

NCCOAST.ORG | *Working Together for a Healthy Coast* | SPRING 2022

OUR COAST



North Carolina
Coastal Federation
Working Together for a Healthy Coast

RESILIENCE ON THE COAST

PROJECT UPDATES

LETTER FROM THE DIRECTOR

Dear Friends of Our Coast,

During the last decade of the 20th century, the North Carolina Coastal Federation's capacity to help protect and restore our coast was transformed. One day early in 1993 Smith Richardson called me to ask for help to protect Hewlett's Creek in Wilmington from overdevelopment. He was the former chairman of Richardson-Vicks Inc. (his family's business). He saw intensive development along the shores of this beautiful creek and wondered why the state didn't do more to protect water quality and fish habitats. Smith started to call frequently and was soon frustrated that he often got a busy signal when he did. Back then there was just one phone line for six staff, a problem he soon fixed by giving us funds to install multiple new phone lines.

It was later that year that staff member Katherine Howd came into my office with an idea. She proposed that since 1994 was going to be the 20th anniversary of the state's Coastal Area Management Act, we should organize some sort of celebration and evaluation to commemorate what it had accomplished, and more importantly, what remained to be done to better manage our coast.

Smith seized on her idea when I pitched it to him. He reached out to his cousin, former federal judge, and Congressman L. Richardson Preyer, who lived in Greensboro. Rich asked then-Governor Jim Hunt to form a Coastal Futures Committee and declare 1994 to be the Year of the Coast. The governor agreed and issued an Executive Order that not only designated the committee and Year of the Coast but also asked the Federation to work with the N.C. Division of Coastal Management to jointly staff this work. The governor appointed Rich as the committee's chair and named 14 other very well-known state leaders including Smith and former Governor Jim Holshouser to serve on the committee.

Over the next year, there was a flurry of meetings as the committee traveled the coast to develop findings and recommendations. The committee's final report to the governor and lawmakers was unveiled that fall at a big two-day celebration in Wilmington where 400 people gathered to discuss Innovations in Coastal Management. Headline dignitaries included Governor Hunt, the governor of Alaska (who happened to be a native of Kinston, NC), President Pro-Tem

of the N.C. Senate Marc Basnight, and many other legislative as well as federal, state, and local leaders. There was an air of excitement and enthusiasm as the committee's recommendations were well received. One major recommendation was that N.C. needed to invest a lot more state dollars in buying land to protect and restore water quality and fish habitats. At that time, NC ranked 49th in state spending on land conservation. The committee urged lawmakers to authorize and appropriate significantly more money every year so that environmentally sensitive lands could be restored or preserved.

At the conference, Basnight heard this idea and took to the podium to champion it. In the next legislative session, he introduced and pushed the enactment of a law to form and fund the N.C. Clean Water Management Trust Fund. This new state program eventually provided government agencies and nonprofits with access to hundreds of millions of state dollars for land protection and restoration projects. The formation of this program was a major turning point, and now according to the Trust for Public Lands, NC ranks fifth in the nation in spending for land conservation.

For the Federation, the Trust Fund (now called the N.C. Land and Water Fund) dramatically increased our capacity to work. In fact, in its first year of operations during 1997, the Trust Fund awarded the Federation \$2.5 million to purchase 31 acres in Atlantic Beach which is now the Hoop Hole Creek Clean Water Preserve. This amazing maritime forest and tidal creek property had been slated to be developed with 100 condominiums and a 100-boat marina. Instead, it became the first land purchased in NC with funds from the Trust Fund. The land now buffers the estuary that's full of oysters and clams from development and provides public access for hiking and fishing.

In 1999, the Trust Fund enabled us to start buying land at what's now our nearly 6,000-acre North River Wetlands Preserve – where we have restored nearly 5,000 contiguous acres of wetlands that had previously been ditched to create farmland. The restored wetlands there consistently protect water quality and fisheries in downstream estuarine creeks and sounds.

