



North Carolina
**WILDLIFE
FEDERATION**

Journal

WILD LIVES □ WILD PLACES

Spring 2023



ON THE MOVE

From the Great Smokies and beyond, NCWF works to keep wildlife connected to their habitats.

CONSERVATION ACHIEVEMENT AWARDS NOW OPEN!

A FISHERIES MANIFESTO



Connecting the Dots

BY TIM GESTWICKI, NCWF CEO

I recently had a conversation with my Mom that sparked inspiration for this column theme. Mom relayed that she had a dream—it was a good dream, she recalled upon awakening—that prompted her to reflect on various relationships and how they had interwoven throughout her lifetime. The dream underscored how meaningful and interesting they all were, and how some of her important relationships were evident over vast geographic distances and differing points in time. What they all shared was an interconnectedness through her. It was an empowering dream, she said. Empowering and humbling, at the same time.

I think that each of us has a similar, albeit unique, network. It doesn't take long when we start adding up all the relationships to realize the largeness of the collective ties among colleagues, schoolmates, neighbors, friends, teammates, fellow members of our places of worship, and family. Your family may be large or small. You may know your third cousins or you may enjoy the closeness of a small family. No matter. These are the ties that bind.

We all have them and they enrich our lives. Some are closer than others and may evolve over time with some circling back into the picture at certain times. Some may have come about through new ways of connecting in this world—I'm thinking of social media and even online dating services. And whether the

ties that bind wax and wane—become looser or tighter over time—our connections are invaluable. A friend in need is a friend indeed. As is a friend to share celebration.


When it comes to the work of the North Carolina Wildlife Federation, there is a clear connection, a nexus, between wildlife and habitat.

When it comes to the work of the North Carolina Wildlife Federation, there is a clear connection, a nexus, between wildlife and habitat. You cannot have one without the other. When habitat or wildlife is disrupted, natural order suffers, as do human populations. We know the mayfly feeds the trout, which feeds the osprey or eagle, but others are more

synchronistically interdependent. Consider, for example, the zebra swallowtail butterfly, which depends solely on the pawpaw tree as its host plant. As pawpaws disappear, so do the swallowtails, leading to less pollination of food crops in a classic "butterfly effect" outcome.

The connectivity theme runs throughout this *Journal* as we highlight our work on issues such as roads that block wildlife passage, or often end in mortality, within increasingly fragmented habitat to the need for free-flowing rivers. We focus on our work on keeping waterways wildlife-friendly and how interconnected wetlands, streams, and rivers forge significant functioning ecological systems for wildlife and people. As attacks continue on bedrock water laws, we plant a stake in the ground to safeguard wildlife and our health alike.

In this issue we highlight the connection between our precipitously falling marine fish stocks and the destructive gear used to harvest as we work to *Save Our Sounds*. We report on an exciting dam removal opportunity that will support aquatic connectivity by opening up 500 miles of free-flowing streams. Those waters connect critical fish species to Native American heritage in what is truly a unique opportunity. And we cover the ties between wildlife law enforcement officers and upholding conservation laws in a serious supply-and-demand dilemma. And it takes cooperation—and isn't that built on connections?—to solve large problems that our highway and wildlife agencies are hoping to make progress on with a recent agreement.

While my mother's reflections tended to include memories of the past, the work we are doing here at the North Carolina Wildlife Federation is clearly focused on the now and on the future. And that's where and when tomorrow's memories will be made. As I reflected about this interconnectedness, it brought to mind all the partnerships and collaboration in which NCWF is involved, from relationships with agencies and businesses and non-profit organizations to make the work possible and successful, and not just something to dream about. And what makes all of that possible are the dreams of each of you—the dreams of a North Carolina that looks like the Federation's Vision Statement: **"Our stewardship will result in a North Carolina with healthy and diverse habitats and wildlife valued by all people and sustained for future generations."** Your foundational support is helping to make wildlife and habitat conservation a reality. Happy dreams! 

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ABOUT THE COVER

Cover photograph Not just a pretty sight, these cascades in the Oconaluftee River in Great Smoky Mountains National Park are a migratory route for many fish. ©iStock.com / AppalachianViews. *Contents photograph* Anole on purple coneflower / Sujata Roy. Other photos, unless noted, courtesy of NCWF.

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North Carolina WILDLIFE Federation Journal

WILD LIVES □ WILD PLACES

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NORTH CAROLINA WILDLIFE FEDERATION

MISSION To protect, conserve and restore North Carolina wildlife and habitat.

VISION Our stewardship will result in a North Carolina with healthy, bountiful and diverse flora and fauna that is valued by all its people, and sustainably managed for future generations.

Our strength is derived from values driven leadership – science-based decision making; non-partisan approach to policy; stewardship of North Carolina's natural resources; inclusivity of broad wildlife interests and perspectives; and partnering with organizations and individuals who share our vision and our passion for wildlife.

GOALS Toward that vision, we will:

POLICY AND PROTECTION – Strongly influence state and federal policy that affects wildlife and habitat in North Carolina using established conservation models to guide our positions.

NETWORK OF IMPACT AND INVOLVEMENT – Foster a diverse, robust network of chapters, members, affiliates and partners; a network fortified by a variety of wildlife and outdoor interests.

EXPERIENCE AND LEARN – Enhance and expand opportunities for youth and adults that foster awareness and appreciation of wildlife and the important role healthy habitat plays in sustaining wildlife and humanity.

SIGNATURE PROGRAMS – Sponsor and support programs for the enjoyment and conservation of wildlife and habitat, including ethical and sustainable outdoor recreation pursuits.



from Here >>>> *to* There

They swim, fly, slither, walk, run, glide, soar, and climb.
They cross creeks and rivers, forests and meadows, ridges
and valleys, and, unfortunately, roads.

For North Carolina's wildlife, the future is always on the move. Creatures from mountain trout to box turtles to elk and rare freshwater minnows all require connectivity between habitats, whether they range over just a few hundred yards of creek or river to migrations thousands of miles in extent.

Helping wildlife make the connections between their required habitats is a North Carolina Wildlife Federation priority, and the need for such a focus is critical as the state rapidly develops. The good news? More and more programs are cropping up to help wildlife make the journey up the river, through the woods, and across the road. And each deer or elk or sicklefin redhorse that makes the trip safely can thank NCWF supporters for making it possible to get From Here >>>> To There.



