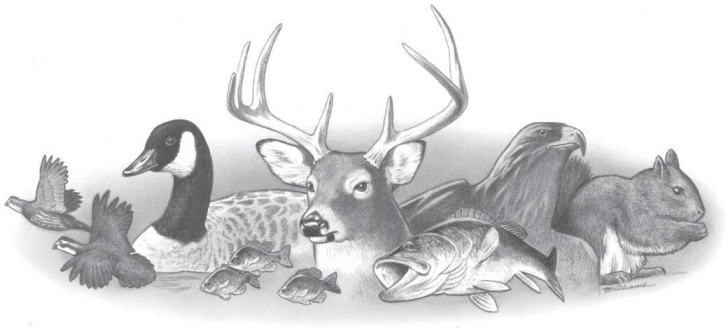

North Carolina Wildlife Resources Commission

M. Kyle Briggs, Executive Director

MEMORANDUM

TO: Cameron Luck
Division of Coastal Management
North Carolina Department of Environmental Quality

FROM: Maria T. Dunn, Coastal Coordinator
Habitat Conservation Division

DATE: January 15, 2026

SUBJECT: Consistency Determination for Wilmington Harbor 403 Letter Report and Draft Environmental Impact Statement, Wilmington Habor Navigation Project, North Carolina, New Hanover and Brunswick Counties.

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) reviewed the consistency determination request with regard to impacts on fish and wildlife resources. The project area consists of the Port of Wilmington (Port), reaches of the Cape Fear River downstream the Port including and expanding the area of federal channels and disposal areas, areas upstream and downstream of the Port influenced by the project's proposal, and various areas upstream and downstream the Port that are targeted for mitigative measures. Our comments are provided in accordance with provisions of the Coastal Area Management Act (G.S. 113A-100 through 113A-128), as amended, Sections 401 and 404 of the Clean Water Act, as amended, the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Magnuson-Stevens Fishery Conservation and Management Act (FCMA), as amended (16 U.S.C. 1801 et seq.), and the Migratory Bird Treaty Act (16 U.S.C. 703-712 et seq.).

The US Army Corps of Engineers (USACE) has submitted a Draft Letter Report and Draft Environmental Impact Statement (DEIS) presenting alternatives to address transportation improvements for the Wilmington Harbor Navigation Project, North Carolina. The NCWRC has been involved throughout the report's development, participating in the Wilmington Harbor 203 process and the various technical working group exercises. While we have participated in these exercises, our agency still has concerns regarding impacts the proposal will have on wildlife resources in the project area. Comments were submitted during the USACE public notice (Dunn 3 November 2025).

Please accept this correspondence, including the attached November 3, 2025 response to the USACE DEIS, as comments from the NCWRC during your consistency determination review. These comments

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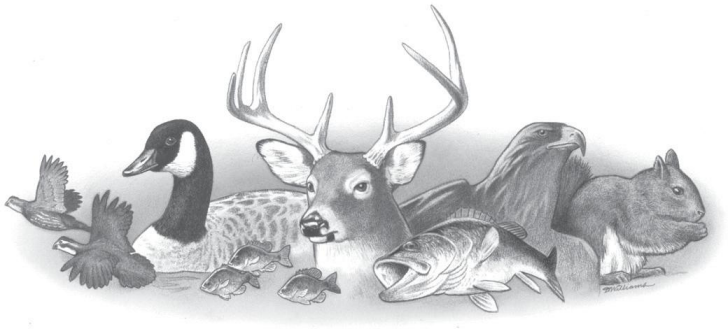
include concerns regarding the proposal's direct impacts to wildlife habitats, whether impacts to these habitats have been adequately assessed, inadequacies of mitigation proposals, the need to consult appropriate agencies prior to moving forward with the proposal, and the subsequent impacts to wildlife and their habitats (particularly nesting waterbirds and shorelines) from larger and increased vessel use.

While we understand there have been some minor changes to the mitigation proposal regarding the proposed bypass channel at Lock and Dam (L&D) 1 after the USACE public notice release, these changes do not change our statement that any alterations to the L&D structures should not be approved or allowed to move forward without consultation and approval from appropriate state and federal agencies.

Thank you for the opportunity to review and provide comments during the consistency determination process. We anticipate continued discussion on this proposal and request to be included in these discussions. Please contact me at maria.dunn@ncwildlife.gov or (252) 495-5554 for any additional comments or questions.



