Sound Bytes

NEWS FROM THE LONG ISLAND SOUND STUDY

Summer 2015

LISS NEWS

Long Island Sound Water Quality Report Card is Issued

On June 8, two events - one in Connecticut and one in New York - were organized by the National Fish and Wildlife Foundation to announce the Long Island Sound report card on the ecosystem health of the Sound.

The report card was developed by the Integration and Application Network of the University of Maryland Center for Environmental Science with funding from the Long Island Sound Futures Fund, a program administered by NFWF, and the Long Island Sound Funders Collaborative. The Maryland team found that there was a clear gradient in water quality, with grades ranging from excellent in the eastern Sound to poor in the western Sound. The westernmost part of the Sound, the Western Narrows, which is affected by the highly populated suburban-urban communities surrounding New York City, received a very poor grade. Further east, the water quality improves, as pollution is diluted by increased water exchange with the Atlantic Ocean. The report's release received extensive press coverage, including Newsday, Danbury News Times, News 12 in Connecticut and New York, the Hartford Courant, and the Associated Press. The grades can be viewed on the Ecoreport card website.

In This Issue

New York Holds Workshop on Improving Fish Passage

For hundreds of years, humans have manipulated New York's waterways for their own interests and needs. The establishment of dams, weirs, and culverts have allowed humans to harness water power for mills, create ponds for recreation, and establish essential infrastructure such as roadways. While these changes have benefited people, they have had a negative impact on wildlife, in particular fish like river herring and American eel. These ocean-going fish require access to rivers to complete their life cycles, such as spawning and juvenile development. Impediments

Workshop attendees inspect a newly installed fishway at Argyle Lake in Babylon, NY.

on rivers have severely impacted river herring and American eel populations in New York State.

Luckily, there are solutions to moving fish up, over, and through these impassable structures. Fishways, which consist of ladders, lifts, bypasses, and ramps, can be designed and installed at barriers like dams, weirs, and culverts to enable fish to move from one section of river to another. To date, a handful of fishways have been installed throughout New York and the region, but there are still many rivers and creeks containing barriers. Recognizing this need, several partners, including the Long Island Sound Study, Peconic Estuary Program, and Seatuck Environmental Association, decided to organize a workshop to educate those interested in fish passage.

On July 9-10, 2015, 45 engineers, biologists, hydrologists, environmental scientists and other practitioners from New York and New England took part in the Fish Passage Workshop at Hofstra University. The workshop was run by Brett Towler and Bryan Sojkowski from the US Fish and Wildlife Service Northeast office. During Day 1 of the workshop, attendees learned about the design, operation, and oversight of fish passage projects. During Day 2 of the workshop, attendees visited a newly installed fishway at Argyle Lake and a future fish passage site at Southards Pond in Babylon, NY.

Follow-up surveys will be conducted to see if the workshop attendees used the knowledge that they gained from the workshop to identify fish passage projects in their communities and/or to see if they are in the process of designing, installing, and overseeing fishways on their local creeks and rivers.

Monitoring Workshop Held in Connecticut

The Long Island Sound Study conducted a water quality workshop on July 14-15 at the University of Connecticut's Avery Point Campus. The workshop was co-sponsored by the Connecticut Institute for Resilience and Climate Adaptability. Over 70 participants representing 36 organizations and seven different estuaries were in attendance. The workshop featured panel and breakout sessions addressing topics ranging from next steps for the Long Island Sound monitoring program, to data needs for enhanced modeling to incorporating climate change. Participants also discussed the feasibility of using alternate (e.g., eelgrass or chlorophyll) endpoints to measure the impact of management actions on eutrophication in addition to traditional hypoxia-based goals. This discussion was led by keynote speaker Ed Sherwood, from the Tampa Bay Estuary Program, who presented on his program's recent success in using a chlorophyll-based endpoint to restore seagrass to pre-1950 levels.

