

NCCOAST.ORG | *Working Together for a Healthy Coast* | FALL 2019

OUR COAST



**LIVING SHORELINE TECH
TRANSFER WORKSHOP**

PROJECT UPDATES



North Carolina
Coastal Federation
Working Together for a Healthy Coast

LETTER FROM THE DIRECTOR

Dear Friend of the Coast,

Fifty-five years ago Bob Dylan wrote “The Times They Are a-Changin’.” His song expresses hope for the future because change is always possible.

Admit that the waters around you have grown/ And accept it that soon you’ll be drenched to the bone/ If your time to you is worth savin’/ Then you better start swimmin’ or you’ll sink like a stone/ For the times they are a-changin’

Here at the North Carolina Coastal Federation, we share Dylan’s optimism that we can and should adapt to changing times. For the past 37 years, the Coastal Federation has navigated through swirling political, social, economic and environmental tides, and consistently forged new opportunities by working with a diverse group of coastal residents and frequent visitors to protect and enhance hundreds of thousands of acres of our region’s lands and waters.

In today’s political climate, it’s simply too easy to draw lines in the sand and retrench into opposing camps instead of working together as one coastal community to tackle coastal environmental issues. Polarization stymies progress in solving everyday problems—even ones that plague all of us equally. These divisions divert much needed talent, energy and synergism that could help to resolve or reduce coastal challenges we *all* face.

The Coastal Federation works hard to unify people to collaborate to improve water quality, habitats, marine debris, and coastal management. In this newsletter are updates on many projects that engage our diverse partners. Long-term results from these projects include impressive reductions in polluted stormwater runoff amounting to millions of gallons with each rainstorm, 8,000 acres of wetland restoration, thousands of feet of new living shorelines, 50 million more oysters, and the removal of 400,000 pounds of marine debris in the past eight months.



Of course, not every problem can be solved through collaboration and consensus building at the community level. That said, finding examples of lasting environmental fixes that occurred without strong public understanding and engagement is hard to do.



State and national policies sometimes ignore local needs, and that’s when the Coastal Federation engages in more traditional environmental advocacy to help inform decision-makers, and then hold them accountable for their actions.

I’m pleased that we can change with the times by consistently finding new, tangible opportunities for coastal residents and visitors to protect and restore our coast. Please learn more about what we do, and if you’re able, engage in our work as one of our valued supporters. To paraphrase Dylan, thanks for swimming along with the Coastal Federation and not sinking “like a stone” since our coast is so “worth savin’.”

— Todd Miller, Executive Director



North Carolina
Coastal Federation
Working Together for a Healthy Coast

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STAFF NEWS

Rahdiaz Delvillar, Joins the Northeast Staff

Rahdiaz Delvillar joined the Coastal Federation staff this fall as part-time oyster lease operator and facilities maintenance coordinator for the northeast office. Rahdiaz will cultivate oysters at the Wanchese office's demonstration oyster lease, educate visitors and conduct a variety of other tasks. Prior to joining the Coastal Federation, he was a husbandry intern for the North Carolina Aquarium on Roanoke Island. As a husbandry intern he found administering medicine and taking care of fish and sharks in the quarantine lab to be most fulfilling. Delvillar is currently working toward his associates degree in science with a great interest in aquaculture. In addition to his schooling and role as the oyster lease operator for the Coastal Federation, he is an AmeriCorps member. He will complete a second part-time service term through a partnership with River City YouthBuild by August 2020.



Board Member Angie Wills Appointed to CRC

On Sept. 11, 2019, Gov. Roy Cooper appointed Coastal Federation board member Angie Wills to serve on the Coastal Resources Commission as a member experienced in coastal-related business. Wills is a budget officer in the Division of Student Affairs at Elizabeth City State University. Prior to that, she was program manager for River City YouthBuild, a national program that provides youth transformation for high school dropouts. She previously served as the AmeriCorps program manager for the River City Community Development Corporation.

The Coastal Resources Commission (CRC) was created when the General Assembly adopted the Coastal Area Management Act in 1974. The Commission sets coastal policy and adopts rules for both CAMA and the North Carolina Dredge and Fill Act. The rule making body includes 13 members that are appointed by the Governor, the Speaker of the House and the Senate President Pro Tempore.



