

OUR COAST

Working Together for a Healthy Coast

Strengthening Initiatives
for
Protection & Restoration

Executive Director Letter

One of the things that makes the Coastal Federation special is the dedication of our members and supporters who stand behind our mission. For more than four decades, our success has been driven by the grassroots efforts of passionate people like you who care about our coast and actively support our work to keep it healthy, strong, and resilient.

Your contributions do more than just provide direct support for our work. A strong and engaged membership signals that there is broad public interest and demand for our mission. This helps us leverage additional investments from private foundations and competitive state and federal grants. In some cases, member contributions serve as matching funds that allow us to unlock larger funding opportunities. Diverse funding sources provide the stability and resources needed to expand our initiatives, build new partnerships, and implement projects that benefit both the environment and the economies of our coastal communities.

These investments drive large-scale restoration projects, allowing us to collaborate with a diverse range of local companies, including marine contractors, engineers, and environmental consultants. Together, we are improving water quality, restoring wetlands and oyster reefs, and implementing nature-based stormwater solutions that filter pollutants and support healthy fisheries. We are also tackling marine debris, working with commercial fishers and volunteers to remove abandoned vessels and thousands of pounds of waste from our waterways—creating safer habitats for marine life and cleaner shorelines for residents and visitors. Beyond environmental benefits, these restoration efforts create jobs, strengthen fisheries, protect military infrastructure, and help sustain the coastal tourism industry. Thriving coastal communities and economies depend on a healthy coast, and with continued investments in restoration, we can ensure that North Carolina's coastal environment, economy, and quality of life remain strong for future generations.

Now more than ever, we are grateful for our members and the role you play in ensuring that we have a broad and diverse base of support for our mission. Like other organizations and programs nationwide, we are navigating an evolving funding landscape. With your help, we will continue to make a lasting impact by protecting and restoring our coast for generations to come.

-Braxton Davis



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WATER QUALITY

Improving Water Quality through Stormwater Management Initiatives



Clean coastal water is the foundation of our coastal economy and ecosystems, and we depend on it for work and recreation. However, intense rainfall events can overwhelm stormwater systems, allowing stormwater runoff to funnel pollutants into our coastal waters. Aging or failing stormwater systems can exacerbate the problem, adding even more runoff to our fragile creeks, rivers, and sounds.

Out of the more than 10,000 stormwater systems in North Carolina's coastal counties, it is estimated that more than 4,500 are not meeting design standards and/or lack an active or responsible permit holder.

"Noncompliant systems are contributing to pollution, and leading to significant environmental and public health concerns," said Annette Lucas, project partner with McAdams Co. She notes that "some property owners are being burdened with compliance issues and legal challenges because many stormwater systems are unmaintained or their permits have not been transferred properly."

Last year the General Assembly launched the Stormwater Retrofit Pilot Cost-Share Program to help property owners and permit holders along the coast bring their stormwater systems back into compliance. The Coastal Federation is working with partners to kick-start this program.

"The key goal of the program will be to assist eligible HOAs, commercial property owners, municipalities, counties, and single-family lot owners with maintaining, retrofitting, and upgrading stormwater systems to achieve or exceed permit goals or requirements and help them hit the reset button to ensure efficient

future operation and maintenance," said Lauren Kolodij, special project manager with the Federation.

The Federation has initiated four pilot field-test projects aimed at shaping a formal cost-share program to improve stormwater management. These projects will help determine the program's structure and demonstrate its potential impact on coastal water quality.

The first project, completed in late December at the Morehead City Police Department, involved restoration of its stormwater control measure (SCM). Crews from Resource Environmental Solutions (RES) excavated and removed eight truckloads of compacted sediment, replacing it with permeable sand to restore infiltration and reduce runoff.

"The site SCM now functions as designed, allowing rainwater runoff to infiltrate naturally," said project engineer Rob Hopper of RES, emphasizing the project's effectiveness.



