

NCCOAST.ORG | *Working Together for a Healthy Coast* | SPRING 2021

OUR COAST



TURNING THE TIDE
ON MARINE DEBRIS

PROJECT UPDATES



North Carolina
Coastal Federation
Working Together for a Healthy Coast

LETTER FROM THE DIRECTOR

Dear Friends of Our Coast,

My son and daughter-in-law inspire me to try to live a greener lifestyle. They drive very little, avoid disposable single-use items, and try to eat foods that can be produced with acceptable environmental impacts.

It's healthy to live in a way that takes responsibility for our environment. However, unless you plan to stay in strict COVID-19 lockdown, it's unlikely that you can live without causing some harm to the environment.

Michael Mann, in his new book entitled "The New Climate War," says the climate won't be protected by simply relying on people to take personal responsibility for it. Systemic policy changes that come from governmental leadership are essential. Individual efforts are simply too fragmented and inconsistent—too little too late.

Living in harmony with nature and not against it takes gradual and consistent institutional reforms that make communities more resilient.

Such reforms aren't possible without strong public support. Bringing about significant change is never easy. For example, there are just about as many opinions about how best to protect our coast as there are people who love it. Abraham Lincoln warned that: "A house divided against itself cannot stand."

Durable solutions that work to protect our coast require a diversity of residents and visitors to work together. Such

partnerships occur when people work to listen and respect differing views, and are open to finding their shared interests.

There is no doubt that we all contribute to many of the environmental challenges we face. For example, global warming is made a little worse every time I drive or go out in my boat. Twenty pounds of carbon dioxide are released into the atmosphere with every gallon of gas consumed¹. This fact (and many others like it), humbles me to try to put myself in the shoes of others so as to seek common ground for environmental enhancements. Remember what the Gospel of Saint John advises: "Let him who is without sin cast the first stone."

For all these reasons, the North Carolina Coastal Federation strives to identify by working with diverse groups of stakeholders the fundamental and lasting solutions that protect and restore our coast. This way the federation is a catalyst for systemic policy changes. While far from complete, we've made huge progress to protect and restore the resiliency of coastal communities and natural habitats. Just one example of what's been accomplished is the improved government policies and investments in wetlands that have protected and restored more than 200,000 acres along our coast since in 1982. These acres now grow many millions of additional trees and marsh grasses that sequester carbon from the atmosphere.

This year we joined with Clean Air Carolina to petition the N.C. Environmental Management Commission to adopt a cap-and-trade program to limit smokestack



carbon emissions so that our state can achieve carbon reduction goals already adopted by power companies and the Governor. The success of this action is uncertain. The goal is to bring about significant greenhouse gas reductions at levels far beyond what individuals can accomplish by themselves.

Long-term systemic improvements to protect and restore our coast are the hallmark of our work. At the same time, we do not compromise in our quest to engage a diversity of views and needs. This helps people "work together" to achieve our mission even in an era of so much destructive social and political polarization.

Learn more about our programs and projects in this newsletter, and by visiting our constantly updated website at www.nccoast.org. I think you will be impressed. Thank you for your help that allows our work for a healthy coast.

—Todd Miller, Executive Director

A handwritten signature in black ink that reads "Todd Miller".

¹ Gasoline is about 87% carbon and 13% hydrogen by weight. So the carbon in a gallon of gasoline (weighing 6.3 pounds) weighs 5.5 pounds (. 87 x 6.3 pounds = 5.5 pounds). So, multiply the weight of the carbon times 3.7, which equals 20 pounds of carbon dioxide.



**North Carolina
Coastal Federation**
Working Together for a Healthy Coast

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COASTAL HAPPENINGS

2021 COASTAL STEWARDSHIP AWARD

The Coastal Federation has recognized three graduating high school seniors who have demonstrated outstanding dedication to our coastal environment with the 2021 Coastal Stewardship Award. The award program launched in 2019, and provides \$1,000 in funding to three award recipients from the coast. High school seniors from the 20 North Carolina coastal counties were invited to apply for the award and share their accomplishments and activities that make them a great coastal steward. This year's award was supported by Coastal Stormwater Services, Emerald Isle Realty, and private individuals.

2021 WINNERS



Meagan Bergstrom, senior at
Eugene Ashley High School
in Wilmington



Cecille Ernst, senior at First Flight
High School in Kitty Hawk



Anthony Marelo, senior at
Croatan High School in
Carteret County

2021 VIRTUAL NORTH CAROLINA COASTAL MICROPLASTICS FORUM

JULY 15, 2021 | 10:00 A.M. – 12:30 P.M.

