SOUND UPDATE

NEWSLETTER OF THE LONG ISLAND SOUND STUDY



We all faced unexpected obstacles in 2020. Partnering with colleagues on the Long Island Sound might have seemed to take on less importance as the region and the country battled the Covid-19 pandemic. But 2020 also illustrated our resilience and perseverance, reminding us of what really matters—the importance of the health of ourselves, our loved ones, our society, and our environment. We are emerging into 2021 fortified, I believe, in our commitment to protect human health, our environment, and the Long Island Sound.

Despite the challenges, 2020 was a positive year of progress for Long Island Sound and a very productive year for the Long Island Sound Study. The program completed Returning the Urban Sea to Abundance, a report summarizing the progress made from 2015-2019 in restoring the health of Long Island Sound. The report, now transmitted to Congress, provides an assessment of the first five years of action by the Long Island Sound Study under the 2015 Comprehensive Conservation and Management Plan (CCMP), which established general goals and measurable targets to restore the health of the Sound by 2035. This report is part of the LISS's program to apply leading practices for performance assessment and reporting. Insights from the assessment were the basis for updating the CCMP in 2020 with 136 new actions covering the years 2020-2024. The vision, goals, and objectives of the CCMP remain the same, but the update applies lessons learned and incorporates advances in science and technology. In addition, the LISS formed two

new work groups in 2020 to spearhead our efforts around climate change resiliency and environmental justice.

Also, another report released this year, 15 Years of Conservation Success, documents the accomplishments of the Long Island Sound Futures Fund since it began in 2005 through a partnership between EPA and the National Fish and Wildlife Foundation. 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 projects have added 105 river miles for fish passage, restored 773 acres of critical fish and wildlife habitat, treated 200 million gallons of pollution, and educated and engaged 3 million people in protection and restoration of the Sound. And 2020 added to these impacts, bringing the largest slate of Futures Fund projects yet; highlights of the projects are showcased in this newsletter.

There is further good news for the federal fiscal year 2021 budget—Congress has appropriated \$31.1 million for the Long Island Sound Study, a \$9 million increase compared to 2020. Expect even more on-the-ground projects to improve water quality, restore habitat, and conserve land.

Mark Tedesco, Director,
 Environmental Protection Agency,
 Long Island Sound Office

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Sound Update provides readers with news about the Sound and the Long Island Sound Study.



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LONG ISLAND SOUND'S habitats, like this Great Island marsh in Old Lyme, Connecticut, support more than 1,200 species of inverterates, 170 species of fish, and at least 50 species who use them as nursing grounds to reproduce.

Long Island Sound Futures Fund Grant Program: 2020

In 2020, the Long Island Sound Futures Fund (LISFF) awarded \$3.8 million in grants to 38 stewardship, restoration, resource management, and education projects across the Long Island Sound watershed, including in upstream states New Hampshire, Vermont, and Massachusetts. An additional \$4.6 million was generated in grantee matches, totaling \$8.4 million in funding toward local conservation efforts. These projects are expected to reach 670,000 people through educational and outreach projects, reconnect 3.7 river miles for fish passage, treat 5.4 million gallons of stormwater, and prevent 3,000 pounds of nitrogen from polluting the Sound through green infrastructure installations. LISFF is supported by the Environmental Protection Agency (EPA), the US Fish and Wildlife Service (USFWS), and the National Fish and Wildlife Foundation (NFWF). For full descriptions of all 2020 LISFF projects, visit www.longislandsoundstudy.net/grants.

Clean Waters and Healthy Watersheds

 Thriving Habitats and Abundant Wildlife Educating + Engaging Sustainable and Resilient Communities

Sound Science and Inclusive Management



CONSERVING EELGRASS BEDS: The Henry L. Ferguson Museum will be organizing a community engagement effort to receive public input on potential scenarios for eelgrass protection around Fishers Island, which supports around 25% of the remaining seagrass in LIS.



