CORRESPONDENCE

New England Fishery Management Council
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John F. Quinn, J.D., Ph.D., *Chairman* | Thomas A. Nies, *Executive Director*

December 21, 2018

Mr. Michael Pentony
GARFO Regional Administrator
NMFS/NOAA Fisheries
55 Great Republic Drive
Gloucester, MA 01930

Dear Mike:

On December 21, my staff electronically submitted a preliminary version of the Coral Amendment, including a Draft Environmental Assessment, to your staff in the Sustainable Fisheries Division at the Greater Atlantic Regional Fisheries Office. The purpose of this amendment is to consider area-based fishing restriction measures for deep-sea corals occurring in the New England region to reduce potential impacts to corals from fishing activity, as allowed under the Council's discretionary authority. Alternatives include a large coral zone south of Georges Bank, two smaller zones in the inshore Gulf of Maine, a dedicated habitat research area in Jordan Basin, and measures that allow adjustments to coral zones and measures via framework action.

Upon review of the document, please communicate any comments and/or need for further revision directly to me. Please contact me if you have questions.

Sincerely,

Thomas A. Nies

Thomas A. Nies
Executive Director

NROC
Northeast Regional Ocean Council

December 6, 2018

Ms. Mary Neumayr
Council of Environmental Quality
Co-Chair, Ocean Policy Committee

Mr. Michael Kratsios
Office of Science and Technology Policy
Co-Chair, Ocean Policy Committee

Mr. Deerin Babb-Brott
Executive Director
Ocean Policy Committee

Sent via email

Dear Ms. Neumayr, Mr. Kratsios and Mr. Babb-Brott:

The Northeast Regional Ocean Council (NROC), the Regional Ocean Partnership (ROP) for the New England states, respectfully submits this letter which describes regional ocean management priorities and requests continued and increased cooperation from federal agencies to advance these priorities.

NROC is a state and federal partnership that was established in 2005 by the Governors of Connecticut, Rhode Island, Massachusetts, New Hampshire, Maine, and Vermont to coordinate and collaborate on cross-jurisdictional ocean issues. Federal agencies have been involved as equal partners with the states since the inception of NROC. In addition to its core membership, NROC is structured to include voluntary participation from additional federal and state agencies, federally recognized tribes, the New England Fishery Management Council, and other regional partners and ocean stakeholder groups.

Ocean planning has been a priority for NROC since its formation. In recent years in New England, there has been increased interest and proposals for offshore wind and marine hydrokinetic energy generation facilities, liquified natural gas terminals, aquaculture operations, telecommunications cables, energy transmission cables, and offshore sand mining. These potential activities present new economic opportunities that need to be coordinated with important existing economic sectors, including fishing, shipping, tourism, and recreation. These new activities also need to be considered for their potential interactions with the region's unique ecological resources. As a result, marine plans for state waters in the Commonwealth of Massachusetts and the State of Rhode Island have been in place since early 2010 and the State of Connecticut is currently developing a plan for its share of Long Island

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Sound. Building off of these state-led efforts, and recognizing the need for better data and information, improved coordination, and enhanced stakeholder engagement in existing regulatory and management processes, NROC initiated regional ocean planning activities and established the Northeast Ocean Data Portal in 2009. In 2016, the Northeast Ocean Plan, which describes regional priorities and includes a series of actions to enhance regulatory decision-making around key ocean management issues in the northeast, was completed. NROC supported the five-year process that led to the Northeast Ocean Plan and continues to maintain the portal as a regional resource that is regularly and increasingly being used by thousands of private and public interests.

Since the June 19, 2018 publication of *Executive Order 13840, Ocean Policy To Advance the Economic, Security, and Environmental Interests of the United States,* NROC has held two public meetings and conducted interviews with a wide range of ocean stakeholders to obtain input on regional ocean management priorities and the appropriate structure for advancing those priorities in New England. As a result of this process, NROC affirms that it is the appropriate entity for advancing regional ocean management priorities as described in the Northeast Ocean Plan and articulated by NROC since the plan was completed. Per Sections 2(g) and 5(b) of EO 13840, we respectfully request that the interagency Ocean Policy Committee collaborate with NROC and mobilize federal agency capacity to advance the following regional ocean management priorities, which have been identified and reaffirmed through extensive engagement with stakeholders.

- Increase the reliability, accuracy, and accessibility of federal data assets that are frequently used and relied upon for offshore management, regulatory, and business decisions, specifically:
    - Fisheries data, particularly data and products derived from NOAA's Vessel Monitoring System and Vessel Trip Report databases
    - Marine transportation data, particularly data and products derived from the Automatic Identification System that is maintained by the U.S. Coast Guard
    - Marine life and habitat data, particularly data and products derived from marine wildlife monitoring and surveying efforts, such as the NOAA Northeast Fisheries Science Center trawl and dredge surveys and the Atlantic Marine Assessment Program for Protected Species (AMAPPS)
    - Administrative, regulatory, and management area delineations, particularly those delineations that frequently change as a result of regulatory and management actions, such as fisheries management areas, designated vessel anchorage areas, ocean disposal sites, and offshore energy lease areas
    - For additional details on these and other data priorities, please see the Northeast Ocean Data Portal Work Plan

- Improve coordination and communication with the New England states for coastal seafloor mapping, research, and exploration initiatives, specifically:
    - Increase communications with the states and provide boundaries for all federal agency mapping, exploration, and research activities well in advance of conducting such activities
    - Coordinate with the states to identify needs for new topographic, bathymetric, LiDAR, and other seafloor data collection efforts

- Encourage federal agency use of best practices for decision-making that were developed in the Northeast, included in the Northeast Ocean Plan, and are being further detailed by NROC's working groups. These best practices for agency and cross-jurisdictional coordination, pre-application interactions, stakeholder engagement, and the use of best available data and information in agency decisions, will result in more efficient regulatory processes and fewer conflicts.

- Continue to support Regional Ocean Partnerships and their data portals to ensure state and regional stakeholder information and needs are incorporated into federal decisions.

We also respectfully request that the interagency Ocean Policy Committee coordinate and communicate with NROC (see most recent membership roster attached) about the details associated with each of these requests in order to benefit from nearly ten years of experience and stakeholder input on these issues. In addition to us, NROC's points of contact for regional ocean management issues include:

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We look forward to working with the interagency Ocean Policy Committee as it implements EO 13840 and as we advance these important regional priorities.

Sincerely, on behalf of the NROC membership,

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UNITED STATES DEPARTMENT OF COMMERCE
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Ms. Jennifer McCarthy
Chief, Regulatory Division
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Re: NAE-2015-01414, Town of Wellfleet, Dredge Project, Wellfleet, MA

Dear Ms. McCarthy:

We have reviewed the additional information you provided with your letter dated October 24, 2018, including the benthic resources assessment and supplemental EFH Assessment Worksheet. As outlined in your May 23, 2017 Public Notice, the project involves dredging previously authorized town-managed navigation channels and anchorage areas located within Wellfleet Harbor, Wellfleet, Massachusetts. The proposed project includes the dredging of two areas to 6 feet below mean low water (MLW) with a one foot overdepth allowance. Area 1 was last dredged in 2001 and includes the removal of 118,300 cubic yards (cy) of material over 14.6 acres, of which 2.4 acres are intertidal flats relative to MLW. Area 2 was last dredged in 1957 and includes the removal of 248,000 cy of material over 23.8 acres, of which 13.9 acres are intertidal flats relative to MLW. Both areas within the proposed dredge footprints are composed of sandy subtidal habitats and intertidal mudflats. No mitigation for resource impacts is proposed.

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Fish and Wildlife Coordination Act require federal agencies to consult with one another on projects such as this that may adversely affect essential fish habitat (EFH) and other aquatic resources. Because this project involves EFH, the process is guided by the requirements of our EFH regulation at 50 CFR 600.920, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in the relevant consultation procedure.

As discussed in our June 2017 letter, we agreed with your preliminary determination that site-specific impacts associated with the proposed dredging of Area 2 may be substantial. We also made a preliminary determination that this project would result in substantial adverse impacts to EFH. Further, because the project involves mudflats, which are has designated as "special aquatic sites" under the Clean Water Act, we also found that this project may result in substantial and unacceptable adverse effects to Aquatic Resources of National Importance as outlined in Part IV(3)(a) of our 1992 Memorandum of Agreement between the Department of Commerce and the Department of the Army concerning Section 404(q) of the Clean Water Act (MOA). As

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a result, we initiated the Expanded Consultation Procedure as outlined in our regulations at 50 CFR 600.920(i) and requested additional information to assist us in providing appropriate EFH conservation recommendations.

The information you provided to us with your October 24, 2018, letter is responsive to the additional information requests outlined in our June 17, 2017, letter. Based upon the additional information provided, our preliminary determination is that this project would result in adverse impacts to EFH. You have provided the information necessary for us to provide our EFH conservation recommendations at this time. Therefore, pursuant to 50 CFR 600.920(i)(5), we are providing our EFH conservation recommendations based on the information we have received. We offer the following comments and recommendations on this project pursuant to the above referenced regulatory process.

General Comments

Marine resources and impacts

As discussed in our previous letter, the project is located in an important area for a number of marine and estuarine finfish and shellfish species, and is likely to result in direct and indirect adverse impacts to managed fish species and EFH. The area has been identified as EFH for 31 federally-managed species including, but not limited to, winter flounder, summer flounder, Atlantic cod, pollock, ocean pout, silver hake, red hake, white hake, windowpane flounder, little skate, winter skate, thorny skate, and surf clam. As detailed in our June 2017 letter, of particular concern for this project is adverse impacts to shellfish resources and mudflat habitats.

To assess impacts to these resources that serve as EFH for multiple managed fish species, we requested full benthic community characterization and additional information on water elevations in the proposed dredge footprints to allow for full evaluation of the extent of mudflats. We also noted that maintenance dredging of the mudflats in Area 2 has not been completed since the initial authorization for dredging issued in 1957, and requested additional information on boat and mooring usage. In response to our requests, you provided a benthic resources assessment report dated April 2018, and a discussion on boat usage and potential alternatives in your October 2018 letter. Included in the benthic resources report are plan views illustrating the layout of existing moorings and additional information on water elevations including, lowest predicted tide (LPT) and mean lower low water (MLLW). Quantification of mudflat impacts based on LPT or MLLW was not provided.

Boat and mooring usage

In your letter you indicate that despite Area 2 being a mudflat exposed at low tides, the area has been continuously used as an anchorage area since being dredged pursuant to the 1957 authorization. You also provided a timeline of aerial images which show the use of this area as an anchorage. The images illustrate various numbers of vessels in the anchorage but it is not possible to discern the extent of individual moorings. However, based upon the boats and propeller scars visible in the 2014 aerial, it is evident that portions of the anchorage have been in continuous use despite the shallow water depths. The benthic resources survey results also support the assertion that Area 2 has been continuously used as an anchorage area.

Benthic community survey
Unidentified seed shellfish were found in most benthic samples with relatively higher numbers along the outer edge sample locations. No mature shellfish species were collected. This is indicative of a routinely disturbed mudflat - settlement without recruitment. In your letter, you indicate this area is subject to moderate to significant nitrogen related habitat impairment (Howes 2017). However, the referenced report states "...the Cove {Area 2} (is) currently showing low to moderate impairment of benthic animal communities..." and "none of the basins had benthic communities with significant numbers of stress indicator species...which are typically found in highly nutrient and organic matter enriched estuarine basins...generally the communities throughout the system were...indicative of a system supporting moderate to high quality benthic habitat (Howes et al 2017). The presence of seed shellfish throughout the mudflat, with relatively higher numbers of seed shellfish along the outer edges of the anchorage area, in combination with Howes et al (2017) statements strongly suggests that it is likely physical disturbance within the anchorage area (i.e. boat groundings and mooring chain sweeps) that are limiting the benthic productivity of the mudflat rather than nutrient loading or oxygen depletion issues.

Mudflat extent determination
The provided plan views in the benthic resources report also illustrate the location of LPT and MLLW within Area 2. In contrast to the originally depicted mean low water (MLW), the LPT is almost entirely waterward of the Area 2 footprint and MLLW falls well waterward of MLW as well. The EPA describes mudflats as "exposed at extremely low tides." Using MLW to determine the extent of mudflats is not consistent with the use of "extremely" in describing the low tide conditions when they are exposed as MLW is an average of the two daily low tides. At a minimum, we recommend calculating the extent of mudflats to incorporate MLLW and in situations like this, with such shallow slopes, utilization of LPT to determine the actual "extreme" low tide extent to delineate mud flats is more appropriate. Using MLLW, an additional substantial area, in addition to the 13.9 acres calculated based on using MLW, would qualify as mudflat. Utilizing LPT, almost the entire 23.8 acres of Area 2 would defined as mudflat habitat.

Habitat conversion
The proposed dredging would result in a loss of almost 24 acres of mudflats through the conversion of this habitat to shallow-water habitat. Although shallow-water habitats provide important habitat for finfish, due to their important ecological functions, intertidal mudflats have been designated by the EPA as "special aquatic sites" under the Section 404(b)(1) of the federal Clean Water Act. Mudflats play an important role in the marine ecosystem for spawning, nursery cover and forage areas for fish and wildlife. Juvenile fish and invertebrates seek shelter by burrowing into the soft sediments. Juvenile and adult fish use mudflats for foraging, and these areas provide important post-spawn feeding habitat for winter flounder.

While the post-dredge condition as a shallow-water habitat will continue to provide foraging habitat once the area recolonizes, the physical habitat attributes of the mudflat and their physical habitat value as EFH will be permanently lost. As mudflats occur in nearshore depositional, low-energy environments with minimal natural disturbance regimes, they are particularly

susceptible to anthropogenic disturbances and degradation. Cumulative impacts from permanent losses and impairments of mudflat habitats are of particular concern. Due to their ecological importance, impacts to these habitats should be avoided, and where avoidance is not feasible, compensatory mitigation should be provided.

Project mitigation

Currently, the project does not propose any compensatory mitigation for adverse impacts. While we agree with your assertion that the area has been continuously utilized since the 1957 dredge authorization, the dredge footprint has not been continuously maintained. It is our understanding that mitigation for the loss of mudflat habitat was not included in the original authorization. Mudflat habitat has re-established throughout Area 2 and for the purposes of environmental review, adverse impacts to this special aquatic site should be fully assessed and offset. The dredge footprint has not been continuously maintained since the 1957 authorization and mitigation has never been provided. Therefore, the proposed new impacts to mudflats should be evaluated in consideration of the environmental laws and regulations that have been implemented since the initial authorization, including the Clean Water Act, the EPA's special aquatic site designation, and MSA.

Although compensatory mitigation for mudflat impacts is difficult due to the environmental constraints in selecting sites for restoration and/or creation, one option that may be viable for this project is habitat enhancement within the adjacent Massachusetts designated Area of Critical Environmental Concern (ACEC). Potential options for habitat enhancement that would result in positive benefits for finfish within the ACEC should be evaluated and pursued to offset the permanent adverse impacts to mudflat habitats currently proposed.

Time of year restrictions

Currently, you propose to include a time of year restriction (TOY) to protect winter flounder sensitive life history stage EFH. We support this TOY, however in areas connected to Cape Cod Bay we recommend that the TOY be implemented from February 1 in-lieu of the proposed February 15 start date. The State of Massachusetts has also included a TOY to protect shellfish resources in their authorization for this project, and while noted in your October 2018 letter, you have not proposed to include this TOY. The benthic survey results indicate that shellfish are actively spawning in this area and although no mature shellfish were captured in the benthic survey for Area 2, turbidity and sedimentation from dredging is not confined to the project footprint. Given that shellfish seed was found in most benthic samples at the site, shellfish resources are likely located within the subtidal portions of the proposed dredge footprint that were not surveyed. In addition to their ecological value, shellfish are prey for a number of federally managed species. Therefore, we also recommend that you include a shellfish TOY as part of your final authorization.

Essential Fish Habitat Conservation Recommendations

Section 305(b)(2) of the MSA requires all federal agencies to consult with us on any action authorized, funded, or undertaken by that agency that may adversely affect EFH. Wellfleet Harbor has been identified as EFH under the MSA for multiple federally-managed species. As a

result, we recommend that you adopt the following EFH conservation recommendations pursuant to Section 305(b)(a)(A) of the MSA:

1. To offset the permanent loss of approximately 24 acres of mudflat EFH a comprehensive compensatory mitigation plan should be developed and provided for our review and comment. A habitat enhancement project within the adjacent ACEC could be used to meet this recommendation.

2. To minimize adverse effects to winter flounder sensitive life history stage habitat within and adjacent to the project area, no in-water silt producing work, including dredging, should occur from February 1 to June 30, of any calendar year.

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 a description of measures you adopt 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 effects pursuant to 50 CFR 600.920(k).

Please also note that a distinct and further EFH consultation must be reinitiated pursuant to 50 CFR 600.920(l) if new information becomes available or the project is revised in such a manner that affects the basis for the above EFH conservation recommendations.

