Soundings

Director's Note

Summer greetings!

As the heat grows more intense, so does the schedule for APNEP staff. The spring season has seen our Comprehensive Conservation and Management Plan develop from outline form to a draft document. This draft has undergone review by APNEP's advisory committees and will be released for public comment by late summer. I have been pleased with the thorough review and positive feedback received from our representative advisory committees, and we look forward to receiving new insights from the broader community. Please watch for the public release of the document, then take the time to review it and provide comments. The CCMP will guide our program and partners for the next decade, and your contributions will ensure that we are proceeding with broad-based community input and support .

Sincerely,

Bill Crowell, APNEP Director

On the calendar:
Sound Learning Teacher Institute 7/10-15 | STAC meeting 7/26 | Coastal Explorations Workshop 8/23 | Policy Board meeting 9/27

Inside this issue:

Catching Oysters with Crab Pots

In December, APNEP's Citizens' Advisory Committee approved a pilot project that aims to show how abandoned crab pots can be converted into oyster habitat. A few snips here, a cement-dip there, and voila! Instant oysters.

That's the hope, anyhow. Dr. Joel Fodrie, of UNC's Institute of Marine Sciences, saw abandoned crab traps covered in oysters, which gave him the idea to further experiment with the concept.

As the crab pots are deployed, it is likely this demonstration project will provide immediate water quality benefits in the sounds as oysters begin to attach and grow. A commonly cited statistic suggests that a single oyster can filter up to 50 gallons of water per day.

The pots are being placed in the sounds with extreme care to ensure that a wealth of ecological knowledge is gained from the

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Clockwise from left: (1) Middle marsh, which is ringed with oyster habitat; (2) D-day, when the first group of pots were secured to a shallow sand bank in Bogue Sound. Pictured left to right are David "Clammerhead" Cessna, Niels Lindquist, Joel Fodrie, and Adam Tyler (3)oyster spat growing on mature oyster substrate.

Goodbye Shad!

This spring, hundreds of children in the Roanoke and Neuse River Basins participated in the Shad in the Classroom program. APNEP worked with the N.C. Museum of Natural Sciences and the U..S. Fish and Wildlife Service to host the program at 20 North Carolina schools.

Each spring, shad eggs are transported from the Edenton National Fish Hatchery to elementary and middle school classrooms in the region. The eggs often receive a king's welcome, as students have been learning about the shad and anticipating their arrival. Once the classroom aquarium is prepared, students and teachers care for the eggs for one week until they hatch into releasable fry.

Raising shad provides students with opportunities to learn about their river basin, shad life history, and the relationship between the rivers, estuaries and oceans where shad live. Students were also able to make connections between water quality and fish health by measuring and studying pH, water temperature, and dissolved oxygen concentrations in the aquarium. The week culminates with students visiting local rivers to release the shad so teachers can supplement classroom instruction with field-based learning.

New for the Shad in the Classroom program this year are a series of videos produced by the museum. These videos give an overview of the program, show fisheries biologists in action, and instruct teachers on the proper methods to care for shad. Most notably, the program helps capture students' awe and wonder as they learn about their natural world.

The shad releases APNEP attended this year were great fun for adults and students. APNEP will continue to support this innovative education partnership in 2012 so we can prepare a new generation to tackle our toughest environmental challenges.

Top: An East Wake Middle School student watches and records a shad electrofishing demonstration by a NC Wildlife Resources Commission representative. Right: Students from Exploris Middle School say goodbye to the shad they raised. The shad were released into the Neuse River at Milburnie Dam. Photo credit: Melissa Dowland, N.C. Museum of Natural Sciences.

Nature's Classroom

In mid-May, APNEP staff attended the ribbon cutting ceremony for the opening of the Wyatt Middle School outdoor classroom and nature trail. Initial funding for the project was awarded by APNEP's Citizens' Advisory Committee, but the support of several other agencies, organizations, local businesses and community volunteers resulted in a final project far grander than expected.

The outdoor classroom consists of a pavilion and a 900-foot exploratory trail with signs that detail the connections between the schoolyard, the Meherrin and Chowan Rivers, and the Albemarle Sound. A number of features have been included in the project to help minimize stormwater runoff, including rain barrels for the pavilion roof and a dry river bed on the exploratory trail.

Even before the classroom opened, the project provided extraordinary opportunities for quality, field-based education. Students learned about water conservation as they constructed the rain barrels by hand, and the construction of the dry river bed provoked discussions about water quality. Students were involved in all phases of the construction, and though the eighth graders who worked on the project will soon move on, their work will be enjoyed by Wyatt Middle's students and the community for years to come.

