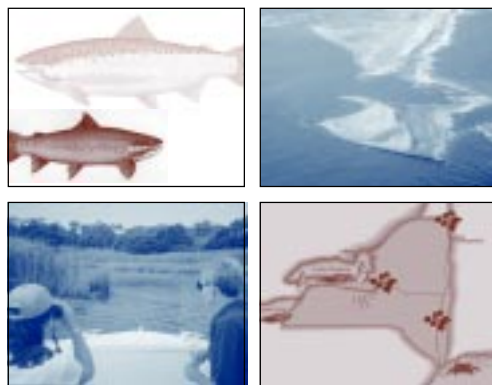


# Extension Responds



Sea Grant's focus on extension and outreach is what makes the **National Sea Grant College Program** unique among all the programs that address coastal issues—both within New York state and our nation. Numerous organizations conduct coastal research. Some even conduct applied research. But only Sea Grant carries out research teamed with an extension program aimed at responding to critical coastal issues through education.

Sea Grant is based on a unique model, the 140-year-old Land Grant concept, to tackle our nation's coastal challenges. *Continued on page 3*



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COASTAL LIVES

# From the Director

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*Coastlines* is a publication of New York Sea Grant, a cooperative program of the State University of New York and Cornell University. Sea Grant is a national network of 30 university-based programs that works with coastal communities. Our research and outreach programs promote better understanding, conservation, and use of America's coastal resources.

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New York Sea Grant depends on networking to accomplish its mission of providing science-based information to everyone involved in making decisions about New York's critical coastal resources. Dale Baker's cover story calls attention to NYSG's many collaborations. Ed Sander's award from NOAA (shown below) reminds us that each of these collaborations depends on individual actions. I don't have room here for individual thank yous, but I would like to point out how individuals help us.

As you read through this issue, note the multiple mentions of U.S., New York State, county, town, city and village government collaborators. Notice also the many references to members of national, regional, state and local environmental action groups who regularly work with us. Some of the same activities benefit from interactions with business people and business associations. Although not spotlighted in this issue, district and

individual specialist's advisory stakeholder groups also aid in extension program planning and evaluation.

Our research and communications programs also are dependent on outside help. Over 100 faculty and about 25 graduate students are regularly engaged in conducting our research. They currently represent 38 institutions in seven states and Canada. Peer reviewers, technical panel members, and stakeholders help us select which projects to fund. Our top stakeholder group, the Program Advisory Council, also helps us evaluate progress, establish research priorities and plan for the future. Members of the PAC come from all levels of government, academia, environmental and research funding groups, and business associations. Outside reviewers also evaluate the goals and operations of our communications program. Media representatives who publicize our efforts aid those operations.



**On May 3rd at the North Coast Conference in Pittsford, New York Sea Grant fisheries specialist *Dave MacNeill* (left) presented an award designating *Edmund Sander* as one of the National Oceanic and Atmospheric Administration's (NOAA) Environmental Heroes of 2002. Sander was chosen by NOAA for his passion about Lake Ontario and its fisheries. Among his many advisory capacities, Sander is chair of New York Sea Grant's Program Advisory Council.**

I think you'll agree that NYSG derives a great deal of benefit from outside the program. If your efforts are included in any of the collaborations mentioned above, we thank you. Your contributions are instrumental to our success in fostering responsible coastal management.



# Extension Responds

continued from page 1

This model carries a “bottom up” philosophy. Users and residents of our state’s coastal regions are asked to serve on Program Advisory Committees coordinated by each of our extension specialists to identify issues that can be served by Sea Grant educational programming.

Once issues are identified, a wide variety of techniques are used to tackle them. Extension specialists may work with individuals, collaborate with others to organize workshops, or consult with experts to get needed information from other available sources. The other major thrust of the Sea Grant paradigm is research. New York Sea Grant selects the best

talent of our state’s universities to help solve the problems that have been identified by our state’s coastal users and residents.

New York Sea Grant Extension has one of the largest and most respected extension programs in the Sea Grant network. Eighteen extension professionals are located in nine different offices in the downstate marine and upstate Great Lakes regions of New York (see cover map). These

specialists are located on one of the SUNY campuses or at Cornell offices from Buffalo to Riverhead. They have varied educational backgrounds and expertise chosen to meet specific responsibilities assigned to them. These specialists have statewide, regional, and in some cases national responsibilities. The extension program, for the most part, receives its funding from the National Sea Grant College Program and the State of New York.

In this issue of *Coastlines*, we plan to give you a sampling of some of the current extension efforts that Sea Grant specialists have underway. We have, by no means, attempted to describe the total extent of extension activities taking place in our coastal regions. Also highlighted is the diversity of extension partnerships with state and

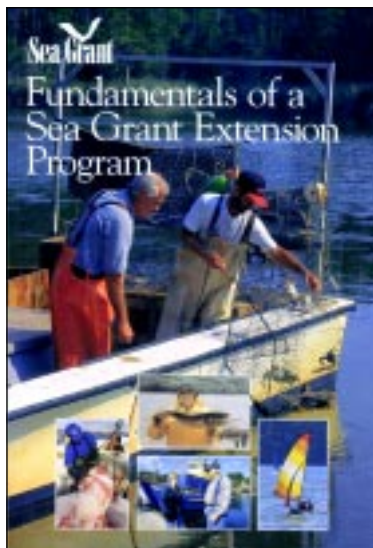


Photo of Lake Erie by Barbara Branca



Photo of Carman's River, LI by Susan Hamill



**New York Sea Grant's experienced extension specialists have been bringing their expertise to coastal users along our Great Lakes and marine shores for over 30 years.**

federal agencies as well as private non-profit organizations. These collaborations allow Extension to have a wide range of program impacts across the state’s coastal regions.

New York Sea Grant is a member of three regional Sea Grant Networks—Northeast, Mid-Atlantic and the Great Lakes. We are proactive in developing collaborations with Sea Grant Extension specialists from adjoining coastal states. In NY we benefit from such regional collaboration and sharing of expertise, thus making Sea Grant Extension a tremendous bargain for the resources that are allocated to it.

— Dale Baker  
NYSG Associate Director  
and Extension Leader

Interested in learning more about how a Sea Grant Extension Program works? New York Sea Grant took leadership in developing a publication *Fundamentals of a Sea Grant Extension Program*. See page 23 for ordering details.

# Touring Around The State

## Working for Cleaner Marinas

In late-September, Sea Grant will take part in a three-day national clean marina workshop in Mystic, CT. Planned in part by NYSG's Great Lakes Program Coordinator Dave White, the workshop will be the first of its kind designed to produce a national framework for implementing EPA's marinas and recreational boating management guidelines.

"Our efforts will build on the experiences of clean marina programs existing in the states," says White. "We're seeking to provide assistance to local, state and national partners to create and deliver innovative clean marina programs. We're also looking to offer an outreach mechanism for extending the national nonpoint source pollution guidance for marinas and recreational facilities."

The Marine Environmental Education Foundation (MEEF) will oversee the workshop, which is partially funded by EPA and the National Sea Grant College Program. MEEF, the group behind the National Clean Boating Campaign, is a national nonprofit foundation bringing together specialists on marine environmental issues from public and private sectors.

Says White, "MEEF is dedicated to developing educational programs and research that will help result in cleaner waters and will foster positive attitudes toward the importance of water quality protection."

—Paul C. Focazio,  
Dave White

## Along our Canadian Border..

Do you own one of the 20 million vehicles that crosses the seven international bridges between New York and Canada each year? More than half a million boats are registered in New York state. And so, NYSG and Seaway Trails, Inc. are encouraging recreational boaters, RV owners, camping enthusiasts and traveling motorists to plan visits to New York's and Ontario's Great Lakes and St. Lawrence River shorelines. How? By preparing "Know Before You Go," a free 2002 Cross Border Travel Tips brochure.

Some of the travel tips Sea Grant and Seaway Trail, Inc. are suggesting to boaters and motorists traveling to New York or from New York to Canada are:

- Bring two forms of proper identification.
- Keep items, receipts ready for inspection.
- Be flexible as regulations governing travel are subject to adjustment.
- Remember to call ahead to Canada/U.S. Customs offices to learn if your usual port will be open. Some ports previously accessible may not be accessible in 2002.
- Know the reporting requirements for boaters and where to apply for I-68 permits to arrive in U.S. waters and for CANPASS permits to arrive in Canada by boat and auto. Day travelers do not need permits, but must check in for inspection at ports or bridge crossings.

In essence, an I-68 permit is for the waters what an E-Z pass is for the roads. It is for frequent travelers to pass through border inspections. Permit holders are still subject to inspections, though. The I-68 simply makes for an easier travel passage process.

"Videophones and I-68 permits are just two of the measures that Customs and Immigrations have undertaken to facilitate recreational boater travel into the U.S.," says **David White**, NYSG's Great Lakes Program Coordinator. Boaters will need to apply for these permits in person this year to be photographed and fingerprinted at the time of application. Permit fees remain the same.

The boater brochure also includes a list of Seaway Trail ports of call in New York state. Some of these have videophones for reporting boat arrivals, a phone number for reporting boat arrivals at Canadian ports, and a list of international bridge crossings and a Web site to check for wait times.

