

The Tidal Flat

Fall Edition 2009

N.C. Coastal Reserve Program Celebrated its 20th Anniversary on June 19, 2009

By Michele Walker, DCM Public Information Officer

In June 1989, the North Carolina General Assembly created the North Carolina Coastal Reserve Program to acquire, improve and maintain undeveloped coastal land and water areas in a natural state.

The legislation establishing the reserve program asserted that *“the coastal area of North Carolina contains a number of important undeveloped natural areas. These areas are vital to continued fishery and wildlife protection, water quality maintenance and improvement, preservation of unique and important coastal natural areas, aesthetic enjoyment, and public trust rights such as hunting, fishing, navigation and recreation. Such land and water areas are necessary for the preservation of estuarine areas of the state, constitute important research facilities, and provide public access to waters of the state.”*

Twenty years later, that seemingly simple act of legislation has led to the preservation of more than 41,000 acres of unique environments on 10 coastal reserve sites along the entire length of our coast. Four of the sites comprise the N.C. National Estuarine Research Reserve, part of NOAA's National Estuarine Research Reserve System which is a federal program designed to improve coastal management and scientific understanding of the nation's estuarine and coastal habitats.

From Currituck Banks in the north, to Bird Island on our southern border, North Carolina's coastal reserve program has become an unparalleled resource for education, research and stewardship of these precious and irreplaceable habitats.



Emily and Richardson Preyer
Buckridge Coastal Reserve



Currituck Banks Component of the
N.C. National Estuarine Research Reserve

Governor Perdue recently declared June 19 Coastal Reserve Day in North Carolina in honor of the N.C. Coastal Reserve Program's 20th anniversary.

Help us celebrate the reserve program's 20th anniversary by getting to know some of North Carolina's most beautiful and unspoiled places—visit one (or more!) of our 10 Reserve sites and discover some of our coastal treasures. Visit us on the Web at www.nccoastalreserve.net to learn more.

Coastal Training Program to Focus on Species Management

By Whitney Jenkins, Coastal Training Program Coordinator

Southeast Regional Diamondback Terrapin Workshop



Diamondback Terrapin
(*Malaclemys terrapin*)

On December 3 in Wilmington the Coastal Training Programs from North Carolina, ACE Basin, Sapelo Island, and North Inlet-Winyah Bay National Estuarine Research Reserves and the Southeastern Diamondback Terrapin Working Group will host a second regional workshop highlighting the status of diamondback terrapin research, management and education in the Southeast. The meeting will serve to update attendees on the recent accomplishments and specific needs of the region, as well as

continue to facilitate networking within and between states in the Southeast. Presentation topics include: population and physiology research; crab trap clean-up and bycatch reduction education programs; outreach efforts to reduce terrapin road mortality; and gaps in policies for terrapin protection.



Diamondback Terrapin
(*Malaclemys terrapin*)

Southeastern North Carolina Red Fox Symposium

On January 19 & 20, 2010 in Wilmington the Reserve will host a symposium to discuss management options for red foxes. Red foxes have a huge impact on local environments, preying on sea turtle nests and colonial nesting waterbirds. This symposium will bring together resource managers who deal with the impact of red foxes on the habitats and species they protect. The symposium will include information regarding red fox life history, hunting and trapping regulations, recent impacts to turtle and bird resources, and current management approaches. Discussion will focus on strategies for public education, developing new management approaches, and identifying research needs. Work groups will be developed to move forward on priority research, management, and education strategies.



For more information on either event, visit www.nccoastaltraining.net or contact Whitney Jenkins at 252-838-0882 or whitney.jenkins@ncdenr.gov.

SWMP Station Vertical Deployment Upgrade

By Byron Toothman, Research Biologist

The System-Wide Monitoring Program (SWMP) water quality monitoring stations located on Research Creek and Loosin Creek (both part of the Masonboro Island component of the North Carolina National Estuarine Research Reserve) have been successfully upgraded with a vertical deployment structure.

