

NCCOAST.ORG | *Working Together for a Healthy Coast* | SPRING 2020

OUR COAST



North Carolina
Coastal Federation
Working Together for a Healthy Coast

**OUR WORK GOES ON IN
THE TIME OF COVID-19**

LETTER FROM THE DIRECTOR

Dear Friends of Our Coast,

Since going into our nation's shutdown, I've been able to spend some time outdoors every day enjoying extended walks in the Croatan National Forest and on other lands that the Coastal Federation has helped protect over the past couple of decades. I'm also fortunate to have my own boat that allows me to get away for beach walks, and to catch a few fish. Meanwhile, volunteers work in shifts to tend our community garden at Earthwise. It's growing rapidly with ample rain and sunshine this spring. And since frequent travel no longer occurs, there's more time to focus on the details of the Coastal Federation's work, and perhaps that will help us come up with new and better ways to approach the needs of our coast.

Challenges and opportunities abound when it comes to carrying out our mission. We're doing everything possible to achieve the goals and benchmarks set for this year. Real progress is taking place. We are in the midst of several major new policy initiatives involving almost 100 advisors that will help set a course for promoting nature-based stormwater solutions to flooding and water quality degradation. We are currently also conducting major projects to restore estuarine shorelines, wetlands, water quality and oysters.

A huge new initiative to clean up marine debris and abandoned vessels is also underway, and this effort will

provide much needed employment for dozens of people and rid our coast of tons of debris. Each business day our independent news service Coastal Review Online publishes the latest in-depth news about our coast. We also recently completed a two-year effort working with Carteret County to buy one of the largest remaining undeveloped waterfront properties left on Bogue Sound to be used for public boating access, nature-based recreation, habitat and water quality protection and even eventually a new site for our operations.

What's changed dramatically is our ability to directly engage our supporters in our work. Volunteer events, workshops, conferences, student engagement and many other outreach activities came to a sudden halt the second week of March. Instead, we're interacting using conference calls and Zoom meetings and hiring contractors that can accomplish our projects without a lot of social interaction. Our staff is also working remotely for the most part, tending to needs like web updates, and ensuring the work listed above moves forward and is impactful.

We are currently planning for our 2020 Pelican Awards, but have not made a decision as to whether or not we will be able to host an in person event or virtual one. We do however promise to still award and honor the individuals, organizations and agencies that have contributed exceptional talents and service to help advance our mission of



protecting and restoring the coast. We have our creative hats on now, so stay tuned for more information about this year's event.

Because we're such an effective and efficient organization, we are fortunately positioned to remain highly productive and effective in the coming months. Like everyone else, however, we're very worried about the future and how long the current health crisis will last. Its lasting social, economic, and yes, environmental consequences could be with us for a long time. We can't do much about COVID-19 except be responsible in following health advisories, and therefore, we'll focus on what we can do to most effectively -- protect and restore our coast.

Thank you for your support during these tough times.

—Todd Miller, Executive Director



North Carolina
Coastal Federation
Working Together for a Healthy Coast

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WATER QUALITY

nccoast.org/stormwater

UNCW Parking Lot Absorbs Rain

The hard surfaces of parking lots usually contribute to polluted stormwater runoff and flooding by collecting rain and directing it to storm drains. But a new project at UNC-Wilmington funded by the EPA Section 319 program is reversing this course and reducing runoff.

Engineering firm Coastal Stormwater Services, Inc. worked with the Coastal Federation to design and complete a project to remove over 4,730 square feet of asphalt from UNCW's parking lot EE and replace it with permeable paving. Sections of the asphalt lot around select drop inlets were sawcut, removed and taken to a local asphalt plant for recycling. The stalls were then replaced with permeable pavement. The retrofitted parking stalls are doing their job by allowing rain to soak into the ground before it reaches the storm drain. The stalls now infiltrate about 163,000 gallons of rain for a 3.6-inch rain event.



"Since I was a student, I've always felt a sense of commitment to protect what brought me here, the water. From a birds-eye view, UNCW stands as one of the last lines of defense before Bradley Creek. Working with Coastal Federation and other community partners to reduce stormwater has been a dream come true!" said Kat Pohlman, UNCW's chief sustainability officer.

The Coastal Federation, UNCW, the City of Wilmington's Heal Our Waterways initiative and New Hanover County Soil and Water Conservation partnered on the stormwater reduction project in the Bradley Creek Watershed to help implement the local watershed restoration plan. UNCW is the largest landowner in this watershed and a key partner in restoration efforts.

