Sound Bytes

NEWS FROM THE LONG ISLAND SOUND STUDY

Spring 2018

LISS NEWS

LISS Management Committee Approves Projects for $12.6 Million

Elena Colón, Save the Sound Environmental Analyst, collecting macrophyte (large aquatic plants) data in Mamaroneck Harbor as part of the Unified Water Study. An overabundance of macrophytes on the sea floor can result from high nutrient levels and may affect ecosystem health and recreational activities.

The Long Island Sound Study Management Committee last month approved projects for 2019 as part of a $12.6 million federal budget authorized under the Clean Water Act for restoring and protecting the Sound. The appropriation, an increase of $4 million from last year's budget, provides funding to federal and state agencies, academic institutions, and local municipalities and organizations for projects that fulfill the goals of the Long Island Sound Comprehensive Conservation and Management Plan.

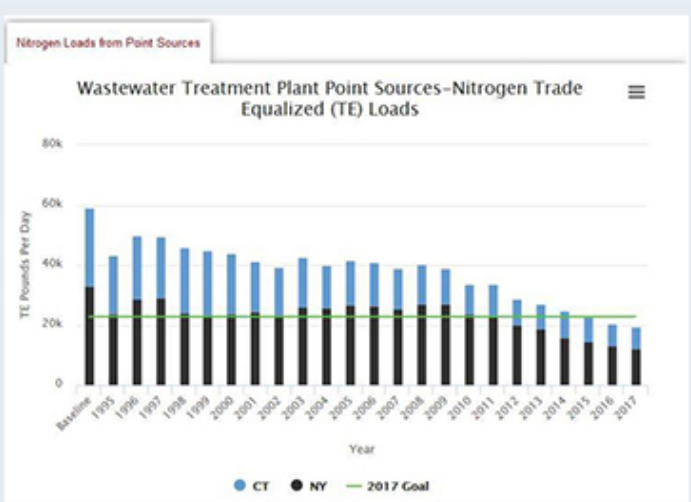
These efforts include funding the Long island Sound Futures Fund, a grant program that helps support local on-the-ground projects, and a water quality monitoring program operated by the Connecticut Department of Energy and Environmental Protection (CTDEEP), the Interstate Environmental Commission, the University of Connecticut, and the US Geological Survey. The additional $4 million will help to fund the following initiatives:

• Increase the Futures Fund grant program to $2.8 million from $2 million.
• Provide the states of Connecticut and New York with funds to acquire and protect open spaces in the Long Island Sound watershed.
• Expand the Unified Water Study, a Citizen Science Water quality monitoring program for Long Island Sound's harbors and bays.
• Fund a research grant program to help guide Long Island Sound management initiatives to protect Long Island Sound.

The federal fiscal year 2019 is from Oct. 1, 2018- Sept. 30, 2019. An EPA work plan describing all the fiscal year 2019 projects will be posted on the Long Island Sound Study website this summer. The work plan for 2018 projects is available here.

In This Issue

Ecosystem Target Web Pages Now on LISS Website



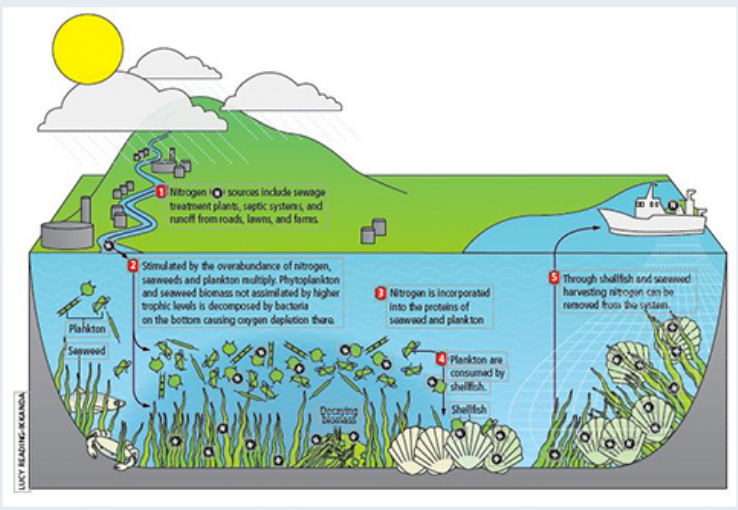
The graph, located on the Nitrogen Load ecosystem target web page, shows the decline in nitrogen discharges into Long Island Sound since the early 1990s.

As part of the Comprehensive Conservation and Management Plan, LISS developed 20 ecosystem targets to help drive the Plan's goals to achieve Clean Waters and Healthy Watersheds, Thriving Habitats and Abundant Wildlife, and Sustainable and Resilient Communities. These targets, each with its own ecological benchmarks to assess environmental quality through 2035, were posted as individual web pages on the LISS website in March. The data presentation replaces LISS's Status and Trends indicators, which tracked environmental conditions for Long Island Sound, but, with a few exceptions, did not include measurable goals.

