



# Our Path Forward

“Your dedication, steadfast support and tireless efforts have been the bedrock of our collective successes.”



ON THE COVER Cherokee National Forest  
© Byron Jorjorian  
THIS PAGE LEFT © Courtesy/James McDonald  
THIS PAGE RIGHT © Courtesy/Laurel Creech;  
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Christy Smith

BOARD NOTES

Greetings and welcome to The Nature Conservancy's Tennessee 2023 Year In Review. The past year has been an exceptional one for conservation efforts in Tennessee, and we are thrilled to share the highlights of our most impactful projects.

As we step into the new year, we are delighted to announce the addition of two key leaders to our team: Laurel Creech as the new State Director and Mark Thurman as the Director of Conservation Collaboration. Laurel and Mark have decades of conservation and leadership experience and are dedicated to steering our work in Tennessee towards reaching TNC's 2030 goals. Their primary focus is addressing the urgent challenges of climate change and biodiversity loss, starting right here in our state.

In other news, after serving a fulfilling three-year term as the board chair, my journey in this role concludes with a mix of reflection, gratitude and enthusiasm for the work we've accomplished. Working alongside an exceptional team, I have witnessed our unwavering commitment to TNC's mission. Notably, Christy Smith, who has served as Vice Chair over this past year, will assume the Board Chair position in early 2024, continuing our legacy of exceptional leadership.

To each one of you, I want to say thank you. Your dedication, steadfast support and tireless efforts have been the bedrock of our collective successes. Let's move forward into 2024 with renewed determination as we continue our vital mission of conserving the lands and waters on which all life depends.

Chair of The Nature Conservancy's Tennessee Board of Trustees



# LAND PROTECTION WINS

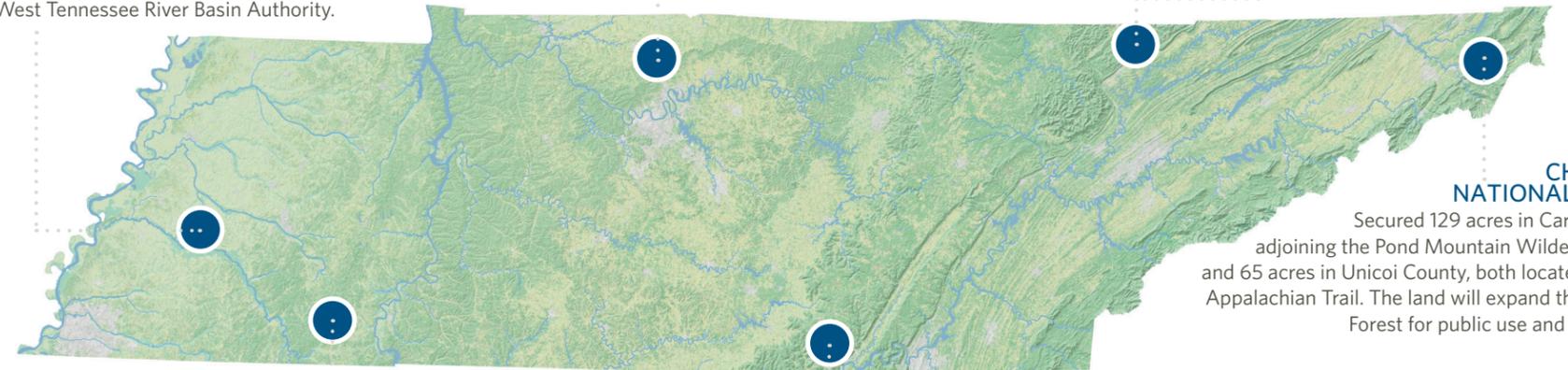
We teamed up with partners to protect 4,022 acres during 2023.

### MIDDLE FORK BOTTOMS RA

Acquired and transferred to the State of Tennessee a 76-acre property to expand this new park and floodplain restoration project managed by the West Tennessee River Basin Authority.

### TAYLOR HOLLOW PRESERVE DESIGNATED STATE NATURAL AREA

Added 42 acres to the Larkspur Conservation Easement over additional green burial grounds in Sumner County, just north of Nashville.



### NEILL FOREST

Fulfilled a donor's wish to secure a conservation easement that protects 320 acres in Hardin County boasting natural springs, waterfalls and mature stands of shortleaf pine, which has decreased dramatically throughout its range in the Southeast U.S.

### PAINT ROCK RIVER NWR

Teamed up with the Open Space Institute to acquire an 87-acre parcel to create this new refuge—located along the Tennessee-Alabama border—and realize a decades-long dream of residents and conservationists in both states.

