Long Island depends on us.

The Nature Conservancy

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Tackling Conservation Challenges Together

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Dear Friend,

With all that is happening in New York and around the world, I hope this letter finds you and your family safe and well. During this difficult time, I'm especially grateful to you as a supporter and volunteer in our work to conserve the lands and waters that sustain us, now and for the future.

Whether you've been a long-term supporter or just started learning about our work, you've no doubt heard us talk about the threats to water quality.

Long Island's beaches, bays and harbors are our greatest natural assets. The health and prosperity of our communities depends on connections that people have with the water and shore. Serious challenges, including nitrogen pollution from sewage, loss of natural habitat, and a changing climate, are changing our relationship with the coast—and putting these natural assets at great risk.

The Nature Conservancy on Long Island has built an extensive and diverse network of partnerships—with local communities, government, businesses, health care, and academic institutions—to tackle these complex problems.

Mobilizing our strengths in science and coalition-building, we are transforming how Long Island invests in clean water, resilient shores, healthy habitats, and abundant fisheries, from the Western Bays to the tip of Montauk.

As you'll read about in this issue, we're using cool, green science (like employing CT scans to understand the health of our marshes) and using innovative technology (such as installing nitrogen-eliminating septic systems on our properties) to solve problems locally, while we export knowledge to our colleagues across New York State and beyond.

As we continue to galvanize partnerships that will shape a resilient and climate-ready future for Long Island, we are so grateful for your support. Thank you.

Nancy Kelley
Chapter Director
The Nature Conservancy on Long Island

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Using Medical Technology to Study Marsh Health

For people, computer-aided tomography (CT scan) provides a closer look at what we can't see with our eyes, helping a medical team detect what's broken, diagnose an invisible disease, or assess a problem. The technology helps determine the best course of treatment and can inform the path to recovery. Now, The Nature Conservancy's coastal scientists are applying innovative ways to use CT technology with partners at Northwell Health, to study the health of salt marsh habitats.

Salt marshes play a critical role in filtering water, supporting the coastal food web and absorbing wave energy, but many marshes on the coast of Long Island are sick.

Chronic nitrogen pollution from septic systems and sewers has changed the way the plants grow. But for years, appearances told a different story.

Nitrogen produces bigger, greener plants. A declining salt marsh can look deceptively healthy above ground. Under the surface, however, marshes may lose the bulky underground structure they need and become flimsy and weak.

Without strong roots, a weakened marsh loses its ability to reduce risk to coastal communities—as it is less likely to buffer these areas from storms and sea level rise.

Monitoring Water Quality Through Marsh Health

In Hempstead Bay, $1 billion in Sandy recovery funds will upgrade the Bay Park sewage treatment plant and connect it to an ocean outfall, effectively turning off the flow of pollutants that compromised this region for decades. By studying conditions here, The Nature Conservancy has access to the perfect living laboratory. Samples collected before and after water quality improvements will help quantify marsh responses.

All study sites are part of the Conservancy's long-term marsh elevation monitoring network ranging from New York City to Shelter Island's Mashomack Preserve. Our team can test whether (and on what time-frame) improving water quality can help salt marshes rebound. This work will inform coastal restoration on Long Island and beyond.

The Nature Conservancy is grateful to its partners: Northwell Health; the Geology, Environment, and Sustainability Department at Hofstra; research partner, Dr. Troy Hill of Florida International University; and Dr. Earl Davey at the Environmental Protection Agency.

CT technology has proven to be a rapid, accurate and high-resolution method for determining salt marsh health by looking into its interior lattice of roots, rhizomes, peat and soil particles—a system that resembles the bronchioles in human lungs. At an imaging facility, this information is gathered in minutes.

The traditional method of assessing marsh health was a labor-intensive process of cutting thin slices of the sediment core, individually washing them through a series of sieves, and painstakingly picking through materials to sort and examine particles.

Dr. Nicole Maher sends a salt marsh core sample into the CT scanner.

