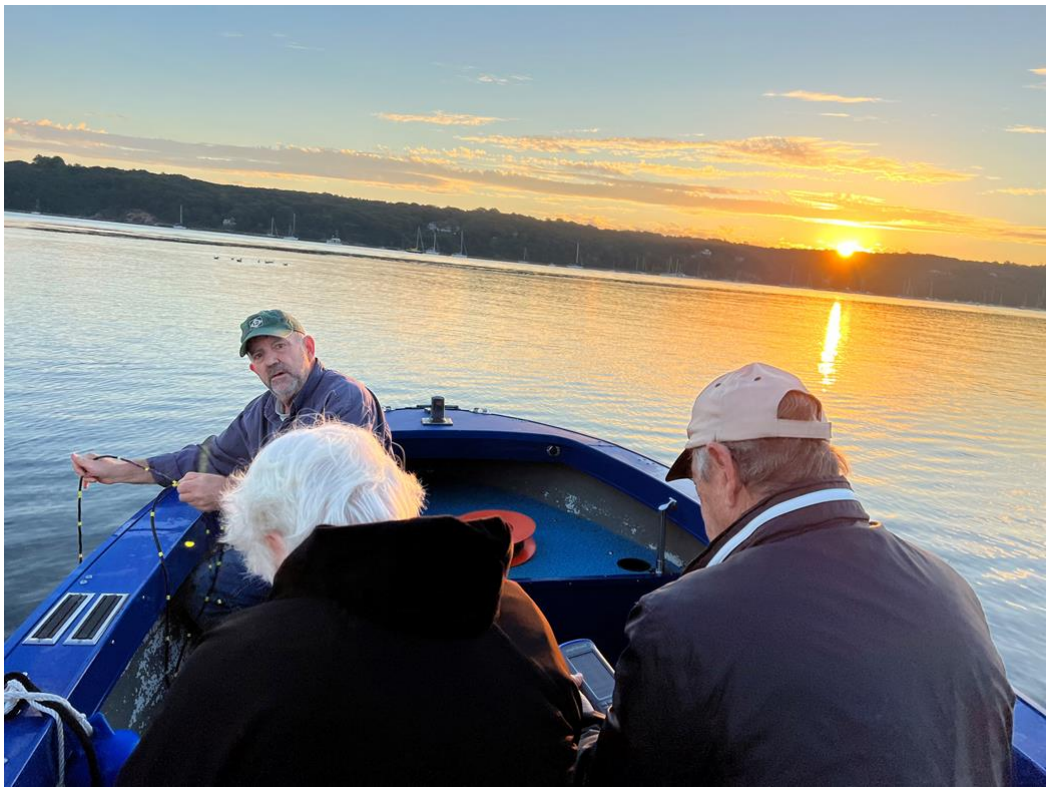
Spring 2023

Each spring and summer, groups across Long Island Sound monitor water quality in their local bays and harbors through the Unified Water Study. This issue of **Sound Matters** looks at the history of this rapidly growing program, and takes you on a video tour of a day of monitoring on Eastchester Bay in the Bronx. The UWS is supported through the Long Island Sound Study.

LISS NEWS

The Unified Water Study: Bringing a community-based monitoring network to the Sound's bays and harbors



George Hoffman of the Setauket Harbor Task Force drops a sonde in Port Jefferson Harbor to monitor water quality with colleagues Alice Leser and Bert Conover. (Setauket Harbor Task Force photo)

The Unified Water Study was founded in 2016 by Save the Sound as a pilot project to develop a soundwide water quality monitoring network for the Sound's bays and harbors. Today, the UWS consists of 27 groups monitoring 46 embayments. Volunteers working with water professionals provide quality assured data on important measures of the Sound's ecological health, including dissolved oxygen levels, water clarity, and chlorophyll a (an indicator of phytoplankton abundance, and the nutrients entering Long Island Sound that stimulate the growth of phytoplankton and algal blooms). Check out **Sound Spotlight** in the LISS media center for an article describing the program's history, and why the data are important for community groups, resource managers, and decision makers.

