SoundMatters

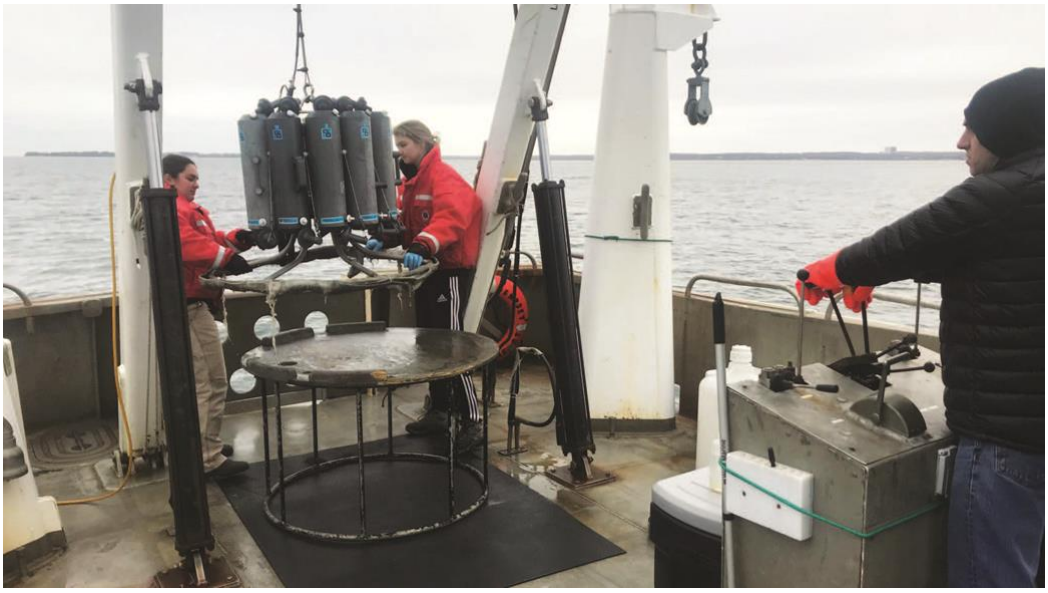
NEWS FROM THE LONG ISLAND SOUND STUDY

Winter 2023

The federal Bipartisan Infrastructure Law is providing the Long Island Sound Study with millions of dollars to fund Long Island Sound restoration projects. This issue of *Sound Matters* focuses on the impact BIL funding has had in its first year and introduces a new fact sheet series highlighting the BIL initiative.

LISS NEWS

LISS funds more than $20 million in projects under year one of BIL initiative



A winter crew from the Connecticut Department of Energy and Environmental Projection monitors water quality on board the Research Vessel *John Dempsey*. A BIL grant will provide CT DEEP with funds to purchase a new research vessel to complement the 30-year-old boat and improve research and monitoring opportunities on the Sound. (CT DEEP Photo)

After the Bipartisan Infrastructure Law was approved by Congress in November 2021 EPA provided the Long Island Sound Study with $21.2 million in BIL funds for 2022. Annual funding is expected to continue at the same level for four more years for a total of $106 million. The money will be distributed as grants to fund projects that improve the environmental health, climate resiliency, and economic vitality of the Sound in an equitable manner. In 2022, 11 projects were funded that will help make the waters of Long Island Sound cleaner, restore habitats and protect open space, and improve the environment in overburdened and underserved communities.

A fact sheet summarizing the 11 projects is available on the LISS website in the media center at https://LISstudy.net/BIL. Other fact sheets in the series provide a spotlight on individual BIL projects. Four of them are highlighted below in this newsletter.

Nationwide, EPA will be receiving a total of $55.4 billion over the five-year period to invest in infrastructure projects that improve the nation's environment and health of its communities. A portion of the funding will include the largest investment the federal government has ever made for water and water infrastructure. See the EPA website for details.

