



Restoring Long Island Sound: Snapshot 2021



Long Island Sound Futures Fund projects, clockwise, l-r: Volunteers plant native riparian plants along the Pequonnock River in CT; Bronx students join Rocking the Boat to restore wetlands and monitor plant growth; The Audubon CT and NY programs are assessing future restoration sites in CT and NY to protect the saltmarsh sparrow; and a girl on a Long Island beach participating in the Be a Good Egg campaign. (Photos courtesy of NFWF).

The Long Island Sound Study, an EPA National Estuary Program, brings together federal, state, and local governments, NGOs, industries, universities, and community groups to improve the health of the Sound. EPA has expanded responsibilities as directed by Congress under the Clean Water Act (33 U.S.C 1269) for coordinating work among program partners and stakeholders. EPA Region 1 in New England and EPA Region 2 in New York share program oversight and grant management through a Long Island Sound Office in Stamford, CT. The program has two advisory committees — the Citizens Advisory Committee and the

Science and Technical Advisory Committee — and numerous technical work groups. A Comprehensive Conservation and Management Plan (CCMP), revised in 2015, is organized around four themes: 1) Clean Waters and Healthy Watersheds; 2) Thriving Habitats and Abundant Wildlife; 3) Sustainable and Resilient Communities; and 4) Sound Science and Inclusive Management. The plan sets 20 quantitative ecosystem recovery targets to drive progress. In 2020, the Study updated the CCMP with 136 implementation actions covering the period 2020-2024. Federal funding in FY21 is \$31.1 million, nearly a seven-fold increase since 2016.

ACCOMPLISHMENTS

Nitrogen Reductions in Long Island Sound

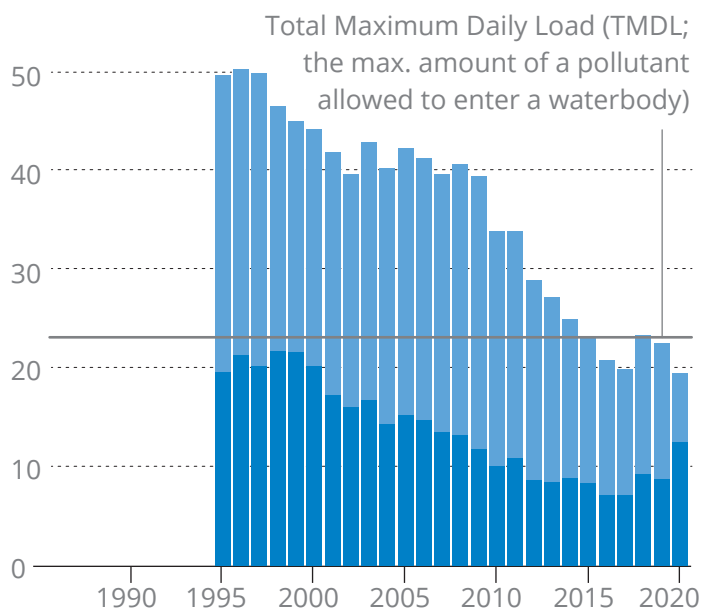
EPA has been working in partnership with Connecticut, New York, and upper watershed states to reduce nitrogen pollution to Long Island Sound. Nitrogen pollution reduces dissolved oxygen to unhealthy levels for aquatic life (known as hypoxia) and contributes to harmful algal blooms and loss of tidal wetlands and seagrasses. In 2000, Connecticut and New York developed, and EPA approved, a plan to reduce by almost 60 percent the sources of enriched nitrogen from Connecticut and New York, as well as reducing upstream sources. The successful actions to reduce nitrogen pollution in Long Island Sound have yielded dramatic results. Through infrastructure investments of more than \$2.5 billion dollars to improve wastewater treatment, the total nitrogen load to Long Island Sound is now more than 47 million pounds less than the annual discharge in early 1991 (Figure 1). The five-year rolling average for the maximum summertime area of low dissolved oxygen (hypoxia) in Long Island Sound was 94 square miles in 2020 (See Figure 2). This represents a 54 percent decline compared to the pre-2000 average of 205 square miles (i.e., before the Total Maximum Daily Load for nitrogen was put in place by EPA and the states).

