

SOUND SCIENCE FOR LIS



Several newly-funded projects will conduct experiments from the research vessel *RV Seawolf*, seen here docked in Port Jefferson Harbor on Long Island Sound.

Photo by Barbara A. Branca

The Sea Grant programs of Connecticut and New York have awarded nearly \$820,000 in Long Island Sound Study research grants to five projects that will look into some of the most serious threats to the ecological health of Long Island Sound (LIS), a water body designated by the U.S. Environmental Protection Agency as an Estuary of National Significance.

This research addresses the historical problem of the Sound's low oxygen conditions as well as emerging issues of red tide and the effects of climate change on the Sound's ecosystem. Research results from the two-year projects are expected to provide valuable information to resource managers throughout the LIS watershed.

Several projects will examine hypoxia—the condition of low oxygen that presents numerous environmental challenges. “The focus on the important issue of hypoxia in LIS in many of these projects should greatly increase our understanding of the detailed causes of this problem and will be important in our efforts to solve it,” said **Dr. James Ammerman**, director of New York Sea Grant.

Research will be conducted on the chemical, physical, and biological factors that contribute to the hypoxic or low-oxygen conditions at the bottom of Long Island Sound. **Dr. Mark Altabet** of the Department of Estuarine and Ocean Science, School of Marine and

Technology, University of Massachusetts, Dartmouth will look at the geochemistry of dissolved gases in the Sound to gain insight into oxygen exchange between surface and bottom waters. **Drs. Robert Wilson** and **Brian Colle** of the School of Marine and Atmospheric Sciences (SoMAS), Stony Brook University will partner with **Dr. Daniel Codiga** of the University of Rhode Island to evaluate the relationship between summertime storms and hypoxia.

Also at Stony Brook's SoMAS, **Drs. Darcy Lonsdale** and **Christopher Gobler** will look at seasonal temperature differences and the effects on the Sound's food web. In a separate study, Gobler will study the causes and impacts of recent red tide blooms in the Coves and waters of the Sound. **Drs. Kamazima Lwiza** and **Gordon Taylor** of SoMAS will investigate phytoplankton and microbial production and mortality and their effects on the Sound's bottom water oxygen.

“The range of projects we are funding builds squarely upon the existing body of knowledge about Long Island Sound and will fill in some of the remaining gaps,” said **Dr. Sylvain De Guise**, director of Connecticut Sea Grant. “The results will help to conserve the Sound for current and future generations.” “With an initial meeting this spring in Stony Brook, the researchers are off to a great start,” adds NYSG's Ammerman.

“These projects will improve our understanding of some of the critical issues facing our estuary,” said **Mark Tedesco**, director of the US EPA's Long Island Sound Office, which manages the Long Island Sound Study partnership, and which provided the majority of funds for the Sea Grant-administered research projects. Since 2000, the Long Island Sound grant program has awarded 26 grants to scientists whose work helps meet the needs of decision-makers to improve the management of Long Island Sound.

The Long Island Sound Study, conducted under the EPA's National Estuary Program, is a cooperative effort between the EPA and the states of Connecticut and New York to restore and protect the Sound and its ecosystems.

— **Barbara A. Branca**