"Boaters and motorists along the shoreline can expect to see an increased customs, immigration and law enforcement presence at ports of call, on the water, and at border crossings," cautions White. "But along with Seaway Trail, we've worked closely with U.S. and Canadian government officials who assure us that cross-border travel will be facilitated for low-risk travelers."

White adds, "We encourage Canada's recreational boaters and motorists to plan ahead to visit New York by collecting proper identification documents." These include passports, proof of citizenship, driver's licenses, birth certificates, and parents' letters for children traveling with friends.

"The customs and immigration officers we have spoken with indicate a strong understanding of the importance of tourism and boating to New York state," says **Teresa Mitchell**, Executive Director of the nonprofit tourism organization Seaway Trail, Inc. "They have developed programs that will provide for both enhanced security and enhanced enjoyment of our region by visitors."

— Kara Lynn Dunn



Boating on Little Sodus Bay, Lake Ontario  
Photo courtesy of Diane Kuehn

## Along the Hudson...

**Nordica Holochuck** coordinates Sea Grant's activities in New York's Hudson Valley. This July, Holochuck supported City College's fourth annual weeklong Hudson River ecology class for public and private school teachers. The field class was conducted by Cornell Cooperative Extension of Rockland County's Environmental Program leader Mark Russo. Teachers visited The Audubon Sanctuary at Constitution Marsh where they seined and collected specimens in Indian Creek, (pictured above). The teachers are required to develop lesson plans focusing on the Hudson River Estuary as part of the course. Holochuck provided them with the needed resources, educational information and technical assistance.

Holochuck is also helping to launch the Hudson River Mariners Program. Her work with the region's recreational and commercial boating organizations is two-fold: (1) to promote best management practices for



Teachers participate in the fourth annual Hudson River ecology class, courtesy of Nordica Holochuck

pollution prevention, and (2) to educate the general boating public on water pollution prevention and Hudson River stewardship issues.

The Mariners Program is also sponsoring a research project with Rensselaer Polytechnic Institute's Richard Bopp and his student, Michael Wood. Bopp and Wood are studying existing NYS DEC data on the type and prevalence of sediment contaminants in Hudson estuary marina areas. Their goal is to characterize groups of contaminants present in various stretches of the river. RPI's resulting report could offer answers to Hudson marinas and yacht clubs. They are faced with deciding when dredging is the best solution for improving river accessibility.

— **Paul C. Focazio,**  
**Nordica Holochuck**

## Along our Rural Coasts...

Tourists in New York's rural counties come for the fishing, boating, camping, and hunting. They also visit NY's many parks, festivals, and historic sites. While en route to these activities, tourists also visit farms, farm stands, and other agritourism sites. That's what **Diane Keuhn** and **Duncan Hilchey** found in a recent study.

Keuhn, a NYS coastal tourism specialist, and Hilchey, an agriculture development specialist with Cornell University's Farming Alternatives Program, have released two publications on agritourism in New York. Their findings are two-fold: a market analysis and a study of the state's agritourism's management and operations.

The market analysis considers visitors' age, gender, length of stay, and traveling group. The business owner survey indicated that a large percentage of agritourism customers

are 55 years of age or older. Women are present in groups visiting agritourism sites ninety-eight percent of the time. Most customers are day visitors to the area.

Customer survey results show:

- ▶ Nearly three-quarters travel to agritourism sites with family.
- ▶ Almost one third come with friends.
- ▶ Almost half of the customers surveyed said they were repeat visitors to agritourism sites and that word-of-mouth was how they learned of the businesses.

Funding for the two-part study was provided by the U.S. Department of Agriculture through Cornell University's Research and Extension Integration Grants Program. See *page 23 for ordering details.*

— **Kara Lynn Dunn**



Visitors tour Alasa Farms, a historic Shaker farm in Alton, NY. Photo courtesy of Doug Ververs of the CCE of Oswego County.

# NEMO Rising

## Back to the Beach

This summer, dune stewards were back on the beaches and hard at work educating visitors about the 17 miles of beaches, sand dunes and wetlands along the eastern shore of Lake Ontario.

Molly Thompson, a Dune and Habitat educator with New York Sea Grant, coordinated the program. Thompson, whose efforts were supported by an NYSG-Nature Conservancy partnership, says, "This opportunity provided the stewards with some great on-the-ground training. And, while they benefited from the learning experience, the shoreline benefited from the steward's contact with the public on its value."

Like last summer (2001), NYSG, The Nature Conservancy, NYS DEC, and NYS Office of Parks, Recreation and Historical Places partnered to hire five stewards from a competitive pool of students. The stewards, who received college credit and a stipend, worked with everyone from children to seniors, summer to year-round and life-long residents. They helped to curb dune walking, bonfires, and other damaging activities to the lakeshore's ecosystem.

*Continued on page 7*

From Buffalo to Montauk, nonpoint source pollution, or contaminated runoff, is perhaps New York's leading water quality problem. In response, Sea Grant began New York's Nonpoint Education for Municipal Officials (NEMO) project in May 2000. New York's marine district NEMO project, one of 20 NEMO network programs across the country, delivers educational support to Long Island's local governments. NEMO assists officials in mitigating the impacts of nonpoint source pollution on coastal resources. Why? Because local governments control the vast majority of land use decisions that affect water quality.

New York Sea Grant educator **Eileen Keenan** oversees New York's marine district NEMO project which was modeled after a successful program that started at Connecticut Sea Grant. "Activities on land generate the primary contaminants to the Long Island Sound today," says Keenan. "In order to minimize the impacts of contaminated runoff, or nonpoint source pollution, it is necessary to plan and manage local land use within a regional geographic context that recognizes opportunities to protect natural resources."

Initially, the program focused on assisting watershed protection committees for Hempstead Harbor and Manhasset Bay. These two watersheds lie within heavily developed areas of western Nassau County along Long Island Sound. NEMO is now expanding the program eastward. Five key subwatersheds along Suffolk County's north shore are the focus: Huntington/Northport Harbor, Stony Brook Harbor, Port Jefferson Harbor, Mount Sinai Harbor, and the Nissequogue River. For each of these watersheds, Keenan has initiated a strategy to create and conduct locally customized "Linking Land Use to Water Quality" workshops.



**The contaminants that are generated on land find their way to bays, beaches and harbors through storm water outfall pipes like this one, pictured upper right. Outfalls tend to be hidden but the contaminants they discharge result in serious impacts to our special places along the coast.**  
Photos courtesy of Eileen Keenan

Local workshops are about to get a boost. New funding will allow Keenan to create eye-catching artwork to draw attention to how land use and nonpoint source pollution are related in these five areas. She will use Geographic Information System (GIS), a computer-based tool for mapping and analysis that transforms mere statistics into a colorful display of an area's population, vegetation, and land use over time. NOAA's *Development and Enhancement of Coastal NEMO Network Projects* initiative will provide funds to generate GIS graphics for the Nissequogue River watershed. The Long Island Sound Study (LISS) will fund similar efforts for the four other Suffolk County LIS subwatersheds. The one-year funding totals to about \$30,000. Artwork is slated for completion by early 2003.

GIS technology is a highly effective visual tool. It helps those without technical training to see the "big picture" concepts. Decision makers can apply such concepts to local issues as they formulate new evaluative

criteria for long range land use planning. "The GIS visuals will enable us to convey our nonpoint source pollution management strategy with greater clarity," says Keenan. This strategy integrates natural resource-based land use planning, site design, best management practices and land stewardship.

Keenan says the need for NEMO's educational support is abundantly evident. Many stresses on Long Island Sound that stem from land use and contaminated runoff yet remain. "Utilizing GIS maps and artwork of the Sound's localities, we will provide municipal decision makers with the educational support they need to protect their coastal resources while accommodating growth."

While broadening the scope of the program into Suffolk County, Keenan continues to work with Nassau officials. In October, the NY Sea Grant NEMO program, the Long Island Sound Study and the Coalition to Save Hempstead Harbor will sponsor a stormwater conference in Nassau County.

The success of the NEMO project in New York Sea Grant's marine waters has now spread to the Great Lakes. With NYSG's Dune/Habitat Specialist **Molly Thompson** at the helm, nonpoint source pollution education will soon be underway in several counties bordering Lake Ontario. In May, Thompson met with the Water Quality



This fall, Sea Grant will educate local officials in Pulaski, NY about contaminated run off into the Salmon River, a popular fishing destination. Similar water quality activities have already proven successful in the state's marine waters.

Courtesy of Molly Thompson

Coordinating Committees for Jefferson and St. Lawrence Counties. With them she introduced the roles and successes of the NEMO network of programs. Thompson also defined LEAPE, Locally Led Education and Action for Protecting the Environment, a program developed by Cornell Cooperative Extension and Sea Grant.

Because these localities are relatively rural, nonpoint source pollution issues are very different from those facing citizens in New York's marine waters. As Thompson explains, "Impervious surfaces and urban sprawl are of minimal concern in these areas. Agricultural preservation and fisheries protection are much higher priorities." She adds that, due to lack of regulations, septic system pollution is another concern.

While these are simply observations at this point, Thompson intends to use responses generated by these initial discussions with water quality coordinating committee members to focus her NEMO efforts. Under consideration is the production of publications offering information about how to control nonpoint source pollution and who to contact in each upstate county. These materials would be useful to committee members and their interested clients. Thompson is also planning a nonpoint source education training session in Pulaski, located in Oswego County, for early October.

