



SUMMER 2023

# field Tennessee notes

## BIRDS, BATS AND BOX TURTLES (OH MY)

We can't escape it. Nature, that is. Everything that makes our planet inhabitable depends on its biodiversity. This intricate interplay of millions of organisms—from insects to elephants—has formed the fabric of life over billions of years.

From the food that we eat to the clothes that we wear, and in the life-giving air and water that we cannot survive without, biodiversity underpins every aspect of life on Earth. However, biodiversity is declining at an alarming rate.

To reverse this trend, we must find better ways to manage humanity's footprint on our lands and waters, in the air above us and within the soils beneath our feet. That is why The Nature Conservancy is part of a global effort to protect 30 percent of the planet by 2030. But it's not enough to simply create more protected

areas. We also need to address the root causes of biodiversity loss—choices about land use, climate change, pollution and invasive species, to name a few.

Tackling biodiversity loss over the next decade is a massive undertaking that involves countless partners, communities, funders . . . and you. Thank you for joining us on this journey and for supporting The Nature Conservancy's mission in Tennessee.

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The Nature Conservancy's mission is to conserve the lands and waters on which all life depends.

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## From The Director



I am honored to assume the role as The Nature Conservancy's state director in Tennessee, where I grew up and continue to reside. I look forward to advancing TNC's efforts around the state, many highlighted in this newsletter, and staying in touch with you about progress and even ways that you can help. But first, I thought I would share a little bit about me.

Growing up in the beautiful mountains of Chattanooga nurtured my love for spending time outdoors. However, the "aha" moment that led me to focus on a career dedicated to protecting our planet came during college while working as an intern with the Tennessee Department of Health's Environmental Epidemiology program. In this role, I was charged with interviewing residents living along the Chattanooga Creek as part of a study examining the effects of toxic pollution that had been released into the watershed for decades. Ultimately, the study results were "inconclusive" and I felt frustrated that the people living, swimming and fishing along the creek had no recourse for dealing with some of the health issues mentioned during our conversations. However, my eyes were open to the connection between human health and our environment and my heart was set on dedicating myself to this important relationship.

This snapshot from the beginning of my career comes to mind as I begin this new role with TNC, an organization focused on protecting the lands and waters that support Tennessee's incredible biodiversity. We mustn't forget that TNC's mission includes people. All of the work that TNC does to benefit nature around our state—in our forests, floodplains, farms and around our cities—benefits our physical and mental health.

These are reasons why I am excited about the stories featured in this issue of *Tennessee Field Notes*. It covers our longtime partnership with Zoo Knoxville aimed at securing clean water and healthy habitat for bog turtles, a new Urban Bird Treaty that will bring more nature to Nashville, and a team approach to securing clean and abundant water for aquatic wildlife in Citico Creek. Not only do these projects benefit our state's biodiversity, they are also good for you and me.

Thank you for supporting this vital work. I hope you get to enjoy Tennessee nature this summer.

To a healthy today and tomorrow,

Laurel Creech  
Tennessee State Director



#### WITH GRATITUDE

We thank **Luther Mercer** and **Jay Gullede** for serving as TNC trustees in Tennessee and welcome **Larry Blythe** to the board.

Welcome to our new freshwater, forestry and philanthropy team members.



© Courtesy/Lucas Curry

**Lucas Curry**  
Watershed Restoration  
Engineer



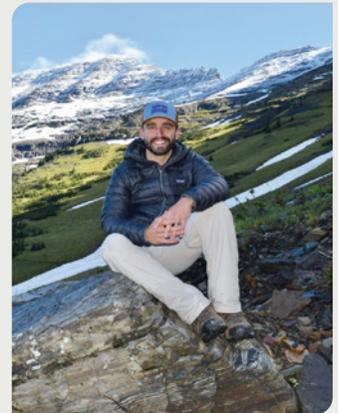
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**Sara Gottlieb**  
Southern Appalachians  
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**Sean Bowers**  
Conservation Forester with  
TN, KY and VA