Microplastics pollution has become a major environmental problem that requires urgent action. Come and learn about the different types of microplastics pollution, the sources and pathways of these contaminants into our waterways, the risks they pose to both the natural environment and human health, current scientific research, current federal and state policies aimed to govern microplastics pollution and what you can do to help.

EVENT INFORMATION: nccoast.org/microplasticsforum

DID YOU KNOW?

The average person ingests 100,000 pieces of microplastic per year? That number doubles if you only drink bottled water!



2021 PELICAN AWARDS AND TASTE OF THE COAST

SAVE THE DATE!

AUG. 7, 2021 | 5:30 – 8:30 P.M.
MOREHEAD CITY, N.C.

Make plans to join us for a fun evening on Bogue Sound to celebrate this year's award winners with live music, great seafood, a silent auction, and great company.

We look forward to celebrating with you in person if we can do so safely. Stay tuned for details regarding any special safety measures and virtual options. Tickets will go on sale in June, and our online auction will go live June 15.

WATER QUALITY

WATER QUALITY PROJECTS UNDERWAY

Heavy rains, on top of already saturated soils, frequently cause houses, yards and roads to flood. These flood waters then become polluted runoff, degrading coastal waterways. In an effort to reduce these types of damaging flooding and runoff, Pine Knoll Shores and the Coastal Federation have recently installed a multi-faceted, innovative project to manage groundwater and stormwater.

Paid for by the N.C. Land and Water Fund and the Town, the project included the installation of a series of perforated pipes and pumps that enable the Town to move groundwater from flood-prone residential areas to the Crystal Coast County Club golf course pond where it is stored. This pumping draws down groundwater levels, increasing the capacity of the land to soak in the rain on site. This allows proactive, and preemptive pumping to lower groundwater levels before large storms

to prevent flooding and reduce polluted runoff.

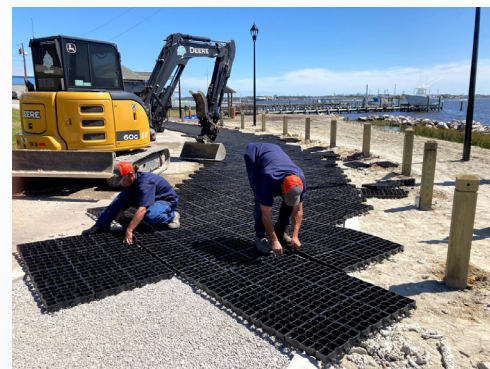
“This is the type of watershed management that is encouraged across the state in the recently released nature-based stormwater strategies action plan that was unveiled in early March,” said Lauren Kolodij, deputy director with the Coastal Federation.

In the neighboring Town of Beaufort, the Coastal Federation and Town used another grant from the N.C. Land and Water Fund to enhance a scheduled repaving of Orange Street. The funds paid for the cost of 500 linear feet of permeable pavement for street parking. This reduces the volume of polluted runoff entering a nearby creek. Swansboro is also on board with reducing runoff. With support from the EPA Section 319 grant program administered by the N.C. Department of Environmental Quality, the Coastal Federation and Town removed sections of asphalt and compacted turf at Ward Shore Park, and replaced them

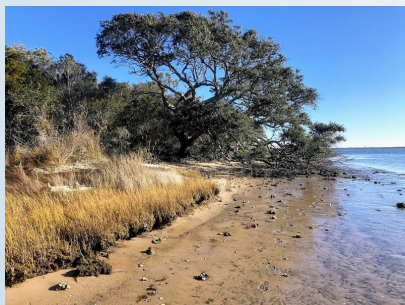
with rock filled permeable paving grids to reduce runoff while providing public parking.

All three projects were identified in watershed restoration plans adopted by the towns. These plans were developed in partnership with the Coastal Federation, and prioritize projects to reduce the volume of stormwater runoff entering coastal waters.

“It’s great to work with such committed partners to reduce large volumes of runoff,” said Bree Charron, coastal specialist with the Coastal Federation.



LIVING SHORELINES



PLANNING BEGINS FOR LIVING SHORELINE AT FUTURE CENTER FOR COASTAL PROTECTION AND RESTORATION

Thanks to funding from the N.C. Attorney General’s Environmental

Enhancement Grant Program, work is underway in Carteret County to design, permit and begin the construction of a 971-foot living shoreline. The living shoreline will reduce erosion while protecting and restoring about 0.7 acres of fringing salt marsh and mature live oak trees on Bogue Sound, and improving water quality in the Outstanding Resource Waters of the Sound.