Large-Scale Wetland Restoration Underway

Restoration work is underway this spring on Lux Farms in northeast Hyde County. This is one of many sites where the Coastal Federation is working with landowners and the Natural Resources Conservation Service to restore the hydrology of ditched and drained land in a manner that both heals the natural system and provides improvements to farming operations. At Lux Farms, contractors recently created two wetland sloughs, or channels. These sloughs allow water from adjacent farm lands to flow through formerly drained lands. This work will restore the hydrology of the forested wetlands as seen in the picture below. Additional grading and the installation of water control structures to help control the release of water on the land will take place this spring and summer. Two pump stations will be installed to direct the flow of water to the new channels. "We'll be putting water back into its natural flow pattern," said Erin Fleckenstein, coastal scientist with the Coastal Federation.

Wetlands Replace Ditched Lands

Wetlands are replacing ditched and drained lands in several large-scale restoration projects being completed by the Natural Resources Conservation Service (NRCS) in coastal plain counties. Since 2017, the Coastal

Federation has been working with the federal agency to assist in the survey, design and construction oversight at several of their coastal wetland restoration projects. Some of these projects involve the installation of earthen structures like ditch blocks and dikes that block the drainage paths that were created when the land was transitioned to farming. These practices help reduce the amount and rate of water leaving ditched lands and increase the land's capacity to collect and absorb rain water. In addition, fields are being transformed into mudflats, open water, and forested wetlands. Overall, the Coastal Federation's partnership with NRCS will result in the restoration of 8,000 acres of wetlands across the coastal plain.

These restoration projects help mimic the natural hydrology of the landscape, which is a big plus for coastal water quality. When rain can be collected and stored on site instead of flowing from ditches to coastal waters, the delivery of bacteria and other pollutants to creeks, rivers and sounds is greatly reduced. As a co-benefit, these acres of open water habitat are great for waterfowl and the mudflats are prime habitat for shorebirds. Restoration areas also include acres of bottomland hardwood forest which provides habitat for a large variety of wildlife. One of the programs offered by NRCS aims to help willing agricultural producers transition their more marginal croplands into wetlands.



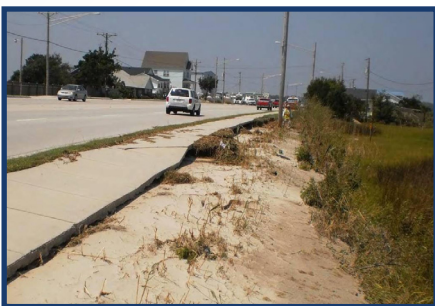
LIVING SHORELINES

nccoast.org/livingshorelines

Large-scale Living Shorelines for Coastal Resiliency

The Coastal Federation, in partnership with Carteret Community College and the N.C. Department of Transportation (NCDOT), was recently awarded a \$2.7 million grant from the National Oceanic and Atmospheric Administration's Office for Coastal Management and the National Fish and Wildlife Foundation to install two large-scale living shorelines in Carteret County.

The living shoreline that will be installed along the shoreline of the College will help protect 1,250 linear feet of campus infrastructure from future storms. The other living shoreline will be constructed along N.C. 24 to protect the causeway between Swansboro and Cedar Point, a route vital to the Marine Corps and an official storm evacuation route. The N.C. 24 portion of the project will serve as a test site and lay the groundwork for potential larger application of living shorelines by NCDOT along the 590 miles of roadways in the state that are located within 100 yards of coastal waters.



Both projects aim to increase local resiliency to storms with the use of nature-based solutions like living shorelines instead of hardened structures such as bulkheads.

Living shorelines are environmentally friendly shoreline stabilization techniques that help to reduce

shoreline erosion while protecting and restoring valuable salt marsh and oyster habitat at the same time. The Coastal Federation has been working with partners to design and install successful living shoreline projects along the coast for over 20 years.

These living shoreline projects will total 3,518 linear feet of saltwater marsh, protecting and restoring a total of 23.08 acres of salt marsh, oyster and upland habitat.

"We are thrilled to be a recipient of this grant and are eager to protect these shorelines from future erosion from storms while at the same time preserve and restore critical salt marsh and oyster habitat. Living shorelines are a more effective, economical and longer term technique to protect shorelines from erosion when compared to bulkheads and seawalls," said Dr. Lexia Weaver, Coastal Federation coastal scientist.

