>Synodus foetens</i>)	J
Pollack (<i>Pollachius virens</i>)	J
Red hake (<i>Urophycis chuss</i>)	J
Spotted hake (<i>U. regia</i>)	J

Species	Life Stage
Oyster toadfish (<i>Opsanus tau</i>)	ELJ
Atlantic needlefish (<i>Strongylura marina</i>)	J
Sheepshead minnow (<i>Cyprinodon variegatus</i>)	ELJ
Mummichog (<i>Fundulus heteroclitus</i>)	ELJ
Spotfin killifish (<i>F. luciae</i>)	ELJ
Striped killifish (<i>F. majalis</i>)	ELJ
Rainwater killifish (<i>Lucania parva</i>)	ELJ
Rough silverside (<i>Membras martinica</i>)	J
Inland silverside (<i>Menidia beryllina</i>)	ELJ
Atlantic silverside (<i>M. menidia</i>)	ELJ
Fourspine stickleback (<i>Apeltes quadracus</i>)	ELJ
Threespine stickleback (<i>Gasterosteus aculeatus</i>)	ELJ
Lined seahorse (<i>Hippocampus erectus</i>)	LJ
Northern pipefish (<i>Syngnathus fuscus</i>)	LJ
Striped searobin (<i>Prionotus evolans</i>)	J
Northern searobin (<i>P. carolinus</i>)	J
Grubby (<i>Myoxocephalus aeneus</i>)	ELJ
White perch (<i>Morone americana</i>)	ELJ
Striped bass (<i>M. saxatilis</i>)	J
Black sea bass (<i>Centropristis striata</i>)	LJ
Bluefish (<i>Pomatomus saltatrix</i>)	LJ
Crevalle jack (<i>Carnax hippos</i>)	J
Scup (<i>Stenotomus chrysops</i>)	J
Silver perch (<i>Bairdiella chrysoura</i>)	J
Weakfish (<i>Cynoscion regalis</i>)	ELJ
Spot (<i>Leiostomus xanthurus</i>)	LJ
Northern kingfish (<i>Menticirrhus saxatilis</i>)	ELJ
Atlantic croaker (<i>Micropogonias undulatus</i>)	LJ
Black drum (<i>Pogonias cromis</i>)	J
Striped mullet (<i>Mugil cephalus</i>)	J
White mullet (<i>M. curema</i>)	J
Tautog (<i>Tautoga onitis</i>)	ELJ
Cunner (<i>Tautoglabrus adspersus</i>)	ELJ
Northern stargazer (<i>Astroscopus guttatus</i>)	J
Feather blenny (<i>Hypsoblennius hentz</i>)	ELJ
American sand lance (<i>Ammodytes americanus</i>)	ELJ
Naked goby (<i>Gobiosoma bosc</i>)	ELJ
Butterfish (<i>Peprilus triacanthus</i>)	LJ
Windopane (<i>Scophthalmus aquosus</i>)	ELJ
Smallmouth flounder (<i>Etropus microstomus</i>)	J
Summer flounder (<i>Paralichthys dentatus</i>)	LJ
Winter flounder (<i>Pseudopleuronectes americanus</i>)	ELJ
Hogchoker (<i>Trinectes maculatus</i>)	ELJ
Northern puffer (<i>Sphoeroides maculatus</i>)	ELJ

Notes: E = eggs; L = larvae; J = juveniles
Source: Able and Fahay, 1998

5.5 Threatened and Endangered Species

The Endangered Species Act (ESA) provides a program for the conservation of threatened and endangered species and a means for conserving the ecosystems upon which those species depend. Section 7 (a)(2) of the ESA requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) to ensure their activities are not likely to jeopardize the continued existence of listed species, or destroy or adversely modify their critical habitat. Under the ESA, an endangered species is in danger of extinction and a threatened species is likely to become endangered within the foreseeable future.

The New Jersey Endangered Species Act (NJESA) is designed to protect species whose survival in New Jersey is imperiled by loss of habitat, over-exploitation, pollution, or other impacts. Under the NJESA, endangered species are those whose prospects for survival in New Jersey are in immediate danger because of a loss or change of habitat, over-exploitation, predation, competition, or disease. Threatened species are those that may become endangered if conditions surrounding the species begin or continue to deteriorate. The USFWS Information for Planning and Consultation website was queried to determine the potential occurrence of federally listed threatened, endangered, or candidate species within the Study Area (USFWS 2019).

5.5.1 Terrestrial Species

The seabeach amaranth (*Amaranthus pumilus*) was federally listed as threatened throughout its range in 1993 (58 FR 18035 18042). It is listed as endangered by the state of New Jersey. Historically, this species occurred on coastal barrier island beaches from Massachusetts to South Carolina. Extant populations are currently known to occur on coastal beaches in Ocean County. Primary habitats include overwash flats on the accreting ends of islands, lower foredunes, and the upper strand on non-eroding beaches. Seabeach amaranth is an annual plant and the presence of plants in any given year is dependent on seed production and dispersal during previous years. Seeds germinate from April through July. Flowering begins as early as June and seed production begins in July or August. Seeds are dispersed by wind and water. Seabeach amaranth is intolerant of competition; consequently, its survival depends on the continuous creation of newly disturbed habitats. Prolific seed production and dispersal enable the colonization of new habitats as they become available. A continuous supply of newly created habitats is dependent on dynamic and naturally functioning barrier island beaches and inlets (USFWS 1996).

The piping plover (*Charadrius melodus*) is a federally- and state-listed endangered small pale shorebird on sandy beaches along the Atlantic and Gulf coasts. The species was federally listed as threatened in 1986. In New Jersey piping plovers nest on coastal beaches in Monmouth, Atlantic, Cape May, and Ocean Counties generally between March 15 and August 31. They are territorial birds that build their nests above the high tide line, usually on sandy ocean beaches and barrier islands, but also on gently sloping foredunes, blowout areas behind primary dunes, washover areas or in between dunes. Females lay four eggs that hatch in about 25 days and chicks fledge after about 25 to 35 days. Flightless chicks follow their parents to feeding areas, which include the intertidal zone, washover areas, mudflats, sandflats, wrack lines and along the shoreline of coastal ponds, lagoons and salt marshes.

Piping plover adults and chicks feed on macroinvertebrates such as worms, fly larvae, beetles, and small crustaceans. There were 119 nesting pairs of piping plovers recorded in the state of New Jersey in 2019; 56 of these pairs were in northern Monmouth County. In 2019, piping plovers nested in the Study Area and nearby vicinity, at Island Beach State Park on the northern side of Barnegat Inlet as well as on the southern side of the inlet at Barnegat Light. A pair were observed in Loveladies, the first sighting at this location since 1996. Although pair numbers increased in 2019, they remain well below the peak of 144 pairs in 2003.

The roseate tern (*Sterna dougallii*) is a medium-sized tern and primarily tropical but breeds in scattered coastal localities in the northern Atlantic temperate zone. It is federally-listed as endangered as of 1987 in the northeast region, including New Jersey and state-listed in New Jersey initially as threatened in 1979 but reclassified as endangered in New Jersey in 1984. The roseate tern can be confused with similar-appearing common tern (*Sterna hirundo*) and Forster's tern (*Sterna forsteri*), both of which are fairly common in New Jersey. The roseate tern nests on barrier islands and saltmarshes and forages over shallow coastal waters, inlets, and offshore seas. Nesting colonies are located above the high tide line, often within heavily vegetated dunes which provide cover. Historically, roseate terns nested at Hereford Inlet and Five Mile Beach (1930s) and at Brigantine (1940s). However, populations continued to decline since the 1950s due to coastal development and high levels of recreational activity along the barrier islands. The New Jersey Natural Heritage Program considers the roseate tern to be a non-breeding species in the state and globally "very rare and local throughout its range" (NJDRP, Department of Fish and Wildlife).

The red knot (*Calidris canutus rufa*) is listed as federally-threatened (2015) endangered and state-listed as endangered (2007). The species is a large shorebird with a short straight black bill. During the breeding season, the breast and belly are a characteristic russet color (salmon to brick red). When not breeding, the bird is gray above with dirty white below with faint dark streaking. Small numbers of red knots may occur in New Jersey year-round, while large numbers of birds rely on New Jersey's coastal stopover habitats during the spring (mid-May through early June) and fall (late July through November) migration periods. The primary wintering areas for the *rufa* red knot include the southern tip of South America, northern Brazil, the Caribbean, and the southeastern and Gulf coasts of the U.S. Large flocks begin arriving at stopover areas along the Delaware Bay and New Jersey's Atlantic Ocean coast each spring. The birds feed on invertebrates, especially horseshoe crab eggs as well as clams, mussels, snails, small crustaceans, and marine worms. Horseshoe crab eggs, unlike any other food resource, are quickly metabolized into fat that is critical for red knots to double their body weight to reach their Arctic summer breeding grounds and successfully reproduce. With a decline in horseshoe crab populations during the 90s due to harvesting produced a commensurate decline in red knot populations. Although primarily found within the Delaware Bay shoreline, and transients may be found anywhere along New Jersey's coasts, large numbers of migrating birds are known to use stopover habitats in Cumberland, Cape May, and Atlantic Counties.

The bald eagle (*Haliaeetus leucocephalus*) was listed as a federally- as endangered species throughout the United States in 1978. Most bald eagle nests are located in large wooded areas associated with marshes and no nests are known to occur in the study area, however bald eagles do hunt for fish in nearby water bodies. Based on improvements in bald eagle population figures for the contiguous United States, the USFWS removed the bald eagle from the federal endangered species list in June 2007. Although the bald eagle has been removed from the federal endangered species list, the bird is still protected by the Migratory Bird Treaty

Act and the Bald and Golden Eagle Protection Act. These laws prohibit killing, selling, or otherwise harming eagles, their nests, or eggs. The bald eagle is a state-listed threatened species in New Jersey.

Peregrine falcons (*Falco peregrinus*) were placed on the federal endangered species list in 1984, however, like the bald eagle, their numbers in the Northeast region have been steadily increasing (Steidl *et al.* 1991). The peregrine falcon was removed from the list in August 1999. As with the bald eagle, peregrine falcons are protected by the Migratory Bird Treaty Act. The peregrine falcon remains a state-listed endangered species in New Jersey.

There are currently 34 bird species state-listed as endangered or threatened species in New Jersey. In addition to those already discussed, examples of state-listed species that may occur Atlantic beaches include the black skimmer (*Rynchops niger*), the least tern (*Sternula antillarum*), and the roseate tern (*Sterna dougallii*). Several raptors occur in the area including the state-listed endangered northern harrier (*Circus cyaneus*), short eared owl (*Asio flammeus*), osprey (*Pandion haliaetus*), and barred owl (*Strix varia*).

5.5.2 Marine Species

There are five federally-listed threatened or endangered sea turtles that can occur along the New Jersey Atlantic Ocean coast. The endangered Kemp's ridley turtle (*Lepidochelys kempii*), leatherback turtle (*Dermochelys coriacea*), and hawksbill turtle (*Eretmochelys imbricata*), and the threatened green turtle (*Chelonia mydas*) and loggerhead turtle (*Caretta caretta*). With the exception of the loggerhead these species breed further south from Florida through the Caribbean and the Gulf of Mexico. The loggerhead may have historically nested on coastal barrier beaches. No known nesting sites are within the project area. All five species of sea turtles are listed in the State of New Jersey.

The Atlantic sturgeon is a federally- and state-listed endangered anadromous fish. Adult and subadults can use the nearshore waters as a migratory corridor. Atlantic sturgeon spawn in the freshwater regions of the Delaware River. By the end of their first summer the majority of young-of-the-year Atlantic sturgeon remain in their natal river while older subadults begin to migrate to the lower Delaware Bay or nearshore Atlantic Ocean.

There are five federally-listed species of endangered whales that have been observed along the New Jersey Atlantic coast. The North Atlantic right and fin whale are found seasonally in waters off New Jersey. The sperm whale (*Physeter catodon*), Sei whale (*Balaenoptera borealis*), and blue whale (*Balaenoptera musculus*) may be present in deeper offshore waters and are not considered further. These are migratory marine mammals that travel north and south along the Atlantic coast. All six species of whales are listed in the State of New Jersey. The shortnose sturgeon (*Acipenser brevirostrum*) is a federally-listed endangered species of fish that is also state listed in New Jersey. The shortnose sturgeon is an anadromous species, generally living in the freshwater reaches rivers, but make short trips into salt water. Shortnose sturgeon conduct freshwater spawning migrations and are typically found in fresh and estuarine waters. Shortnose sturgeon rarely migrate between river systems or inhabit marine waters (Brundage and Meadows, 1982).

The harbor porpoise (*Phocoena phocoena*) and the bottlenose dolphin (*Tursiops truncatus*) are protected under the Marine Mammal Protection Act (MMPA) and New Jersey species of special concern. While mid-Atlantic waters are the southern extreme of the harbor porpoise distribution, stranding data indicate a strong presence off the coast of New Jersey,

predominately during spring. The bottlenose dolphin is common in New Jersey ocean waters during the warmer months.

Seals are commonly found along the New Jersey coast in November through April and are also protected under the Federal MMPA of 1972. The most abundant species is the harbor seal (*Phoca vitulina*) but gray seal (*Halichoerus grypus*), and harp seal (*Pagophilus groenlandicus*) have been observed in New Jersey. New Jersey has the largest seal haul-out locations along the US Atlantic coastline south of Long Island, NY (C. Slocum, Richard Stockton College). Seals face several human-induced threats such as starvation due to over-fishing, collisions with boats, entanglement in fishing nets, weakened immunity and disease due to pollutants or oil spills.

5.6 Cultural Resources

In preparing this EA, USACE is consulting with the New Jersey State Historic Preservation Office (NJ SHPO), the Tribes and other interested parties to identify and evaluate historic properties in the project area in order to fulfill its cultural resources responsibilities under the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR Part 800. The Area of Potential Effects (APE) includes Barnegat inlet and the nearshore areas of Long Beach Island from Barnegat Light south to Harvey Cedars (see Figure 1). The shoreline and nearshore area has been previously surveyed in 1999 for the Barnegat Inlet to Little Egg Inlet (Long Beach Island) Storm Damage Reduction Project and the results are found in the report titled, *Phase I Submerged and Shoreline Cultural Resources Investigations and Hydrographic Survey, Long Beach Island, Ocean County, New Jersey* prepared for the USACE by Hunter Research, Inc. dated 1999. A subsequent investigation was conducted in 2001 and is titled, *Supplemental Phase IB and Phase II Cultural Resources Investigations, New Jersey Atlantic Coast, Long Beach Island, Ocean County, New Jersey* prepared by Dolan Research. Two of the five underwater targets proved to be shipwreck sites (Targets 4:735 and 9:643), and none of the six shoreline anomalies proved to be a historic property. The two shipwreck sites are located to the south of this proposed project and will not be impacted by the proposed nearshore placement of dredged material.

5.7 Land Use, Infrastructure, and Socioeconomics

The study area is completely marine. The study area is adjacent to Long Beach Island which is primarily residential. Long Beach Island is a recreation- and tourism-oriented resort area. Utilities that serve Long Beach Island municipalities adjacent to the study area include:

- Electric – Atlantic City Electric
- Natural gas – New Jersey Natural Gas
- Telecommunications – Comcast, Verizon
- Water and sewer – Harvey Cedars Borough, Long Beach Township, Barnegat Light Borough
- Storm Water – Harvey Cedars Borough, Long Beach Township, Barnegat Light Borough

Access to Long Beach Island is provided by an excellent network of federal, state, and local roads and highways.

The municipalities adjacent to the study area are in Ocean County and include Barnegat Light Borough, Loveladies in Long Beach Township and Harvey Cedars Borough. The population

estimate for Ocean County American Community Survey (ACS) (2013-2017) data is 589,699. Approximately 91.3% Caucasian; 3.0% African American; 0.1% Native American; 2.0% Asian; and 9.0% Hispanic/Latino. [Table 3](#). Socioeconomic Characteristics of Barnegat Light Borough, Long Beach Township, and Harvey Cedars Borough provides socioeconomic characteristics for these municipalities, based on ACS (2013-2017) data (U.S. Census Bureau 2020):

[Table 3. Socioeconomic Characteristics of Barnegat Light Borough, Long Beach Township, and Harvey Cedars Borough](#)

Municipality	Population	Median Household Income	Median Value for Owner Occupied Housing Units	Poverty Rate	Employment Rate
Barnegat Light Borough	494	\$75,000	\$699,700*	1.2%	39.3%*
Long Beach Township	3,040	\$82,192	\$855,100*	10%	34.0%*
Harvey Cedars Borough	430	\$85,417	\$935,400*	3.3%	35.3%*

Source: ACS 2013-2017. *Data for 2017 based on ACS 2013-2017 data (U.S. Census Bureau 2020).

Barnegat Inlet is critical to a large fishing fleet consisting of full-time commercial, charter, and recreational vessels that contribute to the total economic impact of New Jersey’s marine fisheries. Saltwater recreational fishing in New Jersey has generated approximately \$1.8 billion in sales, \$746 Million in income, and \$1.2 billion in value added in 2016 (NMFS 2018). Value-added is the contribution made to the gross domestic product in a region. Commercial fishing in New Jersey generated 37,100 jobs, \$1.4 billion in income, \$6.2 billion in sales, \$2.3 billion in value added, and \$193 million in landings revenue in 2016 (NMFS 2018). The values (ex-vessel price) of the commercial landings in New Jersey were \$190 million and \$170 million in 2017 and 2018, respectively. “Barnegat-Long Beach” was recognized as a major U.S. port with commercial with landings valued at \$25 million and \$24 million in 2017 and 2018, respectively (NMFS 2020).

5.8 Recreational Resources

Recreation and ecotourism services provided by the Long Beach Island and Island Beach State Park ocean coasts for tourism. Bathing beach locations are monitored by local health departments for recreational beach water quality, which is reported to the NJDEP who issues beach advisories or closings if bacterial criteria are exceeded. Fishing is typically conducted along shoreline areas. Recreational and commercial fishing boats utilize Barnegat Inlet for access to and from marinas, the back bays and the ocean. Surf fishing is popular from the jetty rocks at the inlet and at IBSP. Anglers in the back bays and tidal creeks typically target summer flounder (fluke), winter flounder, weakfish, bluefish, striped bass, kingfish, white perch, and tautog. Other popular recreational activities include beach combing, swimming, sunbathing, boating, water skiing, jet skiing, paddling (canoes, kayaks, stand-up paddle boards), windsurfing, and bird watching.

5.9 Visual Resources and Aesthetics

Aesthetics refer to the sensory quality of the resources (sight, sound, smell, taste, and touch) and especially with respect to judgment about their pleasurable qualities (Canter 1993; Smardon *et al.* 1986). The aesthetic quality of the study area is influenced by the natural and developed environment. Visual resources include the natural and man-made features that comprise the visual qualities of a given area, or “viewshed.” These features form the overall impression that an observer receives of an area or its landscape character. Topography, water, vegetation, man-made features, and the degree of panoramic views available are examples of visual characteristics of an area.

The study area contains heavily developed residential areas consisting of homes, condominiums, and businesses. The inlet is bordered by the Barnegat Inlet and adjacent rock jetties. Sandy beaches and ocean views are considered desirable locales as long as they are clean with no obvious water pollution or litter.

6.0 Environmental Impacts

The initial pilot project entails dredging to remove shoaling from the section of the authorized Barnegat inlet navigation channel between the north and south jetties (Figure 1). The preferred plan will initially use the government-owned split-hull hopper dredge Murden to place the material in the nearshore depth of closure of the authorized beachfill project fronting the community of Harvey Cedars (see Figure 1 and Figure 6) and to provide a supplemental sand source to an area of accelerated beach erosion. Subsequent dredging events may utilize either the Murden or the Currituck, a smaller government-owned split-hull hopper dredge. Environmental impacts considered in this Environmental Assessment are those associated with dredging and placement in the nearshore littoral zone from Barnegat Light to Harvey Cedars. An evaluation of the long-term and short-term, positive and negative impacts to ecological, social, and economic factors associated with implementation of the alternative plans is provided below.

6.1 Air Quality

No Action Alternative – No Dredging

Under the No Action Alternative, Barnegat Inlet maintenance dredging not occur. There would be no temporary negligible impacts on air quality associated with dredging and dredged material placement.

Current Practice

Currently, the Currituck or Murden dredge the Barnegat Inlet, twice each year for approximately 20 days per year. This results in short-term negligible effects on air quality; however, maintenance dredging is excluded from General Conformity requirements under 40 CFR Section 153(c)(ix).

Beneficial Use of Sediments (Proposed Action)

Impacts on air quality under this alternative would be similar to those under the current practice. While impacts on air quality would be temporary and negligible, maintenance dredging operations are excluded from General Conformity requirements under 40 CFR Section 153(c)(ix). However, the proposed pilot project would require the hopper dredge

traveling an additional 1-3 miles during maintenance dredging placements further south along the oceanfront between Barnegat Light and Harvey Cedars as a beneficial use of the dredged sand.

General Conformity Rule

The Clean Air Act, and its subsequent amendments, established the National Ambient Air Quality Standards (NAAQS) for seven common pollutants: particulate matter, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. These air pollutants are referred to as “criteria pollutants” by the EPA because they are regulated for permissible levels based on human health and environmentally based guidelines. The General Conformity Rule, under the Clean Air Act, applies to all federal actions that are taken in designated nonattainment areas, with three exceptions: 1) actions covered by the transportation conformity rule; 2) actions associated with emissions below specified *de minimis* levels, and 3) other actions which are either exempt or presumed to conform. Maintenance dredging is excluded from General Conformity requirements under 40 Code of Federal Regulation (CFR) Section 153(c)(ix). The additional air emissions estimated to result from the dredge traveling the additional 1-3 miles to the beneficial use placement site is below *de minimis* levels for each annual dredging event.

6.2 Water Quality

No Action Alternative – No Dredging

Under the No Action Alternative, Barnegat Inlet maintenance dredging would no longer occur. The authorized channel within the inlet would continue to shoal until depths rendered the channel unnavigable. No material would be placed in the nearshore zone fronting the community of Harvey Cedars, although natural processes would continue to bypass sand around the south jetty to the ocean beach of Barnegat Light. Under this alternative, there would be no temporary negligible increase in turbidity associated with dredging and dredged material placement. No direct impacts on water quality would occur under this alternative.

Current Practice

Currently, the Currituck or Murden are used for dredging and placement operations at Barnegat Inlet, twice each year for approximately 20 days per year. This results in short-term negligible effects on water quality associated with a temporary and localized increase in turbidity at the dredging and placement sites shown in Figure 3. These are high energy areas and tidal currents and waves nearly negate any impacts from turbidity, which would last on the order of minutes after each placement. Sediment dredged from the inlet is expected to be greater than 90 percent clean sand, therefore, no adverse effects on water quality would occur due to release of contaminants. The sediment dredged from the channel and being placed in the nearshore zone is part of the natural sediment system of the inlet. Some of the material is naturally transported to adjacent beaches by alongshore processes towards the south. Impacts on water quality associated with nearshore placement at the south jetty would result in a similarly short-lived elevation in turbidity in an area that incurs elevated turbidity naturally due to breaking waves.

Beneficial Use of Sediments (Proposed Action)

The temporary increase in turbidity associated with this alternative placement location in the nearshore zone in the vicinity of Harvey Cedars would be similar to the current practice of placement south of the south jetty at Barnegat Light. The increased turbidity would be short-term, temporary, and localized to the dredging and placement site. These are high energy areas where tidal currents and cresting waves would nearly negate any impacts from turbidity, which would last on the order of minutes. Best Management Practices would be used and may be required by conditions contained in State approvals (i.e., 401 Water Quality Certification and Coastal Zone Management regulations) to further minimize water quality impacts during project implementation. Material dredged from the inlet is expected to be greater than 90 percent sand and is assumed to be clean with no chemical contamination. The sediment dredged from the channel and being place in the nearshore is zone is part of the natural sediment system of the inlet. This sediment would have naturally transported to adjacent beaches. Therefore, the placement of sand in the proposed nearshore area is not expected to adversely affect water quality.

6.3 Sediment Quality and Hazardous, Toxic, and Radioactive Waste

No Action Alternative – No Dredging

Under the No Action Alternative, Barnegat Inlet maintenance dredging would no longer occur. While the authorized channel within the inlet would continue to shoal, there would be no change in sediment quality and no impact from Hazardous, Toxic, and Radioactive Waste (HTRW).

Current Practice

Currently, Barnegat Inlet is dredged twice each year. Sediment dredged from the inlet is expected to be greater than 90 percent sand and free of contamination. The sediment dredged from the channel and being place in the nearshore is zone is part of the natural sediment system of the inlet. Through longshore natural processes, some the material is naturally transported to adjacent beaches. There would be no change in sediment quality and no impact from HTRW.

Beneficial Use of Sediments (Proposed Action)

Under the Proposed Action, maintenance dredging of Barnegat Inlet is anticipated to be reduced both temporally as well as the quantity of material removed. Sediment dredged from the inlet shoals is expected to continue to be greater than 90 percent sand and free of contamination. The sediment dredged from the channel and being place in the nearshore zone is expected to remain a part of the natural longshore sediment transport to adjacent beaches. There would be no change in sediment quality and no impact from HTRW.

6.4 Biological Resources

6.4.1 Terrestrial Habitats

No Action Alternative – No Dredging

Barrier islands such as Long Beach Island provide important resting, feeding, and nesting habitat for many migratory and resident species of birds although birds tend to prefer foraging and nesting on reaches less populated with humans, such as at Barnegat Light at the northern end or the Holgate area at the southern end of the island. Under the No Action Alternative, Barnegat Inlet would not be dredged. The No Action Alternative would entail continued

downdrift migration of some sand south of the jetty at Barnegat Light due to sand bypassing the inlet. The beach habitat at Harvey Cedars would continue to incur accelerated erosion, with the potential for minor indirect impacts on terrestrial wildlife habitat. Under the authorized storm risk reduction (beachfill) project, Long Beach Island beaches, including Harvey Cedars would be periodically nourished, funding permitting. Impacts to terrestrial habitat associated with beach nourishment activities are addressed in the 1999 EIS and 2014 EA.

Current Practice

Current maintenance dredging of Barnegat Inlet results in no direct adverse impacts on terrestrial habitats. Continued placement of the dredge material south of the south jetty is contributing to the expansion of the northern end of Long Beach Island. The beach habitat at Harvey Cedars would continue to erode under the current practice. This may result in minor impacts on terrestrial wildlife beach habitat at the erosion hotspot. Under the current practice, the beach is periodically nourished, funding permitting. Impacts on terrestrial habitat associated with the authorized beach nourishment project are addressed in the 1999 EIS and 2014 EA.

Beneficial Use of Sediments (Proposed Action)

There would be no adverse impacts to existing terrestrial habitats from dredging the inlet channel or from nearshore placement of the dredged material. Overall the project would result in beneficial effects associated with potential added protection of beach habitat with a supplemental sand source in the littoral zone. Barrier island habitats provide important resting, feeding, and nesting habitat for many migratory and resident species of birds. The proposed action is designed to allow some operational flexibility to determine where nearshore placement is most needed to protect these habitats.

Previous projects have utilized dredged material for nearshore placements with success. Work and Otay (1997) demonstrated that a nearshore submerged placement of dredged material in front of a nourished beach did not migrate inshore, but redistributed wave energy along the shoreline and 84 percent of the initial volume of nourished material remained in the beach fill. In 2009, an elongated, submerged material placement behind a small natural bar using approximately 200,000 cy of mixed material resulted in coarse material being transported onshore and fine material offshore (Brutsche *et al.* 2015). Monitoring showed that the material continually migrated and the beach remained stable, even after the constructed bar split in two after a hurricane. Beach erosion was minimal compared to the control beach. After four years, the beach grew approximately 50 feet wide (Brutsche *et al.* 2015). In 2012, a swash zone placement of material at Perdido Key was completed with the intent of mobilizing sediments to nourish downdrift beaches. The material eroded and deposited sand on the beach immediately and through a tropical storm and hurricane. Some of the sand was accounted for in the nearshore area of the control beaches (Brutsche *et al.* 2015). Both projects were successful in that they added sediment to the littoral system without directly impacting the terrestrial (beach and dune) habitat. The addition of sand to the littoral zone served to protect the beach from storm impacts, and equilibrated with the natural dynamic system making the placement site sustainable for future placements.

6.4.2 Aquatic Habitats

No Action Alternative – No Dredging

Under the No Action Alternative, Barnegat Inlet would not be dredged. There would be no localized increases in turbidity in the water column, however material bypassing the south jetty would continue to accumulate at Barnegat Light while some sand will be transported south due to natural currents. Disturbance to the submerged sand bottom benthic habitat at the placement area at Harvey Cedars would continue to occur as a result of periodic nourishment cycles of the authorized storm protection project. Impacts to benthic habitat are minimized through placement of material similar in grain size to existing substrate. Discontinuing dredging within the navigation channel would result in continued shoaling within Barnegat Inlet and reduced depths creating navigational hazards.

Current Practice

Currently, a specialty split hull hopper dredge is used for dredging and placement operations, twice each year for approximately 20 days per year. This would continue for the foreseeable future. This results in short-term negligible effects with a temporary and localized increase in turbidity and disturbance of the bottom substrate through removal at the dredging site and deposition of sand at the placement site. These are high energy areas and tidal currents and waves nearly negate any impacts from turbidity which would last on the order of minutes. Benthic organisms in the placement area are subject to burial. Benthic species typically recolonize dredged and depositions areas by recruitment from nearby undisturbed areas. Material is placed in small quantities over a small area with each hopper release is not expected to result in significant mortality of benthic organisms. Some species are capable of migrating through the newly placed small quantities of sand. These nearshore placement areas are naturally subjected to turbulence in the ebb shoal and littoral zones. Benthic organisms are continually exposed to burial and exposure as bottom sediments are transported by natural currents and wave action. Channel dredging within the inlet is an ongoing activity, however a significant portion of the inlet is outside the authorized channel boundaries. Impacts on aquatic habitat associated with the authorized beach nourishment project are addressed in the 1999 EIS and 2014 EA.