The Coastal Federation partnered with the county in 2020 to acquire 76.25 acres of land abutting the sound that will serve as the Coastal Federation’s future Center for Coastal Protection and Restoration and a new county park, including nature trails and a public boat ramp. The living shoreline will be the first of many habitat restoration and coastal resilience demonstrations at the new Center, serving as a living classroom to educate the community, school groups and decision makers about the values of living shorelines.

TOPSAIL LIVING SHORELINE RESILIENCY PROJECT COMPLETE

Rocky Mount Avenue in Topsail Beach is home to one of the Coastal Federation’s most recent living shorelines. Nestled on Banks Channel, the living shoreline was constructed out of bagged recycled oyster shells. It is positioned to provide erosion control and serve as a living reef for new baby oysters to grow on. The Coastal Federation hired Restoration Systems, LLC. to construct the living shoreline in late March with funds provided by the N.C. General Assembly to the Town as part of a post-Hurricane Florence storm damage reduction project.

This spring, the shoreline will be planted with salt marsh grasses to provide important habitat for fish and other estuarine animals. The site will provide an outdoor training classroom to showcase cost effective and environmentally sound alternatives to conventional bulkheads for erosion control.

“We are very grateful for the opportunity to be proactive in creating island-wide readiness and resiliency projects and address some long-standing issues of flooding and shoreline erosion,” Topsail Beach Town Manager Mike Rose said.

If you want to learn more about installing a living shoreline at your property, send us an email at our new dedicated email address:

livingshorelines@nccoast.org

MARINE DEBRIS

MARINE DEBRIS REMOVAL IN THE WORKS

Derelict vessels along the coast posing environmental, health and economic risks to the coast are being removed from coastal marshes, islands and sounds. For the first time ever, North Carolina mounted a comprehensive effort to rid our coast of the abandoned and broken down boats that blight it. Federal, state and local partners, and multiple funders came together to make this historic effort happen. In total, contractors from Moran Environmental Recovery will remove about 80 vessels. The removal, spanning from Brunswick to Currituck counties, began in March and will continue into the summer.

"We are a proud participant in this removal effort," stated Ben Solomon, environmental specialist of the N.C. Wildlife Resources Commission. "Clearing the boat debris is imperative to protecting North Carolina's diverse aquatic and

coastal species and maintaining a clean environment for outdoor enthusiasts who recreate along our state's coastline."

Paula Gillikin from the N.C. Division of Coastal Management added that, "The complexity of planning this large-scale effort required close coordination over a long period of time. And the result will quickly benefit our coastal resources and those who live, work and play among them."

The Natural Resources Conservation Service's Emergency Watershed Protection Program, National Fish and Wildlife Foundation, National Oceanic and Atmospheric Administration's Marine Debris Program and the N.C. General Assembly all contributed funds to vessel and debris removal.

The vessel removal builds on large-scale marine debris efforts led by the federation, with contractors working along the coast to remove debris that

has accumulated over years of storms and neglect. So far this year, our crews have removed over 110 tons of debris and counting. Since this work began in 2019, over 680 tons of pressure treated wood, storm debris and other trash have been cleaned up from coastal waters. In addition, this winter over 3,000 lost crab pots were collected from coastal waters by 60 commercial watermen and women working throughout the northeast and central coast. To learn about our progress and efforts to create a coast that is free of marine debris, visit: nccoast.org/marinedebris.



OYSTERS

The 2021-2025 Oyster Restoration and Protection Plan for North Carolina: A Blueprint for Action was released in April after over a year of work by the Coastal Federation-led Oyster Steering Committee. Since 2003 this diverse group, with members who grow, harvest, study, manage, sell, conserve and restore oysters has worked to devise and carry out strategies so that oysters remain an ecological and economic treasure for the state.

MAJOR BLUEPRINT RECOMMENDATIONS

Protect and restore water quality in shellfish growing waters that are both critically important and endangered. This includes developing a watershed restoration plan for Stump Sound.

Establish sufficient acreage of protected oyster reefs to support desired ecosystem services including: build fish habitat, supplement wild oyster stock and filter water. We will work with partners to build 100 acres of oyster sanctuary by 2025.

Expand the use of living shorelines to become the most commonly used stabilization method in estuaries that support oyster habitats. Three miles of living shorelines will be constructed by 2025.

Sustainably manage natural oyster habitats within public trust areas to perpetuate ecosystem services and wild harvest. We will work for improved science, monitoring and coordination with state agencies through the state's Coastal Habitat Protection Plan and Fisheries Management Plan for the management of wild oysters.