North Carolina Wildlife Resources Commission

M. Kyle Briggs, Executive Director

November 3, 2025

US Army Corps of Engineers
Wilmington District
ATTN: Wilmington Harbor 403
69 Darlington Avenue
Wilmington, NC 28403
WilmingtonHarbor403@usace.army.mil

RE: Wilmington Harbor 403 Letter Report and Draft Environmental Impact Statement, Wilmington Harbor Navigation Project, North Carolina
EISX-202-00-K7P-1755163795

To Whom It May Concern:

The US Army Corps of Engineers (USACE) has submitted a Draft Letter Report and Draft Environmental Impact Statement (DEIS) presenting alternatives to address transportation improvements for the Wilmington Harbor Navigation Project, North Carolina. The proposal to improve the Federal Navigation System (FNS) addresses access to the Port of Wilmington, located approximately 28 miles upstream of the Atlantic Ocean, situated along the eastern bank of the Cape Fear River in New Hanover County. The FNS to the Port of Wilmington is divided into different reaches and has different parameters such as channel dimensions, dredge methodology, material placement, navigation constraints, and maintenance frequency.

Alternatives

There are three alternatives considered in detail within the DEIS; No Action Alternative (NAA), Action Alternative 1 (AA1), and Action Alternative 2 (AA2). NAA continues FNS operations as previously conducted. AA1 deepens most of the FNS from the current authorized depth of -42' MLLW to a new depth of -47'. AA2 deepens most of the FNS from the current authorized depth of -42' to a new depth of -46' MLLW. In both the AA1 and AA2 alternatives, the Entrance Channel reaches would be authorized an additional -2' MLLW (-49' and -48' MLLW respectively) to account for ocean conditions. All reaches are allowed +2' of overdepth and reaches with rock will be allowed another +1' overdepth for rock removal. Therefore, maximum depths within the FNS could range between -48' to -52' MLLW. In addition to the increased depths for AA1 and AA2, both alternatives proposed the width of several of reaches to be expanded and a 9-mile Entrance Channel extension (Baldhead Shoal Channel - Reach 4). Material generated from dredge actions in all alternatives may be placed in the Ocean Dredged Materials Disposal Site (ODMDS), within the Eagle Island Placement Facility, and various beneficial use areas referenced in the DEIS.

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The USACE has chosen AA1 (-47' MLLW) as the Nationally Economic Development (NED) Plan and the Tentatively Selected Plan.

Methodologies, BMP's, and Schedule

The action alternatives would use a combination of dredging methods, including cutter suction dredges, hopper dredges, and mechanical dredging, depending on sediment type and placement location. Cutter suction dredging would be used for portions of the Cape Fear River with finer sediments or where sediments can be placed for beneficial use. Hopper dredging would be used in areas where coarser sediment predominates or where the sediment cannot be placed in a beneficial use area. Mechanical dredging can be used in place of hopper dredging in which sediment is removed by an excavator bucket loaded into a barge for transport to placement sites or beneficial use areas.

Proposed placement areas, for both action alternatives, include the ODMDS, the Wilmington Offshore Fisheries Enhancement Structure (WOFES), beaches in Brunswick and New Hanover Counties, and other sites in and around the Cape Fear River such as various islands, shorelines, and intertidal areas. In addition to dredging sediment from the federal navigation channel, there are reaches where rock would need to be removed to modify the FNS. Much of the rock can be removed through traditional dredging means, but a portion of the rock in the channel is considered hard rock and may require blasting to break it up into manageable sized pieces before being removed by a dredge.

The project would likely take approximately six calendar years to complete, depending on environmental conditions, operational limitations, and funding availability. It will be divided into six contract years. The estimated dredging construction schedules were developed based on the quantities of material required to be dredged (35 MCY for AA1 and 29 MCY for AA2), established environmental regulatory work windows of approximately 180 days, and historical dredging production rates. Dredging and placement timeframes that have been historically coordinated with state and federal agencies and applied to dredging projects will continue to be applied to protect marine resources such as sea turtles and migratory fish species and their habitats.

