

The Tidal Flat

Spring Edition 2009

Rachel Carson Reserve Hosts Summer Programs For Students in Preschool Through Eighth Grade

This summer the Rachel Carson Reserve will again host educational programs for students of all ages. All classes will be hands-on, field-based estuarine studies.

Junior Naturalist Program

Beginning June 17, the Junior Naturalist program for students in grades 4-8 will run Wednesdays through August 5, from 9 a.m.-12 p.m. Students will conduct field investigations of estuaries. Activities will include marsh seining, water quality sampling, animal population studies, beach and marsh profiles, and phytoplankton identification. The cost for all eight sessions is \$100. Individual sessions are \$15.



Adventures in the Estuary

Two sessions of Adventures in the Estuary will be held this summer for students in grades 1-3. Participants will have the opportunity to learn more about vertebrates, invertebrates, and estuarine habitats through classroom activities and field activities. The first session will be June 16, 18, 23, and 25, and the second session will be August 4, 6, 11, and 13. Each session is \$40 for all four classes. Classes are 9 a.m.-12 p.m.

Preschool Storytime and Crafts

Preschool Storytime and Crafts will be held from 9-10 a.m. on June 15, July 13 and August 10. These sessions will include a story, estuarine critter observation and a related craft. All preschool sessions are free of charge, but registration is required. Topics will include hermit crabs, birds and snails.

All summer programs will be held at the Reserve's classroom located on Pivers Island in Beaufort. For more information about these programs or to register, please contact Lori Davis at (252) 838-0883 or lori.c.davis@ncmail.net. For more information about the Rachel Carson Reserve, visit the Reserve's website at www.nccoastalreserve.net.



Science Club from Chowan University Helps Cleanup Northern Sites

By Bo Dame, Northern Sites Manager

The Science Club from Chowan University spent four days during their spring break conducting volunteer work at the Reserve's northern sites. Chowan University is a four-year private school located in Murfreesboro, N.C. The group consisted of four students and Dr. Heather McGuire, Chowan University biology professor. Work was completed at Currituck Banks NERR, Kitty Hawk Woods Coastal Reserve and Buxton Woods Coastal Reserve. The volunteer work totaled 135 hours.



While in Buxton Woods, the group blocked and closed two unauthorized trails that were being used by ATVs. They also cleaned up and removed an illegal hunter's camp and removed two hunting stands. New signs were posted and trash was removed.

Kitty Hawks Woods contains a rain garden that was mulched and weeded by the volunteers. Trash and debris was also removed along with two hunting stands.

Work completed at Currituck Banks consisted of trash and debris removal.

Students also had the opportunity to spend some time visiting the National Park Service's Bodie Island and Cape Hatteras lighthouses and spent some time on the beach in Kitty Hawk and Pea Island.

Many thanks go to Dr. McGuire and her group for all their hard work. Hopefully this will become an annual event.



Protecting Beach-Nesting Birds

By Alex Houston, Coastal Reserve Technician

In the early spring of each year, beach-nesting birds begin returning to the beaches of North Carolina's barrier islands to breed. Terns, Black Skimmers, and several species of shorebirds lay their eggs directly on the bare sand in small, shallow depressions referred to as scrapes. The beaches are a harsh environment for these species. The eggs and chicks are very well camouflaged and can be easily overlooked and trampled by pedestrians or vehicles. Their nests are vulnerable to severe weather, overwash due to storms and high tides, predators, and to human disturbance.



Each spring the N.C. Coastal Reserve, N.C. Wildlife Resources Commission, N.C. State Parks, the National Park Service, U.S. Fish and Wildlife Service, and the N.C. Audubon Society work together to post signs protecting important nesting areas for beach-nesting birds. Many boaters and beachgoers will notice signs posted along the perimeter of small estuarine islands and along the inlet areas of some of the populated and unpopulated barrier islands. It is important to respect the signs and give the birds the space they need to successfully breed. Some species, such as the American Oystercatcher, are extremely sensitive to human disturbance and, if disturbed, will leave their nests or chicks for as long as the disturbance is present. This leaves the eggs or chicks vulnerable to overheating, predators and to starvation.