PROJECT WATER DROP: The Bronx River Alliance, based in NYC, will conduct water quality monitoring with the help of volunteers to help identify illicit sources of pollution in the Bronx River, upstream of the Sound.



RESTORING GREAT MEADOWS
MARSH: Audubon Connecticut is set to
restore 40 acres of salt marsh and other
coastal habitat at the Great Meadows
Marsh, the largest intact salt marsh in
the state of Connecticut.

Hempstead Harbor 2021 Water Quality Monitoring Program-XIII (NY)

Project Water DROP: Detecting River Outfalls and Pollutants (NY)

A Watershed Plan for the Hutchinson River-Westchester County-I (NY)

Sound In! Community Estuary Days on the Bronx Shores of Long Island Sound (NY)

A Green Schoolyard at PS 107X: Providing Community Green Space and Improving Water Quality (NY)

> Boogie Down to the Sound - A Celebration of Long Island Sound-II (NY)

Watershed Planning to Reduce Water Pollution in the Pootatuck River Basin of Long Island Sound (CT)

Still River Watershed Plan Implementation: Brookfield Public Works Stormwater Retrofit (CT) Planning for a "Nature Based" Living Shoreline at the Mouth of the Housatonic River (CT)

> Restoration and Stewardship of Coastal Forest and

Dune at the

Wildlife

Smith Hubbell

Sanctuary (CT)

Water Quality Monitoring to Improve Fairfield County Waterways and Long Island Sound-VI (CT)

Restoring Great Meadows Marsh on Long Island Sound (CT)

Fish Passage on the Bulkley Pond Dam (CT)

Planning to Enhance Coastal Resiliency with Tidal Marsh Restoration at Sunken Meadow Park (NY)

Sound Effects: A Public Conservation Education Program – III (NY) Marine Meadows Eelgrass Restoration for Long Island Sound (NY)

Installation of Nitrogen Removing Biolfilter at Frank Melville Memorial Park (NY)

 Be a Good Egg: Share the Shore with Shorebirds-IV (NY)

Long Island Sound Environmental Education Series (NY)

Green Infrastructure at the Leeds Pond Preserve and Science Museum to Improve Water Quality in Long Island Sound (NY)

Viva La Sound! Cultivating Community and Environmental Stewardship on City Island in the Bronx (NY)

nx River Alliance



KEEPING POLLUTANTS OUT OF THE WATER: The Town of Montague, MA, will install green infrastructure at a local parking lot to prevent polluted runoff from reaching the Connecticut River and LIS.

- A. Restoring Riverbanks to Reduce Nitrogen (NH)
- **B.** Planning for Cover Cropping to Reduce Nitrogen (VT)
- C. Restoring Riverbanks to Reduce Nitrogen (NH)
- **D.** Planning for Pocket Wetland Restoration to Prevent Nitrogen Pollution from Farms (VT)
- **D.** Incentivizing Ecological Restoration and Best Management Practices on Vermont Farmland (VT)
- **E.** Deploying a Nitrogen Reclamation Project in the Long Island Sound Watershed-III (VT)
- F. Restoring Riverbanks to Reduce Nitrogen (NH)
- G. Restoring Riverbanks to Reduce Nitrogen (NH)
- **H.** Green Infrastructure to Reduce Nitrogen Pollution at Montague Town Hall (MA)
- I. Planning to Reduce Nitrogen Pollution and Improve Water Quality in Long Island Sound (MA)
- J. Reducing Nitrogen into Long Island Sound at the Springfield Regional Wastewater Treatment Facility (MA)



Community Conservation Stewardship in New Haven (CT)

Rapid Action Plans to Deliver Green Infrastructure in Coastal Connecticut Communities-II (CT)

City of New London Watershed Management Plan-II (CT)

Hepburn Living Shoreline Project-II (CT)

– A Plastic Free Long Island Sound Program (CT) Planning for a Nature-Like Fishway for Long Pond Dam (CT)