Congressional Briefing

In mid-March, coastal scientist Dr. Lexia Weaver presented the Coastal Federation's work to implement living shorelines through community engagement and partnerships to a group of over 150 participants at a national briefing organized by the Environmental and Energy Study Institute. The briefing titled "Coastal Resilience in the Southeast: Science, Policies, and Programs Furthering Local Resilience Goals" was hosted by the Institute, which is a nonpartisan, nonprofit organization dedicated to promoting sustainable societies. They host a few dozen Congressional briefings annually on a variety of environmental and clean energy topics. The briefing was originally scheduled to occur in Washington, D.C., but was held virtually due to the coronavirus.

Wanchese Office Living Shoreline Demonstrations

The Coastal Federation is constructing several different types of living shoreline sills just outside the Wanchese office. Sills are low-profile structures that reduce wave energy and protect shoreline marsh. The goal is to showcase various ways waterfront property owners can reduce soundside erosion more naturally.

This spring and summer, staff will be building a wooden vertical sill, a granite sill and an oyster castle sill. The 300 linear feet total project, being funded by the Honda Marine Science Foundation, will join two existing sills on-site. The existing sills used oyster domes and oyster shell bags for their construction. The new oyster castles that will be used on a 100 linear foot section of shoreline are stackable concrete blocks designed and used to attract oysters while providing shoreline stabilization. The addition of these new sills will complete a total demonstration of several viable alternatives to bulkheads and other more common shoreline management techniques that can increase erosion and degrade the natural marsh.

"We're excited to see these living shoreline sills come to fruition. Not only will they help to stabilize this stretch of fringing coastal marsh, they will also serve as a demonstration for people who are interested in seeing what different techniques they can use to build a living shoreline," said Erin Fleckenstein, Coastal Federation coastal scientist.



OYSTERS

nccoast.org/oysters

Ramping Up Programs to Help Oyster Farmers

In 2019, the N.C. General Assembly developed a shellfish aquaculture strategy that set an ambitious goal of creating a \$100 million shellfish industry that includes the creation of 1,000 North Carolina jobs by the year 2030. To achieve this goal, and in an unprecedented display of bipartisanship, the General Assembly passed SB 648 in 2019. The bill recognized the potential economic value of shellfish aquaculture in our state, especially as a future economic driver in uniquely economically stressed coastal regions. The bill also called for the development of a formal study to determine the merits of creating potential low-interest loans as incentive for existing and future growers going into the oyster farming business.

Working with the N.C. Shellfish Growers Association and Thread Capital, a subsidiary of the N.C. Rural Center, the Coastal Federation led development of the study that identified two key barriers to increasing shellfish aquaculture in the state: the lack of access to funding sources for shellfish growers, and the lack of a comprehensive federal crop insurance plan to protect their businesses in the case of damage or loss.

The study recommends that the state appropriate \$1 million for the establishment of the low-interest loan program for the shellfish industry that would direct funds to Thread Capital to set up a lending fund, and appropriate \$30,000 to the N.C. Shellfish Growers Association to help develop a federal

crop insurance program in support of the robust loan program. Noting that these two actions would be great steps toward advancing growth of the industry, Chris Matteo, president of the N.C. Shellfish Growers Association stated that “Oyster farmers in North Carolina have not had good access to the financing necessary to scale their businesses. The loan study conducted by the Coastal Federation is the first meaningful step in analyzing and communicating that need to N.C. legislators. Our industry will struggle to reach its full potential unless farmers have access to capital and crop insurance at reasonable rates.”

Wanchese Office Oyster Farm Demonstration Up and Running

The Coastal Federation is the proud new owner of our very own oyster farm demonstration site at the Wanchese office. The half-acre site is set up in Broad Creek just outside of the office, and includes eight rows of PVC pipe that are staked into the ground, strung together with rope, which hold bags of growing oysters.

Though this venture, the Coastal Federation has joined the state in its goal of increasing oyster farming to a \$100 million industry by 2030 as outlined in the State’s Strategic Mariculture Plan. Oyster farming is currently about a \$20 million industry.

One way we are working toward this goal is by holding demonstrations and educating people about oyster farming techniques. A variety of oyster gear is on display at the site, including

floating bags and floating cages which are currently home to 2,000 oysters. Each bag holds about 100 oysters. Volunteers, like high school intern Gabe Long, helped sort and count the oysters before they were set out in the water to grow.