If you're in an area where nesting birds are present look for adult behaviors that may indicate that a nest is nearby. Adult birds will usually call and fly around the area – some species are quite aggressive and will dive at humans who wander too close to their nests. If you see any behaviors that suggest you may be too close please move away and give these birds their space. Other things that you can do to help insure the survival of beach nesting birds are to keep your dogs leashed when in areas where nesting birds may be present; clean up any garbage that may attract predators such as gulls, raccoons, or foxes; and avoid flying kites or using fireworks near nesting areas.

Within the N.C. Coastal Reserve and National Estuarine Research Reserve two sites are routinely posted for beach-nesting birds. The Rachel Carson Reserve hosts nesting Wilson's Plovers and American Oystercatchers. On Masonboro Island one can find Oystercatchers, Wilson's Plovers, Least Terns, Common Terns and Black Skimmers.



NCNERR Hosts University Of North Carolina Intern

By John Fear, Research Coordinator

This past semester NCNERR hosted an undergraduate intern, Robert Vogt from the UNC Institute for the Environment, Morehead City Field Site. The program, which is coordinated by UNC Institute of Marine Sciences, offers undergraduate students opportunities for experiential learning in environmental science and environmental studies. Students have the opportunity to focus on microbial and phytoplankton ecology, water quality and resources, benthic ecology, wetlands, shellfish and fisheries issues, watershed-based modeling studies, coastal geology and beach renourishment. As part of this internship, the student must conduct an independent research project. Robert examined the impacts the feral horse population has on *Spartina alterniflora* in the salt marsh habitat (Figure 1) and the common mummichog minnow (*Fundulus heteroclitus*) (Figure 2) at the Rachel Carson Reserve.

Results of the vegetation survey showed significantly higher densities of *Spartina alterniflora* or Saltmarsh Cordgrass in ungrazed versus grazed plots. Also, the average heights of *Spartina alterniflora* stems were significantly higher in ungrazed versus grazed plots. In comparing fish numbers caught in minnow traps, there were significantly greater numbers of *Fundulus heteroclitus* caught in ungrazed plots compared to grazed plots. These results suggest that feral horses negatively impact marsh habitats and associated fishes.

While at the Reserve, Robert was able to interact with all of NCNERR's sectors. This enhanced the overall internship experience for the student. Cross-sectoral projects like this will continue to be a focus for NCNERR. For more information about this project or internship opportunities at NCNERR please contact John Fear at 252-838-0884 or john.fear@ncmail.net.

Summer Field Trips to the Rachel Carson Reserve

The Rachel Carson Reserve in Beaufort will be offering public field trips this summer on Tuesdays and Thursdays during the months of June, July, August and the first part of September. During low tides, the trips will be a two-hour nature hike on the Reserve focusing on the different habitats and the plants and animals that you will find in each. During high tides, a boat ride will take you to our boardwalk on Carrot Island. Below is a list of the dates. All programs are open to the public but reservations are required as boat space is limited. Call 252-838-0883 to make reservations or for more information.

June

- 23 - Boat Trip to Boardwalk (9-11a.m.)
- 25 - Boat Trip to Boardwalk (9:30-11:30a.m.)
- 30 - Nature Hike on Reserve (9-11a.m.)

July

- 2 - Nature Hike on Reserve (9:30-11:30a.m.)
- 7 - Boat Trip to Boardwalk (9-11a.m.)
- 9 - Boat Trip to Boardwalk (9:30-11:30a.m.)
- 14 - Nature Hike on Reserve (9-11a.m.)
- 16 - Nature Hike on Reserve (8:30-10:30a.m.)
- 21 - Boat Trip to Boardwalk (8:30-10:30a.m.)
- 23 - Boat Trip to Boardwalk (9-11a.m.)
- 28 - Nature Hike on Reserve (8:30-10:30a.m.)
- 30 - Nature Hike on Reserve (9-11a.m.)