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SALT MARSH

Enhancing Coastal Resilience at the North Carolina Aquarium at Pine Knoll Shores



North Carolina's 12,000 miles of estuarine shoreline provide some of the most productive habitats in the world for fish and shellfish. Unfortunately, the erosion of these shorelines is worsening due to rising sea levels, concentrated boat wakes, and increasingly powerful storms.

One location along the coast that is experiencing increased shoreline erosion is the North Carolina Aquarium at Pine Knoll Shores.

In recent years, the Coastal Federation has collaborated with the Aquarium on several living shoreline projects to help counteract this erosion while protecting intertidal habitats. Last year marked the beginning of their largest living shoreline project to date, which is now nearing completion.

"Our partnership with the Aquarium is an invaluable collaboration that helps ensure the Theodore Roosevelt Natural Area's shoreline remains resilient and accessible for future generations," explained Coastal Resiliency Planner and Manager April Hall. "It also offers a unique opportunity to educate the public on the vital role that living shorelines play in supporting and preserving healthy marsh environments."

The Federation, the Aquarium, the NC Division of Parks and Recreation, and researchers from the NOAA Beaufort Lab collaborated to build the 4,214-foot living shoreline in severely eroded areas along the Theodore Roosevelt Natural Area on Bogue Sound. This living shoreline will protect educational infrastructure and nature trails while supporting crucial salt marsh and oyster habitats.

The living shoreline was constructed using several types of materials, including Natrx's ExoForms™, Native Shorelines' QuickReef®, and Sandbar Oyster Company's Oyster Catcher™. Native Shorelines also assisted with the project design and permitting.

Hall explained the reasons why the site was constructed using several different materials: "These living shoreline materials are proven techniques for reducing shoreline erosion caused by wave energy, thereby enhancing the shoreline's capacity to support salt marshes and oyster habitats. The use of multiple materials allows us to demonstrate their effectiveness in a similar setting and observe how they work in tandem to strengthen and protect the ecosystem," said Hall.

The Aquarium, which has more than 50 exhibits and over 4,500 animals and hosts more than 400,000 visitors each year, is the ideal place to learn about coastal habitats and the plants and animals that live in these areas. Project coordinators are thrilled this living shoreline will serve as another living classroom for visitors.

Funding from this project will also support a 3-year study conducted by Dr. Rachel Gittman and Dr. Hannah Sirianni at East Carolina University, and Dr. Joel Fodrie at the University of North Carolina Institute of Marine Sciences, to investigate how living shorelines influence adjacent seagrasses and salt marshes, as well as local water quality and fish habitat value and usage. This study will improve our understanding of how living shorelines interact with the surrounding ecosystem and help guide future living shoreline designs.

The project is expected to wrap up this spring, with the final installation of the Oyster Catcher™ materials, and monitoring of the site will continue over the next 3 years.

This project was funded by the North Carolina Department of Natural and Cultural Resources/North Carolina Land and Water Fund State Appropriations Funding and the U.S. Fish and Wildlife Service-Southeast Aquatic Resources Partnership.



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OYSTERS



Expanding Oyster Habitats in the Cape Fear River



The expansion enhances oyster populations, improves water quality, and boosts recreational fishing opportunities. Historically, the Cape Fear River's oyster reefs have declined due to various factors, but the new reef will help support the supply of oyster larvae.

The eastern oyster (*Crassostrea virginica*) is crucial to coastal ecosystems, offering benefits summarized by the three "Fs": food, filter, and fish habitat. Oysters sustain fisheries, filter pollutants, and provide shelter for marine life, benefiting coastal communities.

Jordan Byrum, Enhancement Project Manager for DMF, highlighted the reef's accessibility for shore-based anglers and kayakers, noting that materials from 2017 withstood several hurricanes while continuing to support oyster populations.

Since 2015, the Federation has partnered with Carolina Beach State Park and DMF on habitat restoration projects in the lower Cape Fear River. Key support comes from the National Resource Damage Assessment Restoration Plan for the Kerr-McGee Superfund site, which helps fund restoration projects to rehabilitate habitats in the Cape Fear River.

One of the most notable efforts is the Carolina Beach State Park Restoration Project, which includes the completion of AR-491, the restoration of 10 acres of wetlands, and the installation of 2,000 linear feet of living shorelines to enhance benthic and estuarine habitats.