Later this spring the Coastal Federation will install “hex” cages and “oyster grow pro” cages to demonstrate additional grow out techniques. We will also be adding oyster seed to the lease in late May or early June. Oyster seed are juvenile stage oysters that are grown at an oyster nursery.

Oyster demonstration site operator Ray Delvillar regularly monitors the lease for any damage after high wind events. He also takes water quality measurements including water temperature, salinity and dissolved oxygen as part of the research occurring at the site.

In the future, a floating work platform will be installed alongside the dock to aid in access to the demonstration site. We are gearing up to get community volunteers involved with the oyster program on a variety of tasks and lessons.

For more information about this exciting oyster demonstration project, contact Sara Hallas sarajh@nccoast.org or Ray Delvillar rahdiazd@nccoast.org.



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MARINE DEBRIS

nccoast.org/marinedebris

Nearly a Ton of Debris a Day Removed from the Coast

Jody Huie, along with his dad, Joe Huie Jr., and two fellow commercial watermen, Michael Willis and Josh Whitney, have become experts on the types of marine debris littering our marshes and islands. They are masters on how to find this storm debris, even when it's hidden under tree limbs and other thick coastal vegetation. Working with a 24-foot skiff, the watermen crew has scoured the estuarine shorelines, going into hidden high marsh areas to remove wood from damaged docks and piers, metal, construction and residential trash, chemicals, polystyrene, dock floats and abandoned boats.

These four watermen, all from Sneads Ferry along the New River, have worked tirelessly to collect and remove about a ton of debris a day left by the damaging winds and forceful waves of Hurricane Florence. The project will be wrapping up by mid-May. By that time, the crew will have collected about 115 tons of debris from Topsail Sound and Middle Sound. An additional 1,000 pounds of debris were collected by 64 volunteers during Coastal Federation led cleanup events at the Morris Landing Clean Water Preserve on Stump Sound.

This effort builds on a project funded by the North Carolina General Assembly in 2019 which removed 200.3 tons of marine debris from Carteret and Onslow counties. Unfortunately, significant debris remains, so the important removal work continues. The crew is now working in Onslow, Pender, New Hanover and Brunswick counties with support from a two-year, \$249,657 grant to the Coastal Federation by the NOAA Marine Debris Program. The Coastal Federation continues to partner with the N.C.

Division of Coastal Management, N.C. Division of Marine Fisheries, N.C. Wildlife Resources Commission, local governments, community fisherman, and volunteers on the project.



For future preparedness, the Coastal Federation is also partnering with NOAA to develop best management practices for protecting important natural resources by working with local municipalities to create model building codes and construction specifications to ensure docks and piers are built stronger to better withstand the forces of future hurricanes and storms.

Boat Debris and Trash to Be Removed from Coastal Waters and Marshes

The N.C. Division of Coastal Management, in partnership with the Coastal Federation, was recently awarded Natural Resources Conservation Service Emergency Watershed Protection funds to clean up debris and abandoned and derelict vessels that still litter the coast following Hurricane Florence. Small crews will set out to clean up debris, in addition to marine contractors who will

use larger equipment to remove the vessels.

Boat debris removal will begin late spring and will be focused in Carteret, Craven, Pamlico, Brunswick and New Hanover counties. Special attention will be paid to the waters surrounding the Rachel Carson Reserve, Hammocks Beach State Park, Permuda Island Reserve, and Masonboro Island Reserve.

Additional support for debris cleanup efforts was just awarded by the National Fish and Wildlife Foundation in partnership with the National Oceanic and Atmospheric Administration. The Coastal Federation secured over \$645,000 to remove additional debris in the central and southeast regions. This project will continue the laborious efforts of marine debris removal, and match up with the Emergency Watershed Protection Funds to remove abandoned and derelict vessels.



These collaborative efforts are part of a larger coast wide strategy to reduce the amount of marine debris and its impacts in coastal North Carolina through tangible and measurable actions as laid out in the North Carolina Marine Debris Action Plan developed by the Coastal Federation and project partners. Go to nccoast.org/strategicplan for a complete look at the plan.

COASTAL MANAGEMENT

nccoast.org/coastalmanagement

Oceanfront Communities Unite Against Offshore Drilling

All of North Carolina's oceanfront municipalities have now passed resolutions opposing offshore oil drilling along our coast. The Town of Indian Beach, located in Carteret County, passed a resolution at their March Board of Commissioners meeting joining 44 other towns, cities and counties throughout the state.