BIL Spotlight: Septic improvements will lead to a cleaner Long Island Sound

Partially treated wastewater that drains into streams and Long Island Sound from septic systems contain nitrogen, which in excess is a threat to the Sound's health. That's particularly true of communities in Nassau and Suffolk counties where hundreds of thousands of residents use septic systems or even cesspools to treat

An enhanced nutrient septic system being installed at a home in Centerport Harbor. (Photo/Jim Ammerman)

sewage. To help reduce the threat, Suffolk and Nassau counties and New York State Department of Environmental Conservation are encouraging homeowners through the use of grants to replace their old systems with enhanced nitrogen removal septic systems. The BIL initiative is helping out. Using BIL funds the Study provided $2 million in 2022 to NYSDEC to distribute to Nassau and Suffolk for use in their grant programs. The funds will assist homeowners in north shore communities where groundwater flows to Long Island Sound. The Study is considering additional BIL funding in future years. See the BIL Spotlight fact sheet on the septic improvement grant programs for more information.

BIL Spotlight: Restoring fish populations through dam removal projects

BIL funds are helping to remove the Middle Street Dam on the Pequabuck River in Bristol, CT. (CT DEEP Photo)

Since 1998 the Long Island Sound Study and its partners have reopened more than 430 miles of rivers and streams for fish passage in Connecticut and New York. These projects help restore populations of migratory fish, including alewives, a river herring that is a vital species in the food web. In 2022, the BIL initiatlive provided $1.85 million for two projects to remove dams that will result in opening an additional 18.5 river miles for fish migration in Connecticut. See the Spotlight fact sheets on the Middle Street Dam and Strong Pond Dam removals for more information.

BIL Spotlight: New grant program to support environmental projects in disadvantaged communities

BIL funds are establishing a new LISS grant program dedicated to overburdened communities. In prior years the LIS Futures Fund has also reached out to these communities, including funding projects to install bioswales to reduce stormwater pollution in areas of New Haven. (Photo/Urban Resources Initiative)

Several projects in year one of BIL funding are helping to support the Justice40 Initiative, a federal program that pledges to deliver 40 percent of the overall benefits of certain federal investments to underserved and overburdened communities. Restore America's Estuaries will be receiving one of the largest awards to help establish a new grant program, the Long Island Sound Community Impact Fund. Through LISCIF, RAE will be awarding a total of about $2 million in grants over two grant cycles. Projects for climate resiliency, clean water, and habitat restoration will be eligible for up to $100,000. See BIL Spotlight on the Community Impact Fund for more information.

Local projects to get BIL grants from NOAA

Kinneytown Dam is recommended for removal to open river miles for fish migration. (Photo/Kevin Zak, Naugatuck River Revival Group)

The Long Island Sound Study is not the only program with BIL funds to offer for eligible Long Island Sound projects. For example, the National Oceanic and Atmospheric Administration's National Coastal Resilience Fund used BIL money last year to help fund 88 projects totaling more than $136 million, including four projects in Long Island Sound. The local grantees included Save the Sound, which received nearly $2.4 million for a project that includes installing oyster castle infrastructure at Udalls Cove in Queens to help prevent erosion and restore salt marsh habitat. The City of West Haven also received $508,000 to assess the use of nature-based solutions to reduce flooding along the Cove River.

In another NOAA funding initiative, the Naugatuck Valley Council of Governments in partnership with Save the Sound is also in line to receive a $15 million grant to remove the Kinneytown Dam in Seymour, CT. The project, which was brought to the attention of the NVCOG and Save the Sound through the Naugatuck River Revival Group, will help open 29 river miles along the Naugatuck River for river herring and additional miles for the American eel. NOAA is recommending this project for its BIL-funded Restoring Fish Passage through Barrier Removal grant program.

SOUND BYTES (LISS NEWS BRIEFS)

