Collaborative Marketing Makes Sense for Small Businesses

Small businesses in coastal communities across Long Island must find innovative ways to compete for the public's shrinking disposable income in this global recession.

New York Sea Grant (NYSG), the Long Island Convention and Visitors Bureau (LI CVB), and Stony Brook University Small Business Development Center hosted a collaborative marketing seminar, where participants learned about the benefits of creating partnerships with other sectors that share the same market, and about the new tools developed by the LI CVB to promote angling.

Above: The Robert Moses Causeway Bridge and the Tower in Jones Beach State Park serve as a backdrop to the "largest fishing port on the East Coast." Photo: ©Captree Boatmen Association

As a result of the feedback from the seminar, NYSG is cooperating with a travel agency and other small businesses to build a program to offer standard sportfishing packages from different ports across Long Island. Small businesses will improve their ability to connect with new markets through partnerships with hotels and restaurants.

The ensuing discussions among several fishing businesses from Montauk to Freeport (LI) resulted in:

- Development of a basic package featuring hotel accommodation, breakfast, welcome gift, and ½ day of fishing from head boats in Captree. This information was submitted to the LI CVB, and subsequently distributed at the annual World Travel Mart (WTM) Expo attended by more than 50,000 travel professionals in London in Fall 2008.
- Outreach at the WTM generated a request for a two-day surfishing package on the North and South Forks of Long Island. One surfishing guide has already signed up to deliver part of the sportfishing packages.
- The list of vacation options being developed in different parts of NY State was expanded to include marine sportfishing on LI, and this information was incorporated in the booklet of a tour operator from the U.K. Two million booklets will be distributed in the U.K. and Europe.
- Other businesses in LI angling communities have come forward to participate in the collaborative marketing program for the 2009 fishing season.

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by Antoinette Clemetson, Marine Fisheries Specialist, 613-727-3910, aoc5@cornell.edu, www.nyseagrant.org.
2/09

Bringing Science to the Shore and Into Classrooms

New York Sea Grant (NYSG) is dedicated to ensuring a scientifically and environmentally informed citizenry for the future by making science/environmental education a priority issue. By using a "teach the teacher" approach, NYSG can reach thousands of students by increasing the environmental expertise and enthusiasm of classroom teachers and non-formal educators.

Utilizing innovative approaches and third year funding for Centers for Ocean Sciences Education Excellence (COSEE) Great Lakes (GL), more than 4,200 students and teachers took part in NYSG education programming in the Great Lakes region.

The mission of COSEE GL is to foster lasting relationships through networks that link Great Lakes educators with ongoing science research in the region and with connections of that science to marine equivalents. COSEE GL is co-funded by National Science Foundation, NOAA and the National Sea Grant College Program.

NYSG organized two week-long COSEE GL programs for teachers during 2008. One project took 16 teachers aboard the USEPA's research vessel, *Lake Guardian*, on Lake Ontario; the other had 15 teachers explore the underwater world in Honduras. Other workshops helped an additional 100 teachers learn about invasive species and other Great Lakes topics. These teachers received curriculum materials and information to share with their students, including copies of a new curriculum CD, *The Greatest of the Great Lakes*.

Above: Teachers collected water, mud and soil samples alongside researchers aboard the Lake Guardian; right: a Syracuse Post-Standard photographer snapped David Chizzonite of Chittenango Middle School, and Patricia Burns of Dr. King Elementary School, Syracuse, on shore in Oswego, NY. Photos: Paul Focazio, NYSG

Other successful NYSG-sponsored or coordinated educational programs in 2008:

- The Seventh Great Lakes Student Summit involved 250 teachers and "student scientists" engaged in learning about the Great Lakes.
- Science Exploration Day, brought 900 high school students and teachers to the University at Buffalo to learn from scientists on topics from invasive species to environmental engineering.
- A NYSG distance learning program that introduced 1,400 students and their teachers to the impacts of invasive species through the Authentic Learning program at the Buffalo Museum of Science.

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by Helen Domske, Coastal Education Specialist, 716-645-3610, hmd4@cornell.edu, www.nyseagrant.org.

2/09

NYSG Facilitates Online Training to Ensure Seafood Safety

A 1999 New York Sea Grant(NYSG)-funded study estimated that the seafood industry contributed more than $7.9 billion to New York state's economy and employed 96,000 New Yorkers. To remain competitive and prosper, this industry must adopt cost effective, science-based systems to maximize the safety and quality of its products.