"Over the last year, the Indian Beach Board of Commissioners received several requests from our citizens and several advocacy groups to adopt the resolution. After many discussions, all the board members agreed it was time for Indian Beach to get on board with the other beach communities and oppose offshore drilling and seismic testing," said Tim White, Indian Beach town manager.



Even inland communities – some as far west as Asheville – have joined in the fight against offshore oil, which, if permitted, could have devastating impacts on North Carolina's economy and environment.

The draft drilling plan was released in 2018 by the federal Bureau of Energy Ocean Management. It showed which areas might be opened up to drilling, and included nearly all United States coastal waters. Soon after the plan's release, it was met with strong public opposition. During the three-month public comment period, nearly two million Americans expressed opposition to these plans. Unfortunately, despite the public outcry and subsequent resolutions opposing the plan, efforts thus far have been unsuccessful in stopping the proposal to expand drilling off our coast from moving forward.

Revised drilling and leasing plans could be released by the federal government at any time. While we await this release we encourage you to contact local and state representatives to express your opposition to offshore oil drilling along the North Carolina coast.

Setback Rules Still Challenged

A legal case claiming "taking" of beach front property in Nags Head was dismissed by a federal judge in early April. The taking claim was made by a couple from Maryland who was planning to rebuild their beach front house along the outer banks that was destroyed by fire. Their permit requests to rebuild with the state Division of Coastal Management were denied because the ocean front set back rules could not be met.

Michael and Cathy Zito sued the N.C. Coastal Resources Commission in March of last year over the denial of their request for a variance to the state's ocean front setback rules. The Coastal Federation had requested to intervene in the case on behalf of the

Commission, but the judge considered the motion to intervene moot when denying the appeal all together.

"This is an important decision that upholds the state's authority to implement longstanding regulations intended to protect the life and property, as well as the valuable natural resources", said Ana Zivanovic-Nenadovic, Coastal Federation's assistant director of policy.

The Commission is the state's rule making body for the Coastal Area Management Act (CAMA), the 1974 law that governs coastal development and other actions in the state's 20 coastal counties. Part of the couple's claim is that their property is now deemed undevelopable and is a taking of their property without compensation but the rules governing beachfront development are clear and longstanding. The Zitos have now appealed the federal judge's decision.





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Staff Addition

Lily Huffman joined the Coastal Federation in 2020 as the Communications Specialist Fellow. She graduated in 2019 from Duke University with a Master of Environmental Management degree, with a concentration in Coastal Environmental Management. Before that, she attended the University of Wisconsin-Madison, where she earned her BS in Conservation Biology, and a certificate in Folklore. Lily believes in a

multi-disciplinary, inclusive approach to solving environmental problems, supported by clear, engaging communication. When she isn't working to protect the coast, Lily can either be found reading a book in a sunny spot in her apartment, at the gym, or out and about photographing the many beautiful landscapes North Carolina has to offer.

Join us! Become a member and help protect and restore the coast.

Your support is more important than ever. During this period of distance, your membership brings us together to keep the coast a great place to live, work and play.

To join or renew your annual membership,
[visit **nccoast.org/membership**](https://nccoast.org/membership).

*You can also renew by mailing a check to
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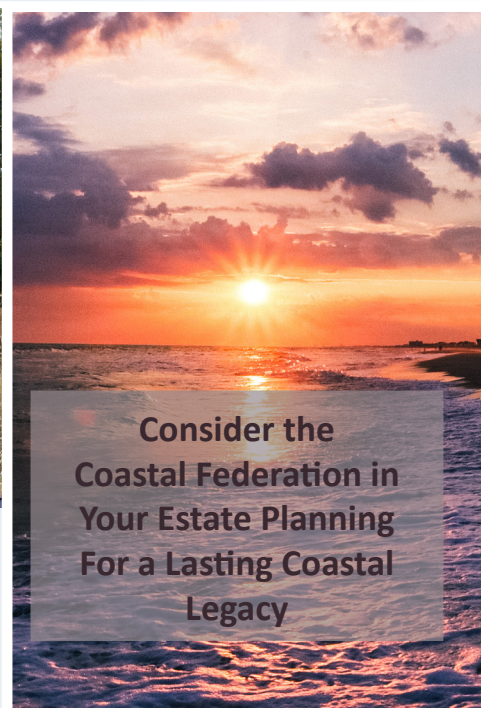
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