The Coastal Federation and the North Carolina Division of Marine Fisheries (DMF) are collaborating on an artificial reef near Carolina Beach State Park. Construction of the oyster reef in the Lower Cape Fear River was completed in early spring, adding 4 acres of shallow habitat and new recreational fishing opportunities at DMF's Artificial Reef AR-491.

Ted Wilgis, a coastal scientist with the Federation, emphasized the reef's importance, stating, "The completion of this reef is a significant step in the Cape Fear River Oyster Pathway," which aims to connect remnant natural reefs with other artificial reefs constructed by Audubon NC, the University of North Carolina Wilmington, and the Bald Head Island Conservancy.

The Oyster Pathway resulted from a recommendation in the Federation's Lower Cape Fear Blueprint, which is focused on improving river health and water quality. Funding for the project came from Grady-White Boats and The Orton Foundation.

DMF worked closely with Carolina Beach State Park during construction, deploying 2,100 tons of recycled crushed concrete to provide attachment sites for larval oysters. The deployment used shallow-draft barges and high-pressure hoses to create a reef base with a maximum thickness of 12 inches.

This initiative builds upon an earlier 1-acre reef habitat project constructed in 2017, bringing AR-491 to nearly 5 acres.



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MARINE DEBRIS

Addressing Abandoned and Derelict Vessels



Abandoned and derelict, hundreds of boats litter the coast, slowly degrading over time. The dangers they pose are significant. These vessels can obstruct navigation, leach harmful materials into the water, harm marine life and the coastal environment, and degrade water quality.

“We have a significant Abandoned Derelict Vessel (ADV) problem, whether from storms or owner neglect or other issues,” explained Ted Wilgis, Marine Debris Program Director for the Federation.

Regardless of why these boats are left behind, they must be removed to mitigate the many negative impacts they have on our coast, but that’s not as simple as it may sound.

“Right now the way the process works in North Carolina is that a vessel has to be abandoned or derelict for 30 days,” said Wilgis. “That means that the vessel hasn’t moved or it’s become a navigation hazard or it’s washed up on the shore or is sinking before the state will put a sticker on it and notify the owner that they have 30 days to remedy the situation. They also have to be notified that if they do not do anything to fix the problem the state will authorize the Federation to remove it, because right now we have grant funds to work with local contractors to remove abandoned vessels.”

With the expertise gained from removing 170 vessels from coastal waters since 2021, the Federation, along with its many public and private partners, is now leading the effort to establish a formal, state-run program for removing abandoned and derelict vessels. The goal of this initiative is not only to streamline the process of identifying, tagging, and removing these vessels but also to prevent more vessels from becoming abandoned or derelict in the future.

“Without a state-level permanent authority, recurring funding, and a lead state agency, ADV prevention and assessment rely on a patchwork of emergency state authorities and local government ordinances. Funding may be available intermittently on the state and municipal level and through federal grants,” explained Wilgis. “This can also result in a delay of months or even years before a vessel can be removed. Those delays can mean that these vessels are even more damaged, or can even sink, which greatly increases the potential for more debris, and makes removal more difficult and expensive.”

This year, the Federation will present recommendations to the state legislature that aim to revise the legal definitions and general statutes for ADVs based on lessons learned since 2019. These recommendations include:

- Recurring funding for vessel removals and disposals.
- Expanding accessibility to the NC Wildlife Resources Commission's ADV database for state and federal agencies, local governments, and contracted partner organizations.
- Establishing a permanent ADV removal program to make NC eligible for federal emergency funding.

These recommendations seek to formalize the existing public-private partnership between state agencies, local governments, and the Federation by implementing standard protocols and a shared database. This will enhance vessel removal efforts, support local government initiatives for removal and prevention, and enable more timely recovery actions.



Donate Your Vehicle to Support the Coast!

The Federation is in need of a commuter vehicle - or another safe, functional vehicle that could be traded in. If you have a car or truck that you might be interested in donating, we'd love to hear from you.