> Ensuring a Resilient Coastal Forest to Address Changing Climate in Southeastern Connecticut (CT)

— A Plastic Free Long Island Sound Program (CT)

Stakeholder Engagement and Planning for Eelgrass Protection on Fishers Island (CT)

Share the Shore with Shorebirds:

A Coastal Stewardship Program (CT)

Be a Good Egg: Share the Shore with Shorebirds-IV (NY)

Marine Meadows Eelgrass Restoration for Long Island Sound (NY) Be a Good Egg: Share the Shore with Shorebirds-IV (NY)



PROTECTING SHOREBIRDS:

Audubon New York will continue its Be a Good Egg campaign, which in 2021 will engage 750 children in an educational sign design project.



LISFF TURNS 15: In 2020, the National Fish and Wildlife Foundation published 15 Years of Conservation Success celebrating the Futures Fund's 15th Anniversary! Find the report in the LISS Media Center at https://longislandsoundstudy.net

ubon Society. (Good Egg); Patrick Comins (Piping plover)

Clean Waters and Healthy Watersheds

LISS'S COMPREHENSIVE CONSERVATION AND MANAGEMENT PLAN (CCMP) is organized around four themes, as is this newsletter. The goal of this theme is to improve water quality by reducing contaminant and nutrient loads from the land and the waters impacting LIS.

BY THE NUMBERS

In 2020, the area of hypoxia (low oxygen in the water) in the Sound was **63 square miles**, a 25 square mile reduction compared to 2019. The duration of this hypoxic period was **43 days**, shorter than the 54-day average and 5 days less than in 2019.

Projects funded by the Long Island Sound Study Futures Fund installed **9,211 square feet of green infrastructure** and treated **8,581 gallons of stormwater** last year. These projects prevented an estimated **22,130 pounds of nitrogen** from polluting Long Island Sound.

In 2020, **9,630 pounds of marine debris** were recovered at beach clean
ups organized by Save the Sound and
American Littoral Society across **143 miles** of the Sound's coastline, filling up

751 trash bags. While this is less debris than has been collected in previous years, this is likely due to less beach clean ups happening because of the pandemic.

The nitrogen inputs from wastewater treatment plants in 2020 were the lowest ever on record for LIS, with the daily discharge **decreased by 2,959 pounds** compared to 2019.

Spotlight on Bioextraction

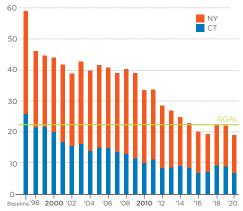
One of the major environmental challenges the Sound faces is nutrient pollution. Nutrients, such as nitrogen and phosphorous, are not inherently detrimental. They are naturally found in the environment and are essential for the growth of plants, phytoplankton, and algae. However, excessive amounts of nutrients in the water caused by fertilizer runoff and leaching from faulty or outdated home septic systems can lead to a number of environmental issues such as dangerously low levels of oxygen and fish kills.

Bioextraction is a technique used to control nutrient pollution in which seaweed and shellfish, which use up nutrients in the water, are grown and harvested to remove excess nutrients from the ecosystem. In 2020, three pilot projects around the Sound and Long Island waters explored the use of bioextraction to determine its feasibility as a management method in the region. One project led by the NYS Department of Environmental Conservation (NYSDEC) and several partners across Long Island cultivated sugar kelp in the Great South Bay and Hempstead Bay, NY; a second, led by marine researcher Aaren Freeman of Adelphi University, grew and harvested sugar kelp in Oyster Bay, NY. These projects aimed to determine the growth of cultivated kelp, and examine the nutrients, metals, and pathogens in their tissue to assess if the method was being effective in removing nutrients and other pollutants from the water. The third project, run by SoundWaters near Greenwich Harbor in CT (pictured), established a seaweed farm and focused on using the farm as an educational tool to teach the public about the benefits of seaweed aquaculture. The projects all also include a component exploring the use of harvested kelp as fertilizer in local crops. While most projects had to slightly alter their original plans due to the pandemic, all three were successful and are continuing into 2021.



