



Bald Head Island Conservancy  
PO Box 3109  
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Bald Head Island, NC 28461

Division of Coastal Management  
ATTN: Federal Consistency Coordinator  
400 Commerce Avenue  
Morehead City, NC 28557  
Re: Wilmington Harbor 403 Draft EIS

December 19, 2025

To Whom It May Concern,

We are writing on behalf of Bald Head Island Conservancy, a 501(c)(3) nonprofit organization on Bald Head Island, NC (BHI), to relay concerns about the Wilmington Harbor Port Expansion Project and its consistency with the state of North Carolina's enforceable coastal policies affecting the state's coastal uses and resources. Our organization has focused on our mission to Discover, Learn, Conserve, and Preserve Bald Head Island for more than 40 years. We specialize in sea turtle nesting ecology and barrier island conservation, and conduct a number of environmental monitoring projects and studies on behalf of the Village of Bald Head Island. Our staff includes multiple specialists in marine and environmental science, and we collaborate closely with state and federal conservation organizations and academic institutions throughout North Carolina and the region. Our Director of Science participated in the USACE Early Scoping Expert Workshops in 2024 and we have been engaged in the process during public comment periods.

The goal of this letter is to comment on the Draft Environmental Impact Statement (DEIS) presented by the USACE in October of this year and to provide specific concerns about the potential impacts of the Port Expansion project that would make it inconsistent with North Carolina DCM's role to protect the state's coastal resources. Bald Head Island, at the mouth of the Cape Fear River adjacent to the current Cape Fear channel, is in a vulnerable location relative to this proposed project. Bald Head Island also consists of rare and special species and ecosystems that should be preserved and protected by the state of North Carolina. BHI is one of two index beaches in North Carolina for federally-listed nesting sea turtles, and our organization is charged with conserving and protecting nesting sea turtles on BHI, on behalf of the NC Wildlife Resources Commission. Beyond BHI, we are also concerned about river-wide impacts, which would undoubtedly affect the natural resources throughout the entire watershed, including BHI. Concerns that we and others have raised throughout the Public Scoping Period have not been fully addressed through the 403 process, since very few new data were collected.

Specifically, our concerns include:

- **Impacts of channel deepening to shoreline sediment dynamics at the river mouth.**  
An increase of 150-300 feet of channel width will almost assuredly increase wave runup and erosion of BHI's beaches. Erosion of BHI beaches and sediment movement from east to west (from BHI's south and west beaches to the river channel) were severely underestimated during the 2000 channel realignment. This is a complex and vulnerable area and great care should be taken to be as accurate as possible with predicted impacts. **Sediment fluxes along BHI's incredibly dynamic south and west beaches have not been carefully measured using *current* and *location-specific* data to parameterize, calibrate, and validate the model.**
  - a. It appears that the current Delft 3D model for the 403 DEIS (Appendix B) was generated during the 203 process, and uses wave and wind data that are 20+ years old, and sediment transport parameters that were adopted from other models, instead of collected in the field. The final model was selected using a match to the 2020 shoreline position after "several iterations of the model were conducted to obtain a satisfactory calibrated model."
  - b. The model results presented in the DEIS did not include any results for BHI's West Beach (river beach), which is likely to be the most severely impacted by channel deepening.
  - c. Impacts of erosion include: Loss of beach nesting habitat for listed species of concern, including Loggerhead, Green, Leatherback, and Kemps Ridley sea turtles, and shorebirds such as Least Terns, American Oystercatchers, and Wilson's Plovers. Tides/storms have been the largest threats to BHI sea turtle nests over the past 5 years, and these impacts are also expected to increase with climate change and sea level rise.
  - d. Impacts of erosion and beach loss affect individual home and business owners, coastal tourism, and thus, the local and state economy.
  - e. Erosion increases vulnerability of barrier islands (BHI, Oak Island) and other coastal communities to climate change related sea level rise and predicted increased storminess.
  - f. There are unknown and unmodeled impacts of erosion and sediment dynamics on back-barrier creeks and marshes, including tidal flushing and water quality.

"Beneficial use" of dredge spoil material to renourish beaches is not an ideal solution for increasing erosion rates. When beaches are artificially nourished, escarpment formation limits access to the beach by nesting sea turtles, and creates dangerous cliffs/dropoffs for hatchlings. **Any plans for beneficial use of dredge spoil material on sea turtle nesting beaches must include plans and costs for mitigation of escarpments during nesting season (May - November).**

- **Impacts of dredging and increased shipping on wildlife and fisheries.** The initial impacts of increasing channel depth and width will be substantial. Under a 47-foot scenario (49 feet in the reach near BHI), channel maintenance dredging will need to occur more often and for longer periods than the no-action alternative.