COMMUNICATION SPECIALIST BEGINS NEW JOB

Logan Prochaska recently relocated to the Charleston area where she is now the Director of Communications at Mount Pleasant Presbyterian Church. Staff and board wish Logan well in her new endeavors. Logan worked as part of the communications team to help plan, design, create and disseminate our work over the past year.

INTERNS HELP COASTAL FEDERATION

This year the Coastal Federation's central region hosted three interns through the Duke University Stanback Internship Program. The Coastal Federation has been fortunate to partner with the program for over 20 years. This summer, Duke students Lynn Geiger, Nicholas Werner, Jingyi Sun along with East Carolina University student Nicholas Mork delved into many coastal issues. North Carolina State intern Kristina Bell helped with summer community education programs in Ocean as well.

The southeast office hosted intern Ashton Cloer this summer through the Z. Smith Reynolds Foundation Non-Profit Internship Program (NPIP). This program was established in 2011 and has awarded paid internship opportunities to more than 20 Pell grant-eligible college and university students enrolled in four-year institutions across the state.

Ashton was joined by University of North Carolina Wilmington summer interns Kaylee Buggy, Kaylee Clark and Michael Rocco. UNCW interns provide help

throughout the year. Ashton Gullickson, Caitlin Rabb, Jeff Edwards, Taylor Lackey, Greer Shivers, Julian Coles and Thomas Gomes also completed UNCW internships in 2019.

In the northeast region, interns Claire Bradley and Hayley Kaplan (UNC Chapel Hill), Rahdiaz Delvillar (AmeriCorps, College of the Albemarle), Stephen Cummings (N.C. State) and Elizabeth Eberhardt (Ithaca College) provided invaluable assistance with programming, education and research throughout the course of the year.

We appreciate the opportunity to work with these young college professionals who are eager to learn and contribute to our work. Additionally, we are very grateful for the contributions from the numerous high school intern volunteers we hosted this past year.

For more information about our Coastal Federation internship programs, visit nccoast.org/interns.



THANK YOU TO OUR VOLUNTEERS!

WHETHER IT'S A MARSH GRASS PLANTING, OYSTER BAGGING EVENT OR COASTAL CLEANUP, WE WOULD NOT BE ABLE TO REACH OUR COASTAL FEDERATION GOALS WITHOUT HARD WORKING VOLUNTEERS LIKE YOU. WE ALWAYS ENJOY SPENDING TIME WITH OUR VOLUNTEERS WHO REMIND US WHY OUR WORK IS SO IMPORTANT.

THANK YOU FOR BEING A PASSIONATE COASTAL STEWARD BY DEDICATING YOUR TIME TO HELP US KEEP THE NORTH CAROLINA COAST HEALTHY AND BEAUTIFUL FOR EVERYONE. VISIT NCCOAST.ORG/EVENTS TO LEARN MORE ABOUT UPCOMING EVENTS AND VOLUNTEER OPPORTUNITIES.

"Our volunteers that participate with events and projects consider these actions as a privilege and something they get to do. With this perception, they joyfully help us accomplish a tremendous amount of work and always keep the staff energized. We are forever grateful for our volunteers!" – Sara Hallas, coastal education coordinator for the northeast region

"We wouldn't be able to do our work without support from our amazing volunteers. Their dedication is inspiring, and I'm so grateful we get to learn from and work alongside them." – Rachel Bisesi, coastal education coordinator for the central region

"Working alongside our diligent and devoted volunteers is the most rewarding experience. Seeing people of all ages, from all different backgrounds, come together to protect and restore the coast time and again is an incredible inspirational. Our dedicated and hard-working volunteers give me so much hope for the future of our coast." – Bonnie Mitchell, coastal outreach specialist for the southeast region



LIVING SHORELINE TECH TRANSFER WORKSHOP

On Oct. 8-9, the Coastal Federation and Restore America's Estuaries hosted over 200 professionals in Beaufort for the 2019 Living Shorelines Tech Transfer Workshop. Our dedicated staff were involved with organizing every aspect of the event, from the field trips to the speakers, and we're thankful to have such an incredible team lead such an impactful event.