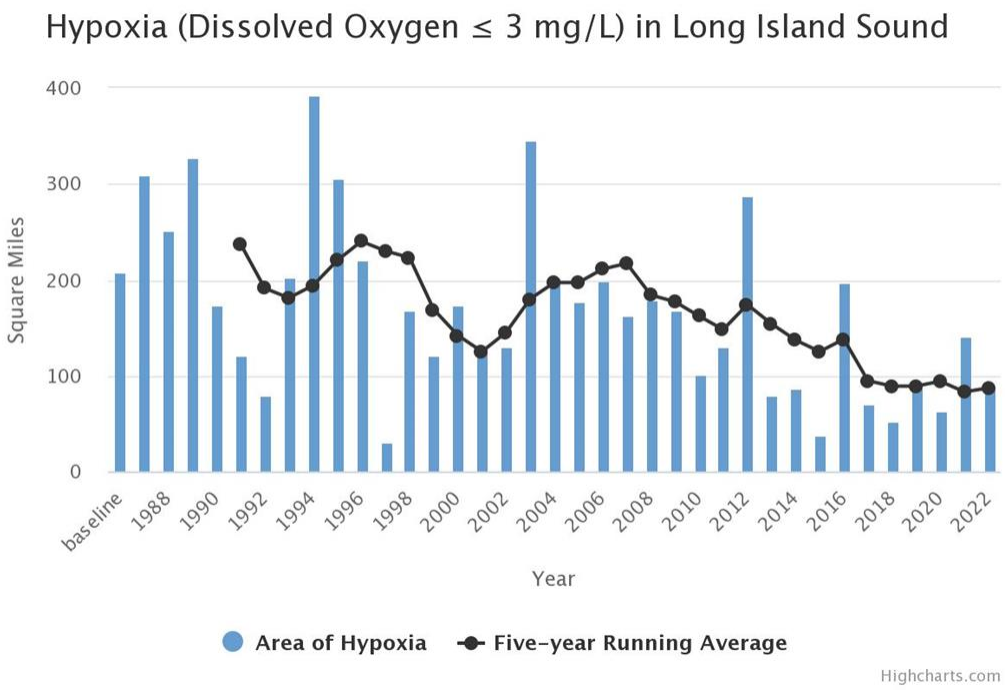
Dr. Zofia Baumann in a video of her oyster reef restoration project funded through the Long Island Sound Futures Fund. (Still image from UConn video)

- On Dec. 12, the National Fish and Wildlife Foundation announced that 41 grants totaling $10.3 million were awarded through the Long Island Sound Futures Fund to organizations and local governments for projects to help in Long Island Sound's restoration efforts. The 2022 grant cycle was the largest total amount awarded in the history of the 17-year grant program. It nearly doubled the amount awarded for 2021. For more information, read the news release and project descriptions on the Long Island Sound Study website.
- Applying for the 2023 Long Island Sound Futures Fund grant program is not far off. NFWF is holding a series of workshops to help organizations from New York and Connecticut to upper New England states in the Sound's watershed to apply for the Request for Proposals, which will be released in March. Get information on the dates and how to register in the LISS media center.
- In 2021, Dr. Zofia Baumann, a University of Connecticut marine scientist, received a Futures Fund grant to restore oyster reefs using recovered shells from local restaurants as habitat. See Bauman discuss the project and the importance of community engagement in restoration in a YouTube video produced by the University of Connecticut.

- The first annual Long Island Sound Bi-State Sustainable and Resilient Communities Workshop, held in December 2022, can now be seen on video on the LISS website. The workshop, presented by the Study's Sustainable and Resilient Communities' extension professionals, brought together more than 260 people to learn about opportunities to increase the resilience of the Sound's communities to climate change and other environmental threats.
- A new interactive table on the LISS website highlights all of the projects that LISS has supported since 2011 to use seaweed and shellfish aquaculture to advance clean water projects. The specialized aquaculture projects, known as nutrient bioextraction, combines growing and harvesting shellfish and seaweed for the purpose of removing nitrogen and other nutrients from coastal waters. Nutrient bioextraction can also provide economic benefits.

FOCUS ON LISS INDICATORS

Hypoxia



(Chart/Long Island Sound Study Ecosystem Target and Supporting Indicators presentation)

The Long Island Sound Study Ecosystem Targets and Supporting Indicators microsite tracks indicators that measure the health of the Sound and whether the Study is meeting management targets to help achieve restoration goals. In each issue of Sound Matters we highlight the latest trends in one of the indicators or targets.

