



SPRING/SUMMER 2021

OUR OHIO NATURE

GROUNDING IN SCIENCE

Supporting the Recovery of the Blazing Star Borer Moth

Some species' life cycles are short, but that does not dictate their worth—and certainly not the admiration we have for them. Case in point: the blazing star borer moth (*Papaipema beeriana*).

During a few fleeting weeks in September and October, adult borer moths spread their wings to fly in search of a mate. Females lay their eggs on or near a blazing star (*Liatris*) plant and the eggs remain there through the winter. Come spring, caterpillars emerge from the eggs to feed and grow inside the plant's stem and roots until the end of summer, when they emerge and pupate into a moth. The cycle begins again.

"It is a predictable yet exciting annual event," says Peter Blank, Ph.D., The Nature Conservancy's Oak Openings restoration manager in northwest Ohio.

Unfortunately, the blazing star borer moth is on the decline. It is listed as endangered in Ohio and is an imperiled species of concern in Michigan. Understanding the interdependent relationship between the moth and its host plant, we asked ourselves a question: Could targeted restoration in the Oak Openings Region support this species' recovery? That question led to a grant from the U.S. Fish and Wildlife Service to improve habitat for the blazing star borer moth. The grant provides funding to restore 308 acres, plant 4,000 blazing stars, and have insect surveys conducted by Michigan Natural Features Inventory.

"When we received the award, we were ready to hit the ground running after working with partners in this region for more than 20 years,"

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Bill Stanley

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Bill Stanley © David Ike

DIRECTOR'S MESSAGE

In this issue of *Our Ohio Nature*, we highlight something that has served as a cornerstone of The Nature Conservancy since our inception in 1951: science. As we talk science, you will get a chance to meet some of our staff and board scientists. Though each one of them is unique, one trait that they all have in common is dogged curiosity.

What can we do to help rare moths and declining fish species? Which lands and waters are the highest priority to protect to allow plants and animals to survive in a changing climate? Where should wetlands be restored so that they best capture and clean water running off farm fields? The most important part of good science is asking the right questions.

Because our natural world is so exceedingly beautiful, complex, and interconnected, complete answers are hard to come by quickly. At the same time, as our lands and waters are stressed more each day by unsustainable development and climate change, the need to protect nature grows more urgent. The longer we wait to act, the narrower and thornier the path to a thriving and sustainable world.

In other words, while environmental science takes time, it is also telling us that there is no time to waste. We must keep moving. Given this tension, we are engaging in an approach called adaptive management. This allows us to use science to inform the steps we take, evaluate how well they work, and make course corrections so that our next steps are even better.

Our conservation work today not only improves nature's ability to filter air and water, support wildlife, fuel local economies, and provide places for rest and renewal—it also keeps tomorrow's path to a sustainable future open. Science is our guide.

I hope that our dogged curiosity and willingness to act are reasons that you continue to support TNC's work in Ohio. Thank you for your support that allows us to keep an eye squarely on our north star, science, as we simultaneously build and navigate a path toward our planet's health—and our own.

Welcome to the Board

Our volunteer leaders are vital to our work and, ultimately, our success. Join us in celebrating Marta Stone as our new board chair. She brings with her an incredible enthusiasm for conservation and TNC. We also celebrate the appointment of past board chair and scientist, Dr. Jeff Reutter, to our board of Honorary Life Trustees. And we welcome four new board members who will make us an even stronger organization: Jim Samuel (Lynx), Emily Smith (Columbus), Gary Spitznogle (Columbus), and Fred Yoder (Plain City).

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COVER: Preparing blazing stars for planting © Autumn McAllister; Blazing star borer moth © Dave Cuthrell



Preparing blazing stars for planting © Autumn McAllister



Dense blazing star (*Liatriis spicata*) © TNC

“This project represents what we hope to achieve in conservation and on a timescale we rarely get to experience.”

— Peter Blank, Ph.D., The Nature Conservancy’s Oak Openings Restoration Manager

says Blank. The team identified several sites in the Oak Openings Region of southeast Michigan where blazing star borer moths have been documented or might typically occur. Then, over several months during 2020, they created ideal conditions for the moths by:

- restoring 119 acres of habitat, and
- planting 2,000 blazing stars, including dense blazing star and rough blazing star.

While the project continues into 2021, initial efforts show promising results, with daytime walking and nighttime blacklight surveys revealing 49 individual blazing star borer moths among initial restoration sites, including one site where they were not previously documented. Scientists also observed 12 other borer moth species,

including the Culver’s root borer (*P. sciata*) and the regal fern borer (*P. speciosissima*), both species of concern in Michigan.

“It has been rewarding to see results more quickly than usual,” adds Blank. “This project represents what we hope to achieve in conservation and on a timescale we rarely get to experience. From research to planning to restoration, and then ultimately, confirming the moths’ presence at the restored sites. And we know that this will also improve habitat for other wildlife and plant species in the Oak Openings Region, which is good for nature and people.”