Video and a blog post tell an intern's story of water quality monitoring in Eastchester Bay

"I can't remember the last time I saw a sunrise. Soft yellow, bright orange, a hint of pink against the beginnings of a bluebird sky. Today is the perfect day to be out on the water."

Charlotte Burger films Jenna Morrisey of Save the Sound as she conducts water quality sampling in Eastchester Bay, near Co-op City in the Bronx. (Save the Sound photo/Elena Colon)

That's the opening sentences of a blog posted on the Long Island Sound Study website by New York Sea Grant intern Charlotte Burger. She goes on to describe her experience shooting video to document an early morning water quality monitoring cruise in Eastchester Bay in the Bronx. In her post, Burger explains the procedures conducted by Save the Sound's water quality monitoring team, which are standard for all groups participating in the Unified Water Study. Burger's internship was in 2021, during the height of the pandemic, but the blog and video are appearing on the LISS website and YouTube channel for the first time this month.

Equipment Loan Program aids expansion of Unified Water Study

Elena Colon, laboratory manager at the Unified Water Study's laboratory in Larchmont, New York, places sample cups into the facility's new discrete analyzer. The new equipment enables the UWS to do in-house analysis of water quality samples for nitrogen, phosphorous, continuous dissolved oxygen, and additional measures. (LISS photo/Robert Burg)

Ten years ago, a LISS-funded report identified a significant barrier toward establishing a soundwide network of community-based groups monitoring water quality in near-shore waters. The report noted that community groups needed additional support in the form of training, equipment and supporting funds to bulid the capacity to join the effort. Save the Sound has met this challenge through its Equipment Loan Program and laboratory based in Larchmont, NY. Check out **Sound Spotlight** for an article describing the program.

Horseshoe Crab event to pay tribute to Dr. Jennifer Mattei, founder of Project Limulus

Mattei tagging a horseshoe crab at Long Wharf Harbor in New Haven in 2006 (Photo/Richard Howard for the Long Island Sound Study)

As part of International Horseshoe Crab Day on June 20, Sacred Heart University and Project *Limulus* will be hosting a horseshoe tagging event and talk in honor of Dr. Jennifer Mattei, a long-time professor at Sacred Heart University who died in December at the age of 62.

Mattei started Project Limulus in 1997 to work with colleagues, students, and communities to protect horse-shoe crab populations in Long Island Sound. Horseshoe crabs have been around since before dinosaurs roamed the planet, but now are under threat in the northeast due to habitat loss, overharvesting, and climate change.

Mattei also was an early proponent for using nature-based solutions to restore habitats in Long Island Sound impacted by extreme storms and sea level rise. Since her pilot project at Stratford Point in 2013, there are now over a dozen "living shoreline projects" completed or being planned around the Sound. A profile of Mattei, with information on the June 20 tribute and other events this month related to horseshoe crabs, appears in **Sound Spotlight**.

SOUND BYTES (LONG ISLAND SOUND STUDY NEWS BRIEFS)

- In April, the Long Island Sound Study Management Committee agreed on a $63 million budget to fund projects and programs for the next federal fiscal year, beginning Oct. 1, 2023. Our summer is-