Fish and Wildlife Coordination Act Recommendations

In addition to the EFH provisions of the MSA, the Fish and Wildlife Coordination Act requires that we consult with each other on activities that impact fish and wildlife resources. As mentioned above, the project area supports shellfish resources. In order to protect these resources, we recommend you adopt the time of year restriction as noted below.

1. No in-water silt producing work should occur from May 1 to September 30, of any calendar year, to protect shellfish resources.

Endangered Species Act

A consultation, pursuant to section 7 of the Endangered Species Act (ESA) of 1973, as amended, may be necessary. Under the ESA, if the proposed project has the potential to affect listed species or designated critical habitat, and it is being approved, permitted or funded by a Federal agency, the lead federal agency, or their designated non-Federal representative, is responsible for determining whether the proposed action may affect the listed species or designated critical habitat. In this situation, you are responsible for this determination. If you determine the proposed action may affect listed species under our authority, the determination along with justification for their determination should be sent to the attention of the ESA Section 7 Coordinator at nmfs.gar.esa.section7@noaa.gov (NMFS Greater Atlantic Regional Fisheries Office, Protected Resources Division (PRD), 55 Great Republic Drive, Gloucester, MA 01930).

After reviewing this information, we would then be able to conduct a consultation under section 7 of the ESA. If you determine the proposed action will not affect listed species under our authority, no further consultation with us is necessary. Should you have any questions about these comments or about the section 7 consultation process in general, please contact Zach Jylkka at Zachary.jylkka@noaa.gov or (978) 282-8467.

Conclusion

In summary, we recommend a compensatory mitigation plan be developed and provided for our review and comment and no dredging activities should occur from February 1 to September 30, inclusive. We look forward to your response to our EFH conservation recommendations on this project. Should you have any questions regarding our EFH recommendations or Fish and Wildlife Coordination Act comments, please contact Alison Verkade at 978-281-9266 or alison.verkade@noaa.gov.

Sincerely,

for Louis A. Chiarella
Assistant Regional Administrator
for Habitat Conservation

cc: Phillip Nimeskern, USACE
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References

Howes B.L., S. Kelley, J. S. Ramsey, E. Eichner, R.I. Samimy, D.R. Schlezinger, P. Detjens (2017). Massachusetts Estuaries Project Linked Watershed-Embayment Model to Determine Critical Nitrogen Loading Thresholds for the Wellfleet Harbor Embayment System, Town of Wellfleet, Massachusetts, Massachusetts Department of Environmental Protection. Boston, MA.

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December 20, 2018

Operations Branch

Louis A. Chiarella
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Subject: Federal Agency Response - Sandbridge Beach Erosion Control and Hurricane Protection Project Essential Fish Habitat Conservation Recommendations

Mr. Chiarella:

This letter is in response to the Essential Fish Habitat (EFH) conservation recommendations for the Sandbridge Beach Erosion Control and Hurricane Protection Project located in Virginia Beach, Virginia. Pursuant to Section 305(b)(4)(A) of the Magnuson-Stevens Fisheries Conservation and Management Act (MSA), the National Marine Fisheries Service (NMFS) provided numerous conservation recommendations to the U.S. Army Corps of Engineers, Norfolk District (USACE) and their cooperating agency, the Bureau of Ocean Energy Management (BOEM). Since the initial Sandbridge Beach Erosion Control and Hurricane Protection project was constructed in 1998, there have been three beach nourishment maintenance cycles (2002, 2007, and 2013) with dredged material placed from the Sandbridge Shoal Borrow Sites A and B. The following is the USACE's formal response to those recommendations for the Sandbridge Beach Erosion Control and Hurricane Protection Project as required by 50 Code of Federal Regulations (CFR) 600.920.

Responses to General EFH Conservation Recommendations:

- *Conduct a pre-dredge vibracore survey to identify shoal areas of beach quality sand to minimize the dredge footprint and duration which the dredge operates and review these findings with us prior to dredging.*

Vibracore sampling of the Sandbridge borrow sites was performed in 2018. Due to funding constraints, vibracore sampling was not performed throughout the entire borrow site areas. Within the areas that were sampled in the borrow areas, it was determined that there are 28.5 million cubic yards of beach compatible sand. Attached is a copy of the report.

- *While dredging, follow the existing bottom contours to the maximum extent practicable to maintain seafloor ridge and swale heterogeneity. Do not exceed 6.6 ft. (2 m) of dredge cut to any ridge or swale. Incorporate the proposed operational BMPs into hydraulic dredge operation to minimize entrainment of aquatic organisms.*

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Dredging will follow the existing bottom contours to the maximum extent practicable to maintain seafloor ridge and swale heterogeneity. Limiting dredging to 6.6 feet would impact a greater surface area due to the need for wider geographical coverage to achieve the same volume of material at lower allowable dredge depth. It would also increase hopper transit and construction costs to obtain borrow material. In coordination with BOEM, dredging will not exceed 10 feet to prevent the formation of deep pits with the potential for anoxic zones. This slightly deeper depth will minimize the surficial dredging footprint while maintaining existing suitable benthic and fish habitat. Best management plans such as the use of turtle deflectors, placement of the drag head on the bottom during priming, and shutting down pumps prior to raising the drag arm will minimize entrainment of aquatic organisms.

- *Conduct pre-and post-dredging bathymetric surveys across borrow areas A and B where dredging will occur to determine geomorphic changes from pre- to post-construction. Compile survey data in a database to provide valuable baseline information for the planning and implementation of future beach nourishment/sand mining projects.*

  USACE will conduct pre- and post-dredging bathymetric surveys of borrow areas where dredging will be performed to determine geomorphic changes from pre- to post-construction conditions. The data will be provided to BOEM to compile survey data in a database (developed as the Marine Minerals Information System [MMIS]) to provide valuable baseline information for the planning and implementation of future beach nourishment/sand mining projects.

- *Coordinate with BOEM and us to develop a long-term strategy and management plan for Sandbridge Shoal that identifies criteria for rotation dredging based on natural accretion and pre-and post-construction bathymetry and benthic community data.*

  USACE will coordinate with BOEM, NMFS, the City of Virginia Beach, and other relevant stakeholders on the development of a long-term strategy and management plan for Sandbridge Shoal. Currently, Norfolk District is working with USACE, North Atlantic Division and other Districts to optimize the use of available sand sources by developing a system approach for the long-term management of sand sources.

- *Based on survey data, incorporate rotational dredging to the maximum extent practicable to focus dredging in areas which have not been previously mined or have sufficiently accreted since previous events. This will help preclude the mining of the same sand ridge during sequential dredging events and assist in recovery of the benthic community.*

  The last maintenance cycle for the Sandbridge Beach project in 2013 used Sandbridge Borrow Site A as the primary borrow site and B as the secondary site; however, a 2015 nourishment event of Dam Neck (which dredged a smaller volume of approximately 600,000 cubic yards) focused dredging in Borrow Site B. BOEM recently changed its leasing strategy for Sandbridge and is now leasing a smaller portion of the borrow sites rather than the full areas, so that BOEM and USACE have better control over where dredging occurs. For this maintenance cycle, dredging will focus on a designated area within Borrow Site B as the primary site for beach nourishment. USACE has identified and requested as a potential

secondary site an area within Borrow Site A. BOEM will continue to implement this strategy of leasing smaller areas for future events, taking into consideration where recent dredging has occurred and any areas of accretion.

- *Coordinate with us to develop benthic and fisheries sampling and monitoring plans used to determine recovery rates and community composition of dredged areas of Sandbridge Shoal.*

  USACE initiated a benthic study of the Sandbridge borrow sites in November 2018 to help determine recovery rates and community composition of dredged areas of Sandbridge Shoal. If dredging is completed as scheduled by the end of August 2019, the post-dredging recovery surveys would start in October 2019 and again in 2020 pending fund availability. The results of these findings will be provided to NMFS and BOEM in 2020.

Responses to Atlantic Coast Highly Migratory Species EFH Conservation Recommendations:

- *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.*

  The Norfolk District has voluntarily implemented a conservation measure to avoid hopper dredging from September 1 to November 14 to minimize impacts to threatened and endangered species. Limiting the project activities for use during other times may result in project delays and additional project costs due to the lack of available industry hopper dredges. As such, any additional time-of-year restrictions may significantly affect the constructability of the project that serves as hurricane protection.

- *Sand and gravel extraction operations should be managed to avoid or minimize impacts to the bathymetric structure in estuarine and nearshore areas.*

  No sand extraction operations will occur within estuarine or nearshore areas.

- *An integrated environmental assessment, management, and monitoring program should be a part of any gravel or sand extraction operation, and encouraged at Federal and state levels.*

  An Environmental Assessment (EA) was completed by USACE in 2009 that described the affected environment, evaluated potential environmental impacts (initial construction and nourishment events), and considered alternatives to the proposed action. This EA was subsequently updated and adopted by BOEM in 2012 in association with the most recent 2013 Sandbridge nourishment effort (available at https://www.boem.gov/Virginia-Projects/). For this maintenance cycle, the EA was updated by BOEM to supplement and summarize the aforementioned 2012 analyses. USACE and BOEM will continue to use the most current and accurate information available in subsequent dredging and nourishment events. For every nourishment cycle, USACE and BOEM will ensure that the project is in compliance with state and federal regulations.

  As previously noted, a benthic study is currently underway. Previous benthic monitoring studies were completed in 2005 and 2001. In addition, pre- and post-bathymetric surveys are

performed of the borrow sites.

- *Planning and design of mining activities should avoid significant resource areas important as HMS EFH.*

  As previously noted, several best management practices are integrated into the specifications to minimize impacts of dredging activities to significant resource areas. USACE and BOEM assess impacts to borrow areas in environmental documents prior to BOEM issuing a lease. These borrow areas are used intermittently, with the most recent dredging of Sandbridge Shoal occurring in 2015 for Dam Neck. Additionally, BOEM limits the dredge areas within the borrow sites. The project impacts are, therefore, temporary and localized and are not anticipated to result in substantial adverse impacts to EFH for Atlantic highly migratory species.

  BOEM welcomes feedback on specific "significant resource areas" and potential impacts of concern from NMFS to better inform Marine Mineral Program studies.

- *Given the increase in sea level rise and potentially growing need to re-nourish beaches, this activity needs to be closely monitored in areas that are adjacent to or located in HMS EFH.*

  Due to the potential increase in sea level rise and growing need to renourish beaches, surveys of Sandbridge Beach are performed by the City of Virginia Beach to closely monitor beach erosion. Also, USACE performs surveys of the beach and borrow areas before and after completion of project.

In addition to the above, the USACE will incorporate the Mid-Atlantic Fishery Management Council's policies, as appropriate. BOEM will lease smaller areas within Sandbridge Borrow Site A and B for the Sandbridge Beach Nourishment project to better limit the footprint of potential impacts. Pre- and post-bathymetric surveys will be performed of the designated borrow areas that will be dredged. As previously noted, a benthic study is currently underway to assess community composition and recovery rates. BOEM will also use data collected to better identify areas of higher dredge intensity as well as areas of accretion. Best management practices will be used to the maximum extent that is practicable.

USACE and BOEM consider the EFH consultation complete. Should you have any questions or require further information on this submittal, please contact Ms. Teri Nadal by email at teresita.i.nadal@usace.army.mil or call (757) 201-7299. Thank you for your cooperation and assistance.

Sincerely,

Keith B. Lockwood
Chief, Operations Branch

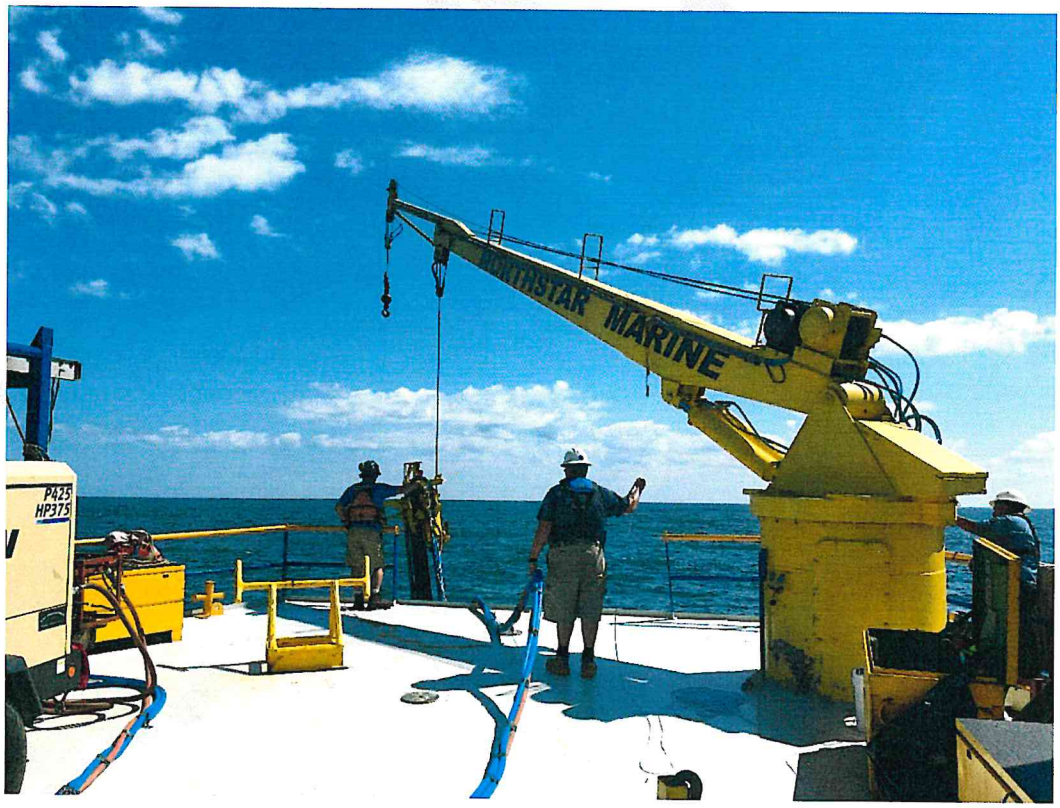
SANDBRIDGE BEACH RENOURISHMENT PROJECT

SANDBRIDGE SHOAL BORROW SITE AREAS A & B

Virginia Beach, Virginia

CONTRACT #W91236-14-D-0025
DO #W9123618F0058

Schnabel Reference 18C13103
November 13, 2018



Schnabel ENGINEERING

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

DEC 20

Alicia Logalbo
Chief, Environmental Analysis Section
Planning and Policy Branch
Norfolk District
US Army Corps of Engineers
803 Front Street
Norfolk VA 23510-1011

Re: New York / New Jersey Harbor Anchorages Draft General Reevaluation Report and Environmental Impact Statement

Dear Ms. Logalbo:

We have reviewed the materials provided in your letter dated November 5, 2018, regarding the New York / New Jersey Harbor Anchorages General Reevaluation Report and Environmental Impact Statement (GRR/EIS). The Norfolk District U.S. Army Corps of Engineers (Corps), with the nonfederal sponsor, Port Authority of New York and New Jersey (Port Authority), are preparing the draft GRR/EIS for the New York and New Jersey Harbor Anchorages project. The study area includes the upper and lower bays of New York Harbor, and will also include any potential dredged material placement areas. The study will evaluate options including deepening existing anchorages and constructing new ones. Potential features for this project include:

- Deepening of Gravesend Anchorage within the existing footprint;
- Expansion of the footprint of Gravesend Anchorage to accommodate container vessel design length;
- Deepening of the existing Red Hook Flats Anchorage within the existing footprint;
- Deepening of the existing Bay Ridge Flats Anchorage within the existing footprint and adding it to the Red Hook Flats Anchorage;
- Creation of a new Corps anchorage on the west side of the Ambrose Channel across from Gravesend that would accommodate tanker and/or container vessels;
- Creation of a new Corps anchorage on the west side of the Ambrose Channel across from Gravesend that would accommodate tugs/barges; and
- Creation of a new Corps anchorage in Stapleton that would accommodate tanker vessels and/or tugs/barges.

As part of the reevaluation report, you will be preparing environmental compliance documents pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended. These

mb 12/21/18

documents will evaluate environmental impacts from project alternatives and determine the potential for significant impacts related to the project. The proposed study will evaluate whether the original authorized plan is still in the federal interest and to evaluate alternatives that have the potential to improve the current and future operational efficiency of commercial vessels currently using the New York and New Jersey Harbor anchorages.