THE KELP is seeded in lines, left growing over the winter, and harvested in the spring.

LIS POINT SOURCE NITROGEN TRADE-EQUALIZED LOADS (Thousands TE pounds per day)



2020 LIS Report Card (Now with Bays!)

Save the Sound, one of LISS's collaborators in NY and CT, began publishing the Long Island Sound Report Card in 2016. The report, produced once every other year, divides the open waters of the Sound into regional segments and assigns them grades from A to F based on each region's water quality parameters, such as dissolved oxygen and water clarity. The grades more easily communicate to local officials and stakeholders where the health of the Sound needs attention and how management efforts are making a difference. In 2020, the Report Card for the first time included grades not just for open waters but for specific bays and bay segments across the LIS coast based on data collected through the Unified Water Study (UWS). The UWS program, organized by Save the Sound and funded by LISS, provides training and resources to groups around the estuary and coordinates standardized monitoring protocols to ensure the data collected is comparable across all 38 monitored bays. Bay data are especially valuable because the health of bays depends on highly variable characteristics—such as their shape, depth, size, water currents, and nearby land-uses; thus, this information provides greater insight into the management needs of each bay. The 2020 LIS Report Card showed 22 of the 50 bay segments were in relatively good condition, while the remaining 38 received a C, D, or F grade. Find the latest LIS Report Card at https://www.savethesound.org/report-card

Thriving Habitats and Abundant Wildlife

THE GOAL OF THIS THEME is to restore and protect the Sound's ecological balance in a healthy, productive, and resilient state to benefit both people and the natural environment.



In 2020, **46.2 acres of coastal habitat** were restored, totaling **2,101.92 acres restored** since 1998.

Fish ladder projects and dam removals in 2020 opened **10.4 new miles of river** to migrating river herrings, which require upstream freshwater habitats to spawn. Since 1998, LISS partners have opened **429.2 cumulative river miles**.

Tidal wetlands are considered a priority habitat due to their susceptibility to climate change and their many roles in the ecosystem—supporting local wildlife, protecting the shore from wave energy, and helping filter out pollutants from runoff. In 2020, **8.5 acres of tidal wetland** were restored, resulting in **1,071.2 total acres restored** since 1998.

In 2020, **524** acres of coastal habitat were acquired; **67.4** in NY and **456.7** in CT. Acquiring lands helps LISS protect these habitats from development in the future. Among the lands acquired last year for protection were **230** acres of primarily forest habitat at the Atkinson-Dirlam Preserve in Connecticut, which will protect the water quality of Thompson Brook and Great Brook and add miles of trails to one of the longest trail systems in southeast Connecticut. With the acres acquired last year, LISS has protected a total of **7,644.8** acres of coastal habitat since 2006.

Living Shorelines at Stratford Point

The tidal marsh habitat at Stratford Point, CT has undergone many stresses in its history. In the 1930s, the marsh was ditched to control mosquitoes. In the 1950s, most of the marsh was covered with sediment dredged from the Housatonic River, leaving only a small strip of tidal marsh habitat. Soon after, its upland area became infested with invasive weeds and most of the remaining tidal marsh was lost because of remediation activities. Later efforts to restore the marsh fell flat due to high wave energy, including a 2011 dune restoration project destroyed by Hurricane Sandy.

In 2014, a living shorelines pilot project was launched to restore the area. *Living shorelines*, as defined by CT DEEP, are a low-impact approach to shoreline protection that integrate natural coastal features. The project was led by Dr. Jennifer Mattei of Sacred Heart University and by Audubon Connecticut in collaboration with the LISS Habitat Restoration Coordinator for CT, Harry Yamalis of CT DEEP. It resulted in 31 acres of restored habitat—including dune, tidal marsh, coastal forest, and grassland—and took place in stages over more than 5 years.