© Courtesy/Brian Canerdy

**Brian Canerdy**  
Associate Director of  
Philanthropy



© Courtesy/Gabby Lynch

## Celebrating 30 Years of Land Protection

Congratulations to our longest-tenured staff member, Gabby Lynch, who began working with The Nature Conservancy in 1993 as protection and stewardship assistant upon graduation from Virginia Tech. Since then, Gabby served as our first cave program director, Shady Valley preserves and mitigation bank director and, since 1999, as director of protection. Her role in managing the acquisition of ecologically important lands has been key to protecting more than 450,000 acres across Tennessee. Thank you, Gabby!



© Courtesy/Trish Johnson

## Wishing “Good Luck” to Trish Johnson

When a valued colleague departs for a new opportunity, it helps to know that they will continue to be a partner in conservation. In 2006, Trish Johnson joined our Tennessee staff to focus on safeguarding hemlock trees from an invasive pest. Since then, her responsibilities expanded beyond conserving one tree species to protecting entire ecosystems as director of forest carbon programs. She has also built relationships with partners, local communities and a new generation of conservationists. Best of luck to Trish in this new endeavor!



## Advancing Bat Conservation Science

Congratulations to our own Cory Holliday and Joey Wisby, who authored an article in The Wildlife Society’s Journal of Wildlife Management—together with Piper Roby and Stephen Samoray from Copperhead Environmental Consulting, and Jessica Vannatta from the California Department of Parks and Recreation. Their article “Modeling Migration and Movement of Gray Bats” advances current knowledge and serves as an invaluable resource for anyone involved in conserving this endangered species.

# Betting on Bog Turtles

Teaming up with Zoo Knoxville on research and conservation continues after almost four decades.

Ever since 1986 when endangered bog turtles were discovered in northeast Tennessee, many scientists—including the late Zoo Knoxville herpetologist Bern Tryon—have worked to secure their survival. Led by Zoo Knoxville, most efforts to date have involved tracking the diminutive creatures with annual surveys that generate data on Tennessee’s bog turtle population.

Keeping tabs on North America’s smallest turtles—which measure only three to five inches—can be tricky. However, scientists know that these notoriously shy and secretive reptiles (a defense mechanism due to their size) favor wetlands called fens that are fed by underground mountain springs and surface water from rain and streams. Almost as rare as the bog turtles themselves, fens can be found in small patches scattered among a few Appalachian states, including in Tennessee.

Identifying the fens, and protecting and restoring them, led to the partnership between The Nature Conservancy and Zoo Knoxville that continues to endure today.

“Beginning with Bern, and ever since, Zoo Knoxville’s research on bog turtles has guided our land acquisition and wetland restoration priorities in northeast Tennessee,” says Gabby Lynch, TNC’s director of protection in Tennessee. “Without their expertise and resource sharing, it’s safe to say that our state’s bog turtle populations would be in much worse shape, if not snuffed out altogether.”

According to Lynch, challenges remain formidable for these reptiles. In



addition to taking six or seven years to reproduce only a small number of eggs, bog turtles prefer to move regularly among fens in response to changes in weather and groundwater conditions. However, land development and agriculture have drained or compromised many wetlands, leaving fewer and more isolated habitats. Bog turtles also continue to be threatened by diminished water quality, roadway mortality, predators and the illegal pet trade.

In response, TNC and Zoo Knoxville are ramping up efforts in northeast Tennessee. Thanks to support from the Barbara J. Mapp Foundation, it represents the first place in the world where scientists are using the Motus Wildlife Tracking System, which is equipped with a fixed radio-telemetry array, to study bog turtle movements,

habitat preferences, and the impacts of management and restoration efforts. And across the border in North Carolina, TNC is helping Zoo Knoxville retrieve bog turtle eggs for a head-starting program that raises turtles in captivity during their first year to improve chances of surviving in the wild.