To assist you in the development of the reevaluation report and any accompanying NEPA documents, we offer you the following comments:

Aquatic Resources

Estuarine and Marine Fishes

Many species of estuary-dependent and coastal marine fishes inhabit the New York Harbor estuary as well as its tributaries and embayments. The harbor also serves as a transit corridor for species moving between coastal waters and tidal riverine systems. Winter flounder (*Pseudopleuronectes americanus*) ingress into spawning areas within mid-Atlantic estuaries when water temperatures begin to decline in late fall. Tagging studies show that most return repeatedly to the same spawning grounds (Lobell 1939, Saila 1961, Grove 1982 in Collette and Klein-MacPhee 2002). Winter flounder typically spawn in the winter and early spring, although the exact timing is temperature dependent and thus varies with latitude (Able and Fahay 1998); however movement into these spawning areas may occur earlier, generally from mid- to late November through December. Winter flounder have demersal eggs that sink and remain on the bottom until they hatch. After hatching, the larvae are initially planktonic, but following metamorphosis they assume an epibenthic existence. Winter flounder larvae are negatively buoyant (Pereira et al. 1999) and are typically more abundant near the bottom (Able and Fahay 1998). These life stages are less mobile and are thus more likely to be adversely affected by impacts to benthic habitat, such as dredging.

Diadromous Fishes

Diadromous fishes such as river herring (alewife *Alosa pseudoharengus* and blueback herring *Alosa aestivalis*), American shad (*Alosa sapidissima*), and striped bass (*Morone saxatilis*) inhabit the New York Harbor estuary and its tributaries at certain stages in their life cycles. River herring and shad spend most of their adult lives at sea, but return to freshwater areas in the Hudson River estuary to spawn in the spring (Waldman 2006). These species are believed to be repeat spawners, generally returning to their natal rivers to spawn (Collette and Klein-MacPhee 2002). Because landing statistics and the number of fish observed on annual spawning runs indicate a drastic decline in river herring populations throughout the mid-Atlantic since the mid-1960s, they have been designated as Species of Concern by NOAA. Species of Concern are those species 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). The goal of designating a species as a Species of Concern is to promote proactive conservation efforts for these species in order to preclude the need to list them in the future.

The New York Harbor estuary provides habitat for one of the largest populations of striped bass on the East Coast, with resident and/or migratory contingents found from the tidal freshwater Hudson River to the coastal Atlantic Ocean depending on the season (Gahagan et al. 2015). The

spawning migration of resident and coastal contingents moving upriver to the freshwater reaches of the Hudson River occurs in the spring (Clark 1968). Late larvae and early juveniles favor shallow water with sluggish currents, and likely reside in nearshore shallows for increased feeding opportunities and reduced predation risk. Juveniles subsequently move downstream to overwinter in the lower Hudson River and upper New York Harbor (Dovel 1989).

Shellfish

Shellfish occur in the project area, including hard clam (*Mercenaria mercenaria*), soft shell clam (*Mya arenaria*), and blue crab (*Callinectes sapidus*). These species and others are important food resources for fish. Coen and Grizzle (2007) discuss the ecological value of shellfish habitat to a variety of managed species (e.g. American lobster (*Homarus americanus*), American eel (*Anguilla rostrata*), and winter flounder). Clams are a prey species for a number of federally managed fish including skates, bluefish (*Pomatomus saltatrix*), summer flounder (*Paralichthys dentatus*) and windowpane (*Scophthalmus aquosus*); siphons of hard clams provide a food source for winter flounder and scup (*Stenotomus chrysops*) (Steimle et al. 2000). Infaunal species such as clams filter significant volumes of water, effectively retaining organic nutrients from the water column (Nakamura and Kerciku 2000; Forster and Zettler 2004).

Spawning, nursery, foraging, and overwintering habitats for blue crabs are found throughout the project area; blue crabs are commonly found on subtidal benthic habitat and are important food resources for predatory fish and birds (Bain et al. 2007, Waldman 2008). The blue crab winter dredge fishery in New York is concentrated in the lower portion of New York Harbor (Briggs 1998).

Magnuson-Stevens Fishery Conservation and Management Act (MSA)

Essential Fish Habitat

The New York Harbor estuary and its associated tributaries have been designated as essential fish habitat (EFH) for a number of federally managed species including Atlantic butterfish (*Peprilus triacanthus*), Atlantic mackerel (*Scomber scombrus*), Atlantic sea herring (*Clupea harengus*), black sea bass (*Centropristis striata*), bluefish, clearnose skate (*Raja eglanteria*), little skate (*Leucoraja erinacea*), longfin inshore squid (*Loligo pealei*), red hake (*Urophycis chuss*), scup, summer flounder, silver hake (*Merluccius bilinearis*), windowpane flounder, winter flounder, winter skate (*Leucoraja ocellata*) and yellowtail flounder (*Pleuronectes ferruginea*). The project area is also EFH for highly migratory species including several smoothhound shark species.

EFH Consultation

The MSA requires federal agencies such as the Corps to consult with us on any action or proposed action authorized, funded, or undertaken, by such agency that may adversely affect EFH identified under the MSA. This process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in the consultation process.

The EFH final rule published in the Federal Register on January 17, 2002, defines an adverse effect as: "any impact which reduces the quality and/or quantity of EFH." The rule further states that:

> An adverse effect 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 ecosystems components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from action occurring within EFH or outside EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

The EFH final rule also states that the loss of prey may be an adverse effect on EFH and managed species. As a result, 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.

Our EFH regulations also allow federal agencies to incorporate an EFH assessment into documents prepared for other purposes including NEPA documents provided certain conditions are met. If an EFH assessment is contained in another document, it must be clearly identified as an EFH assessment and include all of the following mandatory elements including: (i) a description of the action, (ii) an analysis of the potential adverse effects of the action on EFH and the managed species, (iii) the federal agency's conclusions regarding the effects of the action on EFH, and (iv) proposed mitigation, if applicable.

For a listing of EFH and further information, please see our website at: http://www.greateratlantic.fisheries.noaa.gov/habitat. The website also contains information on descriptions of EFH for each species, guidance on the EFH consultation process including EFH assessments, and information relevant to our other mandates.

Fish and Wildlife Coordination Act

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. It also required that they 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 importance species that are not managed by the federal fishery management councils and do not have designated EFH. As discussed above, the New York Harbor estuary and its tributaries are highly productive habitat for a wide variety of NOAA trust resources covered by the FWCA including important forage species such as silversides, killifish, menhaden (*Brevoortia tyrannus*), anchovies (*Anchoa* spp.), and shellfish. The abundance of forage species makes these waterways important feeding and nursery areas for a number of estuarine-dependent commercially and recreationally important species, including summer flounder, winter flounder, bluefish, American eel, striped bass, tautog (*Tautoga onitis*) and weakfish (*Cynoscion regalis*).

Potential Impacts and Recommended Studies

Although specific project plans have not yet been finalized, the general description of alternatives indicates that the project will include dredging and placement of materials in an approved site(s). Potential impacts to our resources include increased turbidity and sound in and near the project areas, increased sedimentation associated with the turbidity plume, entrainment

and impingement of some life stages of fishes and invertebrates, and loss of benthic fish and invertebrates due to dredging and subsequent deposition of dredge material, and loss of habitat at the dredging and dredge material placement areas. To minimize impacts to our resources, we may recommend timing restrictions for sensitive species such as winter flounder, river herring, striped bass and blue crab.

Any analyses of environmental impacts of the proposed project should include impacts of each project component, as well as cumulative impacts, to the hydrology and ecology of New York Harbor and any proposed dredge material placement areas. As part of the Harbor Deepening Project the Corps' New York District, with the support of the Port Authority, has collected and complied a great deal of information on aquatic resource use within the project area including undertaking the Aquatic Biological Sampling (ABS) Program, Total Suspended Solids (TSS) Monitoring Program and the Migratory Finfish Survey Program. The information gathered during these studies will be very helpful as you prepare the *Affected Environment* section of the NEPA document, and when evaluating the effects of the alternatives on aquatic resources. The NY District has prepared a report, *Essential Fish Habitat Knowledge Gained during the Harbor Deepening, Parts I and II*, which contains additional information to assist you in the development of the NEPA document for this project. We can assist your office in determining existing studies that should be evaluated in the context of the proposed project, those that may need to be updated, and any new studies that may need to be conducted to better assess impacts from project alternatives.

Endangered and Threatened Species

Our Protected Resources Division has already provided a separate letter to your office regarding the Endangered Species Act consultation process. For additional information on threatened and endangered species, please contact Edith Carson-Supino at edith.carson-supino@noaa.gov or (978) 282-8490.

Thank you for the opportunity to provide input into the development of the New York / New Jersey Harbor Anchorages GRR/EIS. As we have agreed to participate as a cooperating agency to help foster a collaborative process and interagency coordination on this project, we look forward to continued coordination with your office as the study moves forward. If you have any questions or need additional information, please contact Ursula Howson at ursula.howson@noaa.gov or (732) 872-3116.

Sincerely,

Karen M. Greene
Mid Atlantic Field Offices Supervisor
Habitat Conservation Division

cc: ACOE Norfolk – D. Schulte
ACOE NY – P. Weppler
GARFO – D. Marrone, E. Carson-Supino, J. Pelligrino, V. Vecchio
USFWS – S. Sinkevich, E. Schrading
EPA – D. Montella
MAFMC – C. Moore
NEFMC – T. Nies
ASMFC – L. Havel

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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

Mr. Gregory Steele, Chief
Operations, Planning and Policy Branch
Norfolk District
U.S. Army Corps of Engineers
803 Front Street
Norfolk, VA 23510-1096

Re: Sandbridge Beach Erosion Control and Hurricane Protection Project; Virginia Beach, VA
Supplemental Essential Fish Habitat Assessment

Dear Mr. Steele:

We have reviewed the supplemental 2018 essential fish habitat (EFH) assessment prepared pursuant to Section 305 (b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) for the Sandbridge Beach Erosion Control and Hurricane Protection project, located in the City of Virginia Beach, Virginia. The supplemental assessment was produced in part to address amendments and modifications to EFH designations since 2012, including removal of EFH designations for juvenile and adult scalloped hammerhead shark (*Sphyrna lewini*), winter skate (*Leucoraja ocellata*), and habitat area of particular concern (HAPC) for sandbar shark (*Carcharhinus plumbeus*) from the action areas. The assessment also incorporates modifications to designated EFH since 2012 for a number of federally managed species including sharks and tunas.

The current proposal uses the same design criteria as the last several Sandbridge Beach nourishment maintenance events; mining of beach-compatible sand for the creation of a 50 ft. wide berm at an elevation of 6 ft. (NGVD) with a foreshore slope of 1:20 along five miles of beach from the U.S. Navy's Dam Neck Fleet Training Center, south to the U.S. Fish and Wildlife Service's Back Bay National Wildlife Refuge. The Sandbridge Shoal borrow area, a 13,500-acre area located approximately three nautical miles from shore has been used as the source of sand for this project in the past and is proposed for this and future beach nourishment cycles. Because the borrow area is located on the Outer Continental Shelf, beyond Virginia state waters, Bureau of Ocean Energy Management (BOEM) is a cooperating agency on this project.

Since initial project construction in 1998, there have been three maintenance cycles occurring on average every three to five years (1998, 2002, 2007, 2013, 2015) with material dredged from the Sandbridge Shoal borrow areas A and B. Approximately 1-2 million cubic yards (cy) of material has been mined during each maintenance event. In addition to using Sandbridge Shoal to re-nourish Sandbridge Beach, the borrow area was used in 1996 (800,000 cy), 2003 (700,000 cy), and 2015 (647,637 cy) to re-nourish beaches along the U.S. Navy's Dam Neck Fleet Training Center. The continued nourishment of Sandbridge Beach is conservatively estimated to continue on a four to five-year maintenance cycle for the life of the project (1998-2048).

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The contract for the current beach nourishment cycle is scheduled to be awarded in January 2019 with dredging and sand placement to be conducted sometime later that year. The continued use of Sandbridge Shoal is proposed as the source of sand, but the specific locations within shoal areas A and B, and the total area to be mined has not yet been identified at this stage of project planning, but will be identified prior to dredging. Previous sampling has indicated the principal sediment grain size is fine to medium sand. Sand mining for the proposed 2019 maintenance event will require dredging approximately 2.2 million cubic yards of material using a trailing suction hopper dredge. We anticipate the mining and placement operations will be conducted as in previous maintenance events, where sandy material is dredged, transported by hopper dredge to an offshore pump-out buoy, conveyed to the beach via a pipeline and distributed using heavy equipment to produce the designed 1:20 beach profile. According to the information provided to us, vibracore sampling is proposed prior to the 2019 maintenance event to ensure that there is sufficient, compatible material and to minimize potential impacts

Magnuson Stevens Fishery Conservation and Management Act (MSA)
As identified in the current EFH assessment, the project area including Sandbridge Beach and Sandbridge Shoal has been designated as EFH for thirty two federally managed species including demersal, pelagic and highly migratory species. We agree with your determination that the proposed sand mining of Sandbridge Shoal and beach nourishment of Sandbridge Beach will adversely affect EFH. However, we are unable to determine the scale or severity of the impacts with respect to the previous, current, and future maintenance events based on the information provided, or to concur with your determination that the impacts will be temporary and localized, due to the absence of data to support this position. As we have expressed to you in reviewing previous Sandbridge Beach and U.S. Navy beach nourishment maintenance projects, we remain concerned about the long-term, cumulative impacts to Sandbridge Shoal, EFH, managed species and their prey species based on the frequency of the historic and projected continued use of Sandbridge Shoal as a source of beach-compatible sand given the lack of site specific biological and geological data.

The EFH assessment cites two estimates of the sand reserves at Sandbridge Shoal; 39.8 million cubic yards (mcy) and 104 mcy. The cumulative extracted-to-date volume of 9,786,559 cy for all previous projects comprises 24.6% and 9.4% of these estimated volumes respectively. The proposed action to dredge 2,200,000 cy of material this maintenance event would comprise 30.1% and 11.5% respectively of these estimated volumes. We are concerned with the large difference between estimated volumes of sand reserves, especially given the findings of the draft environmental assessment (EA) for this project produced in 2009 which indicated Sandbridge Shoal exhibits relatively little volumetric recovery between dredging events, leading to the long-term reduction in the surface area of bottom habitat. In the 2009 EA, it was also stated that previous sand mining and beach nourishment projects have cumulatively extracted nearly 25% of the estimated sand volume at Sandbridge Shoal. By projecting the historic maintenance cycle and extraction rate into the future, it appears the sand reserves at Sandbridge Shoal will be exhausted before the end of Sandbridge Beach's 50-year project life in 2048. Should the shoal itself disappear or be significantly altered by ongoing dredging, impacts to aquatic organisms and our trust resources utilizing the shoal habitat would be substantial and unacceptable.

Given the continued and projected future dredging of Sandbridge Shoal by the Corps and Navy, the biological data collected to date on and adjacent to Sandbridge Shoal (Diaz et al., 2006) is insufficient to conclude that the cumulative, long-term impacts of sand mining on EFH and managed species are not significant. To illustrate the importance of sand shoal habitat to NOAA trust resources, our 2009 EFH assessment response letter referenced a study by Vasslides and Able (2008) that analyzed two trawl survey time series totaling 14 years of data off the coast of New Jersey, and concluded that sand ridges are important features of the inner continental shelf, influencing fish assemblages and abundance.

The EFH assessment states that full recovery of the benthos within the borrow sites is anticipated to occur within a few months to years. However, sand mining at Sandbridge Shoal and the resulting destruction of the benthic epifauna and infauna communities every 1 to 5 years may prohibit the benthos from ever fully recovering, resulting in significant adverse effects to EFH and higher trophic levels including managed species. The 2012 draft EA and EFH assessment stated that despite multiple dredging events, no negative impacts to the macrobenthic and fish communities have been documented to date and that monitoring between dredged and non-dredged control areas has revealed no significant differences in macrofauna abundance. However, the 2012 draft EA also states that "some of the sand shoal ridges have been dredged during more than one construction cycle, increasing the likelihood and severity of impact". As a result, additional study is necessary to determine the full nature and extent of the effects of repeated sand mining activities on the microbenthic and fisheries communities of the borrow area.

Based on the frequency that Sandbridge Shoal is dredged for beach nourishment, further study by the Corps and BOEM is warranted to determine the degree of impact to fisheries, the benthic community and their rate of recovery. Based on new survey data, rotational dredging should be incorporated into the current and future projects to focus dredging in areas which have not been previously mined or have sufficiently accreted since previous dredge events. This will help preclude the mining of the same sand ridge during sequential dredging events and assist in recovery of the benthic community. A determination of the timelines associated with the re-establishment of successional communities, fishery and benthic species abundance, richness and diversity, etc. would also benefit our collective future decision making and help determine whether or not additional mitigation measures or compensation is appropriate to minimize or offset project impacts.

Essential Fish Habitat Conservation Recommendations

As we have recommended in previous consultations with you, we continue to support the use of best management practices during project construction and provide the following conservation recommendations pursuant to Section 305(b)(4)(A) of the MSA:

- Conduct a pre-dredge vibracore survey to identify shoal areas of beach quality sand to minimize the dredge footprint and duration which the dredge operates and review these findings with us prior to dredging.
- While dredging, follow the existing bottom contours to the maximum extent practicable to maintain seafloor ridge and swale heterogeneity. Do not exceed 6.6 ft. (2 m) of dredge

cut to any ridge or swale. Incorporate the proposed operational BMPs into hydraulic dredge operation to minimize entrainment of aquatic organisms.