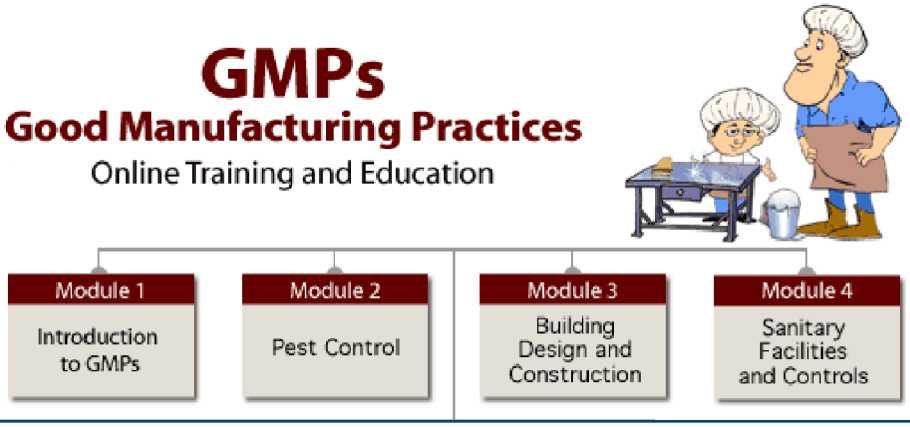
NYSG conducts outreach activities for the seafood industry that include a variety of education and training programs, workshops, newsletters, and direct technical assistance. These programs involve collaboration with businesses, federal and state regulatory agencies, the national Sea Grant network, and university resources.

Back to Basics: A new 12-module Internet course, available from NYSG on demand at low cost, helps businesses train employees in basic food safety concepts and Good Manufacturing Practices. Photo: NYSG

Training the Seafood Industry Online

NYSG has developed and manages two Internet training programs on food safety regulations that apply to the seafood industry. In 2008, 480 people from 324 different seafood processing, wholesale or warehouse operations in New York and across the U.S. took NYSG's Seafood Hazard Analysis Critical Control Point (HACCP) Internet course. Another 115 people from 68 different seafood companies attended a live HACCP training course taught by NYSG's seafood specialist.

A new Internet course on basic GMPs - Good Manufacturing Practices - the conditions and practices denoted in federal and state regulations as necessary to produce safe and wholesome food, launched in April 2008. Within nine months, 142 people from 77 firms that manufacture, distribute or store food products across the U.S. took this new distance education course. Small firms; large national companies (General Mills, Campbell Soup, Kraft Foods); state regulatory agencies; and federal agencies (National Marine Fisheries Service) are currently evaluating how to use this new online tool to train plant managers, workers, and food safety inspectors. Learn more at http://gmptraining.aem.cornell.edu.



New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by Ken Gall, Seafood Specialist, 631-632-8730, klg9@cornell.edu, www.nyseagrant.org.

Encouraging Environmental Stewardship throughout Long Island Sound Watershed

In 2008, New York Sea Grant joined Brookhaven National Laboratory's Open Space Stewardship Program to increase stewardship throughout Long Island Sound (LIS).

New York Sea Grant worked closely with partners such as NYS Department of Environmental Conservation, New York State Office of Parks, Recreation and Historic Preservation, Stony Brook University, and the Long Island Sound Study to develop research projects that allow students to learn about the problems facing LIS, while collecting data that will be used by partner agencies.

NYSG's Larissa Graham helps students identify wetland plant species at Mt. Sinai harbor. Photo: Miller Place Middle School.

Project Highlights

Hauppauge High School students collected water quality and species composition data at sites along Sunken Meadow Creek, an area highly impacted by a culvert that restricts tidal flow to the surrounding wetlands. This work will continue over the next few years and will provide valuable data for Sunken Meadow State Park staff as they investigate the effects of restoring tidal flow to the area.

Left: Students collect water quality data off the docks in Mt. Sinai harbor; below: Asian shore crabs are one of the many invasive species found in LIS. Photos: Miller Place Middle School.

Miller Place Middle School students investigated wetlands loss in Mt. Sinai Harbor. They collected data on these wetlands and compared them to a healthy wetland nearby. Teachers from this school have applied for funding to purchase additional sampling equipment for 2009-2010.

Kings Park High School students began mapping invasive plants throughout Nissequogue River State Park. In 2009, students will remove and monitor the invasive plants in their plot.

Middle Country High School students are monitoring Asian shore crab populations at Flax Pond in Stony Brook. In 2009, students will begin independent projects related to Asian shore crabs.