— Paul C. Focazio

Photo courtesy of Molly Thompson



## Back to the Beach

*Continued from page 6*

The stewards were enthusiastically wel-

comed back this summer by visitors to the dune sites. They included (pictured, l-r): Evan Proulx, SUNY Oswego; Kirstin Berben and Keren O'Brien Murphy, SUNY College of Environmental Science and Forestry; Barry Mahar, SUNY Cobleskill; and Kenny Smith, Rochester Institute of Technology.

During the summer, the stewards:

- ▶ Participated in Dune Fest, a program for local middle school students.
- ▶ Worked with high school students from New York City who interned with The Nature Conservancy.
- ▶ Wrote articles about the dune ecosystem for the local newspaper.
- ▶ Worked with the land managers to improve signage and trail systems.
- ▶ Led canoe tours through the wetlands and interpretive hikes along the beaches.

For more on the dune steward internship program, contact NYSG's SUNY Oswego office, 315.312.3042.

—Paul C. Focazio, Molly Thompson

# New York's Great Lakes Fisheries: The Real Fish Story

## Trophy-size Salmon

Chinook or king salmon are the largest species stocked into the Lake Ontario system and are highly prized by anglers. The Seaway Trail boasts the largest chinook salmon ever caught east of the Mississippi, weighing in at an incredible 47 pounds 13 ounces. They are voracious predators and eat three times their own body weight in small fish to reach these large sizes in the lake. They provide excellent lake fishing year round but are most often caught between the spring and fall. As adults, they return from the lake into their home stream in the fall where they provide trophy fishing opportunities for stream and bank anglers. Chinooks are a large silvery fish, with spotting on the upper half of the body and all of the tail.

— Dave MacNeill

Excerpts of Dave MacNeill's New York State's Seaway Trail Journey Magazine 2002 article are reprinted here on pages 8 and 9 with permission. To read more about fishing for salmonids go to 1-800-SEAWAY-T or [www.seawaytrail.com](http://www.seawaytrail.com) to request a free copy.

The good news, says New York Sea Grant Fisheries Specialist **Dave MacNeill**, is record-setting fish have been caught in New York's Great Lakes fisheries. "The bad news is that angling success has been down relative to previous years, perhaps related to unusual weather patterns this spring. But on the positive side, early signs suggest that fishing will start to pick up as trout and salmon move closer to shore." On the negative side, botulism now exists in both Lake Erie and Lake Ontario and monster size Asian carp are invading the Great Lakes. The good news is Sea Grant already has an information bank of research data on botulism in the Great Lakes and a research project on affected fish underway. NYSG staffers are also reading the literature on Asian carp.

Always good news: New York Sea Grant is constantly working to accentuate the positive and reduce, if not eliminate, the negatives affecting our coastline by employing science to educate public audiences concerned about the fisheries.

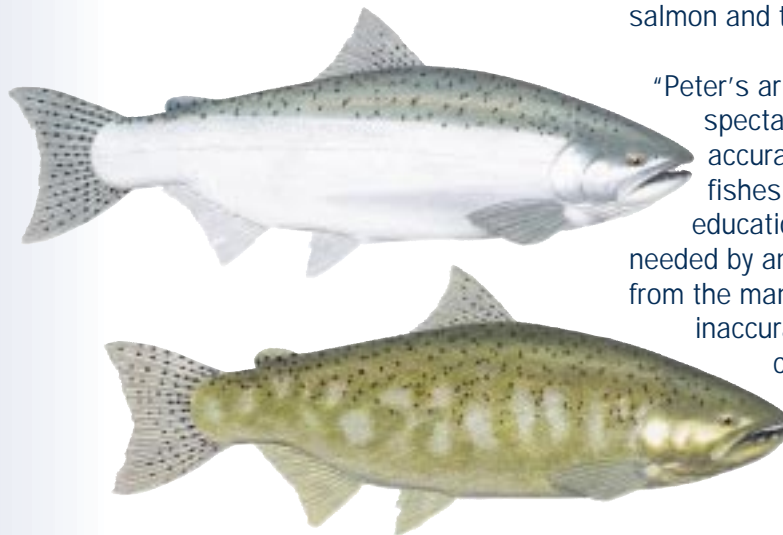
"Our goal is to share research-based, fact-based information with anglers, marina operators, and recreationists to maintain a healthy waterfront economy," New York Sea Grant Great Lakes Program Coordinator **Dave White** explains.

To educate recreational anglers about New York's freshwater sportfishing resources, MacNeill authored "Salmonids: Record-Breaking Salmon & Trout of the Seaway Trail." It appeared in the 2002 *Journey* magazine, published by the nonprofit Seaway Trail, Inc. of Sackets Harbor. Approximately 250,000 copies of the magazine are distributed to consumers and media across New York State and the U.S.

### "A Sportfishing Mecca"

MacNeill's article calls the combined St. Lawrence River, Lake Ontario, Niagara River, and Lake Erie waters a "sportfishing mecca for anglers from all over the world." It describes record-breaking fish caught from Massena to Ripley. Sea Grant commissioned artist **Peter C. Thompson** to create illustrations to help anglers properly identify various species of salmon and trout.

"Peter's artwork gives us a spectacular collection of accurately-colored and marked fishes. The artwork serves an educational mission that was clearly needed by anglers trying to identify fish from the many black-and-white and inaccurate depictions that were in circulation," MacNeill says.



Chinook salmon in lake phase (top) and river phase (bottom).  
Artwork by Peter C. Thompson





### Facts, not Fear, Found on Sea Grant websites

In July 2002, botulism was first identified in Lake Ontario. But months before, New York Sea Grant Coastal Education Specialist **Helen Domske** and Assistant Communicator **Paul Focazio** had set up a web site [www.seagrant.sunysb.edu/botulism](http://www.seagrant.sunysb.edu/botulism) with facts and updates about outbreaks of the bacteria in other Great Lakes. This information helped to dispel public fears about botulism.

Researchers looking at the role that invasive species might play in the transfer of botulism have found valuable information at New York Sea Grant's [www.aquaticinvaders.org](http://www.aquaticinvaders.org). This comprehensive web site offers facts on freshwater and marine nuisance invasive species. The site is maintained by New York Sea Grant Coastal Resources Specialist **Chuck O'Neill, Jr.** Chuck O'Neill was recently appointed to the select Invasive Species Advisory Committee that advises the National Invasive Species Council. (See page 18).

With Sea Grant funding, researchers **Paul Bowser** and **Rod Getchell** with Cornell University's College of Veterinary Medicine are measuring the prevalence of the botulism bacteria, *Clostridium botulinum*, in healthy, moribund, and dead fish in Lake Ontario and Lake Erie.



### Carp: Fish or Foul?

St. Lawrence River sportfishing buffs are successfully promoting angling for common carp to international visitors. But on the upper Great Lakes, Asian carp, an invasive species that can reach weights of 50 to 100 pounds, are threatening to disturb the food chain of the Great Lakes' fisheries.

NYSG specialists have already studied hundreds of papers written by European fisheries researchers and managers on the impact of Asian carp on overseas waters. They are paying particular attention to the feeding patterns of these fish, which are notoriously inefficient food processors. They also want to know how the fish affect nutrient levels, namely nitrogen and phosphorus levels.

Dave White, who shares fisheries education and information materials with marina operators and marine trade groups, says "Sea Grant's research and fact sheets play a vital role in addressing water resource issues. They also keep our marine-based businesses healthy up and down the New York shoreline. We have a strong record of anticipating bad news and having research already underway to develop some answers for anglers, boaters, and waterfront business owners."

—Kara Lynn Dunn

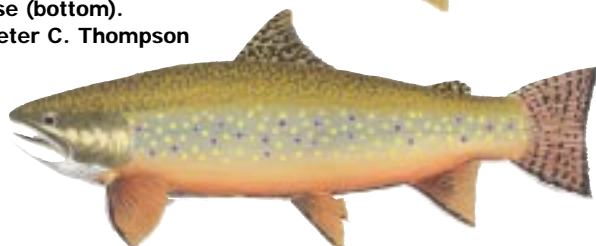
## State Record Lake Trout

Lake trout, were once native to the Great Lakes waters but became extinct during the 1950s from excessive commercial fishing and predation by the sea lamprey, a primitive blood-sucking fish that may have been introduced into Lake Ontario during the early 1800s through the inland rivers and canals. Lake trout have been stocked in Seaway Trail waters since the early 1970s in an attempt to create a self-supporting population and to provide deeper water fishing opportunities. There have been some encouraging signs of successful reproduction during the last decade. Lake trout are long lived species with specimens living beyond seven years. The Seaway Trail boasts the state record for lake trout at over 39 pounds. Lake trout are easily distinguished from other species by their pattern of light worm tracks along a green or gray background.

— Dave MacNeill



Lake trout in lake phase (top) and river phase (bottom).  
Artwork by Peter C. Thompson



Like the salmon and trout artwork you see?

Notecards and posters are available through Seaway Trail Inc. See contact info on p. 8.

