



Carteret Community College Shoreline Restoration and Stormwater Runoff Reduction

The North Carolina Coastal Federation is working all along the North Carolina coast to increase the use of living shorelines to better protect areas from erosion and to keep coastal waters clean and productive.

One of those projects took place along the shoreline at the Carteret Community College campus in Morehead City, where a variety of living shoreline approaches were installed to demonstrate environmentally friendly alternatives to traditional shoreline stabilization methods.

This project has taken years to complete with the work initially beginning back in 2004, the North Carolina Coastal Federation along with many partners built living shorelines along the western portion of the campus using a variety of living shoreline methods. These techniques includ-

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Carteret

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ed offshore stone breakwaters, stone and oyster shell bag sills, reef balls, a stormwater wetland, and plantings of salt marsh and other wetland plants landward of these structures. The project was part of a campus-wide stormwater management plan and also included the transplanting and enhancement of seagrass.

Then in 2019 work at the community college resumed. This time on the eastern portion of the shoreline at the College. That area was not previously protected by living shorelines and sustained more than \$1 million in damage as a result of Hurricane Florence in 2018. Due to damages to their bulkhead, the College anticipated that another storm like Hurricane Florence would compromise the Bryant Student Center foundation and cause potentially catastrophic damage to the Crystal Coast Civic Center and multiple other buildings. The imminent damage motivated college officials and community members to protect the site by building living shorelines after seeing the longevity and success of the one that the federation built over a decade ago along the western portion of their shoreline.

In 2019, the Federation worked alongside the College and its engineer

to design and secure funding to restore the remaining College shoreline with an additional living shoreline. Construction of a 1,250-granite sill and the planting of 26,000 salt marsh grasses was completed in 2021, protecting and restoring 17.5 acres of salt marsh, oysters, and upland including 4 buildings on campus.

The rock sill was constructed by T.A. Loving. Students from Morehead City Middle School and Teacher's Pet participated in the plantings, as well as staff from Carteret Community College, Parker Offshore, LLC, and Big Rock Sports, LLC. Additionally, several local Scouts, members from Unitarian Coastal Fellowship in Morehead City, and other community volunteers joined in on the effort.

The project was supported by funds from the Golden LEAF Foundation, the National Fish and Wildlife Foundation Emergency Coastal Resilience Fund, the Federal Emergency Management Agency, the Albemarle-Pamlico National Estuary Partnership, the National Fish and Wildlife Foundation, NOAA, North Carolina Land and Water Fund, Progress Energy, Restore America's Estuaries, and the U.S. EPA, and the N.C. Community College System.

McElraft joins NCBIWA Ex-Officio Board

Rep. Pat McElraft (NC-13) has graciously accepted an invitation to join NCBIWA to assist with continued coastal preservation, sustainability efforts, and resiliency goals. Pat previously served on the NCBIWA Board of Directors.

Rep. McElraft began her public service in December 1999 as a commissioner to Emerald Isle for three elected terms before serving as a Carteret County commissioner.



McELCRAFT

On Jan. 1, 2007, she was elected to serve in the N.C.

House, 13th District (Carteret & Jones counties). She was elected to State office 8 times and served as one of the Deputy Majority Whips.

Rep. McElraft announced in December 2021 that she would not run for re-election in 2022. Rep. McElraft and husband Roger McElraft, Colonel USMC (Ret.), live in Emerald Isle, and have two grown children.

New NCBIWA member

NCBIWA welcomes new member Justine LeBlanc. While a full-time resident of Ocracoke Island, NC, Justin LeBlanc is President of LeBlanc Government Relations, LLC, a Washington, DC-based federal government affairs firm. Justin has provided lobbying services to clients for nearly 25 years, focused on maritime, fisheries, municipal, and coastal clients. Justin seeks to carry a small client load of 4-6 clients at affordable rates given his relative lack of overhead when compared to larger DC firms. While a Democrat, Justin has built bipartisan relationships on both sides of Capitol Hill. Justin can be reached at justin@justinleblanc-gr.com or 202-213-4131

From the chairman...