On the Road



Documenting the stunning toll of road-killed wildlife by Jeff Beane

Roads take a huge toll on wildlife. Just how huge is unknown. Most studies addressing the issue have been short-term, focusing on mammals and other larger vertebrates—animals representing a small fraction of the total mortality.

To capture a tiny piece of this shameful picture, I've monitored a short (0.7-mile, or 1.1-km) stretch of secondary paved road in the Sandhills of southern Moore County, as often as possible, for over 20 years. I began on October 27, 2002, recording all road-killed vertebrates detected. I selected this route for no reason other than convenience; one end of the road abuts land I purchased in October 2002. Habitats along the stretch include blackwater stream floodplain, braided stream, beaver swamp, sand ridge with mixed pines and hardwoods, a recent clearcut, a horse farm, agricultural fields, and the edge of a rural yard. The route coincidentally includes the type locality of the recently described Carolina Sandhills salamander, *Eurycea arenicola*.

As of this writing, I've completed 2,196 pedestrian surveys (2,151 complete, 45 partial) and 3,300 vehicle surveys. A complete pedestrian survey consists of walking the stretch down and back; a partial survey is anything less than a complete circuit. A vehicle survey is any one-way pass in a vehicle, from either direction. Walking briskly, stopping only for road-kill, a pedestrian survey takes approximately 29 minutes. In recent years, however, I've compiled ebird lists during some walks, so surveys now often take an hour or longer. Vehicle passes, sufficiently slow to detect smaller road-kills, take about three minutes.

I count passing vehicles during pedestrian surveys. It's not a terribly busy road (typically between 20 and 40 vehicles per hour), and traffic volume fluctuates, but has increased slightly over the years. Slight decreases were noticeable in 2008, when gas prices exceeded \$4 per gallon following Hurricane Katrina, and in 2020, at the beginning of the COVID-19 pandemic. During the first decade, my estimates of vehicles per day ranged from 436 in 2003 to 609 in 2007 (N.C. Department of Transportation figures for those two years compared closely—480 and 660). Traffic is heaviest during weekday rush hours and lightest during late nights and on Sunday mornings. Most surveys have been on Fridays, Saturdays, and Sundays since I work in Raleigh during the week. I have averaged slightly over two surveys per week.

As of this writing, I have documented 6,311 individual DOR (dead on road) vertebrates, of 118 species (22 amphibians, 40 reptiles, 39 birds, 17 mammals). The majority (ca. 73 percent) were amphibians, followed by reptiles (ca. 21 percent), with birds and mammals making up only about 3 percent each. (I also found two fish—an American eel and a golden shiner—but I'm certain they were deposited on the creek bridge by anglers and not killed by vehicles.)

I was certainly not surprised to learn that pedestrian surveys are more effective than vehicular surveys in detecting road-kill, but how much more effective was impressive. On foot, I turned up at least one DOR vertebrate 76 percent of the time (93.7 percent of total), whereas vehicular surveys turned up at least one only 8.2 percent of the time (6.3 percent of total). Regardless of how slowly you drive, or how good your eyes are, you won't detect tiny frogs, lizards, and salamanders that are ground into the pavement or in roadside grass. Such creatures account for a high percentage of the total. I did not even attempt invertebrates, which represent the vast majority of road mortality.



ALEXANDRA KNUDSON / BOX TURTLE

Just over half (50.7 percent) of all mortality consisted of just seven species: southern toad, spring peeper, green treefrog, ground skink, green frog, eastern newt, and green anole. Southern toads alone made up over 19 percent. The overwhelming majority (99.75 percent) of species killed were native; only 16 individuals of three species were introduced (two European starlings, 10 house mice, four house cats). One state-listed Threatened species (southern hognose snake) and two listed as Special Concern (eastern coachwhip, timber rattlesnake) were included, as well as four on the N.C. Natural Heritage Program (NHP)'s Watch List (Carolina Sandhills salamander, spotted turtle, scarlet snake, scarlet kingsnake). These seven species comprised 1.25 percent of the total. Also included were five bird species either state-listed, tracked by NHP, or on its Watch List based solely on their breeding status in the state, but two of them (hermit thrush, yellow-rumped warbler) are very common winter residents, and the other three (chuck-will's-widow, eastern whip-poor-will, loggerhead shrike) are relatively common breeders in the Sandhills.

A few things surprised me. Several species, such as American bullfrog, southern leopard frog, eastern gray squirrel, and corn snake, turned up less frequently than I expected. I would never have predicted hermit thrush to be the number-one bird killed (17 individuals, 0.27 percent of the total), or that eastern red bat would be second among mammals ('possums, not surprisingly, were number one). Unexpected species included queen snake, northern waterthrush, ruby-throated hummingbird, marsh rice rat, least shrew, tricolored bat, and evening bat. Carpenter frogs are relatively common in the beaver swamp along one stretch of the route, but I never found one road-killed.

So far, this project has occupied well over a thousand hours of my life. But besides merely counting dead things, the 1,500-plus miles I've walked have translated to fresh air and exercise (walking being among the few forms of exercise I truly enjoy). I've contributed substantial data to ebird and the NC Bird Atlas, seen many creatures alive, taken many photographs, found a total of \$10.06 in cash (OK, so road-kill surveys don't pay well), and salvaged at least 141 animals (60 snakes, 43 frogs, 14 lizards, 10 turtles, six salamanders, four birds, four mammals) for museum specimens.

One study I read estimated that about one million vertebrates are killed on U.S. roads every day. I'm not sure how they arrived at that figure. Making a couple of wild assumptions (e.g., assuming I detected every single mortality—which I certainly did not—and that vertebrate mortality on my survey stretch is average for U.S. roads), I multiplied the vertebrates killed on my stretch (about 1.2 per mile per day) by the number of miles of roads in the U.S. (not including private roads, jeep trails, driveways, etc.) and came up with 6,311,100 vertebrates per day. Regardless of the true figure, is it worth it?