Photo  
courtesy  
of George  
Proios

# In the Breach

## A Breach at Moriches Inlet

This aerial view shows the Moriches Inlet area during a 1980 breach event. Moriches Inlet (in foreground lined with a jetty) connects Moriches Bay (on the left) with the Atlantic Ocean (on right). Currents scouring the shoreline along the bay weakened the barrier which then breached during a storm. Rising bay waters eventually broke through the barrier and flowed into the ocean.

The breach reached a width of 2,900 feet in less than a year. It was closed artificially soon thereafter. Moriches Inlet itself was created by a breach in 1931. As would be expected, the breach allowed more salt water into the bay, which in turn had a profound effect on the bay's living resources. Predators entered the bay, too, destroying the oyster sets and undoubtedly impacting the local economy.

Each year, millions of people flock to Long Island's popular south shore beaches. Barrier islands, such as Fire Island, act as buffers that protect the mainland from storm surges and wave action. Separating the mainland from its barriers is a system of estuaries of great environmental, ecological, and economic importance to Long Island.

As has happened in the past when storms have opened a breach through the island or formed a new inlet, people take notice. The first concern is for safety and protection of people and property. However, coastal planners, managers, decision-makers and the public are also greatly interested in the impacts these changes can have on the bay's natural resources. Studies indicate that there is a strong probability that breaches or new inlets may occur in the future. These bays are home to many environmentally and economically important plants and animals. People need to know how new breaches might affect the living resources found there.

Towards this end, New York Sea Grant worked with the Marine Sciences Research Center at Stony Brook University to identify and assess the types of information required to properly evaluate the potential impacts of breaches on Great South Bay, the largest of Long Island's south shore bays. Jay Tanski, NYSG's coastal processes specialist, Henry Bokuniewicz, professor of physical oceanography at MSRC and Cornelia Schlenk, Assistant Director of NYSG led the effort with support from the National Park Service. Using the results of a computer model that simulated what would happen if new inlets were created at two likely locations along

Fire Island, a team of scientific experts was asked to identify the biological resources most likely to be impacted. The team also assessed what steps could be taken to better define and quantify these impacts from a management perspective. The experts' initial findings were presented and reviewed at a workshop for other scientists and federal, state, and local managers and agency representatives. Final results appear in a NYSG publication, *Impacts of Barrier Island Breaches on Selected Biological Resources of Great South Bay, New York*.

The hydrodynamic model developed by Daniel Conley (formerly of MSRC) simulated the potential impacts that a new inlet would have if it occurred either at Barrett Beach or at Old Inlet on Fire Island. The modeled breaches had flow characteristics comparable to the Little Pike's Inlet breach that formed in 1992 at Westhampton (see



May 3, 1993: Above, an aerial view of Pike's Inlet shows a breach in the Westhampton barrier island on Long Island's south shore. The top of the photo shows the fan-like pattern of sand deposition in the bay.



October 5, 1993: The breach at Pike's Inlet was closed artificially. Photos courtesy of NYSDEC

photos). The model predicted that the new inlet would affect Great South Bay in two basic ways: by increasing the average salinity and reducing the amount of time water stays in the Bay (residence time). In essence, conditions in Great South Bay would become more like those found in Moriches and Shinnecock Bays.

To assess how these physical changes would affect the Bay's living community,

**Elizabeth Cospers** of Coastal and Environmental Studies Inc., led off with what would happen to water column productivity in the Bay. The plankton and nutrients in the water make up the foundation of the Bay's ecosystem. She reports "While increasing salinity might favor smaller phytoplankton species, such as brown tide, the lower residence times and increased flushing would cause a decrease in nutrients." If a new inlet makes Great South Bay more similar to Moriches or Shinnecock Bay, Great South Bay should become a less favorable environment for nuisance algal blooms like brown tide. She predicted a possible shift to larger algae that might decrease overall phytoplankton productivity in the Bay. The shift might adversely affect the small animals in the water column but benefit shellfish on the bottom. Cospers also suggested that residence times might not necessarily be reduced evenly across the bay. Thus, brown tides would tend to keep occurring in areas with poor flushing.

"The changes associated with a new inlet indicated by the model would probably not have major impacts on the finfish in Great South Bay," says finfish expert **David Conover** of MSRC. Many of the Bay's existing fish populations are adapted to higher salinities, so a predicted increase in salinity is not likely to have a major influence on the overall species composition. "At most, we might expect a slight increase in the abundance of marine species that are more commonly found on the continental shelf: dogfish and skates, northern kingfish, black sea bass,



tautog and Atlantic herring (in winter)." Conover adds that changes in the Bay's vegetation would change the habitat for certain fish species. "Since recreational fishing tends to be concentrated in inlets, an almost certain effect of a new inlet will be to redistribute fishing effort in the Bay, perhaps drawing anglers away from Fire Island and Moriches Inlets."

Eelgrass is a common submerged vegetation in the Great South Bay. How much of it grows and where is a question of light availability. According to aquatic plant expert **Stuart Findlay** of the Institute of Ecosystem Studies, "If a new breach caused the water clarity in Great South Bay to approach that of Moriches Bay, there would be an increase in the maximum depth of eelgrass beds." With clearer water, eelgrass is likely to expand its range at greater depth. Regarding intertidal, marsh vegetation Findlay reports, "The model predicted relatively small changes in the average tidal range. However, even small changes in water level elevations may affect intertidal vegetation if the new inlet persists for more than one or two years."

The team of experts was in agreement that comparative studies should be conducted between Great South Bay and the two neighboring bays, Moriches Bay and Shinnecock Bay. The neighboring bays are reflective of the higher salinities and greater oceanic mixing of waters that may be expected with a new inlet in Great South Bay.

Says Tanski, "The information provided here should help in identifying the biota most likely to be affected by new inlets and the general nature of the impacts. Just as importantly, it provides guidance on the types of information and data needed to fill in our knowledge gaps and on measures that can be taken to obtain this information. In addition to providing managers with information they can use immediately, it is hoped that suggestions and recommendations presented in this report will be of use in the development and design of research, monitoring and other data gathering programs."

—**Barbara Branca, Jay Tanski**  
and material taken directly from  
*Impacts of Barrier Island Breaches  
on Selected Biological Resources  
of Great South Bay, New York.*  
See page 23 to order.

## Changes Above, Changes Below

Team member **Robert Cerrato** of MSRC evaluated how breaches on Great South Bay could affect shellfish and other benthic (bottom-dwelling) invertebrates. Reports Cerrato, "Breaches remaining open a year or less would probably have minimal long-term impacts. However, longer lasting inlets could cause substantial changes." Species in eastern Great South Bay would probably shift more toward those of the western Bay. Populations of lady crab, razor clam, and the bivalve *Tellina agilis* would be altered as a result of a new inlet.



A new breach would have both negative and positive impacts on the hard clam, an economically important species of the Bay. Salinity and temperature changes would slow the development of their fertilized eggs and larvae so fewer clams would survive. Their predators—channeled whelks and moon snails—would probably increase, reducing clam survival even more. On the other hand, larger oceanic plankton species could improve food quality for clams and more moderate winter water temperatures could decrease their over-winter mortality.



Getting nowhere fast. A young oarsman is just learning on Beaver Dam Creek on the South Shore of Long Island. Efforts are underway to restore the wetlands along the creek to improve fish and wildlife habitat. Photo by Barbara Branca



## Restoring Beaver Dam Creek

The original channel of Beaver Dam creek in 1938 when engineers began work to straighten its curves.



The same area today shows the channel was dredged and straightened mainly to accommodate boats going out into Great South Bay. Photo courtesy of Suffolk County Soil and Water Conservation

Restoring coastal ecosystems to better health is a priority of many groups and programs throughout New York and our nation. Restoration efforts attempt to improve the health of coastal areas by undoing some of the damage done over the years, and also strive to keep pollutants from entering coastal waters. One such project is the Beaver Dam Creek Restoration Project on Long Island's south shore.

When Beaver Dam Creek was dredged in the 1920s and 1960s, the dredged materials were placed in the wetlands. Dikes constructed along the Creek prevented the tides from reaching the wetlands. As a result, habitat was lost for many important fish species including winter and summer flounder, striped bass, bluefish, blackfish (tautog) and forage fish species. Also lost was habitat for the many waterfowl, wading birds, and shorebirds that live and feed in wetlands.

There are two primary aspects of this restoration project: first, to restore wetlands along the Creek; and second, to motivate everyone that lives in the watershed to become its stewards.

The emphasis of the actual restoration is removing the dredged spoils on the historical wetland areas, opening some of the dikes to allow regular tidal flow, and controlling invasive plant species, particularly common reed (*Phragmites australis*). These activities will allow for natural marsh functions to return, as well as the plants and animals dependent on wetlands. The work will be done on land owned by the Post-Morrow Foundation and the Suffolk County Parks, Recreation and Conservation Department. A small-scale project on a three-acre piece of Post-Morrow Foundation land has already been successfully restored. The goal is to restore more acres in the future.



Restoration efforts will reduce the dominance of the common reed (*Phragmites australis*), found growing along the banks of Beaver Dam Creek. Photo by Barbara Branca

# Watch

Another part of the project is to get people involved in the stewardship of the creek. Many day-to-day activities can lead to pollutants finding their way into Beaver Dam Creek and the adjoining wetlands. Educational materials about the project will inform the local population that lives in the watershed about the materials that can potentially cause pollution, such as fertilizers, automotive oil and other toxic products used around the home or place of business.

