

Sound Bytes



NEWS FROM THE LONG ISLAND SOUND STUDY

Spring 2019

LISS NEWS

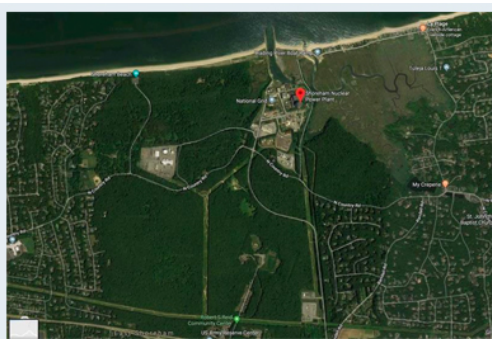
LISS 2020 Budget Includes New Projects to Restore and Protect Habitats, Improve Water Quality

At its April meeting, the Long Island Sound Management Committee approved over 15 new projects and initiatives to help fulfill the objectives of the Long Island Sound Comprehensive Conservation and Management Plan.

The new activities, totaling \$6.4 million, are funded under the federal fiscal year 2019 appropriation for Long Island Sound, and will begin Oct. 1. They include efforts to:

- restore habitats and fish passage;
- acquire open parcels to protect habitats;
- create public outreach campaigns to encourage citizens to adopt practices to reduce pollution; and
- develop models that will help plan for the impacts of environmental stressors such as sea level rise and nutrient pollution.

In New York, for example, the New York State Department of Environmental



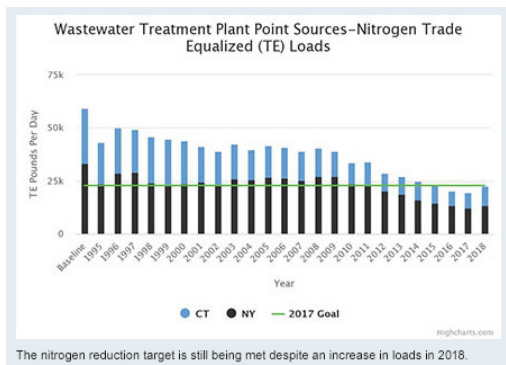
LISS funds will be used to help New York purchase over 100 acres of coastal forest and tidal wetlands habitat on the National Grid property in Shoreham.

happens to be the source of about 90 percent of the Sound's fresh water.

At the April 25 meeting, held at Housatonic Community College in Bridgeport, the Management Committee also approved LISS's entire \$14.6 million budget for the next fiscal year. Besides the new activities, the budget includes funding for several ongoing projects and programs such as the Long Island Sound Futures Fund grant program, coordination of habitat restoration and stewardship initiatives in New York and Connecticut, and the Long Island Sound Water Quality Monitoring Program, which has been conducted by the Connecticut Department of Energy and Environmental Protection (CTDEEP) since 1991. The budget is LISS's largest since the program began as an inaugural member of the National Estuary Program in 1987. The money is authorized by the federal government through the EPA as part of the Long Island Sound Restoration Act.

EPA will soon start working with applicants on grant applications and prepare the overall work plan and budget for submission to EPA headquarters. The final work plan, with the descriptions of all the new and ongoing projects, will be completed over the summer and will be posted on the Long Island Sound Study website.

Nitrogen Loads Increase, but Still Remain Below Management Target



In This Issue

- [LISS 2020 Budget Includes New Projects to Restore and Protect Habitats, Improve Water Quality](#)
- [Nitrogen Loads Increase, but Still Remain Below Management Target](#)
- [Celebrate Long Island Sound Day May 24th](#)
- [USGS Study Documents Hurricane Sandy's Impact on LIS and other Northeastern Marshes](#)
- [LISS Coastal Certificate Programs Focuses on Reducing Lawn Size](#)
- [Sign up for Long Island Nitrogen Action Plan Updates!](#)
- [Blue Plan Provides Bounty of LIS Data with Click of a Mouse](#)
- [Long Island Sound Habitat Mapping Initiative Publishes New Website](#)

Conservation (NYSDEC) will receive a grant to help purchase over 100 acres of coastal forest and tidal wetland habitat from National Grid on the site of the former Shoreham Nuclear Power Plant in Shoreham, Long Island. The purchase will help advance a LISS ecosystem target to conserve an additional 3,000 acres of coastal property in New York and Connecticut by 2035. In another example, the U.S. Geological Survey will receive funding to conduct a one-year pilot study to monitor nitrogen loads that negatively impact water conditions at Connecticut's three largest rivers—the Connecticut, Thames, and Housatonic—which also

A greater than normal amount of precipitation is believed to be the main reason why nitrogen discharges into Long Island Sound from wastewater treatment plants increased last year. The increase of 3,066 trade equalized pounds per day of nitrogen, a nutrient that can trigger algal blooms, is the first increase in nitrogen loading from plant discharges since 2011. Even so, with a Soundwide discharge of 22,623 trade equalized pounds per day in 2018, the Sound is still meeting its target 60 percent reduction from the baseline level of 59,000 trade equalized pounds per day of nitrogen from the early 1990s.