To learn more about the special moths and butterflies that can be seen at our nature preserves, visit [nature.org/ohiopollinators](https://www.nature.org/ohiopollinators)

Thanks To Our Incredible Partners

- Huron-Clinton Metroparks
- International Transmission Company
- Metroparks Toledo’s Blue Creek Nursery
- Michigan Department of Natural Resources
- Michigan Natural Features Inventory
- Michigan United Conservation Clubs
- Private landowners
- Southeast Michigan Land Conservancy
- Sumpter Township
- Wayne County Parks

CONSERVATION HIGHLIGHTS

Science Guides The Nature Conservancy's Work Across The State



Zach Amidon conducts research on Lake Erie. © TNC

Lake Erie Lake Whitefish

To understand factors contributing to the recent decline in the population of lake whitefish, The Nature Conservancy is supporting University of Toledo Ph.D. candidate Zach Amidon's research, which examines whether larvae lack access to food when they hatch. Amidon is studying their stomach contents to identify which species of zooplankton they consume, and modeling the distribution of larval whitefish in Lake Erie to evaluate how much they overlap with zooplankton. Ultimately, he will assess how zooplankton relate to whitefish survival. This research is the latest in a multi-year effort between TNC and several partners to revive the populations of lake whitefish and other fish species native to the Great Lakes.



Soil sample © Devan King/TNC

Student Soil Sampling

The Sandhill Crane Wetlands restoration project is returning native habitat to a 280-acre parcel of marginal cropland in northwest Ohio. The property was acquired and is being restored through a combination of public grants from Ohio

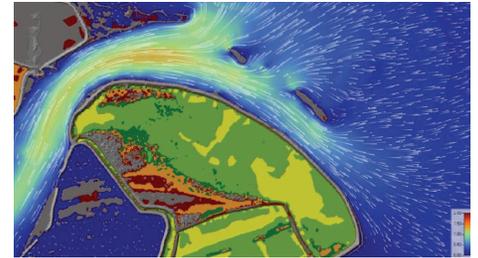
EPA's Maumee Area of Concern and Water Resource Restoration Sponsor Program. It recently doubled as an outdoor laboratory for University of Toledo soil ecology students. Charged with determining whether portions of the property could be restored into a functioning wetland, the budding scientists studied its soil texture, drainage, pH, organic matter, and nutrient content. They concluded that variations in the water table had more impact on wetland viability than soil composition. They then recommended that the property's soil and topography could support a mix of wet prairie and oak savanna habitat found throughout the Oak Openings Region. The knowledge gained through this restoration effort will help inform other wetland restoration projects throughout the state.



TNC's Mike Hall works on new stairs. © TNC

Buzzard Roost Rock Trail

Thanks to a generous lumber donation by David and Jina Bohl of Kibler Lumber, work has been underway to build stairs and handrails as well as refurbish the original boardwalk and overlook at TNC's popular Buzzardroost Rock Trail at the Richard and Lucile Durrell Edge of Appalachia Preserve. Designed and led by TNC and Cincinnati Museum Center staff, the project will reduce erosion and protect native plant communities such as xeric limestone prairie and oak-blueberry forest from the impacts of heavy visitation.



Sandusky Bay delta restoration © ODNR Partnership with Pittman Robertson Wildlife Funding

Sandusky Bay Wetlands

Numerous scientific disciplines—including hydrology, geomorphology, aquatic ecology, biogeochemistry, and climatology—converge in Sandusky Bay where TNC and partners are embarking on a large-scale, multi-year wetland restoration effort set in motion by a grant from the Ohio Department of Natural Resources as part of Governor DeWine's H2Ohio program. Based on historical records and ongoing environmental modeling efforts, the partners are following science—and sediment—to places in Sandusky Bay that are most likely to once again support wetlands. These habitats are key to filtering and absorbing nutrients and pollution entering the lake from surrounding farms and communities. Mapping how sediment moves through Lake Erie's largest estuary comes on the heels of removing the Ballville dam, located 17 miles upstream, which acted as a bottleneck for sediments that once flowed into the bay and served as natural building blocks for wetlands. This ambitious project is at the heart of TNC's plan to restore 23,000 acres of wetlands through this and other smaller-scale projects pursued in partnership with local landowners.

SCIENCE SPOTLIGHT

There's An App For That

In a world where our homes have become classrooms and offices, an app called iNaturalist gives anyone with a smartphone the opportunity to transform the outdoors into a scientific laboratory. The iNaturalist philosophy is simple: Record your observations. Share with fellow naturalists. Discuss your findings.

The user-friendly app invites people to collect information about plants and animals that we see out in nature, learn about what we identify, and share our findings with other community scientists (as well as professional scientists) from around the block and across the globe.