Partnerships are a key ingredient of habitat restoration. Many different organizations are contributing their own staff time and resources to complete this project as well as actively seeking grant money from the State and Federal governments to help pay for the restoration work. The project was recently awarded a \$60,000 grant from the NOAA Community-Based Restoration Program.

Some of the groups lending their expertise in this project include the Post-Morrow Foundation, Ducks Unlimited, the US Department of Agriculture Natural Resources Conservation Service, U.S. Fish and Wildlife Service, Trout Unlimited, Cornell Cooperative Extension, New York Sea Grant, The New York State Department of Environmental Conservation, the New York State Department of State, the Town of Brookhaven, South Country Schools and several Suffolk County Agencies.

— **Robert Kent**  
NYSG Marine District  
Program Coordinator

Robert Kent worked with Oregon and Louisiana Sea Grant on the *National Ecosystem Restoration Manual*. See page 23 to order.

Photo by Barbara Branca



Cindy Patterson of Ducks Unlimited explains to Robert Kent how the common reed and dredged material were successfully removed from a three-acre site. Now in its place is smooth cordgrass (*Spartina*) that appears shorter and lighter green than the surrounding area. Boat courtesy of Joe Harder

Photo by Susan Hamill



As the channel was straightened, dredged spoils were dumped into the wetlands, covering native vegetation and destroying fish and wildlife habitat.

Captions by Barbara Branca

# On The Level

## Lake Ontario "in depth"

Lake Ontario's water level fluctuates on a daily basis, seasonally, annually, and over historical periods of time as the graph below attests. Water supplies to the lake as well as outflows and evaporation from the lake's surface are in a constant state of flux. Lake Ontario's water level moves through a range of about two feet annually. Melting snow, low evaporation rates, and heavy spring rains contribute to seasonal peak lake levels in late June or early July. Higher summer and fall evaporation rates and generally lower summer rainfall begin to lower the lake's level from mid-summer. In the winter, water is tied up in snow and ice, which results in an annual low water level around New Year's Day.

Since 1998, water levels on the Great Lakes have generally been well below their long-term historic averages. Lake Erie averaged about 7 to 10 inches below its average water level curve throughout the summer and fall of 2001. Lake Ontario varied from almost average in mid-summer 2001 to as much as 6 inches below average by mid-autumn.

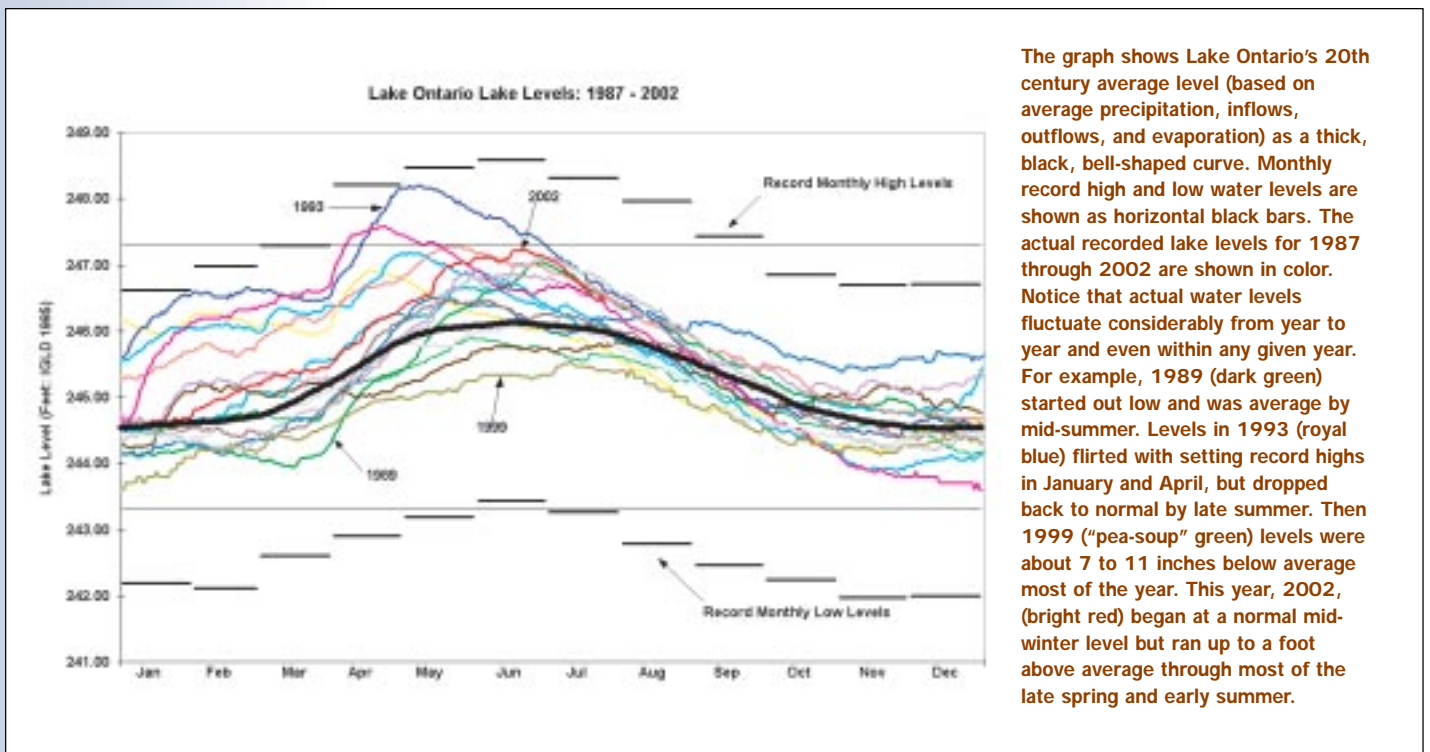
However, this downward trend was reversed somewhat this year. There was significantly above-average precipitation in fall 2001 throughout the Great Lakes Basin, and near average snow water equivalent in the winter. Precipitation throughout most of the Basin in February 2002 helped to raise most lake levels. (Lake Ontario was the only watershed with below average precipitation in February.) As a result, lake levels of Lakes Superior, Erie and Ontario were significantly higher than last year. In mid-May, Lake Erie was about average for that time of year, while Lake Ontario, with substantial inflows from the upper lakes

and significant rainfall within its own basin, was almost 11 inches above its mid-May average.

U.S. Army Corps of Engineers and Environment Canada forecasters anticipated that water levels in late summer on Lake Erie would be near average—significantly higher than last summer. The late summer drought has lowered Lake Ontario back to normal for the time of year. This is good news for boaters who will enjoy more clearance over shoals and in channels. It is good news likewise for dock owners whose docks were high and dry in previous low-level years. Some shoreline landowners prefer to see average or even lower levels to guard against stormwave-driven shoreline erosion.

Want more info on Great Lakes water levels or shoreline erosion, processes, and control? Call NYSG at 585.395.2638 or log onto [www.cce.cornell.edu/seagrant/gl-levels/processes.html](http://www.cce.cornell.edu/seagrant/gl-levels/processes.html).

— Chuck O'Neill  
NYSG Coastal Processes Specialist



# Restoring Great Lakes Wetlands

That is the question that New York Sea Grant's community issues specialist **Dave Greene** and others are asking. Wild rice is an indigenous North American plant that helps stabilize wetlands. It is also considered sacred by Native cultures.

NYSG's Greene is part of a developing network that includes Cornell University's American Indian Program, native peoples, environmentalists, heirloom seed preservationists, and farmers who are interested in the preservation of seeds and habitats of culturally significant plants such as native wild rice.

"The Plant Materials staff of the Natural Resource Conservation Service of United States Department of Agriculture is interested in developing wild rice as an alternative plant to replace the invasive purple loosestrife and *Phragmites* in wetlands areas," Greene explains. "Organic farmers and heirloom seed preservationists are interested in preserving wild rice for its heritage value. For native peoples, wild rice is a culturally sacred plant and one that is a source of food and economic benefits."

The network hopes to link to other groups outside the region such as the White Earth Land Recovery Project, based in Minnesota, which is concerned with wild rice. Greene says the St. Regis Mohawk Nation at Akwesasne on the St. Lawrence River has sown wild rice, and harvested it for family food use. He notes that wild

rice growing naturally is more honored by native peoples than a paddy-cultivated wild rice. Wild rice is harvested and sold in some areas.

A work team is currently looking at the feasibility for seeding wild rice both as a habitat restoration plant and as a food crop. The team is coordinating with Cornell's indigenous seed sharing and preservation group and would like to work with the White Earth Land Recovery Project to extend information to interested parties throughout the Great Lakes. A New York Sea Grant fact sheet on wild rice is expected in the coming months.

