



Bill Ulfelder © Theo Morrison

From Our Executive Director

Science makes America great. Science is essential for our health, happiness, safety and prosperity. For more than 65 years, The Nature Conservancy has been guided by science—and only through science can we solve the greatest challenges our world faces. Here in New York, we're working in partnership with NASA to use science to determine where to conserve forests for people and nature. We're using climate-smart science to help farmers develop strategies to adapt in a climate-changing world. And we are promoting the use of science in policy initiatives that will lead to a safer New York through improved water quality.

We marched on Earth Day for science in cities all across the state. I was inspired by all who turned out to support and celebrate science. We will continue to use science as the foundation of our work as we strive toward a prosperous and healthy New York. Thank you for your support of science!

Bill Ulfelder, Executive Director

DONATIONS:

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Hemlock trees in Adirondack Park © Gary D. Paige

NASA: a Powerful Partnership

The hemlock woolly adelgid is a very small insect that can cause a very big problem for eastern hemlock trees and the people that depend on healthy forests. First documented in Virginia in 1951, this pest has destroyed millions of hemlock trees in the eastern United States. In the Adirondacks, the forests have so far been spared from infestation. One theory is that the notoriously cold Adirondack winters may be too extreme for hemlock woolly adelgids to survive. However, climate change and warming winter temperatures may heighten the risk of invasion. In order to protect the forests, The Nature Conservancy needs some key pieces of information.

When Conservancy scientists learned the NASA DEVELOP Program—a special division of NASA established to bridge the gap between earth science and community concerns—was seeking research partners

to explore issues like this, our team jumped at the chance to collaborate. Scientists at the Goddard Space Flight Center used specially equipped aircraft to map eastern hemlocks in the park. The results are helping to forecast susceptibility to infestations. The project forged a new partnership between the Conservancy and NASA, while also leveraging other scientists and resources to advance conservation initiatives.

Invasive species have directly contributed to the decline of 42 percent of threatened and endangered species in the United States. Rapidly detecting and responding to new infestations is critical to protecting wildlife and the priceless values they provide for people. In Adirondack Park, we have a unique opportunity to keep forests healthy and intact.



(clockwise) © Anthony Graziano; © The Nature Conservancy; © Anthony Graziano

Weathering the Storm

Meet Senior Coastal Scientist Nicole Maher

Where and when did your interest in science begin? I've been interested in the natural world and how it works for as long as I can remember. As a kid, I spent countless hours climbing trees, ice skating on small woodland ponds and poking around in tide pools in southeastern Massachusetts.

What's a day in the life of a senior coastal scientist? I spend time collecting environmental data in the field, specifically measuring how our salt marshes are growing in response to sea level rise, in order to inform smart restoration, conservation, planning and policy—especially in the face of climate change.

Why does your work matter to you? I know that the climate adaptation work that I do today will influence the world that my 9-year old daughter and her generation inherit. I want to help coastal communities recognize the value of their natural assets and support wildlife, recreation and the coastal economy into the future.

What is something surprising about your job or a time you had a surprising result? I had just finished a round of marsh monitoring on Long Island when Superstorm Sandy blew through. When I went back to collect post-storm measurements, I expected to see lots of damage at the marsh edges and a layer of sand on the marsh surfaces. I was surprised on both accounts: The marshes actually appeared in good condition—like they had had “a wash and a blow dry”—and there was no noticeable sand layer on the marshes. It turns out that our location relative to the eye of the storm moved the sand inland of our coastal marshes. This storm-deposited sand helps build elevation so that marshes can keep pace with sea level rise and prepares them to weather the next storm. Understanding the role that coastal storms play can help us increase resiliency in the face of climate change.

This October marks the fifth anniversary of Hurricane Sandy. The Nature Conservancy has been using science to increase resiliency to future storms for communities across New York.

A New Crop to Combat Climate Change



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Our world faces unprecedented challenges with climate change. Nature Conservancy NatureNet Science Fellows help solve them. A record-breaking drought in 2016 affected farmers across New York. To better understand how farmers were impacted by the drought, and whether they could cope with drought risk, Shannan Sweet, along with NatureNet mentor and Cornell University Professor David Wolfe, surveyed farmers about their experiences. Sweet is helping farmers understand the impacts of extreme weather events so that they can begin to adapt their farming practices to a changing climate. Through her work, she has seen many farmers embrace the idea of adopting new technologies and become some of her biggest advocates.