VISIT us at nature.org/newyork

Improving and protecting water quality means safe, accessible, and clean water for both people and nature. The Nature Conservancy is working to reduce the amount of pollutants that enter New York's waters to prevent harmful algal blooms, protect drinking water sources, and ensure healthy habitats for wildlife.

Protecting New York's Water

From the Great South Bay to the Finger Lakes, New York's waters are our most precious resource. But with unsustainable food production and insufficient wastewater treatment, 80 percent of our fresh and coastal waters are contaminated, and one-fifth of our river basins cannot support the combined needs of people and nature.

"What was for a long time considered an abundant and inexpensive resource becomes a priceless commodity when water is polluted and scarce," explains George Schuler, co-director of The Nature Conservancy's New York Water Priority. "Growing and changing demands for water are putting stress on a system that is already challenged by climate change and degradation of natural areas that protect water supplies. Today, nine out of 10 natural disasters linked to climate change are water related—whether too much water, too little water or water that is too polluted."

Throughout the state of New York, The Nature Conservancy is engaging communities and working toward solutions.

"We are coordinating closely with government, residents and businesses to reduce nitrogen and phosphorous pollution, as well as how waste and stormwater are being managed. We are ensuring that these systems work together to protect and provide adequate water for generations to come," says Stuart Lowrie, co-director of The Nature Conservancy's New York Water Priority.

Improving and protecting water quality is a key component of our work to provide safe, accessible, and clean water for both people and nature. Reducing the amount of pollutants that enter New York's waters is critical to prevent harmful algal blooms, protect drinking water sources, and ensure healthy habitats for marine and freshwater species. Developing and implementing strategies to reduce nitrogen and phosphorous pollution is key and includes a diverse array of projects, including installing upgraded septic systems on Long Island, protecting source water in the Adirondacks, and working with farmers in the Finger Lakes to implement better agricultural practices.

ONE WATER, NEW YORK

The Nature Conservancy is working to build the capacity of water professionals to improve and integrate management structures for better water quality and resources throughout the state of New York. Called our "One Water" initiative, we are working with local water managers to take into account all water—drinking water, wastewater, stormwater—as resources that must be managed holistically and sustainably.

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Global Focus: Update on Australia's Bushfire Crisis

2019 was Australia's hottest and driest year on record which was a major contributor to the worst wildfires ever recorded along the forested east coast over the 2019/20 southern summer.

With 18.5 million acres of forests burned in south-east mainland Australia alone, the effects of the fires have been horrendous from loss of human life to the loss of native Australian plants and animals to the devastation on communities and habitat.

More than one billion land mammals, birds, and reptiles are estimated to have been killed, along with countless bats, fish, frogs, and insects. Many endangered species have lost the majority of their habitat—up to 95 percent —jeopardizing their futures.

"To respond to this unprecedented crisis, we're bringing together experts from agriculture, conservation, indigenous land management, forestry, business, science and philanthropy, to agree on a plan to protect the future of Australian nature," said Rich Gilmore, director of The Nature Conservancy Australia. "Together, we're developing a market-based approach to deliver funding from private investors and government to restore private and public lands."

Protecting Water for Australia's Future

Recently, generous New Yorkers supported the first water markets fund in Australia. Through NatureVest, this project realizes a financial return for investors, while providing water to important wetlands supporting water dependent wildlife within the southern Murray-Darling Basin. As a result some wetlands have seen water for the first time in years, with emus, swans, and kangaroos returning to areas that hadn't seen such wildlife in a decade.

Curbing the Loss of Nature and Wildlife through Climate Policy

To tackle climate change locally and around the world, and to protect nature from collapse, The Nature Conservancy is redoubling our efforts, including advocating for stronger policies to accelerate the pace and scale of climate action.

The decisions we make today will determine whether we achieve the world's sustainability goals for 2030—a longstanding milestone that is just 10 years away. We'll work to chart a brighter future for people and nature by urging global policymakers, the private sector, and interested individuals to drive change during this crucial year for environmental policy.

Faith-based Conservation: Why a Powerful Constituency is Protecting the Earth

BY FATHER CONSTANTINE LAZARAKIS

Upon reflecting upon why conservation is important, I must go back a long time to a place far from Long Island.