The attendees traveled from across the country, and Canada, to share their experience with and interest in implementing living shorelines. The focus on living shorelines stems from the ability of this coastal management method to protect shorelines while providing habitat, pollution filtration and erosion control. The exchange of emerging techniques, regulations and engaging communities has provided a new perspective on how to implement living shorelines, creating climate-resilient methods to protect our coast.

The workshop began with experiential learning, as attendees traveled to successful examples of living shorelines from Pivers Island to Jones Island. For some, this was their first time seeing a living shoreline in person and for others, it was an opportunity to ask coastal scientists about the design and implementation of living shorelines. Beginning with tangible examples of living shoreline successes kicked off this workshop with excitement for how these natural shorelines can be implemented in place of conventional stabilization methods like bulkheads.

Attendees then learned how different stakeholder groups fit into the living shoreline puzzle and what makes people adopt living shorelines. The adoption of this coastal management method has grown however, many challenges remain to make living shorelines more prominent than bulkheads.

Todd Miller, executive director of the Coastal Federation, claimed that "our biggest challenge is getting consumer demand for these projects," demonstrating these methods have successfully protected shorelines. Even in Maryland, a living shoreline first state, barriers to implementation include landowner willingness, contractor knowledge, regulatory debates and decision criteria debates.

Attendees also discussed how permitting is often a challenge. Conventional methods like bulkheads are approved much easier, creating a deterrent to implementing living shorelines. Luckily, a revised general permit was approved earlier this year in North Carolina, enabling living shoreline projects to be approved as easily as hardened structures. Many states have their own general



permits in addition to the Nationwide Permit 54 (NWP 54) or place additional conditions on NWP 54 which may impede the process. On the bright side, some state general permits actually expedite the process to implement smaller living shoreline projects.

After a day of learning, attendees exchanged ideas in breakout sessions to discuss the economic, natural science and community aspects of implementing living shorelines. This feverish collaboration uncovered solutions to challenges others are facing and highlighted communication barriers and areas for improvement.

Penny Hooper, a resident of Carteret County, offered solutions to these challenges from a sociological perspective. She stressed the need to reach people about issues they care about and to prioritize doing so for our most vulnerable communities. Penny explained if this message of resilience is going to reach disadvantaged communities, it must be communicated through their trusted community resources. Stakeholders who are not often invited to the table to ensure we are reaching those who need resilient protection the most.

Living shorelines are dynamic and therefore resilient, making them extremely desirable to use in place of conventional methods. By engaging with our communities, we can better promote living shorelines as the superior method for protecting our shorelines.

As Chris Becraft of Underwood and Associates shared, "the idea of a natural shoreline is always applicable," highlighting the adaptability and success of these methods to not only protect our coast, but to create a healthy coast.



WATER QUALITY

nccoast.org/stormwater

Model Stormwater Reduction Project Underway

The North Carolina Wildlife Resources Commission is working with the Coastal Federation and Town of Beaufort to reduce polluted stormwater runoff and create an environmentally friendly parking lot at the Lenoxxville Road boat ramp.

"The current gravel lot actually produces very silty runoff due to the years of compaction. This project will improve a very heavily used water access point. It's really a win-win for everyone," said Bree Charron, coastal specialist with the Coastal Federation.

Ecoraster pervious paving grids are being installed so that runoff will flow into the parking spaces instead of into Taylors Creek. Rain will now soak into the pavers and runoff will be reduced.

"The N.C. Wildlife Resources Commission strives to constantly improve and renovate our boating access areas to maintain one of the top boating programs in the nation. Our partnership with the Coastal Federation on this project allowed us to go even further with this parking renovation and add these stormwater improvements to further benefit Taylors Creek. We are looking forward to boaters being able to enjoy the finished product soon," said Gary Gardner, commission engineering section chief.

The Coastal Federation was able to match Commission funds with grant funds from the North Carolina Clean Water Management Trust Fund to ensure the permeable paving components of the project could move forward. The Town of Beaufort has also secured additional funds from the Carteret Community Conservation Assistance Program to add even more permeable areas to the site.

"This is a good thing for Taylors Creek," said John Day, Beaufort town manager. "We've been looking forward to breaking ground on this project for some time. We were

adamant about making the ramp upgrades as environmentally friendly as possible and are thrilled with this partnership to make a great project."

