

Brown Tide Activity 1998

The Peconic Bays of Long Island remained relatively free from brown tide for the third consecutive year in 1998, with neither Rhode Island nor New Jersey reporting any bloom activity. Delaware Sea Grant, though, reported brown tide algal cells for the first time in the state's inland bays. Also, brown tide bloomed in isolated embayments of Long Island's east end and south shore. A short, but relatively intense bloom occurred in West Neck Bay on Shelter Island that started in June and ended by late July. Sergio Sañudo-Wilhelmy, a BTRI principal investigator from SUNY at Stony Brook's Marine Sciences Research Center (MSRC), and Sea Grant Scholar Christopher Gobler have been finding out why. During the annual symposium, Gobler presented possible reasons for last year's bloom activity in West Neck Bay. According to his report, the bay has been a brown tide "hot spot" in previous years mainly because of increases in the area's enriched nitrate levels during the wet spring season.

Fitting Together Pieces of the Brown Tide Puzzle



Brown Tide investigators at the symposium are (l. to r.): José Giner, SUNY College of Environmental Science and Forestry in Syracuse, NY; Robert Andersen, Bigelow Laboratory for Ocean Sciences in Maine; David Caron, Woods Hole Oceanographic Institution; Maureen Keller, Bigelow Laboratory; and Darcy Lonsdale, SUNY at Stony Brook's MSRC.

On Saturday, April 10, New York Sea Grant hosted the third annual Brown Tide Research Initiative (BTRI) Informational Symposium in Westhampton Beach. The symposium featured talks by scientists who charted their research progress on the microscopic alga *Aureococcus anophagefferens* which has intermittently plagued areas of Long Island's coastal waters since 1985, severely impacting eel grass populations and devastating the once-thriving Peconic estuary bay scallop industry.

Early on in their joint efforts, BTRI investigators David Caron and Darcy Lonsdale hypothesized that one of the factors that triggers brown tide is the inability of certain small animal plankton grazers to control the abundance of

brown tide by feeding on it. They cite that if these grazers do not eat the brown tide organism, the algae population may increase, possibly leading to a bloom. Caron presented an analysis of last summer's data indicating how certain experimental conditions could artificially induce a bloom.

In their latest work, BTRI investigators Patricia Glibert and Todd Kana from Horn Point Environmental Laboratory in Maryland have been analyzing how and what kinds of nutrient supplements brown tide uses to foster growth. According to Glibert, growth is intimately tied to the light-dark cycle such that at night *Aureococcus* fits into a pattern of reduced negative growth when certain organic compounds are present. Although *Aureococcus* may function best under conditions of higher light intensity, the alga may have a mechanism to function in low light situations, possibly giving it a competitive advantage over phytoplankton.

A joint effort of NYSG and the National Oceanic and Atmospheric Administration's Coastal Ocean Program, BTRI was launched in 1996 as a means to coordinate efforts in brown tide research and awareness. Scientific findings and results resulting from the multi-year program are documented in a series of reports. See page 15 for brown tide publications and web sites. Additional funding for the six-hour public symposium was provided by SUNY at Stony Brook's Living Marine Resources Institute (LMRI), the Department of Environmental Conservation, and the Peconic Estuary Program.



A *Newsday* reporter (far right) discusses BTRI initiatives with (clockwise) NYSG's Assistant Director Cornelia Schlenk, Brown Tide Outreach Specialist Patrick Dooley and Susan Banahan, project manager from NOAA's Coastal Ocean Program and member of the BTRI steering committee. Banahan emphasized the importance of BTRI's existence, saying, "For many locations across the country, the issue of harmful algal blooms has become a growing problem, one that hasn't received a great deal of monitoring."

Photos by Barbara A. Branca