Humans—Americans especially—are in love with automobiles and consider them vital. But they aren't. Only a tiny fraction of our time on Earth has included the internal combustion engine, or even the wheel. But in less than a century we've crisscrossed the planet's land mass with death-dealing corridors. Some

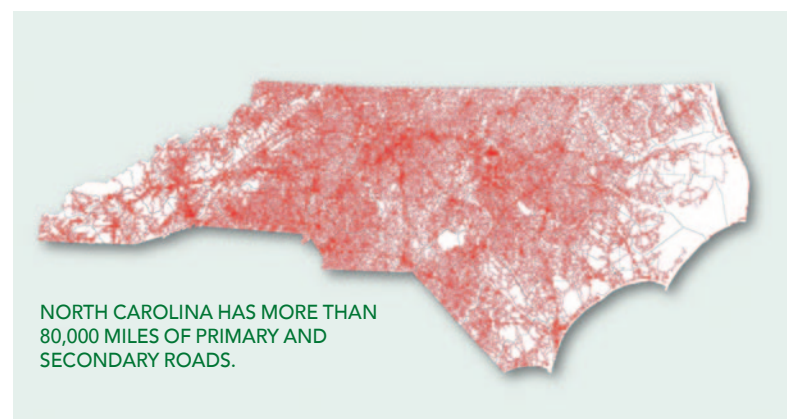
folks scratch their heads and wonder why so many species are declining. To me, there's no mystery. Thousands of expensive wildlife underpasses may help but won't solve the problem. Real solutions—drastically reducing our out-of-control population, relinquishing our dependency on automobiles, and building awareness of and appreciation for the planet's other residents—are consistently rejected. Meantime, especially for those few of us who cherish all species as family, and actually care whether we run over a toad en route to the strip mall, the situation remains tragic. If all I can do is document a tiny sliver of it, then that's what I'll continue to do.

Jeff Beane is herpetology collections manager for the N.C. Museum of Natural Sciences



Take a Memo: Work to Lessen Wildlife Mortality

North Carolina's population is constantly increasing. As more and more people move here, the landscape changes with additional development, new roads, additional road lanes, and overall, more vehicles on the highways. Unfortunately, the effect on wildlife from those actions often results in habitat loss, habitat fragmentation, and increased wildlife vehicle collisions. This is not new; the North Carolina Wildlife Resources Commission (NCWRC) has been working with the North Carolina Department of Transportation (NCDOT) for decades to address these impacts during project planning. Recently, the two agencies developed a Memorandum of Understanding (MOU) that reinforces the shared commitment of our agencies to work together to improve wildlife passage in North Carolina. This MOU emphasizes improved data collection for wildlife vehicle mortality, continued monitoring of wildlife crossing structures,



RON SUTHERLAND / WILDLANDS NETWORK

identification of new crossings and wildlife mitigation strategies, and continued collaboration during NCDOT's project planning processes. Like most sciences, road ecology is constantly evolving with the addition of more data and technology that help improve decisions. NCWRC and NCDOT are committed to working together to improve North Carolina's roads for both wildlife and the traveling public.

the U.S. Fish and Wildlife Service, American Rivers, Mainspring Conservation Trust, North Carolina Wildlife Resources Commission, U.S. Army Corps of Engineers, the North Carolina Wildlife Federation, and others.

All of the groups have identified this as a once-in-a-lifetime opportunity to eliminate the only physical barrier preventing the Oconaluftee River from flowing freely—physically and symbolically reconnecting the Cherokee with ancestral waters downstream. Dam removal could also increase potential for development of river-based recreation, including increased fishing access, increased tubing and paddling, and snorkeling.

Importantly, dam removal will restore habitat for the sicklefin redhorse, a threatened fish endemic to only a few rivers in the Southern Appalachians that was once an important element of the Cherokee diet. The dam has blocked the migration route for the fish, disrupting



centuries of cultural connection by effectively eliminating it from tribal lands and contributing to imperiling population declines for the species. Dam removal also stands to benefit other species, including Eastern Hellbender and Appalachian elktoe (a federal endangered mussel).

Initial studies assessing the potential for dam removal have been made possible largely by funding from the State of North Carolina through the N.C. Wildlife Resources Commission. Now the coalition is working to pursue money made available through the recent federal Bipartisan Infrastructure Law. Adequate funding for dam removal would reconnect this long-bisected watershed, improve habitat for rare species, and help strengthen the connection between the Eastern Band of Cherokee Indians and their ancestral homelands.

The coalition expects to know whether the project is selected for federal funding by summer 2023. In the meantime, the coalition continues the necessary preparations to secure removal of the dam — setting an example of how diverse stakeholders can work together towards a common objective.

SICKLEFIN REDHORSE IMAGE COURTESY OF NCFISHES.COM

>>>> NCWF Fights for Clean Water Policy <<<<

NCWF has been involved in water and wetlands work for many years and engaged in litigation and policy work when attacks on bedrock rules protecting these resources have occurred. As 2022 wound down, new rules were issued under the current Administration reinstating and clarifying long-standing clean water protections that were in place prior to 2015 for traditional navigable waters and left in limbo until now. The clarifying issuance set forth exclusions for certain waters and features that have generally been considered outside the scope of “waters of the United States.” Under the issuing clarification ruling, many waters that lost protections under the previous ruling—ephemeral streams, many wetlands, and other intrastate waters—are again protected if they, either alone or in combination with similar waters in the region, significantly affect traditional navigable waters, the territorial seas, or interstate waters. As the state develops at a rapid pace, protecting these water systems is critical.

Half of North Carolina’s 5.5 million acres of wetlands, plus innumerable “ephemeral streams,” would be unprotected if the rules hadn’t been restored. Wetlands alone can absorb vast quantities of water during heavy rains or storms. One acre of wetlands can store up to 1.5 million gallons of floodwater which can reduce downstream impacts to critical infrastructure and promote resilience to drought. The fish and wildlife that support the nation’s \$887-billion-outdoor recreation economy rely on these small streams and wetlands, as well. Ephemeral and tributary streams serve as important spawning grounds as well as nursery habitat for juvenile fish, such as trout, and more than a third of North American bird species rely on wetlands for food, shelter, breeding, nesting, and

rearing their young. In addition to providing food, water, cover, and areas for reproduction for a vast majority of species, more than 70 percent of North Carolina’s species listed as endangered, threatened, or of special concern depend on wetlands for survival.

If the previous rules had been left unchallenged, protection for more than 90 percent of North Carolina’s stream network would be the law of the land. Wetlands are similarly vulnerable—as much as 78 percent of headwater wetlands in coastal North Carolina could lose protection. In what the Federation believes is a dangerous attempt to open our wetlands and streams to pollution and destruction, lawsuits were filed in a number of states by industries seeking to vacate the restored rules, and undo 50 years of progress to these habitats and clean water.

