



North Carolina  
Wildlife Federation

FALL 2024

# Journal



## HABITAT IS HOME

A closer look at where wildlife thrives

SAY "PLIOCENE UPLIFT!": NCWF  
PHOTO CONTEST WINNERS DAZZLE

RAMPING UP: NEW NCWF STAFF ON BOARD



# Mountain Cry

BY TIM GESTWICKI, NCWF CEO

Decimated rivers, extreme flooding, unprecedented damage, obliterated habitats. These are not words I would typically use to introduce our current *Journal* to our supporters. But this column is being written four days after Hurricane Helene unleashed fury across the Southeast, particularly wreaking havoc with historic rain and flooding. Our hearts were heavy as details came forth and as we all absorbed the shock of the deadly and catastrophic impact of the storm on the foothills, western Piedmont, and of course, the western region of North Carolina. We grieve with all the people and communities caught in the wake of this disaster. In the meantime, we are listening and learning where our organization's assistance is most suited, and we will act accordingly. As hazardous conditions lessen, assessments are conducted, and information comes forth of the full catastrophic extent of this storm, we will better understand the immediate and long-term gravity we face.

By the time you read this, the search-and-rescue phase of the storm will be completed, and the recovery and restoration phases will be underway—and will be for a long time. The national media will be gone, but the story will hardly be over. Due to the massive scope and unprecedented magnitude of the storm, it is incumbent on us to be strategic and committed to coordinating with agencies, corporations, conservation partners, and our volunteers. As North Carolina's oldest and largest wildlife conservation organization, NCWF remains committed for the long haul. At the time of this printing, we will have already staged and coordinated, with our agency and corporate partners and our NCWF Community Wildlife Chapters, the largest cleanup efforts of debris in North Carolina reservoirs, lakes, and rivers in history. We will have begun gaining information and plotting out where to focus our tree and native plant restoration efforts, and which nature preserves, parks, and gamelands will need muscle and money to restore. We are gathering resources to be as impactful as we can. We all have to step up, all while keeping focus on the other conservation priorities across the state that need addressing. There will be opportunities in rebuilding to utilize nature-based infrastructure solutions, including wildlife crossings in road and bridge replacement efforts, and being smart about where, what, and how rebuilding occurs as these massive storms become more regular.


We know that trees are stronger in groups. The roots intertwine and strengthen the fabric of the forest underground. Those trees that are at greatest risk are those that are standing alone. The resilient

**Banding together for common cause is needed now more than ever.**

people in western North Carolina are not alone. Our Community Wildlife Chapters and our network of partners are strengthened by the reality that we are indeed not alone. Banding together for common cause is needed now more than ever. NCWF and our community volunteers and partners will spring into action to aid in restoring the natural resources and wildlife habitat that our communities depend upon.

Along with resilience, we look for inspiration. In the midst of this tragedy, there were many examples of heroic actions and inspirational acts of courage, kindness, and selflessness in aiding neighbors and communities in despair. Each of us finds inspiration in many ways. For some, it may be these acts of heroism. For others, it may come from scripture or mentors or art, poetry, or even dynamic leaders. For many, inspiration is drawn from nature. From simply being outdoors, perhaps in just seeing a hummingbird at a backyard flower, or majestic mountain peaks or a pod of dolphins chasing schools of minnows in the surf. Nature can be and is awe-inspiring. We need inspiration in order to move forward. To be resilient in the face of tragedy.

In this *Journal*, we hope that the images from our photo contest winners offer some inspiration. Additionally, we can all take comfort in the next generation of conservationists that will inspire us with their dedication to learning today, and the accomplishments that will come tomorrow. And inspiration is always found in our Governor's Conservation Achievement Awards. We've made it easier than ever to nominate a worthy individual, group, business, or effort. And since we have four major categories of habitat in the state, our feature in this issue details the wildlife and ecological services each provides. That should inspire our work to protect, conserve, and restore wildlife habitats.

The Old North State will come back. How long that takes is to be determined. I have heard from many of you already, asking how you can help—your generosity is also inspiring. We will need your help, as assessments and information continue to come forth, and a clearer picture emerges of how we can all work—together to restore the forests, rivers, lakes, and wildlife we all cherish. More than ever, I am thankful for the resilience and the inspiration shown already by so many pulling together. Thank you all for your time, treasure, talent, and support. If any state can weather this storm, it's the North Carolina I love. 