Citizens Hit the LIS Trails on CT/National Trails Day Weekend

On June 6 and June 7, LISS celebrated National Trails Day and Connecticut Trails Day Weekend by organizing or promoting 10 Sound-focused events. More than a hundred people turned out to guided events (including hikes and volunteer maintenance activities) on Long Island Sound, and more than 2,000 people turned out to Bay Day at the WaterFront Center in Oyster Bay. All the events were held at Long Island Sound Stewardship Areas. One of the

The workshop organizers: Emily Bird, an environmental analyst at New England Interstate Water Pollution Control Commission (NEIWPCC); Jason Krumholz, NOAA liaison to the Long Island Sound Study; Jim O'Donnell, a professor of physical oceanography at UConn; Jim Latimer, a scientist at the EPA Office of Research and Development; and Mark Tedesco, EPA Long Island Sound Office Director at UConn's Avery Point campus.

Hikers join Judy Preston (far right) for a journey at Griswold Point in the Lower Connecticut River.

activities sponsored by LISS, a guided walk at Old Black Point Beach, took place in the the newest LISS Stewardship Site (located in the Pattagansett Marshes and Watts Island Stewardship Area). More than 70 people attended the walk. The site also was featured in a Hartford Courant article as a preview to Trails Day activities in Connecticut.

Judy Preston, LISS Outreach Communications Coordinator for CT Sea Grant, described the hike she led at Griswold Point, part of the lower Connecticut River Stewardship Area. in LISS's Online Stewardship Atlas.

AROUND THE SOUND

Work Groups Get Stratford Point Living Shoreline Tour

Living shoreline projects provide erosion control benefits; protects, restores, or enhances natural shoreline habitat; and maintains coastal process through the strategic placements of plants, stone, sand fill, and other structural organic materials. On Aug. 5, Sacred Heart University Biologist Jennifer Mattei provided a tour for the LISS Habitat and Stewardship Workgroups on Stratford Point in Stratford, CT of a unique living shoreline project that includes the use of large concrete structures typically used to create oyster habitat to help stabilize the shore to restore a tidal wetland.

The restoration project that is taking place is at the former Remington Arms Gun Club on Remington Point (Stratford Point). The site was purchased by the DuPont Corporation, which has taken on the job of restoring this 28-acre site

Some of the concrete reef balls being used to stabilize the Stratford Point shoreline.

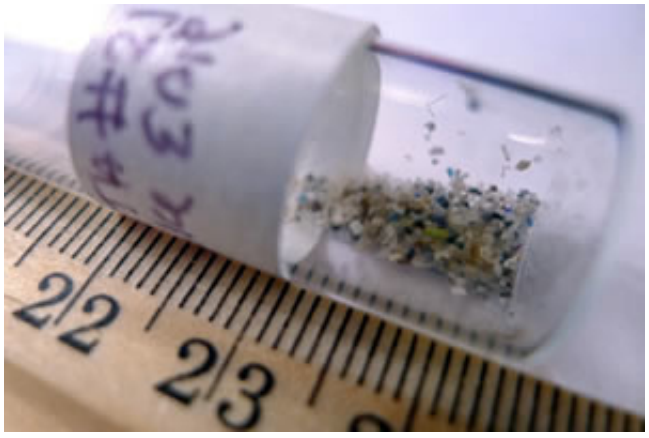
at the mouth of the Housatonic River.

An estimated 320 tons of lead shot has been removed from the site, which was an active gun club from the 1920s to 1986. Since 2011, restoration has involved several attempts to stabilize a rapidly eroding shoreline that has been battered in recent years by big storms. In 2014, Mattei and colleagues from Sacred Heart introduced the idea of using reef balls – large, dome shaped concrete structures – as a tool to dissipate wave energy. The reef balls also can provide habitat for shellfish, including oysters and snails, and small fish. The existing set-up includes 64 reef balls meticulously configured to reduce wave energy by 30 percent, while also accumulating sediment on both sides of the reef structure. On average, within the last year the site has accumulated about 1.2 inches of sediment, which is key to help regenerate growing conditions for *Spartina* (tidal wetland) grasses landward of the reef complex. The former marsh at the site was removed in order to extract the lead shot; what marsh remains further down the shoreline continues to erode. *Spartina* grass has been replanted at the restoration site with the hope that it will regenerate, and in the process remediate remaining lead, as well as other contaminants from further up the Housatonic River. The restoration plan for the site includes rebuilding dune and upland wildlife habitat, in addition to the near shore reef construction.