Create a cohesive oyster shell recycling program to provide 5 percent of material needed to support oyster habitat restoration strategies. This equates to recycling approximately 15,000 bushels of shell annually by 2025.

Use recycled oyster shells and other suitable reef building materials, aka cultch, to enhance oyster habitats for commercial harvest and ecosystem services. Two-hundred acres of harvestable oyster habitat will be built by 2025.

Build the shellfish aquaculture industry to create a \$45 million industry by 2025. We will accomplish this by providing education and economic support for new and existing shellfish growers.

Create communication and outreach strategies that engage stakeholders and the general public to actively support the goals, strategies and actions outlined in the Blueprint. We will enhance partnerships with the Oyster Steering Committee members, N.C. Aquariums, Museums and visitor's centers and concentrate on promotion of the newly launched Oyster Trail.

HOPE IN A SEA OF TRASH:

The Battle Against Large-Scale Marine Debris

by Lauren Colonair

Working Together for a Healthy Coast,” a simple phrase that encapsulates the mission, goals and ventures of the North Carolina Coastal Federation, is exemplified through recent efforts to realize the dream of a North Carolina coast free of marine debris.

From invisible microplastics to large ships, marine debris on our coast can be both hazardous to us and the wildlife with which we share the coast.

It’s unknown just how much marine debris lurks in and around the coast, but one thing is for sure-- the more we look for it, the more we see. Yet, hope is abundant in the act of working together to remove it.

Right for the Job

Every person, no matter who they are, can be an integral part of removing trash from the coast. Plucking a plastic shopping bag out of the water as it floats along the banks of a sound is an easy enough task. Removing a 14-foot floating dock trapped in a bed of sea grass, however, is a challenge.

The idea to work with commercial fishers in order to tackle the challenge of large debris began in 2014 with the Coastal Federation’s Lost Fishing Gear Recovery Program.

With support from the National Oceanic and Atmospheric Administration’s Marine Debris Program and funding from the North Carolina General Assembly and the Commercial Fishing Resource Fund, the Coastal Federation has led the Lost Fishing Gear Recovery Program for seven years. The program’s goal is to improve habitat and water quality, while also supporting the local economy.

During the frigid month of January, North Carolina crab harvests are closed, however crab boats can still be seen floating atop the icy water, cutting through the fog as they move about the estuary cleaning up lost fishing gear. The commercial fishers who take part in the program are compensated for collecting crab pots that are commonly lost due to storms.

Years spent on coastal waterways have left these fishers with the endurance and skill needed to safely carry out this work. The 3,009 crab pots collected by 60 fishers in January of this year alone is a testament to their dedication to the recovery effort.



Docks and Piers and Boats, Oh My!

Recent hurricanes, and those yet to come, all share the detrimental similarity of creating more debris. Under their destructive forces, a dock, boat and household goods and trash stand the same chance of being scattered across the estuaries, marshes and islands that surround our coast.

The Coastal Federation realized the pressing need to remove the massive amounts of storm debris and launched the first large-scale coordinated cleanup

in 2018 after Hurricane Florence, in partnership with the state Department of Environmental Quality, with funding from the General Assembly.

In 2020, more partners and funders joined the Coastal Federation and the General Assembly in that effort, including the National Fish and Wildlife Foundation, the state division’s of Coastal Management and Marine Fisheries, and the Natural Resources Conservation Service’s Emergency Watershed program. The additional support positioned the Coastal Federation to reach beyond crab pots and hire more crews and barges to tackle the large-scale debris imbedded in coastal marshes up and down the coast.

Nothing, however, can illustrate the need for this work, or the importance of its structure as well as firsthand experience.

Tales from the Battle Front

Joe Huie, from Sneads Ferry, and Beth Miller, from Carteret County, both relied heavily on the water for their livelihood as commercial fishers. Then, the unthinkable happened. Hurricane Florence hit and life was forever changed.

Huie, whose entire family was involved in the commercial fishing industry reflected on the storm that uprooted so many people’s lives.

“Hurricane Florence was pretty devastating on the shellfish market here in Sneads Ferry, so that drastically affected all of our businesses,” he said.

Miller even remembers a time when people who spent all of their lives in the water were hesitant to return.

“Everyone was trying to figure out how to get back to work, the waters were still bad, there was still a threat of flesh-eating bacteria in the area, so there was

an air of hesitation at even getting back in the water.”

