



# Valuing our Resources

Water — a most precious resource. That's the real pot of gold at the end of the rainbow. New York's water resources span the cataracts of Niagara Falls to the calm embayments of Long Island Sound. Often maintaining our water resources means protecting coastal habitats. **Protecting** habitats may involve actions like keeping pollution from reaching these precious waterways (See "CoastWatch," pgs. 8-9). **Restoring** habitats involves repairing ecological damage that's already been done to the coastal resources.

Restoration efforts underway in New York State's marine and freshwater ecosystems



are made possible in part by specifically designated Environmental Bond Act monies. Related NYSG efforts help protect submerged aquatic vegetation, tidal wetlands, beaches and dunes, estuarine embayments, riverine habitat and migratory corridors and coastal grasslands such as dune habitats. "Historic losses of these habitats have impacted once-productive fisheries and robbed the coastal ecosystem of many of its natural functions," says NYSG Marine District Extension Program Coordinator **Bob Kent**.

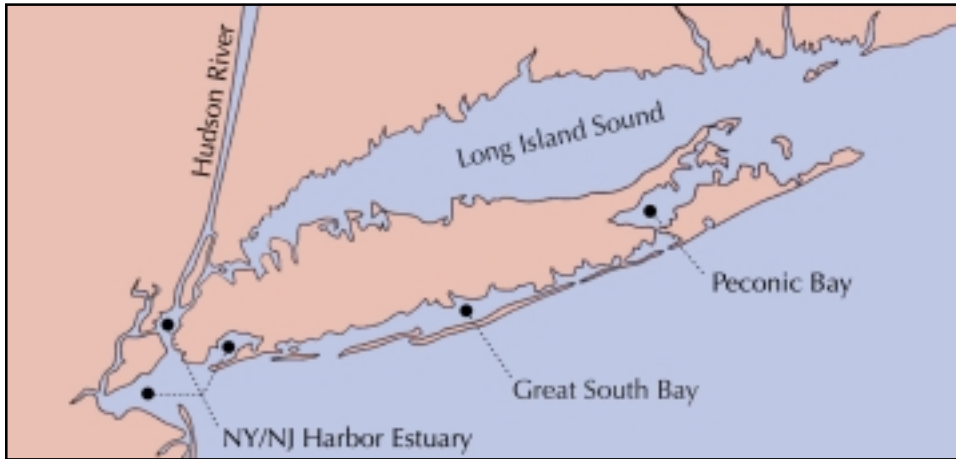
*Continued on page 10*

- Maintaining Coastal Fisheries** *page 4*
- Fisheries Research** *page 6*  
*by Lane Smith*
- CoastWatch:**  
Clarifying Water Quality *page 8*  
*by Paul C. Focazio*
- Coastal Habitat Restoration/  
Water Quality** *page 10*
- Currents**  
Training Tomorrow's Scientists *page 12*  
*by Barbara A. Branca*  
Annual Report *pages 14*  
*by Stefanie Massucci*

COASTLINES

Coordinated Issue Area

# Coastal Habitat Restoration/ Water Quality



The Long Island Sound Study, for which public outreach is provided through NYSG specialist **Kimberly Zimmer**, has as two of its goals to “Restore the ecological function of degraded and lost habitats,” and to “Restore at least 2,000 acres and 100 river miles of natural habitats over the next 10 years.” New York Sea Grant, along with organizations such as the US Environmental Protection Agency (EPA), US Fish and Wildlife Service, NYS Department of Environmental Conservation, and the NYS Department of State, has pledged to play a leading role in the effort to restore and protect the habitats of Long Island Sound.

**I**n New York’s marine waters, it is difficult to find a habitat that has not been impaired in some way by human activity. Many of the region’s coasts are *estuaries*, – places where fresh and salt water mix (see map). Portions of estuaries may be bays, harbors, sounds, or lagoons — all fertile junctions of sea and stream that are among the most productive areas on earth. Estuary programs for the NY-NJ Harbor Estuary, Long Island Sound, Long Island’s Peconic and South Shore Estuaries, and the Hudson Estuary have placed a priority on balancing the protection and restoration of coastal habitats with economic development. And New York Sea Grant continues to be an active participant in related regional research and educational efforts. For example, NYSG staff served on the Peconic Estuary Program’s habitat restoration working group to gather citizen input and develop a related comprehensive plan.

LISS encourages hands-on citizen participation by providing local groups with small grants program funding. Under this now \$278,000+ NYSG-administered program, over 72 projects have been funded and completed since 1995. “A substantial increase in funding for the past several years has led to a significant increase in the number of people getting involved and the quality of projects planned for Long Island Sound,” says Zimmer.