Over the years, Zoo Knoxville has played a role in reintroducing hundreds of bog turtles into their native range. They intend to continue with this work in a state-of-the-art room at their new Clayton Family Amphibian and Reptile Conservation Campus.

“We are grateful to TNC for protecting and restoring the ecosystem that bog turtles rely on to survive,” says Michael Ogle, Zoo Knoxville’s curator of herpetology. “As the late Bern Tryon would say, ‘it’s all for the turtles,’ and TNC has certainly held to that promise.”



## Donor Spotlight: E.B. and Mildred C. Edwards Trust

Thanks to a State Wildlife Grant from the Tennessee Wildlife Resources Agency, The Nature Conservancy continues to protect and restore rare mountain bog habitat in northeast Tennessee. This type of funding requires a private match, like the type of gift received from supporters like the E.B. and Mildred C. Edwards Trust. Over the years, the trust has made several donations to help advance this work.

“Eddie and Millie Edwards were high school sweethearts from Harriman, Tennessee who worked hard to accumulate their wealth and loved spending time in nature,” says Joel Pearman, an attorney who manages the Trust. “With few close relatives, they dedicated most of the proceeds from their estate to restoring wildlife habitat in Tennessee. Their fondness for water and associated wildlife, such as turtles and salamanders, makes this a project that would represent their wishes.”

### Leaving a Legacy

When Bern Tryon passed away in 2011, he wanted to ensure that his work with bog turtles continued. The deep relationships that he had forged with The Nature Conservancy over the years solidified for him as to where his estate should provide resources in order to most benefit “his turtles.” Today TNC is advancing efforts to protect bog turtles and restore key fen habitats in northeast Tennessee thanks, in part, to the Bern Tryon Bog Turtle Fund.

## Creature Feature

It looks like something straight out of the hit streaming show *Stranger Things*, but in real life the star-nosed mole (*Condylura cristata*) lives among us in Tennessee! It is one of many species that rely on the same type of habitat as bog turtles—areas with moist soils and poor drainage like the fens and peatlands of northeast Tennessee. Since these habitats are in decline throughout the region, this mole is listed by the Tennessee Wildlife Resources Agency and Department of Environment and Conservation as “Deemed in Need of Management.”



### FUN FACT:

Each one of the star-nosed mole’s 22 tentacle-like projections contain numerous highly sensitive organs, called Eimer’s organs, that are rich with nerves and blood vessels that help to identify food.



### JOIN US VIRTUALLY!

We continue to collaborate with partners and colleagues on presenting you with a variety of conservation topics. Visit [nature.org/tnwebinars](https://www.nature.org/tnwebinars) to find recordings and register for upcoming events!



In 2020, the City of Nashville made national headlines when 150,000 purple martins descended upon the Schermerhorn Symphony Center in the heart of downtown. Ultimately, the Symphony worked with The Nature Conservancy and other local conservation organizations on redirecting the martins away from its buildings. However, the situation highlighted the need for a long-term plan that supports birds that rest and refuel in Nashville during migration.

Located on the eastern edge of the Mississippi Flyway, Nashville welcomes as many as 325 bird species documented to date by eBird. In response, TNC is teaming up with local partners and the U.S. Fish and Wildlife Service (USFWS) to join 30 cities—spanning from Alaska to Alabama—in establishing an Urban Bird Treaty. It represents a commitment to conserving birds and their habitats in ways that engage and also benefit city residents.

“Participating in the Urban Bird Treaty improves coordination and amplifies efforts to create bird-friendly habitats throughout Metro Nashville,” says Lindsay Hanna, TNC’s director of government relations and climate policy in Tennessee. “Infusing more

# Use Your Outside Voice

Metro Nashville enters into the Urban Bird Treaty to benefit wildlife and city residents.

nature into our urban environment not only welcomes diverse wildlife, it also benefits residents’ physical and mental health and provides more ways to connect with nature.”