Beneficial Use of Sediments (Proposed Action)

Impacts of maintenance dredging within Barnegat Inlet with associated nearshore subtidal placement of the material at Harvey Cedars would result in similar impacts associated with the current practice of maintaining only a portion of the inlet shoaling and placement south of the jetty at Barnegat Light. This pilot project proposes to dredge to authorized channel depth in 2020 which will result in a greater quantity of dredged sand (approximately 200,000 cy), however, subsequent year quantities are expected to be significantly less (approximately 50,000 cy per year). Because this is an ongoing activity of maintenance of a Federal Navigation Channel, the channel bottom is repeatedly disturbed; however the channel is 300 feet wide while the inlet itself is over 1,700 feet wide and areas outside of the channel boundaries are not disturbed.

The benthic community in the immediate area of the proposed placement site would not incur impacts typically associated with beach nourishment projects as the placements occur in-water and are done in significantly smaller quantities (500 cy) in the nearshore zone with each hopper load release. The placed material is distributed naturally in the littoral zone by wave and tidal action. As noted above, some nearshore invertebrate species may be buried during placement activities in the nearshore zone fronting Harvey Cedars, however, the small quantity releases will be placed along a 1-mile long placement zone and thereby reducing mortality for species that do not migrate through the newly placed material. Benthic

communities generally respond in stages to habitat disturbances. Response stages may include an increase (or decrease) in abundance or an increase (or decrease) in diversity (US EPA, 2009). Most of the organisms inhabiting the dynamic nearshore and intertidal zones are highly mobile or adapt quickly to significant changes in abiotic factors. Best management practices would be employed to minimize turbidity. Impacts associated with dredging and placement would potentially be minimized by reducing the frequency and subsequent year quantities dredged following the pilot project.

Significant impacts to water quality are not anticipated from implementation of the selected plan. Short-term, temporary, and localized impacts to water quality in the form of turbidity are anticipated to occur from maintenance dredging and deposition of sand in the nearshore area from south of the nodal point along Long Beach Island to Harvey Cedars. Any potential effects would be short-lived and localized and would be limited to the immediate vicinity of the dredging site and the small areas that receive dredged material. Large-grained sediments settle quickly with larger grains settling out on the uppermost reaches of the intertidal zone and finer, smaller grain sizes in the deeper nearshore zone. Eventually tidal currents and inlet circulation would negate any impacts from turbidity.

The sediments dredged from the inlet are expected to be greater than 90 percent sand and assumed to be clean with respect to chemical contamination. Therefore, the placement of sand in the nearshore area is not expected to adversely affect water quality. Best Management Practices would be used and may be mandated by conditions contained in State approvals (i.e., 401 Water Quality Certification and Coastal Zone Management regulations) to minimize water quality impacts during project implementation.

6.4.3 Wildlife

No Action Alternative – No Dredging

Under the No Action Alternative, Barnegat Inlet would not be dredged. The No Action Alternative would have no direct effects on wildlife. The beach habitat at Harvey Cedars would continue to erode, resulting in minor indirect impacts to wildlife due to a potential loss of habitat. The beaches of Long Beach Island would continue to receive periodic nourishment, funding permitting, for the duration of the authorized beachfill project. Impacts on terrestrial wildlife associated with beach nourishment activities are addressed in the 1999 EIS and 2014 EA.

Current Practice

Current maintenance dredging has no direct effect on wildlife. Under current practice, dredged materials taken from shoals in the inlet navigation channel and placed just south of the south jetty contribute to an accreting beach at Barnegat Light, which results in an indirect benefit to wildlife in the vicinity. Based on current practice, beach habitat at Harvey Cedars would continue to erode resulting in minor indirect impacts on wildlife in between periodic nourishment cycles of the authorized storm protection beachfill project. Impacts on wildlife associated with beach nourishment activities are addressed in the 1999 EIS and 2014 EA.

Beneficial Use of Sediments (Proposed Action)

The barrier island habitat of Long Beach Island provides breeding, foraging, nesting and resting areas for many species of migratory birds and some small mammals and reptiles. The proposed action is designed to allow some operational flexibility to determine where

nearshore placement is most needed to contribute to protection of these coastal habitats. Placement of high quality dredged sand in the littoral zone of ocean beaches is anticipated to result in an indirect benefit to habitat by providing an additional sand source in the nearshore zone that has been shown to reduce beach erosion (Brutsche *et al.* 2015). Wildlife species that may benefit include black skimmer, least tern, and piping plover as these species utilize the beaches in the nearby vicinity for foraging and in some areas nesting. No long-term adverse impacts to wildlife resources are anticipated as a result of the project. Some species may leave the sites during construction, but are expected to return once operations cease. Overall there would be a net benefit to wildlife in the area. All proposed operations, with the exception of pre- and post-placement beach surveying, take place in the marine environment.

6.4.4 Aquatic Habitats

No Action Alternative – No Dredging

Under the No Action Alternative, Barnegat Inlet would not be dredged. There would be no direct effects on fisheries in terms of interactions with the dredge and no indirect effects on fisheries as a result of potential temporary and localized increases in turbidity in the water column and disturbance of benthic habitat in the inlet and placement area. Discontinuing dredging would result in the shoaling of Barnegat Inlet, thereby reducing depths within the inlet and creating navigational hazards for commercial and recreational vessels.

Current Practice

Currently, a hopper dredge is used for maintenance dredging and placement operations, twice each year for approximately 20 days per year. Maintenance dredging is only expected to have negligible and temporary effect on fisheries, due to elevated turbidity during the dredging and placement activities and potential loss of prey species. With the exception of egg and larval stages, fish are mobile and generally leave the area of disturbance temporarily. The inlet is significantly wider than the authorized channel, allowing for fish passage. Dredging is typically not scheduled to occur during the time of year when egg and larval stages would occur in the area. Negligible impacts on fish habitat would occur. The current practice results in short-term negligible effects with a temporary and localized increase in turbidity and disturbance of benthic habitat in the inlet and placement area. These are high energy areas and tidal currents and waves nearly negate any impacts from turbidity and burial, which would last on the order of minutes. Because this is an ongoing activity, these areas are previously disturbed.

Beneficial Use of Sediments (Proposed Action)

Direct impacts from the nearshore placement alternative would be similar to the current practice. With the exception of some small finfish, most bottom dwelling and pelagic fishes are highly mobile and should be capable of avoiding interactions with the dredge and turbidity impacts due to dredging and placement operations. The dredging would result in the suspension of some benthic organisms in the water column, resulting in opportunistic feeding of some finfish. The dredging site is previously disturbed. At the placement site, impacts would be negligible relative to the available habitat in the adjacent areas. Material is placed in small quantities over a small area with each hopper release. Most benthic organisms are capable of migrating through the newly placed small quantities of sand. Benthic habitat would begin to re-establish within 1 to 2 years, from impacts due to dredging and burial.

6.4.5 Essential Fish Habitat

No Action Alternative – No Dredging

Impacts on EFH (coastal waters subtidal benthic substrate) under the No Action Alternative would be identical to those described for aquatic habitat under the No Action Alternative described under Section 6.3.2. There would be short-term negligible effects associated with a temporary and localized increase in turbidity and disturbance of benthic habitat in the inlet channel and placement area. There would be no impacts to any fish life stages. Discontinuing dredging would result in the shoaling of the Barnegat Inlet navigation channel, thereby reducing water depths and creating navigational hazards.

Current Practice

Impacts on EFH (coastal waters subtidal benthic substrate) would be identical to those described for aquatic habitats (Current Practice under Section 6.3.2). Currently, a hopper dredge is used for dredging and placement operations, twice each year for approximately 20 days per year. This results in short-term negligible effects from a temporary and localized increase in turbidity in the water column and disturbance of benthic habitat in the inlet and placement area. These are high energy areas and tidal currents and waves nearly negate any impacts from turbidity and burial, which would last on the order of minutes. Because this is an ongoing activity, these areas are disturbed. Dredging typically does not take place during the period of the year when fish larvae and eggs are present, however, the inlet is significantly wider than the shoaled areas within the authorized channel where dredging would occur. In the placement area, the benthic community should recover in 1 to 2 years. Maintenance dredging also allows the central connection between Barnegat Inlet and the ocean to be maintained.

Beneficial Use of Sediments (Proposed Action)

Impacts on EFH (coastal waters and subtidal benthic substrate) would be identical to those described for aquatic habitats (Section 6.3.2). Benthic habitat in the inlet navigation channel is predominantly sand and is considered disturbed, with dredging occurring twice each year. Impacts to benthos due to burial of the benthic community during placement activities in the nearshore areas would be localized and minimal. Some benthic infaunal species would be buried while others are capable of migrating through placed sediments. The community would also expect to recover quickly due to recruitment from nearby undisturbed areas. While the benthic community serves as EFH in the form of habitat and prey, impacts are expected to be negligible, as the area impacted is only a fraction of the available EFH in the area.

The creation of a nearshore sand feature through placement activities could provide beneficial effects on EFH in the form of topographical relief for some species (Yozzo *et al.* 2014, Clarke and Kasul 1994 as cited in Reine *et al.* 2012). Assuming the pilot project achieves its objective to reduce nourishment needs at the erosional hotspot at Harvey Cedars, there would be a reduction in the disturbance frequency of beach nourishment operations under the authorized storm reduction project and the use of offshore borrow areas, resulting in beneficial effects on EFH.

Cumulative effects associated with the project on EFH are not anticipated. The project would have temporary minor impacts to the bottom habitat by creating a nearshore sand feature but would not significantly alter the habitat type. However, once the construction is completed it is likely that the bottom areas would quickly recolonize. It is concluded that the project would have a minimal direct effect on EFH and not result in cumulative impacts to EFH. [Table 4](#) provides the EFH Assessment Worksheet for the project.

Table 4. EFH Assessment Worksheet for Federal Agencies

PROJECT NAME: Beneficial Use Placement Opportunities in the State of New Jersey Using Navigation Channel Sediments: Barnegat Inlet, NJ

1. INITIAL CONSIDERATIONS		
EFH Designations	Yes	No
Is the action located in or adjacent to EFH designated for eggs?	X	
Is the action located in or adjacent to EFH designated for larvae?	X	
Is the action located in or adjacent to EFH designated for juveniles?	X	
Is the action located in or adjacent to EFH designated for adults?	X	
Is the action located in or adjacent to EFH designated for spawning adults?	X	
If you answered no to all questions above, then EFH consultation is not required -go to Section 5. If you answered yes to any of the above questions proceed to Section 2 and complete remainder of the worksheet.		

2. SITE CHARACTERISTICS	
Site Characteristics	Description
Is the site intertidal, sub-tidal, or water column?	The dredging and placement locations are subtidal. Natural processes will allow the nearshore material to migrate into the intertidal and deposit sediments onto the beach.
What are the sediment characteristics?	The material to be dredged is expected to be greater than 90 percent sand.
Is Habitat Area of Particular Concern (HAPC) designated at or near the site? If so what type, size, characteristics?	No
Is there submerged aquatic vegetation (SAV) at or adjacent to project site? If so describe the spatial extent.	No
What is typical salinity and temperature regime/range?	Salinity generally ranges from 28 to 36 parts per thousand (ppt) over the continental shelf. Lower salinities are found near the coast. Salinity ranges between 19 and 30 ppt with an average 25 ppt in the estuary. Water temperatures range from a recorded winter low of 29.5 °F to summer highs of 82 °F.
What is the normal frequency of site disturbance, both natural and man-made?	The Barnegat Inlet is dredged twice per year and the sand is placed in the nearshore area south of the inlet. In the nearshore area, regular disturbance from wind and tide generated waves, recreational boating, and storm events.
What is the area of proposed impact (work footprint & far afield)?	See Figure 1 and Error! Reference source not found. For order-of-magnitude perspective, placement of 200,000 cy of sand as a hypothetical rectangular solid could have dimensions of one mile long by 300 feet wide in the cross-shore direction and about 3 feet thick. Such a placement configuration would have a surface area of about 36 acres.

3. DESCRIPTION OF IMPACTS			
Impacts	Y	N	Description
Nature and duration of activity(s)			Approximately 200,000 cy of material are required to be dredged from this portion of the Barnegat Inlet channel to restore the channel to the authorized depth of 10 feet MLW plus 2 feet of overdepth. The placement sites are nearshore. Material would be dredged from the channel and brought to the placement sites via the hopper dredge, Murden. The project is expected to take 45 - 60 days. Future maintenance dredging and placement in the nearshore zone will be conducted on an estimated annual basis with significantly less quantity anticipated per dredging cycle with placement in the nearshore zone to support the Long Beach Island beaches.
Will benthic community be disturbed?	Y		The benthic community would be disturbed at the dredging location. No dredging will occur outside of the authorized channel, which is already disturbed. The benthic community would be temporarily disturbed via burial at the placement sites. Sites are expected to recover within 1 to 2 years.
Will SAV be impacted?		N	No SAV in the project area.
Will sediments be altered and/or sedimentation rates change?		N	Sediments in the nearshore placements are expected to be similar to those currently at the placement site. The project will potentially result in feeding sediments onto a beach that is currently eroding.
Will turbidity increase?	Y		A temporary increase in turbidity would occur during dredging and dredged material placement operations. Increases are expected to be minimal and comparable to background levels in the placement site.
Will water depth change?	Y		Shoaled material will be removed from the Barnegat Inlet. The channel will be returned to its authorized depth of 10 feet MLW plus 2 feet overdepth dredging. Water depth will temporarily change at the placement site from between -10 feet and -20 feet NAVD88 to approximately -7 to -13 feet.
Will contaminants be released into sediments or water column?		N	With respect to chemical contamination, the material to be dredged and placed for beneficial use is greater than 90 percent sand and is clean with respect to chemical contamination, because of flushing. No contaminants would be released into the water column or sediments.
Will tidal flow, currents or wave patterns be altered?	Y		Nearshore feature along Harvey Cedars may result in some dissipation of energy from onshore waves.
Will water quality be altered?		N	No, negligible temporary increases in turbidity would occur. The project area is a high energy area, increases in turbidity would be comparable to background levels and would dissipate quickly.

4. EFH ASSESSMENT			
Functions and Values	Y	N	Describe habitat type, species and life stages to be adversely impacted (NOAA Website 2010)
Will functions and values of EFH be impacted for:			
Spawning		N	No dredging and placement during the spawning period.
Nursery		N	
Forage	Y		Dredging occurs in an already disturbed authorized navigation channel. Placement in the nearshore area could result in some burial of benthic species. Mobile benthic and finfish species would be able to avoid adverse impacts. Benthic infaunal invertebrates would recover in 1 to 2 years. The amount of habitat disturbed is negligible relative to similar habitat available in the area for foraging. For managed species that are found in the area, the adults and juveniles are mobile so it is expected that they will avoid the areas of disturbance and therefore will not be impacted.
Shelter		N	
Will impacts be temporary or permanent?			The majority of the impacts will be temporary. The placement of a nearshore feature would result in beneficial effects for species that prefer topographical relief. Placed material is expected to migrate inshore to feed the adjacent beach.
Will compensatory mitigation be used?		N	

5. DETERMINATION OF IMPACT		
		Federal Agency EFH Determination
Overall degree of adverse effects on EFH (not including compensatory mitigation) will be: (check the appropriate statement)		There is no adverse effect on EFH EFH Consultation is not required
	X	The adverse effect on EFH is not substantial. This is a request for an abbreviated EFH consultation. This worksheet is being submitted to NMFS to satisfy the EFH Assessment requirement.
		The adverse effect on EFH is substantial. This is a request for an expanded EFH consultation. A detailed written EFH assessment will be submitted to NMFS expanding upon the impacts revealed in this worksheet.

6. OTHER NOAA-TRUST RESOURCES IMPACT ASSESSMENT	
Species known to occur at site (list others that may apply)	Describe habitat impact type (i.e., physical, chemical, or biological disruption of spawning and/or egg development habitat, juvenile nursery and/or adult feeding or migration habitat).
Alewife	N/A
blueback herring	N/A
rainbow smelt	N/A
Atlantic sturgeon	N/A

Atlantic menhaden	N/A
American shad	N/A
American eel	N/A
American lobster	N/A
blue mussels	N/A
soft-shell clams	N/A
Quahog	N/A

N/A=Not applicable.

6.5 Threatened and Endangered Species

Due to the marine nature and nearshore location project, the following federally-listed species were considered

- Atlantic sturgeon,
- piping plover
- red knot
- roseate tern
- seabeach amaranth
- Kemp's ridley turtle
- leatherback turtle
- hawksbill turtle
- green turtle
- loggerhead turtle
- North Atlantic right
- fin whale

Because both dredging and placement alternatives occur in-water, direct impacts to piping plover, red knot, roseate tern are not expected. The eastern black rail, proposed for listing, occurs primarily in saltmarshes in backbay areas and is not likely to occur in the project area. Barnegat Inlet's navigation channel has been maintained for over 40 years. Hopper dredges working in the inlet and material placement in the nearshore zone do not appear to disturb birds on the shoreline. The vessels are a significant distance away from the beach, slow-moving with low engine vibration that is difficult to detect with the surrounding ambient sounds of waves crashing and wind. Prey species in the intertidal zone, where shorebirds such as the piping plover and red knot forage, would not be impacted by placement of sand in the nearshore zone of 10-20 feet MLW depths. Foraging shorebirds feed on the foreshore and intertidal zone of Atlantic Ocean beaches of New Jersey. This zone contains beach wrack, which is composed of drying seaweed, tidal marsh plant debris, and decaying marine animals. The beach wrack creates a moist micro-habitat suitable for crustaceans such as amphipods (Family: Amphipoda): *Orchestia* spp. And *Talorchestia* spp., (beach fleas) (USFWS, 2001). Although there is annual variability and there can be some overlap among species, the primary benthic invertebrate species composition in the nearshore placement zone (10-20 feet MLW) differs from that which occurs in the intertidal zone, and are not available to beach foraging birds. Patterns in benthic species composition, distribution, and abundance are

primarily influenced by natural sources of environmental variation (i.e., depth, sediment type, and levels of total organic carbon). An assessment of benthic communities in New Jersey nearshore marine coastal waters in 2007-2009 (Ramey *et al.* 2011) observed the following dominant taxa/species: polychaetes *Polygordius* spp., *Prionospio pygmaeus*, *Tharyx* sp. A, and *Aricidea catherinae*; the oligochaetes *Naidinae* sp. 2, *Grania longiducta*, *Peosidrilus coeloprostatus*, and *Tubificoides* sp. 1; the amphipod *Protohaustorius deichmannae*; and the bivalve *Nucula proxima*.

Likewise, dredging and placement activities would not pose any adverse impact on State-listed species of birds that occur in the vicinity. The pilot project proposes to beneficially use high quality clean sand dredged from the inlet navigation channel to supplement the shore-protection (beachfill) project that in turn, provides protection to both infrastructure and coastal habitat important to resting, feeding, and nesting habitat for these species.

As noted in Section 5.5.1, seabeach amaranth was federally-listed as a threatened plant throughout its range in 1993 and listed as endangered by the state of New Jersey. The NJDEP Endangered Nongame Species Program surveys the New Jersey coastline annually for beach nesting birds as well as seabeach amaranth and directly coordinates their findings with USACE. The plants establish primarily on accreting areas (non-eroding beaches) and lower foredunes. Although no seabeach amaranth plants were observed at Harvey Cedars in 2019, 1 plant was located in 2018 and 3 plants in in 2017 at Harvey Cedars. Although the proposed dredging and placement operation occurs entirely in-water, one of the objectives of the Section 1122 program is to monitor the action to better understand the benefits of nearshore placement to the beach and innovatively inform the design for application to future shoreline protection projects. USACE plans to conduct single beam hydrographic pre- and post-placement condition surveys, consisting of 25 lines running perpendicular to the shore from the beach seaward to the placement area. Typically these survey lines would begin from the seaward toe of the dunes to about 300 feet offshore to include the placement area. However, if seabeach amaranth plants are identified at Harvey Cedars, the survey lines will be modified to begin further down the beach berm away from the foredune area to establish a necessary buffer zone for the plants between 15 March and 30 September.

No Action Alternative – No Dredging

Under the No Action Alternative, the Barnegat Inlet navigation channel would not be dredged. There would be no direct or indirect impacts on threatened and endangered terrestrial or marine species.

Current Practice

Current dredging practices at Barnegat Inlet are not known to result in adverse effects on threatened and endangered species. As noted previously, hopper dredges working in inlets and the nearshore placement zone do not appear to disturb beach nesting or foraging bird species, emitting minimal noise and slow-moving. The Currituck and Murden, which operate at low suction, have grid screens with small openings and have demonstrated a very low likelihood of entraining or impinging sea turtles (NMFS 2014). The draghead is not activated until it is resting directly on the bottom to avoid impingement of marine species. NMFS (2014) concluded that when sea turtles are likely to be present, one sea turtle is likely to be entrained for every 3.8 MCY of material removed by a hopper dredge.

All dredging occurs only within shoaled areas of the authorized navigation channel of Barnegat Inlet, a small portion of the total wide of the inlet. Because of the previous disturbance within the authorized channel and the lack of SAV, the inlet is not expected to be potential sea turtle foraging habitat. Additionally, the amount of material dredged from Barnegat Inlet is small (approximately 50,000 to 100,000 cy two times per year) resulting in unlikely entrainment of sea turtles during dredging under the current practice. Sea turtles rarely occur in the shallow waters close to the beach where the proposed placement operations will occur. Additionally, sea turtle mobility would help them avoid the dredge as it motors slowly into place for release of the material. Current maintenance dredging practices may affect, but are not likely to adversely affect threatened and endangered sea turtles for an inlet and nearshore placement operation.

Atlantic sturgeon in the marine environment are highly mobile and entrainment of sturgeon during hopper dredging operations appears to be relatively rare. NMFS (2014) calculated an interaction rate of 1 Atlantic sturgeon is likely to be injured or killed for approximately every 8.6 mcy of material removed during hopper dredging operations. Currently, approximately 50,000 to 100,000 cy of sediment are dredged two times per year; therefore, the potential for entrainment of sturgeon under the current dredging practice is unlikely. Additionally, Atlantic sturgeon are demersal species and would likely leave the area of temporary elevated turbidity associated with current dredging and placement. Their mobility would help them avoid the areas of increased turbidity. Atlantic sturgeon are unlikely to occur in the nearshore shallow waters fronting the ocean beaches. Current maintenance dredging practices may affect, but are not likely to adversely affect threatened and endangered Atlantic sturgeon.

North Atlantic right whales and fin whales are highly mobile and able to avoid the slow-moving dredge and are unlikely to occur in the nearshore beach zone. Additionally, the dredge crew continually keep watch for protected marine species and employ all required NMFS vessel avoidance measures to avoid interactions with protected marine species. Current maintenance dredging practices may affect, but are not likely to adversely affect endangered whales.

Beach nourishment impacts associated with the authorized Long Beach Island storm damage reduction project the current practice are addressed in the 1999 EIS, the 2014 EA, and the National Marine Fisheries Service (NMFS) (2014) Biological Opinion.

Beneficial Use of Sediments (Proposed Action)

The impacts of dredging for the proposed nearshore placement at Harvey Cedars alternative would be identical to the current practice (i.e. maintenance dredging and placement south of the south jetty). Anticipated impacts to beach habitat and prey species for beach nesting and foraging shorebirds due to a nearshore placement are minimal. In the event that either listed foraging birds, nests or seabeach amaranth plants are discovered by USACE or NJDEP observers, the areas would be fenced and appropriate required buffer zones established for beach surveyors. While Atlantic sturgeon, sea turtles, and whales have the potential to occur in the vicinity, it is unlikely during the operation. The species are highly mobile and able to avoid the dredge and areas of temporarily elevated turbidity due to operations. Any effects from placement of sand or an increase in turbidity would be temporary and insignificant. Additionally, the dredge crew would continually keep watch for protected marine species and employ all required NMFS vessel avoidance measures to avoid interactions with protected marine species.

If this alternative is successful at decreasing periodic nourishment needs or extending the storm protection period near Harvey Cedars, the pilot project would demonstrate a valuable beneficial use for dredged inlet sand. This further reduces the potential to adversely affect threatened and endangered species by reducing the frequency of needed maintenance dredging and/or emergency beachfills.

The project objective to monitor the placement operation (pre-, during, and post-placement) at the in-water placement site as well pre- and post-placement surveys extending onto the beach berm will provide valuable information as to the efficacy of sand placement within the littoral zone. As noted previously, monitoring of similar operations along the east coast has demonstrated success with nearshore in-water placements serving to add sediment to the littoral system to protect the beach from storm impacts (Brutsche *et al.* 2015). Although shorebirds, and particularly, piping plovers have not nested on the beach at Harvey Cedars, observers survey the New Jersey Atlantic coast annually to ensure that the location of beach-nesting birds and seabeach amaranth plants are identified and protected with signage and fencing. USACE would coordinate with the USFWS and NJDEP to ensure that surveyors maintain the required distances from any identified threatened or endangered species that are identified in the vicinity during the beach nesting period (March 15 through September 30). Based on the available information, it has been determined that the proposed project is not likely to adversely affect these threatened and endangered species.

6.6 Cultural Resources

As a Federal agency, USACE has certain responsibilities for the identification, protection and preservation of cultural resources that may be located within the Area of Potential Effect (APE) associated with the project. Present statutes and regulations governing the identification, protection and preservation of these resources include, but are not limited to, the National Environmental Policy Act of 1969 (NEPA) and the National Historic Preservation Act (NHPA). A historic property is defined in the NHPA as any prehistoric or historic district, site, building, structure or object included in or eligible for inclusion on the National Register of Historic Places (NRHP), including artifacts, records, and material remains related to such a property or resource.

No Action Alternative – No Dredging

The no action alternative would not impact historic properties eligible for or listed on the National Register of Historic Places (NRHP).

Current Practice

Current dredging practices do not impact historic properties eligible for or listed on the NRHP.

Beneficial Use of Sediments (Proposed Action)

Since the Barnegat Inlet Navigation Channel will only be dredged to its authorized depth, and since the placement of dredged material within this nearshore location will not impact the two recorded shipwrecks, USACE has determined that the proposed action will have *No Effect* on historic properties eligible for or listed on the National Register of Historic Places pursuant to 36CFR800.4(d)(1). A determination letter of *No Effect* was sent to the New Jersey State Historic Preservation Office and to the Tribes including: the Delaware Nation of Oklahoma, the Delaware Tribe, the Eastern Shawnee Tribe of Oklahoma, the Oneida Indian Nation, the

Stockbridge-Munsee Mohican Tribe, the St. Regis Mohawk Tribe, and the Seneca Nation of Indians.

6.7 Land Use, Infrastructure, and Socioeconomics

No Action Alternative

Under the No Action Alternative, the Barnegat Inlet navigation channel would continue to shoal. This would result in an indirect negative effect on socioeconomic resources such as tourism, and commercial and recreational fisheries. These are not only economically important to the local region, but to the economy of the State of New Jersey.

The beach at Harvey Cedars would continue to be periodically nourished under the authorized storm risk reduction project. The No Action Alternative would not meet the objective of the project to beneficially use maintenance dredge material in a known erosion hotspot.

Current Practice

Current dredging practices would not adversely affect socioeconomic resources, land use, infrastructure, or utilities. Dredging is necessary for maintaining the safety of Barnegat Inlet which allows safe navigation for important industries such tourism or commercial and recreation fisheries. Growth in employment, business, and industrial activity in the study area is expected to follow economic trends in national economies. As previously mentioned, the region's economic anchors of the fishing and tourist industries are expected to continue to remain important to the local and regional economy.

The beach at Harvey Cedars would continue to be nourished under the authorized storm risk reduction project. The Current Practice Alternative would not meet the objective of the project to beneficially use maintenance dredge material for shore protection and enhance recreational resources at a known erosion hotspot on Long Beach Island.

Beneficial Use of Sediments (Proposed Action)

Both dredging and nearshore placement would be result in indirect beneficial effects on the socioeconomic resources, land use, infrastructure, and utilities on Long Beach Island. Nearshore berm placement would result in beneficial effects associated with potential added protection of beach habitat with a supplemental sand source in the littoral zone.

Barnegat Inlet and the proposed nearshore placement locations are located in Ocean County, New Jersey. Ocean County, as well as other coastal counties of Atlantic, Cape May, and Monmouth have historically suffered extensive damage from nor'easters, hurricanes, and tropical storms. The impacts from these damages and recovering from these damages places a significant financial burden on the predominantly residential communities.

Waterfront communities are at a significant risk from storm surge and inundation. The communities are heavily populated and inhabited by individuals who contribute to the economic health of the entire state of New Jersey through employment. These communities are critical to the regional economy that is supported by tourism, water recreation, as well as by industry and offices located in the area. Critical infrastructure includes assets that are essential to the function of communities and the economy such as electricity, gas distribution, water supply, transportation, education, and community services (e.g. police, fire department, postal and courier services, etc.).

Severe storm surge events threaten the health and safety of residents living within the study area. Loss of life, injury, and post-flood health hazards may occur as the result of significant storms. Hurricane Sandy reduced the accessibility and availability of health facilities, postal service and required first-responders.

Under the Proposed Action, growth in employment, business, and industrial activity in the study area is expected to follow economic trends in national economies. As previously mentioned, the region's economic anchors of the fishing and tourist industries are expected to continue to remain important to the local and regional economy.

6.8 Recreational Resources

No Action Alternative – No Dredging

Under the No Action Alternative, the Barnegat Inlet navigation channel would continue to shoal, which would result in a negative effect on navigation, recreational boating, and safety. Additionally, the beach at Harvey Cedars would continue to erode, which would have adverse effects on recreational activities such as swimming, fishing, bird watching, and surfing and habitat. The No Action Alternative would not meet the objective of the project to beneficially use maintenance dredge material for shore protection and enhance recreational resources on Long Beach Island.

Current Practice

Under the current maintenance dredging practices, the beach at Harvey Cedars would continue to erode, which would have adverse effects on recreational activities and beach habitat. The current practice would not meet the objective of the project to beneficially use maintenance dredge material for shore protection and enhance recreational resources on Long Beach Island.