Unhappy with the solidification of the rules, the State of Kentucky and industry groups filed in District Court to block the science-based rule from taking affect—a move that would deprive the families, hunters, anglers, and other outdoor enthusiasts who use and rely on streams, rivers, and wetlands throughout the United States of federal clean water protections. NCWF joined in a “friend of the court” brief outlining concerns for the judge. Thankfully, the judge ruled against the industries’ lawsuit. Legislative and legal attacks continue on this bedrock protection of waterways for wildlife and humans alike.

“Wildlife needs clean water just as people do,” says Manley Fuller, vice president of conservation policy for the Federation. “Folks who love our streams, rivers, and wetlands deserve better, which is why we are fighting for strong, clear, science-based national clean water protections in court.” **WF**



A NCWF Manifesto

For years, we've been working together with you, our members, community leaders and people across our great state to protect our coastline. For too long, a powerful group has taken too much of our shared resources and we are proud to launch a campaign to **Save Our Sounds**.

"Nature is part of our shared heritage, North Carolina," says Tim Gestwicki, CEO of the North Carolina Wildlife Federation. "So let's act together to close our estuaries to bottom trawling. Before rescue is out of reach."

Secure our seagrass meadows. Safeguard our sea-life. Sustain our seafood. **Save Our Sounds**.

Over the next months you'll see on social, our website and via email, NCWF is launching the **Save Our Sounds** campaign to stop inshore shrimp trawling. We encourage you to join our campaign, and share our research and messaging to your network. Together, we can work to protect our shared resources and save the livelihood of future generations.

Save Our Sounds

Our shallow sounds are in deep trouble, North Carolina.

And we need to throw them a lifeline.

Inshore shrimp trawling has destroyed our seafloors.

Day-after-day, a handful of boats—many from out of state—relentlessly attack and prevent recovery of what little is left of our coastal resources.

As many as 100,000 times each year, chains drag their nets across an environment stripped bare of its once-vast seagrass meadows, oyster beds, and living bottom.

Stirring up mud and blanketing the nurseries of hundreds of species in sediment, while releasing trapped toxins into the water column.

Continuing to disrupt oyster beds and destroy sensitive habitat.

For every pound of shrimp they harvest, they discard at least 4 pounds of "bycatch."

That's 30 million pounds of dead sea life in a year.

Hundreds of millions of immature fish killed before they can spawn and rebuild sustainability.

Bottom trawls drastically deplete the food sources of many species important to the ecosystem. Dolphins and porpoises. Whales. Sea turtles. Manatees. Birds. Fish. Crabs. Shrimp.

And we, their caretakers, are all negatively impacted.

Yet, we're the only state on the Atlantic and Gulf coasts that continues to allow large-scale trawling in its estuaries.

In this, we're all alone.

For too long, a powerful group has taken too much.

They pay a small price to do what they do. But our environment pays the ultimate price.

And our sounds are no safe harbor for the creatures that count on them for refuge.

Let's at long last give our resources a fighting chance.

After all, they're resources that belong to us all.

Nature is part of our heritage, North Carolina.

So, let's act together to close our estuaries to bottom trawling.

Before rescue is out of reach.

Secure our seagrass meadows.

Safeguard our sea life. Sustain our seafood.

SAVE OUR SOUNDS.

STARK NUMBERS

Commercial landings of many North Carolina fishes have dropped dramatically, underscoring the need for meaningful action on fisheries reform.

Atlantic croaker landings have declined from 10.7 million pounds in 1997 to 540,622 pounds in 2021, a 95-percent decline. Peak landings reported in 1980 were 21.1 million pounds. 2021 landings are 2.5 percent of the historic high.

Spot landings have declined from 2.63 million pounds in 1997 to 527,468 pounds in 2021, an 80-percent decline. Peak landings reported in 1975 were 8.3 million pounds. 2021 landings are 3.7 percent of the historic high.

Weakfish (gray trout) landings have declined from 3.56 million pounds in 1997 to 59,534 pounds in 2021, a 98-percent decline. Peak landings reported in 1980 were 20.3 million pounds. 2021 landings are 0.3 percent of the historic high.

Southern flounder landings have declined from 4.1 million pounds in 1997 to 479,987 pounds in 2021, an 88-percent decline. Peak landings reported in 1994 were 4.9 million pounds. 2021 landings are 10 percent of the historic high.

2023 GOVERNOR'S CONSERVATION ACHIEVEMENT AWARDS

We're looking for Conservation Heroes!



North Carolina **WILDLIFE FEDERATION**

Each year the North Carolina Wildlife Federation presents the prestigious Governor's Conservation Achievement Awards, an effort to honor individuals, governmental bodies, organizations, and others who have exhibited an unwavering commitment to conservation in North Carolina. These are the highest natural resource honors given in the state. By recognizing, publicizing, and honoring these conservation leaders— young and old, professional and volunteer—the North Carolina Wildlife Federation hopes to inspire all North Carolinians to take a more active role in protecting the natural resources of our state.

The nomination period for the Governor's Conservation Achievement Awards is open through July 5, 2023. These awards are presented each year at a gala banquet. Award recipients receive a handsome statuette and certificate. On the opposite page is the official nomination blank. Additional forms are available by request. For more details or to download a form, go to www.ncwf.org/programs/awards.

CONSERVATIONIST *of the Year*

Overall outstanding effort and achievement in any field of natural resources conservation.

WILDLIFE CONSERVATIONIST *of the Year*

Accomplishments in the management, study, or restoration of wildlife, fisheries, or habitat.

SPORTSMAN OR SPORTSWOMAN *of the Year*

Exemplary efforts by an individual to encourage good sportsmanship and/or outdoor ethics.

LAND CONSERVATIONIST *of the Year*

Outstanding effort by individual, organization, or agency in the arena of land conservation, such as private or public land acquisitions, management, or conservation.

WATER/MARINE CONSERVATIONIST *of the Year*

Outstanding effort by individual, organization, or agency in the arena of water conservation or marine conservation issues, such as water pollution control, stream/river protections, wetlands and/or coastal estuarine protections, or aquatic or marine wildlife conservation.