— **Kara Lynn Dunn with H. David Greene**

**This typical clump of wild rice plants in a freshwater tidal marsh in South Carolina helps to stabilize wetlands. Wild rice occurs in small colonies in the south, while further north, it is found in extensive, almost monoculture stands. Photo courtesy of Dr. Peter F. Lee**

|| *Wild Rice—Can this culturally, environmentally and economically significant plant help restore wetlands in northeastern North America?* ||

— *H. David Greene*



# Small Grants, Big Impacts

## Shoring up Stewardship

This is the fifth year of Long Island Sound Study funding for the American Littoral Society's (ALS) fall beach cleanups in the Sound's watersheds. "This is a great occasion for people to get out and clean up our local beaches," says **Kimberly Zimmer**. Participating volunteers will learn about marine pollution and what they can do daily to solve the problem of floating debris. If you'd like to become a beach captain, contact ALS at 718.471.2166.

A Harbor Estuary Program mini-grant will allow the New York Aquarium to offer Project BEACH – Beach Ecology and Care of Habitats – to five Brooklyn elementary classes. Says **Laura Bartovics**, "BEACH is an innovative marine science education program that emphasizes the importance of stewardship of the shore and promotes community awareness through its hands-on approach to coastal ecology."

The public *can* help protect New York's waters. That's the formula for success used by the Long Island Sound Study (LISS) and NY-NJ Harbor Estuary Program (HEP) as they continue to fund individual small grant programs. These programs, administered by NYSG, offer \$4-5K in seed monies to non-profit organizations, local governments, public agencies, schools and school districts for projects that emphasize the Sound and Harbor as living environmental and social resources.

"One of our primary goals is to support and encourage the efforts of citizen stewards who motivate people to actively participate in the Harbor's restoration," says **Laura Bartovics**, NYSG's HEP outreach coordinator. **Kimberly Zimmer**, Sea Grant's LISS educator, adds, "We are pleased that the Sound's program continues to attract quality projects that encourage public awareness, involvement, and education around this national treasure."

## Along Long Island Sound

Now in its eighth year of providing these grants, the LISS has allocated \$200K for 73 projects since 1995. Last November, an additional \$55K was earmarked for 12 community projects throughout the Sound's New York and Connecticut watersheds. The projects focus on teacher training, interpretive models, aquaculture, habitat restoration, community outreach and education, controlling floatable debris, and a festival celebrating the return of shad.

One project, overseen by Friends of the Bay, is bringing bilge sock education to Oyster Bay and **Cold Spring Harbor** ① boaters (see map, p. 17). This is being conducted via distributions of socks and brochures at local yacht clubs and speaking engagements such as this past May's Bay Day.

So what's a bilge sock? It's a 3x18-inch sausage-shaped tube containing special fibers capable of absorbing up to two quarts of oil and fuel from a boat's bilge

compartment, preventing discharge into surrounding waters. Once used, bilge socks that are not dripping oil can be disposed of in a garbage can. If they contain bioremedial bacteria, though, they must be discarded at a marina, automotive repair shop, or any other place that recycles oil. These bacteria will continue to break down the oil and fuel in the bilge sock.

"This grant gives us a unique opportunity to partner with inboard motorboat owners to prevent boat bilge discharges from harming marine and aquatic organisms and degrading water quality," says Zimmer. She estimates that if 80 percent of these boat fuel absorptives distributed are installed this year, up to 800 quarts of oil will have been kept from polluting New York's Oyster Bay and Cold Spring Harbor.

In another effort, the North Shore Audubon Society will help a community "go native." They will remove non-native plantings at Garvies Point Preserve in Glen Cove, such as Norway maples and multi-flora roses, and replace them with native species. This restoration will enhance the organization's existing outdoor educational program, which includes fresh water ecology, biology, geology, and wildlife observations. It is anticipated that more than 3,000 people will have participated in these programs once the restoration is completed.



Several of Long Island's Friends of the Bay display a sausage-shaped bilge sock along Oyster Bay Harbor during May's kick-off event to distribute 500 of these boat oil absorptives to area boaters. The Friends modeled their efforts after a similar, highly successful program in Buzzards Bay, Massachusetts.

Photo courtesy of Kimberly Zimmer



Educating the next generation is a big theme, too. A variety of teacher-related projects are underway as well. The **Manhasset Bay** <sup>10</sup> Shoreline Trail Program allows elementary school children to approach the Long Island Sound from different perspectives - as an environmentalist, a water pollution specialist, a politician, and a community member. In another LISS project running through this fall, Save Our Sound offered about a dozen **Mt. Vernon** <sup>9</sup>, NY teachers hands-on strategies for engaging inner-city third to sixth graders in the stewardship of the Sound.



**View of the Hudson River and Jersey City, NJ** ∞ from the River Project at Pier 26 in Lower Manhattan. This pier is the site of a series of free summer educational events: open houses with outdoor science activities and demonstrations, seminars, conferences, and lectures. Funded through an HEP mini-grant, these events link to ongoing research at the Project's field station and educational programs such as marine biology internships for high school students.

Photo courtesy of Laura Bartovics

## New York-New Jersey Harbor Estuary

The NY-NJ Harbor Estuary Program's public involvement and education mini-grant program began encouraging citizen participation in the protection and restoration of the estuary in 1991. In three grant cycles from 1991 to 1994, more than \$150K was awarded to fund 42 projects. Last year, the mini-grants were restarted with a \$25K NYSG-administered allocation. Bartovics' goal was to "expand the program to support a greater number and diversity of education and stewardship projects."

The 11 projects funded this year focus on bolstering water restoration efforts, and educating local citizen groups, teachers, and students on a variety of coastal ecology and stewardship issues. Also targeted is a reduction in stormwater runoff from non-point sources (NPS), a major contributor to water pollution in the Harbor. This NPS pollution comes from various places, including the homes and yards of watershed residents.

Thanks to HEP monies, Mariners Marsh Conservancy is organizing two volunteer clean-ups. Volunteers will remove debris in and around **Staten Island's** √ Bowman/Newton's Creek, which connects Mariner's Marsh to the Kill Van Kull.

HEP mini-grants will also help get the word out about the River Project's series of events at Pier 26 in **Manhattan** ≈ . Organizers anticipate a 150% increase from last year's 800 attendees. The detrimental effects of non-point source pollution were at the forefront of a Weequahic Lake drainage area storm drain-marking event held in New Jersey this past May.

Douglaston's Alley Pond Environmental Center is working with middle school teachers, students, and their families in Queens, NY to increase public awareness about protecting the **East River** ≤ and **Little Neck Bay** ≥ . Another HEP mini-grant allowed Randall's Island Sports Foundation to offer its Kids Island Club nature program to three Washington Heights/Inwood and Harlem middle school classes this spring.

— Paul C. Focazio



Numbers refer to sites where projects are now underway in Long Island Sound and the NY/NJ Harbor Estuary.

## For more . . .

on these and other funded LISS and HEP small grants, log-on to [nyseagrant.org](http://nyseagrant.org). A request for the next wave of LISS small grant project proposals is now underway. HEP's 2003 mini-grants will include funds to sponsor Harbor-wide events on National Estuaries Day, October 27, 2003.

# New York's "Least Wanted"

*We asked  
Chuck O'Neill,  
Diane Oleson and  
Dave MacNeill  
of the SUNY  
Brockport office,  
home of the  
Clearinghouse, to  
give Coastlines'  
readers an idea  
of some of  
New York's "Least  
Wanted" aquatic  
nuisance species.*



Stakeholders interested in the introduction, spread, impact, prevention, and control of invasive aquatic nuisance species (ANS) need timely, reliable scientific information and fast, easy access to ANS research. Established in 1990, Sea Grant's **National Aquatic Nuisance Species Clearinghouse** is the home of North America's most extensive library of publications pertaining to the zebra mussel and almost 30 other invasive species of freshwater and marine molluscs, crustaceans and fish, as well as biological macrofouling and invasive species policy issues.

The Clearinghouse mission is to: facilitate ANS information sharing among researchers and policy-makers; provide timely dissemination of ANS research findings and facilitate ANS

prevention and control technology transfer between researchers and end user audiences.

Information is accessible via mail, electronic mail, fax, telephone, or visits to the Clearinghouse's Web Site. A database of the Clearinghouse library is keyword and "plain English" searchable on the Clearinghouse's World Wide Web site. Interlibrary loan documents may be ordered directly on line.

The Clearinghouse web site also presents other ANS-oriented information such as detailed maps charting the range expansion of zebra and "quagga" mussels; information on educational materials available from the Clearinghouse; PDF versions of ANS fact sheets; announcements of ANS meetings and activities; and an extensive annotated links page.

*Continued on page 22*

# Lake Ontario Algae Workshop

On May 30, 2002, New York Sea Grant collaborated with Monroe County Department of Health and the Water Education Collaborative to sponsor a day-long workshop on the algae problem in Lake Ontario. The workshop, funded by the New York Great Lakes Research Consortium, examined the factors contributing to algae growth, problems associated with the algae blooms and potential solutions to this problem.

Residents in coastal areas along Lake Ontario have been dealing with nuisance algal blooms and the resulting mess and smell as the filamentous algae dies off and ends up on beaches or along rocky shoreline areas. **Helen Domske**, a New York Sea Grant Extension Specialist, was asked by **Margy Peet** of the Monroe County Health Department to help organize the workshop and identify speakers who could share information on algae and address the factors that contribute to increased algae growth and accumulation.

This workshop provided a first time opportunity for those who study the problem, manage the areas impacted by the algae blooms and coastal residents who must cope with the algae on their property to gather together to share information and learn from each other. The workshop had strong support from many local and county governmental agencies, environmental organizations and university faculty members who comprised the 95 participants from both sides of the border who attended.

