

Soundings

Newsletter of the Albemarle-Pamlico National Estuary Program (APNEP)

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Director's Note

Greetings! Summer is truly flying by this year, and we hope that all of our readers had a safe and happy 4th of July. On June 30, the APNEP Citizens' Advisory Committee held a productive meeting in which they made decisions about the use of their 2010 funds to support water quality projects on public lands in the APNEP region. We would like to welcome our newest staff member, Todd Herbert, to the APNEP team. Todd will be our new Virginia field representative, and you can learn more about him in the article on page three.

The U.S. House Interior Appropriations Committee voted to direct \$28 million to the National Estuary Program grants, authorized by section 320 of the Clean Water Act. The Committee also directs that each national estuary receive a minimum of \$1 million. The full house and senate will need to approve the budget. It still has several months to go.

-Bill Crowell, APNEP Director

N.C. Coastal Federation Releases 2009 State of the Coast Report



North Carolina's beaches are caught in a tightening grip between the sea and development. The 2009 State of the Coast Report examines what needs to be done to ensure that our beaches are protected into the future.

To view the report, visit:

<http://www.nccoast.org/publication/socreports/>

Upcoming Events

July

12-17 – 2009 Teacher Institute,
Pine Knoll Shores, N.C.

18 – Introduction to Kayaking (Free),
Cliffs of the Neuse State Park,
Seven Springs, N.C.

19-24 – Eastern 4H Marine Science &
Sailing Camp for Teens, Columbia, N.C.

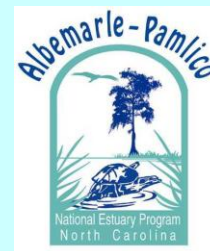
22 – APNEP Science & Technical Advisory
Committee Meeting, Location TBA

23 – Red Wolf Recovery Program Teacher
Workshop, Columbia, N.C.

28-29 – Workshop: Introduction to LEED &
LID, N.C. State University, Raleigh, N.C.

31 – Barrier Beginnings Workshop,
Fort Macon State Park, Atlantic Beach, N.C.

All Month – Crunch, The Giant Alligator
Snapping Turtle Exhibit, N.C. Aquarium at
Pine Knoll Shores



Visit the calendar at www.apnep.org for
more detailed event information.

Education Special Report: Fish Kills

A fish kill is an event in which dead or dying fish are observed in a water body. Reports of fish kills are often documented in the news, but what really causes them, and who should be contacted if you see one? Read on to find out.

Naturally Occurring Fish Kills

The most common cause of fish kills is low dissolved oxygen levels in the water. Just like people, fish need to breathe oxygen to survive (except that fish breathe through their gills instead of having lungs). These types of fish kills usually affect many different sizes and species of fish. Large fish tend to be affected the most, and smaller fish can be seen gulping for air at the surface just before the fish kill. Oxygen dissolves into water in two ways: from the atmosphere via diffusion, a process accelerated by wave action, and via photosynthesis, a process that plants undergo to gather energy from the sun. Water temperature affects how much oxygen water can hold, and warmer water is able to hold less oxygen than cooler water. Also, warmer water speeds up a fish's metabolism, causing it to breathe more. In the summer when temperatures are warm and air becomes stagnant, the conditions described above can cause naturally occurring fish kills. This usually happens just before dawn when plants have gone all night without photosynthesizing, reducing oxygen levels.

In estuarine environments (areas where salt and fresh water meet), low rainfall also can play a role in fish kills. When rain is scarce, estuarine waters are not mixed as well and can form stratified layers, with lighter freshwater on top and heavier saltwater on the bottom. When stratification occurs, the bottom layer of water tends to have much lower oxygen levels than the top layer, even though the temperature is warmer on top. If the volume of water in the bottom layer is much greater than the top layer, dissolved oxygen can get dangerously low throughout the water column, potentially causing a fish kill.

Human-Induced Fish Kills

Human impacts can also lead to fish kills. In the United States, reductions in point source pollution in recent decades have reduced associated problems dramatically, but accidents can still occur. Spills of toxic substances can affect a water body, as can nontoxic substances if spilled in large enough quantities to change water properties such as temperature and pH.

Do ALL of the Fish Die?

Although you may see a lot of dead fish in the water, there are usually many more that are still alive. Fish can usually find many places to seek refuge. Because fish lay many eggs, populations are generally able to rebound from a fish kill within a few years.

- For more information about fish kills, visit:

A Beginner's Guide to Water Management - Fish Kills,

http://lakewatch.ifas.ufl.edu/circpdfolder/fish_kill_LR.pdf

- For information about reporting a fish kill in Virginia, visit:

<http://www.deq.state.va.us/info/report.html>

- For information about reporting a fish kill in North Carolina, visit:

<http://www.ncwaterquality.org/esb/Fishkill/fishkillmain.htm>

- For information about *Pfiesteria piscicida*, a tiny marine organism in estuaries that has been blamed for killing fish and causing health problems in humans, visit:

<http://www.pfiesteria.seagrant.org/>



APNEP Welcomes New Staff Member Todd Herbert

APNEP's new Virginia field representative, Todd Herbert, is a native of the Tidewater, Va. area and joins our program with a wealth of experience in environmental management and community involvement. Todd received a master of science in biology from Old Dominion University in Norfolk, Va. before working for two years as a biologist for the National Wetlands Research Center. His work focused on root morphology and the contributions of below ground processes to elevation change in coastal wetlands. Todd also has two years of experience processing and evaluating Virginia Water Protection Permits for the Virginia Department of Environmental Quality and three years of experience as a marine scientist supervisor for the Virginia Institute of Marine Science. Todd's duties in this new position will include putting together Total Maximum Daily Load implementation plans, serving as a research assistant to the Center for Wetland Conservation at Newport University, and participating as APNEP's liaison to various community outreach programs in Virginia. In his free time, Todd enjoys kayaking and playing the guitar.