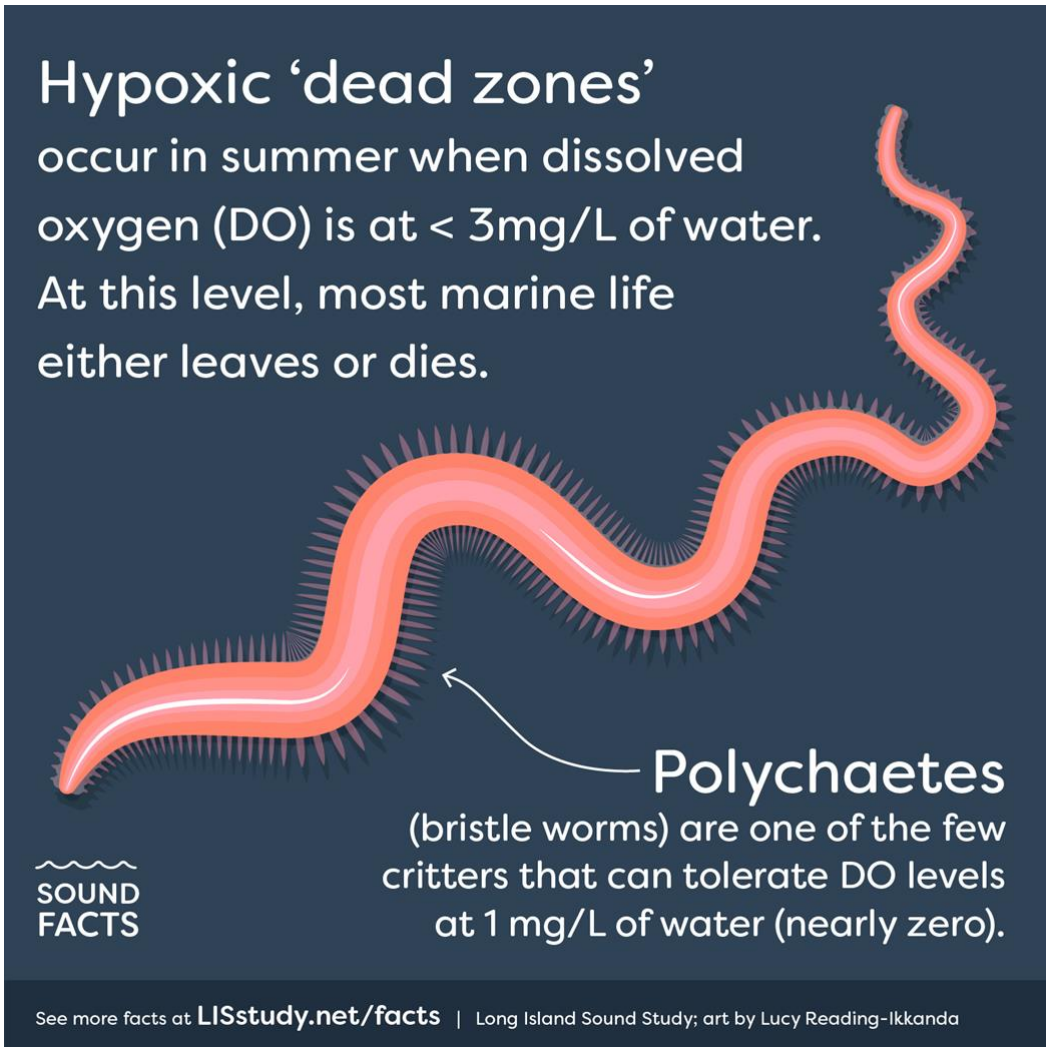
The area of Long Island Sound impacted with low oxygen in summer 2022 was 87 square miles, according to the annual monitoring results compiled through CT DEEP's Long Island Sound Water Quality Monitoring Program. The hypoxic area, which is over two and a half times the size of Manhattan, declined by 39 percent compared to summer 2021. Dry summer conditions likely reduced the flow of nutrients to the Sound from rivers and streams in the watershed as opposed to during heavy years of precipitation, contributing to the observed reduction in hypoxic area.

Waters with dissolved oxygen levels of less than 3 mg per liter are classified as hypoxic. Informally they are called "dead zones" because low oxygen conditions can lead to fish scattering or die offs of fish, shellfish, and aquatic plants. Hypoxia occurs mostly in the summer due to a variety of factors, including excess nutrients, high temperatures and precipitation.

Learn more, including how LISS uses a five-year rolling average to calculate hypoxic trends, at the Ecosystem Target and Supporting Indicators microsite.

SOUND FACT

Respiration in the Sound's muddy waters



(Illustration/Lucy Reading-Ikkanda for the Long Island Sound Study)

The survival of fish and other marine life drops signficantly when dissolved oxygen levels fall below 1 mg per liter, defined by the Long Island Sound Study as anoxic. Species that can survive near anoxic level are polychaetes, also known as bristle worms, which live in the mud and sand habitat called the tidal flats. In Long Island Sound there is a large number of these critters digging into the sediments. Learn more about polychaetes, which are related to earthworms and leeches, in the latest Sound Fact posted on the LISS website.

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