To date, nearly 450 students have participated in these research projects. In 2009, this work will be extended into NYC to students in Bronx and Queens. These activities increase student knowledge of LIS and appreciation for the estuary's many valuable resources.

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by Larissa Graham, Long Island Sound Study Outreach Coordinator, 631-632-8730, ljg85@cornell.edu, www.nyseagrant.org.

2/09

NY Sea Grant Provides Professional Development for NYC Teachers

During 2008 New York Sea Grant (NYSG) launched a series of teacher professional development workshops in New York City (NYC). The training sessions helped more than 450 teachers learn to use free or low-cost geospatial resources to study habitat restoration projects in the NY-NJ Harbor area.

Above: Teachers examine topographic maps of NYC coastline; (left) geospatial workshop instructors Susan Hoskins, Cornell University; Nordica Holochuck, NY Sea Grant; and Merryl Kafka, New York Aquarium, explore Coney Island Creek. Photos: New York Aquarium, Susan Hoskins

Funding from the US Environmental Protection Agency (USEPA) NY-NJ Harbor Estuary Program supported a team effort by NYSG, Cornell University's Institute for Resource Information Sciences and NYC's leading educational institutions. One-day workshops were held in partnership with the American Museum of Natural History and the Wildlife Conservation Society's (WCS) New York Aquarium.

Seven USEPA Harbor Estuary Program restoration projects profiled on the NYC Open Accessible Space Information System (OASIS) website provided the basis for instruction. Working together in small groups, participating teachers selected wetland restoration project sites based on interest and proximity to their schools. They completed a series of activities and lessons using maps, aerial photos and Internet data. The instructional materials helped teachers "journey" through time, building a sound understanding of the history and changes to the NYC coastline and current efforts underway to restore important wetland areas.

By day's end, the teachers increased their overall understanding of the NY-NJ Harbor habitats and geospatial resources and were better prepared to share this knowledge with students.

Workshop content meets NYC Science Scope and Sequence standards. A field component or a presentation led by partner institutions hosting the workshop serves to enhance teachers' relationships with valuable local educational sites and resources.

Four additional workshops are planned for teachers in the NYC metropolitan area for 2009.

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by Nordica Holochuck, Hudson Estuary Specialist, 845-340-3983, nch8@cornell.edu, www.nyseagrant.org.

2/09

I FISH NY: Sharing the Fun & Facts of Fishing in NYC and on Long Island

Though New York City (NYC) and its surrounding metropolitan areas make up 57 percent of New York's population, only a fraction of natural resource allocations go to this region. To address this problem, New York Sea Grant (NYSG) and the NYS Department of Environmental Conservation (NYSDEC) partnered to create I FISH NY, an urban recreational fishing program that encourages NYC and Long Island (LI) residents to conserve aquatic resources by learning about and going fishing.

Since 2005, NYSG has employed two full-time Recreational Fisheries Specialists in NYC and on LI to implement and augment the groundwork established by NYSDEC staff. Using these pilot programs as a guide, the NYSDEC hired four new Promotional Biologists in 2007 to extend the program throughout NYS.

I FISH NY — New York City

I FISH NY-NYC continued to build on its successful classroom program, providing lessons and fishing trips to 1200 children throughout all five boroughs.

Tailored programs were expanded to two new client bases beyond school children: neighborhood community centers and hospital patients with limited mobility. The groundwork was laid in 2008 for ongoing collaboration with these groups, with plans in place to provide clinics to additional community centers and sponsor more disabled-specific events in 2009.

Program Aide Darin Alberry (right) assists a participant at I FISH NY-NYC's People with All Abilities Clinic at Prospect Park in Brooklyn. Photo: Betsy Ukeritis

I FISH NY — Long Island

To increase participation of female anglers, I FISH NY-LI worked with Nassau and Suffolk County Girl Scout Councils to develop a fishing badge for girls grades K-12. To earn their patch, girls begin by completing various educational activities, learning about topics such as local fish identification and stewardship practices, and conclude with a fishing trip to a local water body. In 2008, I FISH NY-LI worked with almost 750 girls with close to 260 earning their "I FISH NY" badge.

I FISH NY specialists also standardized the look and content of lesson plans. Projected to be web-accessible in early 2009, all lessons contain background information, vocabulary definitions, additional resources, and accompanying handouts.

