

Partners in Protecting Long Island Sound

Photo by NASA



Authorized by Congress in 1985, the Long Island Sound Study (LISS) works with federal, state, and local partners to restore and protect the Sound, a body of water surrounded by one of the largest coastal populations in the U.S., but still home to more than 1,200 species of invertebrates, 170 species of fish, and dozens of species of migratory birds. Program partners are implementing a Comprehensive Conservation and Management Plan to improve water quality, restore and protect coastal habitats, and educate citizens about what they can do to protect one of America's "Estuaries of National Significance."



Long Island Sound Study – Highlights in 2009

Water Quality

Since the 1990s, LISS's partners have invested hundreds of millions of dollars to reduce nitrogen—an element, which in excess, robs bottom waters of the oxygen necessary to sustain healthy populations and a productive ecosystem.

Highlights in 2009

- In New York, the communities of Oyster Bay, Port Jefferson, and Huntington, completed upgrades to wastewater treatment plants to reduce nitrogen. Total project costs for these plants exceeded \$39 million. These upgrades have resulted in nitrogen reductions of 664 pounds per day from 1994 baseline levels.
- In Connecticut, six wastewater treatment plants, Milford Beaver Brook, Milford Housatonic, Stratford (phase 2), Danbury, Groton Town, and Southington, completed construction upgrades with funds from the state's Clean Water Fund. Total project costs for these plants exceeded \$135 million, with \$44.6 million going towards nitrogen removal. By 2010, these upgrades are anticipated to result in nitrogen reductions of 2,500 pounds per day from 1994 baseline levels.
- Connecticut and New York received more than \$105 million through the American Recovery and Reinvestment Act to help upgrade wastewater treatment plants.

Habitat Restoration

The LISS Habitat Restoration Initiative aims to restore 2,000 acres of coastal habitat and open 140 river and stream miles for fish passage.

Highlights in 2009

- LISS's partners restored 121 coastal acres of coastal habitat, and opened 6.7 stream miles.
- A Futures Fund Grant provided funds to help restore 23.5 acres of native forest at the headwaters of Alley Creek, within Alley Pond Park in Queens, a Long Island Sound Stewardship Area.
- A Futures Fund grant helped fund a half-acre dune restoration project in New London, CT.
- Futures Fund grants supported projects to restore underwater eelgrass, an important plant for several finfish and shellfish species, along Great Gull Island, Plum Island, and Caumsett State Park.

Stewardship

The LISS Stewardship Initiative targets significant ecological and recreational areas for protection and enhancement, including in the Initiative's 33 inaugural Stewardship areas.

Highlights in 2009

- Local, state, and federal agencies with assistance from land preservation trusts helped to protect more than 950 coastal acres through acquisitions and easements.
- In Connecticut, LISS funds helped the Connecticut Department of Environmental Protection to acquire 48.7 acres of private land in Stonington to add to the Barn Island Wildlife Management Area. In New York, LISS funds helped the New York State Department of Environmental Conservation acquire a 28.3 acre forested property near Conscience Bay ("Diocese" property) in East Setauket.
- Audubon chapters in New York and Connecticut completed a project, with financial assistance from the Futures Fund, to develop Model Conservation Action Plans for Stewardship in Important Bird Areas along the Sound's coast.

NEW PROJECTS

The Long Island Sound Futures Fund is a grant program developed by LISS and the National Fish and Wildlife Foundation (NFWF) and administered by NFWF. In 2009, more than \$1 million in grants for 33 projects were awarded for communities in Connecticut and New York.

Highlights

Parks Citywide Green Roof

Green Apple Corps, a job training and public service initiative focusing on green-collar job training for economically disadvantaged 18-24 year-olds, will build the second phase of a green roof project at Randall's Island in New York City. The project is designed to capture 250,000 gallons of stormwater, and will reduce polluted runoff from entering the Sound and New York Harbor.

Harrison Pond Park Wetland Restoration and Dam Removal

The Town of Smithtown will restore 0.35 acre of a freshwater wetland and facilitate stream flow in a tributary of the Nissequogue River.

Removal of Cottages and Restoration of Dunes on Long Beach West

The U.S. Fish and Wildlife Service, working with The Trust for Public Land, and state and local partners, will remove 41 dilapidated cottages on Long Beach West in Stratford, CT to facilitate restoration of dune and barrier beach habitat. The project will help protect endangered wildlife and provide public access to the shore.

Perennial Pepperweed Removal-West Meadow Beach

The Town of Brookhaven will implement a plant removal project that will eradicate perennial pepperweed, a noxious invasive species at West Meadow Beach, a 7,000-foot long peninsula located on Smithtown Bay.