As chairman of the North Carolina Beach, Inlet and Waterway Association (NCBIWA), I'd like to wish you all a happy new year and welcome you to the Winter 2023 edition of our organization's quarterly newsletter.

Comprised of elected officials at the local, state and federal levels—as well as attorneys, engineers, researchers and various government staff members—the NCBIWA's mission is to bring a wide array of unique thoughts, ideas and perspectives to the table when it comes to working toward our common goal of protecting and preserving the coast of North Carolina.

In this issue, you will find important updates and information on a variety of key issues affecting our coastal communities and the people who call them home, own property within them, or visit them for a long-awaited vacation with friends and family.

As we begin this brand-new year with a renewed focus on the future of these communities and our efforts to address key coastal issues that range from beach nourishment and offshore energy to flood insurance programs and projects that promote coastal resiliency, I'd like to extend my sincere thanks to everyone who attended NCBIWA's fall conference in November.

In addition, I encourage all of you to make plans now to attend NCBIWA's upcoming spring conference, which will be held on May 11 and 12 at The Islander Hotel in Emerald Isle. Please join us as we continue our ongoing efforts to protect, restore and maintain North Carolina's coastline and coastal communities for generations to come. — **Bobby Outten, Chairman, North Carolina Beach, Inlet and Waterway Association**



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NCBIWA's purpose is to:

- Educate elected officials and the public on the importance of beach nourishment and coastal preservation, sustainability and resiliency through the information presented at our annual meetings and conferences and;
- Advocate on behalf of our members on the Local, State and Federal levels to promote funding for coastal infrastructure including beach nourishment, storm damage mitigation and;
- Encourage the use of science and technology to advance coastal research by governmental and non-governmental organizations and;
- Promote the routine maintenance of federal navigation channels, including the Atlantic Intra-coastal Waterway, and the proper best use of coastal sediment: better known as Beneficial Use of Dredged Material (BUDM).

Sediment as a resource for coastal resilience

In 2023, ASBPA intends to advocate for science-based policy to encourage sediment resource planning into coastal resilience efforts. Natural and anthropogenic deposition of sediment along coastlines is critical to ensure coastal ecosystems are resilient to a changing climate. We are highlighting this national need through various organizational activities, and we welcome you to join us.

ASBPA and Coastal States Organization will publish a seminal report this year in collaboration with the U.S. Army Corps of Engineers Institute for Water Resources on "Sediment Placement Regulations of U.S. Coastal States and Territories." We are looking at offshore sediment resources and renewable energy use considerations



with our federal partners and other key stakeholders. We are already at work on our next white paper, entitled, "U.S. coastal marsh restoration: The role of sediment placement." In addition, a subcommittee has been formed to conduct a state review of living shoreline projects, including policies, definitions, and project examples.

You can learn about these activities by attending the 2023 Coastal Summit in Washington, DC from March 21-23. I hope to see you there and learn more

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Saving a piece of Carolina coastal history

A major pre-Revolutionary port on North Carolina's Cape Fear River, Brunswick was abandoned during the Revolution, partially burned by British troops in 1781, and never fully recovered. During the Civil War, Fort Anderson was constructed atop part of the ruins of the town and served as part of the Cape Fear River defenses below Wilmington before the fall of the Confederacy. Colonial foundations dot the present-day tour trail, which crosses the earthworks of the Confederate fort.

Today, visitors to the site can see the archaeological ruins of the foundations of the colonial home sites, the first New Hanover County and Brunswick County Court House, and various out-buildings that once stood as a colonial port town, along with the shell of St. Philip's Anglican Church.

The historic and coastal resources at the Brunswick Town/ Fort Anderson (BTFA) sustains constant tide forces and dynamic wave action, along with flooding and wave energy associated nor'easters and hurricanes. All of these actions have washed away artifacts and the coastal marsh along this 1-mile waterfront, including as one area the site lost 75 feet from 2008 to 2013. The shoreline at the historic site is approximately 1-mile.

The State determined that Atlantic Reefmaker was the best alternate to protect the resources over a traditional breakwater structure. The decision to use the structure included its adaptability and resilience for sea level change, its minimal substrate impacts, the minimal anticipated maintenance, its ability to protect the shoreline and its capability to be installed around historic log wharfs without covering the wharfs nor disturbing them.