The Nature Conservancy's Ohio conservation and volunteer coordinator, Angie Burke, is an Illinois native and initially sought out iNaturalist as a tool to help her learn more about Ohio's plants and animals. Before long, she was hooked. "I wasn't just identifying plants



Photo courtesy of Angie Burke, conservation and volunteer coordinator for TNC



Aleeah Gardner discovers nature in her backyard.
© Jules Lapp

**At the beginning of 2021,
363 iNaturalist users made
4,241 observations of
1,462 species at
The Nature Conservancy's
public preserves in Ohio.**

on guided hikes and during volunteer events; I was connecting with people who had walked the same paths and engaged with these places. I may not be from this state, but iNaturalist helped me to see that I am part of this community."

That revelation inspired Angie to dive deeper and led to an event co-hosted by Columbus City Schools Spruce Run Nature Center. "They used iNaturalist to conduct a BioBlitz, where a group of people descend upon one natural area and collect as many observations as

possible during a set amount of time," says Burke. "During the event, they discovered a species of spider that had never been recorded in Ohio."

Burke's ability to find new ways of using iNaturalist to engage TNC volunteers and supporters in Ohio has flourished. In addition to offering training, Angie created projects within the app where participants can view and add to a growing inventory of species documented at TNC's Ohio nature preserves in real time.

"It provides a platform where TNC scientists can directly interact with people who are visiting our nature preserves and sharing information about what they are seeing. That kind of knowledge benefits our understanding of what's occurring on the land and may even inform future management decisions," says Burke. "At a time when we have become accustomed to physical separation, iNaturalist is a phenomenal tool that creates a sense of community among people of all ages and backgrounds. And I can't wait to see how it is used."

Learn More!

Contact Angie Burke at angela.burke@tnc.org to inquire about iNaturalist training and visit www.inaturalist.org/projects/tnc-ohio-preserves to watch Ohio's community scientists in action.

IMPACT OF POLICY

Conservation Wins at the Ballot Box



In 2020, Ohio voters joined citizens in seven states who passed ballot measures—totaling \$2.2 billion—that supported public funding and forward-looking policies to protect nature and address climate change.

- ✓ Voters supported a \$160-million levy for Metroparks Toledo to expand and maintain parks and develop the Glass City Metropark and Riverwalk. With the funding in place, Metroparks will move forward with restoring and revitalizing hundreds of acres of green space connected by five miles of multi-use trails spanning both sides of the Maumee River.
- ✓ The Nature Conservancy also endorsed the Community Choice Aggregation Ballot Measure in Columbus. Its passage allows the city to negotiate a contract with an electric energy supplier to provide residents with competitively priced renewable energy. The program begins in 2021 and represents the largest aggregation program in the Midwest and the third-largest in the country outside of California.

“This represents a pivotal step toward reaching Mayor Ginther’s goals of utilizing 100% renewable energy sources by 2022 and being carbon neutral by 2050. We hope that all Columbus residents will participate in this voluntary program and that it can be replicated by other Ohio communities to benefit air quality and public health, and create more job opportunities in the clean energy sector.”

— Bill Stanley, The Nature Conservancy’s State Director in Ohio



Great Egret Marsh Preserve © Kent Mason

Moving the Needle on H2Ohio

TNC has worked to advance Governor DeWine’s H2Ohio program since its launch in 2019, despite a global pandemic and tightening state and federal budgets. TNC continues to support this effort from several angles:

- **Data-Driven**—We are following the science to identify places where restoring wetlands, conserving forests, and connecting floodplains can help absorb and filter water flowing into streams, rivers, and lakes.
- **Sustainable Solutions**—We are working with local landowners to identify nature-friendly farming practices that keep fertilizer and nutrients used for crops on the land and out of local waterways.
- **Permanent Funding**—We continue to advocate for consistent budget allocations, and ultimately, permanent funding for this important initiative to ensure safe and clean water for all Ohioans.
- **Water Advocate**—We held a three-part working wetlands webinar series with our partner, the Soil and Water Conservation Society, and are working with colleagues to explore launching similar water funds in other states.

Help us secure clean water for all Ohioans today. Reach out to your Ohio General Assembly members and express your support for H2Ohio.



Last year marked the 20th anniversary of two invaluable programs for Ohio’s natural areas—the Clean Ohio Fund and the Water Resource Restoration Sponsor Program (WRRSP). Since 2000, the Clean Ohio Fund has preserved more than 175,000 acres of natural areas and countless linear feet of stream, protected over 80,000 acres of family farms, created nearly 500 miles of multi-use, recreational trails, and cleaned up hundreds of abandoned, polluted sites benefiting all 88 counties. WRRSP-funded projects have resulted in the preservation of more than 5,200 acres of wetlands and 90 miles of streams.