- Conduct pre-and post-dredging bathymetric surveys across borrow areas A and B where dredging will occur to determine geomorphic changes from pre- to post-construction. Compile survey data in a database to provide valuable baseline information for the planning and implementation of future beach nourishment/sand mining projects.
- Coordinate with BOEM and us to develop a long-term strategy and management plan for Sandbridge Shoal that identifies criteria for rotation dredging based on natural accretion and pre-and post-construction bathymetry and benthic community data.
- Based on survey data, incorporate rotational dredging to the maximum extent practicable to focus dredging in areas which have not been previously mined or have sufficiently accreted since previous events. This will help preclude the mining of the same sand ridge during sequential dredging events and assist in recovery of the benthic community.
- Coordinate with us to develop benthic and fisheries sampling and monitoring plans used to determine recovery rates and community composition of dredged areas of Sandbridge Shoal.

Atlantic Coastal Highly Migratory Species

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 (e.g., for beach nourishment projects), gravel, and shell stock in estuarine and coastal waters have adverse impacts to sandbars 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 EFH conservation recommendations for dredging and beach nourishment projects proposed within EFH for highly migratory species. These general EFH conservation recommendations include:

- 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.
- An integrated environmental assessment, management, and monitoring program should be a part of any gravel or sand extraction operation, and encouraged at Federal and state levels.
- Planning and design of mining activities should avoid significant resource areas important as HMS EFH.
- Given the increase in sea level rise and potentially growing need to re-nourish beaches, this activity needs to be closely monitored in areas that are adjacent to or located in HMS EFH.

We are happy to discuss with your staff the conservation recommendations provided above, and in developing benthic and fisheries sampling and monitoring plans with the goal of using those data to help avoid and minimize the cumulative adverse effects of sand mining and beach nourishment on managed species, their prey species and other aquatic resources over the life of the project.

Section 305(b)(4)(B) of the MSA requires you provide us with a detailed written response to our EFH conservation recommendations, including a description of measures adopted by the Corps for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with our recommendations, you must explain your reasons for not following the recommendations, including 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 effects pursuant to 50 CFR 600.920(k). In addition, if new information becomes available or the project is revised in such a manner that affects the basis for the above EFH conservation recommendations the EFH consultation must be reinitiated pursuant to 50 CFR 600.920(l). Any changes to EFH designations, the identification of new EFH or HAPCs also trigger the need to reinitiate consultation.

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 Mid-Atlantic Fisheries Management Council (Council). The Council has developed a policy statement on beach nourishment activities that may affect federally managed species under their purview including summer flounder (*Paralichthys dentatus*), scup (*Stenotomus chrysops*), black sea bass (*Centropristis striata*), and butterfish (*Peprilus triacanthus*). These policies are intended to articulate the Council's position on various development activities and facilitate the protection and restoration of fisheries habitat and ecosystem function.

The Mid-Atlantic Fishery Management Council's policies on beach nourishment are:

- 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.
- Existing sand borrow sites should be used to the extent possible. Mining sand from new areas introduces additional impacts.
- Conduct beach nourishment during the winter and early spring, when productivity for benthic infauna is at a minimum.
- 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.
- Preserve, enhance, or create beach dune and native dune vegetation in order to provide natural beach habitat and reduce the need for nourishment.
- Each beach nourishment activity should be treated as a new activity (i.e., subject to review and comment), including those identified under a programmatic environmental assessment or environmental impact statement.
- Bathymetric and biological monitoring should be conducted before and after beach nourishment to assess recovery in beach borrow and nourishment areas.
- The effect of noise from mining operations on the feeding, reproduction, and migratory behavior of marine mammals and finfish should be assessed.
- The cost effectiveness and efficacy of investments in traditional beach nourishment projects should be evaluated and consider alternative investments such as non-structural

responses and relocation of vulnerable infrastructure given projections of sea level rise and extreme weather events.

These policies should be incorporated, as appropriate, into this project.

Endangered Species Act (ESA)
Federally threatened or endangered species under our jurisdiction including marine mammals, sea turtles, shortnose and Atlantic sturgeon may be present in the project area. The proposed maintenance activity has been previously reviewed and is covered under a current biological opinion (BiOp) with our Protected Resources Division (PRD). However, please contact Ms. Julie Crocker by email (julie.crocker@noaa.gov) or phone (978) 282-8480 or Mr. Brian Hopper, PRD (brian.d.hopper@noaa.gov) at 410-573-4592 to review your proposed action and obligations under the September 7, 2012 BiOp and Section 7 of the ESA.

Thank you for the opportunity to review and comment on the supplemental 2018 EFH assessment for the Sandbridge Beach Erosion Control and Hurricane Protection Project. Please contact David L. O'Brien in our Gloucester Point, VA field office (david.l.o'brien@noaa.gov) at 804-684-7828 if you have any questions regarding these recommendations.

Sincerely,

Louis A. Chiarella
Assistant Regional Administrator
for Habitat Conservation

cc: T. Nadal, R. Pruhs, NAO Corps
B. Hopper, PRD
S. Ellis, OSED
R. Owen, VMRC
L. Varnell, VIMS
C. Moore, MAFMC
T. Nies, NEFMC
L. Havel, ASFMC

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
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Edward Bonner, Chief
Regulatory Branch
Philadelphia District
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Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

RE: CENAP-OP-R-2018-0519-24, American Littoral Society – Multiple Restoration & Enhancement Projects along the Delaware Bay Shoreline in Various Counties in NJ

Dear Mr. Bonner:

We have reviewed the information provided to us, including the essential fish habitat (EFH) assessment and associated documents, for the proposed restoration and enhancement projects along the Delaware Bay shoreline in various coastal counties in New Jersey. The American Littoral Society (ALS) proposes to undertake habitat restoration, enhancement, and protection activities at multiple locations along the Delaware Bay shoreline from Middle Township in Cape May County upstream to Fairfield Township in Cumberland County, and along portions of Maurice River, Downe and Lawrence Townships in Cumberland County. Specific project sites would be identified as funding becomes available. Proposed projects would include two general types of activities: beach restoration (i.e., beach slope and berm improvements) and intertidal or shallow sub-tidal reef construction (i.e., low profile reefs or breakwater structures). Beach restoration would be through targeted sand placement at several locations. Where appropriate, placement of intertidal or shallow sub-tidal reefs would attenuate wave energy, accrete sand, and serve as habitat for marine and estuarine species. Prior to the commencement of beach restoration and reef placement activities and when necessary, rubble and debris would be removed from the beaches and taken to appropriate waste facilities.

The ALS is seeking a 10-year permit from the Philadelphia District to conduct the proposed activities and has incorporated maximum estimates for potential impacts that are based on previous complete or ongoing projects and future project needs. Proposed beach and berm restoration would include placement and spreading of sand using heavy equipment at up to three beaches per year. Sand grain analysis would be conducted to ensure the grain size and color of source sand is compatible with native sand. Sand would be obtained from local upland sand mines, as has been done with previous projects, but offshore sand from dredging projects may also be used. Regardless of how the sand is obtained, beach restoration activities will be the same: beaches would be restored at a 15:1 slope, with sand volumes ranging from 3,000 to 100,000 cubic yards across 0.25 to 1.0 miles of beach. The proposed impacts from these activities would be approximately 18.40 acres in any given year. Of this total impact area, 0.31 acre would be upland and 18.09 acres would be below the mean high water line (MHWL; within

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the Corps jurisdiction), of which 5.69 acres would be below the mean low water line (MLWL). The estimated maximum total impact across the life of the permit would be approximately 184 total acres for beach and berm activities: 3.1 acres upland and 180.9 acres below the MHWL, of which 56.9 acres below the MLWL.

For the intertidal and shallow sub-tidal reefs, ALS is proposing to transport bagged shell or other approved materials on pallets to each beach. The materials would then be moved to staging areas using low-impact vehicles (e.g., Mudd Ox) where ALS staff and supervised volunteers would carry the materials by hand or with the low-impact vehicle to pre-determine locations for placement. Due to site specific conditions, some bagged reef material may be secured with rebar and line. Reefs will be double-rowed bagged shell and positioned in a saw tooth configuration with at least 5 foot gaps between segments to allow for movements of species. Segments would be approximately 5 feet wide, 10 to 30 feet in length, 2 to 3 feet high and positioned 25 to 50 feet seaward of the MLWL. Up to three reefs per year would be placed, averaging 200 to 300 linear feet and covering approximately 0.023 acre per row, or 0.046 acre per reef. This would result in a maximum of up 0.138 acre of coverage per year, or 1.38 acres over the life of the permit.

The Fish and Wildlife Coordination Act (FWCA) and the Magnuson-Stevens Fishery Conservation and Management Act (MSA) require federal agencies to consult with one another on projects such as this that may affect essential fish habitat (EFH) and other aquatic resources. As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the NMFS provides the following comments and recommendations pursuant to the authorities of the MSA and FWCA.

Fish and Wildlife Coordination Act (FWCA)

Delaware Bay, the Maurice River and the intertidal and shallow sub-tidal areas identified in the proposed project serve as important habitat for many aquatic species including both state and federally managed species and their forage including, bluefish (*Pomatomus saltatrix*), black sea bass (*Centropristis striata*), summer flounder (*Paralichthys dentatus*), windowpane flounder (*Scophthalmus aquosus*), striped bass (*Morone saxatilis*), blue crab (*Callinectes sapidus*), Atlantic menhaden (*Brevoortia tyrannus*), bay anchovy (*Anchoa mitchilli*) and other assorted baitfishes and shrimps (e.g., *Neomysis americana, Mysidopsis bigelow*). The Delaware Bay also supports strong recreational and commercial fisheries.

The shoal water and shallow water areas of Delaware Bay are also important nursery areas where juvenile horseshoe crabs (*Limulus polyphemus*) spend their first two years on the intertidal sand flats. Horseshoe crabs play valuable ecological roles in the food web within the Delaware Estuary and their eggs are a vital food source for the red knot (*Calidris canutus*), a federally listed endangered species. Horseshoe crab eggs and larvae are also a food source for a number of other species including striped bass, white perch (*Morone americana*), weakfish (*Cynoscion regalis*), American eel (*Anguilla rostrata*), silver perch (*Bairdiella chrysoura*), and federally managed summer flounder. To avoid and minimize impacts to horseshoe crabs, beach restoration and reef construction activities in the intertidal zone and within 1,000 feet of the MLWL in Delaware Bay should be avoided from April 16 to June 30 of each year.

Magnuson Stevens Fishery Conservation and Management Act (MSA)

Delaware Bay, the Maurice River and the intertidal and shallow sub-tidal areas identified in the proposed project have also been designated as EFH for a number of federally managed species including Atlantic butterfish (*Peprilus triacanthus*), Atlantic sea herring (*Clupea harengus*), bluefish, black sea bass, red hake (*Urophycis chuss*), scup (*Stenotomus chrysops*), summer flounder, windowpane flounder, clearnose skate (*Raja eglanteria*), little skate (*Leucoraja erinacea*), and winter skate (*Leucoraja ocellata*).

The lower Delaware Bay area is also EFH for several highly migratory species including sandbar shark (*Carcharhinus plumbeus*), smoothhound shark complex (Atlantic stock), and sand tiger shark (*Carcharias taurus*). The sand tiger shark has been listed as a Species of Concern by NOAA. The goal of listing a species as a Species of Concern is to promote proactive conservation efforts for these species in order to preclude the need to list them in the future. The project area has also been designated as a Habitat Area of Particular Concern (HAPC) for both sandbar and sand tiger shark. HAPCs are discrete subsets of EFH that are either rare, particularly susceptible to human-induced degradation, especially important ecologically, or located in an environmentally stressed area. Sandbar shark HAPC constitutes important nursery and pupping grounds which have been identified in shallow areas in lower and middle Delaware Bay, in water temperatures ranging from 15 to 30 °C; salinities at least from 15 to 35 ppt; water depth ranging from 0.8 to 23 meters (2.6 to 75 feet); and in sand and mud habitats.

The Delaware Bay is one of two principal nursery grounds for the sandbar shark on the U.S. East Coast (McCandless et al., 2007). Pregnant sandbar shark females occur in the area between late spring and early summer, give birth and depart shortly after while neonates (young-of-year) and juveniles (ages one and over) occupy the nursery grounds until migration to warmer waters in the fall (Rechisky & Wetherbee 2003 and Springer 1960). Neonates return to their natal grounds as juveniles and remain there for the summer. The Delaware Bay is also an important area for all life stages of the sand tiger shark. The Cooperative Atlantic State Shark Pupping and Nursery (COASTSPAN) survey conducted in Delaware and New Jersey state waters reports consistent, extensive seasonal use of Delaware Bay by all life stages of sand tiger sharks from 2009 to 2014 (NOAA 2009-2014).

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 (e.g., dredging) and beach nourishment in estuarine and coastal waters have adverse impacts to sandbar and sand tiger shark EFH and EFH-HAPC due to water column effects, such as changing circulation patterns and increasing turbidity. The 2009 amendment also includes a number of EFH conservation recommendations for projects proposed within EFH for highly migratory species. These general EFH conservation 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.

In order to minimize the adverse effects on sandbar and sand tiger sharks, as well as other federally managed species such as summer flounder, we recommend activities taking place in

depths greater than -0.8 meters, or -2.6 feet MLW, be avoided from May 16 to September 15. Should in-water work be necessary at depths greater than -2.6 feet MLW between May 16 and September 15, work areas within Delaware Bay should be isolated with floating turbidity barriers/curtains with weighted skirts or that are anchored to the bottom. Turbidity curtains should extend to within 6 inches or less of the bottom. It is acceptable for the turbidity curtain to lay on the bottom, especially at low tides. Additionally, to avoid and minimize impacts to various federally managed species work within Delaware Bay should be conducted during periods of low tide, when sediments are exposed, to minimize turbidity and sedimentation, to the extent practicable.

Habitat Restoration and Enhancement

Though the goal of the proposed project is to restore, enhance and protect aquatic habitats and the nearshore beach-dune complex, the public notice lacks a description of ecological performance measures or a systematic approach for measuring project success. The public notice also does not indicate the time horizon for which success should be measured. Therefore, as we have recommended in the past for many habitat restoration and enhancement projects, ecological performance standards should be developed to determine if the projects are achieving the stated goals. An ecological reference should be established for each site and should be based on the characteristics of an intact aquatic habitat of the same type within the same watershed. Monitoring of the site should be conducted to determine if performance standards are being met or if intervention or additional restoration activities are necessary. Monitoring should take place for a minimum of 5 years and a long-term management plan also be developed for each project. Monitoring reports should be shared with us and other resource agencies.

Activities such as beach and berm restoration, placing sand fill and reef structures, and modifying the hydrodynamics of aquatic areas may adversely affect EFH, federally managed species and their prey. However, the proposed suite of projects will restore or enhance aquatic habitats and nearshore beach-dune complexes, improve habitat quality and, in some cases, habitat quantity, and may improve overall habitat function. Provided the EFH conservation recommendations below are adopted, we can agree with your conclusion that the adverse effects from the proposed project on EFH are not substantial.

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:

- The 10-year permit should exclude any new dredging activities or acquiring sand from dredging projects where no prior essential fish habitat (EFH) consultation has been completed, the EFH consultation is no longer current, or where the proposed dredging is outside of the scope of the original EFH consultation.
- To the extent practicable, work within Delaware Bay should be conducted during periods of low tide, when sediments are exposed, to minimize turbidity and sedimentation.
- From April 16 to June 30, work within the intertidal zone and within 1,000 feet of the mean low water line (MLWL) should be avoided to minimize impacts to horseshoe crab spawning activity.

- To minimize impacts to sandbar and sand tiger sharks, activities taking place in Delaware Bay in depths greater than -0.8 meters, or -2.6 feet in depth MLW should be avoided from May 16 to September 15. Should in-water work be necessary at depths greater than -2.6 feet MLW between May 16 and September 15, work areas should be isolated with floating turbidity barriers/curtains with weighted skirts or that are anchored to the bottom. Turbidity curtains should extend to within 6 inches or less of the bottom (acceptable to lay on the bottom, especially at low tides).
- All intertidal and sub-tidal reef materials should be free of pollutants, debris, soil, or other materials, including non-native species.
- Ecological performance standards should be developed to determine if each project is achieving its objectives of restoring, enhancing, and protecting aquatic habitat that resembles an ecological reference. An ecological reference must be established and should be based on the characteristics of an intact aquatic habitat of the same type within the same watershed. Monitoring should take place for a minimum of 5 years and a long-term management plan should be developed for each project. Monitoring reports should be shared with NMFS and other resource agencies.

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).

Please also note that a distinct and further EFH consultation must be reinitiated pursuant to 50 CRF 600.920 G) if new information becomes available, or if the project is revised in such a manner that affects the basis for the above EFH conservation recommendations.

