

ADIRONDACK CHAPTER UPDATE | FALL/WINTER | 2021

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# Adirondack Update

The Nature  
Conservancy  
Adirondacks



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# Dear Friends of the Adirondacks,



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We have witnessed the devastating impacts of climate change across the globe this year, including wildfires, flooding, and massive heat waves. A recent United Nations report has confirmed that every additional degree of warming will wreak havoc on our planet. While this can feel overwhelming, we can choose hope and focus on the solutions that will lead to a safer and more secure climate future—some of which are featured in this newsletter.

The Appalachian landscape, which includes the Adirondacks, has been identified by The Nature Conservancy as one of the most globally significant areas for conserving the rich variety of life on our planet—and a critical place to protect in the face of climate change.

The Adirondacks contain one of the last great wilderness areas in the Appalachian corridor and one of the last intact temperate deciduous forests in the world. Our vision for continental conservation involves stitching together large swaths of lands and corridors across the Appalachian expanse to mitigate climate change, bolster biodiversity and support communities.

Currently, only a quarter of the Appalachian corridor from Alabama to Canada is protected. We need to conserve and connect more of this landscape to help sustain nature and people in the eastern United States.

It is essential to conserve important core areas like the Adirondacks, Catskill Mountains, and Tug Hill Plateau, along with the linkages that connect them, as species shift north due to climate change (see page 3). Since this is an all-hands-on-deck moment, we're also providing financial support to other organizations within these landscapes to accelerate this vision.

With partners at the Environmental Protection Agency, we are doing cutting-edge research to monitor the health and water quality of Follensby Pond to plan its long-term conservation—not only as a lifeboat for dozens of species that need cold waterways to thrive, but also as a place to study the impacts of warming waters on these species.

We are also restoring and protecting natural processes and freshwater systems in the Lake Champlain basin. Often, dams and culverts create barriers for fish and other aquatic species. By upgrading obsolete infrastructure to reconnect fragmented rivers and streams and improve water quality, we're enabling fish to move upstream to reach cooler waters and spawning areas. This work can also improve community resilience by upgrading infrastructure in flood-prone areas.

So, while the news on climate change is alarming, it also can inspire action and innovative solutions to the climate crisis that bolster resilience for our most precious lands, waters and wildlife, and that protect our most vulnerable communities.

All the best,

Peg R. Olsen  
Director



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# Connecting the Appalachian Landscape



We envision a healthy, resilient and connected Appalachian landscape. This area spans roughly 2,000 miles from Alabama to Canada, and its health is key to sustaining people and nature all along the East Coast.

As the climate changes, rising temperatures, extreme weather events and other impacts are altering and destroying habitats. Over the past 10 years, our scientists have mapped a network of landscapes with unique topographies, geologies, and other characteristics that can help withstand climate impacts. This roadmap of resilient lands and corridors shows where plant and animal species have the best chance to move away from growing climate threats and find new places to call home.

Here in the Adirondacks, we're using this science as we work with our partner, the Mohawk Hudson Land Conservancy (MHLC), to help connect the Catskills and the Adirondacks via the Mohawk linkage, so that wildlife can move freely in a climate-changing world.

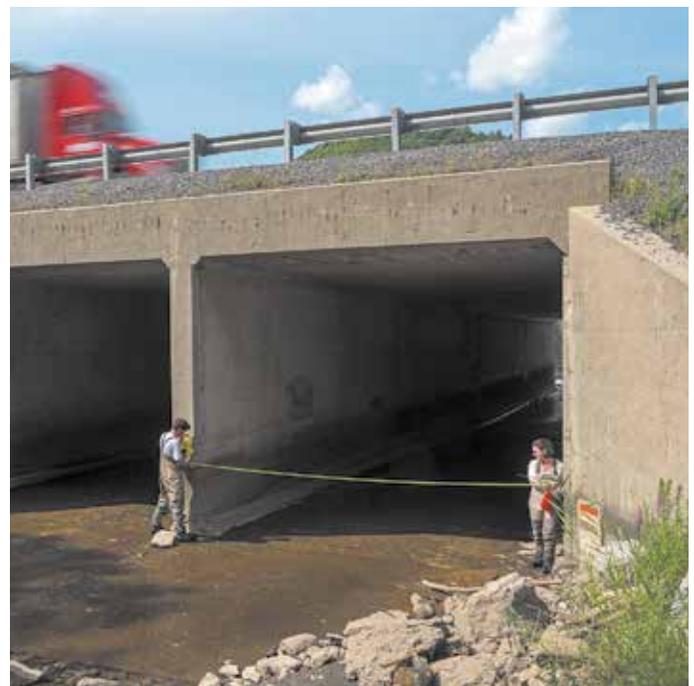
Roads and development are a significant challenge for wildlife movement. But when they are designed correctly, bridges and culverts can be safe passageways for animals and can reduce wildlife collisions with cars and mortality. Our field technicians are inventorying culverts and bridges along Interstate 90 and state roads to assess how easily