Innovative Stormwater Design Proudly Displayed at Arboretum

The Coastal Federation partnered with the New Hanover County Cooperative Extension to design and build an innovative stormwater project to capture stormwater runoff from the Arboretum's roof-tops, paved areas and parking lots.

Before the project was installed, polluted stormwater runoff was flowing through storm pipes into Bradley Creek. Now the runoff is captured and redirected to an engineered infiltration system under sandy soil where it slowly soaks into the ground.

"The Arboretum site is an excellent example of a retrofit project that helps to improve the water quality of nearby Bradley Creek and also showcases a native landscaping design that is both functional and beautiful," said Tracy Skrabal, coastal scientist for the Coastal Federation's southeast regional office.

This summer, dedicated volunteers helped plant the infiltration area and create a New American Garden—designed by Wolfgang Oehme and James Van Sweden—to showcase the seasonal variation found in native meadows and demonstrate its ecological and sustainable values.

"The N.C. Cooperative Extension is excited to collaborate with the Coastal Federation to improve our stormwater management. We are committed to reducing our stormwater runoff and improving water quality with the new stormwater infiltration zone. We hope that this can serve as a model for other commercial properties and also provide inspiration for homeowners," said Lloyd Singleton, director of New Hanover Cooperative Extension.



The system held up well during Hurricane Dorian. It is one of many projects being installed to implement the Bradley and Hewletts Creek Watershed Plan. Funding for this project was provided to the Coastal Federation by the North Carolina Division of Water Resources' Environmental Protection Agency Section 319 Water Quality Program.

Lake Mattamuskeet Watershed Restoration Plan Approved

The locally developed watershed restoration plan designed to clean up Lake Mattamuskeet has been approved by the N.C. Department of Environmental Quality.

"This approval helps to propel efforts forward to address the water quality and flooding problems that plague Lake Mattamuskeet," said Todd Miller, executive director for the Coastal Federation.

"It took the entire community that cares about the lake to devise this plan and it will continue to require everyone's participation to execute the plan so the lake can be restored as one of North Carolina's environmental treasures," he added.

Hyde County, U.S. Fish & Wildlife Service and N.C. Wildlife Resources Commission partnered with the Coastal Federation and community members to develop the plan. Hyde County was recently awarded \$158,804 to work with the Coastal Federation and an engineering firm to develop a hydrologic and hydraulic model that advance the plan toward implementation.

LIVING SHORELINES

nccoast.org/livingshorelines

Sunset Beach Living Shoreline Thriving

To help stem the tide of soundside erosion, restore habitat and demonstrate coastal resiliency, the Coastal Federation teamed up with the Town of Sunset Beach to build a living shoreline at Sunset Beach Town Park along the Intracoastal Waterway.

Earlier this year, around 100 volunteers from the community and Sunset Vision, Bird Island Stewards, Sunset Beach Turtle Watch, Ashley Marine Science Academy and the Old Bridge Preservation Society helped build one of the oyster reef sills by hauling and placing nearly 3,000 bags of oyster shell to complete the 60-foot reef.

The Sunset Beach Public Works department then used heavy equipment to place about 100 concrete oyster domes to complete the final two 50-foot (each) oyster reef sills. The domes and shell bags provide the base for new oyster reef habitat while buffering the shoreline from erosion.

In late May, an additional 36 volunteers planted 4,000 plugs of *Spartina alterniflora* marsh grass to complete the project. The result is a thriving living shoreline.

"This is just the first step in providing protection for the park," said former Sunset Beach Mayor Greg Weiss. "If successful, we can see doing this in other places throughout Sunset Beach. Councilman John Corbett just introduced a framework of what we need to be doing in the next five to 10 years to deal with climate change. This project is part of that program." (Brunswick Beacon)

This living shoreline project was funded by a grant to Sunset Beach by the Water Resources Fund—a \$10 million, multi-year commitment by Duke Energy to improve water quality, quantity and conservation in the Carolinas and neighboring regions, and with support from the National Oceanic and Atmospheric Administration (NOAA) Coastal Ecosystem Resiliency Grants Program.

Carolina Silvics Finds New Business with Living Shorelines



For the past two years, Carolina Silvics Inc. has been working with the Coastal Federation to design and build living shorelines. Now, thanks to instruction by the Coastal Federation, living shoreline installation is a unique service that the business provides new customers.

