Alliance for Cape Fear Trees
7 Beauregard Drive, Suite 2
Wilmington, NC 28412
(910) 506-8371
allianceforcapefeartrees.org

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Dear Federal Consistency Coordinator,

On behalf of the Alliance for Cape Fear Trees (ACFT), a nonprofit dedicated to preserving, protecting, and planting trees in the Lower Cape Fear region, we respectfully submit the following comment in opposition to the proposed deepening and widening of the Cape Fear River navigation channel. While we recognize the economic motivations behind the project, we have serious concerns about the project's irreversible damage to our region's freshwater forests and wetlands. As such, we urge the Division of Coastal Management to withhold federal consistency certification to prevent further loss of tidal freshwater forests and to protect the communities and ecosystems that depend on them.

Ghost Forests: A Visible Warning

In the Cape Fear watershed, trees are already dying. Along Smith Creek, a tributary of the lower Cape Fear, researchers from the University of North Carolina at Wilmington UNCW (Devereux, K. et al., 2025) analyzed sediment cores and tree-ring records from bald cypress forests. Their findings are stark. Tree-ring data show periods of suppressed growth and elevated stress in bald cypress populations along Smith Creek, coinciding with historic dredging projects in the Cape Fear main channel and increasing salinity levels. Even very small increases in salinity—"just over a pinch per gallon"—are enough to stress and kill bald cypress, especially the largest, oldest individuals.

This loss of freshwater tidal forests is not isolated. It has been observed throughout the Cape Fear River Estuary, with particularly notable degradation in Town Creek and other tributaries.

Below, you'll find an example from Town Creek, with photos taken from Google Earth. The image on the left is from 2003, before the river was deepened to 42' from 38' in 2005, and you can see the land covered in tidal freshwater forest. The image on the right is from 2021. You can see a stark loss of trees and a conversion of forested bottomland to marsh, related to salinity changes, coupled with soil changes and storm impacts.

EXAMPLE FROM TOWN CREEK:

Ghost forests are not just a change in scenery. As scientists have documented along the North Carolina coast, they represent a rapid conversion of freshwater forested wetlands into salt marsh or open water, driven by sea-level rise and saltwater intrusion. When forests convert to marsh, we lose long-term carbon storage, floodwater mitigation, and vital wildlife habitat.

Deepening to 47' Will Accelerate Forest Loss

According to the Corps' own historical records and UNCW research cited above, each past deepening of the Cape Fear navigation channel has allowed more ocean water to push upstream, increasing tidal range and salinity in tributaries like Town Creek, Smith Creek, Eagles Island, and more.

The proposal to deepen much of the harbor and widen the channel is an engineered invitation for increased saltwater intrusion. A deeper, straighter channel allows denser saline water to move farther upstream and linger longer during each tidal cycle. Greater tidal range and storm surge lead to more frequent and prolonged saltwater inundation of nearby freshwater wetlands and bottomland forests.

From a forestry standpoint, this is not a reversible experiment. Once freshwater forested wetlands have been converted to ghost forest and then to marsh or open water, the trees—and the ecosystem services they provide—cannot be restored. Unless the root causes—salinity and hydrology—are addressed, any replanting efforts will fail. And no amount of mitigation elsewhere can replace what's lost here.

RECOMMENDATIONS

Given the substantial risks to forested ecosystems and the communities they protect, ACFT respectfully urges the Division of Coastal Management to find the

Wilmington Harbor 403 Navigation Project inconsistent with the Coastal Management Program unless the following safeguards are adopted.

In commenting on the Draft Environmental Impact Statement (DEIS), we believe these alternative actions would provide more effective and equitable protection for freshwater and tidal-freshwater forests along the lower Cape Fear and its tributaries:

1. **Prioritize alternatives that avoid ecological harm**
    - The DEIS should fully disclose and evaluate navigation alternatives that reduce risk to tidal freshwater forests and wetlands—namely, tug-assisted vessel movement, operational scheduling, and limited, targeted deepening rather than system-wide excavation. Alternatives that maintain shallower channel depths and reduce saltwater intrusion should be clearly compared against the proposed action, with particular attention to impacts on freshwater tidal forests and wetlands.
2. **Require robust hydrologic modeling and estuary-wide monitoring**
    - The DEIS should be strengthened by more detailed modeling of saltwater-wedge migration and increased tidal range associated with deepening—specifically evaluating vulnerability of tidal freshwater forests and wetlands in Smith Creek, Town Creek, Eagles Island, and other tributaries.
    - We further request ongoing monitoring of the estuary to determine actual impacts on freshwater tidal forested wetlands. If monitoring documents additional forest stress, mortality, or ghost-forest expansion associated with deepening, there should be clear requirements for additional mitigation.
3. **Count forest loss—and ghost-forest expansion—as significant environmental impacts**
    - Forested wetlands should not be treated as generic “wetland” acreage. The DEIS should explicitly quantify freshwater and tidal-freshwater forest mortality, including ghost-forest expansion, as a significant adverse impact. These changes represent permanent losses of long-term carbon storage, floodwater mitigation, and wildlife habitat, and they should be analyzed, disclosed, and weighed in the decision-making process.
4. **Require no-net-loss mitigation for tidal freshwater forests and wetlands**
    - The DEIS identifies the loss of about 1,071 acres of tidal freshwater forests and wetlands. This loss must be fully mitigated. We urge DCM to require a true no-net-loss standard for forested wetlands, with impacts compensated by protecting, through acquisition or

conservation easement, forested areas of comparable or greater ecological value within the Cape Fear River watershed.
    - We support the proposed acquisition of 603 acres of bottomlands on the Black River as a step in this direction. However, we recommend that mitigation funds currently designated for phragmites removal on Eagles Island instead be redirected toward additional bottomland freshwater forest acquisition, which provides clearer, longer-term ecological benefits. In contrast, phragmites removal alone is uncertain and does not offer equivalent mitigation for the permanent loss of tidal freshwater forests.
5. **Implement adaptive management with enforceable forest-health thresholds**
    - DCM should require an adaptive-management framework that ties monitoring results to action. Measurable forest-health thresholds (e.g., increased tree mortality, canopy decline, or rapid expansion of ghost forests) should trigger formal review and, if necessary, pause or modification of future dredging activities as well as additional mitigation requirements. This approach acknowledges scientific uncertainty while ensuring that worsening impacts on freshwater tidal forests will not be ignored.

CONCLUSION

The Alliance for Cape Fear Trees appreciates DCM's decision to extend the public comment period and carefully evaluate this project's consistency with coastal management goals. In recognition of the Division's broader work to balance economic activity with environmental stewardship, we welcome the opportunity to support future technical or stakeholder groups focused on forest and canopy impacts of navigation projects. The Alliance stands ready to collaborate on solutions that protect our trees, our watersheds, and our future. Please don't hesitate to reach out, and thank you for your time.

With gratitude,

Isabelle Shepherd
Executive Director, *Alliance for Cape Fear Trees*