Heavy rainfall and elevated groundwater levels entering as infiltration and inflow into a wastewater treatment plant through the sewage collection system could fill a wastewater treatment plant's processing tanks to near capacity or capacity. If that happens, the effectiveness of treatment technologies to break down nitrogen into a harmless gas can be reduced. Typically, biological nutrient removal systems (BNR) do their best at removing nitrogen during the warmer, dryer seasons. But the second half of 2018 was very wet, resulting in a 24 percent increase in flows for the year, and the average nitrogen concentration of discharges to Long Island Sound in the second half of 2018 was significantly higher than in previous years. Combining increased concentrations and higher flows resulted in higher overall loads of nitrogen in the effluent of wastewater treatment plants discharging to the Long Island Sound watershed.

Nitrogen is a nutrient that stimulates plants on land and in water. Large amounts of nitrogen into Long Island Sound can stimulate an excessive growth of plant plankton and macroalgae, which can lead to harmful algal blooms and low dissolved oxygen in the Sound. Investments in advance wastewater treatment plants have resulted in the large-scale reduction of nitrogen into the Sound since the 1990s. The Long Island Sound ecosystem target web pages includes a [chart](#) that shows the downward trend.

Celebrate Long Island Sound Day May 24th



Credit: Judy Preston.

The Friday before Memorial Day (May 24) is Long Island Sound Day in Connecticut. And in New York, it is expected to be approved this week by the state Legislature. So, what's to celebrate?

How about:

- A home to more than 1,200 invertebrates, 170 species of fish, and dozens of species of migratory birds;
- A shoreline with more than 20,000 acres of tidal wetlands (which are considered some of the most productive vegetation on earth), including more than 1,000 acres that have been restored since 1998;
- More than 200 bathing beaches and 33 unique coastal places designated as Long Island Sound Stewardship Areas;
- A bountiful harvest for anglers – millions of fish caught each year;
- A vital economic resource that brings in billions of dollars a year in the economy through jobs, commercial and recreational fishing, boating, and more.

The states of Connecticut and New York are actively working to protect the Sound and its resources through projects such as the [Long Island Sound Blue Plan](#) and the [Long Island Nitrogen Action Plan](#), and municipalities are involved too with projects such as Port Washington's recent [efforts](#) to eliminate its streets and local waterways with cigarette butts, a significant threat to the Sound's wildlife. Citizens can [get involved](#) by volunteering for a Long Island Sound project and taking personal actions that are good for water quality, or just by getting to the shoreline and appreciating the Sound.

For this LIS Day, [Mystic Aquarium](#), on May 24 and 25, will include special family events as part of the regular admission, including hands-on activities, exploring local watershed areas, creating a craft and speaking with animal experts, participating in field-based field experiments, and getting up close to local estuary animals—and together learn more about Long Island Sound. Registration is not required.

USGS Study Documents Hurricane Sandy's Impact on LIS and other Northeastern Marshes



Habitat Coordinator Victoria O'Neill measuring the elevation change of coastal marsh sediment with a Surface Elevation Table at West Pond in Glen Cove, NY. Credit: NYSDEC.

On Oct. 22, 2012, Hurricane Sandy made landfall in southern New Jersey, generating flooding and storm surge that resulted in severe ecological damage. A major study, recently released by the USGS, focuses on the environmental impact of the storm to coastal marshes. The study confirms a theory that the impact of the storm on coastal marshes varied depending on their geographic location in relation to the storm's landfall location. Coastal marshes such as Long Island Sound, located to the northeast of the storm's epicenter, were found to have elevation losses compared to marshes located to the southwest because they experienced stronger winds that resulted in greater storm surge.

