

New York Sea Grant IMPACTS

For over 40 years, New York Sea Grant has been “Bringing Science to the Shore”



New York Sea Grant (NYSG) is a statewide network of integrated research, education, and extension services promoting coastal economic vitality, environmental sustainability and citizen awareness and understanding about the State’s marine and Great Lakes resources. These three elements, **economics**, **environment**, and **education**, are the foundation of our Strategic Plan and cross-cut all of our goals within four focus areas important to the citizens of New York. Through your continued support, Sea Grant has realized these goals in 2012.

SUSTAINABLE NEW YORK COASTAL DEVELOPMENT

NYSG planned and co-facilitated a series of six Lake Ontario visioning workshops in 2012:

- Municipal leaders, state & local government agency representatives, landowners, residents attended
- Facilitated discussions about priority conservation and restoration projects, the needs and concerns of residents
- Coastal managers will use proceedings to determine research priorities and leverage funds for Lake Ontario projects

“The public needs a voice in the discussion of critical issues, with more emphasis on problem solving. Multiply this effort across the board.” — Maxine Appleby, Sodus Point, NY

NYSG helped make a new real-time, web-based tool available to recreational boaters on the St. Lawrence River:

- Assisted in tool development with Great Lakes Observing System (GLOS) and NOAA
- Device integrates data from several sources to provide real-time and forecasted water current and water depth data all along river
- Four public meetings provided developers with boater input to improve prototype
- Boaters, marina operators, smart phone users can access tool easily and over 3,000 have used it in past six months

“I enjoyed using the website. It was very straightforward. I will be using the information when boating in the 1000 Islands. This tool will be very helpful to anticipate changes in river conditions.” — John Cannon, a St. Lawrence boater who tested the site

NYSG co-organized a Lake Ontario “Scenarios” Workshop to manage future uncertainty:

- Stakeholders from research, management, business, and conservation organizations attended
- Participants identified two major uncertainties: 1. will conditions be dry or wet, and 2. will the lake region population increase or decrease
- Educated scientists and policymakers about connectedness of ecosystems with societal needs and for incorporating uncertainty in future sustainable management of coastal resources
- Workshop success brought requests for NYSG to organize similar exercises for other groups

HAZARD RESILIENCE IN COASTAL COMMUNITIES

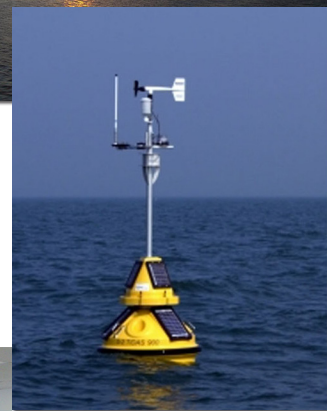
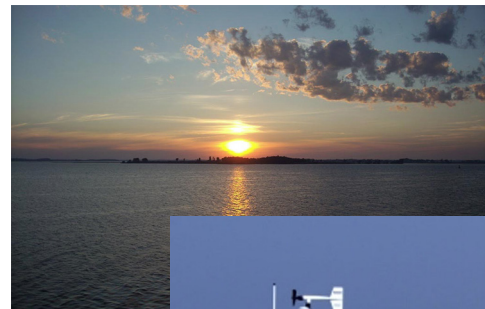
NYSG quickly provided coastal managers with sound information about Hurricane Sandy when needed most:

- Storm waves and surge opened breaches through the barrier islands protecting Long Island’s south shore
- Breach at Fire Island placed at risk a portion of the mainland containing 13,000 homes collectively valued at \$10 billion dollars
- NYSG asked to assist the National Park Service responsible for making the decision regarding closing the breach
- Provided their Breach Assessment Team (35 federal, state and local officials) with research-based information on impacts of new breaches

NYSG promotes inter-municipal initiatives to reduce pollutants transported to the coast by runoff:

- Through NYSG efforts, 14 Long Island municipalities signed an agreement to work together
- Agreement establishes the Oyster Bay/Cold Spring Harbor Protection Committee
- Inter-municipal efforts will facilitate cost-effective solutions to mitigate negative impacts on water quality
- The Committee plans to obtain increased funding for protective measures in 2013

