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### It Starts **With Science**



On the 5th anniversary of Superstorm Sandy, and as we watched the devastating impacts of Hurricanes Harvey and Irma, it's imperative to keep asking ourselves: are Long Island's coastlines resilient?

Our scientists are hard at work doing research and developing solutions to this and other pressing environmental challenges. For them, climate change and sea level rise are very real, based on what they observe every day in the field.

Soon, the federal government will publish a report drawing on data from 1,000 wetland monitoring stations - many set up with the Conservancy's assistance - showing that Sandy affected some marshes negatively and some positively. It's important for policy makers to have this information as they debate whether to construct a man-made storm surge protector in New York Harbor. The study shows that interfering with natural processes may cost us one of our most effective natural barriers to flooding – tidal wetlands.

A recent study based on work by our scientists found that a small creature, a mudsnail, can be an important barometer of how badly excess nitrogen is hurting marshes. And, a series of 24-hour monitoring probes we placed in Great South Bay showed that dissolved oxygen reached levels so low at night that creatures cannot live.

As Long Island towns and Suffolk County start their much-anticipated programs to incentivize and require the use of nitrogen-reducing septic systems, it is important to remember that science started us on the path to this solution. A Conservancy-funded study of the sources of nitrogen pollution revealed wastewater from residential septic systems to be the most significant contributor, resulting in poor water quality, declining shellfish and fin fish, and massive algae blooms in Long Island's three estuaries.

While storms and sea level rise pose grave dangers for our communities, and excess nitrogen threatens our beloved bays and ponds, nature can help humans adapt to these threats and plan well for the future - but only if we engage in robust scientific inquiry and use social science to bring about the best solutions. The foundations that have helped pay for such compelling science deserve our thanks, including the Rauch Foundation, the Knapp-Swezey Foundation, the Pritchard Charitable Trust, the Long Island Community Foundation, Joseph and Sylvia Slifka Foundation, the Neuwirth Foundation and the McConnell Family Foundation.

Most of all, our members, tireless advocates for nature, deserve our deepest gratitude.

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Nancy N. Kelley **Executive Director** 

### **Saving Seagrass** from the Skies

### Assess Threats to Seagrass as part of Comprehensive **Approach to Its Protection in Long Island Sound**

In eastern Long Island Sound lies Fishers Island, a place renowned for its natural beauty, limited development and quiet way of life. The nine-mile island is surrounded by waters that are distinctive, too: they support some of the Sound's last remaining seagrass meadows. Underwater seagrass provides valuable benefits for nature and people. The plants are home to hundreds of animals like lobster, flounder and bay scallops. Seagrass also tells us something: its absence where it once thrived may signal water quality problems.

#### Taking to the Skies to Protect the Seas

The Nature Conservancy is working to connect the Fishers Island community with staff from the New York State Department of Environmental Conservation (NYSDEC) so they can designate Seagrass Management Areas around the island. To ensure the most appropriate areas are selected, site-specific data is needed. That's why The Nature Conservancy has partnered with the Yale University School of Forestry and Environmental Studies and Lighthawk Conservation to evaluate boating activities, with aerial surveys.

"The surveys will help the community and the NYSDEC understand what types of vessels are going where in the waters surrounding Fishers Island," explained Chantal Collier, director of the Conservancy's Long Island Sound Program. "This adds to the larger body of information we have been compiling so that the Fishers Island community and government agencies can best work together to protect seagrass for generations to come."

A Yale graduate student and former U.S. Marine pilot, Kyle Smith, led the research to develop and test the methodology for this project.



© Chantal Collier/The Nature Conservancy with support from Lighthawk



© Sally Harold/The Nature Conservancy

### **RESTORATION OF CENTURY OLD FISH PASSAGE IN** LONG ISLAND SOUND

The Nature Conservancy and the New York State Department of Environmental Conservation recently opened up a coastal waterway to migratory fish - one that has been closed for 100 years. The fishway project at Beaver Lake dam in Mill Neck, Nassau County, will ensure that migratory river herring (Blueback herring and Alewife) have access to essential freshwater spawning habitat from Long Island Sound.

