



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

April 16, 2025

Todd Schaible, Chief
Regulatory Branch
U.S. Army Corps of Engineers
Philadelphia District
1650 Arch Street
Philadelphia, PA 19103

RE: NAP-2023-01074 Indian River Dredging and Beneficial Reuse

Dear Mr. Schaible:

Reference is made to Public Notice NAP-2023-01074-85, dated February 7, 2025, which describes an application by the Delaware Division of Natural Resources and Environmental Control (DNREC), Division of Watershed Stewardship (DWS) for the maintenance dredging of the Indian River and beneficial use of sediment on adjacent marshes and mudflats. The purpose of the project is to maintain navigational servitude of the Indian River Federal Navigation Channel and dispose of sediment in a manner that restores and enhances tidal wetlands. Existing wetland edges will be expanded by 38.5 acres through pumping of dredged material into containment dykes and thin-layer placement will be used to raise the elevation of up to 417 acres of existing wetlands. These disposal sites are proposed to remain open for dredged material placement over a period of 10 years.

In our extension request letter, dated March 6, 2025, we cited outstanding information required for our review including 1) a monitoring and adaptive management plan, 2) an alternatives analysis for dredged material disposal, 3) a description of anticipated impacts to aquatic resources, and 4) a progress update for the related work at the Millsboro beneficial use site (NAP-2020-00627-85). Without this information, we cannot determine the direct, indirect, individual, and synergistic effects of the proposed dredging and disposal activities on aquatic resources. Based on the limited information available in the public notice, the Essential Fish Habitat (EFH) assessment, and maintenance dredging plans, we have determined that impacts to aquatic resources of national importance will be substantial and we request that you withhold making a decision on permit issuance until this information is provided and the EFH consultation is completed.

Project Description

The proposed project will involve the dredging of approximately six miles of the Indian River Federal Navigation Channel from the Indian River Bay confluence upstream to Cupola Park in the town of Millsboro, DE. Approximately 7,200 linear feet and 25,300 linear feet of channel dredging is proposed to -4 feet mean low water (MLW) and -9 feet MLW, respectively. Dredging operations will produce approximately 360,000 cubic yards (CY) of dredged material



for beneficial reuse at three wetland restoration sites and three thin-layer placement sites. Approximately 38.5 acres of mudflat will be filled to create fringing marshes, which could be accomplished with 250,000 CY of dredged sediment. Four-hundred and seventeen acres of existing wetland, which could accommodate 340,000 CY of dredged material, are targeted for thin-layer placement. As this maintenance dredging event will not produce enough material to complete the desired restoration, the DWS has requested that these sites remain available for disposal over a 10-year maintenance dredging period.

Dredged material placement sites will be bound by coir logs, armored sand containment dykes, or geotubes. Turbidity curtains may also be used situationally to control the spread of suspended sediment. Thin-layer placement sites will be treated for invasive *Phragmites australis* and raised in elevation by spraying six inches or less of sediment over existing marshes, preventing significant damage to existing vegetation. While not specified in the EFH assessment, it appears that marsh creation in existing mudflats may require a thickness of up to seven feet of dredged material to achieve the desired elevations. Once stabilized, the new marsh platform will be seeded and planted to establish native low marsh vegetation.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires federal agencies to consult with us on projects such as this that may adversely affect EFH. In turn, we must provide recommendations to conserve EFH. These recommendations may include measures to avoid, minimize, mitigate, or otherwise offset adverse effects on EFH resulting from actions or proposed actions authorized, funded, or undertaken by that agency. 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.

The Indian River is EFH for summer flounder (*Paralichthys dentatus*), windowpane flounder (*Scophthalmus aquosus*), black sea bass (*Centropristis striata*), bluefish (*Pomatomus saltatrix*), scup (*Stenotomus chrysops*), Atlantic herring (*Clupea harengus*), Atlantic butterfish (*Peprilus triacanthus*), and many others. A variety of other federally-managed species including, but not limited to tautog (*Tautoga onitis*), spot (*Leiostomus xanthurus*), Atlantic croaker (*Micropogonias undulatus*), Atlantic menhaden (*Brevoortia tyrannus*), and horseshoe crab (*Limulus polyphemus*) are also found in the project area as are shellfish species of commercial interest such as northern quahog (*Mercenaria mercenaria*). Furthermore, the Indian River Bay has been designated as an estuary of national significance since 1988 when it, along with the other Delaware Inland Bays, were included in the U.S. Environmental Protection Agency's National Estuary Program.

The Indian River also provides spawning, nursery, and foraging habitat for diadromous fish such as river herring, inclusive of both alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*), hickory shad (*Alosa mediocris*), striped bass (*Morone saxatilis*), and American eel (*Anguilla rostrata*). The DNREC American eel monitoring project has demonstrated that the eel ladder on the Indian River at Millsboro, DE captures remarkably high abundances of glass eels relative to the size of the river. It is routinely one of the most active juvenile eel sampling locations in the region in winter and spring. Given their dependence on both freshwater and marine environments, diadromous species face a unique set of challenges that have led to

significant declines in their populations. Stocks of both species of river herring remain depleted after decades of investment in their recovery (ASMFC, 2024). The Atlantic striped bass stock is considered overfished but is not experiencing overfishing (ASMFC, 2022). American eel remain in a depleted stock status, with insufficient data to determine if they are experiencing overfishing (ASMFC, 2023). Maintaining unimpeded connectivity of marine habitats to the Delaware inland bays is essential for the survival of these species in the mid-Atlantic region. Actions that negatively impact these trust resources can be considered adverse effects to EFH due to their role as prey for species with designated EFH.