### FERN LAKE

Acquired 712 acres with partner The Conservation Fund near Cumberland Gap National Historical Park and Middlesboro, Kentucky in the Appalachian Mountains. The property will be included in the National Park Service's portfolio as a community asset and important water resource in the region.

### CHEROKEE NATIONAL FOREST

Secured 129 acres in Carter County adjoining the Pond Mountain Wilderness Area and 65 acres in Unicoi County, both located near the Appalachian Trail. The land will expand the National Forest for public use and recreation.

## BY THE NUMBERS

5

Dedicated a new **five-mile trail** at the Bridgestone Nature Reserve at Chestnut Mountain that connects Virgin Falls and Dog Cove State Natural Areas.

24,198

Three fire teams hosted by The Nature Conservancy burned 24,198 acres at the Cherokee National Forest and 197 acres at the Bridgestone Nature Reserve at Chestnut Mountain.

840

Treated 840 hemlocks against hemlock woolly adelgid on 68 acres at the Bridgestone Nature Reserve at Chestnut Mountain.



### OFFICERS

- Chair:** James McDonald, III
- Vice Chair:** Christina Smith
- Secretary & Trustee**
- Legacy Ambassador:** Carol Kirshner
- Treasurer:** Caren Gabriel
- Community Volunteer:** Neil Johnson

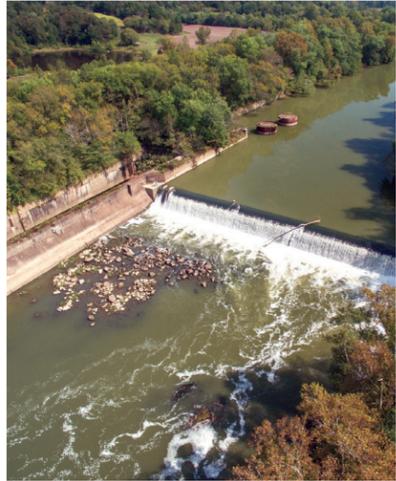
### TRUSTEES

- Tara Armistead
- Aaron Barrett
- Larry Blythe
- Matt Bentley
- Lisa Calfee
- Jeff Chapman
- Virginia Dale
- Philip Fieler
- Tracy Frist
- Lela Gerald
- Whitfield Hamilton
- Matt Jernigan
- Sandra Martin
- David Miller
- Holt Shoaf

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

# Fortifying Freshwater

Partnerships and science guide conserving and restoring Tennessee's freshwater resources.



## Sustainable Rivers Projects in Tennessee and Kentucky

Nature Conservancy staff in Tennessee and Kentucky have been collaborating across state lines on a set of projects for TNC's Sustainable Rivers Program. This innovative program—a partnership between TNC and the U.S. Army Corps of Engineers (USACE)—aims to find more sustainable ways to manage river infrastructure like dams and levees to optimize benefits for people and nature.

For example, with 70 mussel and 150 fish species, the Green River in Kentucky is one of the most biologically diverse river systems in North America. It is also where, more than twenty years ago, TNC and USACE first explored the potential for re-operating dams in ways that improve river health. Since then, the partners have expanded this effort to 44 rivers, influencing 12,079 miles of U.S. waterways and 90 associated reservoirs and dams.

Most recently, over the summer, TNC worked with staff from USACE's Louisville District to facilitate a three-day workshop that updated participants on conditions in the Green River and engaged them in discussing future Sustainable Rivers Program projects elsewhere in the Basin. The gathering also inspired USACE's Nashville District to work with TNC on a similar workshop planned for the Cumberland River in 2024.

## Study confirms benefits of wetland restoration in the Mississippi River Basin

Working with farmers to voluntarily transition land from agricultural production into wetlands and bottomland hardwood forest is not a new conservation practice. The conservation community has long assumed that returning frequently flooded farmland to wetlands supports wildlife, stores and filters water, and reduces flooding further downstream. However, quantifiable evidence of how such practices benefit nature has been limited in the middle region of the Mississippi River Basin...until now. In 2023, The Nature Conservancy and our partners completed a six-year study, funded by the Natural Resources Conservation Service, which monitored the wildlife and water-quality benefits of restoring floodplain habitat in western Kentucky and West Tennessee. The study, launched in 2018, confirmed that a natural, connected floodplain effectively holds and slowly filters water back into the river to benefit a variety of species and local communities throughout the Mississippi River Basin.

For more than a century, farming and development practices ditched and cleared a significant amount of wetlands in this region, leading water to rush off the land and into the Mississippi River along with excess nitrogen, phosphorus and sediments. This pollution eventually reaches the Gulf of Mexico and creates a low oxygen "dead" zone—nearly devoid of life—that is currently the size of Delaware and Rhode Island combined.