"These fish are not jumpers and therefore even the smallest dams, such as the Beaver Lake dam, prevent the fish from spawning. Over decades, the population of these important fish species has declined, partly due to limited spawning habitat," said Sally Harold, project manager for The Nature Conservancy. "Restoring fish passage helps to sustain populations of migratory fish like river herring that are critical forage fish for recreationally and commercially important fish (such as tuna and striped bass), sustain birds such as osprey, heron and eagles, and terrestrial mammals as well. Returning these fish to their historic spawning grounds is one small step in returning the health and abundant biodiversity of the Long Island Sound."



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© Marian Lindberg/The Nature Conservancy

# Cleaning up Long Island's waters

A quiet revolution is taking shape in Suffolk County – underground, where new technology is being installed to clean up Long Island's waters. This overhaul will be paid for in part by programs that reimburse homeowners or pay vendors directly for the cost.

The installers of the new nitrogenreducing septic systems are local business people, but they are also boaters, fishermen, and swimmers, and they are delighted to be doing something very tangible to help clean up the waters they depend on and love.

"I've been installing these systems in the rest of the State," says Bob Eichinger, a wastewater consultant with Roman Stone Construction Company, distributor of two Norweco systems. "Now, it's good to see it happen on Long Island."

Michael Finocchiaro, sales manager with Green Land Contracting, a new subsidiary of Nugent & Potter formed to install Orenco systems, is a fisherman, boat owner, and former sailing instructor. He acknowledges that with a cost of between \$13,000 and \$16,000, the new systems are not cheap.

"There's some sticker shock when it comes to fixing the environment," he admits, "but it's definitely encouraging that so much is happening."

Finocchiaro and others applaud the Suffolk County Health Department, which has created a website where homeowners can download grant applications, read summaries of the different systems, get price information, and learn what sort of documentation is required to apply.

http://www.reclaimourwater.info

Hundreds of applications were submitted within weeks of the grant program's start in July. The pace of installations is expected to pick up significantly in coming months, especially now that towns such as East Hampton and Southampton have mandated use of nitrogen-reducing systems in new construction and significant renovations. Advocates

including the Conservancy are pressing Suffolk County to do the same.

Look for economic as well as environmental gains, experts say.
Engineers, laborers and machine workers will be needed to install the systems, and Roman Stone intends to begin adding employees at the end of the year. Finocchiaro anticipates that existing cesspool companies and excavators will enter the market to inspect the systems – an annual requirement.

Homeowner Susannah Kagan is glad she acted quickly to order a new system, despite the steep learning curve. "It's my hope that others pursue a similar path and install nitrogen-removing systems to help do their share in addressing our water quality issues," noted Kagan, who serves on The Nature Conservancy's New York Board of Trustees. "As more systems are upgraded, I believe we will see a tangible improvement in water quality."

For many Long Islanders, that improvement can't come quickly enough.

# **Island Hopping Migratory Bird Style**

This summer, two ace birders and Conservancy staff, Derek Rogers and Mike Scheibel, were monitoring piping plover nests at Mashomack Point on Shelter Island when they noticed something unusual – a brooding female bird sporting a pink research flag. They later found out this individual was from the Bahamas.

The Bahama Islands weren't known as plover wintering sites until relatively recently. Since 2011, researchers from Virginia Tech, Audubon, U.S. Fish & Wildlife Service and Bahamas National Trust have been studying the Bahamian population. It turns out that about one-eighth of the total piping plover population (approximately 8,000 birds) winters there.

Sometimes a single bird can remind us how interconnected our world is.



© Derek Rogers/The Nature Conservancy



© Photo courtesy of Matt Grasso

### FORMER SUMMER INTERN HIRED AS NEW LAND STEWARD

The Nature Conservancy changed Matthew Grasso's life, and now he will have a chance to make his mark on the nature of Long Island. In 2010, as a summer volunteer, Matt assisted the stewardship team. That experience introduced him to environmental concepts that served as a launching pad for his career. He carried these concepts with him as he pursued a degree in wild-life conservation and natural resources.