FOREST CONSERVATIONIST *of the Year*

Outstanding effort by individual, organization, or agency in the arena of forest conservation or the conservation of forest wildlife. marine resources conservationist of the Year Outstanding effort by individual, organization, or agency in the conservation of marine resources.

ENVIRONMENTAL EDUCATOR *of the Year*

Outstanding effort by individual or organization to advance environmental education in the classroom or the public sphere.

YOUNG CONSERVATIONIST of the Year

Outstanding conservation effort by a person under the age of 25.

CONSERVATION ORGANIZATION *of the Year*

Outstanding accomplishment by an organization in affecting a particular issue during the year, or for raising awareness about conservation and/or wildlife habitat.

LEGISLATOR *of the Year*

Outstanding effort by a member of the North Carolina legislature in support of conservation.

BUSINESS CONSERVATIONIST *of the Year*

Outstanding effort by any firm, business, or industry that has displayed an unwavering commitment to conservation or the public's ability to enjoy natural resources.

NATURAL RESOURCES AGENCY OR SCIENTIST *of the Year*

Outstanding effort by any local, state, or national agency responsible for managing natural resources, OR by an individual working for governmental agencies, educational institutions, or related enterprise.

WILDLIFE VOLUNTEER *of the Year*

Outstanding effort by a citizen volunteer in the service of North Carolina's wildlife and wild places.

PUBLIC LANDS CONSERVATIONIST *of the Year*

Outstanding effort by a citizen volunteer or non-profit organization in the service or protection of North Carolina's public lands.

NCWF CHAPTER *of the Year*

Outstanding effort by member chapter in one or more of the following areas: wildlife habitat, environmental education, youth participation, and/or community involvement in conservation issues.

AFFILIATE *of the Year*

Outstanding support effort by NCWF affiliate.

OFFICIAL NOMINATION FORM

To make a nomination, send one copy of this form, with all supporting attachments and a resume of achievements by e-mail attachment to awards@ncwf.org along with supporting documentation or submit a hard copy by mail to North Carolina Wildlife Federation, ATTN: Awards Committee, P.O. Box 10626, Raleigh, NC 27605. Deadline for receiving applications is July 5, 2023. Please print or type all data below. This form may be duplicated.

Nominee _____

Complete address _____

Daytime phone number _____ Email address _____

Award category* _____

(Nominees may be nominated for more than one category, but send a separate nomination blank for each award category. Multiple copies of supporting materials are not necessary.)

Nomination made by _____

Complete address _____

Daytime phone number _____

NOMINATION INSTRUCTIONS

1. Fill out Official Nomination Form completely.
2. Attach a resume of achievements or nomination essay explaining why the nominee deserves the award. Attach nominee's resume if available, and information about the nominee's affiliations, past recognitions, and other references for substantiation. Full documentation is needed by the Awards Committee—the only information the Awards Committee will have is what you provide. Please be particular about the specific acts on which the nomination is based.
3. Deadline for receiving nominations is July 5, 2023.

*The Awards Committee reserves the right to place nominations in the appropriate categories as the case may arise. In the case of insufficient nominations in any category the Awards Committee reserves the right not to name a category winner.



NCWF Scholarship Nominations Open

CHASE SPICER, OF NORTH WILKESBORO, IS ATTENDING EAST CAROLINA UNIVERSITY AS A GRADUATE STUDENT IN BIOLOGY. CHASE IS ONE OF THE 2022 NCWF SCHOLARSHIP RECIPIENTS.



SINCE THE 1970s, the North Carolina Wildlife Federation has awarded scholarships to more than 300 college students from across the state, helping them follow their dreams of studying and working for wildlife and conservation. Many award recipients achieve significant success in their fields, making a difference for wildlife and habitat.

Qualifying students who are committed to environmental and natural resource conservation or management are encouraged to apply. The Federation's scholarships are always competitive, and we appreciate the opportunity to identify and recognize deserving students and provide scholarship aid.

To qualify, students must be enrolled full-time at an accredited North Carolina college or university with a major related

to wildlife, fisheries, forestry, conservation, or environmental studies. Academic merit, socio-economic elements, and extra-curricular involvement all impact final decisions. Incoming freshmen are not eligible for awards.

A minimum of three grants will be awarded to undergraduates and three will be reserved for post-graduate candidates. NCWF may also award one \$2,500 Conservation Leadership grant to a student of outstanding merit; all applicants are welcome to apply for this grant. Students must submit scholarship applications and supporting documents online by June 15. Visit www.ncwf.org/scholarships to learn more or apply. Please email awards@ncwf.org or call 919-833-1923 with any questions or requests to apply by mail.

Law on the Land

LAW ENFORCEMENT IS CRITICAL for conservation efforts to be successful. For wildlife in North Carolina, the Wildlife Resources Commission sets regulations for bag limits, seasons and various science-based rules for public use and enjoyment of these public trust resources. Wildlife Law Enforcement Officers (WLEOs) are on the front lines for ensuring that these rules and laws are followed, and it's a lot more than simply stopping poachers.

Incredibly, it has been 45 years since the last increase in the number of WLEOs in the state. During that time, the state's population has increased by 86 percent. Hunting, fishing and trapping licenses have more than doubled, and the number of registered boats have nearly tripled.

Wildlife Law Enforcement Officers work 24/7/365, and have broad law enforcement authority statewide and specific jurisdiction over wildlife and wildlife-associated activities on more than 2 million acres of game lands and nearly 500 public boating and fishing access areas. Still, of North Carolina's 100 counties, 60 have only one officer assigned. Increased public demand over the past four years has resulted in 61,062 off-duty calls and 2,392 after-hours return-to-duty calls. Clearly, additional officers are needed to meet public safety needs and conservation goals.

Additionally, wildlife law enforcement officers have expanded their tools and training to include search and rescue operations, swift water rescues, and plant poaching investigations. They also work with other local and state enforcement agencies on public safety campaigns, such as Operation Dry Water and On the Road, On the Water.

NCWF fully supports increasing the number of WLEOs statewide and encourages the General Assembly to appropriate necessary funds so our safety and public trust resources are protected and managed for all. It is past time.



CHRIS CASHWELL / OSPREY

CLICK IT! Hey photographers! Did you catch an Eastern tiger swallowtail on a tulip tree or an osprey diving over the water to catch its meal? How about a memorable sunset vista in the Blue Ridge Mountains or a picturesque sunrise on Cape Hatteras? Maybe you snagged a wow-worthy photo of your child kayaking?

