



Michael P. Voiland, Executive Director, 919/515-2455

## North Carolina Sea Grant Highlights 2009-2010

North Carolina Sea Grant has had yet another successful year. Research and outreach efforts have focused on a wide variety of coastal topics, from fisheries and water quality to sustainable development, local seafood marketing and marine education. In 2010, a new round of research will begin. Topics for 11 major projects include use of sea oats in stabilizing dunes, job training for the wind-energy industry, impacts of sea-level rise on tourism, and flounder aquaculture.

Sea Grant continues to coordinate leadership for NOAA in the Carolinas, as well as engage in partnerships with various state agencies. For example, our N.C. Coastal Resources Law, Planning and Policy Center led an in-depth review of the state's policies regarding the coastal ocean waters. The two-year study considered sand management, ocean aquaculture, energy resources and other topics. The N.C. Coastal Resources Commission is now considering the study panel's recommendations. Other examples of Sea Grant impacts include:

With Sea Grant support, the state has four community-based seafood programs: **Carteret Catch, Brunswick Catch, Ocracoke Fresh and Outer Banks Catch**. All four can use Sea Grant's *Local Catch* wallet cards, and link to recipes and other information on the *Mariner's Menu* blog.

**Oyster research** results — including larval movement/settlement and disease-resistant stocks — have factored into the design and location of new reefs, including a \$5 million project in Pamlico Sound funded by a federal stimulus grant.

Dozens of local officials participated in a **growth strategies course** that included Sea Grant's new *Sustainability Series* and tours of Wilmington sites that demonstrate land-use planning to improve water quality. The 2010 session will be in Currituck County.

**Spiny dogfish** projects include fishermen working with academic researchers through the **Fishery Resource Grant Program**, one of two state-funded research programs that Sea Grant

administers. Determination of dogfish population numbers and sub-stocks led to revised management plans.

Nearly 12,000 students annually benefit from teachers' participation in **marine education programs** sponsored by Sea Grant and COSEE-Southeast. The *Our Amazing Coast* workshops are the inspiration for a new book for teachers and the general public.

Work with the N.C. Building Code Council resulted in revised **wind-borne debris zoning** that now saves property owners in 10 coastal communities more than \$775,000 in flood insurance premiums each year.

North and South Carolina Sea Grant programs have jointly deployed and overseen the public educational programs of the nation's first **climate extension specialist**.

**RecText**, an innovative text-message protocol for gathering recreational fishery data has gained international attention as a model for

citizen science efforts. The state funded an expansion of Sea Grant's pilot study.

A demonstration project in Duplin County is piloting the state's first **commercial aquaculture operation** for southern flounder. Other aquaculture research focuses on black sea bass, oysters and bay scallops — and one project is looking at potential black pearl culture. Sea Grant's ongoing research and extension efforts on hybrid striped bass have resulted in a \$10 million state industry based on 12 bass culture businesses.

Efforts to help processors move away from a seafood "commodity" approach have provided unique **seafood salads, spreads, entrees and other dishes** for companies in Pamlico, Carteret and Dare counties. Also, four marketing workshops helped 40 individuals create or change business plans.

The Rocky Branch **stream restoration** project on the NCSU campus is a living laboratory for students, researchers, engineers and landscape designers to see natural channel design and the "daylighting" of a waterway that had been diverted into a culvert and hidden under asphalt.

**Soft-shell crabs** are a seafood delicacy — and a major economic driver in coastal communities. The state has about 300 commercial crab shedding operations. Sea Grant has worked with these enterprises to improve water quality in the tank systems to help increase the return on investment.

The **N.C. Birding Trail** has expanded from the coast to the piedmont and the mountains. Now Sea Grant is helping trail officials identify opportunities to use social media to encourage visitors from around the state, the nation and beyond.

North Carolina's unique location provides a wide **variety of fisheries** — some in the northern end of their range and others in the

southern end. Fisheries research helps state and federal officials manage these species that do not recognize state or federal boundaries. Also, research on stocks and movement of **protected species**, such as sea turtles, bottlenose dolphins and pilot whales, provide data for management plans.

Research identifying effects of **sea-level rise** on the state's coastal region have become a primary reference for deliberations and analyses by a state legislative commission, state and federal agencies, The Nature Conservancy, and EPA's Albemarle-Pamlico National Estuary Program.

Sea Grant's construction and erosion specialist serves on the state's **Science Panel on Coastal Hazards** that provides research analysis for inlet hazards, oceanfront setback, etc. Earlier work recommended state **coastal construction code** provisions that pilings extend at least five feet below mean sea level.

In February 2010, the state expects to complete the last purchase of sites underwritten by the \$20 million **Waterfront Access and Marine Industry Fund**, a legislative initiative that resulted from recommendations of a study committee led by Sea Grant in 2006-07.

Sea Grant continues to earn **laurels**. *Coastwatch* and *www.ncseagrant.org* took state and/or national honors. Staffers also received awards from The Coastal Society and the state's Order of the Long Leaf Pine, while a researcher earned a major National Science Foundation award to expand Sea Grant-funded research on the formation of rip currents.

Our communicators are working with **Google Earth's new ocean portal**, generating opportunities to showcase North Carolina research results to a worldwide audience. Other online efforts include a YouTube channel and Facebook page.