Beneficial Use of Sediments (Proposed Action)

Both dredging and nearshore placement would result in indirect beneficial effects on recreational resources and beach habitat at Long Beach Island. Dredging is necessary for maintaining the safety of Barnegat Inlet which would benefit recreational and commercial boating. The nearshore placement would benefit activities that take place on the beach such as fishing, sunbathing, and bird watching. The proposed action is designed to allow some operational flexibility to determine where nearshore placement between Barnegat Light and Harvey Cedars where it is most needed to protect onshore recreational resources. Effects are expected to be negligible.

6.9 Visual and Aesthetics

Visual resources can be subjective by nature, and therefore the level of a proposed project's visual impacts can be challenging to quantify. Generally, projects that create a high level of contrast to the existing visual character of a project setting are more likely to generate adverse visual impacts due to visual incompatibility. Thus, it is important to assess project effects relative to the existing conditions of the area. On this basis, a project components effect on the visual environment are quantified and evaluated for impact assessment purposes based on factors affecting setting compatibility such as changes in visual vividness, intactness, and unity from the existing conditions.

No Action Alternative – No Dredging

Under the No Action Alternative, the beach at Harvey Cedars would continue to erode, which could be considered an adverse effect on visual resources and aesthetics. Beachfill operations under the authorized storm protection project would continue to address eroded beaches on a periodic basis, funding permitting.

Current Practice

The beach at Harvey Cedars would continue to erode under current dredging and placement practices, which could be considered an adverse effect on visual resources and aesthetics. Beachfill operations under the authorized storm protection project would continue to address eroded beaches on a periodic basis, funding permitting.

Beneficial Use of Sediments (Proposed Action)

No onshore construction or construction equipment would be present during the project. A hopper dredge would be visible from Barnegat Inlet to Harvey Cedars for 45 - 60 days. Placement operations will occur in the nearshore littoral zone. No adverse visual or aesthetic impacts would be expected. The proposed action is designed to allow some operational flexibility to determine where nearshore placement is most needed to eroding beaches, which could be considered an indirect beneficial effect on visual resources and aesthetics.

6.10 Unavoidable Adverse Environmental Impacts

No Action Alternative – No Dredging

Under the No Action Alternative, the unavoidable impacts would be the shoaling of Barnegat Inlet leading to a severe economic impacts resulting from a decrease in commercial and recreational boat usage. Although Harvey Cedars would be periodically nourished under the ongoing shore protection project, Harvey Cedars exhibits an accelerated erosion rate relative to other portions of the beachfill project and would continue to erode in between replenishment cycles. The potential for increased flooding and structural damages at Harvey Cedars and other locations would occur as a result of storm damages. As the risk of storm damage increases, property values would decrease.

Current Practice

Under the current practice, there would be no operational flexibility to place dredged material where most needed to protect eroding beaches. An unavoidable adverse impact would be continued erosion of the existing beach, which would result in loss of habitat and eventually damage to structures. The potential for increased flooding at Harvey Cedars and other locations would occur as beach loss continues in between replenishment cycles of the shore protection project. As the risk of storm damage increases, property values would decrease.

Beneficial Use of Sediments (Proposed Action)

The unavoidable adverse impact of the nearshore alternative placement area is a temporary decrease in benthic habitat and populations, due to burial of some species. It is anticipated that these communities would recover in time and the displacement of benthic invertebrates is temporary. Visual, noise and air quality impacts that may occur during dredging operations are temporary and will cease upon completion of the dredging operation. By providing a

supplemental sand source within the nearshore zone to augment between beachfill replenishment cycles, erosion of the beach should be reduced, the proposed action would result in long-term beneficial effects on terrestrial habitat, recreational resources, and visual resources such as a sandy beach.

6.11 Short-term Uses of the Environment and Long-term Productivity

Barnegat Inlet requires maintenance dredging to ensure navigational safety for recreational and commercial vessels that travel through the inlet. Inlets provide a replenishing valuable resource of high quality sand due to shoaling that offshore sand resource borrow areas do not. The use of sand from Barnegat Inlet for a shore protection pilot project will positively affect the economy of the project area by supplying additional sand to the littoral zone of beaches while maintaining a navigable channel. The monitoring program will provide valuable information for potential future applications. Monitoring will occur within the inlet to assess sedimentation patterns with the long-term goal of reducing channel dredging requirements. Monitoring at the nearshore placement site will reveal the efficacy of placements within the littoral system and its potential positive effect on adjacent beaches.

The results of the monitoring studies will contribute to the understanding of RSM. The project will provide a cost effective RSM approach for the beneficial use of dredge material for protection to infrastructure and coastal habitat. Adverse impacts to the placement area are short-term as currents will distribute the material naturally in the inshore zone and nearshore benthic fauna will re-establish post-construction.

6.12 Irreversible and Irrecoverable Commitments of Resources

The dredging of Barnegat Inlet and nearshore placement involves the utilization of time and fossil fuels, which are irreversible and irretrievable. Impacts to the benthic community would not be irreversible, as benthic communities recolonize through recruitment from neighboring areas with cessation of placement activities.

7.0 Environmental Justice

Environmental justice issues arise if activities associated with the project caused a disproportionate impact to low-income or minority populations. Disproportionate impacts could be related to human health effects or adverse environmental effects. Census data indicate that the racial makeup of the area is 91.3% Caucasian; 3.0% African American; 0.1% Native American; 2.0% Asian; and 9.0% Hispanic/Latino. The median household income (2006-2010) ranged from \$75,000 - \$85,000, depending on the municipality (U.S. Census Bureau 2020). The communities present in the study area do not meet the criteria for a population with members of a minority group or low-income.

Therefore, the project is expected to comply with Executive Order 12898, which requires that “each federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health and environmental effects of its programs, policies, and activities on minority populations and low-income populations.”

8.0 Relationship of Selected Plan to Environmental Requirements, Protection Statutes, and Other Requirements

Compliance with environmental quality protection statutes and other environmental review requirements is ongoing. Table 5 provides a listing of compliance with federal environmental statutes. The project requires State approval pursuant to Section 401 of the Clean Water Act, Section 307 of the Coastal Zone Management Act and Section 106 of the National Historic Preservation Act. USACE has applied for these approvals. All approvals will be obtained prior to initiation of construction.

The proposed plan, as evaluated in this EA is being coordinated with the USFWS and the NMFS regarding issues related to Section 7 of the ESA (16 U.S. C. 1531 et seq.). The project is also being coordinated with NMFS regarding EFH pursuant to Section 305(b)(2) of the MSA (1996 amendments).

This EA concludes that the proposed beneficial use of dredged material in the vicinity of Barnegat Inlet, New Jersey is not a major federal action significantly affecting the human environment. Therefore, it has been determined that preparation of an Environmental Impact Statement is not warranted for the project as identified herein, and a Finding of No Significant Impact (FONSI) for the proposed project is appropriate.

Table 5. Compliance of the Proposed Action with Environmental Protection Statutes and other Environmental Requirements

STATUTES	COMPLIANCE STATUS
Clean Air Act	Complete
Clean Water Act	Complete
Coastal Zone Management Act	In progress
Endangered Species Act	In progress
Fish and Wildlife Coordination Act	In progress
National Historic Preservation Act	In progress
National Environmental Policy Act	In progress
Environmental Justice (E.O. 12898)	Complete
Marine Mammals Protection Act of 1972	Complete
Magnuson-Stevens Fishery Conservation and Management Act of 1976	In progress
Federal Water Project Recreation Act	Complete
Submerged Lands Act of 1953	Complete
Rivers and Harbors Act of 1899	Complete
Coastal Barrier Resources Act and Coastal Barrier Improvement Act of 1990	Complete
Anadromous Fish Conservation Act	Complete
Migratory Bird Treaty Act and Migratory Bird Conservation Act	Complete
Marine Protection, Research and Sanctuaries Act (Ocean Dumping Act)	Complete
Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970	Complete
Executive Order 11988, Floodplain Management	Complete

STATUTES	COMPLIANCE STATUS
Executive Order 12898, Environmental Justice	Complete
Executive Order 13045, Disparate Risks Involving Children	Complete

9.0 Section 404(b)(1) Analysis

A review of the impacts associated with discharges to waters of the United States for the National RSM Program WRDA 2016 Section 1122 Beneficial Use Pilot Project in Barnegat Inlet, NJ is required by Section 404(b)(1) of the Clean Water Act, as amended (Public Law 92-500).

I. PROJECT DESCRIPTION

A. Location. The project area is located at Barnegat Inlet and Long Beach Island in Ocean County, New Jersey. See Figure 1.

B. General Description. A project description and objectives are provided in Sections 3.0 and 4.0 of this EA.

C. Purpose. The purpose of the project is to remove critical shoaling from Barnegat Inlet that poses a hazard to navigation and public safety and beneficially utilize the dredged material for protection eroding coastal habitats.

D. General Description of Dredged or Fill Material.

1. General Characteristics of Material: sand
2. Quantity of Discharge: The estimated quantity of dredged material is initially approximately 200,000 cy in 2020. Based on past shoaling history, it is anticipated that there will be a need to dredge sand from the Barnegat Inlet channel each year and the quantity will vary but be approximately 50,000 cy/year and will rarely exceed 100,000 cy/year.
3. Source of Material: All material would be obtained from the existing Barnegat Inlet navigation project. Material would be removed between channel markers in the inlet between the north and south jetties.

E. Description of Discharge Sites.

1. Location: See [Figure 1](#) and [Figure 5](#) in the EA for the project location.
2. Size (acres): The proposed placement will occur in portions of 10 polygons 300 feet x 500 feet (1 mile long), where needed. The initial placement of 200,000 cy of sand, as a hypothetical rectangular placement 1 mile long x 300 feet and 3 feet thick would require 36 acres of surface area.
3. Type of Sites: The project entails placement of material on in a nearshore littoral zone along the ocean coast..

4. Type of Habitat: nearshore subtidal sand.
 5. Timing and Duration of Discharge: 2 months. Construction is anticipated during the summer 2020.
- F. Description of Discharge Method. Discharge from hopper dredge.

II. FACTUAL DETERMINATIONS

A. Physical Substrate Determinations.

1. Substrate Elevation and Slope: varies.
2. Sediment Type: sand.
3. Fill Material Movement: Sediment from the initial placement is expected to be naturally distributed by longshore transport and wave action in the nearshore area fronting Harvey Cedars. Future small placements will occur between Barnegat Light and Harvey Cedars in the nearshore littoral zone.
4. Physical Effects on Benthos: Temporary, loss of existing benthos during dredging and placement actions. The areas should reach a stabilized equilibrium subsequent to construction.
5. Actions taken to Minimize Impacts: Construction best management practices will be used during construction.

B. Water Circulation, Fluctuation, and Salinity Determinations.

1. Water:
 - a. Salinity – No effect
 - b. Water Chemistry – Temporary, minor effect.
 - c. Clarity – Temporary, minor effect.
 - d. Color - No effect.
 - e. Odor – Temporary, minor effect.
 - f. Taste - No effect.
 - g. Dissolved Gas Levels – No effect.
 - h. Nutrients – No effect.
 - i. Eutrophication - No effect.
 - j. Temperature- No effect.
2. Current Patterns and Circulation:
 - a. Current Patterns and Flow – No significant effect.
 - b. Velocity – No significant effect on tidal velocity and longshore current velocity regimes.

- c. Stratification – Normal stratification patterns would continue.
 - d. Hydrologic Regime – The regime is nearshore and would remain that way subsequent to construction of the project.
 - 3. Normal Water Level Fluctuations – No effect on tidal regime.
 - 4. Salinity Gradients – No effect on existing salinity gradients.
 - 5. Actions That Will Be Taken To Minimize Impacts: N/A
- C. Suspended Particulate/Turbidity Determinations.
 - 1. Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Fill Site: Temporary effects when the dredged material is being placed. The area should reach a stabilized equilibrium in a relatively short time period.
 - 2. Effects on Chemical and Physical Properties of the Water Column:
 - a. Light Penetration: Short-term, limited reductions during dredging and placement activities. No long-term effects.
 - b. Dissolved Oxygen: There is a potential for decreased dissolved oxygen levels during dredging and placement activities. No long-term effects.
 - c. Toxic Metals and Organics: No effect.
 - d. Pathogens: No effect.
 - e. Aesthetics: Minor, temporary effects limited to the construction period.
 - f. Temperature: No effect.
 - 3. Effects on Biota:
 - a. Primary Production, Photosynthesis: Temporary, minor effect during dredging and placement activities. The areas should reach a stabilized equilibrium in a relatively short time period.
 - b. Suspension/Filter Feeders: Temporary, minor effect on suspension feeders during dredging and placement activities. The area should reach a stabilized equilibrium in a relatively short time period.
 - c. Sight feeders: Temporary, minor effect on sight feeders during dredging and placement activities. The area should reach a stabilized equilibrium in a relatively short time period.
 - 4. Actions Taken to Minimize Impacts: Best management practices will be used to minimize turbidity.
- D. Contaminant Determinations:

The area to be dredged is expected to be greater than 90 percent sand and considered clean relative to contaminants.

E. Aquatic Ecosystem and Organism Determinations:

1. Effects on Plankton: Temporary, minor effect on plankton during dredging and placement activities. The area should reach a stabilized equilibrium in a relatively short time period.
2. Effects on Benthos: Temporary, minor effect on benthos during dredging and placement activities. The area should reach a stabilized equilibrium in a relatively short time period.
3. Effects on Nekton: No effect.
4. Effects on Aquatic Food Web: Temporary, minor effect on the aquatic food web during dredging and placement activities. The area should reach a stabilized equilibrium in a relatively short time period.
5. Effects on Special Aquatic Sites:
 - (a) Sanctuaries and Refuges: None.
 - (b) Wetlands: None.
 - (c) Tidal flats: None.
 - (d) Vegetated Shallows: None.
6. Threatened and Endangered Species: No effect.
7. Other Wildlife: Temporary, minor effects during construction.
8. Actions to Minimize Impacts: Best management construction practices will be used to minimize any disturbance.

F. Proposed Disposal Site Determinations:

1. Mixing Zone Determinations: The following factors have been considered in evaluating the placement sites.
 - a. Depth of water.
 - b. Current velocity.
 - c. Degree of turbulence.
 - d. Stratification.
 - e. Discharge vessel speed and direction.
 - f. Rate of discharge.
 - g. Dredged material characteristics.
2. Determination of Compliance with Applicable Water Quality Standards: A section 401 Water Quality Certificate will be obtained from the NJDEP prior to project construction.
3. Potential Effects on Human Use Characteristics:

- a. Municipal and Private Water Supply: No anticipated effect.
 - b. Recreational and Commercial Fisheries: Temporary, minor effect during construction.
 - c. Water Related Recreation: Temporary, minor effect during construction.
 - d. Aesthetics: Temporary, minor effect during construction.
 - e. Parks, National and Historical Monuments, National Seashore, Wilderness Areas, Research Sites, and Similar Preserves: N/A.
- G. Determination of Cumulative Effects on the Aquatic Ecosystem.
No significant adverse effects are anticipated.
- H. Determination of Secondary Effects on the Aquatic Ecosystem.
No significant secondary effects are anticipated.

III. FINDINGS OF COMPLIANCE OR NON-COMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE

- A. Adaptation of the Section 404(b)(1) Guidelines to this evaluation - No significant adaptation of the guidelines were made relative to this evaluation.
- B. Evaluation of Availability of Practicable Alternatives to the Proposed Discharge Site - The selected plan was determined to be the best alternative for protecting habitat at the placement site.
- C. Compliance With Applicable State Water Quality Standards - The selected plan is not expected to violate any applicable state water quality standards in New Jersey.
- D. Compliance With Applicable Toxic Effluent Standards or Prohibition Under Section 307 of the Clean Water Act - The proposed discharge is not anticipated to violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.
- E. Compliance With Endangered Species Act of 1973 -The selected plan will comply with the Endangered Species Act of 1973. Informal Section 7 consultation will be completed with the U.S. Fish and Wildlife Service and National Marine Fisheries Service prior to initiation of construction.
- F. Compliance With Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection, Research, and Sanctuaries Act of 1972 - No Marine Sanctuaries, as designated in the Marine Protection, Research, and Sanctuaries Act of 1972, are located within the area.
- G. Evaluation of Extent of Degradation of Waters of the United States - The proposed project will not result in significant adverse effects on human health and welfare, including municipal and private water supplies, and recreational and commercial fishing, plankton, fish and shellfish, wildlife, and special aquatic sites. The life stages of aquatic life and wildlife will not be adversely

affected. Significant adverse impacts on aquatic ecosystem diversity, productivity and stability, and recreation, aesthetics and economic values will not occur as a result of the project.

- H. Appropriate and Practicable Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem – Best management construction methods will be employed to minimize potential adverse impacts of discharging material in the aquatic ecosystem.

10.0 References

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Appendix Correspondence



GARFO ESA Section 7: 2017 NLAA Program Verification Form

(Please submit a signed version of this form, together with any project plans, maps, supporting analyses, etc., to nmfs.gar.esa.section7@noaa.gov with "2017 NLAA Program" in the subject line)

Section 1: General Project Details

Application Number:	2020-01BI		
Applicant(s):	U.S. Army Corps of Engineers		
Permit Type (e.g. NWP, LOP, RGP, IP, Permit Modification):	Section 401 CWA Water Quality Certification		
Anticipated project start date (e.g., 9/1/2017)	05/01/2020		
Anticipated project end date (e.g., 3/14/2018 – if there is no permit expiration date, write "N/A")	06/30/2020		
Project Type/Category (check all that apply to entire action):			
<input type="checkbox"/>	Aquaculture (shellfish) and artificial reef creation	<input type="checkbox"/>	Transportation and development (e.g., culvert construction, bridge repair)
<input checked="" type="checkbox"/>	Routine maintenance dredging and disposal/beach nourishment	<input type="checkbox"/>	Mitigation (fish/wildlife enhancement or restoration)
<input type="checkbox"/>	Piers, ramps, floats, and other structures	<input type="checkbox"/>	Bank stabilization and dam maintenance
<input checked="" type="checkbox"/>	If other, describe project type/category: beneficial placement (>90% sand) in the nearshore beach depth of closure		
Project/Action Description and Purpose (include town/city/state and water body where project is occurring; relevant permit conditions that aren't captured elsewhere on form):			
The WRDA Section 1122 program authorizes USACE (nation-wide) to establish a pilot program to carry out 10 projects for the beneficial use of dredged material. The projects must maximize the beneficial placement of dredged material from federal and non-federal navigation channels and ensure that the use of dredged material is consistent with all applicable environmental laws. These projects must provide storm damage reduction; promote public safety; protect, restore or create aquatic ecosystems; promote recreation; enhance shorelines; civic improvement; or other innovative uses and placement alternatives that produce public economic or environmental benefits. One of these 10 projects selected is "Beneficial Use			

GARFO ESA Section 7 consultation form submitted to NMFS.

Type of Habitat Modified (e.g., sand, cobble, silt/mud/clay):	Area (acres):
sand	41.30
Project Latitude (e.g., 42.625884)	39.763545
Project Longitude (e.g., -70.646114)	-74.101149

Section 2: ESA-listed species and/or critical habitat in the action area:

<input checked="" type="checkbox"/>	Atlantic sturgeon (all DPSs) If not all DPSs, list which here:	<input checked="" type="checkbox"/>	Kemp's ridley sea turtle
<input type="checkbox"/>	Atlantic sturgeon critical habitat (proposed or designated) Indicate which DPS (GOM, NYB, Chesapeake Bay DPSs):	<input checked="" type="checkbox"/>	Loggerhead sea turtle (NW Atlantic DPS)
<input type="checkbox"/>	Shortnose sturgeon	<input checked="" type="checkbox"/>	Leatherback sea turtle
<input type="checkbox"/>	Atlantic salmon (GOM DPS)	<input type="checkbox"/>	North Atlantic right whale
<input type="checkbox"/>	Atlantic salmon critical habitat (GOM DPS)	<input type="checkbox"/>	North Atlantic right whale critical habitat
<input checked="" type="checkbox"/>	Green sea turtle (N. Atlantic DPS)	<input type="checkbox"/>	Fin whale

Section 3: NLAA Determination (check all applicable fields):

a) GENERAL PDC	
<input checked="" type="checkbox"/>	Yes, my project meets all of the General PDC.
<input type="checkbox"/>	No, my project does not meet all the General PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):
	Information for PDC 8 (if "max extent of stressor" exceeds "width of water body", PDC 8 is NOT met, and a justification in Section 4 is required to proceed with the verification form)

	Width (m) of water body in action area:	Stressor Category (stressor that extends furthest distance into water body – e.g., turbidity plume; sound pressure wave):	Max extent (m) of stressor into the water body:
	465.00	turbidity	35.00
<input type="checkbox"/>	1.	No work will individually or cumulatively have an adverse effect on ESA-listed species or designated critical habitat; no work will cause adverse modification or destruction to proposed critical habitat.	
<input type="checkbox"/>	2.	No work will occur in the tidally influenced portion of rivers/streams where Atlantic salmon presence is possible from April 10–November 7.	
<input type="checkbox"/>	3.	No work will occur in Atlantic or shortnose sturgeon spawning grounds as follows: i. New England: April 1–Aug. 31 ii. New York/Philadelphia: March 15–August 31 iii. Baltimore/Norfolk: March 15–July 1 and Sept. 15–Nov. 1	
<input type="checkbox"/>	4.	No work will occur in shortnose sturgeon overwintering grounds as follows: i. New England District: October 15–April 30 ii. New York/Philadelphia: Nov. 1–March 15 iii. Baltimore: Nov. 1–March 15	
<input type="checkbox"/>	5.	Within designated Atlantic salmon critical habitat, no work will affect spawning and rearing areas (PBFs 1-7).	
<input type="checkbox"/>	6.	Within proposed/designated Atlantic sturgeon critical habitat, no work will affect hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0-0.5 parts per thousand) (PBF 1).	
<input type="checkbox"/>	7.	Work will not change temperature, water flow, salinity, or dissolved oxygen levels.	
<input type="checkbox"/>	8.	If it is possible for ESA-listed species to pass through the action area, a zone of passage with appropriate habitat for ESA-listed species (e.g., depth, water velocity, etc.) must be maintained (i.e., physical or biological stressors such as turbidity and sound pressure must not create barrier to passage).	
<input type="checkbox"/>	9.	Any work in designated North Atlantic right whale critical habitat must have no effect on the physical and biological features (PBFs).	
<input type="checkbox"/>	10.	The project will not adversely impact any submerged aquatic vegetation (SAV).	
<input type="checkbox"/>	11.	No blasting will occur.	

b) The following stressors are applicable to the action (check all that apply – use Stressor Category Table for guidance):	
<input type="checkbox"/>	Sound Pressure
<input type="checkbox"/>	Impingement/Entrapment/Capture
<input checked="" type="checkbox"/>	Turbidity/Water Quality
<input type="checkbox"/>	Entanglement

<input checked="" type="checkbox"/>	Habitat Modification
<input type="checkbox"/>	Vessel Traffic

Activity Category	Stressor Category					
	Sound Pressure	Impingement/ Entrapment/ Capture	Turbidity/ Water Quality	Entanglement	Habitat Mod.	Vessel Traffic
Aquaculture (shellfish) and artificial reef creation	N	N	Y	Y	Y	Y
Routine maintenance dredging and disposal/beach nourishment	N	Y	Y	N	Y	Y
Piers, ramps, floats, and other structures	Y	N	Y	Y	Y	Y
Transportation and development (e.g., culvert construction, bridge repair)	Y	N	Y	N	Y	Y
Mitigation (fish/wildlife enhancement or restoration)	N	N	Y	N	Y	Y
Bank stabilization and dam maintenance	Y	N	Y	N	Y	Y

c) SOUND PRESSURE PDC				
<input type="checkbox"/>	Yes, my project meets all of the Sound Pressure PDC below.			
<input type="checkbox"/>	No, my project does not meet all the Sound Pressure PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):			
	Information for PDC 14 (refer to SOPs for guidance):			
	Pile material (e.g., steel pipe, timber, concrete)	Pile diameter/width (inches)	Number of piles	Installation method (e.g., impact hammer, vibratory start and then impact hammer to depth)
a)				
b)				

	c)				
	d)				
<input type="checkbox"/>	12.	If the pile driving is occurring during a time of year when ESA-listed species may be present, and the anticipated noise is above the behavioral noise threshold of those species (please see SOPs), a 20 minute “soft start” is required to allow for animals to leave the project vicinity before sound pressure increases.			
<input type="checkbox"/>	13.	Any new pile supported structure must involve the installation of ≤ 50 piles (below MHW).			
<input type="checkbox"/>	14.	All underwater noise (pressure) is below (<) the physiological/injury noise threshold for ESA-listed species in the action area (if project involves steel piles, or non-steel piles > 24-inches in diameter/width, include noise estimate with this form).			
d) IMPINGEMENT/ENTRAINMENT/CAPTURE PDC					
<input checked="" type="checkbox"/>	Yes, my project meets all of the Impingement/Entrainment/Capture PDC below.				
<input type="checkbox"/>	No, my project does not meet all the Impingement/Entrainment/Capture PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):				
	Information for Dredging:				
	If dredging permit/authorization includes multiple years of maintenance, include estimated number of dredging/disposal events:		10 annual and 4 estimated post-storm emergency dredging events.		
	Information for PDC 18 (refer to SOPs for guidance):				
	Mesh screen size (mm) for temporary intake:				
<input type="checkbox"/>	15.	Only mechanical, cutterhead, and low volume hopper (e.g., CURRITUCK) dredges may be used.			
<input type="checkbox"/>	16.	No new dredging in proposed or designated Atlantic sturgeon or Atlantic salmon critical habitat (maintenance dredging still must meet all other PDCs). New dredging outside Atlantic sturgeon or salmon critical habitat is limited to one time dredge events (e.g., burying a utility line) and minor (≤ 2 acres) expansions of areas already subject to maintenance dredging (e.g., marina/harbor expansion).			
<input type="checkbox"/>	17.	Work behind cofferdams, turbidity curtains, and other methods to block access of animals to dredge footprint is required when operationally feasible and ESA-listed species may be present.			
<input type="checkbox"/>	18.	Temporary intakes related to construction must be equipped with appropriate sized mesh screening (as determined by GARFO section 7 biologist and/or according to Chapter 11 of the NOAA Fisheries Anadromous Salmonid Passage Facility Design) and must not have greater than 0.5 fps intake velocities, to prevent impingement or entrainment of any ESA-listed species life stage.			
<input type="checkbox"/>	19.	No new permanent intake structures related to cooling water, or any other inflow at facilities (e.g. water treatment plants, power plants, etc.).			
e) TURBIDITY/WATER QUALITY PDC					
<input checked="" type="checkbox"/>	Yes, my project meets all of the Turbidity/Water Quality PDC below.				

<input type="checkbox"/>	No, my project does not meet all the Turbidity/Water Quality PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):
<input type="checkbox"/>	20. Work behind cofferdams, turbidity curtains, or other methods to control turbidity are required when operationally feasible and ESA-listed species may be present.
<input type="checkbox"/>	21. In-water offshore disposal may only occur at designated disposal sites that have already been consulted on with GARFO.
<input type="checkbox"/>	22. Any temporary discharges must meet state water quality standards; no discharges of toxic substances.
<input type="checkbox"/>	23. Only repair of existing discharge pipes allowed; no new construction.
f) ENTANGLEMENT PDC	
<input type="checkbox"/>	Yes, my project meets all of the Entanglement PDC below.
<input type="checkbox"/>	No, my project does not meet all the Entanglement PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):
Information for Aquaculture Projects:	
	Type of Aquaculture (e.g., cage on bottom) Acreage
a)	
b)	
c)	
<input type="checkbox"/>	24. Shell on bottom <50 acres with maximum of 4 corner marker buoys;
<input type="checkbox"/>	25. Cage on bottom with no loose floating lines <5 acres and minimal vertical lines (1 per string of cages, 4 corner marker buoys);
<input type="checkbox"/>	26. Floating cages in <3 acres in waters and shallower than -10 feet MLLW with no loose lines and minimal vertical lines (1 per string of cages, 4 corner marker buoys);
<input type="checkbox"/>	27. Floating upweller docks in >10 feet MLLW.
<input type="checkbox"/>	28. Any in-water lines, ropes, or chains must be made of materials and installed in a manner (properly spaced) to minimize the risk of entanglement by keeping lines taut or using methods to promote rigidity (e.g., sheathed or weighted lines that do not loop or entangle).
g) HABITAT MODIFICATION PDC	
<input checked="" type="checkbox"/>	Yes, my project meets all of the Habitat Modification PDC below.
<input type="checkbox"/>	No, my project does not meet all the Habitat Modification PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):

<input type="checkbox"/>	29.	No conversion of habitat type (soft bottom to hard, or vice versa) for aquaculture or reef creation.
h) VESSEL TRAFFIC PDC		
<input checked="" type="checkbox"/>	Yes, my project meets all of the Vessel Traffic PDC below.	
<input type="checkbox"/>	No, my project does not meet all the Vessel Traffic PDC as indicated below (please check the PDC the action does NOT comply with below, and provide justification in Section 4 of this form):	
Information for PDC 33 (refer to SOPs for guidance):		
	Temporary Project Vessel Type (e.g., work barge, tug, scow, etc.)	Number of Vessels
a)	hopper dredge	1
b)		
c)		
	Type of Non-Commercial Vessels Added (e.g., 20' recreational motor boat – only include if there is a net increase directly/indirectly resulting from project)	Number of Vessels (if sum > 2, PDC 33 is not met and justification required in Section 4)
a)		
b)		
	Type of Commercial Vessels Added (only include if there is a net increase directly/indirectly resulting from project)	Number of Vessels (if > 0, PDC 33 is not met and justification required in Section 4)
a)		
b)		
<input type="checkbox"/>	30.	Speed limits below 10 knots for project vessels with buffers of 150 feet for all listed species (1,500 feet for right whales).
<input type="checkbox"/>	31.	While dredging, dredge buffers of 300 feet in the vicinity of any listed species (1,500 feet for right whales), with speeds of 4 knots maximum.
<input type="checkbox"/>	32.	The number of project vessels must be limited to the greatest extent possible, as appropriate to size and scale of project.
<input type="checkbox"/>	33.	The permanent net increase in vessels resulting from a project (e.g., dock/float/pier/boating facility) must not exceed two non-commercial vessels. A project must not result in the permanent net increase of any commercial vessels (e.g., a ferry terminal).

