



Long Island Nitrogen Action Plan (LINAP) - Monthly Newsletter

The New York State Department of Environmental Conservation sent this bulletin on 08/27/2021 02:30 PM EDT

Long Island Nitrogen Action Plan (LINAP) - Monthly Newsletter Long Island Sound Study (LISS) 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.

- LISS Management Committee Finalizes 2021 Work Plan
- Report Highlights 15 Years of Long Island Sound Futures Fund Accomplishments
- Hypoxic Area Continues to Decline in the Sound
- Returning the Urban Sea to Abundance
- Environmental Justice Workgroup
- Solute Transport Model
- Sugar Kelp Pilot Projects
- Interactive Web-based Viewer to Illustrate the Potential Future of Marsh Systems



LISS Management Committee Finalizes 2021 Work Plan

This past spring, the Long Island Sound Study Management Committee finalized a \$31.1 million budget and work plan for the federal fiscal year 2021 --- the largest budget in LISS history!

In addition to continuing support for ongoing nutrient monitoring and modeling and an expansion of funding to the [Long Island Sound Futures Fund](#), the workplan includes:

- Supporting an Environmental Justice Needs Assessment for the Long Island Sound Watershed and initiating the development of an Environmental Justice grant program.
- Providing technical assistance to municipalities to plan for the effects of sea level rise and storm surge and increase the resiliency of both natural and human environments.
- Assessing the health of Long Island Sound harbors, bays, and coves using the rigorous quality assurance protocols and sampling procedures of the [National Coastal Condition Assessment \(NCAA\)](#).
- Assisting in the piloting of New York's wastewater treatment plant asset management program that will help municipalities effectively manage infrastructure investments improving the plant's longevity and supporting municipal planning.

The complete 2021 work plan and budget, including a list and descriptions of all projects and initiatives approved by the Management Committee, can be found [here](#). To read how last year's appropriation of \$21 million is being used for current projects click [here](#).

Report Highlights 15 Years of Long Island Sound Futures Fund Accomplishments

Since 2005, the Long Island Sound Study Futures Fund, with management support from the [National Fish and Wildlife Foundation \(NFWF\)](#), has provided support to local organizations, municipalities, and universities to develop environmental projects that help to fulfill the objectives of the Long Island Sound's [Comprehensive Conservation and Management Plan](#) (CCMP). During its first 15 years, the Futures Fund has invested \$23 million in 450 projects, generating an additional \$40 million in grantee match, for a total conservation impact of \$63 million for regional and local projects.

The NFWF has recently published a report including project descriptions and statistics showing how the program has made a difference in improving the health of the Sound. The full report can be found [here](#).

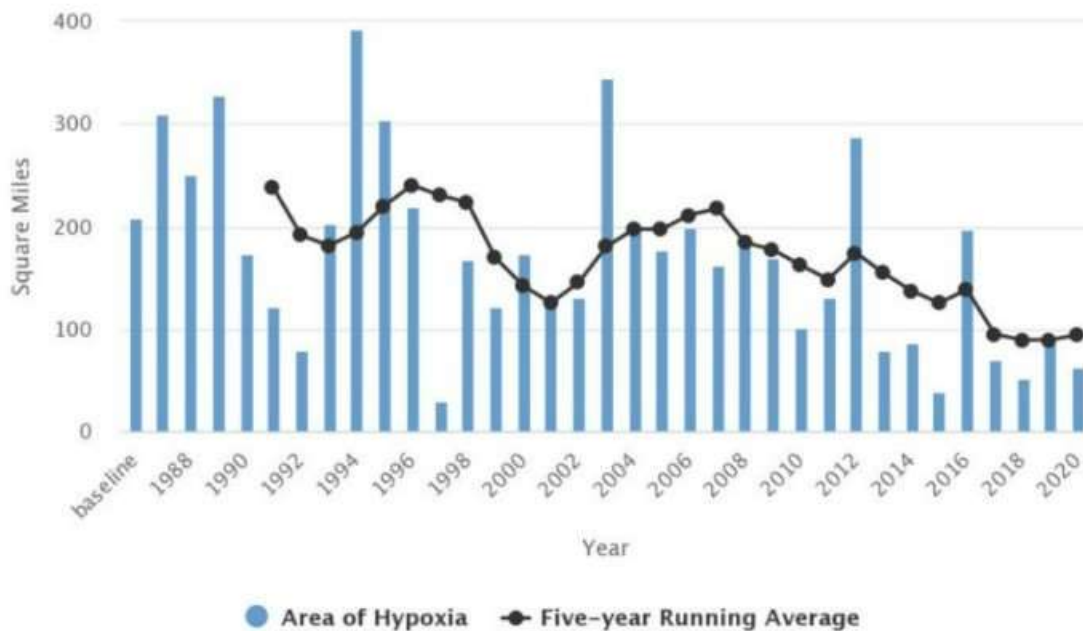


Hypoxic Area Continues to Decline in the Sound

The Connecticut Department of Energy and Environmental Protection and the Interstate Environmental Commission completed their 30th consecutive season of summer water quality monitoring in Long Island Sound in 2020. The water samples collected showed a reduction in the maximum area of hypoxic (or oxygen-depleted) water in the bottom waters of the Long Island Sound from the previous season. Hypoxia occurs in coastal waters when the bottom waters lack sufficient oxygen to support marine life.