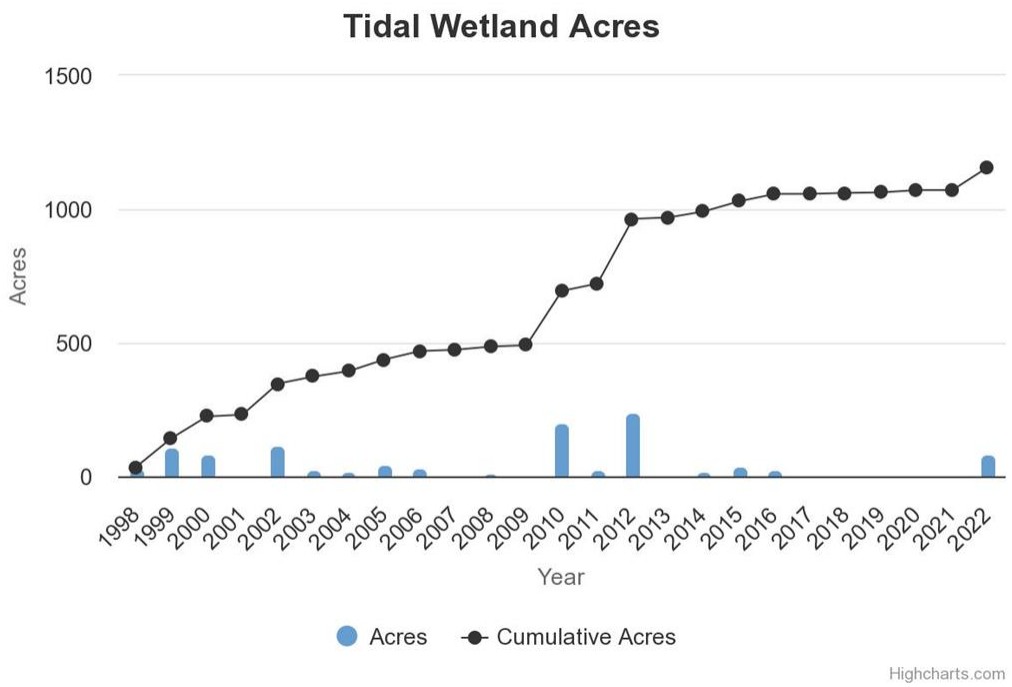
Partners and speakers at the Suffolk County Long Island Sound Coastal Erosion Forum held May at the Port Jefferson Village Center.(LISS photo)

sue (scheduled for August) will include the annual work plan, which provides descriptions of the projects that will be funded.

- In March, the Connecticut and New York Sea Grant programs announced nine new research projects funded through the Long Island Sound Study Reseach Grant Program. The awards totaled $4.2 million. Descriptions of the projects are in the Research Section of the LISS website.
- In May, the LISS Sustainable and Community Resilience initiative held two coastal erosion forums in Long Island. Participants shared information on best practices, discussed challenges, and identified opportunities to increase resilience, all to enhance coordination across communities. An article appears in the **Latest News** section of the media center.
- In 2022, the Long Island Sound Study Bioextraction Initiatlve held a virtual seaweed bioextraction symposium that included speakers from as far away as South Korea and Alaska. Topics included cultivation, uses of harvested materials, regulations, and economics. The presentations were recorded and posted on YouTube, and are now available in the **Bioxtraction Initiative** section of the LISS website.

FOCUS ON LISS INDICATORS

Tidal Wetlands



(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.

In the first 15 years of the Long Island Sound Study's Habitat Restoration Initiative (1998-2012) the number of acres of tidal wetlands restored in Long Island Sound grew by over 2,000 percent. Since then, the pace has slowed. But last year a total of 88 acres of wetlands were restored, the highest year of growth since 2012 when 243 acres were restored. Many earlier projects in the initiative targeted the largest degraded marsh complexes and involved increasing tidal flow, such as by removing tidal gates, and treating the invasive species *Phragmites australis*. In recent years it has been harder to get these larger projects "in the pipeline." In 2022, however, 50 acres of tidal wetlands were restored at the Cove River in New Haven as a result of replacing four rotted out wooden flap gates with a new self-regulated tide gate. The second large project in 2022, a 34-acre restoration at Great Meadows Marsh in Stratford, CT, included removing fill that was dumped into the wetlands in the 1950s. That project, which had received support from the Long Island Sound Study, was featured in an article last year in **Sound Spotlight**.

Learn more about tidal wetlands restoration efforts at the Ecosystem Target and Supporting Indicators microsite.

SOUND FACT

Why Celebrate Wetlands?

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

May was American Wetlands Month. It's worth celebrating plants such as salt marsh grasses that are vital parts of tidal wetlands habitat. They tolerate and thrive in watery soil, including along the brackish waters of Long Island Sound. As a result, they provide habitat for many wildlife species, including water birds and forage fish. They also act as a buffer to stormy seas, slow shoreline erosion, and filter pollutants. Learn more about the value of wetlands in Sound Facts.

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