



Long Island Nitrogen Action Plan (LINAP) – September Newsletter Long Island Sound Study Update

In this month's issue of the LINAP newsletter, we highlight the ongoing nitrogen reduction related initiatives led by our LINAP partners at the Long Island Sound Study.

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About the Long Island Sound Study

The Long Island Sound's valuable recreational and commercial uses make it one of the most important estuaries in the nation.

In March 1988, the Long Island Sound was identified as an Estuary of National Significance and the Long Island Sound Study (LISS) became a part of the United States Environmental Protection Agency's (EPA) [National Estuary Program](#). The LISS is a cooperative effort involving researchers, regulators (EPA, New York State Department of Environmental Conservation, and Connecticut Department of Energy and Environmental Protection), environmental groups, industry and concerned citizens dedicated to restoring and protecting the Long Island Sound.

Sound Stats:

- The Long Island Sound estuary is approximately 110 miles long (east to west) and 21 miles across at its widest point and covers an area of 1,320 square miles with 600 miles of coastline. It is located within the jurisdiction of two states, New York and Connecticut.

- The Long Island Sound watershed covers more than 16,000 square miles of land in six states. In New York, the total area of land that lies in the Long Island Sound watershed is 478 square miles. Within this large region, hundreds of smaller, local watersheds drain into streams and rivers, which eventually flow into the Sound. Improving the environmental quality of these local watersheds, which often cross municipal and sometime even state boundaries, is a priority of the Long Island Sound Study in order to prevent pollution from flowing downstream.



Long Island Sound Comprehensive Conservation and Management Plan

In 1994 the LISS developed a Comprehensive Conservation and Management Plan (CCMP) to protect and restore the Long Island Sound. In October 2015, the CCMP was revised to incorporate scientific and technological advances, respond to changing community needs, and address new environmental challenges such as climate change, sustainability, and environmental justice. The revised CCMP seeks to achieve four primary goals:

1. Improve water quality by reducing contaminant and nutrient loads from the land and the waters impacting Long Island Sound.
2. Restore and protect the Sound's ecological balance in a healthy, productive, and resilient state for the benefit of both people and the natural environment.
3. Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
4. Manage Long Island Sound using sound science and cross-jurisdictional governance that is inclusive, adaptive, innovative, and accountable.

A copy of the 2015 CCMP can be found [here](#).



Total Maximum Daily Load (TMDL) and the new Nitrogen Reduction Strategy

In 2001, the EPA approved Connecticut's and New York's plan, entitled [A Total Maximum Daily Load \(TMDL\) Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound](#), for achieving 58.5% nitrogen reduction of point and nonpoint source nitrogen loads. As of the end of calendar year 2018, the states had attained the goal for point sources, with upgrades to wastewater treatment plants resulting in an annual reduction of 42 million pounds of nitrogen to the Long Island Sound from peak years in the early 1990s. Assessments show progress in reducing agricultural sources and atmospheric deposition of nitrogen, with more progress needed on urban stormwater, septic systems, and residential turf fertilizer.

In 2015, the EPA embarked on a new Long Island Sound [Nitrogen Reduction Strategy](#) with a primary focus on achieving clean water in harbors, bays, coves, and other embayments to the Sound through efforts to remove nutrient pollution from urban stormwater and turf fertilizer, and from coastal on-site wastewater treatment systems such as septic tanks. This strategy complements and expands the focus of the TMDL to include other nutrient-related adverse impacts to water quality, such as loss of eelgrass. Key strategy products were subject to expert, external peer review and public comment (products and comments are posted on the nitrogen strategy website). Current work is evaluating all the review comments to revise the reports as appropriate.

Long Island Sound Futures Fund

The Long Island Sound Study initiated the [Long Island Sound Futures Fund](#) in 2005 through the EPA's Long Island Sound Office and the National Fish and Wildlife Foundation. The Long Island Sound Futures Fund supports projects in local communities that aim to protect and restore the Long Island Sound. To date the Futures Fund has invested \$17 million in 380 projects. With grantee match of \$33 million, the program generated \$50 million for locally based conservation. Funding priorities for this program include:

- Clean waters and healthy watersheds: improving water quality by delivering projects that reduce combined sewer overflows, stormwater runoff and nonpoint source nutrient loading into the Long Island Sound.
- Thriving Habitats and Abundant Wildlife: restoring coastal habitats to maintain resiliency and function, and foster diverse, balanced and abundant populations of fish, birds and wildlife.
- Educating to Engage Sustainable and Resilient Communities: increasing knowledge and engagement of the public in the protection and restoration of Long Island Sound.

Visit the National Fish and Wildlife Foundation's [Sound Futures Fund Grant web page](#) to find out what projects are eligible, and details on how to apply. For a list of grants awarded click [here](#).

Water Quality Monitoring

In partnership with the Connecticut Department of Energy and Environmental Protection, the Interstate Environmental Commission, and the University of Connecticut the LISS conducts an extensive [Long Island Sound Water Quality Monitoring Program](#) throughout New York and Connecticut embayments and open water. Testing parameters include water temperature, salinity, dissolved nitrogen, particulate nitrogen, and dissolved oxygen at fixed stations throughout the Sound. LISS also supports a real-time monitoring program using equipment on buoys at stations throughout the Sound, including the Narrows and Western Sound. These data are used to quantify and identify annual trends and differences in various water quality parameters and general conditions of the Long Island Sound waters. Through a new effort, the *Unified Waters Study*, conducted in partnership with Save the Sound, water quality data are being collected at many of the Sound's embayments and harbors. This will provide information on nearshore conditions to help understand local water quality impairments.

Advanced Septic System Nitrogen Sensor Challenge, Phase II: Prototype Testing

In 2017, the EPA launched the Advanced Septic System Nitrogen Sensor Challenge, where EPA partnered with The Nature Conservancy, USGS, and others to challenge entrants to design a nitrogen sensor for use in advanced onsite wastewater treatment systems, also known as advanced septic systems, to monitor their long-term performance.

On June 29, 2017, EPA hosted the Advanced Septic System Nitrogen Sensor Challenge Showcase Day in New York City where the 1st, 2nd and 3rd place winners of Phase I gave presentations on the design of their proposed sensors. EPA selected Battelle Memorial Institute (Battelle) as the winner to support Phase II: Prototype Testing and the development of a Test/Quality Assurance Plan (T/QAP) and Verification Plan, and to oversee the testing of the sensors. Sensor testing will be completed in 2019 at the Massachusetts Alternative Septic System Test Center (MASSTC), an NSF International certified test facility. Developers are invited to participate in the two one-month no-risk tests offered in October 2018 and January 2019. Each one-month test will include the one-week screening test during the first 7 days. Developers whose sensors meet basic performance goals during the first seven days will be invited to participate in the extensive 6-month field performance test. Battelle will verify the results of the field performance tests based on the protocol. EPA will award reports and statements for sensors that complete the six-month field testing and meet the minimum performance goals.