Section 4: Justification for Review under the 2017 NLAA Program

If the action is not in compliance with all of the General PDC and appropriate stressor PDC, but you can provide justification and/or special conditions to demonstrate why the project still meets the NLAA determination and is consistent with the aggregate effects considered in the programmatic consultation, you may still certify your project through the NLAA program using

this verification form. Please identify which PDC your project does not meet (e.g., PDC 9, PDC 15, PDC 22, etc.) and provide your rationale and justification for why the project is still eligible for the verification form.

To demonstrate that the project is still NLAA, you must explain why the effects on ESA-listed species or critical habitat are **insignificant** (i.e., too small to be meaningfully measured or detected) or **discountable** (i.e., extremely unlikely to occur). Please use this language in your justification.

PDC#	Justification

Section 5: USACE Verification of Determination

<input checked="" type="checkbox"/>	In accordance with the 2017 NLAA Programmatic Consultation, the Corps has determined that the action complies with all applicable PDC and is not likely to adversely affect listed species.
<input type="checkbox"/>	In accordance with the 2017 NLAA Programmatic Consultation, the Corps has determined that the action is not likely to adversely affect listed species per the justification and/or special conditions provided in Section 4.
USACE Signature: _____ Date: _____	
CONLIN.BARBARA.E.1229064718	Digitally signed by CONLIN.BARBARA.E.1229064718 Date: 2020.03.05 15:17:31 -05'00'
	03/05/2020

Section 6: GARFO Concurrence

<input checked="" type="checkbox"/>	In accordance with the 2017 NLAA Program, GARFO PRD concurs with USACE's determination that the action complies with all applicable PDC and is not likely to adversely affect listed species or critical habitat.
<input type="checkbox"/>	In accordance with the 2017 NLAA Program, GARFO PRD concurs with USACE's determination that the action is not likely to adversely affect listed species or critical habitat per the justification and/or special conditions provided in Section 4.
<input type="checkbox"/>	GARFO PRD does not concur with USACE's determination that the action complies with the applicable PDC (with or without justification), and recommends an individual Section 7 consultation to be completed independent from the 2017 NLAA Program.
GARFO Signature: _____ Date: _____	
JOHNSEN.PETER.BERULF.1376615851	Digitally signed by JOHNSEN.PETER.BERULF.1376615851 Date: 2020.03.05 17:04:46 -05'00'
	03/05/2020

-----Original Message-----

From: Conlin, Barbara E CIV USARMY CENAP (USA)

Sent: Tuesday, February 25, 2020 9:21 AM

To: Keith Hanson - NOAA Federal <keith.hanson@noaa.gov>

Subject: Barnegat Inlet O&M dredging and beneficial use

Hello Keith,

I'm attaching an EFH Worksheet (the newest version) for the Barnegat Inlet O&M Dredging Beneficial Use under the WRDA Section 1122 Program and some figures.

Just to recap what Monica explained to me (background info on this new Section 1122 program): It authorizes USACE (nation-wide) to establish a pilot program to carry out 10 projects for the beneficial use of dredged material. The projects must maximize the beneficial placement of dredged material from federal and non-federal navigation channels and ensure that the use of dredged material is consistent with all applicable environmental laws.

The 10 selected pilot projects must meet a requirement such as providing storm damage reduction; promoting public safety; protecting, restoring and creating aquatic ecosystems; promoting recreation; enhancing shorelines; civic improvement; or other innovative uses and placement alternatives that produce public economic or environmental benefits.

The Headquarters evaluation board made a preliminary recommendation for 10 projects and provided that list and supporting documentation to the Assistant Secretary of the Army for Civil Works for a decision. One of the 10 pilot projects selected is this one (the only one in the Philadelphia District: "Beneficial Use Placement Opportunities in the State of New Jersey using Navigation Channel Sediments" in the Barnegat Inlet region. There is likely to be another beneficial use placement as part of this program (but not part of the current EFH assessment).

Regarding the attached EFH Worksheet: some of the boxes (starting on page 6) don't allow for text wraparound so the first sentence runs off the page. So instead I put my responses to those boxes on an extra sheet (also attached). I was wondering if others have this problem? Both Rachel and I had this problem (her Sturgeon Island Worksheet). I even went back to the NMFS EFH webpage for Mid Atlantic and downloaded another blank copy of the worksheet and it did the same thing for those three text boxes.

Since O&M dredging of authorized nav channels occurs annually, I'm hoping that this EFH Assessment/consultation can be applicable to multiple years of O&M dredging. For two projects in Delaware (Roosevelt Inlet and Mispillion Inlet, DNREC agreed to permit a 10-year period. Is that acceptable to you for EFH consultations, with the caveat that should the project change (new placement site e.g., or new federally-managed species be identified) the EFH consultation would be redone.

If you have any questions, let me know.

Barb Conlin
Environmental Resources Branch
US Army Corps of Engineers
Philadelphia District

EFH ASSESSMENT WORKSHEET

General Project Information

Date Submitted:

Project/Application Number:

Project Name: **Beneficial Use Placement Barnegat Inlet Maintenance Dredging**

Project Sponsor/Applicant: **US Army Corps of Engineers**

Federal Action Agency (if state agency acting as delegated):

Fast-41 or One Federal Decision Project: Yes No

Action Agency Contact Name: **Barbara E. Conlin**

Contact Phone: **215-656-6557** Contact Email: **Barbara.E.Conlin@usace.army.mil**

Latitude: **39.46°0"N** Longitude: **75.56°18"W**

Address, City/Town, State:

Barnegat Inlet to Harvey Cedars, Long Beach Island, New Jersey

Body of Water: **Barnegat Inlet and Atlantic Ocean**

Project Purpose:

USACE, in collaboration with the State of New Jersey, intends to use navigation channel dredged material from Barnegat Inlet beneficially to supplement the beach.

Project Description:

The purpose of this pilot project is to maintain authorized depths of the Barnegat Inlet federal navigation channel while beneficially using the dredged sand to provide nourishment to an authorized shore protection project. The effort will be monitored in support of future beneficial use projects utilizing clean sand. This proposed effort is similar to beneficial use projects that have been implemented at Cape May, NJ and Lewes, DE. This pilot project is expected to improve coastal system resilience along areas of accelerated erosion along Long Beach Island and provide important monitoring information on the efficacy of the beneficial use of high quality dredged material for habitat enhancement and/or storm risk reduction. The project is one of 10 nationwide that was selected under Section 1122 of WRDA 2016 and titled: "Beneficial Use Placement Opportunities in the State of New Jersey using Navigation Channel Sediments."

Anticipated Duration of In-Water Work or Start/End Dates:

May-June 2020 or August-September 2020, then annually thereafter.

Habitat Description

EFH includes the biological, chemical, and physical components of the habitat. This includes the substrate and associated biological resources (e.g., benthic organisms, submerged aquatic vegetation, shellfish beds, salt marsh wetlands), the water column, and prey species.

Is the project in designated EFH?² Yes No

Is the project in designated HAPC²? Yes No

Is this coordination under FWCA only? Yes No

Total area of impact to EFH (indicate sq ft or acres): 0.3 mil sq ft dredging; 1.5 mil sq ft placed

Total area of impact to HAPC (indicate sq ft or acres): 0

Current water depths: 10-15 ft Salinity: 30-32 ppt Water temperature range: 45-79 F

Sediment characteristics³: large grained sand

What habitat types are in or adjacent to the project area and will they be permanently impacted?
 Select all that apply. Indicate if impacts will be temporary, if site will be restored, or if permanent conversion of habitat will occur. A project may occur in overlapping habitat types.

	Habitat Type	Total impact (sq ft/ acres)	Impacts are temporary	Restored to pre-existing conditions	Permanent conversion of all or part of habitat
<input checked="" type="checkbox"/>	Marine	1.8 mil	yes		no
<input type="checkbox"/>	Estuarine				
<input type="checkbox"/>	Riverine (tidal)				
<input type="checkbox"/>	Riverine (non-tidal)				
<input type="checkbox"/>	Intertidal				
<input checked="" type="checkbox"/>	Subtidal	1.8 mil	yes		no
<input checked="" type="checkbox"/>	Water column	1.8 mil	yes		no
<input type="checkbox"/>	Salt marsh/ Wetland (tidal)				
<input type="checkbox"/>	Wetland (non-tidal)				

² Use the tables on pages 7-9 to list species with designated EFH or the type of designated HAPC present.

³ The level of detail is dependent on your project – e.g., a grain size analysis may be necessary for dredging.

	Habitat Type	Total impact (sq ft/ acres)	Impacts are temporary	Restored to pre-existing conditions	Permanent conversion of all or part of habitat
<input type="checkbox"/>	Rocky/hard bottom ⁴ :				
<input checked="" type="checkbox"/>	Sand	1.8 mil	yes		no
<input type="checkbox"/>	Shellfish beds or oyster reefs				
<input type="checkbox"/>	Mudflats				
<input type="checkbox"/>	Submerged aquatic vegetation (SAV) ⁵ , macroalgae, epifauna				
<input type="checkbox"/>	Diadromous fish (migratory or spawning habitat)				

Indicate type(s) of rocky/hard bottom habitat (pebble, cobble, boulder, bedrock outcrop/ledge) and species of SAV:

N/A

Project Effects

Select all that apply	Project Type/Category
<input type="checkbox"/>	Hatchery or Aquaculture
<input type="checkbox"/>	Agriculture
<input type="checkbox"/>	Forestry
<input type="checkbox"/>	Military (e.g., acoustic testing, training exercises)
<input checked="" type="checkbox"/>	Mining (e.g., sand, gravel)
<input checked="" type="checkbox"/>	Restoration or fish/wildlife enhancement (e.g., fish passage, wetlands, beach renourishment, mitigation bank/ILF creation)

⁴ Indicate type(s). The type(s) of rocky habitat will help you determine if the area is cod HAPC.

⁵ Indicate species. Provide a copy of the SAV report and survey conducted at the site, if applicable.

Select all that apply	Project Type/Category
<input type="checkbox"/>	Infrastructure/transportation (e.g., culvert construction, bridge repair, highway, port)
<input type="checkbox"/>	Energy development/use
<input type="checkbox"/>	Water quality (e.g., TMDL, wastewater, sediment remediation)
<input checked="" type="checkbox"/>	Dredging/excavation and disposal
<input type="checkbox"/>	Piers, ramps, floats, and other structures
<input type="checkbox"/>	Bank/shoreline stabilization (e.g., living shoreline, groin, breakwater, bulkhead)
<input type="checkbox"/>	Survey (e.g., geotechnical, geophysical, habitat, fisheries)
<input type="checkbox"/>	Other

Select all that apply	Potential Stressors Caused by the Activity	Select all that apply and if temporary or permanent		Habitat alterations caused by the activity
		Temp	Perm	
<input checked="" type="checkbox"/>	Underwater noise			
<input checked="" type="checkbox"/>	Water quality/turbidity/contaminant release	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Water depth change
<input type="checkbox"/>	Vessel traffic/barge grounding	<input type="checkbox"/>	<input type="checkbox"/>	Tidal flow change
<input checked="" type="checkbox"/>	Impingement/entrainment ⁶	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fill
<input type="checkbox"/>	Prevent fish passage/spawning	<input type="checkbox"/>	<input type="checkbox"/>	Habitat type conversion
<input checked="" type="checkbox"/>	Benthic community disturbance	<input type="checkbox"/>	<input type="checkbox"/>	Other:
<input checked="" type="checkbox"/>	Impacts to prey species	<input type="checkbox"/>	<input type="checkbox"/>	Other:

⁶ Entrainment is the voluntary or involuntary movement of aquatic organisms from a water body into a surface diversion or through, under, or around screens and results in the loss of the organisms from the population. Impingement is the involuntary contact and entrapment of aquatic organisms on the surface of intake screens caused when the approach velocity exceeds the swimming capability of the organism.

Details: project impacts and mitigation

The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. Attach supplemental information if necessary.

Describe how the project would impact each of the habitat types selected above. Include temporary and permanent impact descriptions and direct and indirect impacts.

The proposed action involves two USACE authorized projects: the Barnegat Inlet navigation channel and the Barnegat Inlet to Little Egg Inlet Storm Damage Reduction Project. The initial project intends to bring the navigation channel back to authorized depths. An impact evaluation on the effects on natural resources due to noise, turbidity, impingement/entrainment, and on benthic communities and prey species is presented as an attachment.

What specific measures will be used to avoid impacts, including project design, turbidity controls, acoustic controls, and time of year restrictions? If impacts cannot be avoided, why not?

Response is provided in attachment due to this entry box not being set to wrap around.

What specific measures will be used to minimize impacts?

Response is provided in attachment due to this entry box not being set to wrap around.

Is compensatory mitigation proposed? Yes No

If no, why not? If yes, describe plans for mitigation and how this will offset impacts to EFH. Include a conceptual compensatory mitigation and monitoring plan, if applicable.

Response is provided in attachment due to this entry box not being set to wrap around.

Federal Action Agency's EFH determination (select one)	
<input type="checkbox"/>	There is no adverse effect ⁷ on EFH or EFH is not designated at the project site. EFH Consultation is not required. This is a FWCA-only request.
<input checked="" type="checkbox"/>	The adverse effect ⁷ on EFH is not substantial. This means that the adverse effects are no more than minimal, temporary, or can be alleviated with minor project modifications or conservation recommendations. This is a request for an abbreviated EFH consultation.
<input type="checkbox"/>	The adverse effect ⁷ on EFH is substantial. This is a request for an expanded EFH consultation. We will provide more detailed information, including an alternatives analysis and NEPA document, if applicable.

EFH and HAPC designations⁸

Use the [EFH mapper](#) to determine if EFH may be present in the project area and enter all species and lifestages that have designated EFH. Optionally, you may review the EFH text descriptions linked to each species in the EFH mapper and use them to determine if the described habitat is present. We recommend this for larger projects to help you determine what your impacts are.

Species	EFH is designated/mapped for:				Habitat present based on text description (optional)
	EFH: eggs	EFH: larvae	EFH: juvenile	EFH: adults/spawning adults	
winter flounder	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
little skate	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ocean pout	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Atlantic herring	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

⁷ An **adverse effect** is any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

⁸ Within the Greater Atlantic Region, EFH has been designated by the New England, Mid-Atlantic, and South Atlantic Fisheries Management Councils and NOAA Fisheries.

Species	EFH is designated/mapped for:				Habitat present based on text description (optional)
	EFH: eggs	EFH: larvae	EFH: juvenile	EFH: adults/spawning adults	
red hake	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
silver hake	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
yellowtail flounder	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
monkfish	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
windowpane flounder	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
winter skate	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
cleannose skate	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
white hake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
pollack	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
bluefin tuna	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
common thresher shark*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
dusky shark*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sandbar shark*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
skipjack tuna	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
tiger shark	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
white shark*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
smoothhound shark*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
sand tiger shark*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
longfin inshore squid	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Atlantic mackerel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
bluefish	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Atlantic butterfish	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

HAPCs

Select all that are in your action area.

<input type="checkbox"/>	Summer flounder: SAV ⁹	<input type="checkbox"/>	Alvin & Atlantis Canyons
<input type="checkbox"/>	Sandbar shark	<input type="checkbox"/>	Baltimore Canyon
<input type="checkbox"/>	Sand Tiger Shark (Delaware Bay)	<input type="checkbox"/>	Bear Seamount
<input type="checkbox"/>	Sand Tiger Shark (Plymouth-Duxbury-Kingston Bay)	<input type="checkbox"/>	Heezen Canyon
<input type="checkbox"/>	Inshore 20m Juvenile Cod	<input type="checkbox"/>	Hudson Canyon
<input type="checkbox"/>	Great South Channel Juvenile Cod	<input type="checkbox"/>	Hydrographer Canyon
<input type="checkbox"/>	Northern Edge Juvenile Cod	<input type="checkbox"/>	Jeffreys & Stellwagen
<input type="checkbox"/>	Lydonia Canyon	<input type="checkbox"/>	Lydonia, Gilbert & Oceanographer Canyons
<input type="checkbox"/>	Norfolk Canyon (Mid-Atlantic)	<input type="checkbox"/>	Norfolk Canyon (New England)
<input type="checkbox"/>	Oceanographer Canyon	<input type="checkbox"/>	Retriever Seamount
<input type="checkbox"/>	Veatch Canyon (Mid-Atlantic)	<input type="checkbox"/>	Toms, Middle Toms & Hendrickson Canyons
<input type="checkbox"/>	Veatch Canyon (New England)	<input type="checkbox"/>	Washington Canyon
<input type="checkbox"/>	Cashes Ledge	<input type="checkbox"/>	Wilmington Canyon

⁹ Summer flounder HAPC is defined as all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, within adult and juvenile summer flounder EFH. In locations where native species have been eliminated from an area, then exotic species are included. Use local information to determine the locations of HAPC.

More information

The [Magnuson-Stevens Fishery Conservation and Management Act \(MSA\)](#) mandates that federal agencies conduct an [essential fish habitat \(EFH\) consultation](#) with NOAA Fisheries on any actions they authorize, fund, or undertake that may adversely affect EFH. An **adverse effect** is any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

We designed this worksheet to help you to prepare EFH assessments. It is important to remember that an adverse effect determination is a trigger to consult with us. It does not mean that a project cannot proceed as proposed, or that project modifications are necessary. It means that the effects of the proposed action on EFH must be evaluated to determine if there are ways to avoid, minimize, or offset adverse effects.

This worksheet should be used as your EFH assessment or as a guide to develop your EFH assessment. At a minimum, you should include all the information required to complete this worksheet in your EFH assessment. The level of detail that you provide should be commensurate with the magnitude of impacts associated with the proposed project. If your answers in the worksheet and supplemental information you attach do not fully evaluate the adverse effects to EFH, we may request additional information to complete the consultation.

You may need to prepare an expanded EFH assessment for more complex projects to fully characterize the effects of the project and the avoidance and minimization of impacts to EFH. While the EFH assessment worksheet may be used for larger projects, the format may not be sufficient to incorporate the extent of detail required, and a separate EFH assessment may be developed. However, regardless of format, you should include an analysis as outlined in this worksheet for an expanded EFH assessment, along with any additional necessary information. This additional information includes:

- the results of on-site inspections to evaluate the habitat and site-specific effects.
- the views of recognized experts on the habitat or the species that may be affected.
- a review of pertinent literature and related information.
- an analysis of alternatives that could avoid or minimize the adverse effects on EFH.

Please contact our Greater Atlantic Regional Fisheries Office, [Protected Resources Division](#) regarding potential impacts to marine mammals or threatened and endangered species.

Useful Links

[National Wetland Inventory Maps](https://www.fws.gov/wetlands/)

<https://www.fws.gov/wetlands/>

[EPA's National Estuary Program \(NEP\)](https://www.epa.gov/nep/)

<https://www.epa.gov/nep/local-estuary-programs>

[Northeast Regional Ocean Council \(NROC\) Data Portal](https://www.northeastocean.org/)

<https://www.northeastocean.org/>

Mid-Atlantic Regional Council on the Ocean (MARCO) Data Portal

<http://portal.midatlanticocean.org/>

Resources by State

Maine

[Maine Office of GIS Data Catalog](https://geolibrary-maine.opendata.arcgis.com/datasets#data)

<https://geolibrary-maine.opendata.arcgis.com/datasets#data>

[Town shellfish information including shellfish conservation area maps](https://www.maine.gov/dmr/shellfish-sanitation-management/programs/municipal/ordinances/towninfo.html)

[https://www.maine.gov/dmr/shellfish-sanitation-](https://www.maine.gov/dmr/shellfish-sanitation-management/programs/municipal/ordinances/towninfo.html)
[management/programs/municipal/ordinances/towninfo.html](https://www.maine.gov/dmr/shellfish-sanitation-management/programs/municipal/ordinances/towninfo.html)

[State of Maine Shellfish Sanitation and Management](https://www.maine.gov/dmr/shellfish-sanitation-management/index.html)

<https://www.maine.gov/dmr/shellfish-sanitation-management/index.html>

[Eelgrass maps](https://www.maine.gov/dmr/science-research/species/eelgrass/index.html)

<https://www.maine.gov/dmr/science-research/species/eelgrass/index.html>

[Casco Bay Estuary Partnership](https://www.cascobayestuary.org/)

<https://www.cascobayestuary.org/>

[Maine GIS Stream Habitat Viewer](https://www.arcgis.com/home/item.html?id=5869c2d20f0b4c3a9742bdd8abef42cb)

<https://www.arcgis.com/home/item.html?id=5869c2d20f0b4c3a9742bdd8abef42cb>

New Hampshire

[NH's Statewide GIS Clearinghouse, NH GRANIT](http://www.granit.unh.edu/)

<http://www.granit.unh.edu/>

[NH Coastal Viewer](http://www.granit.unh.edu/nhcoastalviewer/)

<http://www.granit.unh.edu/nhcoastalviewer/>

[State of NH Shellfish Program](https://www.des.nh.gov/organization/divisions/water/wmb/shellfish/)

<https://www.des.nh.gov/organization/divisions/water/wmb/shellfish/>

Massachusetts

[MA Shellfish Sanitation and Management Program](https://www.mass.gov/shellfish-sanitation-and-management)

<https://www.mass.gov/shellfish-sanitation-and-management>

[MassGIS Data, Including Eelgrass Maps](http://maps.massgis.state.ma.us/map_ol/oliver.php)

http://maps.massgis.state.ma.us/map_ol/oliver.php

[MA DMF Recommended TOY Restrictions Document](https://www.mass.gov/files/documents/2016/08/ry/tr-47.pdf)

<https://www.mass.gov/files/documents/2016/08/ry/tr-47.pdf>

[Massachusetts Bays National Estuary Program](https://www.mass.gov/orgs/massachusetts-bays-national-estuary-program)

<https://www.mass.gov/orgs/massachusetts-bays-national-estuary-program>

[Buzzards Bay National Estuary Program](http://buzzardsbay.org/)

<http://buzzardsbay.org/>

[Massachusetts Division of Marine Fisheries](http://www.mass.gov/dmef/marine-fisheries)

<https://www.mass.gov/orgs/division-of-marine-fisheries>
[Massachusetts Office of Coastal Zone Management](#)
<https://www.mass.gov/orgs/massachusetts-office-of-coastal-zone-management>

Rhode Island

[RI Shellfish and Aquaculture](#)
<http://www.dem.ri.gov/programs/fish-wildlife/marine-fisheries/shellfish-aquaculture.php>
[RI Shellfish Management Plan](#)
<http://www.shellfishri.com/>
Eelgrass Maps
<http://edc.maps.arcgis.com/apps/View/index.html?appid=db52bb689c1e44259c06e11fd24895f8>
[RI GIS Data](#)
<http://ridemgis.maps.arcgis.com/apps/webappviewer/index.html?id=87e104c8adb449eb9f905e5f18020de5>
[Narragansett Bay Estuary Program](#)
<http://nbep.org/>
[Rhode Island Division of Marine Fisheries](#)
<http://www.dem.ri.gov/programs/fish-wildlife/marine-fisheries/index.php>
[Rhode Island Coastal Resources Management Council](#)
<http://www.crmc.ri.gov/>

Connecticut

[CT Bureau of Aquaculture](#)
<https://www.ct.gov/doag/cwp/view.asp?a=3768&q=451508&doagNav=>
[CT GIS Resources](#)
https://www.ct.gov/deep/cwp/view.asp?a=2698&q=323342&deepNav_GID=1707
[Natural Shellfish Beds in CT](#)
<https://cteco.uconn.edu/viewer/index.html?viewer=aquaculture>
[Eelgrass Maps](#)
https://www.fws.gov/northeast/ecologicalservices/pdf/wetlands/2012_CT_Eelgrass_Final_Report_11_26_2013.pdf
[Long Island Sound Study](#)
<http://longislandsoundstudy.net/>
[CT GIS Resources](#)
<http://cteco.maps.arcgis.com/home/index.html>
[CT DEEP Office of Long Island Sound Programs and Fisheries](#)
<https://www.ct.gov/deep/site/default.asp>
[CT River Watershed Council](#)
<https://www.ctriver.org/>

New York

[Eelgrass Report](#)
http://www.dec.ny.gov/docs/fish_marine_pdf/finalseagrassreport.pdf
[Peconic Estuary Program](#)
<https://www.peconicestuary.org/>
[NY/NJ Harbor Estuary](#)
<https://www.hudsonriver.org/estuary-program>

[New York GIS Clearinghouse](#)

<https://gis.ny.gov/>

[New Jersey](#)

[Submerged Aquatic Vegetation Mapping](#)

<http://www.crssa.rutgers.edu/projects/sav/>

[Barnegat Bay Partnership](#)

<https://www.barnegatbaypartnership.org/>

[NJ GeoWeb](#)

<https://www.nj.gov/dep/gis/geowebsplash.htm>

[NJ DEP Shellfish Maps](#)

<https://www.nj.gov/dep/landuse/shellfish.html>

[Pennsylvania](#)

[Delaware River Management Plan](#)

https://www.fishandboat.com/Fish/Fisheries/DelawareRiver/Documents/delaware_river_plan_exec_draft.pdf

[PA DEP Coastal Resources Management Program](#)

<https://www.dep.pa.gov/Business/Water/Compacts%20and%20Commissions/Coastal%20Resources%20Management%20Program/Pages/default.aspx>

[PA DEP GIS Mapping Tools](#)

<https://www.dep.pa.gov/DataandTools/Pages/GIS.aspx>

[Delaware](#)

[Partnership for the Delaware Estuary](#)

<http://www.delawareestuary.org/>

[Center for Delaware Inland Bays](#)

<http://www.inlandbays.org/>

[Delaware FirstMap](#)

<http://delaware.maps.arcgis.com/home/index.html>

[Maryland](#)

[Submerged Aquatic Vegetation Mapping](#)

<http://web.vims.edu/bio/sav/>

[MERLIN](#)

<http://dnrweb.dnr.state.md.us/MERLIN/>

[Maryland Coastal Bays Program](#)

<https://mdcoastalbays.org/>

[Virginia](#)

[Submerged Aquatic Vegetation mapping](#)

http://www.mrc.virginia.gov/regulations/Guidance_for_SAV_beds_and_restoration_final_approved_by_Commission_7-22-17.pdf

[VDGIF Time of Year Restrictions \(TOYR\) and Other Guidance](#)

<https://www.dgif.virginia.gov/wp-content/uploads/VDGIF-Time-of-Year-Restrictions-Table.pdf>



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

March 23, 2020

Peter Blum, Chief
Planning Division
Philadelphia District
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

RE: Barnegat Inlet Maintenance Dredging and Beneficial Use/Placement Project; under
Section 1122 of the Water Resources Development Act of 2016

Dear Mr. Blum:

We have reviewed the information provided in your email, essential fish habitat (EFH) assessment (worksheet), and the attached documents dated February 25, 2020, for the proposed Barnegat Inlet Dredging and Beneficial Use/Placement project in Ocean County, New Jersey. The U.S. Army Corps of Engineers, Philadelphia District (District), is proposing to dredge the Barnegat Inlet federal navigation channel within and beyond the existing jetties between Long Beach Island (LBI) and Sedge Island in Harvey Cedars, New Jersey for a period of ten years. The District is also proposing to beneficially place the material in the nearshore zone in the Atlantic Ocean offshore of Harvey Cedars. Barnegat Inlet is an authorized navigation channel that has been maintained by the District since 1940. The channel is 300 feet wide by 8 feet deep, measured at mean low water (MLW). The channel shoals significantly, approximately 100,000 cubic yards (cy)/year, and is typically dredged twice annually. The District also maintains a storm risk reduction (beach fill) project extending 18 miles along LBI. The area fronting the community of Harvey Cedars has been identified as an erosion "hotspot," by the District.

One large, extended dredging event is proposed for the summer/fall of 2020, with additional, smaller events taking place once per year (on average) for the following nine years. The District proposes to initially dredge approximately 200,000 cy of material to return the channel back to its authorized depth. This initial event is expected to reduce the frequency of future maintenance dredging to once/year and significantly reduce the quantity to approximately 50,000 cy/year. Dredging will be conducted using a split-hull hopper dredge and the material will be placed in the nearshore zone within the depth of closure of the beach fill project to provide a supplemental sand source to the eroded area. Recent grain size analyses indicate the material to be dredged is coarse grained sand. The dredged material will be placed in an area approximately 5,000 feet from the shore of Long Beach Island. The initial operation is expected to take 45-60 days, which



the District is proposing to undertake during the May - June or August – September time frame, depending on availability of the dredge. Dredging will be performed by the U.S. Army Corps of Engineers-owned shallow-draft, split-hull hopper dredge *Currituck*. Another shallow-draft, split-hull hopper dredge *Murden*, is also capable for conducting the work, and has been used on similar projects.

The District has determined the adverse effect on essential fish habitat (EFH) or federally managed fisheries is not substantial, and effects can be alleviated with minor project modifications or EFH conservation recommendations. We agree with this determination and outline the EFH conservation recommendations are listed below. Should the project schedule or other project elements change, re-initiation of consultation and a reevaluation of the potential impacts to NOAA-trust resources will be necessary. The Fish and Wildlife Coordination Act (FWCA) and the Magnuson-Stevens Fishery Conservation and Management Act (MSA) require you to consult with us on projects such as this that may affect EFH and other aquatic resources. As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, we provide the following comments and recommendations pursuant to the authorities of the MSA and FWCA.

