

Guiding Ecosystem-based Management principles:

- Activities in and uses of the coastal ecosystem are sustainable
- Ecological health and integrity is maintained
- Emphasis on collaboration
- Broad public participation occurs in planning and decision making
- Integration of ecological, social and economic factors
- Decisions are informed by good science
- When risks are uncertain, caution is applied
- Ecosystems' interconnections among land, air and water are recognized

Great South Bay Ecosystem-based Management (EBM) Demo Area

Volume 2, Issue 1

Winter 2009

Report Calls for Action to Improve New York's Coastal Ecosystems

The New York Ocean and Great Lakes Ecosystem Conservation Council (The Council) has issued a draft report entitled, *Our Water, Our Communities, Our Future* which recommends the implementation of Ecosystem-based Management (EBM). The report outlines the many challenges facing New York's coastal ecosystems, including stormwater runoff, declines in fish habitat, beach closures due to pollution, wetland losses, and an increased demand for new sources of energy. While existing approaches have been effective at dealing with past challenges, a new generation of challenges require new solutions and new ways of making decisions. The draft report is available for public review and comment. There were a series of *community conversations* (see page 4) held across the state to familiarize the public with the report's findings and to solicit input.

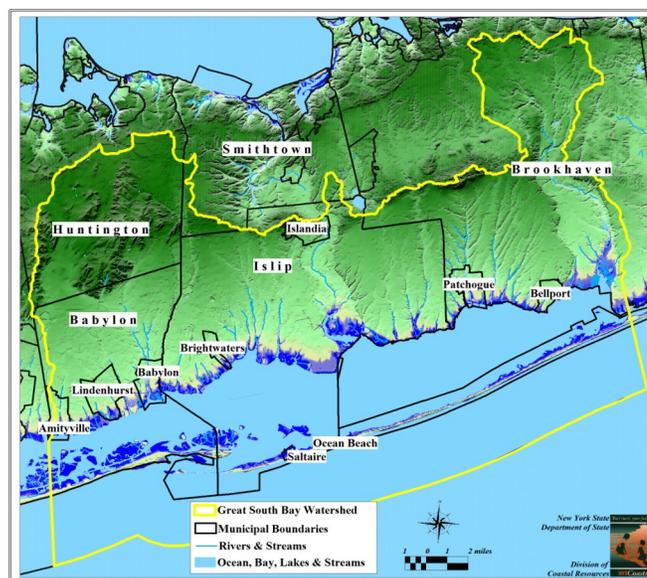
EBM Refresher: EBM is not new or revolutionary, but it is evolutionary — an approach that builds on existing programs, successes and lessons learned. EBM is place-based and considers not only the natural ecosystem, but also the economy and the human interactions within the system in order to ensure a productive and sustainable ecosystem for the future. The EBM approach coordinates the efforts of various partner agencies in addressing issues of water and land use, water quality, capacity building and research needs.

In an effort to gain on-the-ground experience in applying EBM principles, two demonstration projects were established: the Great South Bay on Long Island and the Sandy Creeks Watershed on the eastern shore of Lake Ontario.

The GSB demonstration project area (see map insert) includes the central region of the South Shore Estuary Reserve, including tributaries to the Great South Bay and the Fire

Island barrier island. The demonstration area extends from the Nassau/Suffolk County line on the west to the Carmans River on the east. Recent GSB projects that demonstrate actions consistent with the principles of EBM include the installation of a fish ladder on the Carmans River, nitrogen loading research, and hard clam restoration efforts in GSB (see articles).

To access the draft report, appendices, press material, and to view additional information, visit the Council's website: www.nyoglecc.org.



Great South Bay EBM Demonstration Area

Fish Ladder Succeeds on the Carmans River

The Carmans River fish ladder project is an excellent example of ecosystem-based management in the Great South Bay Demonstration Area.

An Alaskan “steep pass” style fish ladder (*see photos*) was installed on the Carmans River at the Hards Lake Dam in March 2008. The fish ladder project was implemented in a successful effort to restore diadromous fish populations to Great South Bay tributaries. (Diadromous fish are species that spend part of their life cycle in both marine and fresh waters).

The project results from a partnership consisting of non-profit conservation organizations and state, local and federal government agencies. The \$200,000 project was funded through the Fish America Foundation, the National Oceanic and Atmospheric Administration Restoration Center (\$42,000), the NYS Department of Transportation (DOT), and the Environmental Initiative Program (\$158,000).



Installation of the fish ladder was completed by the NYS Department of Transportation under NYS Department of Environmental Conservation supervision. It was designed by staff from NYSDOT Region 10 & the U.S. Fish & Wildlife Service.

In the past, free-flowing freshwater tributaries to estuaries served as prime spawning habitat for several species of diadromous fish including river herring, brook trout and eels. However, their populations have been threatened by physical barriers that block historic migratory spawning routes (e.g. dams, culverts, or other barriers).