Mattei and colleagues are encouraged by the modest success to date, but cautions that reef balls are largely untested in climates such as the northeast US. No one knows the life expectancy of reef balls in Connecticut; this past record cold winter the reef was encrusted in inches of ice. Even still, this first foray into the use of reef balls to construct a living shoreline is an important precedent and is being watched carefully – and hopefully – by many. The project's funding included a 2013 grant from the Long Island Sound Futures Fund.

See a 2014 video of the reef ball project when the first Spartina grasses were planted in the project.

Connecticut Approves Microbead Ban



On June 30, Connecticut Governor Dannel Malloy signed into law a provision in the CT General Assembly's state budget bill that bans the sale and manufacturing of plastic microbeads in personal care products. According to a press release from Citizens Campaign for the Environment, "plastic microbeads are a problematic ingredient found in more than 100 different products, including facial scrubs, soaps, shampoos, and even toothpastes. Research indicates that these tiny plastic particles easily pass through sewage treatment plants and pollute our waterways, where they threaten aquatic life and transport toxins throughout the environment."

CCE, a member of the Long Island Sound Study Citizens Advisory Committee, helped lead a campaign to support the legislation. Read the full press release at the CCE website.

An LIS Buoy Will Get Climate Change Monitoring Equipment

The ARTG buoy in the Western Sound.

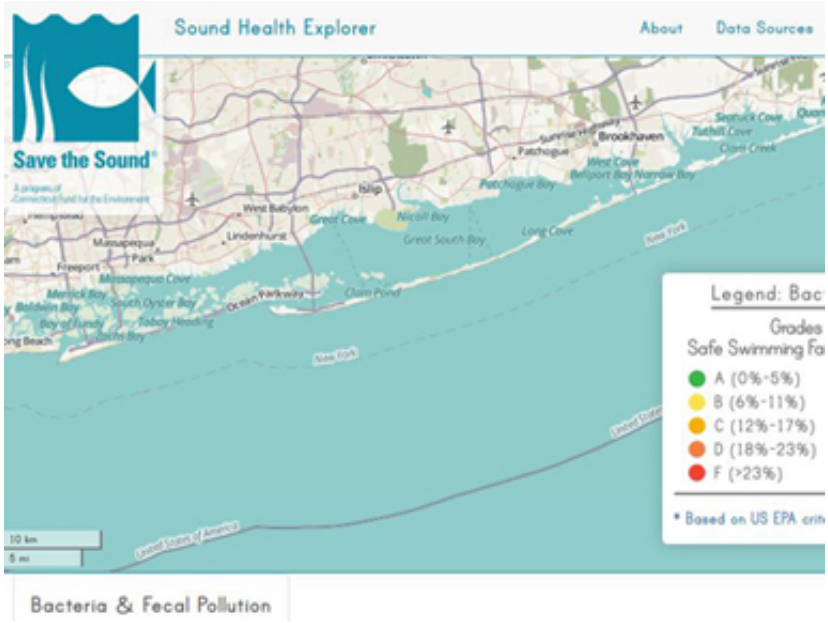
A buoy that contains sensors on Long Island Sound to measure water quality will soon be getting two new sophisticated equipment packages, including one to measure ocean acidification, a climate change indicator. The new equipment, for two pilot studies, has been obtained by the Long Island Sound Study for the Long Island Sound Integrated Coastal Observation System, a University of Connecticut program. LISICOS uses instrumentation installed on 7 buoys and two coastal locations to provide real time water quality monitoring information that is posted on the LISICOS website.

One pilot study, funded by NERACOOS, is examining the effectiveness of automated in situ (in water) nutrient sensor technology in estuaries throughout New England, including Long Island Sound, Narragansett Bay, Massachusetts Bay, and the Gulf of Maine. This study will be deploying an instrument that measures nitrate, ammonium, and phosphate. The other study, funded by EPA's Climate Ready Estuaries Program, will be deploying high precision high resolution pH and pCO2 (dissolved carbon dioxide) sensors in estuaries around the country, to understand the impact of coastal processes on ocean acidification and gain early baseline data for longer term trends in acidification. Barnegat Bay (NJ) is among the other estuaries participating in this program.

Both instrument packages will be deployed on either the ARTG or EXRK buoys in the Western Sound.