Recent rounds of LISS small grants projects have included curriculum development and teacher training workshops, production of a series of posters on controlling nonpoint source pollution, a Sound-wide beach clean up, and summer programs for children from low-income families. The program also continues to address issues such as habitat restoration, water quality monitoring, toxins, hypoxia (the depletion of dissolved oxygen), and pathogens.

In the summer of 2001, Sea Grant programs in New York and Connecticut partnered with the EPA to make more than \$400,000 available to support the nearly three-quarters of a million dollars already earmarked for Sound research studies. The grant program, now in its second round, will improve the understanding of Sound pollution problems and related ecosystem impacts of eutrophication, the process by which the water’s enrichment of dissolved nutrients stimulates growth of aquatic plant life and can result in hypoxia.

**While boating on the Hudson River during the summer months, have you noticed dense beds of underwater plants in shallow waters? Cornell University researcher Eugenia Barnaba reveals some near Castleton. Why are these plant beds so valuable? Read on.**

**Photo courtesy of Nordica Holochuck**



“Given the importance of Long Island Sound, collecting scientific data which can be used to make future decisions regarding the health and cleanup of the Sound is important,” says NYSG Director **Jack Mattice**. “The fact that we can partner to do this is a plus.”

Restoring coastal ecosystems, such as those of Long Island Sound and the Hudson River, is a relatively new science, one in which research is needed to guide communities toward their restoration goals. According to the National Research Council, “A new emphasis on resource stewardship and restoration cannot succeed without public understanding and support. Thus, educational programs aimed at raising the level of public knowledge and comprehension of aquatic ecosystem restoration rationales, goals, and methods should receive adequate government funding.”

The Hudson River, an estuary below the Troy Dam where fresh water and salt water from the ocean mix, is another rich ecological environment providing food and shelter to diverse plants and animals. A spawning ground for major species of Atlantic coast fish and the flyway for many migratory birds, the Hudson River is also home to dense beds of shallow water plants. Called submerged aquatic vegetation (SAV), these beds are located throughout the river but are mostly abundant in the mid reaches, especially between Catskill and Kingston, the latter of which is the location of NYSG’s Hudson Valley Specialist **Nordica Holochuck**.

One related project involving Sea Grant researchers conducted by the Institute for

Ecosystem Studies, Cornell University, and the Hudson River National Estuarine Research Reserve addressed the concern that SAV beds are being lost in many estuaries throughout the northeast, including the Hudson River. These underwater plant beds provide critical habitat for a variety of finfish and shellfish, and feeding habitat for many species of waterfowl. Good information on SAV abundance, distribution, and ecological functions will make improved understanding and managing of the resource possible. More information on this topic is available in NYSG’s brochure *What Boaters Should Know About Hudson River Underwater Plant Beds*.

In a separate study, NYSG-funded researchers at Cornell University collaborated with two Sea Grant specialists to analyze public and community leader perceptions of and support for coastal ecosystem restoration. The study demonstrated that community leaders and state agency staff could not accurately predict views of local residents. Findings showed the importance of economic development and access issues to local residents were overestimated, while concerns were more related to contaminants in the environment. Actions local residents felt should be taken included: reducing danger to humans from chemical contaminants in the river, cleaning up contaminated urban waterfront sites called brownfields and monitoring levels of the river’s contaminated fish. NYSG extension staff is working with the researchers to develop fact sheets to summarize study findings for distribution to agency staff, environmental groups and the public.

—Paul C. Focazio

## You Can Restore Habitat

**Want more information on habitat restoration-friendly grasses for planting? NYSG has made available fact sheets on Native Grasses, Smooth Cord Grass, and American Beach Grass. These types of relatively simple habitat restoration projects were identified for citizen participation thanks to NYSG, Cornell Cooperative Extension’s marine program, and the USDA’s Natural Resources Conservation Service.**



**This past summer, NYSG Dune and Habitat Education Specialist Molly Thompson coordinated a dune stewards program along Lake Ontario’s eastern shore with the help of The Nature Conservancy and the NYS Department of Conservation. One of four interns working along a 17-mile stretch of shoreline, SUNY at Cobleskill undergrad Barry Mahar, (above right) educates a visitor at the Southwick Beach/Lakeview Wildlife Management Area. SUNY Oswego undergrad Garr Owens stands on a new walkover at Black Pond Wildlife Management area looking for shorebirds. The program’s success has allowed for its return next summer under Thompson’s supervision.**

**Photos courtesy of Molly Thompson**