Fish and Wildlife Coordination Act (FWCA)

The Fish and Wildlife Coordination Act (FWCA), as amended in 1964, requires that all federal agencies consult with us when proposed actions might result in modifications to a natural stream or body of water. The FWCA also requires that federal agencies consider effects that these projects would have on fish and wildlife and must also provide for improvement of these resources. Under this authority, we work to protect, conserve and enhance species and habitats for a wide range of aquatic resources such as shellfish, diadromous species, and other commercially and recreationally important species.

The Barnegat Inlet provides access to the Barnegat Bay-Little Egg Harbor estuary complex for many aquatic species including both state and federally managed species and their forage, including bluefish (*Pomatomus saltatrix*), summer flounder (*Paralichthys dentatus*), scup (*Stenotomus chrysops*), black sea bass (*Centropristis striata*), Atlantic butterfish (*Peprilus triacanthus*), winter flounder (*Pseudopleuronectes americanus*), windowpane flounder (*Scophthalmus aquosus*), weakfish (*Cynoscion regalis*), striped bass (*Morone saxatilis*), tautog (*Tautoga onitis*), spot (*Leiostomus xanthurus*), alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), Atlantic croaker (*Micropogonias undulatus*), blue crab (*Callinectes sapidus*), Atlantic menhaden (*Brevoortia tyrannus*), killifish (*Fundulus spp.*), Atlantic silversides (*Menidia menidia*), bay anchovies (*Anchoa mitchilli*) and other assorted baitfishes and shrimps (e.g., *Neomysis americana*, *Mysidopsis bigelovi*). The Barnegat Inlet supports strong recreational fishing from April to November for numerous species, including bluefish, striped bass and weakfish.

Anadromous species such as alewife, blueback herring, and striped bass transit the inlet to reach spawning and nursery habitat in numerous streams and rivers, including Westcunk Creek, Cedar Creek, Kettle Creek, Polhemus Creek, Toms River and its tributaries including Mill Creek, Jakes Branch, and others, as well as the tributaries to Little Egg Harbor Bay such as Tuckerton Creek.

The New Jersey Department of Environmental Protection's (NJDEP) Bureau of Freshwater Fisheries has confirmed spawning runs of alewife and blueback herring, collectively known as river herring, in these waterways (NJDEP 2005). Alewife and blueback herring have complex lifecycles where individuals spend most of their lives at sea then migrate great distances to return to freshwater rivers to spawn during the late winter and spring. Alewife and blueback herring are also believed to be repeat spawners, generally returning to their natal rivers to spawn (Collette and Klein-MacPhee 2002).

In the Mid-Atlantic, landings of alewife and blueback herring, collectively known as river herring, have declined dramatically since the mid-1960s and have remained very low in recent years (ASMFC 2017). The 2012 river herring benchmark stock assessment found that of the 52 stocks of alewife and blueback herring assessed, 23 were depleted relative to historic levels, one was increasing, and the status of 28 stocks could not be determined because the time-series of available data was too short (ASMFC 2012). The 2017 stock assessment update indicates that river herring remain depleted at near historic lows on a coast wide basis. Total mortality estimates over the final three years of the data time series (2013-2015) are generally high and exceed region-specific reference points for some rivers (ASMFC 2017). The "depleted" determination was used in 2012 and 2017 instead of "overfished" to indicate factors besides fishing have contributed to the decline, including habitat loss, habitat degradation and modification (including decreased water quality), and climate change (ASMFC 2017). Because landing statistics and the number of fish observed on annual spawning runs indicate a drastic decline in alewife and blueback herring populations throughout much of their range since the mid-1960s, river herring have been designated as Species of Concern by NOAA. Species of Concern are those about which we have concerns regarding their status and threats, but for which insufficient information is available to indicate a need to list the species under the Endangered Species Act (ESA). We wish to draw proactive attention to these species.

A significant contributing factor to the dramatic declines in river herring populations is decreases in water quality, channelization, dredging, and in-water construction (ASMFC 2010; ASMFC 2017). Anthropogenic-induced elevated levels of turbidity and sedimentation, above background (e.g., natural) levels, can lead to various adverse impacts on diadromous fish and their habitats. Increases in turbidity due to the resuspension of sediments into the water column during activities such as dredging can degrade water quality, lower dissolved oxygen levels, and potentially release chemical contaminants bound to the fine-grained sediments (Johnsen et al. 2008). Suspended sediment can also mask pheromones used by migratory fishes to reach their spawning grounds and impede their migration and can smother immobile benthic organisms and demersal newly-settle juvenile fish (Auld and Schubel 1978; Breitburg 1988; Newcombe and MacDonald 1991; Burton 1993; Nelson and Wheeler 1997). Additionally, other effects from suspended sediments may include (a) lethal and non-lethal damage to body tissues, (b) physiological effects including changes in stress hormones or respiration, or (c) changes in behavior (Kjelland et al. 2015). Furthermore, dredging can result in the impingement and entrapment of eggs, larvae and free swimming diadromous fish, which can lead to injury and mortality (Thrush and Dayton 2002).

Noise from the construction activities may also result in adverse effects to various fish species. Our concerns about noise effects come from an increased awareness that high-intensity sounds

have the potential to adversely impact aquatic vertebrates (Fletcher and Busnel 1978; Kryter 1984; Popper 2003; Popper et al. 2004). Effects may include (a) lethal and non-lethal damage to body tissues, (b) physiological effects including changes in stress hormones, hearing capabilities, or sensing and navigation abilities, or (c) changes in behavior (Popper et al. 2004).

Understanding how the inlet environment and the geomorphic features (e.g., shoreline, nearshore wetlands, and shoals) associated with it function to provide habitat is the product of complex interactions between biological processes and physical factors. There is potential for physical, biological, and chemical impacts from dredging habitat in the Barnegat Inlet. Potential impacts caused by dredging include physical removal of benthic faunal communities and disturbance of foraging, nursery, and migratory habitat for fish and invertebrates. Dredging can also affect benthic communities by altering sediment transport characteristics, sediment texture, depth and vertical relief, and overall community structure. Systematic disturbances such as repeated dredging may result in cumulative and chronic changes in habitat quantity and quality. Therefore, initial dredging should be limited to the minimum amount necessary to complete the project purpose and maintenance dredging should be limited to the minimum amount necessary to maintain operations. Additionally, in order to minimize the adverse impacts to anadromous fishes including alewife, blueback herring and striped bass, as well as federally managed species, their prey, and other aquatic resources under our purview, dredging and other in-water activities should be avoided from March 1 to June 1 of any given year.

Magnuson Stevens Fishery Conservation and Management Act (MSA)

The Barnegat Inlet, Barnegat Bay, Atlantic Ocean, and the surrounding coastal bays, creeks, marshes, submerged aquatic vegetation, shellfish, and mudflats have been designated EFH for various life stages of species managed by the New England Fishery Management Council (NEFMC), Mid-Atlantic Fishery Management Council (MAFMC), South Atlantic Fishery Management Council (SAFMC), and NOAA Fisheries. These areas provide feeding, spawning, resting, nursery, and staging habitat for a variety of commercially, recreationally, and ecologically important species. Species for which EFH has been designated in the project area include, but are not limited to, Atlantic butterfish, bluefish, black sea bass, scup, summer flounder, windowpane flounder, winter flounder, clearnose skate (*Raja eglanteria*), little skate (*Leucoraja erinacea*), and winter skate (*Leucoraja ocellata*). These areas are also designated EFH for several Atlantic highly migratory species (tuna, swordfish, billfish, small and large coastal sharks, and pelagic sharks) including, but not limited to, sandbar shark (*Carcharhinus plumbeus*) and sand tiger shark (*Carcharias taurus*). The sand tiger shark has been listed as a Species of Concern by NOAA. The project area is also designated as EFH for Spanish mackerel (*Scomberomorus maculatus*) and king mackerel (*Scomberomorus cavalla*).

The dredging of sand from the highly dynamic Barnegat Inlet has the potential to impact aquatic resources, including species and their habitats, in a variety of ways. As discussed above, dredging can damage fishery resources and their habitats through direct impingement of eggs and larvae, through the creation of elevated suspended sediment levels in the water column, and through deposition of sediments on immobile eggs and early life stages. Sustained water column turbulence can reduce the feeding success of sight-feeding fish such as winter flounder and summer flounder, as well as black sea bass and tautog. Dredging can also remove the substrate

used by federally managed species as spawning, refuge and forage habitat. Benthic organisms that are food sources for federally managed species may also be removed during the dredging. These impacts may be temporary in nature if the substrate conditions return to preconstruction condition and benthic community recovers with the same or similar organisms. The impacts may be permanent if the substrate is altered in a way that reduces its suitability as habitat, if the benthic community is altered in a way that reduces its suitability as forage habitat, or if the dredging occurs so often that the area does not have time to recover.

Sandbar and Sand Tiger Sharks

The proposed project area has also been designated EFH for sandbar shark and sand tiger shark. Neonate (young-of-year) and juvenile (ages one and over) sand tiger sharks use the area of the proposed project during late spring and summer, occupying the nursery grounds until migration to warmer waters in the fall, while sandbar sharks of all age and size classes use the area of the proposed project, primarily during spring, summer, and fall months (Springer 1960; McCandless et al. 2002; Rechisky & Wetherbee 2003). The June 2009 Amendment 1 to the Consolidated Highly Migratory Species (HMS) Fisheries Management Plan (NOAA 2009) states that non-fishing activities such as mining for sand and gravel (e.g., dredging) in estuarine and coastal waters have adverse impacts to sandbar and sand tiger shark EFH due to water column effects, such as changing circulation patterns, increasing turbidity, and decreasing oxygen concentrations. The 2009 amendment also include a number of general conservation recommendations for dredging projects proposed within EFH for highly migratory species. These general recommendations include, but are not limited to:

- Sand mining [and beach nourishment] should not be allowed in HMS EFH during seasons when HMS are using the area, particularly during spawning and pupping seasons.
- Sand and gravel extraction operations should be managed to avoid or minimize impacts to the bathymetric structure in estuarine and nearshore areas.
- Planning and design of mining activities should avoid significant resource areas important as HMS EFH.

Avoiding dredging from March 1 to June 1 will aid in minimizing impacts to highly migratory species, including sandbar and sand tiger sharks.

Summer flounder

Summer flounder is one of the most economically important species in the Great Atlantic Region due to its role in commercial and recreational fisheries (Collette and Klein-MacPhee 2002). Able et al. (1990) reported that transforming summer flounder larvae have been collected in most of the major inlets along the New Jersey coast including Shark River Inlet, Manasquan River Inlet, Little Egg Inlet, Absecon Inlet, Corson Inlet and the Maurice River. The movement of transforming individuals through inlets in New Jersey occurs primarily from October through December, but larvae have been collected as late as February in Little Sheepshead Creek inside Little Egg Inlet, March and May in the Maurice River, March in the Manasquan River Inlet and Corson Inlet and March and April in Absecon Inlet (Able et al. 1990.) Festa (1974) also studied the distribution of young and larval summer flounder in New Jersey estuaries, and found that larvae enter New Jersey estuaries from at least early October to late January in most years and as

late as March in certain years. Additionally, Able et al. (2011) analyzed summer flounder larvae ingress time-series data spanning three decades (1989-2006) and found that the majority of larval summer flounder ingress occurs from October to February in the Little Egg Inlet, with peak ingress between November and January. The Barnegat Inlet likely shows similar patterns of ingress, as it is the only other inlet connecting the Barnegat Bay-Little Egg Harbor Estuary to the Atlantic Ocean and is only separated from Little Egg Inlet by 21 miles.

These early life stages of summer flounder, and other smaller pelagic life stages, are not capable of moving away from a dredge, especially if the suction is on while the dredge head is moving through the water column. Entrainment of these early life stages can be reduced by ensuring that the suction on the dredge is not turned on until the dredge head is at or near the bottom and that it is turned off before the head is lifted up through the water column when dredging ceases. Avoiding dredging from March 1 to May 31 will also aid in minimizing impacts to summer flounder, as well as other federally managed species. Furthermore, because the ingress of summer flounder larvae peaks in the fall in the Barnegat Bay-Little Egg Harbor area, dredging should also be avoided from November 1 to December 31 of any given year. Avoiding dredging during this time of the year will also reduce impacts to adult winter flounder migrating in through the inlet to spawn in the estuary in the mid to late winter and early spring.

Prey Species

The dredging of the Barnegat Inlet will also adversely impact EFH through impacts to prey species. The EFH final rule states that the loss of prey may be an adverse effect on EFH and managed species because the presence of prey makes waters and substrate function as feeding habitat and the definition of EFH includes waters and substrate necessary to fish for feeding. Therefore, actions that reduce the availability of prey species, either through direct harm or capture, or through adverse impacts to the prey species' habitat may also be considered adverse effects on EFH.

As discussed above, anadromous fish such as alewife, blueback herring and striped bass migrate through the Barnegat Inlet and use the Barnegat Bay-Little Egg Harbor and their tributaries as spawning, nursery and forage habitat. Water quality degradation, increased turbidity, noise and vibrations from dredging operations may impede the migration of anadromous fish through the inlets to their upstream spawning grounds. Alosine fish, such as alewife and blueback herring, are important forage for several species managed by the NEFMC and MAFMC as they provide trophic linkages between inshore and offshore systems. Buckel and Conover (1997) in Fahey et al. (1999) report that diet items of juvenile bluefish include Alosa species such as blueback herring and alewife as well as bay anchovy, silversides and other fish species. Additionally, juvenile Alosa species have all been identified as prey species for summer flounder, windowpane flounder, and winter skate in Steimle et al. (2000). Avoiding dredging at certain times of year will avoid and minimize impacts to various prey species.

Mid-Atlantic Fisheries Management Council Policies

A number of the federally managed species for which EFH has been designated in the project area are managed by the MAFMC. MAFMC has developed a policy statement on dredging activities that may affect federally managed species under their purview including summer flounder, scup, black sea bass, monkfish and butterfish. These policies are intended to articulate

the MAFMC's position on various development activities and facilitate the protection and restoration of fisheries habitat and ecosystem function. Some of the MAFMC's policies on dredging include:

- Avoid sand mining in areas containing sensitive fish habitats (e.g., spawning and feeding sites, hard bottom, cobble/gravel substrate, shellfish beds).
- Avoid mining sand from sandy ridges, lumps, shoals, and rises that are named on maps. The naming of these is often the result of the area being an important fishing ground.
- Seasonal restrictions and spatial buffers on sand mining should be used to limit negative impacts during fish spawning, egg development, young-of-year development, and migration periods, and to avoid secondary impacts to sensitive habitat areas such as SAV.
- Bathymetric and biological monitoring should be conducted before and after beach nourishment to assess recovery in beach borrow and nourishment areas.

In addition to the EFH conservation recommendations provided below, the MAMFC's policies should be incorporated, as appropriate, into the District's project plans.

Essential Fish Habitat Conservation Recommendations

Pursuant to Section 305 (b) (4) (A) of the MSA, we recommend the following EFH conservation recommendations be incorporated into the project:

- To avoid and minimize the impacts of dredging on aquatic habitat, eggs, larvae, free swimming fish, and invertebrates, dredging should be avoided from March 1 to June 1, and from November 1 to December 31, of any given year.
- Dredging heads/drag heads should not be turned on/activated until the head is at or on the bottom and should be turned off/deactivated prior to being lifted through the water column.

Please note that Section 305 (b)(4)(B) of the MSA requires you to provide us with a detailed written response to these EFH conservation recommendations, including the measures adopted by you for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with our recommendations, Section 305 (b) (4) (B) of the MSA also indicates that you must explain your reasons for not following the recommendations. Included in such reasoning would be the scientific justification for any disagreements with us over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate or offset such effect pursuant to 50 CFR 600.920 (k).

We look forward to continued coordination with your office on this project as it moves forward. Please also note that a distinct and further EFH consultation must be reinitiated pursuant to 50 CFR 600.920 (G) if new information becomes available, or if the project is revised in such a manner that affects the basis for the EFH determination, including a change in project schedule

As required by Section 305 (b)(4)(B) of the Magnuson Stevens Fishery Conservation and Management Act, a detailed written response to the EFH Conservation Recommendations is provided below, dated 20 June 2020.

or timing. If you have any questions or need additional information, please do not hesitate to contact Keith Hanson in our Annapolis, MD field office at keith.hanson@noaa.gov or Karen Greene in our Highlands, NJ field office at karen.greene@noaa.gov or (732) 872-3023 or (978) 559 9871.

Sincerely,

CHIARELLA.LOUIS.A.1365828756
S.A.1365828756

Digitally signed by
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Date: 2020.03.23 17:13:55 -04'00'

Louis A. Chiarella
Assistant Regional Administrator
for Habitat Conservation

cc: ACOE – B. Conlin
PRD – M. Murray-Brown, P. Johnsen
FWS- E. Schradig, S. Mars
NJDEP – S. Biggins, K. Dacanay
MAFMC – C. Moore
NEFMC – T. Nies
ASMFC –L. Havel

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DEPARTMENT OF THE ARMY
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MAR 12 2020

Environmental Resources Branch

Katherine Marcopul, PhD
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Mail Code 501-04B
State of New Jersey
Department of Environmental Protection
Historic Preservation Office
PO Box 420
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Dear Dr. Marcopul:

The US Army Corps of Engineers, Philadelphia District (USACE) are proposing to perform maintenance dredging within the Barnegat Inlet Federal Navigation Channel and to use the material to create a nearshore placement adjacent to Harvey Cedars on Long Beach Island under the National Regional Sediment Management Program under Water Resources Development Act (WRDA) Section 1122: Beneficial Use Pilot Project.

Section 1122 of WRDA requires the USACE to establish a pilot program to carry out ten projects for the beneficial use of dredged material. One of the 10 pilot projects selected is located in USACE's Philadelphia District and is the subject of this Environmental Assessment: Beneficial Use Pilot Project Barnegat Inlet, New Jersey. The purpose of this pilot project is to: 1) maintain the Barnegat Inlet Federal Navigation Channel; 2) to use the dredged material to construct a beneficial use shore protection project (nearshore berm at Harvey Cedars); and, 3) to use the results of testing and monitoring to develop and support beneficial use projects in the future.

The berm would be constructed offshore between the -10 foot and -20 foot NAVD88 contours adjacent to the southern half of Harvey Cedars, roughly bounded by Sussex Avenue to the north and Bergen Avenue to the south. Barnegat Inlet would be dredged to the authorized depth by the USACE-owned shallow-draft, split-hull, hopper dredge Murden, which would deposit the dredged material within each 500-ft by 300-ft cell (Figure 2). It is anticipated that the placement of 200,000 CY of sand within these cells. The targeted dimensions of the nearshore placement are approximately one mile long, 300 feet wide and about 3 feet thick. Because this is an innovative pilot project using a Government-owned dredge with operational flexibility, the exact drop locations will depend on maximizing placements to retain the material within the littoral zone where it is most needed, and will depend on surf, wind, and tide conditions at the time of the

USACE scoping letters submitted to natural resource agencies.

discharges. If the pilot project proves beneficial, the USACE is proposing to implement this nearshore beneficial use of dredged material from Barnegat Light south to Harvey Cedars.

The shoreline and nearshore area has been previously surveyed in 1999 for the Barnegat Inlet to Little Egg Inlet (Long Beach Island) Storm Damage Reduction Project and the results are found in the report titled, *Phase I Submerged and Shoreline Cultural Resources Investigations and Hydrographic Survey, Long Beach Island, Ocean County, New Jersey* prepared for the USACE by Hunter Research, Inc. dated 1999. A subsequent investigation was conducted in 2001 and is titled, *Supplemental Phase IB and Phase II Cultural Resources Investigations, New Jersey Atlantic Coast, Long Beach Island, Ocean County, New Jersey* prepared by Dolan Research. Two of the five underwater targets proved to be shipwreck sites (Targets 4:735 and 9:643), and none of the six shoreline anomalies proved to be a historic property. The two shipwreck sites are located to the south of this proposed project and will not be impacted by the proposed nearshore placement of dredged material (Figure 3).

Since the Barnegat Inlet Navigation Channel will only be dredged to its previously authorized depth, and since the placement of dredged material within this nearshore location will not impact the two recorded shipwrecks, the USACE has determined that the proposed action will have *No Effect* on historic properties eligible for or listed on the National Register of Historic Places pursuant to 36CFR800.4(d)(1).

We request your review of the proposed project and your concurrence with our *No Effect* determination. If you have any questions or comments please contact our District Cultural Resource Specialist, Nikki Minnichbach via email at Nicole.c.minnichbach@usace.army.mil or by phone at 215-656-6556. Thank you for your participation in the Section 106 review process.

Sincerely,



Peter R. Blum, P.E.
Chief, Planning Division

Enclosures

- Figure 1 – Sand source and pilot project location
- Figure 2 - Dredged Material Placement Cells
- Figure 3 – Pilot and Future Proposed location



Figure 1. The red area is the existing Barnegat Inlet Federal Navigation Channel (sand source). The green area indicates one of the approved sand placement areas for the authorized Coastal Storm Management Project (LSI). The light blue rectangle is the proposed one-mile long nearshore beneficial use placement area adjacent to Harvey Cedars.



Figure 2. Close up of one-mile nearshore berm sand placement cells, approximately 500 ft x 300 ft each.



Figure 3: Beneficial Use of Dredged Material from the Maintenance of Barnegat Inlet, including the location of the pilot project, the additional nearshore area for future placement and the location of two shipwreck sites

-----Original Message-----

From: Marcopul, Kate [mailto:Kate.Marcopul@dep.nj.gov]

Sent: Wednesday, April 15, 2020 10:18 AM

To: Blum, Peter R CIV CPMS (USA) <Peter.R.Blum@usace.army.mil>

Cc: Minnichbach, Nicole C CIV USARMY CENAP (USA) <Nicole.C.Minnichbach@usace.army.mil>; Baratta, Meghan <Meghan.Baratta@dep.nj.gov>; West-Rosenthal, Jesse <Jesse.West-Rosenthal@dep.nj.gov>

Subject: [Non-DoD Source] Maintenance Dredging of Barnegat Inlet and Nearshore Placement (HPO Project # 20-0916-1)

****This e-mail serves as the official correspondence of the New Jersey Historic Preservation Office as we switch to a temporary remote work environment in response to the ongoing novel coronavirus (COVID-19) outbreak****

HPO Project # 20-0916-1

HPO-D2020-082

Dear Mr. Blum:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published with amendments in the Federal Register on 6 July 2004 (69 FR 40544-40555), I am providing Consultation Comments for the following proposed undertaking:

Ocean County, Harvey Cedars Borough
Maintenance Dredging and Nearshore Placement
Barnegat Inlet
United States Department of the Army, Corps of Engineers

800.4 Identification of Historic Properties

Thank you for providing the Historic Preservation Office (HPO) the opportunity to review and comment on the potential for the proposed dredging of the Barnegat Inlet Federal Navigation Channel and nearshore placement to affect historic properties. According to information in the documentation submitted, both the inlet and the nearshore area of Harvey Cedars Borough in Ocean County have been previously surveyed for historic properties. Two shipwrecks were previously identified south of the area of potential effects for the proposed project. Since the inlet will be dredged to its previously authorized depth and there are no previously identified historic properties within the placement area, the United States Department of the Army, Corps of Engineers is recommending that no historic properties will be affected by the proposed undertaking.

The HPO has reviewed the documentation submitted. I concur with your finding that there will be no historic properties affected by the proposed undertaking within the project's area of potential effects. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Additional Comments

Thank you for providing the opportunity to review and comment on the potential for the above-referenced project to affect historic properties. Please do not hesitate to contact Jesse West-Rosenthal of my staff at Jesse.West-Rosenthal@dep.nj.gov with any questions regarding archaeology. Please reference the HPO project number 20-0916, in any future calls, emails, or written correspondence to help expedite your review and response.

Sincerely,
Katherine J. Marcopul, Ph.D., CPM
Administrator and
Deputy State Historic Preservation Officer Historic Preservation Office NJ Department of Environmental Protection
501 East State Street, Trenton, NJ 08625 kate.marcopul@dep.nj.gov
<<mailto:kate.marcopul@dep.nj.gov>> T (609) 984-0176 | F (609) 984-0578

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CLASSIFICATION: UNCLASSIFIED



DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
100 PENN SQUARE EAST, 7TH FLOOR WANAMAKER BUILDING
PHILADELPHIA, PENNSYLVANIA 19107-3390

April 3, 2020

Environmental Resources Branch

Mr. Louis Chiarella
Assistant Regional Administrator
For Habitat Conservation
NOAA Fisheries
Greater Atlantic Region
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930-2276

Dear Mr. Chiarella:

This letter is to notify you that the Philadelphia District, U.S. Army Corps of Engineers (USACE) has prepared a draft Environmental Assessment (EA) titled: *National Regional Sediment Management (RSM) Program, Water Resources Development Act (WRDA 2016) Section 1122 Beneficial Use Pilot Project, Barnegat Inlet, New Jersey.*

Section 1122 of WRDA requires USACE to establish a pilot program to implement nationwide ten projects for the beneficial use of dredged material. The Barnegat Inlet Beneficial Use Pilot Project was selected as one of ten nationwide projects from a field of 95 proposals, based on the criteria of having a high likelihood of delivering environmental, economic, and social benefits. The initial phase of this Pilot Project entails dredging the authorized Barnegat Inlet navigation entrance channel to authorized depth utilizing a split-hull hopper dredge and placing the high quality sand in the nearshore zone of the ocean beach fronting the community of Harvey Cedars, a known erosional hotspot. Subsequent maintenance dredging quantities and frequency of dredging are anticipated to be significantly reduced and placed in the nearshore zone where best needed along the nearshore zone between the inlet and Harvey Cedars to supplement the nourishment needs of the authorized Barnegat Inlet to Little Egg Inlet (LBI) Storm Damage Reduction project. The New Jersey Department of Environmental Protection's (NJDEP) Division of Coastal Engineering will serve as the non-Federal sponsor.

USACE letters providing notice to the availability of the draft Environmental Assessment, requested review and comment.

The draft EA was prepared in accordance with National Environmental Policy Act (NEPA) regulations, the Council on Environmental Quality's regulations for implementing NEPA and *U.S. Army Corps of Engineers Procedures for Implementing NEPA, Engineering Regulation (ER) 200-2-2*. The EA evaluates existing environmental, cultural, and socio-economic conditions in the study area, and the effects of the project on existing resources in the immediate and surrounding areas.

The EA can be downloaded from our District website:
<http://www.nap.usace.army.mil/Missions/CivilWorks/PublicNoticesReports.aspx>

USACE has initiated consultation with your office pursuant to the Magnuson Stevens Fishery Conservation and Management Act and submitted a NOAA Fisheries Greater Atlantic Regional Fisheries Office Essential Fish Habitat (EFH) Assessment & Fish and Wildlife Coordination Act (FWCA) Worksheet for the proposed project. We concluded that the effect on EFH is not substantial and that any adverse effects are no more than minimal and temporary. Your office provided a response dated March 23, 2020 and we will be providing our response in a separate letter, pursuant to the MSA section 305(b)(4).

Pursuant to the NEPA, and the FWCA, we request your review and comments on the draft report within 30 days of the date of this letter.

If you have any questions please contact Ms. Barbara Conlin at (215-656-6557) Barbara.E.Conlin@usace.army.mil or Ms. Monica Chasten at (215-656-6683) Monica.A.Chasten@usace.army.mil). Thank you for your attention to this matter.

Sincerely,

BLUM,PETER.R Digitally signed by
BLUM,PETER.R; 1.228677120
Date: 2020.04.06 12:13:21
-0400

Peter R. Blum, P.E.
Chief, Planning Division

cc:
Louis Chiarella
lou.chiarella@noaa.gov



DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
100 PENN SQUARE EAST, 7TH FLOOR WANAMAKER BUILDING
PHILADELPHIA, PENNSYLVANIA 19107-3390

April 3, 2020

Environmental Resources Branch

Ms. Colleen Keller, Director
Coastal Land Use Planning
Division of Land Use Management
New Jersey Department of Environmental Protection
P.O. Box 420
501 E. State Street, Second Floor
Trenton, NJ 08609

Dear Ms. Keller:

This letter is to notify you that the Philadelphia District, U.S. Army Corps of Engineers (USACE) has prepared a draft Environmental Assessment (EA) titled: *National Regional Sediment Management (RSM) Program, Water Resources Development Act (WRDA 2016) Section 1122 Beneficial Use Pilot Project, Barnegat Inlet, New Jersey.*

Section 1122 of WRDA requires USACE to establish a pilot program to implement nationwide ten projects for the beneficial use of dredged material. The Barnegat Inlet Beneficial Use Pilot Project was selected as one of ten nationwide projects from a field of 95 proposals, based on the criteria of having a high likelihood of delivering environmental, economic, and social benefits. The initial phase of this Pilot Project entails dredging the authorized Barnegat Inlet navigation entrance channel to authorized depth utilizing a split-hull hopper dredge and placing the high quality sand in the nearshore zone of the ocean beach fronting the community of Harvey Cedars, a known erosional hotspot. Subsequent maintenance dredging quantities and frequency of dredging are anticipated to be significantly reduced and placed in the nearshore zone where best needed along the nearshore zone between the inlet and Harvey Cedars to supplement the nourishment needs of the authorized Barnegat Inlet to Little Egg Inlet (LBI) Storm Damage Reduction project. The New Jersey Department of Environmental Protection's (NJDEP) Division of Coastal Engineering will serve as the non-Federal sponsor.

The draft EA was prepared in accordance with National Environmental Policy Act (NEPA) regulations, the Council on Environmental Quality's regulations for

implementing NEPA and *U.S. Army Corps of Engineers Procedures for Implementing NEPA, Engineering Regulation (ER) 200-2-2*. The EA evaluates existing environmental, cultural, and socio-economic conditions in the study area, and the effects of the project on existing resources in the immediate and surrounding areas.

In accordance with Section 102 of the National Environmental Policy Act, the Corps is requesting your review and comment on the draft report within 30 days of the date of this letter. Based on a review of all applicable regulations and policies in N.J.A.C. 7:27E Coastal Zone Management Rules, it is the Corps' finding that the proposed action, as described in the report, complies with New Jersey's approved coastal management program and will be conducted in a manner consistent with the program, and is not expected to violate N.J. water quality standards. Our review of these Rules is provided as an attachment to this letter. We request your concurrence with our consistency determination pursuant to New Jersey's Coastal Zone Management Program and Section 401 Water Quality Certification, pursuant to the Clean Water Act.