NCWRC Comments

The NCWRC has reviewed the September 2025 DEIS and associated appendices and has participated throughout the WHNIP 203 and 403 processes. We are familiar with the proposal, methodologies, project constraints and environmental resources and have provided comments accordingly. Overall, we generally concur with the method by which data was collected and presented in the DEIS. This includes the list of wildlife and aquatic species present, available habitats for wildlife and aquatic species, designated habitats, wetland classifications, and various modeling scenarios for hydrology, flooding and tidal influences. Our agency provided comments during the technical working group exercises and while we may not completely agree with some of the assessments, we do not believe those differences are enough to significantly alter the purpose and need, site condition descriptions, or modeling presented in the document. Our comments may provide some clarifications of statements within the DEIS, but the majority are related to methodologies, direct and secondary impacts of deepening the channels, beneficial use of dredged material, and mitigation of wetlands and aquatic habitats.

Species and Habitat Descriptions

The DEIS does a good job in describing the many species, their habitats, land use, and conditions of the Cape Fear River complex. While most environmental designations were described well, a large area of

the Cape Fear River is designated as primary nursery area (PNA) by the NC Division of Marine Fisheries (NCDMF) as well as anadromous fish spawning area (AFSA) by the NCDMF. The PNA designation was not well described in the description of the environment or seemingly considered in the mitigation proposal. In addition to the PNA designation in the Cape Fear River under NCDMF jurisdiction, PNA designation of the upper reaches of the Cape Fear River and the Northeast Cape Fear River by the NCWRC should be included as the proposed action would have influence on hydrology, salinity levels, and therefore the riparian wetland communities that contribute to the function of PNAs. The alternative actions would also directly affect these designated areas with the proposed Lock and Dam (L&D) mitigation proposals. Therefore, the habitats defined under PNA designations should be adequately described, considered during project implementation, mitigated, and monitored.

The DEIS did well in describing colonial waterbird and shorebirds that utilize the project area. However, Black Rails (*Laterallus jamaicensis*) and Black Rail habitat were not included but have occurred in the marshes along the Cape Fear River. This species should be considered in evaluating impacts to their habitats from the action alternatives resulting from increased water levels, increased vessel wakes, and increased salinities that may erode the coastal / freshwater wetland interface used by this species. Enhancement to Black Rail habitat could also be considered in mitigation strategies.

The USACE used the Uniform Mitigation Assessment Method (UMAM) as the tool to assess wetlands and determine mitigation related to anticipated indirect wetlands. While this tool was developed for Florida and used in other states (including the USACE Charleston Harbor Project), it had not previously been used in North Carolina. It was understood UMAM was an authorized methodology previously used by USACE and therefore presented as the preferred assessment and mitigation tool for that reason. While use of UMAM was more easily accepted by USACE for the Wilmington Harbor project, it does not include all community types found in North Carolina. Therefore, some specific wetland communities may not have been represented but were lumped together in a less defined community. For this reason, as well as familiarity with the assessment protocols, the preferred wetland assessment tool in North Carolina has been the NC Wetland Assessment Method (NCWAM).

Methodologies, BMP's and Schedules

The NCWRC appreciates the USACE's commitment to follow historically prescribed BMP's - such as moratoria - to minimize impacts on wildlife and environmental resources during biologically sensitive seasons. The expanded FNS is a navigation project with in-water work and associated in-water environmental impacts. However, placement of dredged material may also impose impacts on wildlife and environmental resources. Therefore, coordination with state and federal resource agencies and adherence to prescribed measures to impose the least amount of impact possible is appreciated.

Direct, Secondary and Cumulative Impacts

The direct impact of the expanded FNS can be described by channel width, channel depth, and amount of sediment removed from the Cape Fear River. The direct impact (typically fill) from potential placement actions is harder to quantify as specific placement sites and engineered plans have not been developed, though the approximate footprint in acres was given at potential beneficial use site locations.

The DEIS presented hydrodynamic and water quality modeling data to discuss secondary impacts from the channel deepening and widening. Statements made in the DEIS after data presentation indicate the USACE does not believe the changes in water depths, tidal influences, or salinities present a significant change. However, the NCWRC noted what USACE considered to be subtle elevations in these parameters

may significantly alter the wetland and aquatic community types, decreasing suitable habitat opportunities for the species that utilize them, and potentially changing the entire community type (For example Tidal Freshwater Wetland salinities range from 0 to 0.5 ppt and Oligohaline from 0.5-5 ppt. A slight elevation in salinity changes a wetland from Tidal Freshwater to Oligohaline). Changes in hydrodynamics and salinities may also affect submerged aquatic vegetation (SAV). While the DEIS notes no SAV were seen in recent mapping efforts, the maps used did not incorporate all areas of the expanded FNS influence area. One area not mapped that includes observed low salinity SAV is in the Brunswick River. Such habitats that would be affected should be noted and accounted for within mitigation strategies. Therefore, the NCWRC believes changes to wetlands and aquatic habitats may be more significant than presented. More consideration should be given to these impacts, especially in areas where slight changes can modify an entire community or cause loss of a species such as Cape Fear spatterdock (*Nuphar sagittifolia*) and low salinity SAV beds.