The new deployment structure ensures that the sonde will be positioned at the same location and relative depth each time they are deployed. The new structure will improve the quality and consistency of data recorded by the water quality sondes by providing a secure and fixed location for sonde deployment.



Water quality monitoring station at Research Creek

This upgrade is an improvement from the original method of deployment consisting of chaining deployed water quality sondes to an anchored cinderblock. The anchored sondes are not as consistent since they are tethered to a chain and can be moved up to several meters during storms, strong currents, and due to the occasional curious boater.

Stations located on Zeke's Basin and East Cribbings will both be upgraded in the near future. Both of these sites are in the Zeke's Island component of the North Carolina National Estuarine Research Reserve.

For more information about the SWMP program, visit www.nccoastalreserve.net or contact Byron Toothman at 910-962-2334 or toothmanb@uncw.edu.

Kitty Hawk Woods Student Projects

By Dr. Bo Dame, Northern Sites Manager

This summer, Rachel Clark, a graduate student from N.C. State University, started working on her master's thesis research in Kitty Hawk Woods. Rachel is a student in the Plant Biology Department, working with Dr. Alexander Krings and Dr. Jon Stucky. Over the next year, Rachel will be collecting plants to create a comprehensive species list for the Reserve. Her final project will contain not only the plant species found in the Reserve (both historical and current) but also a key for identifying them and information about what ecological community and soil types the plants are generally associated with.

Other students working at the Northern Sites Office include Courtney Chandler and Casey Peeler, senior environmental studies majors from UNC-Chapel Hill, and Jason Peters, a junior biology major from Christopher Newport University. Courtney and Casey come to us through UNC's Albemarle Ecological Field Site in Manteo, and will be working on visitor access and commercial use issues in Kitty Hawk Woods. Jason is finishing up a project mapping the current extent of the invasive marsh grass *Phragmites australis* in Kitty Hawk Woods.

National Estuaries Day: A Celebration of the Unique Places Where Rivers Meet the Seas

By Paula Gillikin, Rachel Carson Site Manager



Reserve Manager Rebecca Ellin shows Jack a whelk and its egg case

North Carolina's estuarine system is the third largest in the country, encompassing more than 2 million acres. This vast natural resource is the heartbeat of North Carolina's coastal and ocean ecosystems, interlinking the state's economy and culture. What better way to encourage public stewardship of estuaries than to spread the word about these treasures during a nationwide celebration? On Saturday, September 26th, the Coastal Reserve commemorated National Estuaries Day and National Public Lands Day with education and outreach events held at the North Carolina Maritime Museum in Beaufort, N.C. and at the Kitty Hawk Heritage Day Festival in Kitty Hawk, N.C. Additionally, a conservation action – part of N.C. Big Sweep's annual statewide debris clean-up - was carried out by volunteers at the Rachel Carson site in Beaufort.

The highlight of each education exhibit in both Beaufort and Kitty Hawk was a chance to get an up-close look at the life found within an estuary. Gathered around microscopes (for viewing preserved specimens) and a touch tank of colorful estuarine plants and animals of every texture, were people of all ages whose curiosities were piqued by the unique assemblage of

featured sea life. Kids jumped up and down and squealed with delight as sea squirts dowsed them with salty water. Many adults were excited to learn something new about something so familiar; for example, "downeast conch chowder" – an eastern Carolina favorite - is really made from one of three species of whelk. From hermit crabs to soft corals to purple urchins to the marine invertebrate called "sea pork," hands-on education with these fascinating specimens was a huge hit!

Both National Estuaries and Public Lands Day provided a timely opportunity for the N.C. Coastal Reserve staff and volunteers to teach the public about the Reserve itself, the uniqueness and importance of estuaries, and stewardship as a way to protect and enhance North Carolina's vital coastal treasure. To learn more about National Estuaries Day, visit www.estuaries.gov, or National Public Lands Day, visit www.publiclandsday.org.

Many thanks go out to Reserve volunteers for participating and to the N.C. Maritime Museum for co-sponsoring the event in Beaufort.