The EA can be downloaded from our District website:
<http://www.nap.usace.army.mil/Missions/CivilWorks/PublicNoticesReports.aspx>

The public has been invited to comment on the draft EA.

If you have any questions please contact Ms. Barbara Conlin at (215-656-6557) Barbara.E.Conlin@usace.army.mil or Ms. Monica Chasten at (215-656-6683) Monica.A.Chasten@usace.army.mil). Thank you for your attention to this matter.

Sincerely,

BLUM.PETER
R.1228677120

Digitally signed by
BLUM.PETER,1228677120
Date: 2020.04.06 12:11:15
-0400

Peter R. Blum, P.E.
Chief, Planning Division

Enclosures

cc:
Colleen Keller
colleen.keller@dep.nj.gov

**CONSISTENCY REVIEW OF
 APPLICABLE NEW JERSEY COASTAL ZONE MANAGEMENT POLICIES
 (N.J.A.C. 7:7E as amended 20 February 2020) FOR
 NATIONAL REGIONAL SEDIMENT MANAGEMENT (RSM) PROGRAM
 WATER RESOURCES DEVELOPMENT ACT 2016 SECTION 1122
 BENEFICIAL USE PILOT PROJECT**

RULE	APPLICABLE SECTIONS
SUBCHAPTER 9 - SPECIAL AREAS	
7:7-9.2 SHELLFISH HABITAT	Policies a, f
7:7-9.3 SURF CLAM AREAS	Policies a, b
7:7-9.4 PRIME FISHING AREAS	Policies a,
7:7-9.5 FINFISH MIGRATORY PATHWAYS	Policies a, b, c
7:7-9.6 SUBMERGED VEGETATION HABITAT	Policies a, b
7:7-9.7 NAVIGATION CHANNELS	Policies a, b
7:7-9.8 CANALS	N/A
7:7-9.9 INLETS	Policies a, b
7:7-9.10 MARINA MOORINGS	N/A
7:7-9.11 PORTS	N/A
7:7-9.12 SUBMERGED INFRASTRUCTURE ROUTES	N/A
7:7-9.13 SHIPWRECK AND ARTIFICIAL REEF HABITATS	N/A
7:7-9.14 WET BORROW PITS	N/A
7:7-9.15 INTERTIDAL AND SUBTIDAL SHALLOWS	Policies a
7:7-9.16 DUNES	N/A
7:7-9.17 OVERWASH AREAS	N/A
7:7-9.18 COASTAL HIGH HAZARD AREAS	N/A
7:7-9.19 EROSION HAZARD AREAS	N/A
7:7-9.20 BARRIER ISLAND CORRIDOR	N/A
7:7-9.21 BAY ISLANDS	N/A
7:7-9.22 BEACHES	N/A
7:7-9.23 FILLED WATER'S EDGE	N/A
7:7-9.24 EXISTING LAGOON EDGES	N/A
7:7-9.25 FLOOD HAZARD AREAS	N/A
7:7-9.26 RIPARIAN ZONES	N/A
7:7-9.27 WETLANDS	N/A
7:7-9.28 WETLAND BUFFERS	N/A
7:7-9.29 COASTAL BLUFFS	N/A
7:7-9.30 INTERMITTENT STREAM CORRIDORS	N/A
7:7-3.31 FARMLAND CONSERVATION AREAS	N/A
7:7-9.32 STEEP SLOPES	N/A
7:7-9.33 DRY BORROW PITS	N/A

**CONSISTENCY REVIEW OF
 APPLICABLE NEW JERSEY COASTAL ZONE MANAGEMENT POLICIES
 (N.J.A.C. 7:7E as amended 20 February 2020) FOR
 NATIONAL REGIONAL SEDIMENT MANAGEMENT (RSM) PROGRAM
 WATER RESOURCES DEVELOPMENT ACT 2016 SECTION 1122
 BENEFICIAL USE PILOT PROJECT**

RULE	APPLICABLE SECTIONS
7:7-9.34 HISTORIC AND ARCHAEOLOGICAL RESOURCES	Policies a, b
7:7-9.35 SPECIMEN TREES	N/A
7:7-9.36 ENDANGERED OR THREATENED WILDLIFE OR PLANT SPECIES HABITATS	Policies a, b
7:7-9.37 CRITICAL WILDLIFE HABITATS	Policies a, b
7:7-9.38 PUBLIC OPEN SPACE	N/A
7:7-9.39 SPECIAL HAZARD AREAS	N/A
7:7-9.40 EXCLUDED FEDERAL LANDS	N/A
7:7-9.41 SPECIAL URBAN AREAS	N/A
7:7-9.42 PINELANDS NATIONAL RESERVE AND PINELANDS PROTECTED AREA	N/A
7:7-9.43 MEADOWLANDS DISTRICT	N/A
7:7-9.44 WILD AND SCENIC RIVER CORRIDORS	N/A
7:7-9.45 GEODETIC CONTROL REFERENCE MARKS	N/A
7:7-9.46 HUDSON RIVER WATERFRONT AREA	N/A
7:7-9.47 ATLANTIC CITY	N/A
7:7-9.48 LANDS AND WATERS SUBJECT TO PUBLIC TRUST RIGHTS	Policies a, b
SUBCHAPTER 10 - STANDARDS FOR BEACH AND DUNE ACTIVITIES	
7:7-10.1 PURPOSE AND SCOPE	N/A
7:7-10.2 STANDARDS APPLICABLE TO ROUTINE BEACH MAINTENANCE	N/A
7:7-10.3 STANDARDS APPLICABLE TO EMERGENCY POST-STORM BEACH RESTORATION	N/A
7:7-10.4 STANDARDS APPLICABLE TO DUNE CREATION AND MAINTENANCE	N/A
7:7-10.5 STANDARDS APPLICABLE TO THE CONSTRUCTION OF BOARDWALKS	N/A
SUBCHAPTER 11 - STANDARDS FOR CONDUCTING AND REPORTING THE RESULTS OF AN ENDANGERED OR THREATENED WILDLIFE OR PLANT SPECIES HABITAT IMPACT ASSESSMENT AND/OR ENDANGERED OR THREATENED WILDLIFE SPECIES HABITAT EVALUATION	
7:7-11.1 PURPOSE AND SCOPE	Policies a, b, d
7:7-11.2 STANDARDS FOR CONDUCTING ENDANGERED OR THREATENED WILDLIFE OR PLANT SPECIES HABITAT IMPACT ASSESSMENTS	Policies a, b, c
7:7-11.3 STANDARDS FOR CONDUCTING ENDANGERED OR THREATENED WILDLIFE SPECIES HABITAT EVALUATIONS	N/A
7:7-11.4 STANDARDS FOR REPORTING THE RESULTS OF IMPACT ASSESSMENTS AND HABITAT EVALUATIONS	Policies a, c

**CONSISTENCY REVIEW OF
APPLICABLE NEW JERSEY COASTAL ZONE MANAGEMENT POLICIES
(N.J.A.C. 7:7E as amended 20 February 2020) FOR
NATIONAL REGIONAL SEDIMENT MANAGEMENT (RSM) PROGRAM
WATER RESOURCES DEVELOPMENT ACT 2016 SECTION 1122
BENEFICIAL USE PILOT PROJECT**

RULE	APPLICABLE SECTIONS
SUBCHAPTER 12 - GENERAL WATER AREAS	
7:7-12.1 PURPOSE AND SCOPE	Policies a, b
7:7-12.2 SHELLFISH AQUACULTURE	N/A
7:7-12.3 BOAT RAMPS	N/A
7:7-12.4 DOCKS AND PIERS FOR CARGO AND COMMERCIAL FISHERIES	N/A
7:7-12.5 RECREATIONAL DOCKS AND PIERS	N/A
7:7-12.6 MAINTENANCE DREDGING	Policies a, b
7:7-12.7 NEW DREDGING	N/A
7:7-12.8 ENVIRONMENTAL DREDGING	N/A
7:7-12.9 DREDGED MATERIAL DISPOSAL	Policies a
7:7-12.10 SOLID WASTE OR SLUDGE DUMPING	N/A
7:7-12.11 FILLING	Policies a, d, g, h
7:7-12.12 MOORING	N/A
7:7-12.13 SAND AND GRAVEL MINING	N/A
7:7-12.14 BRIDGES	N/A
7:7-12.15 SUBMERGED PIPELINES	N/A
7:7-12.16 OVERHEAD TRANSMISSION LINES	N/A
7:7-12.17 DAMS AND IMPOUNDMENTS	N/A
7:7-12.18 OUTFALLS AND INTAKES	N/A
7:7-12.19 REALIGNMENT OF WATER AREAS	N/A
7:7-12.20 VERTICAL WAKE OR WAVE ATTENUATION STRUCTURES	N/A
7:7-12.21 SUBMERGED CABLES	N/A
7:7-12.22 ARTIFICIAL REEFS	N/A
7:7-12.23 LIVING SHORELINES	Policies a, b
7:7-12.24 MISCELLANEOUS USES	N/A
SUBCHAPTER 13 - REQUIREMENTS FOR IMPERVIOUS COVER AND VEGETATIVE COVER FOR GENERAL LAND AREAS AND CERTAIN SPECIAL AREAS	
7:7-13.1 PURPOSE AND SCOPE	N/A
7:7-13.2 DEFINITIONS	N/A
7:7-13.3 IMPERVIOUS COVER REQUIREMENTS THAT APPLY TO SITES IN THE UPLAND WATERFRONT DEVELOPMENT AND CAFRA AREAS	N/A
7:7-13.4 VEGETATIVE COVER REQUIREMENTS THAT APPLY TO SITES IN THE UPLAND WATERFRONT DEVELOPMENT AND CAFRA AREAS	N/A
7:7-13.5 DETERMINING IF A SITE IS FORESTED OR UNFORESTED	N/A
7:7-13.6 UPLAND WATERFRONT DEVELOPMENT AREA REGIONS AND GROWTH RATINGS	N/A
7:7-13.7 ENVIRONMENTAL SENSITIVITY	N/A
7:7-13.8 DEVELOPMENT POTENTIAL	N/A
7:7-13.9 DEVELOPMENT POTENTIAL FOR A RESIDENTIAL OR MINOR COMMERCIAL DEVELOPMENT SITE	N/A
7:7-13.10 DEVELOPMENT POTENTIAL FOR A MAJOR COMMERCIAL OR INDUSTRIAL DEVELOPMENT SITE	N/A
7:7-13.11 DEVELOPMENT POTENTIAL FOR A CAMPGROUND DEVELOPMENT SITE	N/A
7:7-13.12 DEVELOPMENT INTENSITY	N/A
7:7-13.13 IMPERVIOUS COVER LIMITS FOR A SITE IN THE UPLAND WATERFRONT DEVELOPMENT AREA	N/A
7:7-13.14 VEGETATIVE COVER PERCENTAGES FOR A SITE IN THE UPLAND WATERFRONT DEVELOPMENT AREA	N/A
7:7-13.15 COASTAL PLANNING AREAS	N/A
7:7-13.16 BOUNDARIES FOR COASTAL PLANNING AREAS,	N/A

**CONSISTENCY REVIEW OF
 APPLICABLE NEW JERSEY COASTAL ZONE MANAGEMENT POLICIES
 (N.J.A.C. 7:7E as amended 20 February 2020) FOR
 NATIONAL REGIONAL SEDIMENT MANAGEMENT (RSM) PROGRAM
 WATER RESOURCES DEVELOPMENT ACT 2016 SECTION 1122
 BENEFICIAL USE PILOT PROJECT**

RULE	APPLICABLE SECTIONS
CAFRA CENTERS, CAFRA CORES, AND CAFRA NODES, NON-MAINLAND COASTAL CENTERS	
7:7-13.17 IMPERVIOUS COVER LIMITS FOR A SITE IN THE CAFRA AREA	N/A
7:7-13.18 VEGETATIVE COVER PERCENTAGES FOR A SITE IN THE CAFRA AREA	N/A
7:7-13.19 MAINLAND COASTAL CENTERS	N/A
SUBCHAPTER 14 - GENERAL LOCATION RULES	
7:7-14.1 RULE ON LOCATION OF LINEAR DEVELOPMENT	N/A
7:7-14.2 BASIC LOCATION RULE	Policies a, b
7:7-14.3 SECONDARY IMPACTS	Policies a, b
SUBCHAPTER 15 - USE RULES	
7:7-15.1 PURPOSE AND SCOPE	N/A
7:7-15.2 HOUSING	N/A
7:7-15.3 RESORT/RECREATIONAL	N/A
7:7-15.4 ENERGY FACILITY	N/A
7:7-15.5 TRANSPORTATION	N/A
7:7-15.6 PUBLIC FACILITY	N/A
7:7-15.7 INDUSTRY	N/A
7:7-15.8 MINING	N/A
7:7-15.9 PORT	N/A
7:7-15.10 COMMERCIAL FACILITY	N/A
7:7-15.11 COASTAL ENGINEERING	Policies a, b
7:7-15.12 DREDGED MATERIAL PLACEMENT ON LAND	N/A
7:7-15.13 NATIONAL DEFENSE FACILITIES	N/A
7:7-15.14 HIGH-RISE STRUCTURES	N/A
SUBCHAPTER 16 - RESOURCE RULES	
7:7-16.1 PURPOSE AND SCOPE	N/A
7:7-16.2 MARINE FISH AND FISHERIES	Policies a, b, c
7:7-16.3 WATER QUALITY	Policies a, b
7:7-16.4 SURFACE WATER USE	N/A
7:7-16.5 GROUNDWATER USE	N/A
7:7-16.6 STORMWATER MANAGEMENT	N/A
7:7-16.7 VEGETATION	N/A
7:7-16.8 AIR QUALITY	Policies a, b
7:7-16.9 PUBLIC ACCESS	N/A

**CONSISTENCY REVIEW OF
APPLICABLE NEW JERSEY COASTAL ZONE MANAGEMENT POLICIES
(N.J.A.C. 7:7E as amended 20 February 2020) FOR
NATIONAL REGIONAL SEDIMENT MANAGEMENT (RSM) PROGRAM
WATER RESOURCES DEVELOPMENT ACT 2016 SECTION 1122
BENEFICIAL USE PILOT PROJECT**

RULE	APPLICABLE SECTIONS
7:7-16.10 SCENIC RESOURCES AND DESIGN	N/A
7:7-16.11 BUFFERS AND COMPATIBILITY OF USES	N/A
7:7-16.12 TRAFFIC	N/A
7:7-16.13 SUBSURFACE SEWAGE DISPOSAL SYSTEMS	N/A
7:7-16.14 SOLID AND HAZARDOUS WASTE	N/A

**CONSISTENCY REVIEW OF APPLICABLE NEW JERSEY COASTAL ZONE
MANAGEMENT POLICIES
(N.J.A.C. 7:7 as amended 15 July 2019)
NATIONAL REGIONAL SEDIMENT MANAGEMENT (RSM) PROGRAM
WRDA 2016 Section 1122 BENEFICIAL USE PILOT PROJECT
BARNEGAT INLET, NJ**

7:7-9.2 SHELLFISH HABITAT

(a) The project area is not located in shellfish habitat.

7:7-9.3 SURF CLAM AREAS

(a) The project area does not contain surf clam coastal waters which can be demonstrated to support significant commercially harvestable quantities of surf clams (*Spisula solidissima*), or areas important for recruitment of surf clam stocks.

(b) The project would not result in the destruction, condemnation, or contamination of surf clam areas. Any impacts to surf clam habitat will be temporary in nature.

7:7-9.4 PRIME FISHING AREAS

(a) The project does not occur in prime fishing areas.

(b) The project does not entail sand or gravel submarine mining which would alter existing bathymetry to a significant degree so as to reduce the high fishery productivity of these areas. Furthermore, this project does not entail disposal of domestic or industrial wastes.

7:7-9.5 FINFISH MIGRATORY PATHWAYS

(a) The project does not occur in a waterbody designated as finfish migratory pathway. Fish utilize inlets as a pathway from the ocean to backbay areas, however Barnegat Inlet is a large/wide inlet and strong currents flush the minor turbidity created by the draghead.

(b-c) The project would not create a physical barrier to the movement of fish. There would also be no adverse impact to water quality. Turbidity will increase during construction (deposition of dredged material) in the nearshore placement zone however this will be temporary due to ocean currents. Turbidity is naturally high in the nearshore zone due to cresting waves. At the dredging location within the inlet, due to the nature of the material being large-grained sand, the material will settle quickly and inlet currents flush turbidity swiftly.

7:7-9.6 SUBMERGED VEGETATION HABITAT

(a) There are no existing Submerged Aquatic Vegetation (SAV) beds in the footprint of the proposed dredging or placement areas.

(b) Maintenance dredging of the existing, authorized Barnegat Inlet Federal navigation channel is acceptable. There are no SAV beds within the footprint of the channel.

7:7-9.7 NAVIGATION CHANNELS

(a-b) The Barnegat Inlet is a Federal navigation channel. The dredging is authorized, ongoing, and would improve navigation and is acceptable. The dredging is in compliance with 7:7-12.6 Maintenance Dredging and Appendix G.

7:7-9.9 INLETS

(a-b) The project does occur in an inlet, but does not entail filling in an inlet or development of submerged infrastructure.

7:7-9.15 INTERTIDAL AND SUBTIDAL SHALLOWS

(a) The depth of the project area is greater than 4 feet below mean low water and is therefore, not defined as intertidal and subtidal shallows.

7:7-9.34 HISTORIC AND ARCHAEOLOGICAL RESOURCES

(a) The Barnegat Inlet will only be dredged to its previously authorized depth. There are no known archaeological resources within one mile of the project area. Therefore, a preliminary determination has been made that the proposed action will have *No Effect* on historic properties eligible for or listed on the National Register of Historic Places pursuant to 36CFR800.4(d)(1).

7:7-9.36 ENDANGERED OR THREATENED WILDLIFE OR PLANT SPECIES HABITATS

(a-b) The project is being coordinated with the New Jersey Division of Fish and Wildlife, U.S. Fish and Wildlife Service, and the National Marine Fisheries Service (NMFS) pursuant to the Federal Endangered Species Act.

The project will not result in any adverse impact to Federal or state listed endangered or threatened wildlife or plant species or their habitats as described in Section 6.5 of the attached Environmental Assessment. The impacts of dredging for the proposed nearshore placement at Harvey Cedars alternative would be identical to the current practice (maintenance dredging and placement south of the south jetty). While Atlantic

sturgeon, sea turtles, and whales have the potential to occur in the vicinity, it is unlikely during the operation in the nearshore zone. The species are highly mobile and able to avoid the dredge and areas of temporarily elevated turbidity due to operations. Any effects from placement of sand or an increase in turbidity would be insignificant and temporary. Additionally, the dredge crew would continually keep watch for protected marine species and employ all required NMFS vessel avoidance measures to avoid interactions with protected marine species.

The intent of the project is to monitor sediment placement with the goal of shoreline protection, which would provide indirect benefits to seabeach amaranth and federal and state-listed birds and migratory birds.

7:7-9.37 CRITICAL WILDLIFE HABITATS

(a-b) The project area provides important foraging habitat for migratory birds and sea turtles and Atlantic sturgeon may occasionally transit through the area. Maintenance dredging in the Barnegat Inlet navigation channel and nearshore placement of material would not adversely impact the habitat.

7:7-9.48 LANDS AND WATERS SUBJECT TO PUBLIC TRUST RIGHTS

(a-b) Lands and waters subject to public trust rights are tidal waterways and their shores. Development that adversely affects lands and waters subject to public trust rights is discouraged. The project would not adversely affect public trust rights or public access to lands or waterways.

7:7-11 STANDARDS FOR CONDUCTING AND REPORTING THE RESULTS OF AN ENDANGERED OR THREATENED WILDLIFE OR PLANT SPECIES HABITAT IMPACT ASSESSMENT AND/OR ENDANGERED OR THREATENED WILDLIFE SPECIES HABITAT EVALUATION

(a,b,d) Transient threatened and endangered species have the potential to occur in the project area but are unlikely to occur during the operation. An Environmental Assessment has been prepared and includes an endangered or threatened wildlife or plant species impact assessment (in accordance with 7:7-11.4 (b,d)).

7:7-12.1 GENERAL WATER AREAS PURPOSE AND SCOPE

(a-b) General Water Areas include all water areas located below the spring high water line. General Water Areas are divided into eight categories. The project area is included in 7:7E-4.1(b) 1 "Atlantic Ocean" and 7 "Semi-enclosed and back bays."

7:7-12.6 MAINTENANCE DREDGING

(a-c) The project will continue authorized maintenance dredging and is in compliance with the standards in (c). Previous testing and maintenance dredging efforts indicate that shoaling in the inlet is greater than 90 percent sand and presumed to be free of chemical contamination. Sediment testing is not required. Due to a larger mean grain size (>0.0625 mm) and insignificant smaller fines content, the sand is expected to be more stable and produce less turbidity in the nearshore environment.

7:7-12.9 DREDGED MATERIAL DISPOSAL

(a-b) The project includes dredged material placement in the nearshore of the Atlantic Ocean in waters (10-20 feet MLW). It is a beneficial use project with placement for the purposes of protection of barrier island habitat. Pursuant to 7:7-12.9 (a), dredged material disposal does not include the beneficial use of dredged material.

7:7-12.11 FILLING

The purpose of the project is not to create land areas. Filling is the deposition of material including, but not limited to, sand, soil, earth, and dredged material, into water areas for the purpose of raising water bottom elevations to create land areas. Pursuant to 7:7-12.11 (a), this rule is not applicable.

7:7-12.23 LIVING SHORELINES

(a-c) In addition to gaining practical insight into innovative methods, this project addresses the barrier island habitat protection. This project will evaluate strategic placement of sediment in order to maximize beneficial use of maintenance dredged sand to provide additional protection to shorelines. This project is consistent with 7:7-12.23 (b-c) and complies with Appendix G.

7:7-14.2 BASIC LOCATION RULE

(a-b) This project does not pose a threat to the public, natural resources, property, or the environment. This project is designed to benefit the environment and to advance practice and improve techniques to implement habitat enhancement projects more effectively.

7:7-14.3 SECONDARY IMPACTS

(a-b) Dredging for maintenance of the Barnegat Inlet Federal navigation channel, and nearshore placement of the dredged material to protect barrier island habitat, will not result in any additional development. The proposed project will not result in any secondary impacts.

7:7-15.11 COASTAL ENGINEERING

(a-b) Placement of dredged material to create nesting habitat is considered a hybrid shore protection measure and it not this project's purpose.

7:7-16.2 MARINE FISH AND FISHERIES

(a-c) Dredging for maintenance of the Barnegat Inlet Federal navigation channel, and nearshore placement of the dredged material will not result in any adverse impacts to marine fish or fisheries.

7:7-16.3 WATER QUALITY

(a-b) Proper precautions will be taken to ensure that the proposed project will not violate any applicable Federal or state water quality requirements in New Jersey. Previous testing and maintenance dredging efforts indicate that shoaling in the inlet is greater than 90 percent sand and presumed to be free of chemical contamination. Sediment testing is not required. Due to a larger mean grain size (>0.0625 mm) and insignificant smaller fines content, the sand is expected to be more stable and produce less turbidity in the nearshore environment.

7:7-16.8 AIR QUALITY

(a-b) Based on a conformity analysis, the proposed project conforms to the New Jersey State Implementation Plan (SIP). The selected plan complies with Section 176 (c)(1) of the Clean Air Act Amendments of 1990.



DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
100 PENN SQUARE EAST, 7TH FLOOR WANAMAKER BUILDING
PHILADELPHIA, PENNSYLVANIA 19107-3390

April 3, 2020

Environmental Resources Branch

Ms. Mary A. Colligan
Assistant Regional Administrator
for Protected Resources
National Marine Fisheries Service
Northeast Region
One Blackburn Drive
Gloucester, MA 01930-2298

Dear Ms. Colligan:

This letter is to notify you that the Philadelphia District, U.S. Army Corps of Engineers (USACE) has prepared a draft Environmental Assessment (EA) titled: *National Regional Sediment Management (RSM) Program, Water Resources Development Act (WRDA 2016) Section 1122 Beneficial Use Pilot Project, Barnegat Inlet, New Jersey.*

Section 1122 of WRDA requires USACE to establish a pilot program to implement nationwide ten projects for the beneficial use of dredged material. The Barnegat Inlet Beneficial Use Pilot Project was selected as one of ten nationwide projects from a field of 95 proposals, based on the criteria of having a high likelihood of delivering environmental, economic, and social benefits. The initial phase of this Pilot Project entails dredging the authorized Barnegat Inlet navigation entrance channel to authorized depth utilizing a split-hull hopper dredge and placing the high quality sand in the nearshore zone of the ocean beach fronting the community of Harvey Cedars, a known erosional hotspot. Subsequent maintenance dredging quantities and frequency of dredging are anticipated to be significantly reduced and placed in the nearshore zone where best needed along the nearshore zone between the inlet and Harvey Cedars to supplement the nourishment needs of the authorized Barnegat Inlet to Little Egg Inlet (LBI) Storm Damage Reduction project. The New Jersey Department of Environmental Protection's (NJDEP) Division of Coastal Engineering will serve as the non-Federal sponsor.

The draft EA was prepared in accordance with National Environmental Policy Act (NEPA) regulations, the Council on Environmental Quality's regulations for implementing NEPA and *U.S. Army Corps of Engineers Procedures for Implementing NEPA, Engineering Regulation (ER) 200-2-2*. The EA evaluates existing environmental, cultural, and socio-economic conditions in the study area, and the effects of the project on existing resources in the immediate and surrounding areas.

The EA can be downloaded from our District website:
<http://www.nap.usace.army.mil/Missions/CivilWorks/PublicNoticesReports.aspx>

USACE prepared a GARFO NLTA Verification Form for this initial phase of the Section 1122 Pilot program with respect to potential impacts to Federally-threatened and endangered species in the study area. The form was signed by Mr. Peter Johnsen of your staff March 5, 2020 in concurrence with our determination that the proposed action complies with all applicable Project Design Criteria (PDC) and is not likely to adversely affect listed species or critical habitat.

The draft EA addresses potential impacts to the Atlantic sturgeon, sea turtles, and whales that may occur in the vicinity. We request your review and comments on the draft report within 30 days of the date of this letter. If you have any questions please contact Ms. Barbara Conlin at (215 656-6557) Barbara.E.Conlin@usace.army.mil or Ms. Monica Chasten at (215-656-6683) Monica.A.Chasten@usace.army.mil. Thank you for your attention to this matter.

Sincerely,

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Peter R. Blum, P.E.
Chief, Planning Division

cc:
Mary Colligan
mary.colligan@noaa.gov



DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
100 PENN SQUARE EAST, 7TH FLOOR WANAMAKER BUILDING
PHILADELPHIA, PENNSYLVANIA 19107-3390

April 3, 2020

Environmental Resources Branch

Katherine Marcopul
Deputy State Historic Preservation Office
Mail Code 501-043
New Jersey Department of Environmental Protection
Historic Preservation Office
PO Box 420
Trenton, NJ 08625-0420

Dear Dr. Marcopul:

This letter is to notify you that the Philadelphia District, U.S. Army Corps of Engineers (USACE) has prepared a draft Environmental Assessment (EA) titled: *National Regional Sediment Management (RSM) Program, Water Resources Development Act (WRDA 2016) Section 1122 Beneficial Use Pilot Project, Barnegat Inlet, New Jersey.*

Section 1122 of WRDA requires USACE to establish a pilot program to implement nationwide ten projects for the beneficial use of dredged material. The Barnegat Inlet Beneficial Use Pilot Project was selected as one of ten nationwide projects from a field of 95 proposals, based on the criteria of having a high likelihood of delivering environmental, economic, and social benefits. The initial phase of this Pilot Project entails dredging the authorized Barnegat Inlet navigation entrance channel to authorized depth utilizing a split-hull hopper dredge and placing the high quality sand in the nearshore zone of the ocean beach fronting the community of Harvey Cedars, a known erosional hotspot. Subsequent maintenance dredging quantities and frequency of dredging are anticipated to be significantly reduced and placed in the nearshore zone where best needed along the nearshore zone between the inlet and Harvey Cedars to supplement the nourishment needs of the authorized Barnegat Inlet to Little Egg Inlet (LBI) Storm Damage Reduction project. The New Jersey Department of Environmental Protection's (NJDEP) Division of Coastal Engineering will serve as the non-Federal sponsor.

The draft EA was prepared in accordance with National Environmental Policy Act (NEPA) regulations, the Council on Environmental Quality's regulations for implementing NEPA and *U.S. Army Corps of Engineers Procedures for Implementing NEPA, Engineering Regulation (ER) 200-2-2*. The EA evaluates existing environmental, cultural, and socio-economic conditions in the study area, and the effects of the project on existing resources in the immediate and surrounding areas.

The EA can be downloaded from our District website:
<http://www.nap.usace.army.mil/Missions/CivilWorks/PublicNoticesReports.aspx>

The public has been invited to comment on the draft EA. We request your comments within 30 days of the date of this letter.

If you have any questions please contact Ms. Nicole Minnichbach at (215 656-6556) Nicole.C.Minnichbach@USACE.army.mil or Ms. Monica Chasten at (215-656-6683) Monica.A.Chasten@usace.army.mil. Thank you for your attention to this matter.