fish and wildlife can pass. This work will not only inform recommendations for potential infrastructure upgrades, but also will allow us to prioritize adjacent land protection and restoration opportunities. The technicians will supplement their surveys with wildlife cameras to document animals' activity near the structures.

Working with willing landowners and communities to identify the mutual benefits to people, MHLC will conserve private lands to reduce development and provide protected areas for wildlife along these corridors. Creating a buffer of protected lands near busy road crossings can provide respite for wildlife migrating through an area.

Projects like this help wildlife find additional space to move and adapt as they seek suitable habitat in the face of climate change. They also help us achieve our goals of protecting resilient lands and corridors throughout the Appalachian landscape, and of building the capacity of local land trust organizations through shared science, staffing, and funding.

Conserving the Appalachian corridor will require strong collaborations. The Nature Conservancy has a long history of working in this geography and is the only conservation organization operating across the entire Appalachian region, so we are uniquely positioned to ensure that the Appalachians remain healthy, connected and resilient.



Field technicians perform an assessment along I-90. © John DiGiacomo



The Nature Conservancy and the St. Lawrence Eastern Lake Ontario Partnership for Regional Invasive Species Management have been working with 19 regional and international partners, including Tribal communities, nonprofits, government agencies and others to gain a holistic understanding of important native fish like cisco and whitefish and their habitat use. Unlocking this information is key for native fish restoration and for the detection and management of invasive species – both locally and within the larger Great Lakes basin.

# Message in a Molecule: Using Modern Science to Unlock the Mysteries of Fish Populations

A drop of rain trickles down from a hemlock branch and splashes into the river below, leaving tiny ripples that radiate gently. Near the streambank, a great blue heron is poised, statue-like, waiting to catch its morning meal. This idyllic scene is the site of a mystery that Nature Conservancy scientists are working to solve.

Rivers such as these—the tributaries of eastern Lake Ontario and the Upper St. Lawrence River—flow through the most undisturbed landscapes in the bi-national Lake Ontario watershed. The Tug Hill, northern Adirondacks, and Indian River chain of lakes along the St. Lawrence are heavily forested with more than 30 streams, rivers, and bays that feed pure, cool water downstream. Some, like Chaumont Bay, provide spawning and nursery areas for cisco and whitefish, native fish that once fueled Great Lakes economies and now are on the long road to recovery.

But we don't know which native fish may be present in these waters, whether they use these tributaries for spawning, or whether aquatic invasive species affect their use of these habitats.

“Without answers to these questions, we don't have a full suite of information to help bring back important native

fish throughout our waters for the benefit of people and the wildlife that depend on them,” says Philippa Kohn, sustainable fisheries ecologist for The Nature Conservancy in New York.

As a result, The Nature Conservancy is using an innovative process called environmental DNA (eDNA) monitoring, which allows scientists to detect fish species without ever seeing or catching them.

According to Brittney Rogers, aquatic resiliency coordinator for The Nature Conservancy in New York, “Aquatic species shed their DNA into the water whenever they are present, through scales, feces, eggs, and mucus. By collecting a water sample, we can extract their DNA and determine if they have been there.”

Kohn adds, “This exciting, cutting-edge research will enable us to identify priority sites for protection, restoration, and invasive species removal. The information gathered here will not only inform current efforts but may also change the course of our work.”