The study used data collected from the use of Surface Elevation Tables (SETs) and Marker Horizons (MHs), permanent monitoring tools that help resource managers measure the change in elevation and sediment in coastal marshes. Pre- and post-storm measurements were collected from 965 SET-MH stations in 96 unique geographical locations from Virginia to Maine. In the end, 483 SET-MH stations met the established criteria and were included in the final analysis for this study. As predicted, the data analysis found that SET-MH stations located to the southwest of landfall were more likely to have an elevation gain post storm due to winds pushing offshore, reducing storm surge and increasing sediment deposition in the marshes. SET-MH stations located to the northeast of landfall, including Long Island Sound, were more likely to have an elevation loss due to strong winds creating deep storm surge (about 10-13 feet) that pushed water inland and resulted in sediment deposition in upland habitat areas.

More than 40 resource managers contributed to the report, including Victoria O'Neill, the Long Island Sound Study's Habitat Restoration and Stewardship Coordinator for New York, who monitors 12 SET-MH stations on the Sound. The report and summary of the report is available on the [USGS website](#).

The authors of the report are hoping that the findings will be used by managers and planners to inform the creation of a strategic SET-MH monitoring network that can, in turn, inform management and adaptation plans for coastal resources in the northeastern U.S. and help to strategically select new locations for SET-MH throughout the region.

LISS Coastal Certificate Programs Focuses on Reducing Lawn Size



Long Island Sound Soundkeeper, Bill Lucey, describing the impact that nitrogen from over-fertilized lawns has on aquatic life in the Sound at the Coastal Certificate Program. Credit: Judy Benson/CT Sea Grant.

The theme of this year's Coastal Certificate Program, LISS's signature event for teaching coastal and watershed landscaping practices, was *Lawns: Environmental Friend or Foe?* The program was held over four nights between April 23 to May 2 at Yale University's Peabody Museum, with content that reflected growing concerns about nitrogen from fertilizers and its link to hypoxia or low dissolved oxygen levels in the Sound.

Reducing the size of lawns, re-thinking the care and maintenance of lawns, and the use of native plants, were primary considerations. Topics covered included the creation of wildlife habitat such as for pollinators, and vegetated buffers between water and polluting land uses. These actions have been identified in the 2015 Long Island Sound Comprehensive Conservation and Management Plan (CCMP) as important tools to encourage public stewardship of the natural resources of the Sound.

The nightly sessions were led by scientists and practitioners, including Dr. Tom Morris from UConn Plant Sciences, and Bill Lucey, the LIS Soundkeeper with Save the Sound. Participants are expected to use the knowledge gained from these sessions by completing 10 hours of community outreach in order to attain the Coastal Certificate. The certificate also qualifies gardeners participating in the University of

Connecticut Extension [Master Gardening](#) program to receive advanced Master Garden certification.

The Coastal Certificate is a collaboration between LISS, the Master Gardening Program, and the Connecticut Sea Grant Program. This year's host was Yale Peabody Museum and Education Coordinator Jim Sirch.

AROUND THE WEB

Sign up for Long Island Nitrogen Action Plan Updates!



Are you concerned about water quality on Long Island and how nitrogen pollution is harming our coastal waters? Then sign up for the Long Island Nitrogen Action Plan newsletter.

The Long Island Nitrogen Action Plan (LINAP) is a multiyear initiative to reduce the amount of nitrogen entering Long Island's groundwater and surface water. LINAP is led by the New York State Department of Environmental Conservation and the Long Island Regional Planning Council along with Suffolk and Nassau counties. Local governments, area scientists, numerous environmental organizations and a cadre of supporting professionals are also involved in LINAP.

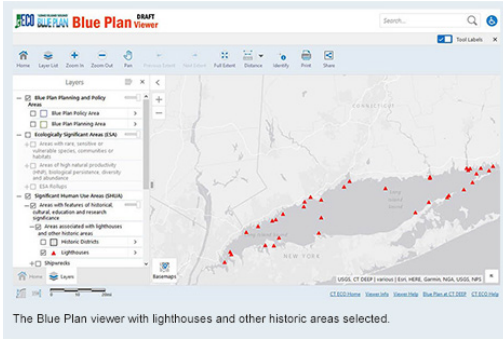
Nitrogen is the leading cause of water quality deterioration in Long Island's surface and groundwater. Nitrogen comes primarily from wastewater, such as sewage treatment plants and residential cesspools, fertilizer and stormwater runoff. Discharge from cesspools and septic systems reaches groundwater, which ultimately flows to Long Island bays and estuaries. Excess nitrogen in our waters stimulates algal (plant) growth which can lead to low oxygen conditions, fish kills, and degraded marine habitats like wetlands. Nitrogen pollution has also impacted Long Island sole source drinking water aquifers. The Long Island Nitrogen Action Plan is the roadmap to reduce nitrogen in Long Island's water.