“Oyster Bay and Cold Spring Harbor, with their economic and environmental benefits, are important to our quality of life.” Delia DeRiggi-Whitton, Nassau County Legislator



HEALTHY COASTAL ECOSYSTEMS

NYSG's successful Launch Stewards Program educates boaters in efforts to protect NY waters from aquatic invasive species (AIS):

- The impacts of AIS on the Great Lakes region is estimated at over \$1 million annually
- Recreational boating is a key pathway for the spread of AIS
- Launch Stewards monitored 12 launch sites, educated 5,700 people, conducted 2,456 watercraft inspections and created an effective "how to" guide for preventing invasives from hitchhiking on boats
- Participating boaters indicated they learned preventive measures that can limit the spread of AIS

NYSG helped identify four high-risk aquatic invasive threats to the Great Lakes:

- The killee, Volga dwarf goby, Caspian bighead goby, and black-striped pipefish from the Ponto-Caspian region of Eurasia are likely to survive transport to North America
- Ballast water discharge is implicated as a major vector of invasive introductions
- Ballast water exchange may prove an effective tool in reducing future introductions of the high-risk Ponto-Caspian fishes

NYSG funded researchers in the area of harmful algal blooms (HABs) conducted research, most of it on the genetic/molecular level and published their findings:

- Red tide bloom events in Long Island Sound and competing strains of the toxic dinoflagellate, *Alexandrium fundyense*
- The red tide organism, *Cochlodinium polykrikoides* and its relationship to invertebrates
- Further research on the genetics of the brown tide forming alga *Aureococcus anophagefferens*
- Genetics of an ecologically important cyanobacteria that affects water quality in the Great Lakes

The cooperative *Undo the Great Lakes Chemical Brew* campaign educates the public about what they can do to keep the chemicals in pharmaceuticals and personal care products (PPCPs) out of the Great Lakes:

- Since 2010, more than 2.7 million pills collected, and more than one million anglers, educators, students, medical professionals, legislators informed
- In 2012, with public presentations, conferences, school visits and teachers' workshops, NYSG educated more than 10,000 New Yorkers, with more reached via newspaper, radio and television

NYSG and partners have developed innovative educational programs serving thousands of teachers and students in the downstate areas

- Web-based geospatial learning resources on New York's coastal and estuarine environments was developed to respond to the needs of 200 K-12 educators in the Mid-Hudson and NY Metro areas
- In 2012, NYSG led successful Long Island Sound educational initiatives for K-12 teachers in Bronx, Queens, Westchester and Long Island
- Evaluations indicate teachers used the resources with more than 2,000 students and shared with other teachers
- Successful stewardship programs engaged students in monitoring and restoring wetlands habitat

SAFE & SUSTAINABLE NEW YORK SEAFOOD SUPPLY

Helping NY seafood gain recognition in local food systems helps New York's fishing businesses, increases visibility, productivity and profitability of NY's high quality seafood products:

- Partnered on planning workshops and "seafood throwdown" events bringing outreach to more than 2000 residents about alternative seafood marketing
- Helped four new Community Supported Fisheries (CSF) to launch

"The pilot project went very well and we learned a lot including what questions we need to ask and answer before going forward with a bigger program later in spring 2013."

— President of Dock to Table CSF, Montauk

New York Sea Grant continues to be a national leader in seafood safety training:

- Helped develop innovative Hazard Analysis and Critical Control Point (HACCP) training
- Training enables seafood businesses to provide safe seafood products to consumers
- In 2012, 1,282 individuals completed NYSG's Seafood HACCP Internet course
- Nearly 900 individuals (approx. 70%) provided feedback on how training improved business

NYSG continues to support world-class researchers in these areas of fish pathology:

- Cause and transmission of QPX, a disease in the hard clam *Mercenaria mercenaria*
- Genetics of *Listeria monocytogenes*, bacteria that cause disease in foods such as smoked fish
- Cause and transmission of VHSV Viral Hemorrhagic Septicemia Virus which threatens the health of Great Lakes fish