## TNC and partners set new standards for restoration at Citico Creek.

Since aligning strategies, staff and funding around priorities in Southern Appalachia, in recent years, The Nature Conservancy's Watershed Restoration Partnership with the U.S. Forest Service (USFS) has experienced tremendous growth. An example of this collaboration is Citico Creek in the Cherokee National Forest. The watershed supports exceptional biodiversity—67 fish and mussel species, including three federally listed fishes. However, Citico Creek is compromised by old road-stream crossings and other barriers that prevent aquatic species from moving throughout their native habitats, and pose great risk of failure during increasingly severe storm events. For these reasons, the watershed represents one of the highest priorities for protecting aquatic biodiversity in not only Tennessee or the Southern Appalachians, but in the nation.

In 2023, the partners successfully secured funding to advance restoration in Citico Creek in significant ways. Specifically, the new funding will support:

- Removing seven culverts and a low head dam to reconnect 175 miles of streams.
- Hiring a new Watershed Restoration Engineer to advance barrier removal projects.
- Pursuing additional projects required to complete USFS's Watershed Restoration Action Plan.

This approach—aligning human and financial resources around shared priorities—serves as a model for additional projects in watersheds in Georgia, North Carolina and Virginia. With funds in place, the partners intend to begin implementing priorities at Citico Creek in late 2024.

**“Citico Creek is one of our highest conservation priorities, and these projects represent an opportunity for us to work with partners at a watershed scale. Not only will this work benefit species found nowhere else on Earth, but it also creates safer and more resilient roads for everyone.”**

– Rob Bullard, TNC's director of freshwater programs in Tennessee

# Betting On Biodiversity

Putting nature first benefits plants and animals.

Beginning with the late Zoo Knoxville herpetologist Bern Tryon, and ever since, Zoo Knoxville's research on bog turtles has guided our land acquisition and wetland restoration priorities in northeast Tennessee.



## TNC and Zoo Knoxville mark milestones in bog turtle conservation

The Nature Conservancy and Zoo Knoxville marked more than four decades of working together on protecting and monitoring bog turtles in northeast Tennessee. Listed as federally threatened, and as very rare and imperiled by the Tennessee Department of Environment and Conservation, these diminutive reptiles favor unique fens scattered throughout the landscape that are almost as rare as the bog turtles themselves.

Identifying, protecting and restoring these wetlands—fed by underground mountain springs and surface water from rain and streams—is what launched this enduring partnership that continues today in light of formidable challenges. These changes in weather and groundwater conditions required to feed the fens, the loss of habitat that once connected the fens, and a slow reproductive cycle that produces few eggs over several years. Bog turtles also remain threatened by diminished water quality, roadway mortality, predators and the illegal pet trade.

In response, TNC and Zoo Knoxville recently ramped up conservation efforts thanks to support from the Barbara J. Mapp Foundation. This includes establishing northeast Tennessee as the first place in the world where scientists are using the Motus Wildlife Tracking System.

Equipped with radio-telemetry equipment capable of tracking tagged turtles, MOTUS provides scientists with an opportunity to study bog turtle movements, habitat preferences, and the impacts of management and restoration efforts. Additionally, TNC and Zoo Knoxville are working together in North Carolina on raising turtles in captivity during their first year to improve chances of surviving in the wild. Over the years, Zoo Knoxville has helped to reintroduce hundreds of bog turtles into their native range and they plan to continue this work in a state-of-the-art room at their new Clayton Family Amphibian and Reptile Conservation Campus.

## Landmark Legislation

Throughout 2023, we marked the 50th anniversary of the Endangered Species Act (ESA). Signed into law on December 28, 1973 the ESA has benefited numerous plants and animals comprising our nation's unique biodiversity, including gray bats, shiny pigtoe clams, snail darters, red-legged salamanders and Ruth's golden aster in Tennessee. Together with other important tools employed by conservation organizations, government agencies and private landowners, the ESA continues to serve as an important tool to helping rare species survive and recover from threats and damage to their natural habitats.



## Caught on Camera

While looking through wildlife camera footage captured at The Nature Conservancy's Bridgestone Nature Reserve at Chestnut Mountain, our Conservation Forester, Britt Townsend, spotted a bird she hadn't observed before during her many travels around the preserve. After checking in with volunteer bird researcher, Dr. Steve Stedman, she confirmed it was a golden eagle. According to Dr. Stedman, these birds arrive from southeast Canada to spend the winter in the Cumberland Plateau.