The CWA Section 404(b)(1) Guidelines define special aquatic sites as sanctuaries and refuges, mudflats, vegetated shallows, and wetlands which possess special ecological characteristics of productivity, habitat, wildlife protection, or other ecological values that significantly influence or positively contribute to the general overall environmental health or vitality of the entire ecosystem of a region. The proposed project would create 38.5 acres of low marsh habitat where mudflats currently exist. While we acknowledge that the shoreline of the Indian River has lost significant areas of marsh due to changing environmental conditions such as sea level change and land subsidence, the habitat value of mudflats should not be overlooked. Mudflats support global fisheries through the provision of vital foraging, nursery, and refuge habitat (Passarelli et al., 2018). However, this intertidal habitat is consistently undervalued and declining in quantity and quality worldwide due to anthropogenic activities such as dredging, coastal development, and land reclamation (Dissanayake et al., 2018).

We appreciate the inclusion of project plans outlining wetland loss relative to proposed restoration, and we are generally supportive of beneficial use of dredged material to bolster coastal resiliency. However, we have emphasized that expansion of wetland creation using dredged material in the Indian River should not be implemented until success and biological uplift has been demonstrated at the Millsboro beneficial use site (NAP-202-00627-85). Given the lack of this information and the scale of impacts anticipated, we must recommend that a decision on the issuance of the Department of the Army permit not be made until our outstanding concerns are addressed. The following list summarizes the deficiencies of the EFH assessment that must be addressed before we are able to determine that this project would not have substantial and unacceptable impacts to aquatic resources of national importance, including EFH and special aquatic sites.

1. At a February 15, 2024, Delaware Joint Permit Processing meeting with the applicant's representative, Moffatt & Nichol, we expressed that further wetland restoration resulting in filling of mudflats should not be conducted in the Indian River watershed until success is demonstrated at the Millsboro beneficial use site (NAP-2020-00627-85). This project involved the creation of approximately six acres of wetlands through the fill of mudflats using dredged material from an upper portion of the Indian River Federal Navigation Channel. The applicant should provide an update regarding project status, success, and ecological uplift.
2. Provide an alternatives analysis of all dredged material disposal options, inclusive of any upland facilities considered.
3. Provide an explanation of why the proposed project design, including the extent of marshes to be created or enhanced via thin layer placement (TLP), was selected.

4. Provide a thorough analysis of anticipated temporary and permanent impacts to aquatic resources including existing salt marsh, fish, and infaunal communities. This is critical considering the 10 year timeframe for dredge material placement.
5. Describe all best management practices to be implemented for the protection of aquatic resources.
6. Provide a summary of or conduct monitoring to establish a biological baseline against which monitoring metrics will be compared. This should include biotic sampling of fish and invertebrate communities. This baseline information is critical to demonstrate either biological equivalency or ecological uplift through wetland creation/restoration.
7. Provide a long-term (greater than 10 years) monitoring and adaptive management plan for the wetland creation and TLP sites, inclusive of the following:
 - a. Clearly defined project goals
 - b. Reference site(s)
 - c. Performance metrics such as vegetative cover targets, vegetative colonization rates, bearing capacity, invasive species coverage, species composition, etc.
 - d. Evaluation measures that will be used to trigger adaptive management actions

Endangered Species Act

Threatened or endangered species under our jurisdiction including Atlantic sturgeon (*Acipenser oxyrinchus*) 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 for coordinating with our Protected Resources Division as appropriate. Should you have any questions about the section 7 consultation process, please contact Darcie Webb at darcie.webb@noaa.gov or 978-281-9316.

Conclusion

Thank you for sharing the EFH consultation materials for the dredging and expansion of beneficial use practices in the Indian River. We look forward to continued coordination on the proposed actions. Should you have any questions or wish to discuss this matter further, please contact Rob Bourdon in our Annapolis field office at 410-205-6055 or robert.bourdon@noaa.gov.

Sincerely,



Louis A. Chiarella
Assistant Regional Administrator
for Habitat and Ecosystem Services

cc: USACE - M. Yost
NOAA PRD - C. Vaccaro, D. Webb
NOAA HESD - K. Greene
USFWS - G. LaRouche, R. Li
EPA - C. Mazzearella, N. Motley

MAFMC - C. Moore
NEFMC - C. O’Keefe
ASMFC - R. Beal

Literature Cited

ASMFC. 2022. Atlantic Striped Bass Stock Assessment Update. Atlantic States Marine Fisheries Commission, Arlington, VA. 191 p.

ASMFC. 2023. American Eel Benchmark Stock Assessment and Peer Review Report. Atlantic States Marine Fisheries Commission, Arlington, VA. 320 p.

ASMFC. 2024. River Herring benchmark Stock Assessment and Peer Review Report. Atlantic States Marine Fisheries Commission, Arlington, VA. XXX p.

Dissanayake, N.G., Frid, C.L., Drylie, T.P. and Caswell, B.A., 2018. Ecological functioning of mudflats: global analysis reveals both regional differences and widespread conservation of functioning. Marine Ecology Progress Series, 604, pp.1-20.

Passarelli, C., Hubas, C. and Paterson, D.M., 2018. Mudflat ecosystem engineers and services. Mudflat ecology, pp.243-269.