"Adding living shorelines to our business has given us more work throughout summer and it's been rewarding to actually see progress on the property for homeowners and how living shorelines affect the ecosystem," said Josh Merritt, field ecologist with Carolina Silvics Inc. Merritt and field ecologist Granger Coughtrey have been working closely with the Coastal Federation to learn all aspects of living shoreline implementation. This additional skill has given them new business opportunities and connected them with the community.

"I enjoy it because we're able to see the progress of our work and how it helps property owners. The neighbors are interested as well and it really helps to get our name out," said Coughtrey. Merritt and Coughtrey believe that living shoreline installation has improved business and that it would be a great opportunity for any business to add this service. For more information about Carolina Silvics Inc. visit carolinasilvics.com/services.

Kitty Hawk Living Shoreline Complete

Over 100 volunteers braved hot summer days to help the Coastal Federation, Town of Kitty Hawk and Dare Soil and Water Conservation District plant marsh grasses to complete a living shoreline project at Moor Shore Road in Kitty Hawk.

Better Beaches OBX, Outer Banks Running Club, staff and campers from the North Carolina Aquarium at Roanoke Island, Dare and Camden County 4-H Groups, River City YouthBuild of Elizabeth City and community volunteers helped plant nearly 10,000 plugs of black needlerush along the 600-foot shoreline.

"I've lived on the water my whole life, it and this land have given me so much. It's an honor to have a chance to give something back," said Mayor Gary Perry upon welcoming the volunteers to the first planting. "Thank you for being here."

Planning and construction of the shoreline project required a collaborative effort between the property owners, Town of Kitty Hawk, N.C. Department of Transportation, Dare Soil and Water Conservation District and Coastal Federation.

The completed living shoreline functions like a speed bump for waves to reduce shoreline erosion. It also provides coastal habitat and it held up beautifully during Hurricane Dorian.

Funding for this project was provided by the Town of Kitty Hawk, N.C. Department of Transportation, Dare Soil and Water Conservation District and National Oceanic and Atmospheric Administration.

OYSTERS

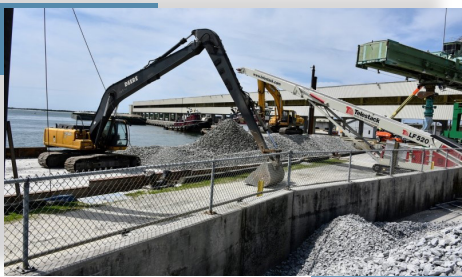
nccoast.org/oysters

Swan Island Oyster Sanctuary Wraps Up

Construction on the Swan Island Oyster Sanctuary wrapped up this summer resulting in 40 acres of oyster reef in Pamlico Sound.

For the past three years, the Coastal Federation and N.C. Division of Marine Fisheries have worked to build the impressive reef in Pamlico Sound. This effort contributes to an ambitious goal to restore 50 acres and 50 million oysters in North Carolina waters by 2020, known as the 50 Million Oyster Initiative. Each acre of constructed reef supports about 1 million oysters and those 50 million oysters will filter 2.5 billion gallons of water per day.

Each spring and early summer since 2017, the Division of Marine Fisheries and contractors from Stevens Towing Co. Inc. worked to strategically place thousands of tons of limestone marl and granite in the sound to build new oyster habitat. This material serves as a base for baby oysters, known as spat. They attach to the stone and grow into mature oysters. The Swan Island Oyster Sanctuary is one of 15 oyster sanctuaries in Pamlico Sound that are part of the Senator Jean Preston Oyster Sanctuary Network.



Reefs in the Sanctuary Network are not open for harvest but they provide great habitat for fish making them a

gem for hook and line fishing. But most importantly, the reefs are part of a larger plan to regrow our state's oyster population.

"We recently completed a comprehensive survey of oyster reefs in Pamlico Sound, including reefs that are harvested, natural, intertidal and subtidal. What we found is that while subtidal sanctuary oyster reefs in Pamlico Sound only occupy about 6% of the total footprint of oyster reefs, they account for over 30% of the oyster population in Pamlico Sound," reported Dr. Dave Eggleston, director of North Carolina State University's Center for Marine Science and Technology. "Furthermore, these sanctuaries are hosting oysters at densities nearly ten times higher than the other reef types that we monitored."