Partners with completed fish ladder at March 2008 dedication ceremony

Almost immediately upon completion of the fish ladder, populations of alewife were observed using the ladder and moving into the freshwater habitat portions of the Carmans.

To learn more about diadromous fish please visit the following websites:

<http://www.nmfs.noaa.gov/habitat/habitatprotection/anadfish/index2.htm>

http://www.estuary.cog.ny.us/council-priorities/living-resources/alewife_survey/alewife_survey.htm

Hard Clam Restoration in Great South Bay Shows Signs of Progress

A four year \$3 million hard clam restoration effort in Great South Bay has shown encouraging preliminary results. The restoration effort is a key ongoing activity of the Great South Bay Demonstration Area. Led by the Long Island Chapter of The Nature Conservancy, the hard clam restoration effort includes research scientists, county and local governments, baymen and state agencies. The project would not have been possible without the support of Suffolk County. Suffolk County contributed \$1 million to the clam restoration work and also a significant amount to nitrogen loading research.

As part of the partnership effort, a coordinated survey of the entire Bay identified the presence of juvenile clams that may be offspring of the over 3 million adult spawner clams placed in the Bay since the project's inception in 2004.



The Nature Conservancy crew loads adult spawner clams to be distributed in Bluepoints Bottomland waters.

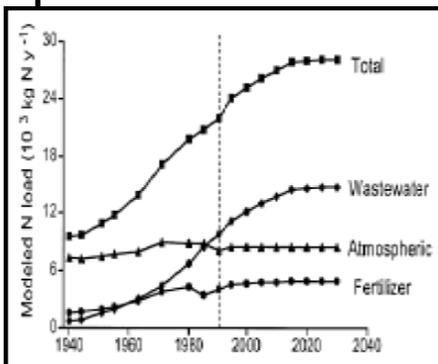


Juvenile clams are about the size of a fingernail.

For more information, visit The Nature Conservancy's website at: <http://www.nature.org/wherewework/northamerica/states/newyork/science/>

This restoration effort has been concentrated on 13,400 acres of Great South Bay bottomland owned and managed by The Nature Conservancy. Surveys of the central and eastern part of the Bay revealed more than 300 million newly set juvenile clams on both Brookhaven and Conservancy bottomlands. This represents a 4,000 percent increase in juveniles from the previous survey conducted on Conservancy lands in 2006! These results are an encouraging sign, that the clam population may be able to recover to sustainable levels. However, the tiny clams will have to survive several challenges over the next few years, including predation by crabs and the effects of a lingering Brown Tide. In fact, 2008 was the worst brown tide on record for the Great South Bay and it is hoped that as a sustainable clam population is restored, the clams' natural filter feeding activities will make the Bay more resistant to these recurring algal blooms.

Nitrogen Loading Research: In an effort to better understand the nutrients entering the Bay, researchers from The Ecosystem Center at Boston University are researching nutrient loads to the bay—both the sources and concentrations, which can negatively affect water quality. An example of the research being done is shown at right. The graphic depicts projected nitrogen loads based on available data starting in 1940. The sources of nitrogen graphed come from fertilizer, the atmosphere and wastewater. The top line represents the total amount of nitrogen from all three of these sources. Assuming funding will be available, next steps include using model predictions to estimate nitrogen loads and mitigation strategy efficiencies, which will help managers calculate the costs and benefits of various nutrient management approaches.



L.I. South Shore Estuary
Reserve Office
300 Woodcleft Ave.
Suite E
Freeport, NY 11520

Phone: 516-470-2297
Fax: 516-378-2879

www.estuary.cog.ny.us
sser@dos.state.ny.us

Visit the Council's
EBM Website at
www.nyoglecc.org

Community Conversations on the Draft Ocean and Great Lakes Report

We Hear You!

Fourteen *Community Conversation* events were held throughout New York, co-sponsored by the New York Ocean and Great Lakes Ecosystem Conservation Council (the Council) and various organizations and interests. At the conversations, mutual learning was emphasized, engaging participants and encouraging the sharing of ideas and experiences. The content of the Draft Ocean and Great Lakes report was shared and there were three break-out sessions that focused on the main sections of the report. The Council has received a lot of great input from these many community conversations. Thank you! The Council is currently in the process of reviewing all of the comments, including those submitted via the website. The themes, comments and edits are being incorporated into what will soon become the final report. Continue to check the Council's website for updates and new information. To subscribe to the listserv, visit the website and click on the link in the lower corner (www.nyoglecc.org).



The South Shore Estuary of Long Island



New York Ocean and Great Lakes Ecosystem Conservation Council



SUNY
THE STATE UNIVERSITY of NEW YORK

For more information about the NY Ocean and Great Lakes
Ecosystem Conservation Council,
please visit www.nyoglecc.org