

[an error occurred while processing this directive] [an error occurred while processing this directive]



Environmental Journal



Book draws together latest scientific knowledge on Bay

01:00 AM EST on Sunday, March 9, 2008



Fishermen work on their boat in Bristol Harbor in this file photo from last year. The book, below, grew out of a November 2004 symposium for scientists on nutrients in Narragansett Bay that was prompted by a massive fish kill in Greenwich Bay in the summer of 2003. The fish kill was caused by extremely low oxygen conditions.

The Providence Journal / Bob Thayer

Some people just can't get enough of Narragansett Bay.

Those people, as well as scientists, teachers, municipal leaders, policy makers and students, might be interested in a new book of science about the bay called Science for Ecosystem-Based Management — Narragansett Bay in the 21st Century.

Edited by Barry A. Costa-Pierce and Alan Desbonnet, the director and assistant director of the Rhode Island Sea Grant program, the 570-page book includes papers by 49 scientists who constitute a Who's

Who of biologists, geologists and oceanographers at the University of Rhode Island, Brown University and Roger Williams University who are studying the Bay now or did so before moving on to other posts.

The book summarizes the last 25 years of science done on the Bay. It focuses on nutrient issues, but Desbonnet says, "It absolutely doesn't solve the nutrient issues."

The book does not address fisheries issues, which the editors said could fill another volume.

The editors asked the scientists to present their work in a more approachable manner so it would be palatable to policymakers and others who don't have strong science backgrounds.

"It is impeccable science and all of it is peer reviewed [reviewed by other scientists]," Desbonnet said last week. "But Barry and I tried to make it easier reading."

The book is filled with maps and charts and photographs. It initially went on sale for \$89.95, but Amazon.com last week was selling it for \$83.20.

Desbonnet said most science books cost significantly more, but Sea Grant worked with the publisher, Springer, to try to keep the cost down.

"We said we wanted it to be affordable to the average resource manager," Desbonnet said.

"It is a wealth of information," Desbonnet said. "It is the benchmark for information on the Bay that will hold the line for some time. It's already being picked up and used by other scientists."

The book grew out of a symposium for scientists on nutrients in Narragansett Bay that was held on Block Island in November 2004. The symposium was prompted by a massive fish kill in Greenwich Bay in the summer of 2003. The fish kill was caused by extremely low oxygen conditions. The state's response was to order sewage treatment plants to dramatically reduce the nutrients they discharge, a development that will cost taxpayers millions of dollars.

Desbonnet writes that more than 50 scientists and resource managers "locked themselves away at the Hotel Manisses for two long days of intense and spirited debate about the status of nutrient enrichment in Narragansett Bay, and what changes might be expected from the implementation of a nitrogen reduction program."

"Detailed scientific presentations were given, followed by heated arguments and passionate debates," writes Desbonnet, "which led to agreement on some issues, but raised infinitely more questions regarding the current ecological function of the Bay relative to nutrient availability and climate change."

The symposium led to a call for papers for the new book, the first to review science of the Bay since Stuart O. Hale's *Narragansett Bay: A Friend's Perspective* was published in 1980.

Desbonnet wrote that the scientists looked at how the Bay will react as it "slims down" with its forced reduction of nutrients. And he said he hopes the book will help the state use an ecosystem-based management system for the Bay. Such a system would seek to manage the Bay in its entirety, rather than species by species, and monitor conditions closely so the state could react to changes.

Using different methods, scientists arrived at two theories about nitrogen flowing into the Bay. Stephen Hamburg and others at Brown concluded that the flow has increased in recent decades. Scott Nixon and

others at URI believe the flow has stabilized.

“Both authors agree that nutrient impacts are currently concentrated in the upper reaches of the Narragansett Bay ecosystem, and that those impacts are mainly sewage-fueled,” the editors concluded.

The editors also wrote: “There is a consensus among the scientists contributing to this volume that climate change is distinct and very strong in Narragansett Bay, and that it is changing the Bay’s ecology.”

The editors say the research supports managing the Bay in “ecofunctional” zones — primarily an urbanized upper Bay and a rural “South County” Bay.

Still unsettled, they wrote, is whether the nitrogen-reduction measures imposed by the state will make the Bay healthier. And if not, whether urban residents will pay the higher costs to reduce nitrogen even further.

Finally, they conclude, the latest science provides an opportunity to better manage the Bay, using ecofunctional zoning concepts and ecological engineering.

Grant to pay for Bay hypoxia study

A team of scientists led by Candace Oviatt at the University of Rhode Island’s Graduate School of Oceanography has been awarded a \$270,803 grant to study hypoxia, or no oxygen zones, in Narragansett Bay, according to U.S. Sen. Jack Reed and Rep. Jim Langevin.

The grant, awarded through the National Oceanic and Atmospheric Administration at the U.S. Department of Commerce, will support development of models to predict the distribution of hypoxia under different nutrient conditions.

The data will be provided to resource managers to evaluation strategies for proposed nutrient controls.

New Web site lists R.I. green events

A new Web site that publicizes green events in Rhode Island has been set up at www.WhatGrowsOnRI.com by Sue Korté of Providence.

The brightly colored site includes a calendar of green conferences, radio shows, trail hikes, public hearings by government agencies, lectures and farmers’ markets.

Korté says she hopes to line up sponsors to support the site so it can be the reliable place to go for information on green events throughout the state.

To contact Korté call (401) 273-6678 or write to postinfo@providentialgardener.com.

Ninigret walk set for tomorrow

The U.S. Fish & Wildlife Service celebrates its 105th anniversary tomorrow. The agency is celebrating locally by leading a guided walk to Grassy Point in the Ninigret Wildlife Refuge in Charlestown from 3 to 4 p.m. Meet at the east entrance to the refuge.

Workshop to focus on well-protection

A workshop on protecting private drinking water wells is scheduled for 7 to 9 p.m. Thursday, in the Burrillville Middle School auditorium.

The workshop is offered by the University of Rhode Island cooperative extension and the state Department of Health and hosted by the Northern Rhode Island Conservation District and the Conservation Commissions of Burrillville and North Smithfield.

There is no charge, but registration is required. Call (401) 874-4918.

Meeting addresses faith and warming

A faith-based meeting to organize support for the Rhode Island Global Warming Solutions Act is scheduled for 7 p.m. tomorrow at the Beneficent Congregational Church at 300 Weybosset St., Providence. For more information, go to riipl.org.

The Environmental Journal is a listing of brief news items about the actions of individuals, organizations and businesses that affect the air we breathe, the water we drink and the landscape that surrounds us. If you have comments or suggestions, please contact environment reporter Peter B. Lord at (401) 277-8036, or by e-mail at plord@projo.com or by writing him, care of The Providence Journal, 75 Fountain St., Providence, RI 02902.