Endangered Species Act

Threatened or endangered species under the jurisdiction of NMFS including federally listed species including the threatened loggerhead (*Caretta caretta*), and the endangered Kemp's ridley (*Lepidochelys kempi*), green (*Chelonia mydas*) and leatherback (*Dermochelys coriacea*) sea turtles, Atlantic sturgeon (*Acipenser oxyrhynchus*) and shortnose sturgeon (*Acipenser brevirostrum*) may be present in the project area. As the lead federal action agency, you are responsible for determining the nature and extent of effects and coordinating with our Protected Resources Division as appropriate. Please be aware that we have recently provided on our website (http://www.greateratlantic.fisheries.noaa.gov/section7) guidance and tools to assist action agencies with their description of the action and analysis of effects to support their determination.

Should you have any questions about the section 7 consultation process, please contact Peter Johnsen at (978) 282-8416 or by e-mail (peter.b.johnsen@noaa.gov). We look forward to continued coordination with your office on this project as it moves forward. 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 (410) 573-4559.

Sincerely,

Louis A. Chiarella
Assistant Regional Administrator
for Habitat Conservation

cc: ACOE – J. Boyer
PRD – M. Murray-Brown, P. Johnson
OSED – J. O'Connor
FWS- C. Popolizio
EPA Region II – R. Montgomerie
MAFMC – C. Moore
NEFMC – T. Nies
ASMFC –L. Havel

Literature Cited

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UNITED STATES DEPARTMENT OF COMMERCE
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Coral Siligato
Navigation Project Manager
Programs and Project Management Division
Civil Works/IIS Branch
Navigation Section
U.S. Army Corps of Engineers
New England District
696 Virginia Road Concord, Massachusetts 01742-2751

Re: Cape Porpoise Federal Navigation Project

Dear Ms. Siligato:

We have reviewed your letter, the draft Environmental Assessment (EA), and the Essential Fish Habitat (EFH) assessment for the proposed maintenance dredging of the Cape Porpoise Federal Navigation Project (FNP) in Kennebunkport, Maine. The proposed work involves dredging approximately 12 acres from shoaled areas in the 6-foot and 15-foot channels and the 15-foot anchorage of the Cape Porpoise Harbor FNP, and is expected to produce a volume of approximately 25,000 cubic yards of a mix of sand and fine-grained material. The 6-foot channel will be dredged to the authorized project depth plus allowable over-depth and the 15-foot channel and anchorage will be dredged to 10 feet plus allowable over-depth. This material is proposed to be mechanically dredged and disposed of at the Cape Arundel Disposal Site (CADS) or the Portland Disposal Site (PDS). The proposed work will be performed by a private contractor under contract to the government, and will take approximately one to three months to accomplish between November 1 and March 15 of the year(s) in which funds become available. Cape Porpoise Harbor FNP was last dredged by the U.S. Army Corps of Engineers (USACE) in 1976.

As you are aware, the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Fish and Wildlife Coordination Act require federal agencies to consult with one another on projects such as this. Insofar as a project involves essential fish habitat (EFH), as this project does, this process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in this consultation procedure.

Although some information regarding aquatic resources was provided in the EA and EFH assessment for the proposed project, we find that these documents are lacking specific information regarding the project and the effects to EFH and other NOAA trust resources. The lack of information has hampered our ability to adequately assess the impacts from the proposed project on our trust resources and, at this time, we are unable to provide appropriate conservation recommendations. Therefore, we seek to extend the consultation process pursuant to 50

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CFR 600.920(i)(5) so that you may provide us with additional information to complete the EFH consultation and allow us to develop EFH conservation recommendations, as necessary. In addition to specific information needed, we are including comments to assist you in the development of a complete and adequate EFH assessment for this and future projects.

Additional Information Needed to Assess Impacts to Eelgrass

The Conclusion section of the EFH assessment appears to minimize the adverse effect of the loss of eelgrass habitat, which is an important habitat for federally-managed species, prey species, and other NOAA-trust resources. The statement in the assessment, "species that use eelgrass beds as a nursery are not predicted to be impacted by the project given that the construction will impact roughly 0.015% of the total eelgrass resources in the harbor area", does not appropriately address the impacts of eelgrass habitat from the proposed project. Referencing the availability of eelgrass beds in other areas of the harbor for species to use is arbitrary and is not consistent with the EFH regulations to avoid and minimize adverse effects to EFH.

According to the EFH assessment, eelgrass beds were identified along the eastern side of the channel, beginning at the top of the channel side slope and extending beyond the survey boundary to the south and east. Although the eelgrass beds along the western side of the channel was described as further back from the channel slope compared to the eastern side of the channel, the exact distance was not provided in the EFH assessment. The assessment also noted eelgrass was observed beyond the area of the 2017 eelgrass survey. A figure depicting an estimated area extending southward along the eastern side of the channel to account for the area not surveyed was included in the assessment. Page 14 of the assessment states that the Corps plans to conduct an eelgrass survey prior to construction with an expanded extent, although a time frame for this was not provided.

- We request you provide us information on when an additional eelgrass survey over an expanded area will occur, and what methods will be used for the survey.

Based on the 2017 eelgrass survey, you estimated the area of eelgrass growing within the footprint of the FNP that will be directly removed is approximately 121 square feet. Furthermore, you determined the eelgrass beds occurring beyond the footprint of the FNP on the east and west sides of the channel will be avoided by utilizing a "box cut" method of dredging that you expected will prevent and/or reduce channel sloughing. You indicted the material in this location is well-consolidated and is expected to remain in place, and do not expect additional channel sloughing to occur. We do not agree with this assessment of channel sloughing and projected eelgrass impacts. Other than dredging in rock or clay, sediments composed of sand and silt are generally unconsolidated and are subject to sloughing after dredging as the material establishes an equilibrium slope. The material in this area of the FNP is composed predominantly of fine and medium coarse sand. Therefore, we expect the sides of the dredged channel to establish an approximate 3:1 slope ratio after dredging, which will encroach approximately 30 feet into the eelgrass beds, in areas where the eelgrass occurs. However, a more precise estimate of encroachment should be conducted by using the existing side slopes in this section of the channel as a guide.

- We request you estimate the projected side slope of the channel that is expected after the slope reaches equilibrium, and recalculate the area of impact to eelgrass beds adjacent to the channel on both eastern and western sides of the channel.

Additional Information Needed on Over-depth Dredging
As per our agreement and subsequent letter to you, dated February 14, 2005, outlining coordination between our agencies to evaluate minimizing impacts from over-depth dredging, you agreed to provide us with the following information on proposed dredging projects:

1. Dredge plans at ½-full scale (11" x 17" format) delineating the area proposed for dredging, with sub-differentiated components in terms of maintenance and over-depth dredging.

2. The spatial extent of the proposed dredging quantified (in acres) for each component of the project (i.e., maintenance and over-depth dredging),

Although you provided dredging plans in the EFH assessment showing the proposed authorized and allowable over-depth dredging, these are not ½-full scale and the spatial extent (in acres) of the proposed over-depth dredging for this project has not been provided.

As you are aware, we seek to limit the areas of dredging to those areas that are required to restore the authorized depths of the federal channel, and to avoid disturbing areas for the sole purpose of attaining the allowable over-depth dredge limits. According to the Army Corp of Engineers' memorandum from Michael White, Chief of Operations (*Assuring the Adequacy of Environmental Documentation for Overdepth Dredging*) dated July 22, 2005, allowable Over-depth was defined as "dredging outside the required authorized dimension and advance maintenance (as applicable) prism to allow for inaccuracies in the dredging process." Advance maintenance is defined as "dredging to a specific depth and/or width beyond the authorized channel dimensions in critical and fast-shoaling areas to avoid frequent redredging and ensure the least overall cost of maintaining the project authorized dimensions." Furthermore, the memorandum states, "environmental documentation must reflect the total quantities likely to be dredged, including authorized dimensions, advanced maintenance, allowable overdepth, and non-paid overdepth."

According to the drawings provided in the EFH assessment, some areas adjacent to eelgrass beds in the anchorage and channel is proposed for over-depth-only dredging area. This suggests that it may be feasible to avoid dredging these areas without substantially affecting navigational depths in the FNP.

- We request that you investigate the feasibility of avoiding dredging areas of the channel that are adjacent to eelgrass beds, in particular areas identified as over-depth only dredging.

Comments to Improve EFH Assessment
The following comments are intended to highlight issues with the EFH assessment, and identify areas where this and future EFH assessments can more effectively evaluate the potential impacts to managed species and their habitats.

General

In addition to losses to eelgrass beds from the proposed dredging, we expect impacts to other benthic habitats in the project area including subtidal sand and mud bottom used by fish and invertebrates for foraging and refuge. These habitats can take several years to recover (see citations in following paragraph).

Page 12 of the EFH assessment states "channels can repopulate with benthic organisms in one to three months, citing McCauley et al. (1977) and Van Dulah (sic) et al. (1984)", respectively. The applicability of these references to estimate recovery from dredging in the Cape Porpoise Harbor FNP is not appropriate in our opinion. In the McCauley study, dredging was conducted in a highly disturbed and polluted waterway in Oregon. The site was adjacent to wood processing mills, was dredged every two years on average, and experienced frequent benthic disturbances from large vessel through prop wash and anchor damage. In contrast, the Cape Porpoise FNP was last dredged 42 years ago in 1976, and there is no information provided in the EA or the EFH assessment to suggest habitats there are highly disturbed or impacted by pollution. In addition, the benthic community in the Oregon study site was associated with polluted waters, and the authors stated that due to a pollutant-tolerant benthic community "their high tolerance to domestic and industrial pollution and their great reproductive potential allows them to flourish in the stressed environment." Regarding the study by Van Dolah et al. (1984), the site consisted of "very fluid silty clay" material and was a "frequently dredged" shoal in a South Carolina estuary. This suggests the benthic community there was adapted to a disturbed environment, which is not applicable to Cape Porpoise Harbor.

In general, navigational dredging can be expected to result in a 30-70% decrease in the benthic species diversity and 40-95% reduction in number of individuals and biomass (Newell et al. 1998). Rates of benthic infauna recovery for disturbed habitats may also depend upon the type of habitat affected and the frequency of natural and anthropogenic disturbances (Johnson et al. 2008). In sandy substrates similar to those in Cape Porpoise Harbor and that have largely been free of dredging disturbance for many decades, it may take many years to recover to pre-dredging conditions (Newell et al. 1998). In addition, it should be noted that because impacts from this dredging project also involve eelgrass, recovery times will be substantially longer than unvegetated habitats. Eelgrass habitat recovery time is dependent upon the magnitude of initial impact, sediment type, water quality, and changes in bathymetry and light transmittance, and may require one or two decades to fully recolonize an area (Dennison and Alberte 1985; Neckles et al. 2005; Thayer et al. 1984).

Page 13 and 14 of the EFH assessment note that American lobsters are present within Cape Porpoise Harbor, and lobster fishing occurs in this area and the proposed disposal sites. Furthermore, the assessment states "Any adult lobsters still remaining in the dredge area when dredging begins would most likely be present in the areas of the harbor that provide shelter such as in the eelgrass beds which are located on the eastern and western sides of the FNP". We are unsure of how to interpret this statement. Please clarify, as this suggests that lobsters can rapidly move out of the dredge area once it begins and avoid impacts, or that lobsters in the dredge area will be entrained or killed but will be negligible because other lobsters occur outside the dredge area. In harbors where lobsters are known to occur (e.g., Portland Harbor), trapping is typically

conducted to avoid dredging impacts to lobsters because there is an understanding that lobsters do not have the mobility to avoid dredges.

EFH Effects Determination

On page 21 of the EFH impacts section, the assessment states that adult and juvenile cod EFH includes bottom habitats having a substrate of rocks, pebbles, or gravel. Furthermore, the assessment states "the bottom habitat at both disposal sites consists of fine-grained materials; hence, adult and juvenile Atlantic cod are not suited for the environment present at either of these sites". The EFH description for adult cod does include sandy substrates and for juveniles includes mixed sand and gravel. As described in the assessment, the PDS contains 30% sand overall and up to 75% in some areas, indicating that this area is suitable as adult and juvenile cod EFH. Furthermore, the assessment states "No eggs or larvae would be present in the areas due to the absence of spawning adults". Because the water column in the area of the PDS is identified as EFH for eggs and larvae, and these life stages are pelagic, the presence or absence of spawning adults should not be a determinant in the effects analyses for eggs and larvae.

Page 22 of the assessment for Atlantic scallop states "CADS and PDS are routinely used for the placement of dredged material by Federal, State, and private applicants, so scallops are not likely present at the disposal sites." The primary focus of the EFH assessment should be the analyses of the effects of the project on the habitats, not the expected presences or absence of the managed species. The EFH for older juvenile and adult sea scallops includes sand, which occur at the CADS and PDS. In addition, this statement suggests the placement of dredged material may be having an adverse effect on the EFH for scallop, and perhaps a cumulative effect to the habitats may be occurring if scallops are unable to persist there because of dredged material disposal.

The assessment states that Atlantic wolffish "prefer complex benthic habitats with large stones and rocks which provide shelter" and "due to this species' habitat preferences and the time of year for the project, no impacts to Atlantic wolffish EFH are anticipated." This is not reflective of the actual text description for adult wolfish, which includes a wide variety of sand and gravel substrates once they leave rocky spawning habitats. Furthermore, the text description for juvenile Atlantic wolffish states the life stage "do not have strong substrate preferences".

The assessment states that haddock adults and juveniles "prefer substrates of gravel, pebbles, clay, and smooth hard sand which is present in greater abundance in Georges Bank than the Gulf of Maine" and "little to no impacts to haddock EFH are expected as a result of the project". The text description for juvenile and adult haddock includes mixed sand, which is present in both disposal sites.

The assessment for little skate states "NEFSC surveys for little skate juveniles and adults found that they were almost entirely absent from the Gulf of Maine in winter when the project will take place" and "therefore, no impacts to little skate EFH are expected as a result of the project." According to the text description for little skate, the designations include the Gulf of Maine and the description does not indicate they are almost entirely absent from the GOM in the winter. Regardless, the presence or absence of the life stages during the project does not negate impacts to the habitat.

The assessment states that although juvenile and adult monkfish EFH is present at CADS and PDS, monkfish EFH is "not expected to be severely impacted given their wide-ranging habitat preferences". This statement is confusing and seems to conflate the impacts to habitat with impacts to the life stage. While adult and juvenile monkfish EFH may include various habitat types, including hard sand, pebbles, gravel, broken shells, soft mud, and rocks with attached algae (juveniles only), impacts to only one or two habitat types does not lessen the adverse effect.

The assessment for ocean pout states juvenile and adult ocean pout are "generally associated with smooth bottom near rocks or algae" and because "CADS and PDS host bottom substrates of sand and silty material, it is unlikely that juvenile or adult ocean pout utilize these disposal areas for habitat". The EFH for juvenile ocean pout includes a wide variety of substrates, including soft sediments and sand and the EFH for adults include mud and sand. All of these habitat types were stated to be present in the CADS and PDS.

The assessment for red hake states their prey habitat may be reduced in these two locations immediately following placement and it suggests benthic recovery is expected within 12-18 months, which is not supported by references we have found in the EFH assessment. The only references applying to benthic recovery cited in the assessment was the two studies mentioned previously for dredging areas, but those involved contaminated and disturbed harbors that are not applicable to these disposal sites. Furthermore, we are unclear on the meaning of the statement "disposal will not affect the entirety of the placement areas so red hake can utilize surrounding areas for foraging". It is unclear why some of the placement area would not be affected by disposal, but the use of other areas by red hake has no relevance to the effects on the habitat. The statement that red hake EFH for any life stage is not expected to be adversely affected by the proposed project is not supported by the information provided.

The assessment for silver hake states "Both the CADS and PDS host predominantly silty substrate and therefore do not host EFH for silver hake juveniles and adults". This is inconsistent with the descriptions in the EFH assessment for substrates in the CADS and PDS, which was stated to be very fine to fine sand and 30% sand, respectively.

The thorny skate assessment states "thorny skate are found on a variety of bottom habitats including sand, gravel, broken shells, pebbles, and mud. Although these substrates are present at the PDS, thorny skate EFH is not expected to be severely impacted at any of this location given their expansive habitat preferences". It is unclear how expansive habitat preferences might offset the impacts of the project on habitat types in the PDS.

The assessment for yellowtail flounder states that although "foraging habitat for yellowtail flounder may be reduced as a result of the project, the impact is temporary and full benthic recovery is expected within 18 months after the last disposal". The assessment concludes yellowtail flounder EFH is not projected to be adversely impacted by disposal operations. Although the conclusion that yellowtail founder EFH will recover within 18 months following the project is debatable and not supported by citations in the EFH assessment, the statement that the project would not result in an adverse effect because the impacts are temporary is inconsistent with the EFH regulations. In fact, the statement that EFH for yellowtail flounder

"may be reduced" is one of the definitions in the EFH regulations of an adverse effect (Subpart J § 600.810).