"We're encouraged by the success of the sanctuaries," said Erin Fleckenstein, coastal scientist in the Coastal Federation's northeast office and project manager for the restoration work. "They provide insurance for our oyster population in Pamlico Sound. They host adult oysters that help to repopulate our harvested reefs while also filtering the sound and providing habitat for other fish."

In addition to the 40 acres of oyster sanctuary, the Division of Marine Fisheries strategically built nearly 130 acres of harvestable oyster reefs throughout the state. These harvested reefs, known as cultch planted sites, are open to harvest once oysters reach legal size, approximately two to three years after being built.

With the conclusion of the Swan Island Sanctuary, the Division of Marine Fisheries is working with the Coastal Federation and partners to identify locations for future restoration efforts. Funding for all three years of the Swan Island Oyster

Sanctuary includes more than \$3 million in state appropriations and \$3.3 million in grant funds from National Oceanic and Atmospheric Administration's community-based restoration program. Additional funding is provided by Grady White Boats and federation members.

Volunteer Shell Recycling Efforts Expanding

The Coastal Federation continues to work toward a cohesive volunteer oyster shell recycling program to fill the void left when the state ended its program in 2018. The northeast office is partnering with local restaurants and the N.C. Division of Marine Fisheries, the Nature Conservancy, Jockey's Ridge State Park and Nags Head Woods Ecological Preserve who are supporting recycling efforts. The Restaurant to Reef program also continues to grow in the region.

In the southeast, Coastal Federation staff are working with New Hanover County to maintain and service two shell recycling dumpsters and public drop off sites in Wrightsville Beach. Brunswick County also is accepting shell for recycling at its landfill and we are working with Pender County to determine potential shell recycling sites. The southeast staff is also working with the Town of Holly Ridge to create a drop off bin at the Morris Landing Preserve.

Oyster shell is accepted at our headquarters office in Ocean as well. Recycled oyster shells are used in restoration projects and create a base for baby oysters to grow on. In 2009 North Carolina banned putting oyster shells in the landfill but there is no state funded program to help recycle them. Visit nccoast.org/oysters and ncoysters.org.

COASTAL MANAGEMENT

nccoast.org/coastalmanagement

Coastal Federation Contests Water Rule

In mid-September, The U.S. Army Corps of Engineers and U.S. Environmental Protection Agency announced a final rule that essentially rolls back existing safeguards that protect wetlands and water quality in the United States. This new rule, if adopted, will dramatically reduce the amount of wetlands that are protected by the federal Clean Water Act.

The Coastal Federation opposes this much more narrow definition of wetlands that is meant to replace an existing rule adopted in 2015. Specifically, the new repeal rule excludes many small streams, smaller wetland systems and prior converted croplands from the jurisdiction and protection under the Clean Water Act.

plan to file a legal complaint that will be filed by lawyers from the Southern Environmental Law Center.

Upholding Oceanfront Setbacks

The Coastal Federation has formally requested to intervene in a case challenging the state's oceanfront setback rules that has been filed by the Pacific Legal Foundation on behalf of Michael and Cathy Zito.

The couple were denied state and local permits to rebuild their Nags Head vacation house after it was destroyed by fire in 2016. The N.C. Division of Coastal Management and Town denied permits because the property where the house is located has experienced significant oceanfront erosion, and they proposed a footprint of a new house that violated the state's long established oceanfront setback requirements required under the Coastal Area Management Act.

The Zitons filed a complaint to the U.S. District Court for Eastern North Carolina challenging the state's decision to deny the permit and demanding \$700,000 in a settlement claiming a taking of their land.

The Coastal Federation seeks to help defend the decision by the N.C. Coastal Resources Commission to uphold its setback requirements. The Coastal Federation is requesting to be a formal third party in the case citing major implications if the lawsuit overturns the right of the commission to protect oceanfront beaches for public uses. Ana Zivanovic-Nenadovic, Coastal Federation senior policy analyst asked the Commission to "stand strong in their decision not to grant permits so as protect public access to our beaches."

Proposed Extension of Stormwater Outfalls

Before stormwater was recognized as a major contributor to the transport and delivery of pollutants to surface waters,

some coastal towns built outfall systems that discharge untreated runoff onto the beach or into the ocean.