The organizers brought together experts from the U.S. and Canada to address issues related to these problems. Subjects covered at the work-

shop included basic biology of algae growth, recent research and trends, Lake Ontario algae bloom history, overview of past efforts to manage algae, and new ideas being evaluated for algae management. The workshop included solicitation of ideas for solutions and future research needs.

The program began with an overview of the basic biology of algae growth that was presented by **Dr. Joseph Makarewicz** of SUNY Brockport. Makarewicz, who has completed many NYSG-funded research projects on ANS, also addressed zebra and related mussels and their impact on water clarity, which increases light penetration – encouraging algae growth. **Murray Charlton**, a research scientist from Environment Canada, focused on nutrients such as phosphorus and nitrogen and their role in promoting algae growth.

**Chuck O'Neill**, a Senior Extension Specialist from NY Sea Grant, provided information on physical factors impacting algal growth and identified different types of algae that can be found in these algal blooms, including *Cladophora*, *Ulothrix* and *Spirogyra*. *Cladophora* is a filamentous algae that grows in deeper water at warmer temperatures and is most commonly a problem during the summer months. O'Neill provided an historical overview of algal blooms that have impacted Lake Ontario for decades.

Other speakers included **Dr. Tony Vodacek**, of the Rochester Institute of Technology, who spoke about his findings from a study of the lake bottom using hyperspectral imaging. Speakers from Monroe County and the U.S. Army Corps of Engineers rounded out the presentations. A question and answer period that called upon the gathered expertise allowed participants to have their questions addressed. The group then broke up for small discussions to brainstorm potential solutions to the algae problem. Although no concrete solutions were offered from the breakout sessions, the groups indicated a need for additional research on the subject along with possible demonstration projects and educational activities.

— **Helen Domske**  
NYSG Coastal Education Specialist



*Cladophora*, *Ulothrix* and *Spirogyra* are common forms of filamentous algae. Illustration by Cynthia Armstrong

## Want to Learn More?

To address the need for research, organizers are hoping to help develop a research agenda and encourage agencies and organizations to seek funds to help answer questions concerning the algae problem. NYSG is developing workshop proceedings through its SUNY Buffalo office. For more, contact [sgbuffal@cornell.edu](mailto:sgbuffal@cornell.edu).

For the related story, "Developing New Methods of Toxin Detection," see the Spring 2002 *Coastlines*. NYSG researcher Dr. Gregory Boyer is designing and developing cutting-edge technologies to detect toxins from algae in Lakes Ontario, Champlain, and other freshwater sources.



**Chuck O'Neill**, Coastal Resources Specialist and Director of Sea Grant's National Aquatic Nuisance Species Clearinghouse, provided an historical overview of algal blooms that have impacted Lake Ontario for decades. Photo courtesy of Monroe County Department of Health

# Angling Around New York's Marine District

Throughout the summer and early fall, the angling community is busy organizing activities to lure New Yorkers to the shorelines. What better way for kids to enjoy fine weather than to spend a day fishing from one of the many access points along the shoreline? Whether your preference is salt- or freshwater, there are many services being offered to residents and visitors to the state.



Children at a springtime fishing clinic learn about Long Island's most popular sport fish from Antoinette Clemetson's colorful display. Photo courtesy of Antoinette Clemetson

*Teach-A-Kid-To-Fish* is a workshop that is organized by local angling clubs and associations, to teach basic fishing skills to our youths. Kids learn knot tying, fish identification, casting techniques, catch-and-release, and boat safety. Each session includes poster presentations and short lectures coupled with hands-on sessions, including a wet display of locally caught fish. Kids enjoy touching specimens and getting their hands dirty. Workshops are held near the water to allow time to practice what they've learned. Several anglers have attested to the satisfaction of seeing a child catch his or her first fish.

The newly constructed Sportfishing Education Center and Aquaculture Facility located at Cedar Beach Marina in the Town of Babylon is another way youths can participate in marine education. The Center is a pivotal point in promoting saltwater fishing and angling ethics, including catch-and-release fishing. It will soon support the wider angling community by offering adult education programs. Plans include a fishing museum displaying fishing tackle over the years. *Casting for Recovery*, a program that focuses on women breast cancer survivors, has already hosted a weekend retreat in collaboration with the Center.

The Center was made possible with funds secured by Assemblyman Robert Sweeney. The planned programs are collaborative efforts among many groups including New York Sportfishing Federation, Long Island Beach Buggy Association, *The Fisherman*,



Young and young-at-heart practice technique along the Nissequogue River. Photo courtesy of Antoinette Clemetson

New York Sea Grant, NYS DEC, and Cornell Cooperative Extension Marine Program.

Parents can also use the *Fishing Tackle Loaner* program, a national initiative conducted from participating libraries, where patrons with a library card may check out a saltwater fishing rod and reel and tackle boxes on loan. Bayshore and Patchogue-Medford public libraries run the program from summer to early fall. Librarian Paul Haywood gives the program high marks. This program would not be possible without support from the angling community that donated fishing equipment.

## *Fishing in New York City*

Fishing-sponsored events are not confined to the suburbs. Several groups and agencies offer fishing clinics in the bustling metropolis of New York City. Staff at *Battery Park City Parks Conservancy* organizes fishing festivals and marine education programs in lower Manhattan, and offers a six-week master angler training course. Master anglers are the foundation for outreach to youths and other focus groups. These volunteers continue to promote the sport of fishing in their own communities.

*Take-a-Kid-Fishing* offers environmental educational and angling programs to youths. The staff works with teachers to arrange classroom projects and lectures that culminate in a field trip. The program is a partnership with associations and agencies including schools, state agencies, youth support groups, and charterboat operators.

The new *I Fish New York* program being coordinated by NYSDEC will also focus on outreach in the city and on Long Island. Although it is in the development stage, it is envisioned this program will enhance fishing opportunities in urban communities.

*Continued on page 22*

# Reeling in Weakfish for Sea Grant

Anglers not only raised fish out of the water during May's Third Annual Great South Bay Weakfish Tournament, but a portion of the proceeds from the two-day event will be put to good use in furthering NYSG's activities in coastal outreach, education and research. More than 400 anglers and 120 boats turned out for the tournament, hosted by Surfside 3 Marina.

"Our presence at this year's tournament helped get the word out about the many research and education projects we sponsor," says **Cornelia Schlenk**, NYSG's Assistant Director. "All of us at Sea Grant are appreciative of the fundraising efforts made possible by Surfside 3 Marina and the generosity and interest of so many of the captains and their fishing teams."

So why was Sea Grant targeted to benefit from the tournament? On Long Island, Sea Grant has also been instrumental in sponsoring catch-and-release programs, by-catch workshops, and has worked with the angling community to plan the new Sportfishing Education Center in Babylon. "We're not involved in making policy or regulations," says **Antoinette Clemetson**, NYSG's fisheries specialist. "Our job is to help empower people by educating them about our natural resources that they use both for business and pleasure." These include understanding hard clam population factors, learning what triggers the blooms of brown-tide algae in our bays, and understanding the impacts of breaches.

Adds Schlenk, "In working closely with everyone from anglers to charter operators, business associations to bait suppliers, our aim is to give

Photo by Barbara Branca



**Cornelia Schlenk, NYSG Assistant Director gets the word out about Sea Grant's mission as she congratulates the winners of the Third Annual Great South Bay Weakfish Tournament.**



**Frank Carnese, captain of the Labelle Lorette, holds the 10.12 pound weakfish that won the tournament.**

©2002 Photo by Christopher J. Grazioso LKGS, Inc.

everyone concerned the information they need to make sound, fact-based decisions. NYSG's goal is to provide information based on solid scientific research so that good management decisions can be made for our environment and economy."

Anglers at the event were vying for a new 17-foot Boston Whaler Montauk, which was awarded to the captain of the *Labelle Lorette*, **Frank Carnese** who brought home the prize winning 10.12-pound weakfish. Second place was held down by another 10 pounder - Charles Rex's 10.08 was good for \$1,500. A trio of 9.7-pound weakfish followed, all weighed in and registered according to time, with the earlier time receiving the higher prize. The first 9.7, caught by James Dion, was worth \$1,000, while the second, caught by James Uzenski, took \$500. All of top 10 fish caught were over the 9-pound mark.



**Frank Carnese, far right, took home the largest, but the whole crew was pretty happy at weigh-in.**

Photo courtesy of Greg Giarrantano of Burnett's Bait and Tackle

Sea Grant representatives provided tournament participants with fact sheets as well as an opportunity to discuss the program's successes, both present and over the past three decades. "We considered this tournament an excellent opportunity to showcase the important work done by New York Sea Grant," says **Paul Barbara**, co-owner of Surfside 3 Marina. "Everyone who enjoys the water, or makes a living from it, benefits from the information they help provide, not just on Long Island, but on a national scale."

— **Paul C. Focazio**

*Additional information provided by LKGS, Inc. and The Fisherman*

Continued from page 18

## New York's "Least Wanted"

*Aquatic Invaders*, the Clearinghouse quarterly digest, presents research summaries and state, national and international ANS policy initiatives. It also features new acquisitions to the library, highlights exciting ANS web sites, and presents ANS meeting announcements.