I grew up in Utah, where the Wasatch Mountains tower over the Salt Lake valley, and cold, crystal clear rivers and creeks tumble down the canyons. The sun glints on granite faces of the mountainsides. The profound beauty of the natural environment here figured enormously in my intellectual, emotional, physical, and spiritual formation.

I believe and long for others to understand two things: first, that the environmental crisis is a spiritual crisis. Its roots are in our insatiable appetite for more and can only be remedied when we find peace within ourselves. A peace that can only be found in God. And therefore, faith in God must play a primary role in the solutions we seek for the environmental crisis. Secondly, that people of faith must embrace an ascetic and stewardship-based view of the natural environment. We cannot see the earth as something that God gave to us to use up and throw away, but rather, we must view it as God's earth, handed to us in sacred trust, meant to be cared for and offered back to Him. If our mode of existence and use of His resources were destructive to the world He created, then we must be grossly out of step with His will.

Today, I live and serve in Southampton, and my three children experience the waters and beaches of the Atlantic in much the same way I experienced the mountains growing up.

The algae blooms, fish kills, and diminishing quality of drinking water deeply concern us, and we know that each and every one of us can and must take steps to use our water in way that is sustainable, and for Orthodox Christians, that means using our water in a way that recognizes water as a gift from God, as a sacred trust.

> "If people can see all water as sacred, then perhaps we will be more careful with what we seep into our waters, more willing to invest in restoring our waters and keeping them clean. And that, I believe, will make life on Long Island better for my kids and neighbors, and will bring us all a step closer to our Creator."
>
> – Father Constantine Lazarakis

The Nature Conservancy is working with faith-based organizations. Around the world leaders of many denominations are speaking up about environmental decline and the connections between the health of the planet and human well-being. We are developing and strengthening partnerships with communities of faith, such as the Dormition of the Virgin Mary Greek Orthodox Church of the Hamptons.

By the Numbers

The Nature Conservancy was born with the purchase of Mianus River Gorge Preserve in 1955 in New York. From the Great Lakes to Long Island, we advance science, conservation know-how, and diverse partnerships to build a resilient future. We are united in the need to protect land, water, and all the life it sustains, including ourselves.

2019 was a remarkable year for The Nature Conservancy in New York. We are grateful for your support in helping us tackle the greatest environmental threats of our time. Here's a look at the recent accomplishments of our team:

70

members representing 50 organizations launched the NYC Urban Forest Task Force to protect, maintain, use, and expand the city's urban forest.

20

farmers engaged in exploring innovative practices to benefit soil health and water quality on agricultural lands in the Finger Lakes.

40,000

acres of rooftops in New York City targeted for solar panel sites as part of two newly enacted laws to make the city more sustainable.

87

acres of critical land in the Finger Lakes donated to The Nature Conservancy for future restoration.

40

year-old Mashomack Preserve on Shelter Island celebrated this milestone anniversary.

$126 million

per year needed to improve water quality conditions on Long Island through septic system upgrades.

23,000

cubic yards of sand has rebuilt an eroded beach and protected communities in Sandy Creek, Lake Ontario.

21,000

mega-watts of solar capacity could be installed on Long Island's rooftops, parking lots, and developed land.

Bluebird, New York State's bird. © Derek Rogers

55,750

acres of Adirondack forest could be enrolled in our *Working Woodlands* program, an effort to save trees, combat climate change and generate revenue for landowners.

$3 billion

environmental bond act proposed by Governor Cuomo to support water quality, land protection and climate resilience.

75 %

of New York's road-stream crossings are undersized, creating barriers for fish and reducing flood resiliency.

773

infestations of invasive species are being managed by staff and partners in the Adirondacks.

The Nature Conservancy

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NATURE AND ART UNITE

Nature has a powerful ability to bring us solace. Whether enjoying the sights and sounds that each season brings, or reading about The Nature Conservancy's current work to protect Long Island's lands and waters, we hope you find calm and inspiration in nature.