

## N.C. Coastal Reserve & National Estuarine Research Reserve

# Tidal Flat

September 2013



It has been a busy summer at the N.C. Coastal Reserve! Visitors, researchers, and campers explored everything from sea turtles to seabirds to snails at the ten N.C. Coastal Reserve sites. This newsletter will fill you in on all the exciting activities and projects from Summer 2013. To learn more about research, stewardship, and education at the N.C. Coastal Reserve, please visit our [website](#). Enjoy Fall 2013 on the estuary!

### Take a Stroll on Bird Island



On a warm morning in late May, a group of volunteer stewards gathered with staff members from the N.C. Coastal Land Trust and the N.C. Coastal Reserve to begin a training session at Sunset Beach on the Bird Island component of the N.C. Coastal Reserve. The training prepared eleven volunteer stewards to lead or assist weekly hour-long programs at Bird Island to highlight its history, ecological importance, habitats, and wildlife.

[Read more...](#)

Facebook Favorite: Volunteers from Marine Corps Air Station Cherry Point participate in a Rachel Carson Reserve cleanup, August 2013



### "Practical Restoration" at Buckridge Reserve

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### Masonboro Island Outreach Survey



Help our Outreach & Education staff at the Masonboro Island Reserve plan activities and events for next year. Tell us what you think by taking this short [survey](#). Thank you!

### For the birds...



Check out the new 2013 Rachel Carson Reserve [Bird Checklist!](#) Great for exploring the many birds found

The recent hydrologic restoration project at the Emily and Richardson Preyer Buckridge Coastal Reserve signals a step forward in protecting the water quality of the Alligator River and restoring rare Atlantic white cedar habitat. Historic timber management and canal construction have caused significant hydrological changes to this unique ecosystem, as the canals drain freshwater away from wetlands and introduce saline water into the system.



The altered hydrology has the potential to impair the filtering ability of the rich organic soils at the Buckridge Reserve, which could increase mercury, heavy metal, and nitrogen levels, and affect the adjacent Alligator River. The N.C. Coastal Reserve undertook a restoration project to re-establish the surface and groundwater flows of the Buckridge wetland systems to reduce the release of nutrients into surface waters, prevent saltwater intrusion into the sensitive organic peat soils, and to accommodate adjacent property owners' water rights during restoration. Eventually, the results of this project should ensure that the forested wetlands at the Buckridge Reserve are able to fulfill their natural functions, including providing habitat for endangered species, storing carbon, protecting estuarine water quality, and providing flood control.

[Read more...](#)

## Research Review

Here are some of the current research projects happening at the N.C. National Estuarine Research Reserve (NCNERR):



- The NCNERR collects continuous air temperature and water quality data as part of the [System-wide Monitoring Program](#) (SWMP). This National Estuarine Research Reserve System initiative develops quantitative measurements of short-term variability and long-term changes in the water quality, biological systems, and land-use / land-cover characteristics of estuaries and estuarine ecosystems for the purposes of informing effective coastal zone management.
- Researchers from the NCNERR, the National Oceanic & Atmospheric Administration (NOAA), the University of North Carolina Chapel Hill's Institute of Marine Sciences (UNC-IMS) and the University of North Carolina Wilmington (UNCW) collaborated on the [Sustainable Estuarine Shoreline Stabilization: Research, Education, and Public Policy in North Carolina](#) project. [Read more...](#)
- The NCNERR and N.C. Division of Coastal Management (DCM) evaluated 27 marsh sill estuarine shoreline stabilization structures to assess their functionality and property owners' perceptions of this stabilization method. [Read more...](#)
- The NCNERR contributed to a NOAA Restoration Center project that used relatively undisturbed tidal wetland sites at five National Estuarine Research Reserves as reference sites for comparison with 17 local wetland restoration projects to determine indicators to explain variations in restoration response and examine the utility of long-term marsh monitoring at the Reserves. [Read more...](#)
- NCNERR is assisting with a collaborative research project led by UNC-IMS to quantify the structural evolution of oyster reefs in order to improve the effectiveness of restoration efforts. [Read more...](#)
- The N.C. Sentinel Site Cooperative (NCSSC), which the NCNERR is a partner of, recently secured funding from NOAA's Southeast and Caribbean Regional Team (SECART) to work with the [N.C. Coastal](#)

throughout the year at the Reserve.

## Thank you!

Thank you to our dedicated interns and volunteers that made this summer a success! Your hard work and enthusiasm are greatly appreciated.

Here's what our 2013 interns will be working on this fall:

**Chelsea Adams** will be a senior at UNC Wilmington, and will continue research on beach nourishment effects on sea turtle nests.