To date, since the Trust Fund formed, its funds combined with other private, state, and federal funds, enabled us and our partners to accomplish at least \$100



million in water quality and fishery habitat preservation and restoration projects all over the coastal plain of eastern NC

In the early 1990s, all the worries about keeping a small non-profit alive and funded caused my hair to start to turn gray. The Year of the Coast was a major turning point for the Federation as we made new influential friends across the state and nation who gained our respect and support for our work. Our efforts with the Coastal Futures Committee caught the eye of The Pew Charitable Trusts in 1994, and that resulted in an invitation and later funds that eventually resulted in the formation of Restore America's Estuaries (but that's another story for another time).

The stress of worrying about the future of our coast and the Federation didn't subside after the 1990s, mainly because our own expectations and those of others regarding our work constantly increased as we obtained more access to resources and people to assist with our mission.

Basnight retired from lawmaking in 2011. Around seven years ago he called me. His voice was very weak because of his declining health. This turned out to be the last time we spoke. He wanted me to know how much he "loved" (his words) the Federation and how proud he was of the things we had accomplished together.

His call brought tears to my eyes, but not because of sorrow. Instead, I was overwhelmed with gratitude and celebration about having so many opportunities to protect and restore our amazing coast. Time marches on, and so does our army of very special supporters and volunteers who are always ready to roll up their sleeves and help us accomplish our mission.

—Todd Miller, Executive Director



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Coastal Federation
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COASTAL HAPPENINGS

2022 COASTAL STEWARDSHIP AWARD

Each year the Coastal Federation solicits applications to graduating high school seniors for the Coastal Stewardship Award, which provides a \$1,000 award to three deserving students from across the coast. The program began in 2019 with just one selected winner, but it has since expanded to three winners. This year's chosen students have all demonstrated great care for our beautiful coast and have all taken numerous steps to ensure the state's natural resources are protected. Our 2022 winners are Isabella Lettieri of Frisco, Madison Paige Reavis of Newport, and Nicole Coursey of Hampstead. This year's Coastal Stewardship Award was made possible with the support of our sponsors, Coastal Stormwater Services, Inc., Cyndy Holda, Judy Lotas, and SEAGLASS Wines.

2022 WINNERS



Isabella Lettieri, senior at Cape Hatteras Secondary School in Frisco



Madison Paige Reavis, senior at West Carteret High School in Carteret County



Nicole Coursey, senior at Topsail High School in Hampstead

NEW STAFF



Alyson Flynn joined the Coastal Federation as a Coastal Advocate in early 2022. Working out of the northeast office in Wanchese, Alyson focuses on building public and political support for achieving the Federation's goals and benchmarks. Alyson holds a Master of Science in Applied and Natural Resource Economics from East Carolina University and a Bachelor of Science in Economics from the University of North Carolina at Wilmington. In 2014 she achieved Ph.D. candidacy from ECU, where her research examined the economic implications associated with coastal management decisions in Dare County. Alyson is a resident of Waves, NC, and has lived in eastern NC since 2006.



Trista Talton joined Coastal Review as a staff writer in February of 2022, but she has covered coastal issues for us since our publication's inception. She is a native North Carolinian and a graduate of Appalachian State University. Her career as a journalist spans more than 20 years, most of which has been reporting on issues in southeastern North Carolina. Her reporting experience includes more than 10 years of

covering the military, including an embed with Marines in Kuwait leading up to the start of the war in Iraq in 2003, time in New Orleans with North Carolina National Guardsmen in the aftermath of Hurricane Katrina, and offshore patrols of New York and New Jersey aboard a Coast Guard cutter following the September. 11 attacks. She lives with her husband and two sons in Jacksonville.



Georgia Busch joined the Federation in March 2022 as the Southeast Region's Coastal Specialist. She supports a number of Federation efforts. As a Richmond, Virginia, native, she worked for several years as an environmental educator, guiding trips for teachers and students on the James River. She was awarded a Master of Science in Coastal and Ocean Policy from the University of North Carolina Wilmington in 2021 where her research examined the economic feasibility of sustainable aquaculture to support the Blue Economy model. Georgia is passionate about all-things-water, her two hound dogs, and live music!



Chris Baillie joined the Federation in 2022 as Resilience/Climate Adaptation Coordinator for the Eastern North Carolina Sentinel Landscape (ENCSL). Chris is originally from Durham, NC, and holds a Ph.D. in Ecology, Evolution, and Marine Biology from Northeastern University and a Bachelor of Science in biology from the University of North Carolina at Chapel Hill.