The Clearinghouse is a major link between the research community and a wide array of university, government agency, industrial, and special interest stakeholders. It is a primary nexus for identifying aquatic nuisance,

nonindigenous, and invasive species research activities, and links researchers with similar interests. The Federal Aquatic Nuisance Species Task Force, the U.S. Army Corps of Engineers, regional panels on aquatic nuisance species, and numerous other federal, state, and international agencies and institutions utilize the Clearinghouse as a major channel for extending information to interested audiences.

— Diane Oleson  
National Aquatic Nuisance  
Species Clearinghouse

### Lake Champlain Sea Grant "Stop the Spread"

More than 20 aquatic invaders including zebra mussels, Eurasian watermilfoil, and water chestnut have made their way to Lake Champlain as seen in *Stop The Spread*, a new Sea Grant video. "It hasn't taken long for these invaders to spread to over 100 lakes in Vermont and in the Adirondacks," says Mark Malchoff, Aquatic Resource Specialist for Lake Champlain Sea Grant in Plattsburgh.

The Lake's abundant water chestnuts are a particular nuisance. They jam boat motors and hamper fishing. To reduce their numbers, mechanical harvesters helped pull 1,000 dump truckloads of the unwelcome hitchhiker out of Lake Champlain's southern end at a cost of \$250K to taxpayers. That's a heavy price to pay and should motivate boaters to avoid the further spread of these species. The video suggests making sure that all water and plants are left behind at the lake when exiting canoes, kayaks, sailboats, and other recreational vehicles to avoid their transport between water bodies.

— Paul C. Focazio

Contact 631.727.3910 to find out more about the angling programs mentioned in Clemetson's article.



[www.aquaticinvaders.org](http://www.aquaticinvaders.org)

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## Angling Around New York's Marine District

These metropolitan-based outreach programs are being offered in areas that are not usually associated with fishing, however, they include minority communities where fishing is often deeply rooted in the cultures.

### Integrating Sea Grant Outreach

Sea Grant funded research helps us to understand the vulnerability and interconnectivity of our marine ecosystems. This knowledge is being shared with New York residents through outreach programs that are mostly achieved in partnership with many of the programs, associations and agencies mentioned. Information packets, posters, brochures and websites are developed around the

funded research and in consultation with published literature. By working in tandem with other groups we are reaching a wider audience outside of academic circles, and the extension program serves to bridge the gap between researchers and stakeholders, including the general public. Sea Grant outreach is multi-purpose, balancing informal science and environmental education, while being conducted in a fun atmosphere. The goal is to educate our residents so that they can make better decisions about sustainable uses for the marine resources, and Sea Grant helps to safeguard the sport's future through its outreach to youth groups.

—Antoinette Clemetson,  
NYSG Fisheries Specialist



New @ nyseagrant.org

Come ashore through the fall at nyseagrant.org to learn:

- ▶ What's being done to make drinking water safer from threats of cyanobacteria?
- ▶ How might the practice of selectively harvesting only the largest fish be causing the average size of fish to decrease?
- ▶ What kind of impact will a soil bacterium found to produce a toxin that kills zebra mussels have on the exotic species' estimated \$1 billion in damages in North America?
- ▶ How can anglers assist us in collecting sea lampreys from Lake Champlain through next year?
- ▶ What's the response to botulism being positively IDed in Lake Ontario? The bacterium, which affects freshwater ecosystems, especially their fish and birds, was first found to be an issue in Lake Erie in 2000.

# LastWave

## Ordering Publications

Please send requests for the following publications along with a self-addressed label and check payable to:

*New York Sea Grant Institute Communications*  
121 Discovery Hall/Stony Brook University/  
Stony Brook, NY 11794-5001/631.632.9124

## Sea Grant Publications

**Agritourism in New York: A Market Analysis.**  
Duncan Hilchey and Diane Kuehn. 2002. \$1.00

**Botulism in Lake Erie Workshop Proceedings.**  
Ohio, Pennsylvania and New York Sea Grant Offices. 2002.  
87 pp. \$2.00

**Fundamentals of a Sea Grant Extension Program.**  
Dale Baker, Jim Murray, et al. Barbara Branca, Editor. 2000.  
78 pp. \$4.00

**Impacts of Barrier Island Breaches on Selected Biological Resources of Great South Bay, New York.** J. Tanski, H. Bokuniewicz and C. Schlenk, Editors. 2001. 103 pp. \$2.50

**National Coastal Ecosystem Restoration Manual.**  
Oregon, Louisiana and New York Sea Grant Offices. 2002.  
464 pages. \$30 (payable to Oregon State University)  
Please send requests to:  
Sea Grant Communications, Oregon State University,  
322 Kerr Administration Bldg., Corvallis OR 97331-2131  
1.800.375.9360, sea.grant.communications@orst.edu

**NEMO Fact Sheets (2nd printing)** E. Keenan. 2002. Free

- ▶ **Impacts of Development of Waterways:**  
*Linking Land Use to Water Quality.*
- ▶ **Nonpoint Source Pollution:**  
*New York's Primary Water Quality Program.*
- ▶ **The New York NEMO Program.**

**Recreation Conflicts and Compatibility Between Motorboat Owners, Personal Watercraft Owners, and Coastal Landowners along New York's Great Lakes Coast.**  
Cheng-Ping Wang and Chad P. Dawson. 2000. 14 pp. \$1.00

**Travel Tips for Recreational Boaters, RV Owners, and Motorists.**  
New York Sea Grant and NYS Seaway Trail, Inc. 2002. Free

## Journal Reprints

**Comparison of acoustic and Miller high-speed sampler estimates of larval fish abundance in Oneida Lake, New York.**  
L. G. Rudstam, A. J. VanDeValk, and M. D. Scheuerell. 2002.  
*Fisheries Research* 57:145-154. \$1.00

**Differential effects of *Aureococcus anophagefferens* isolates ("brown tide") in unialgal and mixed suspensions on bivalve feeding.** V. M. Bricelj, S. P. MacQuarrie, and R. A. Schaffner. 2001. *Marine Biology* 139:605-615. \$1.00

**Sustaining fisheries yields over evolutionary time scales.**  
D. O. Conover and S. B. Munch. 2002. *Science* 297:94-96. \$1.00

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**Flounder**

Many different species of flounder are found in coastal and ocean waters along the Atlantic coast. Two of the most common flounder species in the Northeast are winter or blackback flounder and summer flounder or fluke. All flounder species have a similar body shape with both eyes on one side of the head (fluke's eyes are on the left side and winter flounder's are on the right side) that allows them to rest on the ocean bottom and look upward.

Summer flounder or fluke migrate offshore to deep ocean waters during the colder winter months. As the ocean temperature warms, they move inshore to shallower ocean waters and bays. Fluke are a favorite target for summer recreational saltwater anglers in New York, who in recent years have landed more fluke than the state's commercial fishermen. Fluke is most abundant in local retail markets and restaurants during the summer and during its seasonal migrations in the spring and fall.

The delicate flavor and texture of flounder make it very versatile and easy to prepare. Fluke and other flounder can be steamed, poached, baked, broiled, fried or cooked in the microwave oven. Flounder recipes can be as simple as mom's Friday night "fried flounder" or as elegant as our feature recipe created by a chef at one of Long Island's finest restaurants. For more information on handling recreational fish like flounder see the publication *Handling Your Catch*. For nutrition, food safety and preparation information check out *Seafood Savvy*. Both publications can be viewed in the "Seafood Technology" section of NYSG's Web site: [www.seagrant.sunysb.edu/SeafoodTechnology](http://www.seagrant.sunysb.edu/SeafoodTechnology)

*Courtesy of Ken Gall, NY Seafood Specialist*

*Poached Summer Flounder Turbans with Asparagus, Plum Tomato & Mustard Chutney*

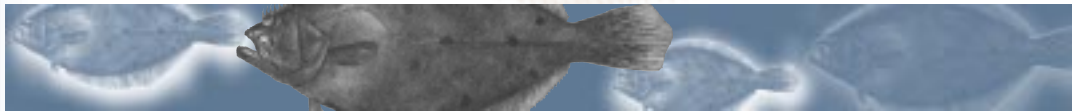
**Ingredients**

- 4 fluke or other flounder fillets (cut in half)
- 1 bunch asparagus
- 6 plum tomatoes seeded & cut (diced small)
- 1/4 cup sherry vinegar
- 1/4 cup tarragon vinegar
- 1/4 cup mustard seeds
- 1/4 cup sugar
- 1 bunch tarragon, fresh
- 1 tsp. olive oil
- 1 cup fish stock (you can substitute clam juice or vegetable stock)
- salt (to taste)
- pepper (to taste)

**Method**

Season fillets with salt and pepper and roll to shape into turbans. Bake in oven at 350° F with stock and fresh tarragon for approximately 10 - 15 minutes. Bring vinegars and sugar to a boil and reduce down to a syrup. Let cool slightly and add tomatoes, mustard seed and olive oil to create the chutney.

Arrange the turbans on a warm plate and spoon the chutney over the fish. Garnish with asparagus and fresh tarragon. *Serves 4. Preparation time 20 minutes. Recipe courtesy of Chef Blake Verity, Panama Hattie's of Huntington Station, NY.*



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