The ecosystem targets will be updated when new data becomes available. For example, in March LISS updated the Nitrogen Load ecosystem target web page after receiving data from CTDEEP and the New York State Department of Environmental Conservation (NYSDEC) on the amounts of nitrogen discharges from wastewater treatment plants into Long Island Sound in 2017. The data showed that the states are continuing to meet a goal to reduce nitrogen discharges by 60 percent from the baseline of the early 1990s. The Nitrogen Load ecosystem target web page also includes links to information explain how the target was created and to new efforts to reduce nitrogen pollution from other sources besides wastewater treatment plants. See Nitrogen Load ecosystem target.

Nutrient Bioextraction Coordinator to Explore Use of Aquaculture to Remove Nitrogen Pollution

Why not use commercially-farmed marine plants and animals, such as seaweed and shellfish, to remove nitrogen from Long Island Sound?



An infographic showing how bioextraction can remove nitrogen. The full-size graphic is available on the LISS website.

The New England Interstate Water Pollution Control Commission (NEIWPCC) has hired its first bioextraction coordinator to explore the potential for this technique to reduce nitrogen and its adverse effect on the Sound, while producing cash crops.

Resource managers are looking at bioextraction as a strategy to remove nitrogen, a nutrient that can help stimulate algal and plankton blooms, and trigger a cycle that results in dangerously low levels of oxygen, a condition called hypoxia. Low levels of oxygen can cause animals to die or scatter from their habitat. Some algal blooms are also toxic to marine life.

Nutrient bioextraction (also called bioharvesting) is the practice of farming and harvesting shellfish and seaweed for the purpose of removing nitrogen and other nutrients from natural water bodies. Shellfish consume phytoplankton that have already taken up nitrogen in the form of particulate nutrients. Nitrogen from the phytoplankton is then incorporated into shellfish tissues and shell. The nitrogen is removed from the local marine environment when the shellfish are harvested. Seaweed cultivation and harvesting can also remove nitrogen.

The NEIWPCC coordinator, Nelle D'Aversa, will be working for the New York State Department of Environmental Conservation as part of its Long Island Nitrogen Action Plan. Her position is funded by the Long Island Sound Study.

In her first year, D'Aversa, will assess the potential of, and obstacles to, advancing shellfish and seaweed aquaculture. For 2018, she plans to reach out to stakeholders in Connecticut and New York, review regulations governing aquaculture, and identify potential sites for bioextraction projects. A pilot project could come as soon as next year. The effort complements other elements of the nitrogen reduction strategy for the Sound.

D'Aversa holds a Master's of Arts in marine sciences at University of Rhode Island. As a graduate assistant at URI, she conducted research on the sustainability of coastal communities, the effects of climate change impacts on coastal communities, and the importance of critical coastal infrastructure; and identifying of the risks associated with SLR.

Nutrient bioextraction also was the subject of a 2009 workshop convened by the Long Island Sound Study, the National Oceanic and Atmospheric Administration, NEIWPCC, and the University of Connecticut.

This article was adapted from the April on-line issue of NEIWPCC's iWR report.

EPA Marks 10-year Climate-Ready Estuaries Program

LISS and CTDEEP held climate adaptation workshops in Groton, CT in 2010 with support from a Climate Ready Estuary grant.

In 2008, EPA created the Climate Ready Estuary Program (CRE) to help provide assistance to National Estuary Programs such as the Long Island Sound Study to assess climate change vulnerabilities, develop and implement adaptation strategies, and engage and educate stakeholders. With EPA's help, LISS created the Sentinel Monitoring and Climate Change Program. EPA is preparing a 10-year progress report to mark the anniversary. As part of that report, LISS's New York and Connecticut Long Island Sound coordinators, Cassie Bauer and Mark Parker, prepared a timeline of sentinel monitoring accomplishments. The timeline is posted in LISS's media center.

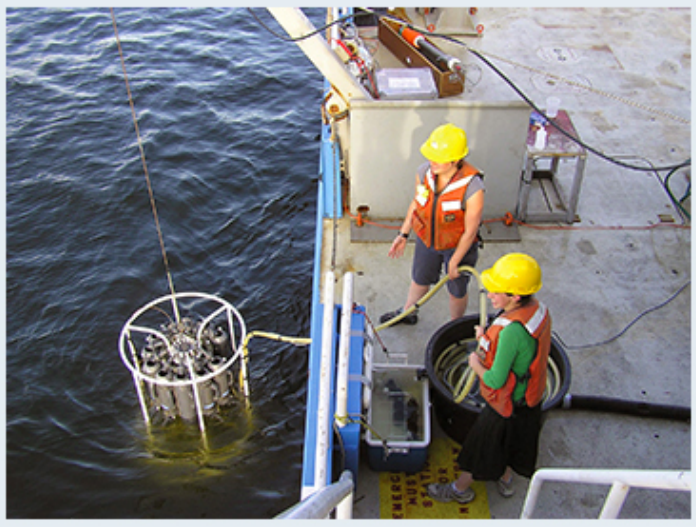
Spring is Season to Release River Herring in LIS Waters

(Counterclockwise from top) Gwen Macdonald of Save the Sound describes the culvert fish passage project (seen in the background) on the Noroton River on April 26; Hofstra University scientists, as part of a stocking and monitoring project with NYSDEC, New York Sea Grant and The Nature Conservancy, weighed alewives and collected other species data on April 18 at Beaver Lake in Oyster Bay where a fishway completed in 2017 is expected to help restore alewife populations; The Bronx River Alliance provided a live video feed on its Facebook page on April 10 when CTDEEP released alewives near a fishway at the Bronx River's 182nd street dam. The feed can be viewed here.