COASTAL MANAGEMENT

Victory for Coastal Protections in North Carolina



Thanks to the Southern Environmental Law Center, who filed an amicus brief on the Federation's behalf, we are pleased to announce we have secured a favorable judgment in a legal battle over the state's coastal management protections. A Wake County Superior Court judge ruled in favor of the NC Coastal Resources Commission (CRC) by entering a summary judgment against the NC Rules Review Commission (RRC), which had previously blocked and repealed 30 of the state's coastal regulations. These regulations account for more than 10% of the state's rules governing coastal development and the protection of coastal resources.

The judge ordered that these 30 provisions be restored to the North Carolina Administrative Code. In doing so, the judge fully supported SELC's three main arguments:

1. The state environmental agency (CRC, supported through the NC Division of Coastal Management) has statutory authority to establish rules that are enforceable in reviewing federal projects that might harm coastal resources.
2. Coastal rules may appropriately repeat or summarize other laws to clarify or provide context to those rules.
3. The term "adverse environmental impact" used in the rules is not vague or ambiguous and does not make the regulations invalid.

The legal dispute arose after the CRC, following a 10 year review process, readopted the state's long-standing coastal management rules as part of a required regulatory review process to ensure regulations remain necessary and up-to-date.

The rules are then reviewed by the RRC, which is responsible only for ensuring procedural correctness—not for evaluating the content of the rules. During readoption, the RRC improperly blocked 30 of these coastal management regulations, which led to the litigation. The repealed rules covered critical issues such as the designation and management of "areas of environmental concern," permitting procedures for coastal development, policies for shoreline erosion control, and the regulation of ocean-based energy facilities. Some of the specific protections include safeguarding the dunes of Jockey's Ridge State Park and preserving archaeological remains on Permuda Island.

The restoration of these rules is significant because they provide essential guidelines for managing development and environmental protection in North Carolina's coastal areas. SELC and the Federation's efforts involved multiple steps, including submitting comments during the readoption process, voicing opposition to the RRC's actions, advocating with partners, and ultimately engaging in litigation to challenge the rules' repeal. While this judgment is a major win, SELC has pledged to continue defending these rules in case the decision is appealed.



Career and Leadership Development Academy

We recently hosted seventh-grade students from Murray Middle School as part of the Career and Leadership Development Academy, a collaboration between the Wilmington Chamber of Commerce, New Hanover County Schools, and local businesses. This program allows students to explore career paths and engage with professionals at no cost. During their visit, students participated in several activities and learned how small changes can impact coastal health.

They also explored a local salt marsh, where they discovered the importance of estuaries and helped remove harmful marine debris. We're excited to be part of this program, connecting students to careers in coastal conservation and fostering their passion for the environment!



North Carolina Coastal Federation

Working Together for a Healthy Coast

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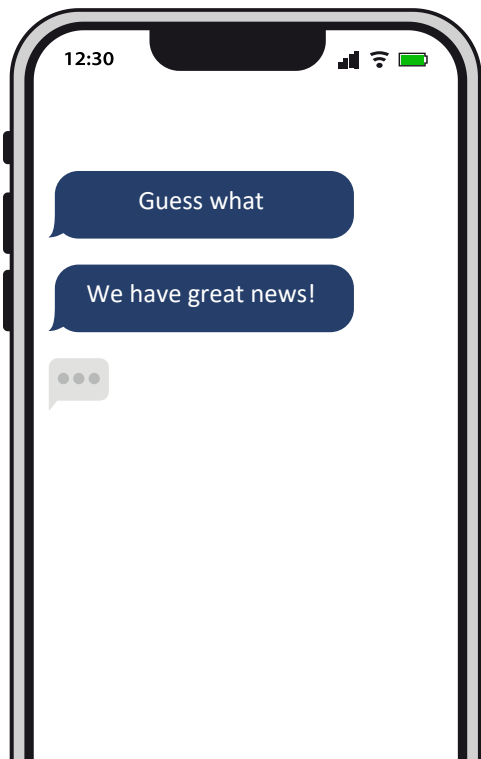
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