Lastly, the assessment includes several statements that seem to discount the adverse effects to habitat by the mobility of the life stage. For example, for Atlantic cod the assessment states "If adults or juveniles are transiting in the disposal areas, these life stages are mobile and should be able to avoid disposal as it occurs." For ocean pout, the assessment states "If they are present in the project site, both life stages are mobile and would be able to leave the area". The issues related to the assessment for red hake is similar. The assessment states "red hake egg and larvae EFH is not anticipated to be impacted as a result of project activities because spawning peaks in the Gulf of Maine in July through August" and "red hake will not likely be present in these areas during the project given that they migrate to deeper (>100m) waters in the winter months". This rationale was repeated for the assessment for witch flounder- "although a portion of the benthic habitat at PDS and CADS will be impacted by placement of material, no significant impacts to witch flounder EFH are anticipated given that these life stages are mobile and can use adjacent habitat for foraging". In all of these examples, the effects of the dredging or dredge material disposal on the water column, and benthic and demersal habitats were not adequately analyzed. The mobility of life stages does not offset the impacts of a project on its habitat. We are not implying that avoiding and minimizing adverse effects to the species directly, by time-of-year restrictions or sequencing projects to avoid the most sensitive life stages, but the primary focus of an EFH assessment should be an analysis of the effects to habitats.

In summary, we seek to extend the comment period and the consultation process pursuant to 50 CFR 600.920 (i)(5) so that you can provide us with the requested information for the development of appropriate EFH conservation recommendations. In addition, we are available to discuss our concerns with the EFH assessment and options to enhance your EFH assessments in the future. If you have any questions regarding this information request and comments, please contact Michael Johnson at 978-281-9130 or at mike.r.iohnson@noaa.gov.

Sincerely,

Christopher Boelke
New England Field Office Supervisor

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United States Department of the Interior

BUREAU OF OCEAN ENERGY MANAGEMENT
WASHINGTON, DC 20240-0001

NOV 28 2018

Mr. Louis Chiarella
National Marine Fisheries Service
Greater Atlantic Regional Fisheries Office
55 Great Republic Drive
Gloucester, MA 01930

Dear Mr. Chiarella:

This letter acknowledges the Bureau of Ocean Energy Management's (BOEM) receipt of your November 20, 2018, letter stating that you have reviewed the Essential Fish Habitat (EFH) Assessment for Marine Mineral Program (MMP) Sand Survey Activities as described in a Draft Environmental Assessment (OCS EIS/EA BOEM 2018-033). We appreciate your recognition of ongoing work through BOEM's Environmental Studies Program, as well as the renewable and oil and gas programs, to better understand impacts (particularly from acoustic sources) to fish.

We accept the Conservation Recommendations that NMFS provided and will adopt these measures as part of the MMP's Sand Surveys. As the impact analysis is updated every 5 years (or sooner if necessary), BOEM will renew coordination with the Habitat Conservation Division. Please notify Deena Hansen (Deena.Hansen@boem.gov, 703-787-1653) or me (703-787-1703), with any questions or concerns.

Sincerely,

Jill K. Lewandowski
Chief, Division of Environmental Assessment

cc: Ms. Karen Greene
National Marine Fisheries Service
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mb 12/10/18

UNITED STATES DEPARTMENT OF COMMERCE
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NATIONAL MARINE FISHERIES SERVICE
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RE: New York / New Jersey Harbor and Tributaries Coastal Storm Risk Management Feasibility Study

Dear Mr. Weppler:

We have reviewed the materials provided in your letter dated September 22, 2017, and in subsequent interagency conference calls and email correspondence, regarding the New York / New Jersey Harbor and Tributaries (HATS) Coastal Storm Risk Management (CSRM) feasibility study. The New York District US Army Corps of Engineers (Corps), with New York State Department of Environmental Conservation, City of New York's Office of Recovery and Resiliency, and New Jersey Department of Environmental Protection, has initiated a feasibility study to examine measures to reduce future flood risk and the economic costs and risks associated with flood and storm events in the study area, while contributing to the resilience of communities, critical infrastructure, and the environment. The study area includes New York Harbor and surrounding waterways and tributaries in 25 counties in New York and New Jersey, encompassing over 2,150 square miles and over 900 miles of affected shoreline. Project alternatives being considered include:

- Alternative 1: No action
- Alternative 2: NY/NJ Outer Harbor Barrier
  - A single large barrier across the mouth of the harbor from Sandy Hook to the Rockaway Peninsula and a barrier at Throgs Neck.
- Alternative 3A/3B: Multiple barriers, floodwalls and levee systems.
  - 3A: Barriers on the Arthur Kill, Verrazano-Narrows, Rockaway/Jamaica Bay, Throgs Neck, and Pelham Bay.
  - 3B: Barriers on the Arthur Kill, Kill van Kull, Rockaway/Jamaica Bay, Gowanus Canal, Newtown Creek and Pelham Bay; floodwalls and levees along the west side of Manhattan, East Harlem, and south of Hoboken.
- Alternative 4: Multiple barriers on solitary waterbodies, floodwalls and levee systems.
  - Barriers on Rockaway/Jamaica Bay, Gowanus Canal, Newtown Creek, Pelham Bay, and the Hackensack River; floodwalls and levees along the west side of Manhattan, East Harlem, and south of Hoboken.

mb 12/10/18

- Alternative 5: Perimeter Only
    - Shoreline measures at the Gowanus Canal and Newtown Creek; floodwalls and levees along the west side of Manhattan, East Harlem, south of Hoboken and along the Hackensack River.

As part of the feasibility study, you will be preparing environmental compliance documents pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended. These documents will evaluate environmental impacts from project alternatives and determine the potential for significant impacts related to reducing coastal storm risks in ways that support the long-term resilience and sustainability of the coastal ecosystem and surrounding communities. The study will include issues such as sea level rise, local subsidence and storms, as well as economic costs and risks associated with large-scale flood and storm events in the area. The study will build on and supplement the North Atlantic Coast Comprehensive Study published in January 2015 and ongoing local, state, and federal efforts by other agencies and groups to improve regional resiliency.

The coastal waters, inlets and estuaries of New York Harbor and its tributaries provide habitat for a wide variety of NOAA trust resources including federally managed species, shellfish and crustaceans, migratory species, and federally protected species of fish, sea turtles, and marine mammals. The many inlets in the project area provide critical links between spawning, nursery, and forage grounds in the Atlantic Ocean, the New York Harbor estuary and its tributaries. Further study should consider whether any solution to reduce the risk to communities and infrastructure from storms may impact species access and movements, and how such effects can be avoided or minimized. Access does not only include the ability to enter the estuary but also movements within the estuary and its tributaries.

To assist you in the development of the feasibility study and any accompanying NEPA documents, we offer you the following comments:

Aquatic Resources

Submerged Aquatic Vegetation

The New York Harbor estuary and tributaries support areas of SAV including eelgrass (*Zostera marina*) and water celery (*Vallisneria americana*). SAV habitats are among the most productive ecosystems in the world and perform a number of irreplaceable ecological functions which range from chemical cycling and physical modification of the water column and sediments to providing food and shelter for commercial, recreational and economically important organisms (Stephan and Bigford 1997). Larvae and juveniles of many important commercial and recreational fish such as bluefish (*Pomatomus saltatrix*), summer flounder (*Paralichthys dentatus*), spot (*Leiostomus xanthurus*), Atlantic croaker (*Micropogonias undulatus*), herrings (*Clupeidae*) and others appear in eelgrass beds in the spring and early summer (Fonseca et al 1992). Studies by Weinstein and Brooks (1983), Adams (1976) and Lascara (1981) in Packer et al. (1999) indicate that SAV is important habitat for juvenile summer flounder. Rodgers and Van Den Avyle (1983) suggest that SAV beds are important to summer flounder, and that any loss of these areas along the Atlantic Seaboard may affect summer flounder stocks.

Estuarine and Marine Fishes

Many species of estuary-dependent and coastal marine fishes inhabit the New York Harbor estuary, its tributaries and embayments, and the coastal mid-Atlantic Bight. The inlets in the region serve as conduits for the movements of these species, as well as for the exchange of nutrients and plankton, between these systems. Both temporary in-water work and permanent structures within the inlet can impede the movement of fish into and out of the estuary. For example, in a study of larval movements in a mid-Atlantic estuary, Targett and Rhodes (2008) found that ingress of summer flounder larvae peaked bimodally in December and mid-January with collections continuing through April. Movement into the estuary may involve intermittent settling to take advantage of tidal stream transport before permanent settlement once metamorphosis is complete (Able and Fahay 1998). Residual bottom inflow, a result of more dense oceanic water intruding beneath more buoyant outflow, provides some fishes with a mechanism of ingress (Weinstein *et al.,* 1980 in Rhodes 2008). Miller *et al.* (1984) proposed that to gain entry into North Carolina inlets, spot, Atlantic croaker, summer flounder, and southern flounder (*Paralichthys lethostigma*) remain near the bottom. The placement of storm surge barriers across inlets in the project area will restrict ingress and egress of summer flounder and other species whose life cycles include both estuarine and marine habitats. Benthic migration through an inlet could be further impeded by the bottom structure of a storm surge barrier.

Winter flounder (*Pseudopleuronectes americanus*) transit inlets to reach spawning areas within mid-Atlantic estuaries when water temperatures begin to decline in late fall and may also be affected by the placement of barriers within the estuary. Tagging studies show that most return repeatedly to the same spawning grounds (Lobell 1939, Saila 1961, Grove 1982 in Collette and Klein-MacPhee 2002). Winter flounder typically spawn in the winter and early spring, although the exact timing is temperature dependent and thus varies with latitude (Able and Fahay 1998); however movement into these spawning areas may occur earlier, generally from mid- to late November through December. Winter flounder have demersal eggs that sink and remain on the bottom until they hatch. After hatching, the larvae are initially planktonic, but following metamorphosis they assume an epibenthic existence. Winter flounder larvae are negatively buoyant (Pereira et al. 1999) and are typically more abundant near the bottom (Able and Fahay 1998). These life stages are less mobile and thus more likely to be adversely affected adversely by any impact to benthic habitat. The placement of a storm surge barrier across an inlet would result in the permanent loss of habitat for winter flounder and other species associated with the footprint of the structure, as well as a reduction in access to any spawning areas landward of the inlet.

Diadromous Fishes

Diadromous fishes such as river herring (alewife *Alosa pseudoharengus* and blueback herring *Alosa aestivalis*), American shad (*Alosa sapidissima*), striped bass (*Morone saxatilis*), and American eel (*Anguilla rostrata*) inhabit the New York Harbor estuary and its tributaries at certain stages in their life cycles.

River herring and shad spend most of their adult lives at sea, but return to freshwater areas in the Hudson River estuary to spawn in the spring (Waldman 2006). These species are believed to be repeat spawners, generally returning to their natal rivers (Collette and Klein-MacPhee 2002).

Because landing statistics and the number of fish observed on annual spawning runs indicate a drastic decline in river herring populations throughout the mid-Atlantic since the mid-1960s, they 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). The goal of designating a species as a Species of Concern is to promote proactive conservation efforts for these species in order to preclude the need to list them in the future.

The New York Harbor estuary provides habitat for one of the largest populations of striped bass on the East Coast, with resident and/or migratory contingents found from the tidal freshwater Hudson River to the coastal Atlantic Ocean depending on the season (Gahagan et al. 2015). The spawning migration of resident and coastal contingents moving upriver to the freshwater reaches of the Hudson River occurs in the spring (Clark 1968). Late larvae and early juveniles favor shallow water with sluggish currents, and likely reside in nearshore shallows for increased feeding opportunities and reduced predation risk. Juveniles subsequently move downstream to overwinter in the lower Hudson River and upper New York Harbor (Dovel 1989).

Catadromous American eel (*Anguilla rostrata*) spawn in the Sargasso Sea and transit inlets as elvers to migrate through estuarine habitats to freshwater tributaries. They inhabit these freshwater areas until they return to the sea as adults. According to the 2012 benchmark stock assessment, the American eel population is depleted in U.S. waters. The stock is at or near historically low levels due to a combination of historical overfishing, habitat loss, food web alterations, predation, turbine mortality, environmental changes, exposure to toxins and contaminants, and disease (ASMFC 2012). Some of the alternatives being considered in the feasibility study may impede the movements of these diadromous species between important freshwater habitats in and the Atlantic Ocean in a number of ways including altering hydrologic conditions such as velocity and flow patterns, as well as changing water quality.

Wetlands

The New York Harbor estuary and tributaries support regionally significant wetlands that provide important habitat for shellfish and marine, estuarine, and anadromous fishes. Wetlands in the project area perform many important ecological functions including water storage, nutrient cycling and primary production, sediment retention, water filtration or purification, and groundwater recharge. Vegetated wetlands are also considered to be special aquatic sites under the Clean Water Act. Because of their ecological value, impacts on these special aquatic sites should be avoided and minimized; wetlands should be created, restored, or enhanced where feasible.

Tidal wetlands provide nursery habitat for many species of fish, including summer flounder and winter flounder. Summer flounder larvae migrate inshore into estuarine nursery areas, settling to the bottom of tidal marsh creeks to transform to their juvenile stage. These juveniles will then make extensive use of the creeks, preying on creek fauna such as silversides (*Menidia* spp.) and killifish (*Fundulus* spp.). Juvenile summer flounder may also be found in salt marsh cordgrass habitat during flood tides. Juveniles utilize the marsh edges for shelter, burying themselves in the muddy substrates. Keefe and Able (1992) in Packer et al. (1999) found that summer flounder juveniles that inhabit tidal marsh creeks exhibit the fastest growth. Larval and juvenile black sea

bass (*Centropristis striata*) also concentrate and feed extensively and shelter within these habitats. As a consequence, growth rates are high and predation rates are low, which make these habitats effective nursery areas. Juvenile black sea bass are also known to inhabit the mouths of tidal marsh creeks as well as shallow shoals and tidal marsh edge habitat. Within these habitats, young-of-year black sea bass display high site fidelity; they may be territorial and move very little (Musick and Mercer 1977; Werme 1981; Able and Hales 1997). Black sea bass have been observed defending small areas of nursery habitat rather than fleeing to other suitable areas (Able and Fahay 1998).

Some of the alternatives being considered in the feasibility study may result in the direct loss of wetlands habitats through fill placement for the construction of levees, floodwalls, and barriers. Less direct impacts to these important habitats may result from alternations in the hydrologic regime, changes in tidal amplitude and flow, as well as alterations to water quality. These changes may result in impaired wetland functions.

Shellfish

Shellfish occur in the project area, including hard clam (*Mercenaria mercenaria*), soft shell clam (*Mya arenaria*), blue mussel (*Mytilus edulis*), oyster (*Crassostrea virginica*), blue crab (*Callinectes sapidus*), and horseshoe crab (*Limulus polyphemus*). These species and others are important food resources for fish and birds. Coen and Grizzle (2007) discuss the ecological value of shellfish habitat to a variety of managed species (e.g. American lobster (*Homarus americanus*), American eel, and winter flounder). Clams are a prey species for a number of federally managed fish including skates, bluefish, summer flounder and windowpane (*Scophthalmus aquosus*); siphons of hard clams provide a food source for winter flounder and scup (*Stenotomus chrysops*) (Steimle et al. 2000). Infaunal species such as clams filter significant volumes of water, effectively retaining organic nutrients from the water column (Nakamura and Kerciku 2000; Forster and Zettler 2004).

Blue mussel and oyster are filter feeders and thus improve water quality (Bain et al. 2007, Waldman 2008). Reef forming bivalves such as blue mussels and oysters support an increased diversity of finfish and invertebrates, cycle material between the water column and substrate and have the potential to enhance water quality (Dewey 2000; Nakamura and Kerciku 2000; Coen and Grizzle 2007; McDermott et. al. 2008). Further, blue mussels are an important prey item for many animals in the Mid-Atlantic region (Newell 1989). Steimle et al (2000) reported that blue mussel spat were components of the diets of winter flounder, scup, black sea bass and tautog (*Tautoga onitis*). Although no known oyster reefs presently exist in the project area, scattered live oysters can be found in certain areas, indicating the presence of isolated populations.

Spawning, nursery, foraging, and overwintering habitats for blue crabs are found throughout the project area; blue crabs are commonly found on subtidal benthic habitat and are important food resources for predatory fish and birds (Bain et al. 2007, Waldman 2008). The blue crab winter dredge fishery in New York is concentrated in the lower portion of New York Harbor (Briggs 1998).

Horseshoe crabs spawn on low energy shorelines in the project area (Botton et al. 2006), with adults often migrating inshore from Mid-Atlantic Bight shelf waters to reach spawning habitat (Shuster et al. 2003). Horseshoe crab eggs are a key seasonal food resource for a number of fish species including summer flounder and winter flounder (Botton and Shuster 2003). The placement of storm surge barriers across inlets in the project area could impede spawning migrations of adult horseshoe crabs.