To stay up to date on the Long Island Nitrogen Action Plan and water quality issues on Long Island sign up for informative monthly updates [here](#). And follow the Long Island Regional Planning Council on [Twitter](#) and [Facebook](#).

Blue Plan Provides Bounty of LIS Data with Click of a Mouse

One of the most interesting products that has come out of the Long Island Sound Blue Plan is an interactive map that provides information at the click of a mouse on where significant environmental and human use areas of the Sound are located. For example, by clicking different boxes in the Layer List you can populate the map with the locations of eelgrass beds or corals, locations where seals or turtles are spotted, locations of lighthouses and shipwrecks, prime spots for recreational and commercial fishing, locations of ports and working waterfronts, and locations of pipelines and cables under the seafloor.

The intent of the Blue Plan is to plan and account for both the existing human uses of the Sound and the habitats and natural features needed for marine life to thrive in the Sound. Doing so will help ensure that: (a) the existing human uses and the habitats and natural features of the Sound are protected and (b) any new and existing uses of the Sound will be compatible with each other and with the Sound's habitats and natural features. The concept is stated in the Vision Statement for the Blue Plan: "Long Island Sound: a place where human uses and thriving marine life are compatible."



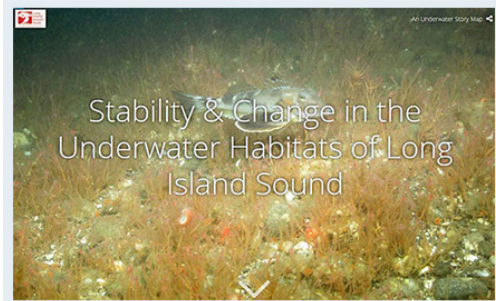
The Blue Plan viewer with lighthouses and other historic areas selected.

The interactive map, along with the entire Long Island Sound Blue Plan, is still in draft form. It is available to review and comment on the [CTDEEP website](#) where you can also find information about upcoming public meetings in Old Saybrook, Westport, and Milford. The formal 90-day public comment runs through June 21.

The interactive map is available at the [CTDEEP/UCONN ECO website](#).

Long Island Sound Habitat Mapping Initiative

Publishes New Website



The [Story Maps](#) section of the new Habitat Mapping Initiative website provides an excellent overview of the work being done to invest Long Island Sound's underwater habitats.

"The seafloor habitats of the Sound are as diverse as those on land and similarly harbor a diversity of life that is essential to our well-being."

This declaration is stated in a [new website](#) produced by The Long Island Sound Habitat Mapping Initiative, a collaboration of local universities, NOAA, CTDEEP, NYSDEC, the New York State Department of State, and supported by the Long Island Sound. And documenting the diversity of habitats is backed up by the site's large amount of maps, images, and videos that show life underneath the surface of the Sound.

The Habitat Mapping Initiative is funded through the \$7 million Long Island Sound Cable Fund, created under the direction of the [Long Island Sound Study](#) and the states of Connecticut and New York. It started as a result of a court settlement in 2004 involving a leaking underwater electronic cable and a permitting dispute. The Mapping Initiative was formed to better understand, describe, and analyze the diverse habitats on the Sound's seafloor and the animals that depend on them. The initiative also is helping to provide a better understanding of the biological, chemical, and physical effects of existing or potential cable and pipeline crossings and how to reduce their impacts. Teams of scientists from some of the area's major research university are conducting the mapping and analysis, using the latest sampling, imagery, and acoustic technologies. They have so far worked at Stratford Shoals in the central Sound and in eastern Long Island Sound. A third phase of mapping will begin in spring 2020 in western Long Island Sound.

Subscribe to RSS Feed/Find Us on Facebook



Want to receive the latest Long Island Sound Study updates between issues of Sound Bytes? Go to the [LISS Web site home page](#) and click the RSS icon to subscribe to an RSS feed to get the latest Web site posts onto your computer's Web browser. Also, we just opened a Facebook page. Find us on Facebook by clicking on the Facebook icon from the LISS home page.

Please note: This email message is being sent to subscribers of the Long Island Sound Study E-Newsletter. Pass it on and [forward to a colleague](#). This email was sent to [email address suppressed]. You can instantly [unsubscribe](#) from these emails or update your [email preferences](#).