First, 64 Reef Balls—large hollow, porous cones designed to imitate the structure and function of reefs—were placed along the shoreline to protect against wave energy and allow sediment to settle, reversing the effects of erosion and restoring the area's elevation. This phase was followed with upland meadow restoration and another dune restoration attempt, which this time proved succesful. With the Reef Ball structures shown to be effective, another 273 were placed along the shoreline, some in deeper water than the initial placement, to help further expand the marsh. Studies conducted throughout the project showed the marsh area attracted fish during high tide, including Atlantic silversides, and the Reef Balls were used by migratory shorebirds as rest stops. To date, all the recent restoration efforts in the area have proven successful, as the sediment deposition and tidal marsh continue to grow while protecting the adjacent dune.

HABITAT RESTORATION & COASTAL LANDS PROTECTED

NEW YORK:

- 1. Great Pond Native Plant Restoration
- 2. West Meadow Beach Restoration
- **3.** Sunken Meadow Tidal Wetland Restoration-Phase 3
- 4. Shore Road Sanctuary Restoration
- **5.** Hope Goddard Iselin Preserve Restoration
- 6. Humes Meadow Restoration
- 7. Maple Moor Golf Course Pond Edge and Buffer Restoration
- A. Hubbard Mill Lane Preserve Aquisition
- B. Arthur Lee Property Acquisition
- C. Phoenix Rd Property Acquisition
- **D.** Soundview Pipe Stave Hollow LLC Property Acquisition
- **E.** Wilmington Savings Fund Society FSB Property Acquisition
- F. Little Portion Friary Property Aguisition
- G. Poveromo Property Acquisition

- H. Vesev Property Acquisition
- I. Kummer Property Acquisition
- J. Spencer TDFR Property Easement
- K. Tilden Lane Farm Property Easement
- L. Creek Road Property/Mill Dam Park
- M. MacDonald Property Acquisition

CONNECTICUT:

- 8. Stratford Point Living Shoreline
- 9. Upper Collinsville Dam Fishway
- 10. Page's Millpond Dam Fishway
- 11. Slocomb Mill Dam Removal
- N. Pratt Cove Area Habitat Acquisition
- o 100 Lyme St Acquisition
- P. Diana Atwood Johnson Trust Property
- **Q.** Niantic River Headwaters Community Forest Preserve
- R. 77 Christy Hill Rd Acquisition
- S. Atkinson/Dirlam Preserve Acquisition



Sustainable and Resilient Communities

THE GOAL OF THIS THEME is to support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.

BY THE NUMBERS

Long Island Sound Futures Fund efforts reported in 2020 **engaged approximate-ly 1.5 million people** in educational and outreach programs covering topics such as urban green spaces, stormwater pollution, and plastic reduction.

In lieu of in-person workshops for educators in 2020, LISS and New York Sea Grant (NYSG) hosted a webinar presenting a newly developed curriculum on the effects of climate change on Long Island Sound marshes. The teacher webinar, attended by **55 people**, was led by UConn researcher Dr. Beth Lawrence and one of her collaborators in the development of the curriculum, NY Master Teacher Kimberly 'Ly' Williams. Teachers who attended the webinar will reach an estimated **5,300 students**.

1,879 volunteers contributed to beach clean ups in Connecticut and New York last year, organized by Save the Sound and the American Littoral Society, respectively.

In 2020, the newly launched LIS website—which went live in March—received a total of **71,136 visits** from **54,501 users**. This represented a significant increase from 2019, when 34,934 users had 47,934 visits to the site, and was the highest website activity recorded in over a decade.

New Radio Show on Sound Gardening

iCRV radio—based in Essex, Connecticut—aims to assist local commerce in the Connecticut River Valley by introducing listeners to the wide variety of activities, events, clubs, and merchants that make this part of the world special.