Very soon, we hope that the secrets of these waters and the fish that use them will no longer be a mystery.



**We caught up with New York Leadership Council member Ian Gazard, who hails from Australia, to learn about his interest in and connection to conservation.**

**Q: Tell us how you got involved in the work of The Nature Conservancy.**

A: I was working at a hedge fund in New York called Blue Mountain in 2007, when Conservancy staff came in for a lunch-and-learn. I was very inspired by the presentation. While I had a bit of skepticism about the efficacy of a big non-governmental organization, as the years went by, I met more of the team, and the more I learned, the more I loved what the organization was doing—especially basing its work on good science.

**Q: One of the hot topics that we're focusing on is our wildlife connectivity work. What do you think about this work?**

A: I recall being out at Follensby, looking at the pond, and [Adirondack Chapter Director] Peg Olsen described to me that the work The Nature Conservancy was doing there is a link in the chain that connects habitats all the way from the Appalachians to Canada. My eyes just lit up. I absolutely love this idea, because there are so many benefits to it. It's beneficial for ecology as a whole—wildlife, fish, and human beings—as climate change intensifies. And it's a notion that everyone can conceptualize.

**Q: What's something new that you've learned about from The Nature Conservancy's work?**

A: In a word, culverts. One thing I've learned and gained a lot of respect for is the importance of replacing existing infrastructure by working together with the local authorities to improve passage for fish, wildlife and community resilience to flooding. It's more than just replacing pipes and has huge benefits for wildlife and people.

**Q: Is there anything from a global perspective that excites you about our work?**

A: A couple of years ago, I was traveling in Australia, where I grew up. The Nature Conservancy is restoring reefs near the city of Melbourne in Port Phillip Bay. I also stopped to see a vast wetland in one of the drier parts of the country where the Conservancy is working to preserve the land and hand it back to Indigenous people. When you're dealing with something like the water situation in Australia, where you've got really limited resources, you need to have a credible professional voice that is making the decisions for the good of wildlife and humanity.



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**Meet Sabine Nix, the 2021 Adirondack Conservation Associate! This program was started by Clarence Petty and Barbara Glaser to help foster the next generation of conservationists.**

**Q: What drew you to the position?**

A: I grew up hiking in the Adirondacks, so the combination of being in a place I know and love, and the focus on Geographic Information Systems, appealed to me.

**Q: What projects are you working on?**

A: I'm using The Nature Conservancy's Resilient and Connected Network (RCN) science and coordinating with the Adirondack Land Trust to identify priority

land parcels from the Adirondacks to Green Mountains, so that linkages between these two areas can be protected to enhance connectivity for wildlife.

I'm also working with the Mohawk Hudson Land Conservancy to identify connectivity priorities using Circuitscape, a software package that borrows algorithms from electronic circuit theory to model connectivity in landscapes. This work is focused on the Mohawk River Valley linkage from the Adirondacks to the Catskills.

In addition, I've also been in the field with U.S. Fish and Wildlife Service to collect eDNA samples from the Boquet River to help restore native populations of Atlantic salmon. [Read more about eDNA on page 4.]

**Q: What will you take away from your experience?**

A: These projects have changed the way I think about conservation. I had never considered that there was so much science underlying decisions about which areas to conserve. Thinking about the long-term climate flow of species, and the intersection of what works for wildlife and people, really interests me and will inform my future research and career.

# India: A Leader in Global Climate Work

From the tropical forests of Kerala to the dry deserts of Rajasthan, from the Himalayas in the north to the seascapes of Goa and Tamil Nadu in the south, India is as vast and varied as its people.

It has been hit particularly hard by the COVID-19 pandemic—with a tragic number of deaths, coupled with economic, mental, and emotional hardship for the survivors on a personal and collective scale. At the same time, the pandemic has dramatically increased India's awareness that we need scalable solutions to global problems, including, and especially, for climate change.

By 2050, India's population will grow to 1.6 billion. It will be the largest country in the world by population, contained in a relatively small landmass (about one third the size of the United States). With burgeoning cities, dwindling water supplies, and growing pressure on natural resources, India is on a precipice.