"I am constantly reminded of how lucky we are to do what we love in a place that remains incredibly wild and even sometimes intriguing. The golden eagle sighting represents a beautiful example of the rich biological diversity we have at Chestnut Mountain," says Britt Townsend, TNC's conservation forester in Tennessee

## Gray Bat Success

TNC's Cave and Karst program achieved remarkable results in 2023, most notably thanks to ongoing efforts at Piper Cave. This multi-year restoration project included the elimination of 320 cubic yards of garbage and other work that has drastically transformed this subterranean landscape into a desirable habitat for federally endangered gray bats. In fact, last summer's gray bat population at Piper Cave soared to 24,586 from an all time high of only 4,000 prior to this restoration project--a number that offers hope for the bat's eventual delisting.



TROPHY CAM 35°F 1°C 12-20-2022

# Catalyzing Conservation

Infusing nature into urban areas benefits wildlife and the health and well-being of residents.

“It’s been great to partner with organizations across the city on this effort. Everyone I am working with is passionate and excited about improving our urban habitat for birds and other species.”

– Nasyr Bey, TNC’s conservation policy fellow/Nashville urban bird coordinator



## Nashville gains Urban Bird Treaty status

After 150,000 purple martins descended upon Nashville during annual migration along the Mississippi Flyway, the Schermerhorn Symphony Center sought assistance with redirecting the birds away from their buildings. That effort revealed the need for a long-term plan for supporting the 325 bird species that, according to eBird, migrate, nest or overwinter in the city.

In response, The Nature Conservancy—together with local partners, the U.S. Fish and Wildlife Service, the City of Nashville and the Symphony—decided to pursue an Urban Bird Treaty (UBT), an action taken by 30 U.S. cities spanning from Alaska to Alabama. Specifically, the UBT represents a commitment to conserving birds and their habitats in ways that engage and benefit city residents. A city entering into the UBT agrees to implement a five-year plan that pursues three primary goals:

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

With the UBT in place, the City of Nashville aims to coordinate with an existing infrastructure that is already beneficial for birds, including a Metro Parks portfolio of 178 parks and 99 miles of greenways. Several of the larger parks already have nature centers with active

bird banding, outreach and education programming. The area 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 launched an initiative called Lights Out Nashville to encourage Davidson County homes and businesses to reduce light pollution during certain times of the year when migratory birds fly at night.

## Scientists study purple martins

For the third year in a row, Bridgestone Americas, Inc. allowed The Nature Conservancy to install a Motus Wildlife Tracking Station at their North America headquarters in Nashville. This served as a ground zero for our partners at the Friends of Warner Parks who were studying the movement of purple martins to and from the downtown roost that had housed over 100,000 purple martins during the months of July-September. The downtown Motus station, combined with other stations TNC has installed in Middle Tennessee, allowed scientists to track the movements of 24 purple martins that were fitted with radio transmitters this past summer. The data is providing a better understanding about roost utilization, home ranges and even migration routes to South America.

## Rewilding at Lytle Park

The Nature Conservancy’s connection to Lytle Park began more than a decade ago when TNC provided funding to help purchase nearly 600 acres along Stones River in Davidson County. Over the past three years, TNC has led several studies documenting the many species and habitats that call Lytle Park home. From wildlife cameras to butterfly nets and bioacoustics recorders TNC has created a baseline of data to inform habitat management and restoration at Lytle Park. Most recently, TNC teamed up with Metro Parks Nashville on one of the most ambitious native grassland restoration efforts in Tennessee, designed to eliminate extensive stands of invasive plants and to restore habitat that is critical for many declining grassland dependent species.



THIS PAGE Urban Bird Treaty Signing © Office of Mayor Cooper

FACING PAGE LEFT TO RIGHT Motus Tracking on the Roof of the Bridgestone Americas Building in Nashville © Terry Cook/TNC; Tagged Monarch Butterfly © Terry Cook/TNC; Purple Martins in Downtown Nashville © Terry Cook/TNC; Deer at Lytle Park © Terry Cook/TNC; Lytle Park Grassland © Terry Cook/TNC

# Appalachian Mountains

Fire fuels tree species prepared for a changing climate.

Stretching 2,000 miles from Alabama to Canada’s Maritime Provinces—the Appalachian Mountains represent one of the most important landscapes for tackling climate change and conserving biodiversity in the world. A part of this globally important range touches in Tennessee, although state lines tend to fade when it comes to securing vast, connected forests that are healthy enough to absorb carbon and calm volatile climate changes happening worldwide.



the growth of trees – like oak, hickory and yellow pine. These trees are known to store carbon more efficiently in a region where the temperature is rising at the rate of .5 degrees Celsius every decade.