In 2020, Judy Preston, the LISS Connecticut Outreach Program Coordinator, was invited to host a gardening program that could provide resources for listeners of iCRV interested in gardening. Preston's "Gardening for Good" – an outgrowth of the Advanced Master Gardener Coastal Certificate Program – makes the connection between what happens in the watershed and the health of Long Island Sound. The program has covered topics such as nitrogen fertilizer overuse and hypoxia in the Sound, how to reduce lawns in favor of wildlife habitat, why native plants can help reduce fertilizer use, and how composting can enhance soils organically. Guests on the show have included Lydia Pan (pictured), Nancy Ballek from Ballek's Nursery in East Haddam, the Pollinator Pathway's Maryellen Lemay, Maggie Redfern from the Connecticut College Arboretum, and Jim Sirch of the Yale Peabody Museum, who discussed how to germinate native plant seeds over the winter.

Linking people's backyard gardens and their passions for growing food to an environmental goal like protecting the health of Long Island Sound, Preston

JUDY PRESTON at the iCRV station (top); guest Lydia Pan (right, in red), President of the Mountain Laurel local chapter of Wild Ones, giving a tour at the CT College Arboretum.

notes, has made the program all the more appealing. "Listeners have been interested to know about all aspects of gardening" says Preston, "especially this spring after the long COVID winter!" As of fall of 2020, 50,000 listeners had tuned in to the Gardening for Good radio show, an average of 600 people per day were visiting the show archives, and around 1,800 people listened to the live program stream. Gardening for Good airs once a month on Friday mornings, but you can listen to archived programs anytime: https://icrvradio.com/programs/program/298







n (CTSG)

Designing Effective Behavior Change Campaigns

One of the cornerstones of most environmental programs involves educating the public to encourage individuals to adopt more sustainable behaviors in their daily lives. While education is an extremely important and valuable aspect of conservation work, studies have shown that sometimes it is not, by itself, effective in causing people to change their behaviors.

Community-based social marketing (CBSM) is an approach that incorporates lessons from research in behavioral and psychological sciences in the design of behavior change and outreach campaigns. The approach was developed by psychologist Dr. Doug McKenzie-Mohr and has been used by environmental groups around the world to effectively foster long-lasting sustainable behaviors, such as the adoption of healthy habits, conserving energy in the home, and using

reusable materials in place of plastics.

In September of 2020, LISS partner NEIWPCC, with support from The Nature Conservancy CT and the Eastern Connecticut Conservation District, hosted a workshop on this approach led by McKenzie-Mohr. Sixty-two people attended the workshop, representing a wide array of groups from municipalities to environmental non-profits. The event, originally scheduled for April as an in-person workshop, took place online over the course of three days in a series of 4-hour long webinars which included interactive discussions, break out groups, real-life campaign examples, and practice exercises. Attendees also had the opportunity to sign up for smaller working sessions with McKenzie-Mohr, who provided further input to groups working on CBSM campaigns in the region.

Victoria O'N

Sound Science and Inclusive Management

THE GOAL OF THIS THEME is to manage Long Island Sound using sound science and cross-jurisdictional governance that is inclusive, adaptive, innovative, and accountable.

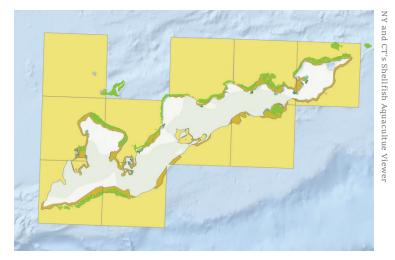
Interactive Map for Seaweed and Shellfish

In 2020, the Nutrient Bioextraction Initiative—funded by LISS and made up of partners NYSDEC, NEIWPCC and the Long Island Regional Planning Council—unveiled New York and Connecticut's Shellfish and Seaweed Aquaculture Viewer. The interactive map, based off UConn CLEAR's Aquaculture Mapping Atlas, provides information on New York's marine and coastal districts and Connecticut's coastal areas to help aquaculture farmers identify potential regions for new farms or for expansion of existing farms. For ease of use, the Aquaculture Viewer was also released with a StoryMap guide to help familiarize users with how to best make use of the tool. The map includes a wide array of spatial data, including on relevant economic activity such as marine traffic and regions of potential user conflict, as well as physical and ecological characteristics like critical habitats, bottom and surface water currents, and sediment types.