N.C. Outdoor Classroom Symposium

In April, APNEP teamed up with the N.C. Office of Environmental Education and others to host the N.C. Outdoor Classroom Symposium at the N.C. Botanical Gardens. The symposium was well attended, with 200 participants hailing from all corners of the state.

The symposium featured presentations that help teachers create outdoor classrooms and integrate these spaces into their curriculum. Sessions were offered on creating natural areas and using the outdoors to connect students to scientific research and food production. The presentations were supplemented by workshops and outdoor classroom visits for educators starting or bolstering their environmental education offerings.

An important aspect of APNEP's mission is achieved through the development and support of outdoor education opportunities. APNEP's multifaceted support for environmental education provides teachers with the resources to offer unforgettable lessons about the sounds. A complex and delicate relationship exists between the Albemarle-Pamlico estuarine ecosystem and its inhabitants, and by shedding light on these relationships, we hope to promote long term stewardship of our sounds and the rivers, creeks, and marine environments that sustain them.

(Oysters, continued from page 1)

experiment. The experiment design includes a number of variables across the eight project sites. The pots were secured at different depths to observe how water depth affects colonization. Some pots have PVC coatings while others are bare wire. Also, because Virginia and North Carolina fishermen use different types of pots, this avenue was explored. Finally, some pots originating from both states were dipped in cement to see if oysters were more likely to colonize this surface type.

On May 12, the first round of pots were deployed by Dr. Fodrie and Dr. Niels Lindquist of IMS, commercial fishermen David "Clammerhead" Cessna and Adam Tyler, and Jim Hawhee from APNEP. A total of 36 pots were deployed that day, which required placing the pots according to the experimental design, then securing them to the sandy bottom of the sounds using rebar bent for this specific purpose.

Want to see more pictures? Check out our albums on Facebook and Flickr!

From top: (1) Wyatt Middle students watch the ribbon-cutting ceremony from within the outdoor classroom. (2) Mike Dunn of the N.C. Museum of Natural Sciences works with two teachers to identify aquatic flora and fauna. (3) A group of teachers visits the outdoor classroom at Yates Mill Elementary School . This area was designed to filter water flowing into Swift Creek and the Neuse River while also supporting the school's environmental education curriculum.

Linking In with APNEP

In our spring edition of Soundings, we included an overview of the media platforms we use to tell our story. One of those platforms is LinkedIn, a professional networking site. During the past few months, many of our advisory committee members, staff members and other environmental professionals have joined our group and subgroups to comment on environmental developments that relate to our region. They have also started networking with each other, strengthening the professional bonds necessary to implement management initiatives on an ecosystem scale. The site has many interesting features, including detailed professional profiles, status updates, discussion forums and controls that allow you to keep up with the conversation as often as you choose. At the staff level, we enjoy the fact that conversations can occur across advisory committees and between members of our broader community. For those of you with a professional interest in our region, we invite you to connect with our group on LinkedIn.

Correction:

In our spring edition, the photo below was captioned "A trumpeter swan grazing in a North Carolina wetland habitat. " However, the bird shown below is actually a tundra swan. Thanks to Ricky Davis of Rocky Mount, NC for the correction.

Our mission: To identify, protect and restore the significant resources of the Albemarle-Pamlico estuarine system..

Shoreline Restoration at Bogue Banks

In April, APNEP staff rolled up their sleeves and assisted with two shoreline restoration projects in Carteret County. Both projects received financial support from APNEP and were spearheaded by the N.C. Coastal Federation. The N.C. Division of Marine Fisheries and Carteret Community College also supported these projects, which were located on their respective campuses.

Restoration efforts like these provide important water quality benefits for the adjoining sound, as runoff from the large parking lots are filtered through the new marsh habitat (*Spartina sp.).* The marsh also helps prevent shoreline erosion by stabilizing the soil. Finally, the effort has created unique learning opportunities. Dozens of Croatan High School students learned about water quality issues by assisting with the project, and the greater community will continue to learn about the significance of these efforts though on-site educational materials.

Above left: APNEP funded demonstration projects include signage that relate project work to the greater mission of protecting the sounds. This "Living Shorelines sign will educate visitors to the N.C. Division of Marine Fisheries facility in Morehead City. Above: Lexia Weaver of the N.C. Coastal Federation and APNEP staffer Scott Gentry undertake marsh restoration at Carteret Community College. Below left: Students from Croatan High School assisted at both restoration sites. Here, they are shown finishing work at the marine fisheries campus.

The Doctor is In

Congratulations to APNEP director Bill Crowell, who recently earned his Ph.D. in Sustainability Education from Prescott College. Bill's dissertation examined how N.C.'s certified environmental educators understand and communicate concepts of sustainability. Bill will be presenting this research again locally at the North American Association for Environmental Education conference, which will be held in Raleigh this October.