NCWF is accepting submissions from professional, amateur, and youth shutterbugs for its fifth annual Wildlife Photography Contest. The submission period runs from July 1 to September 1. Categories include

Carolina Critters, People in Nature, Scenes of North Carolina's nature and wildlife, whether in your backyard or across the state.

With a donation of \$15 or more you may submit up to 12 photos (3 images maximum per category). All proceeds support wildlife habitat conservation and restoration in North Carolina. There will be one adult winner per category for each experience level (professional and amateur) plus one overall youth winner (16 and younger). Photographs submitted in previous contests have been featured on NCWF's website, social media accounts, quarterly journals, postcards, and bookmarks. Visit ncwf.org to submit your photos electronically when the entry period opens. Good luck, and get snapping!



New NCWF Affiliate Provides Outdoor Mentorship, Fellowship for Women

WOMEN HUNTERS OF NC, a statewide hunting group for women, began in December of 2017 as a Facebook group of women hunters who were interested in receiving mentorship and comradery from other women hunters in the state. But when the Facebook group continued expanding beyond expectations, it became clear that a Facebook group alone was not enough.

Last year, the group became an LLC, reached 940 members across the state, and experienced its largest annual banquet turnout since the group's start. Brittany Hines, the group's president, says that the goal is to engage women with the outdoors in a community built by women, for women. "Mentoring and feedback is different from men to men versus from men to women," Hines explained. "At Women Hunters of NC, we have members who have 50 years of experience in the outdoors, and new members who have zero experience. We can stand alongside each other, mentor one another, and celebrate successes."



This passion for community centered around the outdoors is what drives involvement in the group. With zero membership fees and regional administrators across the state, Hines says that the group's membership is going through the roof, doubling each year and consistently gaining nearly 100 additional members around the hunting season. Hines says that this largely has to do with the accessibility of the group.

Women Hunters of NC regularly hosts regional shooting range days for women, teaching participants safe

shooting techniques. In addition to a generally successful hunting season last year, the group won five awards at the Dixie Deer Classic. The group is beginning to direct its attention toward conservation efforts, especially in relation to managing

deer herds, CWD spread, and addressing habitat degradation. It's also an affiliate of the North Carolina Wildlife Federation. NCWF Refuge Community Organizer Laura Frazier was recently invited to attend a Women Hunters of NC board meeting. "I was so inspired by these women who took time from their busy schedules to share their passion for hunting and the outdoors while also talking strategically about their goals for outreach and education this year," said Frazier. "I can't wait to see all that they continue to accomplish for women in conservation across our state."

Recovering America's Wildlife Act Back in Congress, with Tillis Leading

LAST YEAR, AS TIME RAN OUT, Congress narrowly failed to pass the Recovering America's Wildlife Act (RAWA), which meant that all 50 states were left to face drastic underfunding of local and state efforts to protect and conserve threatened wildlife and habitat.

But this year, the Senate has taken a renewed interest in acting on the bill, with North Carolina Senator Thom Tillis at the head of reintroducing the bill, alongside New Mexico's Martin Heinrich, the Democratic co-sponsor. Despite failing to pass through Congress last year, the bill's reintroduction brings with it a resurgence of hope and support from a widespread community of advocates — including the North Carolina Wildlife Federation.

"This is the most important conservation legislation we've seen in fifty years," said Dr. Liz Rutledge, NCWF

director of wildlife resources. "Every North Carolinian can be proud that Senator Tillis is leading the charge on this common sense, cost-effective proposal to protect our nation's wildlife heritage."

North Carolina is home to more than 1,500 nongame fish and wildlife species and over 6,000 plant species from the mountains to the coast. Recovering America's Wildlife Act funding will be used to implement the Congressionally-mandated state wildlife action plans, which identify more than 12,000 wildlife and plants that need conservation assistance nationwide.

RAWA would dedicate \$1.4 billion annually toward efforts to help fish and wildlife species in decline, including \$97.5 million annually to fund proactive wildlife conservation efforts led by Native American tribes. In North Carolina,

RAWA would help prevent the decline of at-risk fish and wildlife species through efforts to restore habitat, remove invasive species, address wildlife diseases, reduce water pollution and mitigate climate change.

While there is certainly cause to celebrate this year's reintroduction of RAWA, it is merely the next step in an ongoing fight for wildlife and habitat, and there is plenty of work ahead of policymakers and wildlife advocates throughout the country in the journey to pass the bill and put it to action. However, the momentum from last year's efforts to pass RAWA combined with the ongoing dedication and leadership of Senator Tillis and Senator Heinrich points to a solid chance for the passage of Recovering America's Wildlife Act, and a renewed commitment to the protection of the wildlife that need it most.

GETTING AFTER IT!

The North Carolina Wildlife Federation and its Community Wildlife Chapter volunteers have already hit the trail—and the lake, woods, and shore—for environmental education, wildlife watching, hiking, habitat restoring and more in the first few months of 2023. Our chapters are laser focused on promoting healthy wildlife, enhancing natural habitat, and inspiring people to get outside. Check out a few highlights below!

First Day Outdoors—Discover Your Trail: The Habitat and Wildlife Keepers (HAWK) kicked off the new year with a guided hike around some popular trails in Matthews, NC. 2023 has officially been dubbed “The Year of the Trail” and HAWK members are off to a great start exploring the state’s trail network and connecting with nature one step at a time.

Wintering Waterfowl Tour for NCWF Chapter Leaders: NCWF staff and chapter leaders were treated to an unforgettable experience to view the migratory waterfowl that reside within the Pungo Unit each winter. The group witnessed the elegant flight and sonic delight of tundra swans and snow geese in numbers seemingly uncountable.

Reuse For Holiday Trees: 350 Christmas trees were recycled and one large fish and aquatic habitat reef was created on Lake Norman thanks to the lake Norman chapter, Shriners Clubs and local volunteers.

Birds are back online: The solar batteries that power NCWF’s live-streaming osprey camera ran out of power halfway through the nesting season last year. Thanks to a grant from the Catawba-Wataeree Habitat Enhancement Program, the live cameras are loaded with fresh batteries installed by Lake Norman Wildlife Conservationists volunteers.