Management Plan Update

Every 5 years, LISS revisits its Implementation Actions (IAs)—the concrete steps the program establishes in its Comprehensive Conservation and Management Plan (CCMP) to attain its desired outcomes. This update took place over the summer of 2020 through a series of discussions among LISS partners and stakeholders from different fields and regions, including scientists, managers, municipal officials, and members of the public. The process itself is an adaptive management approach; by setting actions in 5-year blocks, the program can regularly revisit them considering lessons learned and adapt them to reflect new science and technology, and emerging needs. The action plan update increased emphasis on environmental justice and resiliency to climate change, as well as updated priorities in the field of coastal habitat conservation.

LISS BUDGET FY 2020 (Oct. 2020 - Sept. 2021)	
Coordination & Reporting of Environmental Actions and Results	\$1,038,702
Public Outreach, Information, Participation and Education	\$1,360,280
Water Quality Monitoring, Modeling and Scientific Research	\$7,014,092
CCMP Implementation Support and Technical Assistance	\$12,249,426
TOTAL	\$21,662,500



FISHERS ISLAND SEAGRASS BEDS (in green), littoral zone (in yellow), and coastal shoals, bars, and mudflats (in brown) as seen through the Aquaculture Viewer.

New Working Group for Environmental Justice

Environmental justice has been a cross-cutting principle in the CCMP since 2015, meant to be considered and included in projects across all fields. In the summer of 2020, a handful of LISS staff began meeting regularly to discuss how to better implement environmental justice activities within the program. In October, the effort was formalized to form the Environmental Justice Work Group (EJWG). Broadly, the EJWG will focus on identifying and meeting local EJ needs; exploring programmatic gaps and areas of improvement in diversity, equity, inclusion, and justice; and holding the LIS program accountable in its EJ implementation work. The newly formed group includes representation from all LISS work groups and committees, as well as EJ offices from other partner agencies, and aims to continue to expand by fostering relationships with stakeholders not yet actively involved in LISS.

Eight New Research Projects Funded for LIS

In 2020, the LISS Research Grant Program awarded more than \$2.8 million in funding for eight research projects. The program, established in 1999, supports scientific research to better understand Long Island Sound and inform more effective management and policy decisions. The projects funded explore a wide range of topics, including the effects of land use legacies on current nutrient dynamics and water quality, the use of different sediment types and textures

in marsh restoration scenarios, and the barriers that juvenile alewives face as they make their way out from the streams where they are born to the estuary and the ocean. This research will take place from 2021 to 2023.

7



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What You Can do to Help the Sound

Become a Community Scientist!

It's a big watershed out there...and try as they might, scientists and resource managers cannot be in all places at once. That is why agencies and environmental groups often rely on the help of volunteers to be their eyes on the ground and help collect the data needed to inform conservation management decisions. Across New York and Connecticut, there are many ways to get involved in community science—from tagging horseshoe crabs under the full moon, to making note of the birds you spot on your next hike. Some opportunities to look out for include:

River Herring and American Eel Survey

When? February - May

NY: seatuck.org/volunteer-river-herring-survey

Bird Counts

When? Anytime!

NY and CT: ebird.org

There are also wintertime counts. Find out more at: birdcount.org and audubon.org/conservation/science/christmas-bird-count

Terrapin Tracking

When? April - September NY: seatuck.org/diamondback-terrapins CT: maritimeaquarium.org/citizen-science

Horseshoe Crab Monitoring

When? May - July NY: nyhorseshoecrab.org CT: projectlimulus.org



NYSDEC staff measure horseshoe crabs at a volunteer monitoring outing.

NYSDE