After returning to work as an intern for the Conservancy in 2017, Matt has now been hired as a full-time member of the Long Island stewardship staff.

"Whether monitoring endangered species in Hawaii, supervising regional saltmarsh bird surveys or educating the public, I never forgot the lessons I learned from the people and projects during the summer of 2010 with The Nature Conservancy," says Matt.

Seven years later, I'm able to use my experience to help protect important places on Earth for nature and people."

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SUMMER INTERNS
ACCABONAC HARBOR







### 1. Matthew Hamilton

Matthew Hamilton, a recent graduate in Conservation Biology from the SUNY College of Environmental Science and Forestry, spent the summer monitoring least terns and piping plovers on the east end of Long Island. In addition, Matthew was a key player in helping to manage and maintain The Nature Conservancy's extensive preserve trails, ensuring safe, enjoyable access. This was Matthew's second year as an intern for The Nature Conservancy on Long Island.

### 2. Hannah Stewart

Hannah Stewart put her studies of environmental policy and public health to good use over the summer writing about the adverse human health impacts of nitrogen pollution for the Long Island Clean Water Partnership's blog <a href="http://longislandcleanwaterpartnership">http://longislandcleanwaterpartnership</a>. Hannah also researched Long Island's ozone problems and interviewed leaders working at the intersection of human health and community planning. Hannah is a senior at Brandeis University.

### 3. Natalie Lanzisero

This past summer Natalie Lanzisero conducted research on the problems facing people and nature along our coasts. Natalie found that the issue was much more complex than it initially seemed and goes well beyond the natural sciences; political, social, and cultural concerns need to be included in all decision-making. She was inspired and grateful for having such an invaluable learning experience.



### **HAVE YOU SEEN OUR BUS?**

This summer, we kicked off our "Long Island Depends on Us" advertising campaign, which included a full wrap on a Hampton Jitney bus.

The goal of the campaign is to raise visibility, attract, and inspire future supporters to learn about The Nature Conservancy – what we're doing about water quality – and why it matters.

The campaign highlights the vital role that water quality plays in our daily lives: our seafood and shellfish depend on clean water, and our water-based recreation and economy depend on healthy bays and harbors.

### **Accabonac Harbor:**

### A SUCCESS STORY IN THE MAKING

Protection of land and water in Peconic Estuary's Accabonac Harbor has been a decades-long effort, largely spearheaded by The Nature Conservancy. This fall, a long-sought property was added to the 200-acre ring of protected land around the fabled harbor, which drew artists Jackson Pollock and Lee Krasner to the Springs region of East Hampton in the 1950s.

The Nature Conservancy's first East End preserve, Merrill Lake Sanctuary, a 29-acre parcel donated by the Lake family in the 1960s, abuts the 3.2-acre parcel on Springs Fireplace Road that will now be protected thanks to a deal involving the Conservancy, the Town of East Hampton, and generous neighbors who contributed to the effort. A small house, as well as the septic system, will be removed, and over time about one-third of the parcel is expected to convert to tidal marsh as sea levels rise.

In the meantime, the public will have access to a beautiful stretch of land for inspiration and passive recreation. One of East Hampton's most scenic and diverse tidal marsh systems, Accabonac Harbor is a bird-watcher's paradise.



© Anthony Graziano

#### A VISIT TO MASHOMACK POINT

At Mashomack Point, a location vulnerable to sea-level rise, Conservancy staff talked with members about coastal resiliency projects and research being conducted at Mashomack Preserve and across Long Island. They were treated to a sighting of a young bald eagle, which recently fledged from a nest at the preserve. During lunch on the Manor House porch, guests talked with staff about how to better connect people to nature – and inspire them to support the Conservancy's work for healthy coastal communities.



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## CONNECTING PEOPLE TO NATURE

Among The Nature Conservancy's top goals is to connect people to nature.

This summer, Conservancy supporters enjoyed a number of outdoor excursions, including a kayak tour through Accabonac Harbor, where ongoing land, coastal and water protection efforts are occurring thanks to the Chapter's work.