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by Recreational Fisheries Specialists Malynda Nichol, 631-444-0283, mjn36@cornell.edu, and James Macdonald, 718-482-4940, jam635@cornell.edu, www.nyseagrant.org.
2/09

Supporting Municipal Natural Resource Protection

Municipal stormwater management and nonpoint source pollution control on Long Island are of vital importance to protecting estuarine resources. Polluted runoff has been identified as a primary cause of Long Island Sound, South Shore Estuary Reserve, and Peconic Estuary impairments. Among the issues, pathogen-contaminated beaches pose threats to human health, with far-reaching affects on the economy, while sediment causes wetland degradation and disappearance of wildlife.

The New York Sea Grant (NYSG) Nonpoint Education for Municipal Officials (NEMO) Program has been responding to these issues since 2001 by providing technical expertise and assistance concerning EPA Phase II Stormwater Program compliance to nearly 100 Long Island municipalities. Using its primary tools, which include a list serve, consultations, presentations, and written feedback, NYSG NEMO has helped Long Island municipalities to improve their Phase II stormwater programs.

Following NYSG NEMO outreach, communities have improved construction and post-construction requirements, and procedures for site plan review and inspections. Changes include an ordinance for retention of rainwater from new driveways, and erosion and sediment controls for projects smaller than an acre. Nassau County strengthened its drainage requirements and encourages low-impact development. Further, counties, towns, and villages have initiated storm drain retrofit projects.

The health of Long Island's estuarine resources is vital to New York's economy. Photo: Eileen Keenan, NYSG NEMO

NYSG NEMO also provided written feedback on stormwater program progress reports, hence, strengthening Long Island stormwater management in a multitude of ways. Examples include development of sustainable funding mechanisms, a septic system inspection program, and equipment procurement. Further, interdepartmental work groups have been established to ensure optimal coordination.

Lastly, given today's challenging economic times, perhaps NYSG NEMO's most enduring impact has been its facilitation of cost-effective inter-municipal stormwater management. Over the years, the number of such cross jurisdictional efforts has grown, with the most recent effort currently getting underway in the Peconic Estuary drainage area on the Island's East End.

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by Eileen Keenan, NYSG NEMO Program Manager, 631-444-0422, ek72@cornell.edu, www.nyseagrant.org.

2/09

New Land Use Planning Tool: Informative CD for Communities Concerned with Water Quality

Most land use decision-making at the local level is done by volunteers working on planning or zoning boards. Water quality in local communities is affected by such land use decisions. With proper training and background, it is possible to design communities that permit growth and economic development without harming water quality.

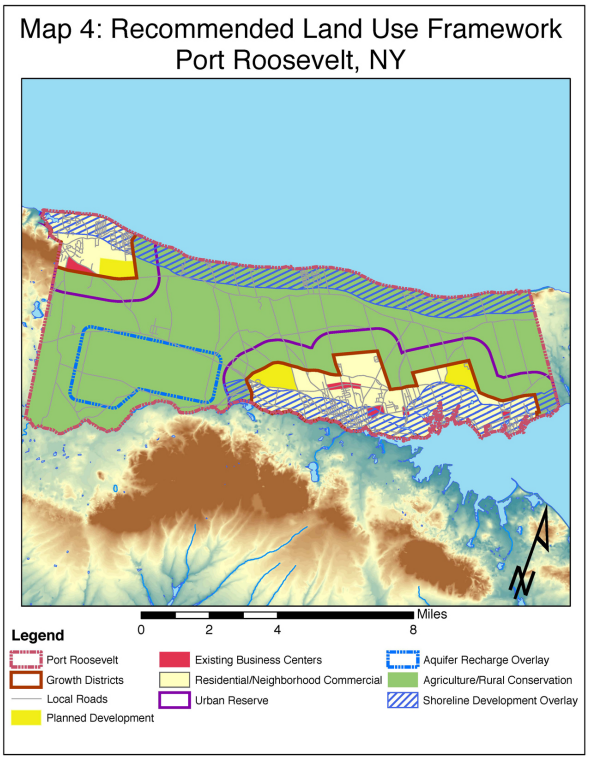
New York Sea Grant (NYSG) provided funding to Cornell University's Department of City and Regional Planning to help NYSG and Cornell Cooperative Extension develop an educational tool for local decision makers that would give them the background they need to protect water quality while meeting other community goals such as commercial and residential development.

The final product was an educational CD that showcased four hypothetical communities based on four real New York communities. Each case study projected growth using population data for the area and the resulting degradation of water quality under existing zoning. Alternative zoning and planning techniques were proposed for the four communities to permit the same amount of growth, while protecting water quality.