Another secondary impact from the expanded FNS is the change in vessel wake disturbance from larger container ships. The DEIS states the net effect of the projected MHW and MLW changes is a maximum increase in tidal range of 3.4" at Wilmington. However, this does not seem to consider new wave heights from larger vessels reaching waterbird nesting habitats. A single overwash causes a nest to be lost. No information was seen on estimated wave heights and how far wakes would progress on shore. Any area wetted by wake should be considered a loss of nesting habitat and may result in direct loss of nests if laid. This permanent loss of nesting and roosting habitats along with potential site abandonment by birds should be considered and mitigated appropriately. Battery Island may be an island that will need shoreline protection measures to combat wake wetting and erosion from channel expansion.

It is suggested that separate from any monitoring associated with mitigation proposals, monitoring of the environment after project implementation, use, and modified FMS management should occur. If the type of magnitude of impacts exceeds projected, measures should be made to minimize the continued influence and remediate the condition.

Beneficial Use

The DEIS proposes to beneficially use dredged material in numerous of ways, depending on location, type of sediment dredged, and allowable placement options. The NCWRC supports the beneficial use of material in the Cape Fear complex and offers the following recommendations.

The DEIS lists options of beneficial use such as bird island management, intertidal mudflats, and beach placement. A general idea of project location (such as island or disposal area), sediment type, approximate footprint, and capacity estimate were listed, but no specific plans were provided. The NCWRC recommends the USACE coordinates with other resource agencies who manage these areas to develop specific site plans to better benefit the resource and utilize material. These agencies include the NCWRC, NCDMF, US Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS) and Audubon. General recommendations for some of the beneficial use options are below.

Riverine Islands and Disposal Areas

The USACE referenced waterbird island dimensions in the DEIS while discussing placement options. While many of the specifications sited (such as desired island elevation and acreage) are prescribed by the NCWRC, they are not rule or law and could potentially be modified if needed to address site specific needs and conditions. One such recommendation may be an island elevation higher than 15' on the channel side of the island to account for increased wave heights, placement of a low-profile rock sill on

the channel side to dissipate wave energy, or even slightly larger than generally prescribed island acreage. Expansion of existing island footprints or marsh enhancements and intertidal mudflats on the lee side of the island could be beneficial as well. Suggestions for existing islands may include the following:

- Battery Island: Numerous discussions have been had for this island, including sediment placement, footprint expansion, wave attenuators on the channel side, and marsh / intertidal enhancement on the lee side.
- Ferry Slip Island: Additional material is needed for current management and an expanded footprint closer to historical and recommended waterbird island dimensions is desired.
- No Name Island: The base of this island is composed of rock and rubble. Additional material could be placed to elevate the island and expand the footprint.
- North Pelican Islands (two islands): Material placement immediately adjacent to the east side of the island to increase the size of the island, building up material to create nesting habitat that will not be overwashed.
- North of North Pelican Island: Thick layer sediment placement would be good for this site as most waterbirds nest in four small sites on the island. Island elevation would create additional nesting habitat. Placement of a rock sill along the west side of the island would also reduce wave energy. This can be done slightly offshore, or with some material immediately adjacent to the island. A rock sill may also be designed to benefit aquatic resources.
- Smith Island: Sand placement is needed.
- South Pelican Island: Additional material is needed for current management and an expanded footprint closer to historical and recommended waterbird island dimensions is desired.
- Striking Island and Shellbed Island: Sand placement is needed.
- UNI, Tricolor Island: The footprint of the island could be increased, with enhancement or increase of marsh area on the island.

With any island or disposal area creations, modifications, enhancements and management, close coordination with the NCWRC, USFWS and North Carolina Audubon is strongly recommended to glean guidance on site specific conditions and species use.