Habitat Restoration and Protection

In 1998, the Long Island Sound Study established a Habitat Restoration Initiative to promote the restoration and protection of degraded coastal habitats. Since then more than 2,000 acres of coastal habitat have been restored and more than 400 stream miles have been reconnected to Long

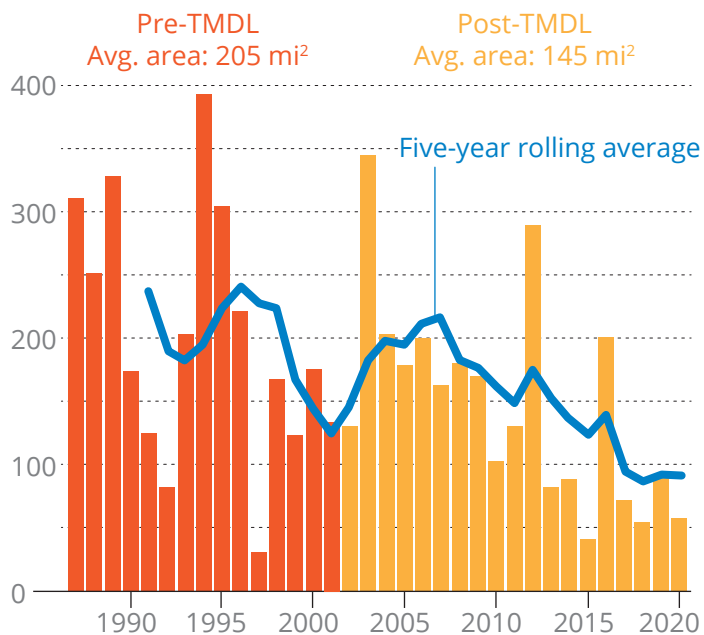
Point Source Nitrogen Pollution Loads

Thousands of pounds of nitrogen/day ■ NY ■ CT



The area with unhealthy levels of dissolved oxygen is decreasing (June- Sept.)

Maximum area of hypoxia in miles²



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Island Sound through Initiative partnerships. In 2015, the Long Island Sound Study set goals to restore 350 acres of coastal habitat by 2020 and a total of 1,000 acres by 2035. It also set a goal to open 200 additional miles of riverine migratory corridors in Connecticut and New York for fish passage by 2035.

In 2020, Long Island Sound Study partners completed 8 restoration projects for a total of 46.5 acres. The program achieved its goal to restore 350 acres of coastal habitat in 2018, two years ahead of the 2020 timeline, and is 45.6 percent of the way to the goal of restoring 1,000 acres of habitat by 2035 from the 2014 baseline. The partners also completed one fish passage restoration projects by removing dams or building fishways that reconnected 10.4 stream miles to Long Island Sound. The program has now achieved 60.7 percent of the goal to reconnect 200 river miles to Long Island Sound for fish passage by 2035 from the 2014 baseline. Study partners protected 524 acres of open space through acquisitions or easements at 20 sites. The program has now achieved 59.2 percent of the goal to protect 7,000 acres of land by 2035 from the 2014 baseline.

Supporting Partnerships

The Long Island Sound Study, through an EPA cooperative agreement with the National Fish and Wildlife Foundation, sponsors the Long Island Sound Futures Fund (LISFF). This program invests in regional and community-based projects focused on restoration and protection of the Long Island Sound. Since 2005, the program has invested \$22.8 million in 450 projects. With recipient match of \$40.2 million, the program has generated \$63 million for local management, conservation, sustainability, and resilience. The projects have reopened 105 river miles, restored 773 acres of critical fish and wildlife



Volunteers plant wetland grasses to restore habitats and improve water quality at Alley Pond Park in Queens. The project was funded with support from the Futures Fund. (Photo by City Parks Foundation).

habitat and open space, treated 200 million gallons of pollution from ground and surface sources, and educated and engaged 3 million people from communities surrounding the Sound.