New CD Tool Being Used

The CD *Land Use Planning: An Informative CD for Communities Concerned with Water Quality* was widely distributed and advertised through NYSG channels.

Reaction to the CD has been positive. Representative comments include:



The Land Use Planning: An Informative CD for Communities Concerned with Water Quality includes land use maps that help planners identify areas for planning attention. Image: Kevin Anderson, Sea Grant Scholar

- "The CD was very informative and will be useful to me in my work with municipal officials. I like the model for this as a way to affect change in land use decision making."

- "Thanks for sending your 'Informative CD.' It is indeed informative, and I was pleased to see that compact growth made it in in various guises. A great addition to the Sea Grant repertoire!"

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by Robert Kent, NYSG Interim Associate Director/Marine Program Coordinator, 631-727-3910, rjk13@cornell.edu, www.nyseagrant.org.
2/09

Ecosystem Processes: Understanding Lake Ontario Lower Food Web Indicators

The Lake Ontario ecosystem has been successfully managed for sustainable use through top-down manipulation of the upper food web by fish stocking and harvest, and by nutrient abatement that regulates resource allocation to the lower food web. Recent ecosystem changes have stimulated interest in developing lower food web indicators to provide indices of current and future states of the ecosystems. This information is crucial for stakeholders to understand how management policies affect ecosystem sustainability.

NY Sea Grant coordinated the outreach component of a Cornell University project to compile relevant information on food web indicators in an effort to build a process of understanding of lower food web components and their use as ecosystem indicators. A one-day workshop, featuring presentations from top scientists from the U.S. and Canada was organized to present this information to the public. Fifty attendees were educated on the effects of nutrient regulation on zooplankton, phytoplankton and fish communities, particularly how changes in body size, species and abundance of lower food web organisms serve as indicators of ecosystem sustainability.

Workshop participant evaluations indicated that this was the best workshop in terms of educational value they have attended. A further indicator of the program's success was a request to NY Sea Grant by the Ontario Ministry of Natural Resources (OMNR) to develop a companion workshop for Canadian stakeholders in May 2009.

Food Web Workshop faculty: (back l to r) Steve LaPan, NYS Department of Environmental Conservation; Dave MacNeill, NY Sea Grant; Gavin Christie, Ontario Ministry of Natural Resources; Kim Schulz, SUNY College of Environmental Science & Forestry; Ed Mills, Cornell University; (front l to r) Tim Johnson, Ontario Ministry of Natural Resources, Bob O'Gorman, US Geological Survey (retired). Photo: Pat MacNeill

OMNR also recommended that this workshop template be adapted by the Lake Ontario Committee to present to the NY-Ontario public as part of the revision of Fish Community Objectives for Lake Ontario.

The Great Lakes Fisheries Commission (GLFC) will be developing a "traffic-light" communication model designed to assist stakeholders understand the links between ecosystem sustainability and the status of food web indicators. The model assigns a red color to indicators of serious ecosystem stress, yellow to indicators of moderate stress, and green to food web indicators of a healthy ecosystem.

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by David B. MacNeill, Fisheries Specialist, 315-312-3042, dbm4@cornell.edu, www.nyseagrant.org.

2/09

International Focus on Fisheries Assessment Technology

Trawling is an integral part of fisheries assessment and commercial harvesting in marine and inland freshwater systems. Despite the importance of trawling, freshwater trawl operators possess rudimentary understanding of trawling gear, are limited in abilities to fix or diagnose trawling problems, and are unable to access marine trawling expertise. This situation provided a unique opportunity for the Sea Grant programs of New York and Rhode Island and the Memorial University of Newfoundland (MUN) to jointly organize a workshop to present trawling technology to inland trawlers from the Great Lakes and the European Union (EU).

Dave MacNeill, NY Sea Grant; Phil Moy, Wisconsin Sea Grant; and researcher Tom Juza of the Czech Republic study trawling technique aboard a National Marine Fisheries Service trawling research vessel along the Atlantic Coast. Photo: Rhode Island Sea Grant

A three-day trawling gear design workshop for freshwater users was held in Rhode Island in fall 2008. Representatives from Wisconsin Sea Grant, the Lake Michigan commercial fishing industry, and a European Union (EU) trawling consortium of 14 countries attended. Presentations focused on trawl designs, vessel demonstrations of variable trawl designs on fish catches, and participation aboard a research trawler along the Atlantic Coast.