Intertidal Mudflats

A substantial percentage of proposed beneficial material placement includes the development of intertidal mudflats. This option is intended to enhance aquatic habitat opportunities and serve as an easier method of sediment disposal. The NCWRC recognized many of the proposed intertidal areas are near existing disposal areas and islands, several of which were listed above. This type of intertidal mudflat placement may provide enhanced aquatic habitats that afford island protection and even island progression over time. Therefore, we are not opposed to the option of intertidal mudflats as a beneficial use of material, but we do not think there was adequate description or design parameters within the DEIS. If the consideration of intertidal mudflats continues, we request the USACE closely coordinate with NCWRC, NCDMF, USFWS, and NMFS as many habitats and species utilize these areas. Additional enhancement, such as marsh planting near the interface of intertidal mudflats and islands or shorelines, is encouraged.

Even though the development of intertidal mudflats may enhance aquatic habitats, there is potential for the sediments placed not to respond as predicted and leave the placement area. To better assess the potential for sediment transport that may lead to shoaling and potentially marsh fill, we recommend the

development of mudflats be staggered or not completed during one contract phase / calendar year and monitored after construction. This would provide information on how sediments respond post placement during increased wave energy and various river flow events.

Shoreline Placement

The DEIS presents some riverine shoreline sites near Orton Creek and Military Ocean Terminal Sunny Point (MOSTU) as options to receive sediment to fortify shorelines and protect infrastructure at risk of subsidence. These placements are presented to be similar in design to intertidal mudflats. In addition to the Orton Creek and MOTSU sites, placement along existing wave attenuators (Reefmakers) at Brunswick Town/Fort Anderson (BTFA) is proposed. All these options, like the bird island and intertidal mudflats, have potential to benefit environmental resources but are not described at a level in the DEIS to be able to move forward without close coordination with state and federal agencies to ensure environmental resources are not adversely impacted and the best design for the site is developed.

Beach Placement

Beach nourishment was considered for Masonboro Island, Carolina Beach, Bald Head, Oak Island and Caswell Beaches. Due to economic feasibility, Masonboro Island and Carolina Beach were removed from consideration. The remaining beaches already receive material on a rotating schedule from USACE dredge events from Wilmington Harbor. The NCWRC does not have significant concern with beach placement on any of the New Hanover or Brunswick County referenced beaches if all conditions of any existing permits are upheld. This includes sediment quality, moratoria, beach profile designs, and coordination with state and federal resource agencies.

Mitigation Proposals

The USACE has proposed compensatory mitigation to replace ecological services lost because of unavoidable impacts from the action alternatives. The DEIS states there would be no net loss of wetlands, but loss of ecological function is expected. In addition to loss wetland functions, aquatic habitat suitable for several species, including Atlantic sturgeon and other anadromous species, would be adversely impacted. To address functional wetland loss, the USACE proposes to preserve approximately 550 acres of forested freshwater wetlands in the Black River Corridor as well as enhance and restore approximately 120 acres of brackish marsh by conducting phragmites treatment on Eagle Island, adjacent to Alligator Creek. Aquatic habitat enhancements for fish passage are proposed and include a bypass channel at Lock and Dam 1 (L&D1) and a rock ramp at Lock and Dam 2 (L&D2).

We have considered the proposed wetland mitigation options in the DEIS and believe additional mitigation options should be considered. This includes the amount of compensatory mitigation offered as well as available mitigation options. We do not believe there was adequate consideration of impacts from elevated salinity levels and hydrodynamic alterations that will change wetland function. It is understood some changes to wetlands may be a result of sea level rise (SLR) and not just the action alternatives. However, the action alternatives will impose direct, indirect, and secondary impacts - including transition of wetland communities and loss of wetland functions from increased salinities, loss of wetlands from increased water levels and the inability for them to migrate landward, the increase of wetland erosion from higher tidal influence and vessel wakes, and the potential fill impacts from implementation of some beneficial use options. In addition to wetland impacts, direct impacts to PNA from dredge activities were not addressed. Therefore, we believe additional wetland mitigation acreages should be proposed and

additional options considered. This may include the use of mitigation banks to increase restoration and enhancement options, increased wetland preservation acreage, and consideration of other restoration or enhancement sites. With any restoration or enhancement mitigation proposals, monitoring the area to meet established success criteria should be included. Long-term management may be difficult for some sites that have extensive invasive species presence and should be considered in the determining the effectiveness of the proposal. All mitigation sites should include conservation easements.

The NCWRC has concern with the aquatic habitat enhancement (fish passage) structures proposed at L&D1 and L&D2. Designs of fish passage structures should not be prescribed in the DEIS, but rather the DEIS should identify the need for fish passage construction at each location. The design of the fish passage structures should be designed and agreed upon by NCWRC, NCDMF, NMFS and USFWS during the mitigation pre-construction, engineering, and design phase. As presented, there is concern that the general concept of the structure will move forward without input from appropriate agencies, forcing their implementation with any FNS expansion.