Sincerely,

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Peter R. Blum, P.E.
Chief, Planning Division

cc:
Katherine Marcopul
kate.marcopul@dep.nj.gov



DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
100 PENN SQUARE EAST, 7TH FLOOR WANAMAKER BUILDING
PHILADELPHIA, PENNSYLVANIA 19107-3390

April 3, 2020

Environmental Resources Branch

Ms. Grace Musumeci, Chief
Environmental Review Section
Strategic Planning and Multi-Media Programs Branch
USEPA Region II
290 Broadway
New York, NY 10007-1866

Dear Ms. Musumeci:

This letter is to notify you that the Philadelphia District, U.S. Army Corps of Engineers (USACE) has prepared a draft Environmental Assessment (EA) titled: *National Regional Sediment Management (RSM) Program, Water Resources Development Act (WRDA 2016) Section 1122 Beneficial Use Pilot Project, Barnegat Inlet, New Jersey.*

Section 1122 of WRDA requires USACE to establish a pilot program to implement nationwide ten projects for the beneficial use of dredged material. The Barnegat Inlet Beneficial Use Pilot Project was selected as one of ten nationwide projects from a field of 95 proposals, based on the criteria of having a high likelihood of delivering environmental, economic, and social benefits. The initial phase of this Pilot Project entails dredging the authorized Barnegat Inlet navigation entrance channel to authorized depth utilizing a split-hull hopper dredge and placing the high quality sand in the nearshore zone of the ocean beach fronting the community of Harvey Cedars, a known erosional hotspot. Subsequent maintenance dredging quantities and frequency of dredging are anticipated to be significantly reduced and placed in the nearshore zone where best needed along the nearshore zone between the inlet and Harvey Cedars to supplement the nourishment needs of the authorized Barnegat Inlet to Little Egg Inlet (LBI) Storm Damage Reduction project. The New Jersey Department of Environmental Protection's (NJDEP) Division of Coastal Engineering will serve as the non-Federal sponsor.

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The EA can be downloaded from our District website:
<http://www.nap.usace.army.mil/Missions/CivilWorks/PublicNoticesReports.aspx>

The public has been invited to comment on the draft EA. We request your comments within 30 days of the date of this letter.

If you have any questions please contact Ms. Barbara Conlin at (215) 656-6557 Barbara.E.Conlin@usace.army.mil or Ms. Monica Chasten at (215-656-6683) Monica.A.Chasten@usace.army.mil. Thank you for your attention to this matter.

Sincerely,

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Peter R. Blum, P.E.
Chief, Planning Division

cc:
Grace Musumeci
Musumeci.grace@epa.gov



DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
100 PENN SQUARE EAST, 7TH FLOOR WANAMAKER BUILDING
PHILADELPHIA, PENNSYLVANIA 19107-3390

April 3, 2020

Environmental Resources Branch

Mr. Eric Schradung
Field Supervisor
U.S. Fish and Wildlife Service
4 East Jimmie Leeds Road, Suite 4
Galloway, NJ 08205-4465

Dear Mr. Schradung:

This letter is to notify you that the Philadelphia District, U.S. Army Corps of Engineers (USACE) has prepared a draft Environmental Assessment (EA) titled: *National Regional Sediment Management (RSM) Program, Water Resources Development Act (WRDA 2016) Section 1122 Beneficial Use Pilot Project, Barnegat Inlet, New Jersey.*

Section 1122 of WRDA requires USACE to establish a pilot program to implement nationwide ten projects for the beneficial use of dredged material. The Barnegat Inlet Beneficial Use Pilot Project was selected as one of ten nationwide projects from a field of 95 proposals, based on the criteria of having a high likelihood of delivering environmental, economic, and social benefits. The initial phase of this Pilot Project entails dredging the authorized Barnegat Inlet navigation entrance channel to authorized depth utilizing a split-hull hopper dredge and placing the high quality sand in the nearshore zone of the ocean beach fronting the community of Harvey Cedars, a known erosional hotspot. Subsequent maintenance dredging quantities and frequency of dredging are anticipated to be significantly reduced and placed in the nearshore zone where best needed along the nearshore zone between the inlet and Harvey Cedars to supplement the nourishment needs of the authorized Barnegat Inlet to Little Egg Inlet (LBI) Storm Damage Reduction project. The New Jersey Department of Environmental Protection's (NJDEP) Division of Coastal Engineering will serve as the non-Federal sponsor.

The draft EA was prepared in accordance with National Environmental Policy Act (NEPA) regulations, the Council on Environmental Quality's regulations for implementing NEPA and *U.S. Army Corps of Engineers Procedures for Implementing NEPA, Engineering Regulation (ER) 200-2-2*. The EA evaluates existing environmental,

cultural, and socio-economic conditions in the study area, and the effects of the project on existing resources in the immediate and surrounding areas.

The EA can be downloaded from our District website:

<http://www.nap.usace.army.mil/Missions/CivilWorks/PublicNoticesReports.aspx>

Pursuant to the Endangered Species Act we request informal consultation with your office for the proposed project. The listed species identified as potentially occurring in the project area vicinity under your jurisdiction include: seabeach amaranth (*Amaranthus pumilus*), piping plover (*Charadrius melodus*), roseate tern (*Sterna dougallii*), and red knot (*Calidrus canutus*). We determined that the proposed beneficial use of high quality sand dredged from the inlet, placed in the littoral zone of the oceanfront of LBI may effect but not likely to adversely impact the continued existence of the aforementioned species. All project activities will occur in-water. Dredging will occur within the authorized channel more than 1,100 feet from the nearest known potential nesting sites at Barnegat Lighthouse State Park and placement will occur in the nearshore zone in waters 10-20 feet deep MLLW on the oceanfront where no known beach nesting or foraging by listed species occurs.

In accordance with the Fish and Wildlife Coordination Act (FWCA), USACE requests your review and comment on the draft EA. Steps proposed to be taken in order to reduce potential adverse impacts to natural resources are presented in the report. All necessary permits and approvals issued by the regulatory agencies will be obtained prior to construction. USACE is committed to continuing to work closely with Federal and State resource agencies, prior to and during project construction

We request your review and comments on the draft report within 30 days of the date of this letter. If you have any questions please contact Ms. Barbara Conlin at (215 656-6557) Barbara.E.Conlin@usace.army.mil or Ms. Monica Chasten at (215-656-6683) Monica.A.Chasten@usace.army.mil). Thank you for your attention to this matter.

Sincerely,

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Peter R. Blum, P. E.
Chief, Planning Division

cc:
Eric Schradling
Eric_Schradling@fws.gov

-----Original Message-----

From: Marcopul, Kate [mailto:Kate.Marcopul@dep.nj.gov]

Sent: Wednesday, April 15, 2020 10:18 AM

To: Blum, Peter R CIV CPMS (USA) <Peter.R.Blum@usace.army.mil>

Cc: Minnichbach, Nicole C CIV USARMY CENAP (USA) <Nicole.C.Minnichbach@usace.army.mil>; Baratta,

Meghan <Meghan.Baratta@dep.nj.gov>; West-Rosenthal, Jesse <Jesse.West-Rosenthal@dep.nj.gov>

Subject: [Non-DoD Source] Maintenance Dredging of Barnegat Inlet and Nearshore Placement (HPO Project # 20-0916-1)

****This e-mail serves as the official correspondence of the New Jersey Historic Preservation Office as we switch to a temporary remote work environment in response to the ongoing novel coronavirus (COVID-19) outbreak****

HPO Project # 20-0916-1

HPO-D2020-082

Dear Mr. Blum:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published with amendments in the Federal Register on 6 July 2004 (69 FR 40544-40555), I am providing Consultation Comments for the following proposed undertaking:

Ocean County, Harvey Cedars Borough
Maintenance Dredging and Nearshore Placement
Barnegat Inlet
United States Department of the Army, Corps of Engineers

800.4 Identification of Historic Properties

Thank you for providing the Historic Preservation Office (HPO) the opportunity to review and comment on the potential for the proposed dredging of the Barnegat Inlet Federal Navigation Channel and nearshore placement to affect historic properties. According to information in the documentation submitted, both the inlet and the nearshore area of Harvey Cedars Borough in Ocean County have been previously surveyed for historic properties. Two shipwrecks were previously identified south of the area of potential effects for the proposed project. Since the inlet will be dredged to its previously authorized depth and there are no previously identified historic properties within the placement area, the United States Department of the Army, Corps of Engineers is recommending that no historic properties will be affected by the proposed undertaking.

The HPO has reviewed the documentation submitted. I concur with your finding that there will be no historic properties affected by the proposed undertaking within the project's area of potential effects. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Additional Comments

Thank you for providing the opportunity to review and comment on the potential for the above-referenced project to affect historic properties. Please do not hesitate to contact Jesse West-Rosenthal of my staff at Jesse.West-Rosenthal@dep.nj.gov with any questions regarding archaeology. Please reference the HPO project number 20-0916, in any future calls, emails, or written correspondence to help expedite your review and response.

Sincerely,
Katherine J. Marcopul, Ph.D., CPM
Administrator and
Deputy State Historic Preservation Officer Historic Preservation Office NJ Department of Environmental Protection
501 East State Street, Trenton, NJ 08625 kate.marcopul@dep.nj.gov
<<mailto:kate.marcopul@dep.nj.gov>> T (609) 984-0176 | F (609) 984-0578

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<Blocked<https://www.youtube.com/channel/UC2C01IO4mVInYzqqwevFvSw>>

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CLASSIFICATION: UNCLASSIFIED

-----Original Message-----

From: Mars, Steve [mailto:steve_mars@fws.gov]

Sent: Thursday, April 16, 2020 5:51 PM

To: Conlin, Barbara E CIV USARMY CENAP (USA) <Barbara.E.Conlin@usace.army.mil>

Cc: Walsh, Wendy <wendy_walsh@fws.gov>; Popowski, Ron <ron_popowski@fws.gov>; Chasten, Monica A CIV (US) <Monica.A.Chasten@usace.army.mil>; Kolk, Meghan M <meghan_kolk@fws.gov>

Subject: [Non-DoD Source] Re: [EXTERNAL] Barnegat Inlet Section 1122 Pilot Project

Hi Barbara:

We have reviewed the Corps EA on the subject application and your email of February 26, 2020.

Some issues to consider for this consultation.

The Service recommends that the subject consultation should be only for the 2020 cycle; if the Corps desires a multi-year project we will recommend a programmatic approach with an expected conclusion for a programmatic consultation that will likely go into 2021. The Corps should consider a Tier 2 review process for each individual action during the ten-year period to ensure species baseline information is updated and that any conservation measures are adhered to.

There is not an active beach management plan (plan) with Harvey Cedars. It has expired and the Borough has not finalized a new one. The project is to benefit the municipality. The Service recommends that the plan should be finalized ASAP should federal listed species be identified in the Project's action area.

No equipment on the beach should occur (survey equipment, personnel, any staging equipment) during the shorebird beach nesting season (March 15 thru September 30). The Service recommends a seasonal restriction be included in the Corp's project description if piping plovers initiate nesting within 1,000 m of the release sites. The seasonal restriction is not only for disturbance but also due to potential impacts to their principle food source (benthic organisms).

Currently the nearest locations were:

Piping Plover

2019 - Loveladies (1) and Holgate (29)

2018 - Barnegat Light (3) and Holgate (18)

2017 - Barnegat Light (5) and Long Beach Twp (1)

For Seabeach Amaranth

2019 - Long Beach Twp (29) and Holgate (35)

2018 - Harvey Cedars (1)

2017 - Harvey Cedars (3)

Please identify the previous dredging cycles, volumes, and disposal locations for the Barnegat Inlet for the past ten years.

Have you consulted with the New Jersey State ENSP regarding the subject application? If so what is their view on potential disturbance for listed species under their jurisdiction, including the REKN and pIPL?

Use of the Atlantic Ocean by the REKN needs further clarification.

There is little published information on the effects of dredged material placed in the surf zone via a hopper dredge. Can the Corps further elaborate on the potential effects on benthic species and confirm the anticipated frequency of the project over the course of a ten years (once a year).

The Service understands that this practice of using a hopper dredge and placement in the surf zone was used off of Assateague Island. Was there any wildlife monitoring or benthic sampling taken during the Assateague project? And what was the frequency and duration of the project?

Once we have additional information on the above the Service will continue coordinating the Project in accordance with the ESA. Please contact Steven Mars, Sr. Biologist of the New Jersey Field Office at 609-226-5152 (c) and 609-382-5267 (o).

Steve Mars
Senior Biologist
USFWS/NJFO
609-382-5267

"Mountains are not stadiums where I satisfy my ambition to achieve, they are the cathedrals where I practice my religion." -Anatoli Boukreev

-----Original Message-----

From: Conlin, Barbara E CIV USARMY CENAP (USA)

Sent: Friday, April 24, 2020 1:45 PM

To: Mars, Steve <steve_mars@fws.gov>

Cc: Walsh, Wendy <wendy_walsh@fws.gov>; Popowski, Ron <ron_popowski@fws.gov>; Chasten, Monica A CIV (US) <Monica.A.Chasten@usace.army.mil>; Kolk, Meghan M <meghan_kolk@fws.gov>

Subject: Barnegat Inlet Section 1122 Pilot Project - Harvey Cedars Nearshore

Steve,

This replies to your email below (and follows our telephone discussion on 17 April with Monica). I am providing a summary of information (as an attachment) that also responds to your issues of concern as they relate to informal Section 7 ESA consultation for the Section 1122 Pilot project at Barnegat Inlet.

1. ESA Consultation:

USACE is requesting that Section 7 consultation be applicable to a ten year period of maintenance dredging at Barnegat Inlet. USACE has been dredging Barnegat Inlet for more than 40 years and typically twice annually. We anticipate that the initial dredging under this pilot project to authorized depth will reduce maintenance dredging need to one time/year in most years, barring any significant storm events, as well as reduce subsequent required quantities. Nevertheless, USACE recognizes that in the event that any future maintenance dredging operations were to deviate from that described in the NEPA report, USACE would re-initiate Section 7 ESA consultation for any such year's maintenance dredging.

2. Harvey Cedars Borough Beach Management Plan:

Thank you for bringing our attention to the expired BMP at Harvey Cedars. The BMP is required for the Barnegat Inlet to Little Egg Inlet Storm Damage Reduction project (LBI beachfill). I have notified the LBI Project Manager Keith Watson and he has followed-up with NJDEP in their responsibility as the non-Federal sponsor for the beachfill project to ensure that the BMP is updated.

3. Beach Equipment:

The proposed Section 1122 in-water placement of dredged sand in the nearshore zone (10-20 feet MLW) does not entail any equipment on the beach for placement operations. However, one of the primary purposes of the Section 1122 pilot project is to monitor the placement operation (pre-, during, and post-placement) at the in-water placement site as well pre- and post-placement surveys extending onto the beach berm to provide valuable information as to the efficacy of sand placement within the littoral zone. USACE coordinates with NJDEP for their annual beach survey work to identify the location of beach nesting birds and seabeach amaranth plants. Should either species be identified in the vicinity of Harvey Cedars during placement operations between March 15 through September 30, USACE will ensure that appropriate USFWS-recommended buffer distances are established prior to any surveying.

4. Past Maintenance Dredging Practices:

Barnegat Inlet's navigation channel has been maintained for over 40 years using the government-owned shallow draft split-hull hopper dredges. The portion of the Federal Navigation Channel through Barnegat Inlet is currently dredged twice each year for approximately 20 days per year (i.e., approximately 10 days per event), removing 75,000-100,000 cy as funding permits. The dredge removes just critical shoaling from the navigation channel. The channel has not been maintained to full authorized depth.

When fully loaded, the dredge requires 8-10 feet of draft, depending on weather conditions. The current practice has been to place the material downdrift of the ebb shoal on the south side of the inlet at Barnegat Light to keep the material within the littoral system to feed downdrift beaches. The beach at Barnegat Lighthouse State Park is expansive and accreting. Harvey Cedars exhibits a known erosional hotspot and has required emergency truckfill replenishments in the past.

Current maintenance dredging keeps the channel minimally navigable. Critical limiting depths of 3 to 4 feet MLW are still present in portions of the federal channel, creating life safety concerns for vessel operators and the US Coast Guard. Significant shoaling typically requires dredging to be conducted two times per year as funding allows, but current dredging operations are not sufficient to clear the 300-foot wide channel to authorized depth. Beach nesting birds, including Piping plovers, nest at Barnegat Lighthouse State Park adjacent to the current ebb shoal placement site outside the south jetty. Hopper dredges working in the inlet and material placement in the nearshore zone do not appear to disturb birds on the shoreline. The vessels are a significant distance away from the beach, slow-moving with low engine vibration that is difficult to detect with the surrounding ambient sounds of waves crashing and wind.

5. NJDEP ENSP coordination:

Yes, the draft EA was made available to NJDEP in March 2020 and we are currently awaiting their feedback.

6. Red Knots:

Agree. There is very little information available on red knot usage of the New Jersey Atlantic Ocean coast. USACE receives and reviews the annual NJ bird monitoring reports on beach nesting birds and maintains direct contact with the Conserve Wildlife Foundation of New Jersey staff. USACE also employs bird observers for beachfill projects and these reports acknowledge that red knot usage on the ocean coast is not significant during the observed periods.

7. Little published information on nearshore sand placement effects:

Agree. There are numerous studies of the effects of turbidity and placement operations for large beachfill projects with significant funding but little data is available on small inlet dredging and placement operations in the nearshore littoral zone placements. The attachment to this email (and the draft EA) provides some information (and references) of some studies that have addressed these type of in-water placements. Small inlet maintenance dredging operations have significantly lower funding than large beachfill projects. One of the Section 1122 project objectives is to provide valuable information on these type of small operations.

After conducting a thorough evaluation in preparation of the draft Environmental Assessment and subsequent follow-up to address your April 16th questions herein, USACE has concluded based on the available information, that the proposed pilot project may affect but is not likely to adversely affect the Federally-listed endangered species piping plover, red knot, and seabach amaranth known to occur in the near vicinity. We are requesting your concurrence with our conclusion.

Barbara Conlin
Environmental Resources Branch
USACE, Philadelphia District

**Barnegat Inlet Section 1122 Beneficial Use Placement in Nearshore Harvey Cedars
Section 7 ESA consultation information for USFWS**

Section 1122 of the Water Resources Development Act (WRDA) 2016 authorizes the U.S. Army Corps of Engineers (USACE) to establish a pilot program to beneficially use dredged material from federal and non-federal navigation channels consistent with all applicable environmental laws. The purpose of this project is to maintain the Barnegat Inlet Federal Navigation Channel to authorized depth by dredging sand from the shoaled portions of the channel and using the material beneficially by placing it in the littoral zone near an erosional hotspot fronting Harvey Cedars to support the shore protection project along Long Beach Island. The Philadelphia District USACE seeks to implement innovative approaches for the beneficial use of dredged material for habitat restoration and storm risk reduction purposes. There is considerable opportunity within the sediment-rich Barnegat Inlet complex to use dredged sediments from state and federal channels for beneficial use through placement on adjacent beaches, for marsh enhancement, and island creation. Such projects would improve overall coastal system resilience within the Barnegat Inlet region and other regions of New Jersey.

Potential Impacts to Threatened and Endangered Species

Barrier islands such as Long Beach Island provide important resting, feeding, and nesting habitat for many migratory and resident species of birds although birds tend to prefer foraging and nesting on reaches less populated with humans, such as at Barnegat Light at the northern end or the Holgate area at the southern end of the island. The area may provide foraging habitat for the Federally-listed endangered red knot and foraging and nesting habitat for the Federally-listed endangered piping plover. However, no piping plover are known to have nested in Harvey Cedars in the past 10 years. No Federally-listed seabeach amaranth plants were observed in the Harvey Cedars area in 2019, however, one plant was found in the area in 2018 and 3 plants in 2017.

Terrestrial Habitat. With the proposed action, there would be no adverse impacts to existing terrestrial habitats from dredging the inlet channel or from nearshore in-water placement of the dredged material. Overall the project would result in beneficial effects associated with potential added protection of beach habitat with a supplemental sand source in the littoral zone. The proposed action, using a government-owned dredge, is designed to allow

some operational flexibility to determine where nearshore placement is most needed to protect these habitats. Wildlife species that may potentially benefit include the red knot, least tern, and piping plover, as well as the state-listed black skimmer as these species utilize the beaches in the nearby vicinity for foraging and in some areas nesting. The eastern black rail, proposed for listing, occurs primarily in saltmarshes in backbay areas and is not likely to occur in the project area.

Previous projects have utilized dredged material for nearshore placements with success. Work and Otay (1997) demonstrated that a nearshore submerged placement of dredged material in front of a nourished beach did not migrate inshore, but redistributed wave energy along the shoreline and 84 percent of the initial volume of nourished material remained in the beach fill. In 2009, an elongated, submerged material placement behind a small natural bar using approximately 200,000 cubic yards of mixed material resulted in coarse material being transported onshore and fine material offshore (Brutsche et al. 2015). Monitoring showed that the material continually migrated and the beach remained stable, even after the constructed bar split in two after a hurricane. Beach erosion was minimal compared to the control beach. After four years, the beach grew approximately 50 feet wide (Brutsche et al. 2015). In 2012, a swash zone placement of material at Perdido Key was completed with the intent of mobilizing sediments to nourish downdrift beaches. The material eroded and deposited sand on the beach immediately and through a tropical storm and hurricane. Some of the sand was accounted for in the nearshore area of the control beaches (Brutsche et al. 2015). Both projects were successful in that they added sediment to the littoral system without directly impacting the terrestrial (beach and dune) habitat. The addition of sand to the littoral zone served to protect the beach from storm impacts, and equilibrated with the natural dynamic system making the placement site sustainable for future placements.

The NJDEP Endangered Nongame Species Program surveys the New Jersey coastline annually for beach nesting birds as well as seabeach amaranth and directly coordinates their findings with USACE. The plants establish primarily on accreting areas (non-eroding beaches) and lower foredunes. While the proposed dredging and placement operation occurs entirely in-water, one of the objectives of the Section 1122 program is to monitor the action to better understand the benefits of nearshore placement to the beach and innovatively inform the design for application to future shoreline protection projects. USACE plans to conduct single beam hydrographic pre- and post-placement condition surveys, consisting of 25 lines running perpendicular to the shore from the beach seaward to the placement area. Typically these

survey lines would begin from the seaward toe of the dunes to about 300 feet offshore to include the placement area. However, if seabeach amaranth plants are identified at Harvey Cedars, the survey lines will be modified to begin further down the beach berm away from the foredune area to establish a necessary buffer zone for the plants between 15 March and 30 September.

Aquatic Habitat. The Philadelphia District USACE has been dredging the authorized navigation channel within Barnegat Inlet for over 40 years. Current practice entails utilizing a split hull hopper dredge twice each year for approximately 20 days per year. The dredged sand has typically been placed in-water just outside of the south jetty and has contributed to an accreting beach at The Barnegat Lighthouse State Park offers expansive habitat for foraging shorebirds including the red knot and beach nesters including piping plovers, oyster catchers, least terns, and the New Jersey state listed endangered black skimmer. The proposed plan to dredge the channel to authorized depth may allow for the frequency of maintenance dredging to be reduced to one event/year with the initial dredge cycle to authorized depth under the propose pilot project. Weather conditions, specifically the frequency of significant storm events, also play a key factor in maintenance dredging needs.

Significant impacts to water quality are not anticipated from implementation of the selected plan. Short-term, temporary, and localized impacts to water quality in the form of turbidity are anticipated to occur from maintenance dredging and deposition of sand in the nearshore area from south of the nodal point along Long Beach Island to Harvey Cedars. Any potential effects would be short-lived and localized and would be limited to the immediate vicinity of the dredging site and the small areas that receive dredged material. Large-grained sediments settle quickly with larger grains settling out on the uppermost reaches of the intertidal zone and finer, smaller grain sizes in the deeper nearshore zone. Eventually tidal currents and inlet circulation would negate any impacts from turbidity. The sediments dredged from the inlet are expected to be greater than 90 percent sand and assumed to be clean with respect to chemical contamination. Impacts to benthic prey organisms (macroinvertebrates) due to the proposed activities are short-term and negligible with a temporary and localized increase in turbidity and disturbance of the bottom substrate through removal at the dredging site and deposition of sand at the placement site. These are high energy areas and tidal currents and waves nearly negate any impacts from turbidity which would last on the order of minutes. Benthic organisms in the placement area are subject to burial although the hopper load

placements are small quantities (250-300 cy/load) and occupy small areas once released. Many benthic organisms are capable of migrating through the material, and natural currents distribute the material. Benthic species typically recolonize dredged and deposition areas through recruitment from nearby undisturbed areas more rapidly due to the small hopper placements, as compared to large beachfill projects. The nearshore placement area is naturally subjected to turbulence in the ebb shoal and littoral zones. Benthic organisms are continually exposed to burial and exposure as bottom sediments are transported by natural currents and wave action. Channel dredging within the inlet is an ongoing activity, however a significant portion of the inlet is outside the authorized channel boundaries and do not incur adverse effects due to the significant flushing action between the two jetties.

Hopper dredges working in the inlet and material placement in the nearshore zone do not appear to disturb birds on the shoreline. The vessels are a significant distance away from the beach, slow-moving with low engine vibration that is difficult to detect with the surrounding ambient sounds of waves crashing and wind. Prey species in the intertidal zone, where shorebirds such as the piping plover and red knot forage, would not be impacted by placement of sand in the nearshore 10-20 ft MLW depth zone. Foraging shorebirds feed on the foreshore and intertidal zone of Atlantic Ocean beaches of New Jersey. This zone contains beach wrack, which is composed of drying seaweed, tidal marsh plant debris, and decaying marine animals. The beach wrack creates a moist micro-habitat suitable for crustaceans such as amphipods (Family: Amphipoda): *Orchestia* spp. And *Talorchestia* spp., (beach fleas) (USFWS, 2001). Although there is annual variability and there can be some overlap among species, the primary benthic invertebrate species composition in the nearshore placement zone (10-20 feet MLW) differs from that which occurs in the intertidal zone, and are not available to beach foraging birds in the subtidal zone. Patterns in benthic species composition, distribution, and abundance are primarily influenced by natural sources of environmental variation (i.e., depth, sediment type, and levels of total organic carbon). An assessment of benthic communities in New Jersey nearshore marine coastal waters in 2007-2009 (Ramey *et al.*, 2011) observed the following dominant taxa/species: polychaetes *Polygordius* spp., *Prionospio pygmaeus*, *Tharyx* sp. A, and *Aricidea catherinae*; the oligochaetes *Naidinae* sp. 2, *Grania longiducta*, *Peosidrilus coeloprostatus*, and *Tubificoides* sp. 1; the amphipod *Protohaustorius deichmannae*; and the bivalve *Nucula proxima*.

The Section 1122 pilot project proposes to beneficially use high quality clean sand dredged from the inlet navigation channel to supplement the shore through placement in the littoral zone. The practice has been implemented at other beaches and shown to provide protection to the existing beach, adjacent infrastructure and coastal habitat important to resting, feeding, and nesting habitat for Federal and state listed species. Best Management Practices would be used and may be mandated by conditions contained in State approvals (i.e., 401 Water Quality Certification and Coastal Zone Management regulations) to minimize impacts to water quality and benthic invertebrates during project implementation. The proposed project intends to place clean sand in the nearshore marine environment just south of the current placement location, from a large and accreting beach at Barnegat Light to an erosional area of beach at Harvey Cedars approximately 3 miles south. Based on the available information, USACE has concluded that the proposed project may affect but is not likely to adversely affect

the continued existence of the aforementioned Federally-listed endangered species known to occur in the near vicinity.

References

Ramey, P.A., M.J. Kennish, and R.M. Petrecca, 2011. Benthic Index Development: Assessment of Ecological Status of Benthic Communities in New Jersey Marine Coastal Waters December 2011 Prepared for: US Environmental Protection Agency and New Jersey Department of Environmental Protection. Institute of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ. 08901.

USFWS, 2001. FISH AND WILDLIFE COORDINATION ACT SECTION 2(b) REPORT MANASQUAN INLET TO BARNEGAT INLET FEASIBILITY STUDY OCEAN COUNTY, NEW JERSEY Prepared for: U.S. Army Corps of Engineers Philadelphia, Pennsylvania 19107-3390 Prepared by: U.S. Fish and Wildlife Service Ecological Services, Region 5 New Jersey Field Office Pleasantville, New Jersey 08232

Work, P.A. and E.N. Otay. 1997. Influence of Nearshore Berm on Beach Nourishment. Chapter 287. Available online: https://ascelibrary.org/doi/pdf/10.1061/9780784402429_287. Accessed on November 21, 2019.

Brutsche, K.E., P. Wang, J.D. Rosati, C.E. Pollock. 2015. Engineering with Nature: Nearshore Berm Placements at Fort Myers Beach and Perdido Key, Florida, U.S.A.

Ramey, P.A., M.J. Kennish, and R.M. Petrecca, 2011. Benthic Index Development: Assessment of Ecological Status of Benthic Communities in New Jersey Marine Coastal Waters December 2011 Prepared for: US Environmental Protection Agency and New Jersey Department of Environmental Protection. Institute of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ. 08901.

USFWS, 2001. FISH AND WILDLIFE COORDINATION ACT SECTION 2(b) REPORT MANASQUAN INLET TO BARNEGAT INLET FEASIBILITY STUDY OCEAN COUNTY, NEW JERSEY Prepared for: U.S. Army Corps of Engineers Philadelphia, Pennsylvania 19107-3390 Prepared by: U.S. Fish and Wildlife Service Ecological Services, Region 5 New Jersey Field Office Pleasantville, New Jersey 08232

-----Original Message-----

From: Conlin, Barbara E CIV USARMY CENAP (USA)

Sent: Thursday, May 7, 2020 1:12 PM

To: Mars, Steve <steve_mars@fws.gov>

Cc: Walsh, Wendy <wendy_walsh@fws.gov>; Popowski, Ron <ron_popowski@fws.gov>; Chasten, Monica A CIV (US) <Monica.A.Chasten@usace.army.mil>; Kolk, Meghan M <meghan_kolk@fws.gov>; Chasten, Monica A CIV (US) <Monica.A.Chasten@usace.army.mil>

Subject: Barnegat Inlet Section 1122 Pilot Project - Harvey Cedars Nearshore ESA continued consultation

Hi Steve,

1. Regarding distances, please see Figure 6 in the draft EA. It has a distance scale. It looks to me that the placement box is anywhere from 400-600 feet from where the water hits the beach. The Currituck, when loaded will need about 10-12 feet of draft and that distance will vary based on tidal cycle stage. Based on the latest survey data, the placement boxes were selected to provide the required draft depth.