NY Sea Grant organized post-workshop meetings and trawl sampling participation with fisheries assessment staff from Lakes Erie and Ontario for the EU biologist.

Information from these extension efforts is being used to develop trawl and vessel designs for use in inland waters by the Czech Republic Hydrobiology Institute in Czeska Budiovice that coordinates the EU freshwater assessment program. A trawl model will be built and evaluated at the MUN facility in Spring 2009. A trawling vessel, to be completed in Summer 2009, will assist a government-supported water quality monitoring program in several large reservoir waters in the Czech Republic. Those reservoirs supply more than 100,000 people with drinking water. A Lake Michigan commercial trawler used the workshop information to reconfigure his trawl design, significantly improving trawl sampling efficiency and reducing fuel expenditures.

NYSG's Dave MacNeill (left) and Tom Juza, representing an EU trawling consortium (Czech Republic, Poland, France, Austria, Germany, Spain, Italy, the U.K., Norway, Finland, Hungary, Russia, Estonia and the Netherlands), studied trawling on the Atlantic and Lake Ontario. Juza said, "My country will use what I have learned to design and build a trawling vessel for assessing adult fish populations in Czech reservoirs that are stocked for recreational fishing." Photo: Rhode Island Sea Grant

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by David B. MacNeill, Fisheries Specialist, 315-312-3042, dbm4@cornell.edu, www.nyseagrant.org.

2/09

Communicating VHS Impact on Sustainable Marine & Great Lakes Fisheries

VHS, viral hemorrhagic septicemia, is a threat to sustainable global fisheries. New York Sea Grant is taking steps to inform Atlantic State Sea Grant and fish health professionals about VHS/VHSV strains, pathology, viral spread, containment policy and the potential impacts of VHSV IVa on Atlantic fisheries.

The Great Lakes viral strain, VHSV IVb, has adapted to nearly 40 fish species. The genetics of VHSV IVb and a marine strain, VHSV IVa found in the Pacific Northwest, are closely related. During the 1980s, VHS mortalities of prey fish from VHSV IVa disrupted the food web in the Pacific NW. VHSV IVa has been recently isolated in Atlantic herring and striped bass, ecologically and economically important Atlantic species. This discovery has implications for Atlantic fisheries because Atlantic species may have limited immunity to the strain. Atlantic herring are analogues (genetically similar) to the Pacific herring that experienced large (or population level) VHS mortalities.

In 2008, NY Sea Grant partnered with Rhode Island Sea Grant to organize a VHS workshop with prominent fish health researchers from noted academic institutions (including Cornell University, the center of VHS research in eastern North America) serving as workshop faculty. All participants indicated that the workshop increased awareness of the potential VHS impacts on fisheries, and increased interest in expansion of fish disease monitoring and screening for the virus. Some participants revealed immediate plans for this expansion. The workshop also led to the formation of an ad hoc network of Atlantic and Great Lakes fish health and Sea Grant professionals to share VHS information.

Dead Pacific sardine showing typical signs of external lesions characteristic of VHSV infection. Photo: Dr. Jim Wynton, USGS Lab

At the Mid-Atlantic Sea Grant Network conference in 2008, NY Sea Grant presented VHS information to Sea Grant colleagues in the Mid-Atlantic States. As a result of that presentation, Sea Grant colleagues requested a similar workshop be organized for fish health professionals.

New York Sea Grant occupies a leadership role in facilitating the flow of VHS information to stakeholders in the Great Lakes, Atlantic and Eastern U.S. states.

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by David B. MacNeill, Fisheries Specialist, 315-312-3042, dbm4@cornell.edu, www.nyseagrant.org.

2/09

Coming Soon to an Ecosystem Near You: Sea Grant Helps New York Cope with Invasive Species

New Yorkers enjoy more than 7,000 lakes and ponds, 1,300 miles of Great Lakes and marine shoreline, 70,000 miles of rivers and streams, 2 million acres of fresh- and saltwater wetlands, and 1,500 square miles of estuaries, bays and harbors. Eighteen million of the state's 30 million acres are forested; a quarter of the state is in agricultural production. The state is home to more than 500 populations of state endangered or threatened species.

All of these important resources and NY's quality of life are at risk from invasive species. New Yorkers pay a significant price to deal with invasives — measured in dollars, damaged crops, power failures, environmental impacts, and diseases. For example, controlling the Asian long-horned beetle (*Anoplophora glabripennis*) in New York City and Long Island has cost as much as $480 million since its introduction in 1996. Other species, such as zebra mussels (*Dreissena polymorpha*), Asian shore crabs (*Hemigrapsus sanguineus*), purple loosestrife (*Lythrum salicaria*), and West Nile virus (*Flavivirus*) cause hundreds of millions of dollars of additional impacts.