Lighthouse Point Park, New Haven. By James Baird



Research

LISS funds research through its Enhancement Grant Program and through the Long Island Sound Research Grant Program (LIS Research Grant) with the university-based Sea Grant programs of Connecticut and New York.

Highlights in 2009

- A LISS-funded study completed by state biologists in New York and Connecticut documented that PCBs, an organic compound with the potential to cause neurological and reproductive problems, have significantly declined in bluefish and striped bass in the Sound.
- A LIS Research Grant funded a team of New York and Connecticut scientists that identified worm bait products and associated packing materials as carriers of non-native seaweed plants and a potential source of harmful algal blooms in the Sound.
- A LIS Research Grant funded a Stony Brook University scientist conducting research to determine why *Alexandrium fundyense* algal blooms, a toxic bloom known as red tide, occurs when nitrogen levels are high

Climate Change Sentinel Monitoring Effort

LISS is developing a Climate Change Sentinel Monitoring Program with New York and Connecticut to understand and help adapt to the effects of climate change in different areas of the Sound.

Highlights in 2009

- EPA's Climate Ready Estuaries Program provided a \$30,000 grant to ICLEI to fund a LISS-supported project with the Town of Groton and the Connecticut Department of Environmental Protection to develop a climate change adaptation plan with federal, state, and local partners.
- EPA agreed to provide LISS with technical support to help develop the bi-state sentinel monitoring strategy.

Public Involvement

LISS's Public Involvement and Education program seeks ways to involve the public in efforts to restore and protect the Sound.

Highlights in 2009

- Futures Fund grants helped support three National Estuaries Day programs in Mystic, Douglaston, and Port Jefferson.
- LISS's Long Island Sound outreach coordinator helped organize a "Return Unwanted Medicines" event in Suffolk County that encouraged citizens to stop flushing unused medicines that could end up in the wastewater treatment stream. The program resulted in almost 500 pounds of unwanted medicines collected.
- LISS staff organized World Water Monitoring Day events throughout the Sound, providing instruction to students on the basics of water monitoring in their local waterbodies.
- A Futures Fund grant helped support the "Source to Sea" education campaign in the Quinebaug and Shetucket Valley, which educated adults and children with more than 90 events, and solicited nearly 1,000 pledges by citizens to take specific actions to reduce pollution into waterbodies.
- LISS staff distributed thousands of copies of educational materials, including Step by Step: a citizen's guide to curbing polluted runoff.
- More than 300 students participated in LISS's Sound Stewards Program in Stewardship areas, offering children with the opportunity of having a Long Island Sound field and learning experience.
- LISS partnered with the Project Limulus horseshoe crab volunteer monitoring project at Sacred Heart University in Connecticut to expand the program into New York.
- Three LIS Mentor Teacher Program workshops were conducted in the fall of 2009, reaching 33 formal and informal educators from at least 15 schools, and through them, more than 1,270 students.

NEW PROJECTS cont.

Social Marketing Campaign: Beach-Nesting Birds, Long Island North Shore

Audubon New York will conduct a social marketing campaign to change public perceptions and behaviors that contribute to identified threats to beach-nesting birds around Long Island's North Shore.

Coastal Resilience on Suffolk County's Long Island Sound Shore

The Nature Conservancy will create a centralized geospatial database and web mapping tool to support decision-making associated with biodiversity and hazard mitigation objectives in the context of sea level rise.

Water-testing Utilized to Implement Pollution Solutions

Clean Up Stonington Harbors, Inc (CUSH) will expand the use of a scientifically-based water-testing database along the coastline of Stonington, CT, using test sites on the Mystic and Pawcatuck Rivers.

Outer Island Marine Environmental Education/ Research Center

The Friends of Outer Island will build a revitalized educational center on Outer Island off the coast of Branford, CT, including a marine lab, learning stations and a classroom pavilion to provide learning and research opportunities about the Sound.

Long Island Sound Curricula Outreach to Connecticut's Inner Cities

The Sea Research Foundation will reach 750 elementary and middle school students, with an aim of increasing their knowledge of Long Island Sound and interest in protecting it.

Yale Peabody Museum Outreach in Long Island Sound

The Yale Peabody Museum will engage youth from urban schools in a Long Island Sound research project and creating a museum exhibit to educate the public about this research and local water quality issues.

Riparian Buffers in the Niantic River Watershed

The University of Connecticut will create an updated coastal riparian area land cover dataset and develop workshops focused on the value of protecting and restoring these areas for town commissions and homeowners in the Niantic River watershed. A riparian buffer is a corridor of natural vegetation that serves as a transition zone between the water or wetland and upland development.



A snowy egret flying over Sunken Meadow State Park on Long Island

Photo by George DeCamp