As Resilience/Climate Adaptation Coordinator, Chris, working in coordination with the ENCSL Coordinator, Committee, Partnership, and military installations, is leading a broad group of public and private partners in the development and implementation of a Strategic Resilience/Climate Adaptation Plan for the ENCSL. In his free time, Chris is an outdoors enthusiast.

WATER QUALITY

Spring has arrived and soon warmer weather will settle in. The changing of seasons also means summertime storms will be making a return. As the Federation works to improve water quality around coastal North Carolina, there is a lot that you can do in your own yard to reduce polluted stormwater runoff and ultimately help us create cleaner and more productive coastal waters.

One of the biggest things homeowners can do is to make their yard a Smart Yard. There are a few simple techniques you can do to help reduce the stormwater that picks up pollutants on its way from your roof, to the pavement, to a storm drain, and then ultimately to our coastal waters. The first thing you can do is to reroute your gutter's downspout. By simply turning your downspout toward your grass, rain garden, or even a rain barrel, you can reduce stormwater runoff. With the planting season in full swing,

another important step you can take is to look at adding native plants to your yard or garden. Native plants soak up excess rain and reduce stormwater runoff. Learn more about how to make your yard a Smart Yard, by visiting our website.



While lot level projects that reduce runoff are vital, we at the Federation are also busy working on several larger scaled projects to improve water quality, including an effort to restore the Newport River.

The Newport River in Carteret County is one of the most economically valuable and environmentally endangered oyster-growing estuaries in North Carolina.



The river supports local commercial and recreational fishing, oyster aquaculture, swimming, and tourism. These uses depend on clean surface waters to thrive and are major economic drivers in the region, but the River's water quality has been declining for decades.

The Federation is spearheading the development of an action plan to protect, restore and replicate natural hydrology in the watershed to reduce surface runoff and restore the local shellfish industry that depends on clean water.

LIVING SHORELINES

Over the past few months, interest in living shorelines has grown exponentially, the spike in both private landowners and local governments wanting to make shorelines more natural and sustainable is exciting and is keeping our staff busy.

Building a living shoreline on your property is an environmentally friendly way to help reduce shoreline erosion. Living shorelines act like speed bumps to help slow down wave energy and they protect and restore salt marshes



that provide coastal habitat for fish and shellfish. They've also proven to be stronger and last longer than other shoreline stabilization methods like bulkheads.

Thanks to funding from the N.C. Division of Soil and Water Conservation's Community Conservation Assistance Program, the North Carolina Land and Water Fund, and the N.C. General Assembly, the Federation is able to increase the use of living shorelines by helping property owners to build them. It's not just private property owners we're working with though, right now staff is working with many local governments and state and federal agencies to install large scale living shorelines at Marine Corps Air Station's Cherry Point and New River, Marine Corps Base Camp Lejeune, Jockey's Ridge, Hammocks Beach and Fort Macon state parks, Sugarloaf Island in Morehead City,



and along Highway 24 in Cedar Point and Swansboro.

Many coastal communities have embraced living shorelines as the "go-to" approach for shoreline management. Currently, the Federation is partnering with the Town of Nags Head to develop the state's first community Estuarine Shoreline Management Plan.

MARINE DEBRIS



Marine Debris is an issue that affects the entire world, but here at the Federation, we're working hard with our many invaluable partners to make North Carolina's coast free of debris and litter. As part of these efforts, we've been fortunate enough to work with several college student groups in both our Northeast and Central regions who spent their spring breaks helping us remove trash and debris along the shorelines instead of taking traditional vacations.

For our larger debris removal efforts, we rely on contractors. This spring the Federation has been helped by two debris crews that are made up of commercial fishermen and women. Since the end of February, the crews working in Middle and Myrtle Grove sounds in New Hanover County have removed more than 7,200 pounds of debris, that's in addition to the 41 tons that were cleaned up from the New River in Onslow County.

We had another successful year of finding and removing lost crab pots in January as part of our Lost Fishing Gear Recovery Program. With the help of 48 commercial watermen and women along the coast, we were able to remove 1,983 crab pots. This program is a vital part of our goal of having a coastal environment that is free of marine debris, and this year's efforts were funded by the North Carolina General Assembly.