A well-informed, educated public is the first line of defense against new invasions and is essential to the management of existing invaders. In 2008, building on 20 years of aquatic invasive species outreach experience, New York Sea Grant (NYSG) applied this same outreach philosophy to all taxa of invaders, aquatic and terrestrial, founding the NY Invasive Species Clearinghouse. The Clearinghouse website, NYIS.INFO, is the public's portal to all things invasive in NY, providing research-based information to all stakeholders impacted by invasive species.

The invasive diatom Didymosphenia geminata, also known as "rock snot," was recently found in NY. This algae grows on the bottom of streams and can form thick mats, even in fast-flowing trout streams. Didymo reduces the abundance of native benthic organisms and threatens the sustainability of trout and other fish species that feed on those organisms. Photo: US EPA Region 8

The state-funded Clearinghouse bridges the gap between invasive species research and the agencies, grassroots organizations and citizens working to prevent and control biological invaders. In particular, the Clearinghouse is supporting eight new Partnerships for Regional Invasive Species Management (PRISMs) as they develop regional invasive species management efforts. As one PRISM leader put it, "Without NYSG and the Clearinghouse, we wouldn't know where to turn for the scientific information we need for the battle against invasive species."

2/09 *New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.*
This project summary was written by Chuck O'Neill, Senior Extension Specialist, Director of NY Invasive Species and National Aquatic Nuisance Species Clearinghouses, 585-395-2638, cro4@cornell.edu, www.nyseagrant.org.

Increasing Public Awareness Protects Freshwater Resources

The media projects of the Eastern Lake Ontario Dune/Salmon River Steward Program are effectively educating the public about New York's natural resources, helping to train future environmental sciences leaders, and providing program partners with a valuable resource.

The Steward program is managed by New York Sea Grant (NYSG) in partnership with the New York State Department of Environmental Conservation (NYSDEC), New York State Office of Parks, Recreation & Historic Preservation, and The Nature Conservancy. The Stewards promote ecologically responsible use of publicly-accessible waterfront properties that boast rare and unique habitats in Oswego and Jefferson counties. In addition to daily monitoring at these areas, the college and graduate students working as stewards are communicating the message of the proper recreational use of the resources through media projects.

Each steward develops 3 project components: a newspaper/media use article, a public education program, and a project benefits summary.

"As they interact with our professional program partners, NYSG resource specialists, the public, and each other, the student-stewards develop strong verbal and written research, communication and presentation skills," says Mary Penney, Steward Coordinator for NYSG.

NYSDEC Wildlife Manager Bill Gordon says, "The dune stewards have been a great asset to the protection of our fragile dune areas. The stewards' interaction with the public increases awareness and incentive to comply with rules that protect the dunes."

NYSDEC Special Assistant for the Salmon River Watershed Fran Verdoliva says, "The Salmon River Stewards provide crucial grassroots education to the public about the proper use and stewardship of this vitally important New York State resource. Their presence fills a void that can't be filled with current staff within DEC."

Look! Eastern Lake Ontario Dune Stewards spot waterfowl for a public education program group tour. Photo: Mary Penney, NYSG

Local environmental, Americans with Disabilities and natural resource "Friends" groups, youth, seniors, and shoreline property owners have attended steward programs. Greater Pulaski-Eastern Shore Chamber of Commerce President Margaret Clerkin says, "We are thrilled to have the Stewards provide information on the diversity of natural resources found in the Salmon River corridor."

The stewards select topics related to lake and river resources (invasive species: round goby, water chestnut, emerald ash borer; water flow and "critters" of the Salmon River corridor, etc.). Local, regional and state print, tv and radio media have used the articles and program notices or featured articles on the selected topics.

Partnerships with the Oswego County Weeklies and Jefferson County Journal have placed the articles in local media. Oswego County Weeklies Managing Editor RoseAnn Parsons says, "The stewards provide valuable information for our readers. The articles they submit are well written about a variety of subjects that are important to the community and the quality of life in and around the Salmon River and Lake Ontario."

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by Mary Penney, Eastern Lake Ontario Dune/Salmon River Steward Program Coordinator, 315-312-3042, mp357@cornell.edu, www.nyseagrant.org.