Untreated stormwater contains high levels of bacteria that can pose health risks to those who come in contact with the runoff being discharged from open outfalls. The Coastal Resources Commission is considering providing a general permit that would allow the extension of stormwater pipe outfalls into the ocean to direct polluted stormwater to further offshore waters.

In recent comments, the Coastal Federation urged the Commission to consider all practical alternatives before simply allowing pipes to be extended into the ocean. The Coastal Federation agrees with the importance of eliminating polluted stormwater discharge from public recreational beach but sites that various nature-based solutions should always be considered first.

For example, the Town of Kure Beach successfully implemented dune infiltration systems to reduce outfall discharge on the beach by directing the stormwater into the dunes where it infiltrates into the sand. During 2005-2007, a collaborative effort between Kure Beach, North Carolina State University and the North Carolina Department of Transportation installed three dune infiltration systems and according to a 2010 report published by Dr. Michael Burchell, Associate Professor in the N.C. State Department of Biological and Agricultural Engineering the systems captured 80-100% of the outfall discharge.

These methods are a practical, cost-effective and environmentally—preferable alternative to outfalls. The systems reduce bacteria that cause beach swimming advisories which is why Kure Beach is currently considering additional dune infiltration systems. The Coastal Federation will continue to cite Kure Beach as an example of effective infiltration as the Coastal Resources Commission considers options for outfall management.

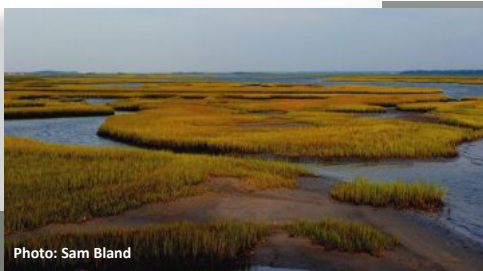


Photo: Sam Bland

The Coastal Federation argues that the rollbacks will cause significant damage to coastal natural resources and the economy.

"This action will reverse efforts to protect and enhance thousands of acres of wetlands, coastal fringe marshes and estuarine waters," said Todd Miller, Coastal Federation executive director. "These areas are the backbone of our coastal economy, and provide much needed protection from flooding. If we think flooding issues are bad now, just wait until these critical areas are paved, ditched or drained. We'll see the impacts with more people being put in flood prone-areas and effected by flood waters because those lands were meant to support water not subdivisions."

When the new rule is formally adopted, the Coastal Federation and other groups

MARINE DEBRIS

nccoast.org/marinedebris

200 Tons of Debris Removed

Over 400,000 pounds of treated wood, decking, piling debris and household garbage is no longer littering North Carolina coastal marshes. The Coastal Federation in partnership with the N.C. Division of Marine Fisheries and N.C. Division of Coastal Management led the Hurricane Florence Marine Debris Recovery Project to rid the coast of unsightly and damaging debris.

Crews found that most of the debris was deposited by Hurricane Florence but they also removed layer upon layer of debris likely from past storms and carelessness. In addition to wood and garbage, crews also found a lot of heavily damaged lost or abandoned crab pots and marine construction “cut-offs” or pieces of wood that are just cut and left in the water while building piers and docks.

We would like to extend a special thank you to the following who helped with the phase 1 Hurricane Florence Marine Debris Recovery Project: SouthWings, Alan Cradick Photography, LDSI, Inc., Coastal Stormwater Services, Inc., Swan Point Marina, Onslow County Solid Waste Services, N.C. Wildlife Resources Commission, N.C. Marine Patrol, The Town of Holly Ridge, Town of Swansboro and Lady Swan

This first phase of Florence Marine Debris Recovery Project focused on the central and southeast coastal region and was funded by the General Assembly.

In total, 75 tons of debris was removed from the Lower New River to Surf City and 125.3 tons were removed in the central coast around Swansboro to Camp Lejeune for a total of 200.3 tons over 42 miles of coastal N.C.

While the cleanup effort was a huge success, getting deep in the marshes revealed just how much debris is out there littering our coast.

The Coastal Federation is now charging ahead to take on the challenge. In looking to the future, the Coastal Federation will ramp up collaborative efforts with the N.C. Wildlife Resources Commission, N.C. Division of Coastal Management and N.C. Marine Fisheries to continue cleaning up the coast. The Division of Coastal Management has secured \$2 million in support from the Natural Resources Conservation Service and Wildlife Resources Commission has a \$1 million state appropriation to remove abandoned vessels and debris littering the coast. It is estimated that over 90 abandoned and derelict vessels are currently littering the coast and causing navigational problems or habitat and water quality problems.