Implementation of measures to protect the waterfront began in 2017. This work includes the protection of Civil War fortification embankment 'A' which Hurricane Matthews caused severe erosion in front of it and threatened to undermine it. Since completion of Phase 1, shoreline protection totals 1,670 feet and includes the protection of two pre-Revolutionary War wharfs. Phase 4 construction was completed in February 2023, and with its completion, there is over 2,020 feet of the protected waterfront.

There have been noticeable ecological betterments at the site. The coastal marsh shorelines behind Atlantic Reefmaker areas are rebuilding naturally from accretion, and the low areas in the marsh are also rebuilding from accretion. Marsh grass populations are naturally re-colonizing now that wave energy has been dissipated. The blue crab population has increased considerably, and recreational fishermen are frequently anchored near the structure to fish. There is now an oyster population on the structure, and it is furthest point upriver of an oyster population on the Cape Fear River.

Faculty and students from University of North Carolina Wilmington are conducting monitoring of shoreline work. The monitoring consists of studying and documenting shoreline

and faunal response to the work as well as the structure's wave attenuation.

The State of NC has secured several grants to address these waterfront challenges. Grants have been secured from NC Clean Water Management Trust Fund, NC Department of Environmental Quality, National Fish and Wildlife Foundation and National Park Service.

The shoreline protection and restoration of BTFA has received much recognition. This recognition includes:

- An Engineering Excellence Award from the American Council of Engineering Companies–North Carolina in 2019

- Inclusion in An Atlas: Volume 2 by the US Army Engineering with Nature (EWN) program as the project embodied its program principles of:

1. Using science and engineering to produce operational efficiencies.
2. Using natural processes to maximum benefit.
3. Increasing the value provided by the project to include social, environmental, and economic benefits.
4. Using collaborative processes to organize and focus interests, stakeholders, and partners.

- A "Best Restored Shore" award by American Shore and Beach Preservation Association (ASBPA) in August 2021.

Got to have that sand

By KEN WILLSON

One need not to look hard to find examples of successful beach nourishment programs along the North Carolina Coast. When properly maintained, these projects reduce coastal storm damage, protect public infrastructure and other resources from flooding, mitigate erosion, and provide both recreational benefits and improved habitat for a variety of native coastal species. But to maintain these projects, large deposits of beach quality sand must be identified.

As coastal communities continue to invest in beach nourishment as a vital part of maintaining their economies, growing efforts seem to be aimed at locating sustainable sources of sand. While some communities have the good fortune to utilize navigation channels and inlets as a renewable source of sand, many communities must turn to offshore sand resources to maintain their programs. Many local governments and federal agencies are making significant investments to identify offshore sand.

For decades, the U.S. Army Corps of Engineers Wilmington District has been investing in identifying sand sources for federal projects from Brunswick County to Dare County. These federal projects are often planned for 50 years, and the Corps is tasked with identifying sand sources to support project specific long-term needs. Over the past six (6) years, the Bureau of Ocean Energy Management (BOEM) has spent over \$6 million dollars trying to identify sand resources in federal waters from Florida to Maine.

At the local level, Carteret County approved a large scale, multi-year sand search in the summer of 2021 aimed at identifying sand sources for the next 50 years. This study, with an initial price tag of \$2 million, is being conducted by the County's coastal



engineering consultant and managed by the County. Last summer, the Town of Nags Head, working with its coastal engineering consultant conducted an extensive investigation off its coast to identify sand sources that could support a 30-year plan. Dare County recently committed \$1 million to match a \$1 million grant awarded through the State's Coastal Storm Damage Reduction fund to hire a coastal engineering firm to identify offshore sources of sand that would support the northern Dare County Towns of Duck, Southern Shores, Kitty Hawk, and Kill Devil Hills who have been working together since 2014 on cooperative efforts to nourish their beaches.