“India has done incredibly well conserving its iconic wildlife and forested lands. That said, the pressures of climate change are more acutely felt today in India than most places on the planet—a signal of what's ahead for the globe. I strongly

believe there is nowhere on Earth where our work is more important than in India,” says Steve Denning, former co-chair of The Nature Conservancy's Global Board.

And India can deploy science and innovation to guide sustainable, climate-smart energy development for the future. One way is through the Conservancy's newly developed tool SiteRight, which helps to identify locations for wind and solar projects with the lowest impact on ecosystems and local communities.

“If we take steps today to guide the expansion of renewable energy to lower impact areas, we have the potential to develop 10 times India's 2022 target of 175 GW for renewable energy,” explains Annapurna Vancheswaran, managing director of the Conservancy's India program.

“We are a leader in the international movement to create a world where people and nature can thrive.” Vancheswaran adds, “I'm looking forward to leading the Conservancy's contribution to tackling climate change and protecting and restoring critical ecosystems, as well as combating the current COVID-induced challenges in these spheres.”



© Faizan Khan

One of the most biodiverse countries on Earth, India hosts some 96,000 animal species and 47,000 plants. Despite being one of the globe's most populous countries, it is also home to more than half of the world's remaining wild tigers, Asian elephants, snow leopards, red pandas, Himalayan brown bears, Indian rhinoceroses, and Asiatic lions.

# By the Numbers

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**7 million**

trees in New York City identified as part of NYC's urban forest; a new partner-wide plan that aims to put funding in place to care for and expand this natural asset

**103**

different species of plants in a 100-square-meter plot at a fen at our O.D. von Engeln Preserve at Malloryville, rivalling the tropics in term of its biodiversity

**300+**

Bio-control beetles released by the Conservancy and partners to help control invasive species, purple loosestrife and restore a priority wetland

**2,000**

stakeholders informed the *Blue Plan*, an unprecedented effort for Long Island Sound conservation work in Connecticut and New York

**10,000**

acres enrolled in our *Working Woodlands* program to keep forests healthy and absorb carbon emissions

**5**

Emerald Ash Borer monitoring stations established in the Adirondacks to aid in the early detection of this invasive species

**\$303.5 billion**

from Department of Transportation programs for highways, roads and bridges will help further Conservancy goals across the U.S. for natural infrastructure, resilience, reducing carbon emissions and wildlife crossings

**25**

states engaged in U.S. Climate Alliance to advance national climate and clean energy policies through our role on New York's Agriculture and Forestry Advisory Committee

**13 pounds, 8 ounces**

– the weight of a new state record bowfin caught this summer by an angler along the Lake Ontario shoreline in Monroe County

**30 x 30**

conservation goal mirrors the federal goal to conserve 30% of our nation's lands, waters and ocean by 2030

**\$3 billion**

Environmental Bond Act to appear on New York's 2022 ballot

**80,000+**

acres responsibly stewarded through conservation easements in the Adirondacks

**45,000**

individuals enjoyed our trails at Mashomack—a milestone in TNC-NY preserve visitorship

**600+**

culvert surveys being completed in the Lake Champlain basin for potential replacement

**20**

different lichen species observed in the Adirondacks' Spring Pond Bog Preserve owned by The Nature Conservancy



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## CELEBRATING 50 YEARS IN THE ADIRONDACKS

Thanks to you, we've helped conserve over half a million acres of the Adirondacks over the last 50 years, laying a great foundation for our work ahead.

The Adirondacks are one of the last intact forests of their kind in the world, and science shows that landscapes like these will provide crucial natural solutions to the climate crisis. The Nature Conservancy's on-the-ground work here will help New York meet the standards of its ambitious Climate Act.

The Adirondacks' verdant forests have a remarkable ability to absorb and store greenhouse gases, and the flowing lakes, rivers and streams are a primary source of the state's drinking water. In addition, the connected landscapes to and through this region provide refuge from warming temperatures for a multitude of rare and iconic species, helping to preserve biodiversity.

Learn more about our history and current work at [bit.ly/TNCADK50](https://bit.ly/TNCADK50)