Magnuson-Stevens Fishery Conservation and Management Act (MSA)

Essential Fish Habitat

The New York Harbor estuary and its associated tributaries have been designated as essential fish habitat (EFH) for a number of federally managed species including Atlantic butterfish (*Peprilus triacanthus*), Atlantic mackerel (*Scomber scombrus*), Atlantic sea herring (*Clupea harengus*), black sea bass, bluefish, clearnose skate (*Raja eglanteria*), little skate (*Leucoraja erinacea*), longfin inshore squid (*Loligo pealei*), monkfish (*Lophius americanus*), red hake (*Urophycis chuss*), scup, Spanish mackerel (*Scomberomorus maculates*), summer flounder, silver hake (*Merluccius bilinearis*), windowpane flounder, winter flounder, winter skate (*Leucoraja ocellata*) and yellowtail flounder (*Pleuronectes ferruginea*).

The project area is also EFH for several highly migratory species including skipjack tuna (*Katsuwonus pelamis*), blue shark (*Prionace glauca*), common thresher shark (*Alopias vulpinus*), dusky shark (*Carcharhinus obscurus*), sand tiger shark (*Odontaspis taurus*) and sandbar shark (*Carcharhinus plumbeus*). Dusky and sand tiger sharks have also been listed as Species of Concern by NOAA.

Habitat Area of Particular Concern

Habitat areas of particular concern (HAPCs) are subsets of EFH that are identified based on one or more of the following considerations: 1) the importance of the ecological function, 2) extent to which the habitat is sensitive to human-induced degradation, 3) whether, and to what extent, development activities are stressing the habitat type, or 4) rarity of habitat type (50 CFR 600.815(a)(8)). The Mid-Atlantic Fishery Management Council (MAFMC) has designated 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 as an HAPC. MAFMC has also determined that if native species of submerged aquatic vegetation (SAV) are eliminated then exotic species should be protected because of functional value, however, all efforts should be made to restore native species. As discussed above, SAV is present in a number of locations within the project area.

EFH Consultation

The MSA requires federal agencies such as the Corps to consult with us on any action or proposed action authorized, funded, or undertaken, by such agency that may adversely affect EFH identified under the MSA. This process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in the consultation process.

The EFH final rule published in the Federal Register on January 17, 2002, defines an adverse effect as: "any impact which reduces the quality and/or quantity of EFH." The rule further states that:

> An adverse effect 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 ecosystems components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from action occurring within EFH or outside EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

The EFH final rule also states that the loss of prey may be an adverse effect on EFH and managed species. As a result, 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.

Our EFH regulations also allow federal agencies to incorporate an EFH assessment into documents prepared for other purposes including NEPA documents provided certain conditions are met. If an EFH assessment is contained in another document, it must be clearly identified as an EFH assessment and include all of the following mandatory elements including: (i) a description of the action, (ii) an analysis of the potential adverse effects of the action on EFH and the managed species, (iii) the federal agency's conclusions regarding the effects of the action on EFH, and (iv) proposed mitigation, if applicable.

For a listing of EFH and further information, please see our website at: http://www.greateratlantic.fisheries.noaa.gov/habitat. The website also contains information on descriptions of EFH for each species, guidance on the EFH consultation process including EFH assessments, and information relevant to our other mandates.

Fish and Wildlife Coordination Act

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. It also required that they 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 importance species that are not managed by the federal fishery management councils and do not have designated EFH. As discussed above, the New York Harbor estuary and its tributaries are highly productive habitat for a wide variety of NOAA trust resources covered by the FWCA including important forage species such as silversides, killifish, menhaden (*Brevoortia tyrannus*), anchovies (*Anchoa* spp.), and shellfish. The abundance of forage species makes these waterways important feeding and nursery areas for a number of estuarine-dependent commercially and recreationally important species, including summer flounder, winter flounder, bluefish, American eel, striped bass, tautog and weakfish (*Cynoscion regalis*).

Potential Impacts and Recommended Studies

Although specific project plans have not yet been finalized, the general description of

alternatives indicates that the project will include storm surge barriers, tidal gates, flood walls, levees, and beach restoration. Perimeter flood control measures will also be considered, including natural and nature-based features and non-structural components. Both short- and long-term impacts to our resources may result from the project alternatives being considered. Short-term adverse effects will result from construction activities, which may include dredging for construction of storm surge barriers and beach restoration. Long-term impacts will include habitat loss within the footprint of any storm surge barrier, other proposed hard structures and natural/nature-based features. Impacts will also include changes in flow velocities, tidal amplitude and flow, sediment transport, and deposition.

Any analyses of environmental impacts of the proposed project should include impacts of each project component, as well as cumulative impacts, to the hydrology and ecology of New York Harbor and its tributaries, estuaries and embayments. Detailed hydrologic modeling should be conducted to provide information on impacts in terms of changes in tidal regime, tidal flushing, flow velocity, scour, sedimentation rates, and current patterns, as well as the effects of the storm barriers and other proposed features on the ecology and water quality of each impacted system.

Because many fish species in the New York Harbor estuary and its tributaries use inlets as migratory pathways to nursery and forage habitat within the estuaries beyond the inlets, an analysis of current literature should be conducted to evaluate ingress and egress of all life stages of certain species over each season, supplemented by field studies to address any gaps in information. We can assist your office to determine the NOAA resources that would require detailed evaluation of migration patterns and habitat use.

Impacts of Climate Change

Any evaluation of impacts of the proposed project alternatives should include an analysis of the impacts of forecasted climate change and sea level rise to NOAA resources in the project area. Nearshore and intertidal areas are particularly at risk of sea level rise, and a warming ocean may lead to changes in the ranges of a number of our resources. We are developing guidance on climate change and sea level rise as it affects our resources, and will continue to work with you on this issue as project plans are developed.

Endangered and Threatened Species

Atlantic Sturgeon

Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) occur in estuarine and marine waters along the U.S. Atlantic coast and may be present within the area covered by the feasibility study. Five Atlantic sturgeon DPSs may be found within the study area. These are the ESA-listed endangered New York Bight, Chesapeake Bay, South Atlantic, and Carolina DPSs, and the ESA-listed threatened Gulf of Maine DPS. Sub-adult and adult individuals from any of these DPSs could occur within the study area. Early (eggs, larvae, young-of-year) and juvenile[1] life stages are found in large rivers and their estuaries and will not be present, as they are not able to tolerate the high salinity of marine and coastal waters.

[1] The terms juvenile and sub-adult are here used to differentiate between a young immature Atlantic sturgeon that has not yet migrated to sea (juvenile) and a young immature sturgeon that has migrated to sea (sub-adult).

Shortnose Sturgeon
Shortnose sturgeon (*Acipenser brevirostrum*) are endangered throughout their range. Their distribution extends from the Minas Basin in Nova Scotia, Canada to the St. Johns River, in Florida. In New York State, the shortnose sturgeon is found in the Hudson River from the Federal Dam at Troy downriver to the southern tip of Manhattan, over a large portion of the fresh and brackish reaches in deep channel habitats.

Sea Turtles
Four species of ESA-listed threatened or endangered sea turtles may be seasonally found in coastal waters of New York including, on rare occasions, the New York Harbor estuary. These species include the threatened Northwest Atlantic Ocean distinct population segment (DPS) of loggerhead turtle (*Caretta caretta*), the North Atlantic DPS of green turtle (*Chelonia mydas*), the endangered Kemp's ridley turtle (*Lepidochelys kempii*) and the leatherback turtle (*Dermochelys coriacea*).

Sea turtles are generally distributed in coastal Atlantic waters from Florida to New England. As water temperatures of in the mid-Atlantic rise in the spring, sea turtles begin to migrate north from their overwintering waters in the south. They may be found in the New York Harbor estuary during the late spring, summer, and fall months (May through November), with the highest concentrations present from June through October.

Additional information on the distribution, behavior, and times of year when ESA-listed species may be present can be found using our ESA Section 7 Mapper located at:
https://www.greateratlantic.fisheries.noaa.gov/protected/section7/listing/index.html

Thank you for the opportunity to provide input into the development of the NYNJ HATS CRSM feasibility study. As we have agreed to participate as a cooperating agency to help foster a collaborative process and interagency coordination on this project, we look forward to continued coordination with your office as the study moves forward. If you have any questions or need additional information, please contact Ursula Howson at ursula.howson@noaa.gov or (732) 872-3116. For additional information on threatened and endangered species, please contact Edith Carson-Supino at edith.carson-supino@noaa.gov or (978) 282-8490.

Sincerely,

Karen M. Greene
Mid Atlantic Field Offices Supervisor
Habitat Conservation Division

cc: ACOE – N. Brighton
GARFO – D. Marrone, E. Carson-Supino, J. Pelligrino, V. Vecchio
USFWS – S. Sinkevich, E. Schrading
EPA – D. Montella
MAFMC – C. Moore
NEFMC – T. Nies
ASMFC – L. Havel

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December 3, 2018

Dr. John Quinn, Chairman
Mr. Thomas Nies, Executive Director
New England Fishery Management Council
50 Water Street, Mill 2
Newburyport, MA 01950

RE: Clam Dredge Framework Adjustment

Dear Dr. Quinn and Mr. Nies,

On behalf of the Conservation Law Foundation (CLF) and its members we are writing regarding the New England Fishery Management Council's Clam Dredge Framework Adjustment ("Framework"). Allowing a continued exemption for the Atlantic surfclam fishery, and possible future access for the blue mussel fishery, in the Great South Channel Habitat Management Area (HMA) would adversely affect valuable essential fish habitat designated for protection less than 8 months ago after a 14-year process. CLF strongly urges the Council to vote for Alternative 1/No Action and allow for the current exemption to expire on April 9, 2019 as well as prohibit future access through exempted fishing permits by the blue mussel fishery.

1. <u>The Clam Dredge Exemption is Inconsistent with the Purpose and Need of the Omnibus Essential Fish Habitat Amendment 2 (OHA2) and the Clam Dredge Framework.</u>

The purpose of the Framework is "to identify areas where fishing for surfclams with hydraulic dredges would have only minimal and temporary impacts on habitats in the [Great South Channel] HMA," while maintaining compliance with the statutory requirement to minimize the adverse effects of fishing on essential fish habitat to the extent practicable.[1] Management actions that would allow habitat-destructive gear into an area designated to provide conservation benefits fails to achieve the purpose of the Framework. The Habitat PDT clearly identified impacts from hydraulic clam dredges that are neither minimal nor temporary. Any action allowing these gears would also call into question the Council's whole approach to EFH protection, setting a precedent for the region that will open the door for similar actions in this or other HMAs in the future.

The Council just completed a 10+ year process to develop new habitat management areas throughout New England. In that process, the best available scientific data were used at the regional scale to identify important habitat for protection. Now, alternatives in the Framework use those same data to parse this habitat into smaller areas suitable for fishing. This presents a scale mismatch, and

[1] Draft Clam Dredge Framework Adjustment, Prepared by the New England Fishery Management Council in Consultation with National Marine Fisheries Service, November 26, 2018, p. 10. Available at: https://s3.amazonaws.com/nefmc.org/3.-181126-Draft-Clam-Dredge-Framework.pdf.

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none of the available data from surveys was designed for this purpose (i.e., neither clam dredge survey nor scallop/habitat photo survey adequately address the issue).

In any event, the Habitat PDT concluded that "[d]espite the difference in the way vulnerable habitat was defined and identified in OHA2 vs. the way habitat complexity was defined and identified in the recent analysis, **the important point is that both analyses show that the fishery is operating in areas with habitat types that were identified for protection in OHA2.**"[2] Allowing an exemption for the surfclam industry and potentially providing access to the blue mussel industry in the Great South Channel will simply create an HMA in name only.

This proposed action also creates major equity issues among fisheries and gear types as similarly or less destructive fishing gears were removed from the HMA through OHA2. There is no logical rationale for allowing dredging while prohibiting less destructive gear use. If this clam fishery completely depends upon access to a postage stamp area of seafloor, then that fact points to an entirely different issue of resource mismanagement.

2. Hydraulic Clam Dredge Gear is One of the Most Destructive Forms of Fishing.

Hydraulic clam dredging is one of the most destructive form of fishing and poses a great risk to the habitat value of the Great South Channel HMA. The Habitat PDT has made this repeatedly clear in its communications with the Habitat Committee and the Council. Though effects can be more localized compared to other mobile bottom-tending gears, e.g. trawls, "localized effects of dredging on EFH could be very significant if the dredged area is a productive habitat for one or more managed fish resources,"[3] as is the case for the Great South Channel HMA. Furthermore, "dredges have negative impacts on benthic habitats that are more than minimal and not temporary."[4] A single tow can result in 50-75% loss in habitat functionality with recovery taking between 1.5 and 4.5, and sometimes up to 10, years depending on habitat type.[5] In addition to negative effects on substrate, hydraulic clam dredges significantly reduce numbers, biomass, and species diversity of invertebrates.[6]

While the industry may claim that it operates solely in sandy bottom habitats, this is simply not true. Tows occur throughout the HMA, including in hard and complex habitats.[7] As the Habitat PDT has

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[2] Habitat Plan Development Team Memo to the Habitat Committee regarding "Range of alternatives for clam framework," October 31, 2018, p. 4 (emphasis added). Available at: https://s3.amazonaws.com/nefmc.org/181031-Hab-PDT-memo-to-CTTE-re-clam-fwk-alts-CORRECTED.pdf

[3] Draft Clam Dredge Framework, Appendix B, p. 3. Available at: https://s3.amazonaws.com/nefmc.org/3d-Appendix-B_Hydraulic-dredge-gear-effects-on-habitat.pdf

[4] Habitat Plan Development Team Memo to the Habitat Committee regarding "Framing alternative development in the clam dredge framework," April 24, 2018, p. 2. Available at: https://s3.amazonaws.com/nefmc.org/3.-180423-Hab-PDT-memo-to-CTTE-re-clam-fwk-alts.pdf.

[5] *See* Draft Clam Dredge Framework, p. 20-21.

[6] *Id*, p. 21.

[7] *See* Clam Framework Presentation, Habitat Committee Meeting, November 7, 2018. Available at: https://s3.amazonaws.com/nefmc.org/181106-Clam-framework-alts-and-PDT-evaluation.pdf.

concluded, anything other than Alternative 1/No Action or full exemption would "represent a tradeoff between minimization of adverse effects to EFH and access for the fishery."[8] The Habitat PDT further stated, "Given that the surfclam fishery is operated throughout a large extent of the HMA, and complex benthic habitats vulnerable to impact also occur throughout the area, there is not a straightforward spatial management solution that would substantially reduce hydraulic dredging in vulnerable habitat types while providing access to currently fished areas."[9]

Allowing the most destructive form of fishing into the Great South Channel HMA would simply defeat the purpose of the HMA and significantly reduce the area's habitat value.

3. The Council Identified and Designated the Great South Channel HMA for its Habitat Value.

The Great South Channel HMA was designated through the OHA2 to minimize adverse effects of fishing on essential fish habitat. The HMA has moderate or high degree of overlap with designated EFH for eight Council-managed species: Atlantic cod, windowpane flounder, winter flounder, yellowtail flounder, little skate, winter skate, Atlantic sea scallop, and Atlantic herring.[10] Of these, both Atlantic cod and yellowtail flounder are overfished and subject to overfishing, and windowpane flounder and winter flounder are overfished.[11] The surfclam and blue mussel resource found within the HMA are also a prey source for Council-managed species, including winter flounder.[12]

During the OHA2 process, the Council opted for the Great South Channel over the previously-existing Nantucket Lightship habitat closure because it "better encompasse[d] cobble- and boulder-dominated habitat types."[13] Though a concentrated portion of this complex habitat has been closed to mobile bottom-tending gear in the northeast corner of the HMA, 79% of the cobble and boulder habitat and 77% of granule-pebble habitat remains in the clam exemption area and vulnerable to destructive fishing practices.[14] The Rose and Crown Area, which is included as a seasonal exemption area in Alternative 2 and a year-round exemption in Alternative 3 is 37% boulder- or cobble-dominated, and 88% of drop-camera surveys in the area showed complex habitat – greater than that found in the HMA's mobile bottom-tending gear closure.[15]

In its April 24, 2018 memo to the Habitat Committee, the Habitat PDT outlined numerous reasons why protection of these complex habitats is necessary:

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[8] Habitat PDT Memo, April 24, 2018, p. 5.
[9] *Id*, p. 5.
[10] *Id*, p. 2.
[11] *See* NOAA Fisheries Fishery Stock Status Updates (September 30, 2018) Available at: https://www.fisheries.noaa.gov/national/population-assessments/fishery-stock-status-updates.
[12] *See* Omnibus Essential Fish Habitat Amendment 2 FEIS Appendix B, p. 44 and 109. Available at: https://s3.amazonaws.com/nefmc.org/Appendix_B_SuppTables_Prey_Spawning_Revised_160127.pdf.
[13] Habitat PDT Memo, April 24, 2018, p. 1. Available at: https://s3.amazonaws.com/nefmc.org/3.-180423-Hab-PDT-memo-to-CTTE-re-clam-fwk-alts.pdf.
[14] *Id*, p. 3.
[15] *See* Habitat PDT, October 31, 2018, p. 10.