Volunteer Meg Luther mans the Reserve display board



Buckridge Coastal Reserve

By Woody Webster, Buckridge Site Manager

Alligatorweed found at Buckridge

A native of South America, Alligatorweed (*Alternanthera philoxeroides*) has recently been found in the interior canals of our Emily and Richardson Preyer Buckridge site. Alligatorweed is a noxious aquatic weed that grows in moist soil as large mats of vegetation that float along the water's edge. Alligatorweed poses hazards such as increased flooding and erosion along with increased mosquito populations and reduced water access. Alligatorweed can grow so dense that it can blanket an entire waterway making the waterway difficult to navigate. Spread by vegetative propagation, many new outbreaks are found along boat ramps where boaters have unknowingly transported it to other locations on their trailers or boats. To help prevent additional outbreaks of this and other aquatic invasives, boaters should inspect their trailers and vessels for hitchhiking plants and biological debris between launches.



Alligatorweed (*Alternanthera philoxeroides*)
Photo courtesy of Fort Macon State Park

Fish species catalogued

A cooperative effort to catalog fish species around the Emily and Richardson Preyer Buckridge site has recently begun with help from our Northern Sites office, the Wildlife Resources Commission, and The Nature Conservancy. This catalog will give us a better understanding of how aquatic species use the canals of Buckridge. Long-term efforts should illustrate changes in aquatic species populations in response to sea level rise throughout the area. Additional sampling efforts will expand our knowledge of fish species within the freshwater ponds of Kitty Hawk and Nags Head Woods.



Whitetail Deer on Buckridge

Hunting has begun at Buckridge!

Hunters are Buckridge's largest user group, due in part to the difficulty of access for casual visitors. Each Reserve has specific rules regarding hunting, in addition to State regulations. Buckridge is part of the N.C. Game Land program, allowing three days per week for hunting. While hunters and other users of the Reserve continue to interact safely, please be mindful of those around you, and that it's unlawful to harass those who are hunting legally.

For more information about the Emily and Richardson Preyer Buckridge Site, visit us on the web at www.nccoastalreserve.net or contact Woody Webster at 252-796-3709 or woody.webster@ncdenr.gov.

NCNERR Management Plan Completed

The Estuarine Reserves Division of the National Oceanic and Atmospheric Administration (NOAA) recently approved the North Carolina National Estuarine Research Reserve (NCNERR) Management Plan Revision. Four sites in the North Carolina Coastal Reserve comprise the North Carolina National Estuarine Research Reserve: Currituck Banks, Rachel Carson, Masonboro Island and Zeke's Island. NCNERR has been operating in partnership with the North Carolina Department of Environment and Natural Resources under a management plan approved in 1998. The submission of the revised management plan sets a course for successful implementation of the goals and objectives of the Reserve in the next five years. The revised management plan outlines the administrative structure; the education, stewardship, and research goals of the reserve; and plans for future land acquisition and facility development to support Reserve operations. This management plan describes how the strengths of the Reserve will focus on several areas relevant to coastal North Carolina, including coastal population increase, altered land use, storm water runoff and eutrophication, invasive species, tropical and coastal storm impacts, and sea level rise. Since 1998, the Reserve has added a coastal training program that delivers science-based information to key decision makers in North Carolina; has increased the vertical placement of the program on the state organizational chart; has completed a site profile that characterizes the Reserve; and has expanded the monitoring, stewardship and education programs. A new administrative building (2007) has also been built to support the growth of Reserve programs. To view the approved North Carolina National Estuarine Research Reserve Management Plan revision visit www.nccoastalreserve.net.