Most recently, in Tennessee’s corner of the Appalachians, TNC’s fire teams assisted the South Zone of the Cherokee National Forest with a record-breaking prescribed burn season totaling more than 34,952 acres. TNC also teamed up with the University of the South - Sewanee’s student prescribed fire team to complete two burns on 197 acres that targeted oak, hickory and shortleaf pine woodlands at the Bridgestone Nature Reserve at Chestnut Mountain. It was the largest controlled burn at Chestnut Mountain to date.

While conserving the Appalachian Mountains is a coordinated effort among 15 states, The Nature Conservancy and our partners in Tennessee are leading the way when it comes to strategically delivering fire to promote

“Employing this conservation tool at in the Central and Southern Appalachians is transforming degraded lands resilient forests that support diverse plants and animal species in the face of a changing climate”

– Katherine Medlock, The Nature Conservancy’s Southern Appalachians program director

## Inflation Reduction Act Marks One-Year Milestone

August marked one year since Congress passed this historic law that provides investments and incentives for reducing carbon emissions by 40% by 2030 to meet our nation’s climate commitments. Tennessee is benefiting as the recipient of almost \$7 billion for 14 projects slated to advance clean energy and generate 5,600 additional jobs in our state. The law also directed approximately \$208 million to Tennessee government agencies grant recipients for projects that advance energy efficiency, reduce pollution and protect forests. The Nature Conservancy looks forward to working with state partners to implement these efforts.



# Mission-Driven Messaging

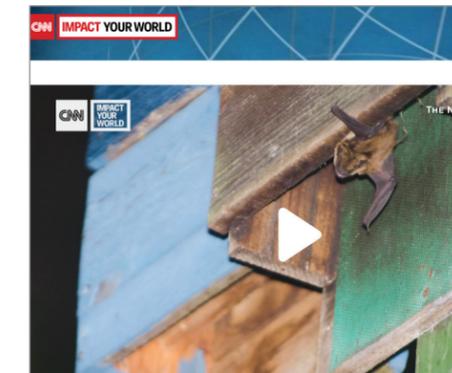
Our work in Tennessee gains national attention



The Washington Post published an article about welcoming bats into back yards.

“Marketing and communicating our work is another conservation tool that moves us closer to our goals.”

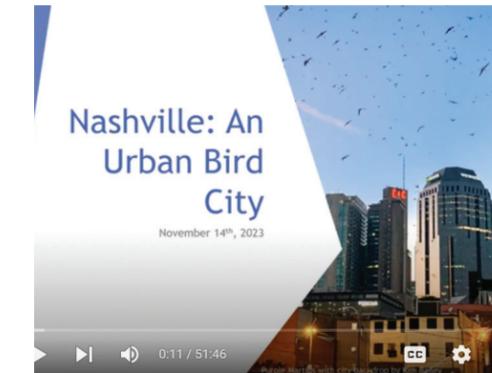
– Laurel Creech, The Nature Conservancy’s state director in Tennessee



CNN covered TNC’s efforts to address white-nose syndrome in bats in their Impact Your World series.



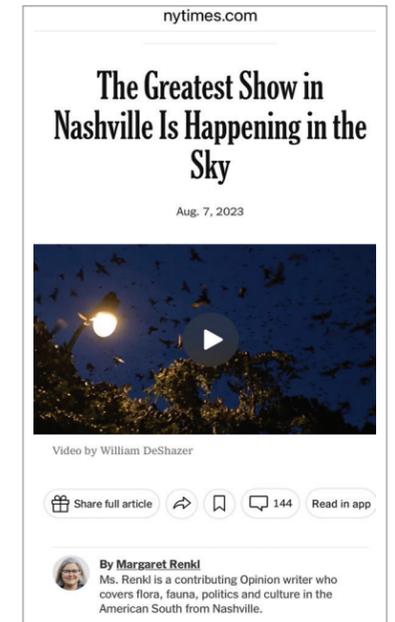
YouTube’s Brave Wilderness featured TNC’s efforts to combat white-nose syndrome in Tennessee’s Gray bats.



TNC hosted five webinars attended by more than 120 people and watched on YouTube by an additional 390 viewers.



Nature Conservancy magazine highlighted Tennessee’s cave restoration work on the cover of its Fall 2023 issue.



New York Times writer Margaret Renkl wrote an essay about Nashville’s summer Purple Martin roost.

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left to right Duck River mussel © The Nature Conservancy; A child explores a river. © Rob Bullard/TNC; Rat snake at Piper Cave © Cory Holliday/TNC