Greenway and Heritage Wetlands Nature Walk: The Neuse River Hawks led a group of 22 participants along the Smith and Sanford Creek Greenways through fields and wetland habitat. Signs of wildlife were abundant despite the encroaching urban development. The group learned and discussed the critical importance of quality habitat within highly developed regions.

EcoKids Winter Discovery Hike for Animal Signs: The South Wake Conservationists rambled with a group of curious Eco Kids. Led by Bonnie Eamick, the group encountered animal signs such as pileated woodpecker holes, yellow-bellied-sapsucker holes, a deer bone that had been gnawed by a rodent, trails leading into holes at the base of a tree where a small mammal lived, and coyote, deer, and skunk tracks.

Shelter Assembly for Recovering Foxes: The Charlotte Wildlife Stewards built and donated two outdoor shelters for fox enclosures at the Carolina Wildlife Conservation Center. The shelters will be used by orphaned fox kits and/or foxes recovering from illness or injury prior to their release back into the wild.

Tire Dump Cleanup: Marvin Area for the Restoration and Sustainability of Wildlife Habitat (MARSH) brought together more than 30 volunteers to remove and recycle 19,450 pounds of tires from the McBride Branch wetlands. More than 760 trees will be planted through NCWF’s Clean and Green initiative as a direct result of these efforts.

Greenfield Lake Bird Walk: Birders united on a warm February morning to enjoy a guided bird walk around Greenfield Lake in Wilmington, hosted by Island Wildlife in partnership with Cape Fear Bird Observatory. The group basked in the anticipation of spring and spotted a wide variety of bird species including ospreys, white ibises, downy woodpeckers, pied-billed grebes, yellow-throated warblers, anhingas and more.

Lake James Annual Cleanup: The Lake James Area Wildlife and Nature Society gathered for its annual trash cleanup where 170 participants of all ages removed over 8,000 pounds from shorelines and roadways near Lake James State Park. Large, bulky items like tires and wood planks were collected and removed, as well as harmful small plastics that can suffocate wildlife.



Wild on the Water is Back! Join Charlotte Wildlife Stewards for its signature fundraiser and paddle with other wildlife enthusiasts.

The morning paddle is on Mountain Island Lake at Latta Nature Preserve on June 3, 2023. We’ll paddle to an active osprey nest where our naturalist will talk about these amazing raptors as well as other wildlife and plants that make the lake their home. A delicious lunch and fun raffle follow.

CHECK OUT OUR CHAPTERS!

For more information on how you can participate, contact Tara Moore at tara@ncwf.org.



ALBEMARLE CONSERVATION
AND WILDLIFE CHAPTER
(Elizabeth City)



CATAWBA RIVER
WILDLIFE COALITION
(Valdese)



CHARLOTTE
WILDLIFE STEWARDS



CONCORD WILDLIFE
ALLIANCE



HAWK (HABITAT AND
WILDLIFE KEEPERS)
(Matthews)



INNER BANKS
WILDLIFE
(Washington)



ISLAND WILDLIFE
(Cape Fear Region)



LAKE JAMES AREA WILDLIFE
AND NATURE SOCIETY
(Nebo)



LAKE NORMAN WILDLIFE
CONSERVATIONISTS



MARSH (MARVIN AREA
FOR THE RESTORATION
AND SUSTAINABILITY
OF WILDLIFE HABITAT)



MOUNTAIN WILD!
(Asheville)



NEUSE RIVER HAWKS
(Wake Forest)



NEW BERN
WILDLIFE CHAPTER



PAWS (GASTON COUNTY
PIEDMONT AREA
WILDLIFE STEWARDS)



SOUTH WAKE
CONSERVATIONISTS
(Fuquay-Varina, Raleigh)



TRIAD WILD
(Greensboro)



UNION COUNTY
WILDLIFE CHAPTER

Once An Engineer, Always An Engineer

When Steve Graf sees a problem or an opportunity to make an improvement, he looks for solutions. That's why he invented the Whisker Biscuit, a containment arrow rest for a compound bow, which Steve patented nearly three decades ago with his friend and business partner, Ike Branthwaite. Together, they started Carolina Archery Products in 1999 and would later sell the business to Bear Archery. Selling the company allowed Steve to spend more time outdoors and with his family. "It gave me the opportunity to homeschool my kids, have a farm, and spend a lot of time in nature. My son and I also through-hiked the Appalachian Trail," Steve said. In many ways, the Whisker Biscuit allowed him to reconnect with his experiences as a child growing up on 25 acres of woods in rural Virginia. "I would be gone all day, and it wasn't uncommon to not be back until after dark," he said. "My parents really had no issue with that." Steve remembers one day walking into the house after hours being outside, and sitting down on the couch. When he stood up, the couch was covered with tadpoles. Little did he know, he brought them home in his pockets after swimming in his clothes in the nearby beaver pond. "My parents tolerated all kinds of crazy that would not be tolerated today," he laughs.

Neither of his parents hunted, but it was all that he wanted to do as a boy. As an adult, he's had many conversations with people that don't agree with hunting. But instead of debating the issue, he likes to give people resources for further information, like Aldo Leopold's, *A Sand County Almanac*. Steve deeply connects with Leopold's land ethic as a hunter and farmer. "We are part of the wildness of the universe. We like to think we have tamed nature, yet we have failed to see that we are part of it," Steve said.

Steve looks for what needs the most help in the world around him. "The things that are most neglected are the things we take for granted," Steve said. You don't have to live long in this world to see that we take our natural environment for granted.

When Steve's kids were around four and five years old, he would take them on trash cleanup walks to remove litter along the roadway near their home. The bags would be filled to the brim with trash by the end of the walk. But when they returned the next day, his kids were discouraged to find that it was like they were never there the day before. "We aren't entitled to throw our trash out the window. We have a responsibility to clean it up," Steve said. Which is why Steve supports NCWF. He sees NCWF as part of the solution to addressing habitat loss, wildlife declines, and the nature deficit within our society. Once an engineer, always an engineer.



You can join Steve and other NCWF donors in the Shaw Society by donating \$1,000 or more in a calendar year. Some people prefer to give a single gift in a year, others like to give monthly. To learn about all the ways you can join the Shaw Society and support wildlife and habitat in North Carolina today and for future generations, contact NCWF VP of Philanthropy Kate Greiner at kate@ncwf.org.