Contracting crews have also been hard at work removing abandoned and derelict vessels from our sounds, so far in 2022 five boats have been cleaned up and removed from areas around the coast and staff has plans to remove another 14. So much of this work has been made possible thanks to funding from the North Carolina General Assembly.



OYSTERS

Oysters are one of the most important species in our coastal estuaries, and the benefits they provide outside of the water are just as important as they support jobs and a thriving economy. Plus, they taste pretty great. This year the Coastal Federation has set a goal of expanding our Recycle for Reefs oyster shell recycling programs by offering new drop-off sites along the coast.

We've added three new oyster shell recycling sites to Craven and Pamlico Counties. Those oyster shell dumpsters have a little flair to them thanks to the help of local students in Havelock and Swansboro High Schools. Having these additional sites will allow you to help us recycle more shells and build living shorelines that will support a healthy coastal ecosystem.



Shell recycling is not all we're working on though when it comes to oysters. In 2016 the Federation took leadership in the creation of the N.C. Shellfish Mariculture Plan, which was finalized in 2018. Currently, we are leading implementation of the plan's many recommendations. Since 2016 farmed oyster production in NC has grown over 300% and for the first time in the last 12 years farmed oyster production has surpassed wild oyster harvest.

Our efforts to support the industry's growth for the benefit of the local economy and water quality is paying off and we are poised to continue working with the shellfish farming industry and partners to continue this trend.

Resilience on the Coast:

The Battle Against Marine Debris Continues

by Lauren Colonair

At the eastern end of the United States, you'll find one of the most unique and special coastlines. A place applauded as highly for its impressive marine ecosystem as it is for recreation, the North Carolina coast.

However, there are many things that pose a threat to our coast.

Imagine, it's a gorgeous spring day, complete with deep blue skies speckled with puffs of white airy clouds. You're in a brightly colored kayak floating between deep yellow and pale green marsh plants on a crisp cool waterway somewhere along the NC coast. You've spent the day watching the wildlife and exploring. As you slide the paddle into the water pushing yourself forward, you're met with a shocking sight. All day vegetation could be seen swaying in the water beneath you, but here there is only sand. The reason for that is just ahead of you, it's a long, partially destroyed wooden dock, resting near the middle of the patch.

A Storm We Won't Soon Forget

For 40 years, the North Carolina Coastal Federation has worked alongside communities, governments, companies, and other organizations to protect and restore coastal North Carolina. A portion of this work has focused on our vision of a coast free of marine debris and like most things, these projects often take unexpected twists and turns.

After Hurricane Florence in 2018 marine debris removal was more important than ever. Water quality was heavily degraded, large pieces of material made navigation more dangerous, and all of it posed a significant threat to wildlife.

As our estuaries in NC are considered public trust waters, it was the communities around these waterways that were responsible for cleaning them up.



debris, these structures posed a danger to people simply by being in the water. Often crews would find segments of a dock that were up to 60 feet long that contained nails and other sharp ends. A piece of debris of that nature could easily damage a boat or seriously injure someone in the water. As illustrated on your kayaking adventure, debris also destroys important elements of the ecosystem, like seagrass.

But the material used to construct docks and piers plays their own special role in the threat as well.

Pressure-treated lumber floats and polystyrene, a substance similar to Styrofoam, are common materials used in construction of docks and piers. Chemicals from the lumber leach into the water and degrade overall water quality. Floats and polystyrene pose massive threats to both marine life and other wildlife.

This is a problem, but not just in terms of keeping our coast free of debris. Homeowners often pay large sums of money to build these structures on their property. That's a lot of time and effort for something that may break apart during the next minor storm.

But the problem actually started before the storms ever blew through, and even before the structures were built. It was clear that nothing could be solved unless docks and piers were built to higher, more efficient standards. Really, it's all about the construction.

The Worst of the Worst

The Coastal Federation, alongside these coastal communities, started various projects to begin the restoration process. One project, generously funded by the National Oceanic and Atmospheric Administration's Marine Debris Program, allowed the Federation to hire fishermen and women during their off seasons, to remove debris. Crews all along the coast worked tirelessly cleaning the estuaries. Then something clicked.

During this process, the perspectives of crews in the water and aerial images taken by NOAA told the same story. Much of the debris being found was from private docks and piers. In fact, it was later calculated that 85% of all the debris removed was from docks and piers.