Wetlands Workshop

By Whitney Jenkins, CTP Coordinator

On September 23, 42 coastal decision-makers gathered for a workshop on the value, regulations and conservation of coastal and freshwater wetlands. This workshop, hosted by the Reserve's Coastal Training Program, featured speakers from the Division of Coastal Management, U.S. Army Corps of Engineers and the Ecosystem Enhancement Program. A field trip to a coastal wetland was included, where participants learned how to delineate coastal wetland boundaries and normal high water as well as identify seven of the ten coastal wetland plant species present at the site. Dr. Jill Fegley, with the N.C. Coastal Reserve, spoke about the value of wetlands and gave specific details of coastal wetland plants. Dr. Fegley also collected all ten of the coastal wetland plants, and one invasive species, for participants to view. Ninety-five percent of the workshop participants were satisfied with the workshop content and 92% of participants intend to apply the information learned at the workshop in their work. This workshop will be offered annually by the Coastal Training Program, with the next event tentatively scheduled for fall 2010. For more information, visit www.nccoastaltraining.net or contact Whitney Jenkins at 252-838-0882 or whitney.jenkins@ncdenr.gov.



Wetlands Workshop participants get a hands-on opportunity to identify coastal wetland plant species. Photo Credit: Judy Hills, Eastern Carolina Council

Currituck Banks NERR Spotlight

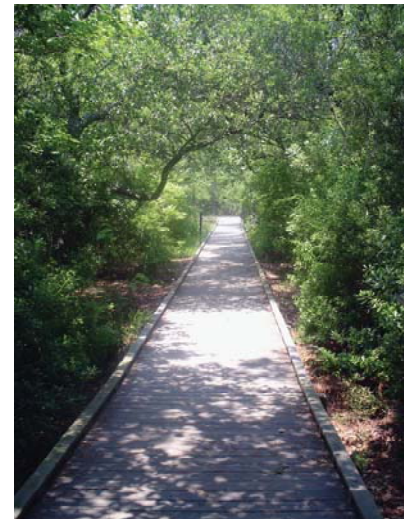
By Lori Davis, Education Specialist

The Currituck Banks component of the North Carolina National Estuarine Research Reserve is an excellent example of an undisturbed barrier island and low-salinity estuarine system. The site lies in the northeastern corner of North Carolina, 10 miles south of the Virginia border and three-quarters of a mile north of the village of Corolla. The site encompasses 954 acres and is bound by tracts owned by The Nature Conservancy and the U.S. Fish and Wildlife Service.

Currituck Banks attracts many visitors each year. The intriguing live oak trees found within the forest are a favorite among adults. The younger visitors enjoy the tree frogs, salamanders and other creatures found within the woods and in the water. Currituck Banks is also home to a primitive trail that gives visitors a more in-depth look at the maritime forest and old dune relics. To get a closer look, visitors can access a handicapped accessible boardwalk that winds through the maritime forest and ends at Currituck Sound.

The Reserve is a great place to take in all the unique sights and sounds of the northern outer banks of North Carolina. Currituck represents a transitional area where it is the northern-most point for southern species and the southern-most point for northern species. Currituck Banks has diverse habitats including ocean beach, sand dunes, grasslands, shrub thicket, maritime forests, brackish and freshwater marshes, tidal flats and sub-tidal soft bottoms.

For more information about Currituck Banks, visit us on the web at www.nccoastalreserve.net or contact Dr. Bo Dame, Northern Sites Manager at 252-261-8891 or bo.dame@ncdenr.gov.



Currituck Banks NERR Boardwalk

A Volunteer Reflects

By Pat Rapaport

“The coast of North Carolina is one of the greatest places to live. What makes it even better is having the opportunity to take groups of tourists to the Rachel Carson Estuary on walking tours and boat trips. I love the idea of sharing all the wonderful sites and wonders of our fragile and beautiful ecological environment with others. It has been my pleasure to watch the excitement on the faces of children and adults on the tour when they discover new shells and plants and have a glimpse of egrets, plovers and other rare birds. The thrill of seeing skates and sharks in our shallow waterways from our Rachel Carson skiff and the fun of seeing our Carrot Island horses up close is always so exciting.

The experiences and rewards of being a volunteer have been overwhelming. I take so much pride in volunteering for a group named after one of the most noted environmentalists of this century.”

Pat has been a volunteer for the Rachel Carson Reserve for nine years. Pat is a leader of our summer public field trips and serves on our Education Advisory Committee.



Great Egrets on the Rachel Carson Reserve



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