**Paul Cole** will continue his studies at UNC Wilmington and conduct research on shoreline erosion on Zeke's Island.

**Misty Wilbanks** will pursue a Master's degree at UNC Wilmington in marine and atmospheric chemistry.

**Danielle Monzingo** is entering her junior year at West Carteret High School, where she will take journalism and Latin courses.

**Forrest Kraus** is training to enter the National Park Service Law Enforcement program.

**Crandall Story** will be entering his senior year at High Point University, where he is working towards a degree in biology.

## More Information

[Contact Us](#)

[Event Calendar](#)

[Reserve News Archive](#)



N.C. Coastal Reserve



Rachel Carson Reserve



Masonboro Island Reserve

[Atlas](#) to develop a clearinghouse for research and monitoring projects conducted within the boundaries of the NCSSC. [Read more...](#)

- With assistance from NCNERR, UNCW, the City of Wilmington, and the Town of Wrightsville Beach, the North Carolina Coastal Federation has received one year of funding from the [NERRS Science Collaborative](#) to expand its efforts to protect and restore the waters surrounding the Masonboro Island Reserve through stormwater management controls. [Read more...](#)

### Facebook Favorite: Black skimmers scoop up a tasty meal at Masonboro Island Reserve, July 2013



### A Walk in the Woods at Currituck Banks Reserve

Located near the north end of Highway 12 in Poplar Branch, N.C., unique and increasingly rare coastal treasures wait to be discovered. Currituck Banks Reserve, which is the northernmost component of the N.C. National Estuarine Research Reserve (NCNERR) is a pristine example of an undisturbed barrier island ecosystem. It is one of the few places on the Outer Banks where visitors can hike under the shaded canopy of mature stands of live oak, red maple, loblolly and long leaf pine trees.



Visitors have two options for exploring this unique environment. The first, a leisurely walk down the 300-yard interpretive boardwalk, leads to a scenic marsh overlook. There is also a 1.5-mile primitive trail that winds through the Reserve. Both walks meander through twisted live oak and pine stands that have been shaped by decades of strong coastal winds and the effects of salt pruning. During the fall visitors can even enjoy bright autumn colors, which are usually rare on the coast.

[Read more...](#)

### Summer Science Fun with the Seashore Life

## Campers



What do you get when you combine shells, snails, and very sandy children? A great day at the Rachel Carson Reserve with the Seashore Life campers! On a morning visit to the Reserve, campers observed hermit crabs, mud snails, and even tasted some salty marsh grasses during a nature hike from Taylor's Creek to Bird Shoal.

The Seashore Life program is part of the Summer Science School administered by the N.C. Maritime Museum in Beaufort. Through an educational partnership with the N.C. Coastal Reserve, campers in the Seashore Life program are able to explore the Rachel Carson Reserve, and use the N.C. Coastal Reserve's classroom facility for laboratory activities and craft projects. [Read more...](#)

## Facebook Favorite: Loggerhead sea turtle hatchling at Masonboro Island Reserve, August 2013



## What is red, slimy, and new to Zeke's Island?



If you guessed the invasive algae *Gracilaria vermiculophylla*, great job! For readers that are not marine algae specialists, *G. vermiculophylla* is a red marine algae, or rhodophyte, that is native to the Pacific Northwest. In recent years it has been identified in the estuarine waters surrounding the Zeke's Island component of the N.C. National Estuarine

Research Reserve (NCNERR). Because it is not native to this area, it has unique impacts on existing natural ecosystems. [Read more...](#)

## Project Design & Evaluation Workshop



What are the keys to a successful resource management project? If you ask training experts from NOAA's Coastal Services Center, they would likely say that logical planning, establishing cause and effect relationships between goals and outcomes,

and target-driven language can enhance a project's success and provide a systematic approach to future project development. The N.C. National Estuarine Research Reserve's Coastal Training Program is hosting training professionals from the Coastal Services Center for a free **Project Design and Evaluation workshop on November 13-14, 2013 in Beaufort, N.C.** [Read more...](#)

Facebook Favorite: The wild horses on the Rachel Carson Reserve, June 2013



## A Day in the Life of a Research Biologist



Research Specialists Heather Wells and Byron Toothman tell us about their work at the N.C. National Estuarine Research Reserve (NCNERR). **How long have you worked for the NCNERR in Wilmington?**

Heather has been with NCNERR for nine years, while Byron joined the Research staff in 2008. Together with Research Coordinator Dr. John Fear they form the core of the Research sector

at the Reserve, tasked with supporting coastal research and long-term ecological monitoring. They accomplish these goals with assistance from other Reserve staff, graduate students, interns, volunteers, and the [Centralized Data Management Office](#) that supports the National Estuarine Research Reserve System (NERRS). [Read more...](#)