Wake County Creates 12 New Oyster Shell Recycling Sites

Wake County Solid Waste and the N.C. Division of Marine Fisheries opened oyster shell recycling drop-off areas at all 11 county waste convenience centers and the county's landfill in Apex on June 25.

Wake County restaurants produce the highest volume of shells in the state. In 2008, the program collected more than 5,000 bushels of shells from four Wake County oyster bars participating in a pilot project. This project will provide a way for these restaurants to re-join the recycling efforts, and allow other businesses and the public to drop off their discarded shells.

The N.C. General Assembly has established tax credits for shells donated to the Division of Marine Fisheries. A scale house is available at the Apex landfill for businesses and individuals wanting to document a donation for tax credit purposes.

Recovery Act Puts Industry to Work Building North Carolina's Oyster Reefs



Through National Oceanic & Atmospheric Administration (NOAA) Recovery Act funds, the N.C. Coastal Federation, working closely with the N.C. Division of Marine Fisheries, scientists and other private industry partners, received a \$5 million grant to put private industry to work rebuilding the state's oyster reefs. The project will save or create 140 jobs, many of which are in industries hard-hit by the economic downturn, such as commercial fishermen, quarry workers, tug boat and barge operators and fisheries technicians.

The funds will be used to build two large oyster sanctuaries in the Pamlico Sound, one off Hatteras at Clam Shoal and one off Stumpy Point at Crab Hole. The oyster reefs, which will be created with 54,000 tons of stone rip rap, will cover more than 46 acres. The reefs will be designated oyster sanctuaries and will not be available for harvest. However, they have valuable benefits for commercial and recreational fishermen as nurseries for oysters and valuable species of fish. Computer modeling studies have shown that these oyster reefs produce larvae that travel to other areas of the Pamlico Sound.

Another component of the project pays fishermen to plant 40,000 bushels of oyster shells in 19 locations from Ocracoke to Myrtle Grove Sound in Topsail. This project, which the Division of Marine Fisheries will begin in the spring, will provide supplemental income for many fishermen. The project will be monitored by a team of scientists from N.C. State University, UNC- Wilmington and the N.C. Sea Grant.

NOAA's community-based restoration program is tasked with creating and protecting coastal habitats. The American Reinvestment and Recovery Act created jobs and added protection to their charge. The NOAA Community-based Restoration Recovery Act grant program provided \$167 million for 50 projects.

For more information, contact APNEP Policy Board member Todd Miller at (252) 241-0191, or visit www.nccoast.org.



APNEP News in Brief:

APNEP to Co-Sponsor N.C.'s first Outdoor Classroom Symposium in October



N.C. Outdoor Classroom Symposium



North Carolina's first Outdoor Classroom Symposium will be held Oct. 23 at the N.C. Botanical Garden in Chapel Hill. The symposium will be co-sponsored by APNEP, the N.C. Office of Environmental Education, the Environmental Education Fund and the Natural Learning Institute at N.C. State University. It will focus on techniques for creating, maintaining and using outdoor classrooms and strategies for integrating outdoor learning into the curriculum.

Symposium registration is scheduled to open in August 2009. Please check future APNEP newsletters for more information.

U.S. Fish and Wildlife Service to Host Public Meetings on Coastal Barrier Resources System Pilot Project Units

The U.S. Fish and Wildlife Service, or FWS, will conduct several virtual town hall meetings on the recently submitted Report to Congress: John H. Chafee Coastal Barrier Resources System Digital Mapping Pilot Project. FWS is soliciting public input on the report and draft maps during a 120-day public comment period that closes on Aug. 5.

Public meetings will be held via Web cast and teleconference July 14-15. They will provide an overview of the pilot project effort and an opportunity for questions and answers. Members of the public planning to participate must register at:

http://www.fws.gov/habitatconservation/coastal_barrier.html by close of business July 10. Registrants will be provided with participation instructions via e-mail. Participants must have access to a computer and telephone to participate.

Invitation to Provide Input for NOAA'S Strategic Course

The National Oceanic and Atmospheric Administration cordially invites you to attend a public forum to discuss current and future issues, opportunities and challenges that may be faced by coastal and ocean managers, advocates, industries and educators in the next 25 years. The discussion will take place on June 21 in Boston. The discussion will focus on: What trends will shape our long-term future? How will issues such as climate change, the economy and new technology influence our environment, the nation, the world? What are the major issues that we as a country need to focus on - water supply, pollution, resource scarcity? How can NOAA focus its near-term objectives and long-term goals to address these issues? When it comes to the coasts and oceans, what do you care about, and what should we do about it?

Please RSVP to Tracy Rouleau or Lisa Iwahara (tracy.rouleau@noaa.gov or lisa.iwahara@noaa.gov) if you plan to attend.

Remembering Jim Stephenson

The APNEP community mourns the untimely passing of our friend, supporter and devoted conservationist Jim Stephenson on May 28. Jim was the policy director for the N.C. Coastal Federation and a partner in many of APNEP's efforts to protect and restore our estuarine system. Prior to joining the NCCF, he served as the executive director of the Pamlico-Tar River Foundation. Jim's positive relationships in and around the legislature led to a number of significant conservation actions in North Carolina.

As always, thank you for taking the time to read our newsletter. Please direct any questions or comments to Lori Brinn at:

Lori.Brinn@ncdenr.gov.