The growing demand for, and

investment in, sand resources for the long-term is driving a conversation between federal agencies like BOEM and U.S. Army Corps of Engineers, State agencies, local stakeholders, and coastal engineering industry leaders to coordinate these efforts. BOEM is building a [National Offshore Sand Inventory](#) to better understand where sand is available and how much could be used for coastal protection and restoration. These efforts are also looking at potential use conflicts between offshore sand resources and the siting of offshore wind, transmission lines, and other ocean uses. NCBIWA will continue to track this issue and provide opportunities for presentations and discussions at upcoming meetings.

Blue Flag meeting Feb. 8

Mark your calendars! Blue Flag staff is excited to invite local government and interested stakeholders to a Blue Flag beaches interest meeting Feb. 8. The Blue Flag eco-award is offered to beaches, marinas, and tourism boats meeting over 30 criteria for water quality, environmental education and information, environmental management, safety and services, sustainable tourism, and social responsibility.

The agenda will cover an introduction to the program and partners, the criteria, and application process. The presentation will be followed by a Q&A session with staff. Join us via Zoom to learn more about the program and other 2023 events. Registration is free at <https://us06web.zoom.us/meeting/register/tZAqfuivqjguGd-2FoVXDGP31pnMeqnrCFqGc>. Please reach out to staff with questions at blueflagusa@asbpa.org.

Beach Management Summer Series kicks off

After a successful launch in 2022, Blue Flag USA staff will be hosting another round of virtual presentations on beach management challenges, successes, and next steps. The Blue Flag eco-award is



one of five environmental education programs offered by the Foundation for Environmental Education (FEE). The award is offered to beaches, marinas, and tourism boats meeting over 30 criteria for water quality, environmental education and information, environmental management, safety and services, sustainable tourism, and social responsibility. The 2023 summer series tentative dates and topics are:

- March 8, 2 pm Eastern: **Responsible Boating**
- May 10, 2pm Eastern: **Beach Access**
- June 7, 2pm Eastern: **Water Quality**
- July 12, 2pm Eastern: **Safety**

Each session will be 90 minutes with two presentations on the topic followed by networking discussions between coastal practitioners. Registration is free for these events. Please reach out to staff with questions at blueflagusa@asbpa.org.

Government

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about how you and your constituents think about sediment as a resource for coastal resilience. — *Nicole Elko, Ph.D., ASBPA Science Director*

'Partnering for Resilient Coastal Infrastructure'

With new legislative victories for our coast in-hand, and with the pandemic largely behind us, ASBPA is now poised to once again come together, in-person, in our nation's capital and begin "Partnering for Resilient Coastal Infrastructure."

We're excited to announce the 2023 Coastal Summit will feature a program that includes leaders from the Corps of Engineers, BOEM, FEMA, NOAA, USGS and other federal agencies as well as representatives from



Capitol Hill and The White House offering their insight on how the U.S. will work to advance coastal resilience.

We'll hear what new coastal legislation, like the RISEE Act, will be introduced by the 118th Congress. We'll once again help facilitate delegation and agency visits for our members and attendees as they return to coastal advocacy in a face-to-face setting.

Finally, we'll cap it off with the Coastal Celebration hosted alongside [Coastal States Organization](#) with invited guests from Congress and federal agencies allowing for stakeholders to thank our coastal champions in Washington for their efforts and encourage them to continue fighting for resilient coasts.

We look forward to you joining us in DC at the National Association of Counties (NACo) Building on March 21-23 and invite you to register [here](#).

Coastal Grant Opportunities:

- Nature-Based Solutions Funding Database from National Wildlife Federation: <https://fundingnaturebasedsolutions.nwf.org/>
- N.C. Resilient Coastal Communities Program Funding Opportunities: <https://deq.nc.gov/about/divisions/coastal-management/coastal-adaptation-and-resilient-coastal-communities-program>
- N.C. Department of Public Safety Non-Disaster Grants: <https://www.ncdps.gov/our-organization/emergency-management/hazard-mitigation/non-disaster-grants>
- N.C. Department of Environmental Quality Beach & Waterfront Access Grants: <https://deq.nc.gov/about/divisions/coastal-management/coastal-management-beach-waterfront-access-program/beach-waterfront-access-grants>
- N.C. Department of Environmental Quality Grants: <https://deq.nc.gov/news/grants>