A city entering into the Urban Bird Treaty agrees to implement a five-year action plan that pursues three primary goals:

- Protect, restore and enhance urban habitat for birds.
- Reduce urban hazards to birds.
- Educate and engage urban communities about conserving birds and their habitats.

Hanna adds, “As one of the most rapidly growing metropolitan areas in the country, Nashville annually is in jeopardy of losing important green space to development. The Urban Bird Treaty provides a suite of strategies for preserving vital natural areas and the tree canopy, particularly in underserved communities that have less access to nature.”

As of now, the city remains in a favorable position as an important area for migrating, nesting and overwintering

birds, with Metro Parks and Recreation in charge of 15,134 acres of public lands that include 178 parks and 99 miles of greenways. Several of the city’s largest parks have nature centers with active bird banding, outreach and education programming.

Metro Nashville also boasts five State Natural Areas and four locations designated by Audubon and the Tennessee Wildlife Resources Agency as Important Bird Areas: Old Hickory Lake, Radnor Lake State Park, Shelby Bottoms Greenway Natural Area and Warner Parks. Additionally, local bird enthusiasts recently launched an initiative called Lights Out Nashville to encourage Davidson County home and business owners to reduce light pollution during certain times of the year when migratory birds fly at night.

“All of these efforts not only benefit migratory birds; they fortify Nashville’s green infrastructure to improve the health, well-being and quality of life for all of our residents and visitors,” says John Cooper, Mayor of Nashville. “Our city’s Urban Bird Treaty program team looks forward to collaborating with U.S. Fish and Wildlife Service as participants in this Program.”

## CORE PARTNERS: NASHVILLE URBAN BIRD TREATY

- Bird Safe Nashville
- Friends of Warner Parks
- Metro Parks and Recreation
- Office of Mayor John Cooper
- Tennessee Wildlife Resources Agency
- The Nature Conservancy

# Teamwork Makes The Dream Work

It's all hands on deck in the Cherokee National Forest

The Nature Conservancy's work at Citico Creek is a wonderful example of how our staff and partners coordinate their areas of expertise in pursuit of conservation results in key locations around the state. In this case, TNC is working with the U.S. Forest Service on a multi-pronged approach to conserving one of our mutual highest priorities in Tennessee.



Worked with multiple partners and stakeholders on a plan that guides management and restoration on 60,000 acres within this portion of the Cherokee National Forest.



Designed plans for removing seven culverts and a low head dam to restore connectivity to 14 miles of critical habitat for the federally endangered Smokey Madtom.



Delivered prescribed fire to 1,700 acres within the watershed to generate a healthy, native forest key to supporting wildlife and filtering waters flowing into the creek.



Acquired 557 acres to expand a portion of the Cherokee National Forest that includes the forested headwaters of a main tributary to Citico Creek.

## By The Numbers



**1,775 bats**  
(representing 8 species) surveyed  
at 53 caves

TNC's bat expert, Cory Holliday, reported some interesting observations from recent surveys. They included spotting both tricolored and little brown bats at a handful of sites, observing his first northern long-eared bat in three years (hibernating but with visible white-nose syndrome), and higher numbers in a cave that TNC recently acquired and gated.

**2,171 acres**  
protected since January 1

We teamed up with The Conservation Fund to secure and transition 76 acres to the Big South Fork National River & Recreation Area and 280 acres near Chattanooga to be managed as part of the Cherokee National Forest. And the Middle Fork Bottoms Recreation Area is now 76 acres larger after another recent acquisition.



**24,395 acres**  
burned during spring fire  
season

This included two burns on 197 acres at The Nature Conservancy's Bridgestone Nature Reserve at Chestnut Mountain and welcoming seven Sewanee students who spent their spring break learning about and helping TNC's fire crew prepare for burns.



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