2/09

Helping Marinas Help Themselves (and Save Money)

New York's recreational boating industry plays an important role in the State's economy, generating billions of dollars in revenue. The marinas that serve as the backbone of the industry are struggling to contain costs in order to survive the current economic climate. Because of their location in coastal areas, these facilities are faced with an additional challenge of having to comply with numerous environmental regulations.

In 2007, New York revised its general permit program for Storm Water Discharges Associated with Industrial Activities, placing new requirements on marinas. To be in compliance and avoid fines, these facilities were required to develop a detailed Storm Water Pollution Prevention Plan (SWPPP) for their sites. Few marinas knew of these regulatory changes or what they were required to do to comply.

New York Sea Grant (NYSG) worked with the New York Marine Trades Association (NYMTA) to hold an informational workshop for marina operators to increase awareness of the regulatory changes and to help them meet the new requirements.

NYSG also developed materials on the permit program, presenting them at training courses for marina personnel and at association meetings.

NYSG created a readily useable template for a model marina SWPPP for marinas, based on information from the EPA, posting it and other related materials on NYSG's Marina Pollution Prevention Web site for easy access by marina audiences.

Resources provided on the www.nyseagrant.org website help marina operators manage runoff and save money. Photo: Jay Tanski, NYSG

New Resource Represents Opportunity for Significant Savings

The NYMTA reported 57 percent of the 61 marinas in their organization used the NYSG template to develop their own SWPPPs. Consultants charge between $3,500 and $5,000 for this service, so the NYSG materials potentially saved these facilities saved between $108,500 and $155,000 by allowing them to do the work themselves.

The SWPPP template has been downloaded 970 times. If the same percentage of marinas in the total population of 450 marinas in New York's marine district use this material, the savings would be between $0.9 million and $1.3 million for the recreational boating industry.

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by Jay Tanski, Coastal Processes & Facilities Specialist, 631-632-8730, jjt3@cornell.edu, www.nyseagrant.org.

2/09

Revitalizing the Great Lakes Seaway Trail Byway Brand

A New York Sea Grant (NYSG) partnership with the nonprofit Great Lakes Seaway Trail is assessing and revitalizing the brand of the 30-year-old, 518-mile-long New York-Pennsylvania byway that is one of America's Byways, a National Recreation Trail, and a NY State Bicycle Route.

The Experience the Journey interactive survey tour engaged visitors along the length of the Great Lakes Seaway Trail, that is one of America's Byways, a National Recreation Trail, and a New York State Bicycle Route. Photo: Dave White, NYSG

NYSG created and coordinated an "*Experience the Journey*" tour that put Seaway Trail staff on the byway with an interactive "Spin the Wheel" activity designed as a fun, interactive way to invite traveler interest for opinion gathering. Travelers who answered a variety of questions about the visibility and attractiveness of the byway were rewarded with a Seaway Trail brand product.

"The *Experience The Journey* tour coordinated by New York Sea Grant puts the traveling public at the helm of this project for New York's freshwater shoreline, helping to chart how Seaway Trail, Inc. and its member attractions, accommodations and services set their sails to deliver on and exceed consumer expectations over the next 30 years," says Seaway Trail President & CEO Teresa Mitchell.

Great Lakes Seaway Trail hired a college student to implement and conduct the tour at key sites and events. Host communities included Youngstown, Dunkirk, Waddington, Cape Vincent, Henderson Harbor, Pultneyville, and Rochester. Events included lighthouse, marina and harbor festivals, and the NY Power Authority's 50th anniversary at Massena.

More than 1,000 consumer surveys were conducted with data gathered (types of travelers, preferred destinations and activities, interest in travel resources such as maps and magazine) leading to the development of a contemporary brand essense for the byway. The result is driving resource interpretation/accessibility, marketing, strategic partnerships and byway organizational capacity opportunities that support maximizing traveler interest, experience, and visitation with a resulting economic gain for byway communities and New York State's economy.

The next step will be to pioneer a comprehensive byway traveler experience/brand value/economic assessment tool for the Great Lakes Seaway Trail as a model for other New York State and national byways. A grant request has been submitted through the NYS Department of Transportation for federal funding for development of this prototype.

New York Sea Grant is a cooperative program of the State University of New York and Cornell University. Sea Grant Extension administration is located at 112 Rice Hall, Cornell University, Ithaca, NY 14853.
This project summary was written by Dave White, Coastal Tourism & Recreation Specialist, 315-312-3042, dgw9@cornell.edu, www.nyseagrant.org.

2/09