Painted trillium at TNC’s Morgan Swamp Preserve, an acquisition made possible by WRRSP © Terry Seidel/TNC

FACES OF CONSERVATION

Student Board Members Represent a Bright Future for Conservation

For the first time, The Nature Conservancy is welcoming two student board members to represent a growing movement of young leaders pursuing careers in the conservation field. Both come to TNC as part of a partnership with The Ohio State University's John Glenn College of Public Affairs.



Heather Glon, a Ph.D. candidate in Evolution, Ecology and Organismal Biology and departmental teaching assistant, has earned distinction for research on the biodiversity of Ohio birds and cold-water sea anemones. She also has a B.S. in Marine Biology from Palm Beach Atlantic University and an M.S. in Biology from Central Michigan University. When not

working, studying, or traveling, Glon enjoys hiking and birding with her husband Mael, horseback riding, uploading observations to iNaturalist, and volunteering as a divemaster with Aquatic Adventures Ohio.

“Growing up in coastal Maine instilled a love of the outdoors and especially in marine science,” she says. “Working with a variety of organizations around the world has solidified my commitment to sharing this passion with others.”



Aditi Thapar is a Ph.D. candidate in Public Policy & Management whose research focuses on leveraging political communication to bridge the gap between perceptions and realities of climate change. She also designed and taught undergraduate courses on public affairs and co-created a two-semester Ph.D. seminar focused on building racial

and social justice theories in public administration. Before returning to academia, Thapar worked for a Manila-based independent advisory firm specializing in climate finance and project management. She spends her free time taking photographs, reading, crocheting, baking, and volunteering for causes focused on suicide prevention and mental health, and at the Embassy of India in Washington, D.C., where she developed a Women's Leadership Program.

She shares, “Having grown up in multiple developing countries, I have first-hand experience of the devastating effects that a changing climate can have on food security and access to clean water in communities. I hope to encourage increased environmental consciousness through my research and outreach efforts to ensure that vulnerable populations are more resilient and can adapt to the impacts of climate change.”

Meet the Team



In January, The Nature Conservancy welcomed Dr. Tom Rooney as our sustainable forestry director in Ohio. In his new role, Tom will work with various partners—from corporations to private landowners—on projects that will help advance conservation on 40,000 acres of private forestland by 2025. Rooney joins TNC after working for more than a decade as a biology

professor at Wright State University. He also continues to oversee the implementation of a management plan he crafted for a 6,000-acre privately owned forest in Wisconsin, where he used to live.



Hard work pays off, which is why The Nature Conservancy recently promoted Alexis Sakas to the role of natural infrastructure director after she put in four years as a conservation project manager. In her new position, Sakas will identify and build a pipeline of projects that promote nature's ability to act as a water filter to reduce nutrient runoff that impacts

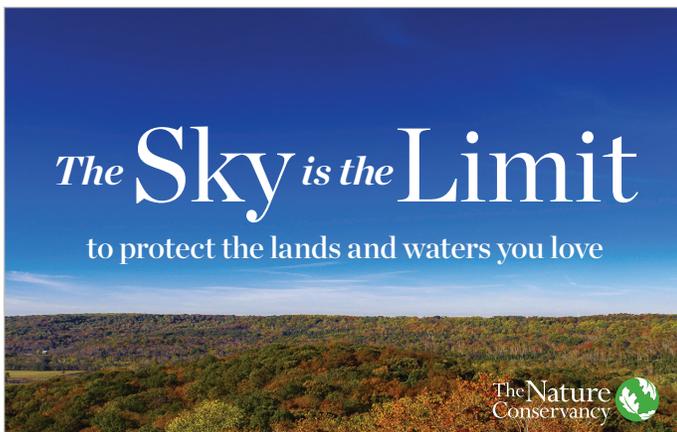
waters from as close as Lake Erie to as far as the Gulf of Mexico. She will also manage TNC's Oak Openings and Coastal programs. A native of Mentor, Sakas developed a love of the natural world growing up along Lake Erie. She holds degrees from The Ohio State University and the University of Michigan and is a former AmeriCorps and Peace Corps volunteer.

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OUR OHIO NATURE



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We are inspired by our members' boundless creativity. We join you in embracing creativity by thinking outside the box to provide new ways for you to protect the world you love. For example, you can donate stocks and bonds or residential and commercial real estate. You can even create a gift tailored specifically to your unique situation.

Contact The Nature Conservancy in Ohio:

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Deep blue sky above the Edge of Appalachia Nature Preserve. © Sherman Cahal/FlickrCreativeCommons



Preparing blazing stars for planting © Autumn McAllister;
Blazing star borer moth © Dave Cuthrell

Supporting the Recovery of the Blazing Star Borer Moth

The Nature Conservancy and partners are working to restore over 300 acres in the Oak Openings Region to support the endangered blazing star borer moth. Discover what initial survey results are showing us.