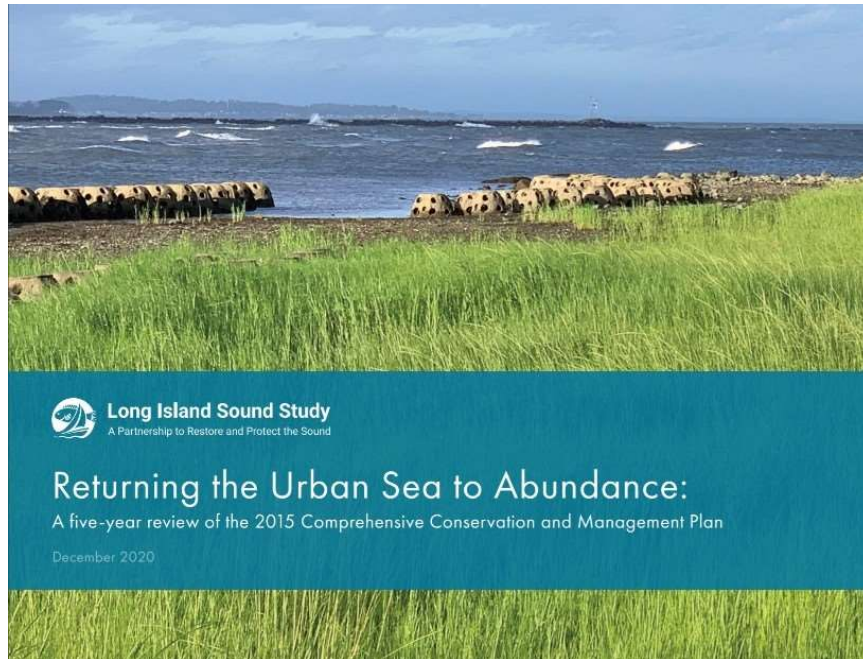
The total area of hypoxic waters was 63 square miles in 2020, compared to 89 square miles from 2019. Furthermore, the current five-year average continues to show a long-term trend of improved water quality conditions!

Hypoxia (Dissolved Oxygen \leq 3 mg/L) in Long Island Sound



Returning the Urban Sea to Abundance

LISS completed a report highlighting the progress made from 2015-2019 in implementing the CCMP. The report entitled [Returning the Urban Sea to Abundance](#), provides an assessment of the first five years of action by LISS under the 2015 CCMP, which established general goals and measurable targets to restore the health of the Sound by 2035. This report is part of LISS's program to apply leading practices for performance assessment and reporting. Insights from this assessment are being used to update the CCMP with a new five-year action plan covering the years 2020-2024.



New Working Group for Environmental Justice

Environmental Justice (EJ) has been a key principle in the CCMP and in October the Environmental Justice Work Group (EJWG) was formed. The EJWG will focus on identifying and meeting local environmental justice needs, exploring programmatic gaps and areas of improvement in diversity, equity, inclusion and justice. The newly formed group includes representation from all LISS work groups and committees, as well as EJ offices from other partner agencies.

Solute Transport Model

Funding to support the Solute Transport Model expansion for the entirety of Long Island was secured in this year's LISS budget. The US Geological Survey (USGS), working with NYSDEC and the Peconic Estuary Partnership, developed a solute-transport model for the eastern portion of Long Island, NY. Starting in 2021, the USGS will extend the modeling to the central and western portions of Long Island, which will cover parts of Kings, Queens, Nassau, and western Suffolk Counties. The modeling looks at water table fluctuation over time, water use, and nitrogen loading—as a function of changing land use and atmospheric deposition rates—from predevelopment (e.g., 1900) through the present. Once the model is complete for the entire Island, LISS will be able to use the model to predict how nitrogen reduction strategies will impact the Sound. Currently, the project is still in the data collection and model develop steps.

LINAP is in the process of forming a Solute Transport Model Advisory Workgroup that will bring together the appropriate representatives from relevant organizations to ensure the model is developed with the best available information and has input from all stakeholders. The first meeting will be held this fall. The workgroup members will also be tasked with developing implementation scenarios that will guide management decisions for the LISS.

More information on the effort, and other modeling efforts in New York can be found on the [LISS water quality modeling webpage](#).

Sugar Kelp Pilot Projects

This year the NYSDEC, with funding from LISS, conducted a pilot project at three sites to assess the potential for using sugar kelp, a seaweed that grows in the winter and is harvested in the spring, to naturally remove nitrogen in near-shore waters. Over the winter, mooring lines were seeded with sugar kelp at three locations including Milton Harbor, the East River in the Throggs Neck section of the Bronx, and Northport Harbor, working with Save the Sound, SUNY Maritime College, Cornell Cooperative Extension, and the Village of Northport. After the growing season ended, tissue samples were analyzed to estimate how much nitrogen was removed from the water. The Bronx site was also tested for heavy metals, pesticides, and other contaminants.

NYSDEC is working with Cornell Cooperative Extension on a multi-year study to see if a fertilizer amendment made from the kelp enhances plant growth. Fertilizer made from the kelp harvest as part of the pilot study described above is being applied to tomato and petunia plants in greenhouse and field trials at the Long Island Horticultural Research and Extension Center in Riverhead, NY, Cornell Cooperative Extension of Suffolk County will conduct an analysis of the soils, leaves, and fruit to assess its effectiveness.



Image credit: Save the Sound

Interactive Web-based Viewer to Illustrate the Potential Future of Marsh Systems

LISS, in partnership with the New England Interstate Water Pollution Control Commission (NEIWPCC) and the NYSDEC, funded the development of an interactive web-based viewer to illustrate the fate of 20 marsh systems under future sea level rise projections in the NY region of the Long Island Sound. Marshes provide habitat for numerous fish and wildlife species, protect coastal communities from storms and they take nutrients (nitrogen) out of the water coming from upland areas.

Model results will assist conservation groups in assessing possible land-management alternatives. As part of this project, marsh conservation plans have already been developed in [Mattituck Creek](#) and [Westchester County](#). Find the viewer [here](#).