



UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office

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(Sent via Electronic Mail)

Colonel Steven A. Baker, Commander
U.S. Army Corps of Engineers Wilmington District
69 Darlington Avenue
Wilmington, North Carolina 28403-1398

Attention: Hugh Heine

Dear Colonel Baker:

NOAA's National Marine Fisheries Service (NMFS) reviewed the *Morehead City Harbor Draft Integrated Dredged Material Management Plan (DMMP) and Environmental Impact Statement (Draft EIS)*, dated October 2013, prepared by the U.S. Army Corps of Engineers (USACE) Wilmington District; DEIS Sections 4.5.7 and 5.5.7 constitute the essential fish habitat (EFH) assessment. USACE developed the DMMP to prepare adequate dredged material disposal capacity for the Morehead City Harbor Federal Navigation Project for at least 20 years. Disposal options in the DMMP include continued use of the Brandt Island upland disposal area for inner harbor material, placement on Bogue Banks (specifically Fort Macon State Park and Atlantic Beach) of outer harbor material greater than 90 percent sand, and the Morehead City Offshore Designated Material Disposal Site for outer entrance channel material. New disposal options in the DMMP include an expanded nearshore placement area west of Beaufort Inlet (1209 acres), a new nearshore placement area east of Beaufort Inlet (1094 acres), and beach placement on Shackelford Banks for material greater than 90 percent sand. A goal of placing material east and west of Beaufort Inlet is to repair the ebb tide delta and reduce erosion to nearby beaches. Shackelford Banks is within the Cape Lookout National Seashore, and the National Park Service would have the option of declining disposal on this beach during any maintenance dredging event. Not currently proposed in the DMMP but identified as potential future options are nearshore placement of inner harbor material and raising the dikes at Brandt Island. The methods of dredging include bucket to barge, pipeline, and hopper, and the DMMP does not propose any changes to existing environmental windows (which are based on dredging method and disposal location), but notes a new additional environmental window would be needed should nearshore placement of inner harbor material be pursued. DEIS Section 5.5.7 concludes implementation of the proposed DMMP is not expected to cause significant adverse impacts to EFH or federally managed fishery species and any impacts that do occur would be minor on an individual and cumulative effects basis. As the nation's federal trustee for the conservation and management of marine, estuarine, and diadromous fishery resources, the following comments and recommendations are provided pursuant to the authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

Essential Fish Habitat

Draft EIS Section 4.5.7 describes EFH and federally managed fishery species in the Morehead City Harbor area. These descriptions do not require augmentation to complete the EFH consultation.



Impacts to Essential Fish Habitat

Draft EIS Section 5.5.7 examines impacts to EFH from implementation of the DMMP, and these discussions are supplemented by DEIS Appendix I, which models mortality to fish larvae from entrainment by hydraulic dredges at Beaufort Inlet.

The Final EIS would benefit from an expanded discussion of environmental windows. Relevant literature includes Reine et al. (1998), National Research Council (2002), Suedel et al. (2008), and Evans et al. (2011). Collectively, these papers outline a process for optimizing use of environmental windows to protect organisms from dredging projects. Draft EIS Section 3.2.5.5 indicates no changes to existing environmental windows are proposed, however, a new environmental window may be necessary should nearshore placement of inner harbor material be pursued and discussion are underway with the North Carolina Division of Coastal Management regarding an environmental window for bucket to barge dredging of inner harbor material. NMFS is unlikely to support nearshore placement of material with a high concentrations of fine material and supports an environmental window for bucket to barge dredging of inner harbor material. Exposure to high concentrations of suspended sediments may, depending on exposure duration, decrease larval feeding rate, damage the epidermis of larval fishes, and increase larval mortality (Wilber and Clarke 2001). Mechanical (bucket to barge) dredging yields higher concentrations of suspended sediments than either hopper or pipeline dredges, and mechanical dredges can cause this impact throughout the water column. Further, this method of dredging has been observed to produce large amounts of suspended sediments in the confined area of the Morehead City Inner Harbor, especially in the Northwest, West, and East legs.

The Final EIS would benefit from an expanded discussion of the impacts of beach disposal on fishes. The negative impacts beach disposal has on benthic organisms living in the surf zone is well documented (Petersen and Bishop 2005). The Draft EIS provides examples of these impacts and varying rates of recovery on disposal beaches. There is no record of any dredged material disposal on Shackelford Banks. Manning et al. (2013) conducted research on Shackelford Banks and Bogue Banks and state "Beyond the immediate mass mortality of invertebrate prey caused by >1 m of sediment disposition during beach filling, coarse shell fragments and other large particles persist as a press disturbance for years after the nourishment ends, and elevated silts/clays can become resuspended by erosive wind events in repeated pulse disturbances for at least months afterwards, in each case reflecting demonstrable long-term degradation of sandy-beach foraging habitat for surf fish." This paper notes beach sediments on Shackelford Banks consist of approximately 90% fine/very fine sand and medium sand while beach sediment on nourished areas of Bogue Banks had significantly higher percentages of medium sand, coarse sand, very coarse sand, and gravel. They also note the density of *Donax* clams decreases linearly with increasing sediment size and concentration of shell-derived material.

Finally, the Draft EIS does not examine the effects of placing dredged material on the Beaufort Inlet ebb tide delta on the fishes; crabs, and shrimp that use the delta for foraging, predator avoidance, and staging before moving into the estuary. This is the most significant omission in Draft EIS Section 5, Environmental Consequences of the Recommended Plan and the No Action Alternative. While this section includes discussions of impacts to benthic communities (Sections 5.5.2 and 5.5.3) and surf zone fishes (Section 5.5.4), neither of these sections addresses the ebb tidal delta, which is a Habitat Area of Particular Concern because the delta is part of the inlet. Further, NMFS expects more careful consideration of these impacts to result in the DMMP including biological monitoring of the delta to ensure disposal at this location to protect nearby shoreline has the least impact on fishery species using the inlet to access spawning and nursery areas.

EFH Conservation Recommendations

NMFS finds the proposed project would adversely affect EFH and federally-managed fishery species. Section 305(b)(4)(A) of the Magnuson-Stevens Act requires NMFS to provide EFH conservation recommendations when an activity is expected to adversely impact EFH. Based on this requirement, NMFS provides the following:

EFH Conservation Recommendations

1. No bucket to barge dredging from April 1 to July 31 shall occur in the Northwest, West, and East legs of the Inner Harbor
2. Inner Harbor material shall not be placed in open water, nearshore disposal areas.
3. Disposal on Shackleford Banks shall be done only when other alternatives are not practicable and when closely monitored to evaluate physical benefits and biological impacts.

Section 305(b)(4)(B) of the Magnuson-Stevens Act and its implementing regulations at 50 CFR 600.920(k), requires the Wilmington District to provide a written response to the EFH recommendation within 30 days of receipt. If it is not possible to provide a substantive response within 30 days, in accordance with the "findings" with the Wilmington District, an interim response should be provided to NMFS. A detail response must then be provided prior to final approval of the action. The Wilmington District's detailed response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity. If the Wilmington District's response is inconsistent with the EFH conservation recommendations, the District must provide a substantive discussion justifying the reasons for not following the recommendation. The detail response should be received by the NMFS at least ten days prior to final approval of the action.

Thank you for the opportunity to provide these comments. Related questions or comments should be directed to the attention of Mr. Fritz Rohde at our Beaufort Field Office, 101 Pivers Island Road, Beaufort, North Carolina 28516-9722, or at (252) 838-0828.

Sincerely,



/ for

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

cc:

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