- a. How much “take” of federally listed sea turtles will be permitted under this project? The hopper dredges planned to conduct construction work on the Baldhead Shoal and Baldhead-Caswell reaches are expected to entrain and kill sea turtles. Sea turtle species such as Loggerhead and Green Turtles use the beaches of the Lower Cape Fear River and adjacent barrier island as a primary hotspot for nesting and foraging. Kemps Ridley forage here as well.
  - b. Sea turtle foraging activities occur year-round, not just during the traditional dredging and placement timeframes.
  - c. Entrainment and mortality of just one adult female Loggerhead sea turtle removes the potential for 25-50+ years of reproduction and 15,000+ hatchlings. Already, channel maintenance dredging kills or injures numerous sea turtles and shorebirds each year. BHI Conservancy leads emergency wildlife response on the island, and we spend hundreds of hours each year transporting and providing care for animals hit by boats or caught in dredging equipment (those that survive the initial injury). These animals are also cared for by nonprofit organizations such as Sea Biscuit Wildlife Shelter and the Karen Beasley Sea Turtle Hospital, who rely solely on donations for support.
  - d. The DEIS frequently makes the assertion that channel dredging during the construction phase and/or maintenance phase for action alternatives AA1 and AA2 will not contribute to more disturbance or damage to the environment than the no action alternative (NAA). However, on top of the 35 million cubic yards of dredged material from initial construction, 3-4 million cubic yards of sediment will be moved per year for maintenance dredging, **adding 1 million cubic yards of maintenance dredging to be conducted each year**, compared to the NAA. This is the equivalent of a standalone multiple-month dredging and beach renourishment project. Many more months each year will be required to conduct dredging and spoil placement operations, for the foreseeable future, exposing animals to dredging operations for a longer window every year.
  - e. The lights and noise from dredging equipment can disturb and change behavior of foraging and nesting sea turtles. We have observed this directly causing false crawls and misorientation of emerging hatchlings.
  - f. Dredging has immediate impacts on the benthic environment, including benthic invertebrates that provide the forage base for sea turtles and important fisheries species. Increasing the magnitude, geographic scale, and frequency of this dredging will have longer-lasting effects throughout the food chain, and impacts on the fisheries economy in the Cape Fear watershed.
- **Impacts of channel deepening to the freshwater aquifer.** The model of aquifer-surface water dynamics that was created (Appendix C), *did not include interactions with specific semi-confined aquifers on barrier islands*. The model was not calibrated for changes to groundwater salinity (due to lack of calibration data), yet the Appendix notes the risk of saltwater intrusion between the Cape Fear River and Atlantic Ocean. BHIC has 20 years of aquifer depth and water quality data that were offered to the USACE to assist with modeling efforts, but these were not requested, nor used.

Concerns specific to BHI include:

- a. Saltwater intrusion into BHI's semiconfined aquifer is already occurring on BHI's west and south beaches (we have data supporting this contention). Further encroachment of salinity caused by channel deepening/widening will reduce the size of BHI's only freshwater source for island ecosystems. It is unknown whether this is predicted to occur, because BHI was not included in the aquifer model.
  - b. BHI's maritime forest (Bald Head Woods Coastal Reserve, managed by the NCDCM) is supported by this aquifer, is the second-largest maritime forest in the state of North Carolina, is considered a globally-imperiled forest subtype, and is protected by the NC Natural Heritage Program. Several listed plant species are found on BHI.
  - c. Loss of a drinking water resource to the public. Most of BHI's drinking water is groundwater-derived. The Village of BHI has invested in careful environmental monitoring and studies of responsible water use to minimize the impact of freshwater production on the island's natural resources. Loss of groundwater for production will increase municipal costs for water consumption.
  - d. Loss of/salinization of freshwater wildlife habitat. The freshwater ponds and lagoons fed by the aquifer are home to one of the largest breeding populations of protected American alligators in the state, and also provide important roosting and feeding grounds for a variety of waterbird species.
- **Impacts throughout the Cape Fear River and watershed.** The Port of Wilmington is 28 miles from the Atlantic Ocean, which is 28 miles of direct impact to the river. Other regional ports such as Savannah (18 miles) and Charleston (5.5 miles) have shorter distances to the open sea (and a higher benefit:cost ratio of channel deepening projects). The scale of hydrodynamic impacts of a project of this cannot be underestimated. Our concerns include:
    - a. Placement location of dredge spoil material and quality of the material
    - b. Potential contamination of dredge spoil and impacts of this on water quality (heavy metals, methyl mercury, PFAS)
    - c. Large scale of perturbations and fluidization of the seabed, and impacts on biogeochemical cycling
    - d. Erosion, flooding, and salinization impacts to marshes and wetlands, including the Bald Head Island/Smith Island Complex. Eroding marshes bordering developed areas will have no space to migrate, and marsh loss due to sea level rise may be accelerated. Marshes provide buffer to storm surge, habitat to wildlife and fisheries species, water filtration, and carbon sequestration benefits.
    - e. Increased flooding impacts to vulnerable areas and resources which have already been stressed by Hurricane Florence, PFAS contamination, and are not fully recovered (e.g., residential areas in downtown Wilmington and Brunswick County, wastewater treatment facilities).
  - **Economic justification.** The Benefit-Cost Ratio of this project is cited as 1.3, meaning 1.3 dollars of benefit for every 1 dollar spent. Does the increased projected profit of 30 cents per dollar spent justify the environmental costs of such a project?

- a. The major claim of inefficiencies due to light loading of vessels justifying the increased channel depth was not supported by data in any of the documents provided with the DEIS (example: Attachment 5 on Economic Considerations).
- b. Costs of environmental degradation, such as loss of fisheries species, have not been accounted for in the Economic study. A study conducted 2015 by NCDMF estimated 67 jobs, \$14.2 million in income, and \$35.7 million in business sales supported by fisheries of the mid- and lower Cape Fear.
- c. Costs to local and regional businesses and transportation inefficiencies due to disruptions of ferry service and other maritime traffic due to dredging (e.g., Southport-Bald Head and Southport-Fort Fisher ferries) have not been mentioned.

**It is our scientific opinion that a channel deepening to 47 feet or the alternative of 46 feet would be too environmentally destructive, or at least far too environmentally risky given the dearth and scope of environmental studies at this time. Therefore, we do not support this proposed channel deepening project and urge you to find the Wilmington Harbor Port Expansion Project inconsistent with the state of North Carolina's enforceable coastal policies affecting the state's coastal uses and resources.**

Thank you for considering our concerns.

Sincerely,



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