Our agency's position has been the removal of L&D2 and and Lock and Dam 3 (L&D3) would provide the greatest benefit to the fisheries resources of the Cape Fear River. Removal of these structures would allow anadromous fish to access an estimated 1,672 miles of upstream habitat. Dam removal estimates ($36.58 million) compare favorably with the preliminary cost estimates of constructing fish passage ($41.47 million), while eliminating maintenance costs, residual risk, and would improve river navigation for recreational vessels since the locks are inoperable. Congressional authorization of the Lock and Dams for the purpose of navigation was cited as the rationale for screening out dam removal as mitigation alternatives. Previous USACE environmental assessments cited the lack of a disposition study as a barrier to considering dam removal. However, the USACE "Cape Fear River Locks and Dams Bladen County, Section 216 Disposition Study Integrated Report and Environmental Assessment" recommended transferring the dams to a non-federal entity. Pursuing de-authorization and transfer of Lock and Dam 2 to a non-federal entity for the purpose of dam removal should be a mitigation alternative.

The DEIS mitigation plan identifies "ecological success criteria" for fish passage at L&D1 as "*evidence of target species using bypass channel*" and L&D2 as "*evidence of target species using the rock rapid structure*". The Mitigation Plan further outlines adaptive management as "*if fish are tagged below the dam and none make it passed[sic] using the bypass methods, corrective action will be required*". As written, successful passage by a single tagged fish could be interpreted to constitute success. The Ecological Success Criteria should specifically require that passage rates (tagged fish passing upstream/total available tagged fish) of American Shad, Striped Bass, and Atlantic Sturgeon are improved from the current baselines documented at the rock arch rapids at L&D1 and through anadromous fish locking at L&D2 and L&D 3 as reported by Smith and Hightower (2012), Raabe et al (2019), Bunch (2024), and Gaither (2024). Failure to meet an improvement in passage from current baselines should result in corrective action.

The draft plan identifies a L&D1 bypass channel "...*To increase passage to historic spawning grounds for striped bass, which was not considered in the original passage design...Improvements to the bypass channel could promote the use of an alternative route for striped bass and sturgeon to travel upriver for spawning*." While the rock arch rapids at L&D1 was required as mitigation for Shortnose Sturgeon takes, it was designed to pass American Shad, Striped Bass, and sturgeon. Pre- and post-construction monitoring evaluated American Shad and Striped Bass passage and used Flathead Catfish as a surrogate for sturgeon species. Although the rock arch rapids never achieved the fish passage success criteria, fish passage was deemed "acceptable" by USACE in 2019. Since USACE deemed passage "acceptable", additional fish passage at L&D1 should be removed from further consideration.

NCWRC does not support the construction of a rock-arch rapids fishway at L&D2. Twelve years of post-construction monitoring of the rock arch rapids at L&D1 indicate American Shad have similar passage rates as locking, Striped Bass do not use the rock arch rapids as effectively as locking, and available data do not suggest efficacious use by Atlantic Sturgeon, Shortnose Sturgeon, or Blueback Herring.

Mitigation at L&D3 was not screened out of alternatives analysis but was not considered further because a fish passage structure would only provide uplift if "...*fish passage is achieved upriver to this point, through both L&D1 and L&D2*" and because the required functional uplift was attained with fish passage L&D1 and L&D2. Extensive monitoring by NCWRC documents a considerable proportion of the American Shad population ascends to Lock and Dam 3 every year, but passage through Lock and Dam 3 only occurs due to anadromous fish locking or flood events during the spawning season. Therefore, mitigation activities should be prioritized at L&D3 to significantly increase anadromous species access to upstream habitats.

The NCWRC recognizes the amount of effort put forth in the presentation of the DEIS and associated appendices. We appreciate the opportunity to provide comments throughout the Wilmington Harbor 403 DEIS process and look forward to consultation on items above to produce successful beneficial use and mitigation projects to enhance wildlife and environmental resources affected by the Wilmington Harbor Navigation Improvement Project. Please continue to contact me at maria.dunn@ncwildlife.gov or (252) 495-5554 of there are any comments, questions or concerns.

Sincerely,

Maria T. Dunn
Habitat Conservation Division