In 2020, the LISFF awarded \$3.8 million in grants to 38 stewardship, restoration, resource management, and education projects across the Long Island Sound watershed, including in the upstream states of Massachusetts, New Hampshire, and Vermont. Grantees provided an additional \$4.6 million in matching funds, bringing total program funding toward local conservation efforts to \$8.4 million. This round of LISFF projects is expected to reach 670,000 people through educational and outreach projects, reconnect 3.7 river miles for fish passage, restore 108 acres of coastal habitat, treat 5.4 million gallons of stormwater, prevent 3,000 pounds of nitrogen from polluting the Sound, and install 23,000 square feet of green infrastructure.

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2021 PRIORITIES

Continue to reduce nitrogen pollution,

implementing the Nitrogen Reduction Strategy to expand assessment of harbor and embayment conditions and develop the next generation water quality model for management.

- ▶ Work cooperatively with Connecticut and New York to expand modeling and monitoring to develop numeric nitrogen targets that are protective of designated uses and set local nitrogen reduction targets where necessary to meet them.
- ▶ Continue expanding the Unified Water Study, a citizen monitoring program that establishes a comparable dataset of eutrophic conditions and environmental health of bays and harbors around the Sound. The program will provide support to 25 groups monitoring 40 of the Sound's bays and harbors.

Support sustainable and resilient communities

through the new Long Island Sound Study Sustainable and Resilient Communities Work Group to help communities plan for climate change impacts while strengthening ecological health and protecting local economies.

Increase environmental justice considerations

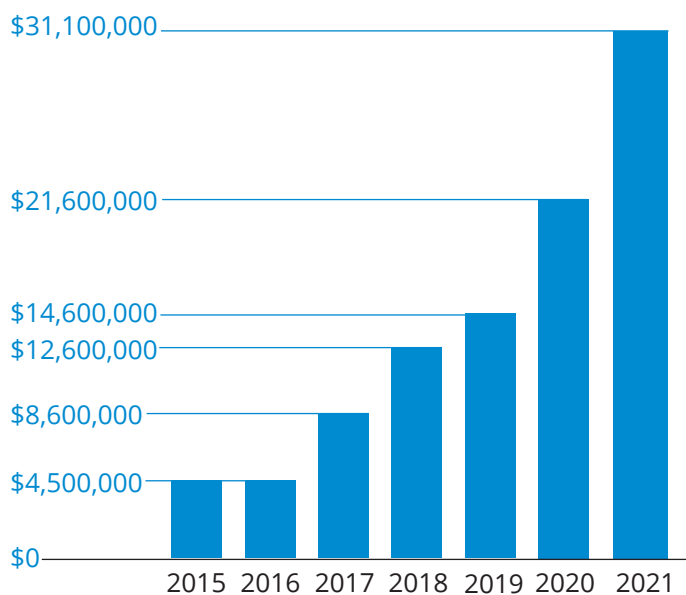
in implementation and decision-making through the new Long Island Sound Study Environmental Justice Work Group.

Expand tracking and reporting of

implementation efforts under the new CCMP Action Plan to support attainment of ecosystem targets established in the 2015 CCMP and meet legislative reporting requirements.

Federal Funding (2015-2021)

Total enacted funding per federal fiscal year



The nearly seven-fold increase in the Long Island Sound Study budget is providing critical funding for the program's partners to work on projects to fulfill the goals and objectives of the CCMP. For example, with 2020 funds the Study's partners are working to: restore habitats with projects such as the 35-acre Leetes Island Marsh in Guilford, CT; improve water quality by studying the viability of growing sugar kelp to remove nitrogen pollution in the Bronx, Westchester, and Long Island; and better understand underwater habitats through a seafloor mapping project. Looking ahead, 2021 funds will establish a new program to provide technical assistance to municipalities planning for resiliency to climate change, further protect and restore critical coastal habitats, expand environmental justice initiatives, and research the conditions causing algal blooms that risk the uptake of biotoxins by oysters and clams.

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