In addition to these efforts, the Coastal Federation was recently awarded a two-year, \$249,657 grant from the NOAA Marine Debris Program’s Community Based Marine Debris Removal Grant Program. For this phase the Coastal Federation will continue to partner with N.C. Division of Coastal Management, regional local governments, community fisherman and women and volunteers to remove an additional 35 tons of debris in Pender, New Hanover, and Brunswick counties and help restore the health of over 3,000 acres of impacted oyster reefs, submerged aquatic vegetation, and subtidal coastal wetlands.

Coastal Federation Begins Ocean Friendly Establishments Program

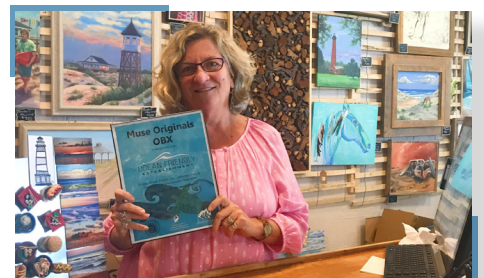
In the northeast region, the Coastal Federation and the North Carolina Aquariums’ Jennette’s Pier has partnered with the Plastic Ocean Project to expand the Ocean Friendly Establishments program.

An Ocean Friendly Establishment is a business that voluntarily makes

environmentally friendly business decisions primarily reducing the use of single-use plastics. In an effort to reduce single-use plastic pollution, owners and managers of certified Ocean Friendly Establishments have agreed to only serve straws upon request and eliminate single-use plastic bags. Additional environmentally conscious business decisions, like participating in the Coastal Federation’s Restaurant to Reef oyster shell recycling program, eliminating Styrofoam, providing a vegetarian menu option, eliminating beverages sold in plastic bottles and more, can earn the participating business additional stars. A business can earn up to five stars based on how many actions they’re taking.

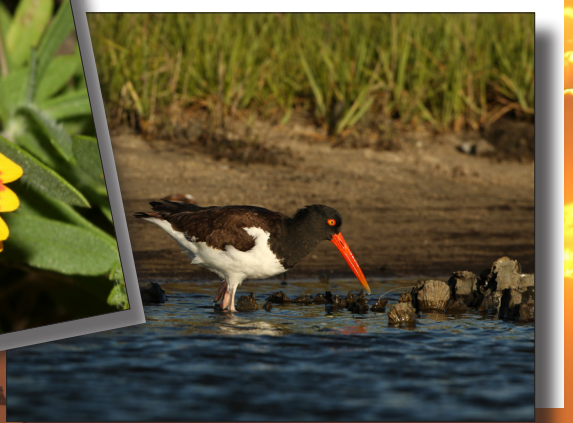
This is a self-regulated initiative, and businesses are encouraged to ensure all employees are educated and adhering to the initiative.

In the short time since the federation and Jennette’s Pier have partnered with the Plastic Ocean Project, 32 businesses have been certified on the Outer Banks. With the growth of this program in the region, the federation hopes to measurably reduce the amount of marine debris in our coastal waters. Increasing the number of businesses in the program and educating existing certified business owners, empowering them to make additional changes are some of the next steps for this program in the northeast region.



To learn more about the program, visit nccoast.org/ocean-friendly-establishments/.

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(Greeting cards are 5.5" x 4") Photos © Sam Bland

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North Carolina Coastal Federation

Working Together for a Healthy Coast

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Your membership helps protect, restore and wisely manage our coastal rivers, sounds and beaches.

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Questions? Call us at 252-393-8185
or send us an email at nccf@nccoast.org.



Now you can support the coast from your IRA!

Changes to the tax code this year solidified the option to donate to the federation directly from your IRA. For those of us aged 70½ and older, these are qualified charitable distributions and can count toward your required minimum distribution.

As you consider your year-end charitable giving options, don't forget that **you can support the coast with gifts of stock** as well!

Please contact Sarah King at sarahk@nccoast.org or call 252-393-8185 for more information on either of these great options.