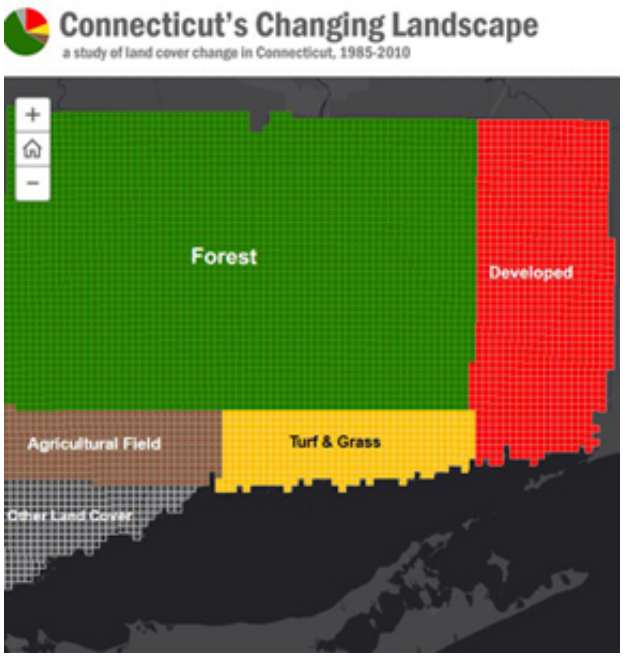
AROUND THE WEB

New Database Lets Bathers Know the Water Quality of Their Local Beaches



In July, Save the Sound, a member of LISS's Citizens Advisory Committee, announced a new interactive map and database that uses data from EPA's website to report on the percent of time a beach is closed due to pollution. The website also assigns an A-F grade based on the score. You can read more about the site at a blog post on Save the Sound's website.

CLEAR Receives Award for Explaining Connecticut's Changing Landscape



Congratulations to Emily Wilson and Chet Arnold of University of Connecticut's CLEAR project for receiving a first place award in July from ESRI for telling a story through maps that highlights Connecticut's Changing Landscape. The award was presented to Wilson at the annual ESRI International User Conference in San Diego in July.

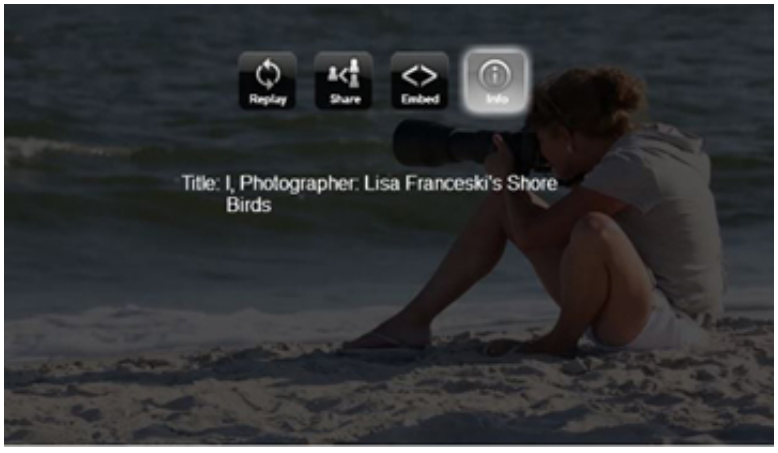
A story map is a simple, yet powerful way to engage an audience. It combines interactive maps, data, text, graphics and images. Story Maps have become a major focus of ESRI, the industry leader in GIS technology. The CLEAR story map highlights information from the 25-year land cover series produced at CLEAR.

Dolphins are Back on Long Island Sound

Bottlenecked dolphins have been spotted this August in Long Island Sound. A search on YouTube indicates that they are the first to be seen on the Sound since 2012. Prior to 2009 dolphins were not seen on the Sound for decades.

On Aug. 17, Newsday published an article about one family who took video of several dolphins they spotted off their motorboat in Smithtown Bay.

Sound Photographer Featured in Online Photography Magazine



How do photographers manage to to take close-ups of coastal birds? *Popular Photography* magazine explores in a video how a Long Island photographer, Lisa Franceski, accomplishes her goal of taking a great shot.

In 2012 LISS used a Franceski photo of a snowy egret for the cover of its *Sound Health* report, and will use another photo by her of a common tern in the new Comprehensive Conservation and Management Plan, which

will be published later this year.

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