By 2019, the North Carolina General Assembly was well aware of the marine debris issues caused by docks and piers and awarded the Federation funding through the North Carolina Department of Environmental Quality to remove litter from public trust waters that fell outside of traditional clean-ups. More specifically, docks and piers. Later, NOAA provided funding that allowed for the work to be extended into Pender and New Hanover counties.

Like all other large-scale marine



A How To Guide for Resiliency

The truth is, the knowledge of how to build better docks and piers was out there, but it was the exception. Kerri Allen, a Coastal Advocate for the Coastal Federation, along with many others knew that it had to be more than an option to build a more sturdy structure, it had to be the rule.

To do this, our coastal management team interviewed engineers, contractors, builders, regulators, local governments, and many others to find a strategy to accomplish their goal. They came to what seemed like a simple solution, put forth best management practices and better standards to inform all involved in the construction of docks and piers of what they could do. It soon became clear that this task was not that easy.

The robust group of stakeholders found that the key was engineering the structures to break in a way that caused the least damage. This entails using unique factors of the environment like wave energy and seafloor type to inform how and where the structure should fail.

In storms like Florence, it is near impossible to ensure the structure will stay in place.

"A recommendation for a pier on Bogue Sound could be entirely different than on a tidal creek in Wilmington," Allen said.

Thus, the *Recommendations for Improved Marine Construction to reduce damage, losses, and marine debris resulting from storms in North Carolina* report was born. Our staff and members of the stakeholder group worked from early 2020 until this year to create this in-depth look into best practices for dock and pier construction. Now, it's time to spread the word.

Protecting the Environment While Saving you Money

Although local governments and regulators worked on these recommendations there is not a lot of support for creating regulations around



them. But that is integral to fixing the issue. These have to be the rules, not the exceptions.

The good news is, homeowners can help put pressure on their local legislators to consider adopting the recommendations. Although the cost upfront may be higher, structures won't be lost the moment a rough storm rolls in. Not to mention, by following the recommendations you can take pride in the fact that you are preventing harm to the public trust waters our communities are responsible for.

"I think the most important takeaway for property owners is, have a list of questions when you are interviewing your contractor," Allen stated.

That way homeowners can be sure those they are hiring follow best practices and are aware of the unique environmental factor they must take into account to construct a resilient structure.

"Just putting a little more effort into the planning phase will save you time and money," Allen left as her call to action.



But There's More... Debris

It's exciting to put these recommendations forward, but it's important to understand why they are critical.

Joe Huie has worked on the Federation's Marine Debris crews since the beginning. He saw the conditions after Florence and he's been witness to the changes since.

"We went out there and found a lot more stuff than anyone ever imagined," Huie said of his experience.

The marine debris scene along our coast is changing as this work is being done. Huie explained that crews are still finding new places that need to be cleaned, even though they've been at it for almost three years. Interestingly, though, when the crews visit areas they've already cleaned, they often find more debris. Debris that is the same age as that found in new areas.

"We know we cleaned those places well," Huie explained why these discoveries caused confusion.

The truth is, it doesn't matter how well they clean. Everytime a storm comes through and tides rise, islands in the estuary become flooded. This flooding allows materials that are caught up in the island to float away and land elsewhere. The islands that our crews can't get to basically become debris dispensers during most storms.

It's clear we still have tons of work to do to free NC from Marine Debris, but for now we can all work together to prevent the introduction of new debris and be thankful to those working in all kinds of ways to protect and restore our coast.

By implementing these changes and with everyone doing their part, your next kayaking adventure can be filled with beautiful scenery, wildlife, and free of marine debris.

Cover Photo: *The image on the cover of this edition of Our Coast was taken at the site of our future Center for Coastal Protection and Restoration by Executive Director Todd Miller. The dock on this property was underwater as a result of a 10 foot storm surge during hurricane Florence while others around it were destroyed. Resilient construction methods, such as those used with this dock, are intrgral in our work towards a coast free of marine debris.*



North Carolina Coastal Federation

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2022 Pelican Awards SAVE THE DATE

AUG. 6, 2022 | 5:30 - 8:30 PM

Crystal Coast Civic Center | Morehead City, NC

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