As coastal communities began to search out ways to rebuild the lives they had known before Florence, Huie and Miller both learned of the Coastal Federation’s cleanup efforts. Both formed crews and began working. Miller’s team consisted of her son, John Miller, and Lee Dickenson, while Huie’s included his father, Capt. Joey Huie, and two former-fishers, Michael Willier and Joshua Whitney.

“This program pretty much made life go on as normal as possible in a time that I probably would have ended up leaving the water,” Miller said of her involvement.

Since September 2020, Miller’s crew has been working on the inland side of Hammocks Beach State Park in Onslow County. Their efforts, along with those of another crew, have resulted in the removal of 130,000 pound of debris.



Huie and his crew started their work in 2019 around the Sneads Ferry and Topsail area, working through Permuda Island, Wrightsville Beach, Masonboro, Snow’s Cut, Carolina Beach State Park, and Zeke’s Island. Their typical day consists of 3-mile treks through hot marshland removing an average of 1 ton of debris per day.

Despite their experiences, surprises and new challenges are always around the corner. Huie’s crew once came upon a 32-foot partially intact camper, which still held clothing and furniture, deposited by Hurricane Fran in 1996. The camper’s position in the marsh already posed a difficult situation, still, the crew could only spend two or three hours a day on the project due to rising tides. Eventually they were able to

remove everything, but the job left its mark.

“That was a very traumatizing experience for my guys. They still talk about it, they call it camper creek,” Huie said.

Miller and Huie both spoke to the shocking concentration of debris they still find after two years of work, even in areas they’ve already cleaned. Due to tides, currents and other natural forces, marine debris can move from place to place while in the water. This cycle makes cleaning again a necessity.

Both crew leaders attest to the difficulty of their work, however their pride in what they do is truly what shines through. Huie is particularly proud of the awareness the efforts are raising. “When we’re out there people come by, they thank us, someone bought our breakfast one day,” he said, “That was really cool to experience, to see that side.”

Huie believes that the knowledge gained through these projects is essential to fixing the problem. “Sometimes, it’s not people’s fault, right, if they don’t know what they could do better you can’t hold them accountable for that per se.” Huie remarked, “Now, we have something to judge by, something to go by, so we can say, this is really bad, what can we do to fix that? Then we can put forth suggestions or legislation.”

The construction standards of docks and piers is also of concern to Miller, as her crew consistently finds debris that originated from these sources. One of her wishes is the implementation of improved building standards for such structures, also a goal of the Coastal Federation and project partners.

Miller’s livelihood is invested in the oysters and clams that depend on healthy marshes to thrive, so it isn’t surprising that she is fond of and personally impacted by being part the of debris removal efforts.

“The best experience is knowing that the normal flow is returning,” she said referring to the removal of potential

toxic debris and large structures which destroy critical habitat.

Truly a Team Effort

Marine debris is a serious issue for our coast, and one that will not be solved overnight. However, through the participation, dedication and hard work of the people in these programs, progress is being made.

Currently, the Coastal Federation and its partners are in the process of removing 125 abandoned and derelict vessels. Moran Environmental Recovery Commercial Diving Division has removed more than 30 vessels since mid-March. Vessels of all sizes, including the sailboat Aimless Destiny near Permuda Island and houseboat Lucky Miss in Down East Carteret County, have made their way back to shore.

The large-scale cleanup efforts have resulted in the removal of 680 tons of toxic, pressure-treated wood, floats and other trash and debris in addition to the thousands of crab pots that have been pulled each winter.

Continued funding and support are critical to the future of these programs. Thanks to our partners and funders, the Coastal Federation is able to continue to combat marine debris, gather invaluable information that will aid in prevention and management efforts and, most importantly, continue to work together with communities for a healthier coast.

Establishing an annual paid program for marine debris removal is a key objective of the N.C. Marine Debris Action Plan. For more information about the plan and accomplishments visit: <https://www.nccoast.org/project/north-carolina-marine-debris-strategy/>





North Carolina Coastal Federation

Working Together for a Healthy Coast

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Welcome, Lauren Colonair

Lauren joined the federation in 2021 as a Communications Fellow. She graduated from the University of North Carolina Chapel Hill's Environment, Energy, and Ecology Program in 2021 with a Bachelors of Arts in Environmental Studies, a concentration in Environmental Behavior and Decision Making, and a minor in Environmental Justice. After realizing the importance of

public engagement with environmental issues Lauren found a passion for communications leading her to develop skills in web design, photography, videography, and copy writing. When she is not working Lauren is usually reading, drinking coffee, or exploring nature wherever she can.

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Good luck!

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