- Structured habitats enhance groundfish resource productivity by increasing survival and growth rates of juveniles;
- Complex, highly structured habitats are used by many species to reduce predation risk and provide food;
- Field studies in shallow waters, confirmed by laboratory experiments conducted in habitats of varying complexity, have shown that juvenile cod, especially young-of-the-year juveniles, have higher survival rates in more structured habitats where they find refuge from predators; and
- Research conducted in sandy bottom habitats demonstrates that proximity of complex and simpler habitats is important for providing refuge from predators during the day and foraging opportunities in simpler habitats at night.

These reasons alone are enough to support Alternative 1/No Action. For further support, however, in addition to complex geological features, areas of long-lived and/or high coverage of epifauna, such as tube-dwelling amphipods, anemones, ascidians, branchiopods, bryozoans, sea pens, hydroids, macroalgae, epifaunal bivalve mollusks, tube-dwelling polychaete worms, and sponges – all of which are highly susceptible to negative impacts of hydraulic clam dredges – are found throughout the HMA and within the proposed exemption areas.[16,17]

Cod spawning grounds have also been identified by fishermen themselves in multiple areas around the HMA, including in the proposed East Door/Old South exemption area.[18] Given the persistent overfished status of Atlantic cod in New England, allowing habitat destructive gear into areas that can provide refuge for juvenile and spawning cod – even on a seasonal basis – would be inconsistent with the Council's obligation to sustainably manage the groundfish resource.

Lastly, the OHA2 identified blue mussels themselves as a biological habitat component that provide physical structure for managed species – to enhance growth rates, reproduction, and survivorship.[19] Therefore, there is no more obvious adverse impact of fishing on habitat than allowing directed fishing on blue mussels within a habitat management area.

As NOAA General Counsel and staff have noted, another practicability analysis must be performed for the Southern New England sub-region if this fishing is allowed in the Great South Channel HMA.[20] And if the Council and NMFS determine that it's more economically valuable to allow clam and mussel dredging in this HMA than it is to protect that essential fish habitat from destructive fishing gears, then

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[16] *See* Omnibus Essential Fish Habitat Amendment 2 FEIS, Appendix D, p. 108-111. Available at: https://s3.amazonaws.com/nefmc.org/Appendix_D_Swept_Area_Seabed_Impact_approach_171011_091330.pdf

[17] *See* Draft Clam Dredge Framework, Map 4, p. 27.

[18] *Id*, p. 84.

[19] OHA2 FEIS, Appendix D, pp. 23-24.

[20] *See* Habitat Committee Meeting Summary, August 28, 2018, p. 8. Available at: https://s3.amazonaws.com/nefmc.org/180828-Hab-Cte-Summary-FINAL.pdf

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another area must be identified for protection that will provide equal, if not more, habitat conservation benefit, resulting in another drawn-out process to mitigate this damage and protect new habitat.

We urge you to vote Alternative 1/No Action for the Clam Dredge Framework Adjustment. Thank you for considering these comments.

Sincerely,

Allison Lorenc

Allison Lorenc
Policy Analyst
Conservation Law Foundation

Erica Fuller
Senior Attorney
Conservation Law Foundation

Peter Shelley
Senior Counsel
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CITY OF NEW BEDFORD
JONATHAN F. MITCHELL, MAYOR

December 3, 2018

By email: comments@nefmc.org
John Quinn
Chairman, New England Fishery Management Council
50 Water Street, Mill 2
Newburyport, MA 01950

Re: Hydraulic Clam Dredge Framework for OHA2

Dear Dr. Quinn:

As you are aware, the Port of New Bedford has long had a surfclam fleet that depends on fishing grounds on and near Nantucket Shoals. The area yields approximately $10 million in *ex vessel* value each year, nearly all of which is landed and processed in New Bedford. The clam fishery is an important component of Greater New Bedford's maritime economy, and is likely to remain so, given the climate-induced northeasterly migration of the surfclam resource.

Tomorrow the Council will consider a trailing framework action from Omnibus Habitat Amendment 2 (OHA2). The framework will address the main remaining loose end from the amendment; that is, to develop an on-going access program for these local surfclammers within the Great South Channel Habitat Management Area ("HMA"). I am grateful that the Council recognized the unique nature of the clam fishery and its fishing grounds by leaving this item open for further development.

I write to urge the Council to adopt Framework Alternative 2, which reflects a balanced approach that would afford clamming vessels access to the lion's share of the current clam resource in the HMA, while leaving less than 20% of the HMA open to other fishing. As an added protection, about half of the designated area would be open only for six months each year to protect spawning groundfish. Allowing clamming vessels to fish most of their specifically-documented, historic grounds would maintain catch rates, limit habitat impacts, and ensure the fishery can remain viable without being displaced into areas that are valuable to juvenile cod.

Equipped with an extensive working knowledge of the perilous ocean currents and bottom conditions on the Shoals, the surfclam fishermen have had in-depth discussions with the Council, its staff, and associated scientists about how their clamming operations are careful to avoid the more complex habitat in the HMA that OHA2 is designed to protect. Fishing in dense concentrations of rocks and substrate endangers the vessel, its catch, and most importantly, its crew.

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Rec'd at Council meeting 12/4/18

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Potentially effected vessels have worked with NMFS to devise a monitoring approach for the discrete fishing areas that would remain in the HMA. VMS monitoring would be roughly ten times more intensive that that employed by any other New England fishing fleet. Furthermore, the clamming vessels from outside the region that do not fish in Nantucket Shoals have joined our local fleet to support additional cooperative research about the habitat in the area. In short, the fleet and Council staff have used the time they have had to develop this framework action responsibly and with the interests of the fishery and the environment equally in mind. Their collective effort warrants the Council's validation.

I would be remiss if I did not voice my concern that a troubling eleventh-hour development may derail this constructive effort. Specifically, it is my understanding that, after about two years of work on the framework, the National Marine Fisheries Service may introduce some form of "mitigation" component into the framework, such as the closure of other fishing grounds outside the HMA. Nothing in the law, OHA2, or the Council's deliberations to date require any such action. Such an abrupt measure would inevitably pit fisherman against fisherman, undermine a viable local fishery, and discourage similar cooperative efforts. Adopting responsible Alternative 2, as-is, would prevent such an unwarranted and counter-productive outcome.

Thank you for your consideration.

Sincerely,

Jon Mitchell

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September 20, 2018

Michael Pentony, Regional Administrator
Mark Murray Brown, Acting Regional Administrator Protected Resources
Greater Atlantic Region Fisheries Office
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930

John Quinn, Chairman
Tom Nies, Executive Director
New England Fishery Management Council
50 Water Street, Mill 2
Newburyport, MA 01950

Re: Clam Dredge Framework Adjustment

Dear Sirs:

On behalf of the Conservation Law Foundation we are writing to provide comments on the New England Fishery Management Council's Clam Dredge Framework Adjustment (Framework). Consideration of dredging in the Great South Channel Habitat Management Area (HMA) demands a careful review of the environmental impacts. Of particular concern to CLF are the potential impacts of increased hydraulic dredging in this area on endangered North Atlantic right whales. Dredging has been identified as a threat to right whale recovery,[1] and is known to affect many pelagic organisms by increasing the sediment load and turbidity of the overlying water column.[2] As described below, the best scientific and commercial data suggest that dredging could negatively affect the specific planktonic prey that right whales depend upon for food, as well as the whales' foraging success in the Great South Channel HMA. Thus, we recommend completion of a Section 7 consultation under the Endangered Species Act to ensure that exemptions approved in this Framework for hydraulic clam dredging,[3] or a trailing action for the blue mussel fishery, are not likely to

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[1] NMFS North Atlantic Right Whale (Eubalaena glacialis) 5-Year Review: Summary and Evaluation. October 2017.
[2] Newcombe and Jensen, 1996; Wilber and Clarke, 2001.
[3] "The PDT ranked the severity of hydraulic clam dredge impacts well above those associated with other types of fishing gear... Impacts from a single dredge tow were estimated to cause, on average across all habitat features, a 50-75% loss in habitat functionality, with recovery times for geological features" measured in years (1.5-4.5 years

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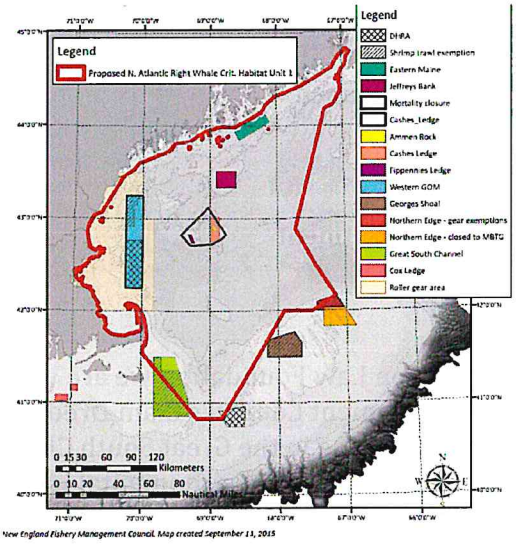
jeopardize the continued existence of right whales or result in the destruction or adverse modification of their critical habitat.[4]

In 1994, the National Marine Fisheries Service (NMFS) designated the Great South Channel as critical habitat for North Atlantic right whales because of its importance as foraging habitat due to concentrated aggregations of copepods.[5] The area remains an important foraging ground for right whales as well as a migratory corridor for whales heading in and out of Cape Cod Bay as well as up and down the Atlantic seaboard to feed and calve.[6]



As the map above demonstrates, approximately half of the new Great South Channel HMA (green) is critical habitat for right whales. Under the Omnibus Habitat Amendment 2 hydraulic clam dredges were granted a one-year exemption (expires April 9, 2019) to continue operating within almost the entirety of the HMA. Since that time, participants in the blue mussel fishery have sought a similar exemption.[7]

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for biological habitat features). Draft Clam Dredge Framework Adjustment Including a Draft Environmental Assessment (May 31, 2018), p. 21.

[4] 16 U.S.C. § 1536 (a).

[5] *See* 59 Fed. Reg. 28,805 (June 3, 1994).

[6] *See* September 18, 2018 Presentation entitled "North Atlantic Right Whales: A Summary of Stock Status and Factors Driving Their Decline," Slide 10 available at: https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/trt/meetings/September%202018/narw_brief_for_alwtrt_09_18_18.pdf; see also Baumgartner, et al 2017.

[7] https://s3.amazonaws.com/nefmc.org/4.-DRAFT_NEFMC_to_GARFO_re_mussel_EFP.pdf.

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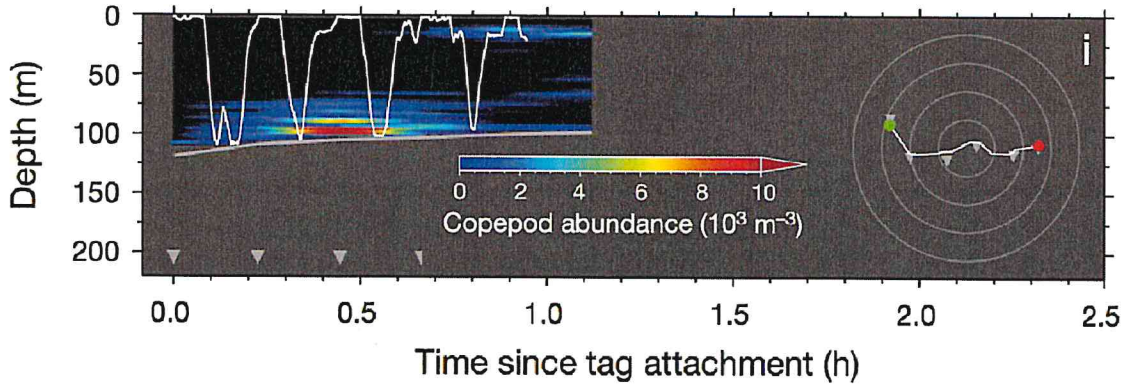
Addressing all impacts on right whales, including the impacts of increased dredging on foraging right whales, is important to the overall recovery and conservation of the species. Multiple lines of scientific evidence support the premise that dredging gear might adversely affect right whales via impacts on the health of their copepod prey, the ability of copepods to aggregate in sufficiently dense patches, and the ability of right whales to locate such patches. North Atlantic right whales require dense patches of highly specific prey species of copepods, notably *Calanus finmarchicus* and also *Pseudocalanus* spp (Baumgartner et al., 2007). New electronic tagging studies in the Great South Channel indicate that right whale foraging occurs not only within the main body of the water column, but also on dense layers of *C. finmarchicus* immediately above the bottom (see figure; Baumgartner et al., 2017). Recent analyses of right whale visual sensitivity furthermore confirm that vision may be involved in locating prey patches even at large depths such as in the Great South Channel (Cronin et al., 2017; Fasick et al. 2017). Direct observations of right whale feeding relative to turbidity have not been feasible, but the ability of fish predators to detect *C. finmarchicus* is reduced as turbidity increases and light levels decrease (Utne, 1997), suggesting that increased near-bottom turbidity and associated light attenuation due to dredging could impair right whale foraging success.

The figure below from Baumgartner et al. (2017) (as modified to add color scale), shows tracking data for an electronically tagged North Atlantic right whale in the Great South Channel on May 25, 2006, and demonstrates that right whales use the entire water column including immediately above the seafloor. The white line shows the whale's dive behavior; the colored background shows *Calanus finmarchicus* abundance; and the grey line is the sea floor. The right-hand inset shows horizontal movement.



Limited studies have examined directly the potential impact of dredging and sedimentation on *C. finmarchicus* or *Pseudocalanus* spp., perhaps due to the recentness of the observation of dense layers of these copepods immediately above the seafloor. In a

study of other species off Nigeria, however, Ewa-Oboho et al. (2008) found a significant decrease in copepod densities after, relative to before, dredging associated with deepening a shipping channel. Increased sediment concentrations also result in decreased feeding rates and reduced egg production in many species of copepod, including *C. finmarchicus* and *Pseudocalanus* spp (Arendt et al. 2011), suggesting that the long-term health of the right whale prey could be impaired by dredging. The vertical position of C. finmarchicus is also affected by light (Trudnowska et al., 2015), and it is plausible that increased rates of light attenuation due to turbidity could shift the vertical distribution of prey in ways that affect right whale foraging success. Because dense patches of copepods are critical to foraging whales, and in a horizontal sense, *C. finmarchicus* abundance in the Great South Channel varies dramatically over small spatial scales (e.g., by a factor of 1-890X over distances of 0.5-1.5 km; Wishner et al., 1995), it is also plausible that dredging could disrupt the formation and small-scale structure of the especially dense patches targeted by right whales.

As the action agency that will implement the Clam Dredge Framework[8] and the delegated consulting agency for North Atlantic right whales (*Eubalaena glacialis*), NMFS has an affirmative duty to ensure that the Framework is not likely to jeopardize the continued existence of right whales or result in the destruction or adverse modification of its habitat. We urge NMFS to undertake an intra-agency consultation and, if necessary, initiate and complete a biological opinion prior to approval of this Framework to ensure its consistency with all applicable law including the Endangered Species Act.[9]

Thank you for considering these comments.

Sincerely yours,

Gareth L. Lawson, PhD
Erica A. Fuller, DVM, JD

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[8] The Clam Dredge Framework is a piece of a larger Council action – the Omnibus Habitat Amendment 2 – intended to minimize, to the extent practicable, the effects of regional fisheries on essential fish habitat consistent with the Magnuson-Stevens Act. 16 U.S.C. 1853(a)(17). The purpose of the Framework was to identify discrete areas where fishing for surfclams with hydraulic clam dredges would have only "minimal" and "temporary" impacts on habitat, as this is now the only HMA in Southern New England. 83 Fed. Reg. 15240 (Apr. 9, 2018) (OHA2 final rule removing the Nantucket Lightship Habitat Closure Area and the Nantucket Lightship Closed Area). To date, the alternatives proposed have been expansive and the impacts appear to be neither minimal nor temporary.

[9] *See* 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.16 (duty to consult lies with action agency and consulting agency).

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We request that this letter and the following scientific studies be included in the administrative record for this action.

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Wilber D. H., Clarke, D.G. 2001. Biological effects of suspended sediments: A review of suspended sediment impacts on fish and shellfish with relation to dredging activities in estuaries. North American Journal of Fisheries Management 21(4):855-75.

Wishner, K.F., Schoenherr, J.R., Beardsley, R., Chen, C. 1995. Abundance, distribution and population structure of the copepod *Calanus finmarchicus* in a springtime right whale feeding area in the southwestern Gulf of Maine. Continental Shelf Research 15(4/5):475-507.