August

- 4 - Boat Trip to Boardwalk (8:30-10:30a.m.)
- 11 - Boat Trip to Boardwalk (9-11a.m.)
- 13 - Nature Hike on Reserve (8:30-10:30a.m.)
- 18 - Boat Trip to Boardwalk (8:30-10:30a.m.)
- 20 - Boat Trip to Boardwalk (8:30-10:30a.m.)
- 25 - Boat Trip to Boardwalk (9-11a.m.)
- 27 - Nature Hike on Reserve (8:30-10:30a.m.)

September

- 1 - Boat Trip to Boardwalk (8:30-10a.m.)
- 8 - Boat Trip to Boardwalk (9:30-11:30a.m.)
- 15 - Nature Hike on Reserve (9:30-11:30a.m.)

2nd Annual Leadership Training: Coastal Growth Strategies for Local Elected Officials-May 7

By Whitney Jenkins, Coastal Training Program Coordinator

On May 7, the Coastal Training Program will co-sponsor the second annual Leadership Training: Coastal Growth Strategies for local elected officials. This course, to be held at New Hanover County Cooperative Extension Arboretum Auditorium in Wilmington, is designed to help local governing boards effectively integrate community water quality protection goals with growth and redevelopment.

This one-day program will improve participants' understanding of land use and water quality linkages, highlight the benefits of stakeholder and public involvement in environmental decision making, and illustrate how to integrate environmental protection and restoration into public policies and programs. The majority of the course will focus on practical local public policies, programs and projects that have been implemented in North Carolina communities. These examples demonstrate how various planning and development techniques have been used to address water quality protection or restoration, and some of the cost savings that can be realized by employing them.

The registration fee is \$15 if received before April 15 and \$20 after. Limited scholarships are available. For more information, visit the course's Web site (www.ncseagrant.org/cgs) or contact Whitney Jenkins at 252-838-0882 or whitney.jenkins@ncmail.net.

Staff News

Alex Houston started with the Coastal Reserve on Jan. 5 and will be working for two years on the research and education components of the recently awarded CICEET grant to the Reserve and NOAA to study estuarine shoreline stabilization. Alex has a master's degree in wildlife biology from Purdue University and has worked with N.C. Wildlife Resources Commission as an assistant waterbird biologist and for NOAA on sea turtles. She works out of the Beaufort office.



Dr. Bo Dame is the Coastal Reserve's new Northern Sites Manager. Bo began work on Feb. 9 and is managing the three northern sites of the reserve – Currituck Banks, Kitty Hawk Woods and Buxton Woods – from the Reserve's office in Kitty Hawk. Bo has a bachelor's degree in geological sciences from Lehigh University, a master's degree in marine science from the Virginia Institute of Marine Science, and a doctorate in coastal resources management from East Carolina University.

Did You Know?

The National Estuarine Research Reserve System (NERRS) is a network of 27 protected areas along the United States coast. It is a partnership program between NOAA and the coastal states that includes special examples of estuarine ecosystems for long-term research, education and stewardship. The NERRS consists of more than one million acres of estuarine land and water, which provides essential habitat for wildlife; offers educational opportunities for students, teachers and the public; and serves as living laboratories for scientists. Additional information is available at www.nerrs.noaa.gov.

The North Carolina National Estuarine Research Reserve is part of the NERRS and is composed of four sites: Currituck Banks, Rachel Carson, Masonboro Island and Zeke's Island. All of these sites are also part of the North Carolina Coastal Reserve Program, which includes an additional six undeveloped natural areas (Kitty Hawk Woods, Emily & Richardson Preyer Buckridge, Buxton Woods, Permuda Island, Bald Head Woods, and Bird Island). The Coastal Reserve Program's 10 sites are designated state nature preserves and will remain undeveloped and available for public use for years to come. For additional information and directions for visiting the Reserves, please go to: www.nccoastalreserve.net.





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The North Carolina Coastal Reserve protects representative coastal habitats for research, stewardship, and education purposes and is comprised of ten sites. Four of these sites comprise the North Carolina National Estuarine Research Reserve (NCNERR). The NCNERR is part of the National Estuarine Research Reserve System and is funded through a state-federal partnership program between the NC Division of Coastal Management and the National Oceanic and Atmospheric Administration. Financial support for this publication was provided by a grant under the Coastal Zone Management Act administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.



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