2. Yes, the Corps maintains regular contact with ENSP of NJDEP/ Conserve Wildlife Foundation of New Jersey on endangered species as well as beach nesters that are not Federally-listed.

Yes, we can check in with Wendy Walsh or Meghan Kolk later in the season (and prior to operation) for the potential of seabeach amaranth plants.

I have requested that the PM of the LBI beachfill project advise NJDEP to contact Meghan Kolk regarding preparation of their beach management plan.

Barb Conlin
Environmental Resources Branch
Philadelphia District USACE

-----Original Message-----

From: Mars, Steve [mailto:steve_mars@fws.gov]

Sent: Thursday, May 7, 2020 12:25 PM

To: Conlin, Barbara E CIV USARMY CENAP (USA) <Barbara.E.Conlin@usace.army.mil>

Cc: Walsh, Wendy <wendy_walsh@fws.gov>; Popowski, Ron <ron_popowski@fws.gov>; Chasten, Monica A CIV (US) <Monica.A.Chasten@usace.army.mil>; Kolk, Meghan M <meghan_kolk@fws.gov>

Subject: [Non-DoD Source] Re: [EXTERNAL] Barnegat Inlet Section 1122 Pilot Project - Harvey Cedars Nearshore

Hi Barbara. Thanks for our continued consultation of the Project. Couple questions that we need further clarification to conclude consultation.

1) what is the closest distance do you think the dredge will come to the shoreline when unloading into the surf zone? We recognize that this figure may change due to the changing underwater bathymetry of the project disposal site.

2) with regards to conducting beach surveys to monitor effectiveness of project - you are correct that the Corps should contact ENSP of NJDEP to determine PIPL usage of the beaches during the breeding season to determine presence and potential best management activities to avoid impacts to the species. We are assuming this is non-mechanized surveying?

However, for Seabeach Amaranth, the appropriate contact is USFWS. For the time being please contact Wendy Walsh or Meghan Kolk of my office to determine the presence of Seabeach Amaranth during the growing season in the action area. A 10 foot buffer is required from any known plant if surveys are proposed during the growing season.

Beach Management Plan - Please have the appropriate contacts of NJDEP contact Meghan Kolk once they have reached out to the municipality to begin finalizing the BMP.

Thank you again for your assistance with regards to these matters.

Steve Mars
Senior Biologist
USFWS/NJFO
609-382-5267

"Mountains are not stadiums where I satisfy my ambition to achieve, they are the cathedrals where I practice my religion." -Anatoli Boukreev



State of New Jersey

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Governor

SHEILA Y. OLIVER
Lt. Gov

CATHERINE R. McCABE
Commissioner

May 1, 2020

Peter Plum, Chief
Department of the Army
Philadelphia District, Army Core of Engineers
100 Penn Square East, 7th Floor
Philadelphia, Pennsylvania 19107

RE: ****Green Acres addition to April 30, 2020 Comments**** on the NEPA Draft Environmental Assessment (EA)
National Regional Sediment Management Program
Water Resources Section 1122
Beneficial Reuse Pilot Project, Barnegat Inlet

Dear Peter Plum:

The New Jersey Department of Environmental Protection's (Department) Office of Permit Coordination and Environmental Review (PCER) distributed, for review and comment, the National Environmental Policy Act (NEPA) required Environmental Review for National Regional Sediment Management Program Water Resources Section 1122 Beneficial Reuse Pilot Project, Barnegat Inlet

In response to your request for a determination as to whether the proposal will have any adverse impacts to land use, historical or cultural resources, threatened and endangered species and migratory birds, or whether there are any impacts to Green Acres-encumbered parkland held by the State, local government units and/or nonprofit organizations, the Department offers the following comments for your consideration:

Green Acres

A review of the *Draft Environmental Assessment National Regional Sediment Management (RSM) Program WRDA 2016 Section 1122 Beneficial Use Pilot Project Barnegat Inlet*, along with the supplemental materials provided, has led to the determination that while there does not appear to be Green Acres Program encumbrance within the sediment placement areas, the sediment placement may result in an indirect impact on Green Acres encumbered parkland. Due to the proposed locations for placement of sediment and to the described currents in the project area, there is likely to be an indirect impact on Green Acres encumbered parkland – Harvey Cedars Borough, Block 43 Lot 9.01. This riparian grant parcel is owned and managed by Harvey Cedars Borough and is roughly 200 to 250 feet northeast of the most northern planned sediment placement site. In addition, there are various beach parcels that are Green Acres encumbered within Harvey Cedars Borough for which the Draft Environmental Assessment specifies an anticipated indirect effect. However, as described in the Draft Environmental Assessment, the effects on these parcels would be considered park improvements as there is an anticipated overall beneficial

impact on the recreation and conservation value of the parkland, and there is expected to be a reduction in storm damage and erosion on the Green Acres encumbered parkland and surrounding beaches. It also appears from Figure 1 and Figure 2 of the Draft Environmental Assessment that dredging may affect Berkeley Township, Block 1750 Lot 1, which is a portion of Island Beach State Park. Please refer to NJDEP state owned lands for their comments in regard to this activity.

While the Draft Environmental Assessment states that construction is anticipated to occur in the Summer of 2020, consideration should be given to the timing in which this work will be done, both initially and in subsequent dredging and sediment placement, to provide minimal adverse impact to the recreational use of this area since sediment placement is planned for nearshore areas. Precautions should be taken to ensure that the public is able to safely use the beaches for permitted recreational uses during the construction time frame. If any part of construction directly or indirectly impacts safe recreational use of Green Acres encumbered parkland and beaches, notice should be given to the public and appropriate action should be taken to mitigate these impacts. This recommendation does not take into account ecological concerns or activity by local recreational and commercial fisheries, which should also be taken into consideration in regards to the timing of construction activities. As the project states that subsequent sediment placement may include other nearshore areas of Harvey Cedars Borough, Long Beach Township, and Barnegat Light Borough, please consult Green Acres prior to subsequent dredging and sediment placement and allow for a review of proposed plans.

The proposed restoration and construction activities do not constitute a diversion of parkland since the purpose of the project is for enhancement and restoration of these areas. Therefore, these activities are consistent with Green Acres regulations at *N.J.A.C. 7:36*. If use of Green Acres encumbered parkland is required during construction, the parkland needs to be restored to pre-construction conditions and any dredge material that may be used on the Green Acres encumbered parcel should be clean and acceptable for the property's public use in order to avoid impacts to the public's future use of the parkland as a result of this project.

If you have any questions regarding this information, please contact Mackenzie Piggot at mackenzie.piggot@dep.nj.gov.

Thank you for giving the New Jersey Department of Environmental Protection the opportunity to comment on the Natural Resources Review for the proposed project. Please contact David Pepe at (609) 292-3600 if you have any additional questions or concerns.

Sincerely,



Megan Brunatti, Manager
Permit Coordination and Environmental Review

As noted in the EA, there will be no dredged material placed on the beach and no construction activities impacting Green Acres parkland. For future placements, dredged material from the inlet navigation channel will be periodically placed in the natural sediment system in 10 to 20 ft MLW with no direct impacts to parkland. All potential future sediment releases will occur in the nearshore between the inlet and Harvey Cedars, as described in the EA. See Figure 1.



State of New Jersey

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CATHERINE R. McCABE
Commissioner

April 30, 2020

Peter Plum, Chief
Department of the Army
Philadelphia District, Army Core of Engineers
100 Penn Square East, 7th Floor
Philadelphia, Pennsylvania 19107

RE: Comments on the NEPA Draft Environmental Assessment (EA)
National Regional Sediment Management Program
Water Resources Section 1122
Beneficial Reuse Pilot Project, Barnegat Inlet

Dear Peter Plum:

The New Jersey Department of Environmental Protection's (Department) Office of Permit Coordination and Environmental Review (PCER) distributed, for review and comment, the National Environmental Policy Act (NEPA) required Environmental Review for National Regional Sediment Management Program Water Resources Section 1122 Beneficial Reuse Pilot Project, Barnegat Inlet

In response to your request for a determination as to whether the proposal will have any adverse impacts to land use, historical or cultural resources, threatened and endangered species and migratory birds, or whether there are any impacts to Green Acres-encumbered parkland held by the State, local government units and/or nonprofit organizations, the Department offers the following comments for your consideration:

Marine Fisheries

Please see attached memorandum.

If you have any questions regarding the comments, please contact Jessica Daher at Jessica.Daher@dep.nj.us.

Historic and Cultural Resources

The HPO previously had the opportunity to review and comment on the proposed project through consultation with the United State Department of the Army, Corps of Engineers (Corps), pursuant to their obligations under the National Historic Preservation Act. Through this consultation it was determined that there would be no historic properties affected by the proposed project. As a result, the Corps is consistent to the maximum extent practicable with New Jersey's Coastal Zone Management Program and no further consultation is necessary as part of this project.

If you have any questions regarding this information, please contact Meghan Baratta at (609) 984-0176 or meghan.baratta@dep.nj.gov.

Land Use Permitting

The Division of Land Use Regulation is currently reviewing a federal consistency for Phase 1 of the Barnegat Inlet Section 1122 Pilot Project that is also the subject of EA. The FC was submitted on April 3, 2020 and our 60-day

decision date is 6/1/2020. The application is currently going through a required 15-day comment period that will end 4/30/2020. We will be reviewing all the comments submitted by other DEP programs on the EA in our review of the FC. To that end, if you receive any comments on the EA, it is requested that you forward them to my attention.

If the project requires a coastal permit and the work is situated below mean high water line, it will not be required to demonstrate compliance with the Flood Hazard Area Control Act Rules as per N.J.A.C. 7:7-9.25. If the project does not require a coastal permit, a flood hazard area individual permit will be required. In that case, the project should comply with the requirements set forth under "Subchapter 11" and at section "N.J.A.C. 7:13-12.15 Requirements for sediment and debris removal from a regulated water" of the Flood Hazard Area Control Act Rules.

If the project impacts Freshwater Wetlands, transition areas, and/or State open waters that are regulated under the FWPA, then the appropriate permits (or equivalency authorizations) shall be required prior to conducting regulated activities.

If you have any questions regarding Land Use permitting, please contact Suzanne Biggins at Suzanne.Biggins@dep.nj.gov

Air Conformity

1.) 3.1 Location

In section 3.1, the Environmental Assessment states, "This Environmental Assessment addresses Phase 1 of the pilot project. The study area extends approximately 3,800 feet within Barnegat Inlet between the north and south jetties and a 1-mile length of Atlantic Ocean beachfront at Harvey Cedars with subsequent year placements along eroded areas from Barnegat Light south to Harvey Cedars on Long Beach Island, Ocean County, New Jersey (Figure 1). Phase 2 of the pilot project will address maintenance dredging needs and potential beneficial use of dredged material for the Oyster Creek portion of the authorized navigation channel in Barnegat Bay and will be evaluated in a separate report, pursuant to the NEPA."

Comment #1

Please clarify if construction activities will take place during Phase 1 of the project. If construction activities are taking place, please describe the activities. If construction activities are taking place, these activities, if not exempt, should be included in the General Conformity Applicability Analysis or Conformity Determination if needed. Please clarify what construction activities will take place during Phase 2 of the project. The USEPA's General Conformity guidance: Questions and Answers (July 13, 1994) indicates when preparing a General Conformity Applicability Analysis and Conformity Determination, a project cannot be broken into segments in order to be below the de minimis levels in the Federal General Conformity regulation. All reasonably foreseeable emissions must be included for the project as a whole in determining applicability. The General Conformity Applicability Analysis should include the air emissions, unless exempt, from both phases of the project. Please revise the General Conformity Applicability Analysis and Conformity Determination, if required, to include these air emissions. Please provide a construction schedule for the project.

2.) 5.1 Air Quality

In section 5.1, the Environmental Assessment states, "The entire state of New Jersey is in non-attainment and is classified as being "Marginal." A "Marginal" classification is applied when an area has a design value of 0.085 ppm up to but not including 0.092 ppm (NJDEP 2012 Ozone Summary as cited in USACE 2014)."

Comment #2

Please note that the entire state of New Jersey is no longer classified as "marginal". As of September 23, 2019, the USEPA reclassified the northern nonattainment area of New Jersey (New York-Northern New Jersey-Long Island, NY-NJ-CT) as "serious" for the 2008 8-hour ozone standard. The de minimis level for NOx or VOC's in a serious nonattainment area is 50 tons per year.

The Phase 1 construction activities that fall under the Section 1122 program and evaluated in this report include dredging and in-water placement. Phase 2 activities are a separate dredging and placement operation in a different location, also included under the Section 1122 authority, and will be evaluated in a separate NEPA document. Phase 1 will be completed in late summer 2020 and Phase 2 has not been developed to date.

The USEPA classification has been corrected in the Final EA.

3.) 6.1.1 General Conformity Rule

In section 6.1.1, the Environmental Assessment states, "Maintenance dredging is excluded from General Conformity requirements under 40 Code of Federal Regulation (CFR) Section 153 (c) (ix). The additional air emissions estimated to result from the dredge traveling the additional 1-3 miles to the beneficial use placement site is below de minimis levels for each annual dredging event."

Comment #3

Please provide further detail on the additional air emissions resulting from the dredge traveling the additional 1-3 miles to the beneficial use placement site, including the estimated amount of air emissions in tons per year (NOx, VOC, PM2.5 and precursors) that would occur from this activity.

If you have any questions, please contact Connor Miller at Connor.Miller@dep.nj.gov

Stormwater Management

Based on the information provided, it does not appear that more than one acre will be disturbed during the construction of this communication tower. If more than one acre will be disturbed, a general permit for Construction Activities, (5G3) may be required. The permit application process is available online at <http://www.state.nj.us/dep/DWQ/5G3.htm>. If you have any additional questions, please contact Eleanor Krukowski at (609) 633-9286 or eleanor.krukowski@dep.nj.gov.

Thank you for giving the New Jersey Department of Environmental Protection the opportunity to comment on the Natural Resources Review for the proposed project. Please contact David Pepe at (609) 292-3600 if you have any additional questions or concerns.

Sincerely,



Megan Brunatti, Manager
Permit Coordination and Environmental Review

As noted in the EA, maintenance dredging is exempt from the General Conformity Applicability Analysis. The proposed placement/disposal location is located approximately 3 miles south along the Atlantic Ocean from the historical placement site in the Atlantic Ocean just outside of the inlet. Placement activities are part of the maintenance dredging operation and do not require the use of any additional land-based equipment typical of a beach nourishment project, such as dozers, trucks, or booster pumps. The additional emissions from the dredge to travel 3 miles were determined to be minimal for a dredging and placement operation approximately 10 days in length.

NJDEP Marine Fisheries Administration Waterfront Development Permit Review
Official Transmittal Form

Date Pre-Submittal Comments

Applicant JPP Comments

Project Description Request More Info

Final Comments

DLUR File# Review Request from DLUR:

Easting Northing

Project Location

Waterway

Block(s) Lot(s)

Municipality County

MFA Reviewer(s)

Potential Impacts To:

- Shellfish Aquaculture Leases Submerged Vegetation Habitat
- Shellfish Habitat Shipwreck and Artificial Reef Habitats
- Surf Clam Areas Endangered or Threatened Wildlife
- Prime Fishing Areas Marine Fisheries
- Finfish Migratory Pathways Public Fishing Access
- No Concerns

Applicable Timing Restrictions/Permit Conditions:

- Anadromous I March 1 - June 30 Turbidity Barriers Blue Crab December 1 - March 31
- NY/NJ Harbor Agreement Feb 1 - May 31 Notify Lease Holders Oyster Bed July 15 - Sept 15
- Winter Flounder Jan 1 - May 31 Anadromous II March 15 - June 30

Comments:

The Marine Fisheries Administration (the Administration) is comprised of the Bureau of Marine Fisheries and the Bureau of Shellfisheries. Both Bureaus are charged with reviewing permits within the context of all of the species they regulate, the habitat of said species, and the user groups associated with those species and habitats. The Administration is submitting comments based on the documentation that was provided by the applicant. The Administration cannot assume that the applicant will perform any activities outside of the ones prescribed in the application. Therefore, if the applicant deviates from the activities in this application, these comments are no longer valid and the Administration requests that the applicant submit such changes with ample time to review and comment prior to anticipated commencement of activities.

USACE will avoid dredging and placement operations during the recommended time restriction. At any future time under emergency conditions or mission critical assignments for the navigation channel, if dredging is required during this period due to safety concerns or east coast scheduling requirements, USACE will reinitiate coordination with NJDEP.



NEW JERSEY DEPARTMENT OF
Fish and Wildlife
Marine Fisheries Administration
Nacote Creek Field Station
Port Republic, NJ
(609) 748-2021

MEMORANDUM

TO: David Pepe, Environmental Specialist, Office of Permit Coordination and Environmental Review

FROM: Jessica Daher, Marine Fisheries Administration (MFA)

DATE: April 30, 2020

SUBJECT: USACE Section 1122 Beneficial Use Pilot Project, Barnegat Inlet, Phase I

Thank you for providing the Marine Fisheries Administration an opportunity to review and comment on phase one of the USACE Section 1122 Beneficial Use Pilot Project in Barnegat Inlet. In response to your email, dated April 6, 2020, requesting comments for the review of the USACE's Draft Environmental Assessment, MFA offers the following comments:

Bureau of Shellfisheries

The Bureau of Shellfisheries supports the development and implementation of well-designed habitat improvement and shoreline protection projects. These projects can protect eroding shorelines and improve or create viable marine habitat, while providing an avenue to keep valuable sediment from routine dredging operations, in the marine system. The Bureau has reviewed the draft Environmental Assessment (EA) entitled "National Sediment Resource Management (RSM) Program, Water Resources Development Act (WRDA 2016) Section 1122 Beneficial Use of Dredge Material Pilot Program, Barnegat Inlet, New Jersey" that involves the dredging of Barnegat Inlet and placement of material off the coast of Harvey Cedars. Comments on the project can be found below.

The EA is consistent with the measures listed in the New Jersey Coastal Zone Management Rules (N.J.A.C 7:7). Due to the dynamic environmental conditions within the project area and the nature of the habitats described in the request, the Bureau anticipates any impacts to shellfish habitat will be minimal and does not have any immediate concerns regarding material placement in the described area.

The Bureau recommends that the monitoring described in the EA be adhered to and well-documented, as the monitoring will help to further understand the best practices for sediment management and shoreline protection for future projects.

Bureau of Marine Fisheries

Barnegat Inlet is the entrance point for herring migrating to a system of rivers/streams that empty into Barnegat Bay. The inlet and the channel within the project area are a migratory finfish pathway, and the Bureau of Marine Fisheries would recommend an anomalous timing restriction from March 1-June 30 for any work that is going to result in the suspension of sediment within Barnegat Inlet.

The project area is listed as essential fish habitat (EFH) for a multitude of commercially, recreationally, and ecologically important species including black sea bass, summer flounder, winter flounder, bluefish, and a host of federally managed species.

cc. Dave Golden, Director, DFW
Joseph Cimino, Administrator, MFA
Maryellen Gordan, BMF
Jeff Normant, BSF
Kira Dacanay, BSF
Suzanne Biggins, DLUR

USACE will schedule maintenance dredging operations outside of the recommended March 1 – June 30 herring migration period.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New Jersey Field Office
4 E. Jimmie Leeds Road, Suite 4
Galloway, New Jersey 08205
Tel: 609/646 9310
www.fws.gov/northeast/njfieldoffice/



In reply refer to:
2020-I-1043

May 14, 2020

Peter R. Blum, Chief
U.S. Army Corps of Engineers, Planning Division
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390
Attention: Barbara.E.Conlin@usace.army.mil

Reference: National Regional Sediment Management Program, Water Resources Development Act 2016, Section 1122 Beneficial Use Pilot Project, Barnegat Inlet, New Jersey; placement of dredged material as a pilot project in the vicinity of the Borough of Harvey Cedars, Ocean County, New Jersey.

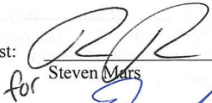
The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced proposed project pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA) to ensure the protection of federally listed endangered and threatened species. The following comments do not address all Service concerns for fish and wildlife resources and do not preclude separate review and comment by the Service as afforded by other applicable environmental legislation. The subject consultation is for dredging, with ten-year maintenance, of approximately 200,000 cubic yards of material from Barnegat Inlet by the U.S. Army Corps of Engineers, Philadelphia District (Corps), with the resultant dredged material placed in the near shore "oceanfront" environment off of or in the vicinity of the Borough of Harvey Cedars, Ocean County, New Jersey.

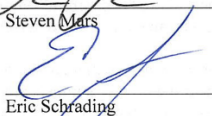
A known occurrence or potential habitat for the following federally listed or candidate species is located on or near the project's impact area. However, the Service concurs that the proposed project is not likely to adversely affect federally listed or candidate species for the reasons listed below.

Species	Basis for Determination
Red knot (<i>Calidris canutus rufa</i>), threatened	Only minor project activities are proposed in red knot habitat (beach surveys), thus habitat and disturbance impacts are expected to be minimal. In addition, Tetra Tech (2017) found minimal use of this action area by red knots during fall migration. Therefore, impacts are expected to be insignificant and/or discountable.
Piping plover (<i>Charadrius melodus</i>) and seabeach amaranth (<i>Amaranthus pumilus</i>), threatened	There will be minor activities (Corps beach surveys) undertaken on beaches, dunes, or ocean-side inter-tidal areas to determine the effectiveness of the in-shore placement of dredged material. The surveys will occur before, during and after project completion. The staging of equipment will be prohibited from entering the dune, fore-dune, or beach areas at any time during construction. The Corps has agreed to implement the conservation measures via emails dated April 24, 2020; and May 7, 2020.

Except for the above-mentioned species, no other federally listed or proposed threatened or endangered flora or fauna under Service jurisdiction are known to occur within the proposed project's impact area. Therefore, no further consultation pursuant to the ESA is required. If additional information on federally listed species becomes available, or if project plans change, this determination may be reconsidered.

Please refer to this office's web site at <http://www.fws.gov/northeast/njfieldoffice/Endangered/> for further information including federally listed and candidate species lists, procedures for requesting ESA review, the National Bald Eagle Management Guidelines, and contacts for obtaining information from the New Jersey Natural Heritage and Endangered and Nongame Species Programs regarding State-listed and other species of concern.

Reviewing Biologist:  _____
for Steven Mars

Authorizing Supervisor:  _____
Eric Schradling

cc: U.S. Army Corps of Engineers - Monica Chasten

Literature Cited

Tetra Tech. 2017. Fall 2016 Red Knot (*Calidris canutus rufa*) Surveys at Beach Nourishment Areas: Manasquan Inlet to Barnegat Inlet, Long Beach Island, Absecon Island, Ocean City, Great Egg Harbor to Townsend Inlet, Townsends Inlet to Hereford Inlet, Cape May City and Cape May Meadows; New Jersey Projects. Tetra Tech, Inc., Arlington, Virginia 22201. 141pp



State of New Jersey

PHILIP D. MURPHY
Governor
SHEILA Y. OLIVER
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Land Use Regulation
Mail Code 501-02A
P.O. Box 420
Trenton, New Jersey 08625-0420
www.nj.gov/dep/landuse

CATHERINE MCCABE
Commissioner

Peter R. Blum, PE
Chief – Planning Division
Department of the Army
Philadelphia District, Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

May 28, 2020

RE: Federal Consistency Determination and Section 401 Water Quality Certification
DLUR File No. 1500-20-0001.1 CDT200001
USACE Section 1122 Beneficial Use Pilot Project, Barnegat Inlet, Phase 1

Dear Mr. Blum:

The New Jersey Department of Environmental Protection (NJDEP), Division of Land Use Regulation (Division), acting under Section 307 of the Federal Coastal Zone Management Act (P.L. 92-583) as amended, has reviewed the Army Corps of Engineers (ACOE) request for authorization to perform periodic maintenance dredging of the Barnegat Inlet federal navigation entrance channel and placement of the material in the nearshore zone of the ocean beach between Barnegat Inlet and Harvey Cedars for supplemental sand within the authorized Barnegat Inlet to Little Egg Inlet Storm Damage Reduction Project.

The Division has reviewed the submitted information and has determined that the project is consistent, to the maximum extent practicable, and with the conditions implemented below, with New Jersey's Rules on Coastal Zone Management N.J.A.C. 7:7E-1.1 et seq., (as amended on February 20, 2020).

Project Description

Under the Water Resource Development Act (WRDA) 2016 Section 1122 Beneficial Use Pilot Project Phase 1, the Barnegat Inlet Federal Navigation Entrance Channel would initially be dredged to its design width of 300 feet and depth of -10 feet below Mean Low Water (MLW). The initial 200,000 cubic yards of sand material removed from the channel would be beneficially used along a 1-mile long erosional zone section of ocean beach located in Harvey Cedars. The material would be placed in the nearshore zone of the ocean beach along Harvey Cedars as shown on "Figure 1, Barnegat Inlet Study Area" to reduce shoreline erosion.

Sand from subsequent maintenance dredging of the federal navigation entrance channel is anticipated to be reduced in volume and would also be placed in the nearshore zone of the ocean beach between the inlet and Harvey Cedars to supplement the nourishment needs of the Barnegat Inlet to Little

Egg Inlet Storm Damage Reduction Project. The ACOE will monitor the placement of sand on the ocean beaches to better understand shoreline erosion and sand movement within this area along the Atlantic Ocean.

This work is shown on site plans consisting of two sheets, prepared by ACOE, and entitled:

- "FIGURE 1, BARNEGAT INLET STUDY AREA" ; and
- "FIGURE 2, BARNEGAT INLET FEDERAL NAVIGATION PROJECT".

This consistency determination is issued subject to compliance with the following conditions:

1. The ACOE shall submit a monitoring work plan to the NJDEP for review prior to implementation of Phase 1 of the Beneficial Use Pilot Project in calendar year 2020 as discussed in the draft environmental assessment, dated March 2020.
2. No dredging and associated in-water work may occur in the Barnegat Inlet federal navigation entrance channel from March 1st through June 30th to be protective of anadromous fish migration.

This Federal Consistency is authorized pursuant to all parties following the guidelines set forth, and agreed upon, for the proposed activities.

Pursuant to 15 CFR 930.44, the Division reserves the right to object and request remedial action if this proposal is conducted in a manner, or is having an effect on, the coastal zone that is substantially different than originally proposed.

Thank you for your attention to and cooperation with New Jersey's Coastal Zone Management Program. If you have any questions regarding this determination, please do not hesitate to call Suzanne U. Biggins or our staff at (609) 292-2023.

Sincerely,

**Colleen
Keller**
Digitally signed by
Colleen Keller
Date: 2020.05.28
17:46:35 -04'00'
Colleen Keller, Assistant Director
NJDEP Division of Land Use Regulation

c: William Dixon, NJDEP Division of Coastal Engineering
Kim Springer, NJDEP Office of Policy Implementation

The monitoring plan will be provided to NJDEP prior to initiation of the project.

No in-water work will occur in the inlet between March 1 and June 30.

-----Original Message-----

From: Conlin, Barbara E CIV USARMY CENAP (USA)
Sent: Tuesday, June 30, 2020 3:24 PM
To: Keith Hanson - NOAA Federal <keith.hanson@noaa.gov>
Subject: Barnegat Inlet O&M dredging (Section 305 (b)(4)(B) of the MSA)

Keith,

The Philadelphia District of the U.S. Army Corps of Engineers is scheduling maintenance dredging of the authorized navigation channel within Barnegat Inlet. The operation is being conducted under Section 1122 of the Water Resources Development Act as a pilot project to beneficially use the dredged material by placing it in the nearshore zone of the ocean beach fronting the borough of Harvey Cedars, Long Beach Island, New Jersey at an erosional hotspot. The program will include pre-and post-placement monitoring to track the placed material subject to natural sediment transport processes within the littoral zone.

A draft Environmental Assessment (EA) titled: National Regional Sediment Management (RSM) Program, Water Resources Development Act (WRDA 2016) Section 1122 Beneficial Use Pilot Project, Barnegat Inlet, New Jersey was provided to you 6 April 2020. Pursuant to the Magnuson Stevens Fishery Conservation and Management Act (MSA), our office initiated consultation with your office in February 2020 and provided an Essential Fish Habitat (EFH) Worksheet and additional information via email through June 2020.

Pursuant to Section 305 (b)(4)(B) of the MSA, this letter responds to your letter dated 23 March 2020 providing Conservation Recommendations. The proposed project was evaluated with respect to its potential direct, indirect, and cumulative effects on EFH. You agreed with our determination that the adverse effect on EFH or federally managed fisheries is not substantial, and effects can be alleviated with minor project modifications or EFH conservation recommendations. You provided the following Conservation Recommendations:

1. To avoid and minimize the impacts of dredging on aquatic habitat, eggs, larvae, free-swimming fish, and invertebrates, dredging should be avoided from March 1 to June and from November 1 to December 31, of any given year.
2. Dredging heads/dragheads should not be turned on/activated until the head is at or on the bottom and should be turned off/deactivated prior to being lifted through the water column.

It is presently anticipated that dredging will begin in August 2020. The target quantity to be dredged and placed in the nearshore zone at Harvey Cedars is 200,000 cy in 2020 and significantly lesser amounts annually removed in future years. The work will continue until complete by late October 2020. This proposed period of operation will occur outside of the recommended seasonal restrictions. Pursuant to the MSA as well as the Fish and Wildlife Coordination Act, any future maintenance dredging operations that may affect EFH and other aquatic resources will be coordinated with your office.

Based on our assessment of the proposed action's in-water activities outside of your recommended seasonal restricted periods and commitment to activate/deactivate the dredge draghead only when it is

resting on the bottom, USACE can meet the conservation recommendations. No significant adverse impacts to EFH and associated federally-managed species are anticipated.

If I can provide any further required information, please don't hesitate to contact me.

Best regards,
Barb

Barbara E. Conlin
Ecologist
Environmental Resources Branch
Philadelphia District
USACE

100 Penn Square East
Philadelphia PA 19107
215.656.6557