CREATE A BETTER FUTURE FOR WILDLIFE.

It's easier than you think.

Make a gift that lasts longer. Many people like to leave a gift to charity in their will because they care about causes that are important to their lives. A gift to NCWF in your will, retirement funds or life insurance ensures future generations can enjoy the wildlife and habitat that you care about in North Carolina.

ncwf.org/membership-giving/leave-a-wildlife-legacy/

Interested?

Kate Greiner, CFRE
VP of Philanthropy
P: 704/332-5696
E: Kate@ncwf.org

THE Season

Jeff Beane's GUIDE TO
NATURAL NORTH CAROLINA

North Carolina Wildlife Federation
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MAY

May 10: Mulberries are ripe. Peak bloom for several honeysuckle species. Rail nests are hatching.

May 11: First broods of American robins are fledging. Sandhills milk-vetch is blooming.

May 12: Rat snakes are mating. Spatterdock is in bloom.

May 13: Tulip-poplar is in peak bloom.

May 14: Pink-shell azalea, a North Carolina endemic known only from high-elevation spruce forests in a few of our mountain counties, is in bloom.

May 15: Hardwood trees are in full foliage over most of the state. Mourning dove nesting peaks.

May 16: National Love a Tree Day—the perfect day to hug your favorite tree. Passion vine, eastern prickly-pear, and goat's-rue are in bloom. Long-nose gar are spawning. Pine-devil moths are flying. Common nighthawks are nesting.

May 17: Our smallest native reptile, the ground skink, is nesting. Unlike our other four skinks, this species does not attend its eggs during incubation.

May 18: Least terns are nesting, mostly on our more remote beaches and barrier islands.

May 19: Diamondback terrapins, the world's only uniquely estuarine turtles, are nesting in our salt marshes. Southern beardtongue and Small's ragwort are blooming.

May 20: Sweetbay magnolia is in bloom. American alligators have begun mating.

May 20-26: National Safe Boating Week (they're called "life jackets" for good reason).

May 21: Grassleaf roseling, tread-softly, sandhills dawnflower, and Pickering's dawnflower are in bloom in the Sandhills. Pine snakes are mating.

May 22: Snakemouth orchid, white colic-root, fly poison, and yucca are in bloom in the Coastal Plain.

May 23: World Turtle Day—a great day for celebrating North Carolina's 21 native species. Purple pitcher-plants are in bloom.

May 24: Spider lilies are in bloom in the Coastal Plain.

May 25: Coal skinks are nesting in the Mountains and Foothills. Like most of our more familiar skinks, these uncommon and poorly known lizards attend their eggs during incubation.

May 26: Loggerhead sea turtles have begun nesting. Breeding is well underway for most treefrog species. Southern magnolia is in bloom.

May 27: National Sunscreen Day—celebrate outside (with sunscreen)! Common mullein, queen's-delight, and fragrant white water-lily are in bloom.

May 28: Snapping turtles are nesting. Rough-leaved loosestrife is in bloom in Coastal Plain savannas. Larvae of our official state salamander—the marbled salamander—are transforming; juveniles disperse from ephemeral wetlands into terrestrial habitats on rainy nights.

May 29: The planet Mercury reaches its greatest western elongation of 24.9 degrees from the Sun and will be at its highest point above the horizon in the morning sky. Look for the Swift Planet low in the eastern sky just before sunrise. Cecropia moths are emerging and mating. This single-brooded species is our largest moth. It's also National Learn About Composting Day.

May 30: Wild turkey and ruffed grouse eggs are hatching. Littleleaf sensitive-briar is blooming.

May 31: Our state reptile—the eastern box turtle—has begun nesting. Some females may nest more than once during a season. Several dusky salamander species are also nesting.

JUNE

June 1: Venus flytraps are in bloom in the southeastern Coastal Plain.

June 2: Galax is in bloom in the Mountains and western Piedmont.

June 3: Flame azalea, columbine, and fire pink are in bloom in the Mountains.

June 3-11: National Fishing and Boating Week (lasts nine days)—a national celebration highlighting the recreational values and traditions of fishing and boating.

June 4: Peak flight period for Belle's Sanddragon—one of our rarer dragonflies—so far, known only from a few of the large Carolina bay lakes in Bladen County. Tonight should be the best time to view the planet Venus, which will be at its greatest eastern elongation of 45.4 degrees from the Sun. Look for the Bright Planet in the western sky after sunset.

June 5: 50th anniversary of World Environment Day—a day to be especially aware of critical environmental issues, of which there are plenty.

June 6: Great-spangled fritillaries are flying. Butterfly weed and Sampson's snakeroot are blooming.

June 7: Grass pink orchid and orange milkwort are in bloom in Coastal Plain savannas.

June 8: Rosy maple moths are flying.

June 10: Buckroot is in bloom in the Sandhills and southeastern Coastal Plain.

June 11: Peak flight period for King's hairstreak, an uncommon butterfly found mostly in our Sandhills and southern Coastal Plain.

June 12: Japanese beetles are emerging.

June 13: Bluehead chubs are spawning. The large stone nests constructed by these abundant, stream-dwelling minnows are used by several other minnow species.

June 14: Rosinweed is in bloom. Ten-lined June beetles are flying.

June 15: Spotted salamander larvae are transforming; juveniles disperse into terrestrial habitats on rainy nights.

June 16: Gray's lilies are in bloom in the Mountains. Carolina gopher frog tadpoles and tiger salamander larvae are transforming in the Sandhills and Coastal Plain.

June 17: Five-lined, southeastern five-lined, and broadhead skinks are nesting. Unlike most reptiles, these lizards remain with their eggs, guarding them until they hatch.

June 18: IO moths are flying.

June 19: Peak bloom for rhododendron and mountain laurel in the Mountains. Good places to admire this floral show include Roan Mountain in Mitchell County and Craggy Gardens on the Blue Ridge Parkway in Buncombe County.

June 21: Another hot summer has arrived. Solstice will be at 10:58 a.m. EDT (1458 Universal Coordinated Time).

June 22: Sandhills thistle, Appalachian mountain-mint, and Nash's meadow-beauty are in bloom.

June 23: Spurred butterfly pea, sticky false-foxglove, and sandhill dayflower are blooming. Chickasaw plums are ripe. Eastern box turtle nesting peaks.