In Long Island Sound, spring means it's time for stocking rivers with alewives to help bring back populations of the migratory fish to our region. The alewives are being released at locations where projects to remove dams, build fishways to bypass dams, and improve stream flow under highway culverts have removed barriers to fish accessing freshwater spawning habitat. Many of these river habitat restoration projects were supported with Long Island Sound Futures Fund grants, including a project developed by the Darien Land Trust and Save the Sound on the Noroton River that was completed this year. The project opened up 5 miles of river upstream by improving stream flow under a culvert at Intestate-95 that had blocked fish passage since the construction of the highway 60 years ago. CTDEEP released 400 alewives into the river on April 26, the same day a ceremony was held near the culvert to mark the project's completion.

Alewives are migratory fish. They mature in the ocean, but after 3-5 years return to freshwater river habitat in the spring to reproduce.

Sea Grants Request Preliminary Proposals for LISS Research Grant Program



Students from the laboratory of UMass Dartmouth Prof. Mark Altabet deploy a rosette sampler as part of a 2015-LISS funded project to learn more about what causes summertime hypoxia in the Western Sound. Photo by Mark Altabet.

Connecticut Sea Grant (CTSG) and New York Sea Grant (NYSG) have announced the Long Island Sound Study (LISS) extra-mural research program. The intent of this program is to fund research that will support the management of Long Island Sound (LIS) and its resources. Preliminary proposals are invited for the funding period of March 1, 2019 to February 28, 2021. Any investigator seeking support for this period (or portion thereof) must submit a preliminary proposal via NYSG's electronic submission web site www.NYSGproposal.org for receipt by 5:00 p.m. EDT on Wednesday June 20, 2018. Hard copy, email, and fax submissions will NOT be accepted. Approximately $1,200,000 in funding is expected to be available for one or two-year projects. The first year of the funding period covered by this Call for Preliminary Proposals begins on March 1, 2019. Allocation of Year 2 funds, if applicable, will be contingent on satisfactory progress in Year 1. Projects chosen for funding require approval of a Quality Assurance Project Plan (QAPP) prior to their start.

For a copy of the complete RFP please refer to: https://seagrant.uconn.edu/?p=3312
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AROUND THE WEB

60 Minutes Profiles Long Island Sound Seaweed Farmer

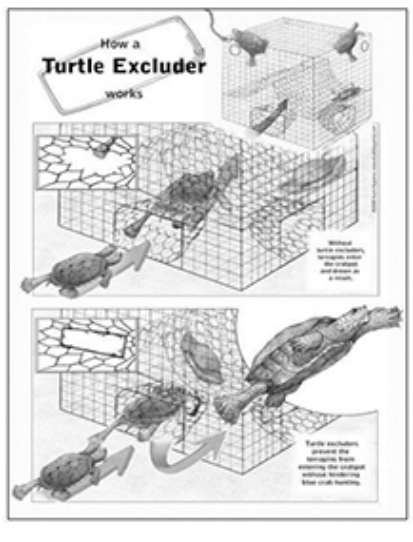
60 Minutes' Leslie Stahl with seaweed farmer Bren Smith.

Bren Smith wants to show that seaweed and shellfish farming can feed the world, provide good jobs for those employed in fishing, and can improve the health of coastal waters such as Long Island Sound. Watch him describe how as he farm in waters off Branford, CT in a report on seaweed farming in an interview with Leslie Stahl on 60 Minutes that aired in early May. The program also interviewed UConn marine biologist Charlie Yarish, an expert on seaweed aquaculture. See 60 Minutes website.

TNC Launches New Nitrogen Website

The Nature Conservancy has a new website that highlights the problem of nitrogen pollution in Long Island Sound. A product of several years of research into the health of Long Island Sound's coastal waters, the site digs deeply into the threats caused by excess nitrogen, such as harmful algal blooms and depleted oxygenated waters, and looks at solutions as well. It was launched last week with support from the Long Island Sound Study through the Long Island Sound Futures Fund. See TNC website.

"TED" Devices Now Required in NYS to Protect Terrappins



The Diamondback terrapin, a turtle that lives in the brackish waters and coastal habitats of estuaries like Long Island Sound, are attracted to the bait in crab pots, and enter them the same way a crab does. Terrapins, like all turtles, breathe air, so a trapped terrapin will drown. To protect these turtles New York State Department of Environmental Conservation is now requiring commercial and recreational crab potters to use Terrapin Excluder Devices (TEDs) that provides an escape exit for turtles who enter the cage. See NYSDEC website.

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