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*Cover photograph* Courtney Lewis took this photograph of her husband gazing off the Blue Ridge Parkway, while celebrating their honeymoon in Spruce Pine. It won the "People" category in the amateur division of the 2024 NCWF Photography Contest. Other photos, unless noted, courtesy of NCWF.

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North Carolina  
**Wildlife Federation**

FALL 2024

# Journal

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6th ANNUAL  
 NCWF PHOTO  
 CONTEST

**HONORABLE  
 MENTION**  
 SCENES, AMATEUR:  
 Kristin Rahn /  
 Lightning touches  
 down on the North  
 Carolina coast.

## NORTH CAROLINA WILDLIFE FEDERATION

- MISSION** To protect, conserve, and restore North Carolina wildlife and habitat for all.
- VISION** A North Carolina with healthy and diverse habitats and wildlife valued by all people and sustained for future generations.
- VALUES** Science-based decision making  
 Non-partisan approach to policy  
 Inclusive of broad interests and perspectives  
 Collaborative with diverse organizations and individuals  
 Committed to solutions and impact

# The BEAUTY of CHANGE

by Bates Whitaker

WILDLIFE IS VIRTUALLY EVERYWHERE, even in the midst of landscapes that are constantly in a state of change. Change can occur under the influence of natural or unnatural processes, but the diversity of habitats on the landscape—and the diversity that can be found within those habitats, allows wildlife to thrive. North Carolina Wildlife Federation’s wildlife and habitat missions take into account and proactively foster all wildlife and all habitats. Currently there is a dearth of grasslands and early succession habitat in North Carolina. Wildlife such as elk, deer, turkey, grouse, many neotropical songbirds, and the critters that crawl around in these shrubby, thicket-like habitats are underrepresented within the forest complex because of inadequate habitat. In essence, we are working for a mosaic of habitats including old-growth forests, mid-age forest stands, and early-stage understory to support a diversity of wildlife species.

For wildlife, the benefits are clear. Clear, as well, are the benefits for wildlife enthusiasts in North Carolina, who can partner with organizations such as North Carolina Wildlife Federation to work for healthy habitats. Let’s take a closer look at four of the primary habitats found in the state.

## EARLY SUCCESSION HABITAT

Succession stages start following the disturbance of a specific landscape. Such disturbances can include land clearing, development, and natural events like flooding and fires. These disturbances typically remove much of the existing plant cover, exposing the soil to sunlight. This creates an opportunity for remaining plants, dormant seeds in the soil, and newly introduced seeds to establish themselves. This initial phase in succession is known as stand initiation.

During stand initiation, pioneer plants start to appear on the disturbed landscape. These are plants that generally thrive with abundant sunlight and can spread quite rapidly, but provide essential nutrients to the soil to further the successional process. There are many types of pioneer plants that take root at this time, including various grasses (Johnson grass and sedges), wildflowers (black-eyed Susan and goldenrod), shrubs (sumac and blackberry), vines (poison ivy and Virginia creeper), and certain tree species (eastern red cedar, sweet gum, and some pines).

This stand initiation phase can last from 15 to 25 years, if left to continue in its development without further large-scale disturbance. During this phase in particular, the status of the succession stage can be heavily altered by the presence of herbivores on the landscape, including white-tailed deer, which thrive in these early and mid-succession forest stage, where browse is prevalent, easily accessible, and holds increased nutritional content.

In addition to deer, this early succession stage provides critical habitat for many wildlife species. Small mammals use brush for shelter, cover, and forage. Pollinators thrive on the prevalent blooming wildflowers and grasses in these areas. Many songbirds nest primarily or exclusively in brushy landscapes).

Early succession habitats face several threats, with the most significant being the invasion of nonnative plants and ineffective







land management. Since these early succession habitats are in a state of early development on disturbed soil, competition arises among the plant community, involving both native and invasive species. Many invasive plants spread rapidly, hindering the establishment of native species. This not only disrupts the natural succession process but also deprives native wildlife of essential and nutritious food resources.

Efforts to remove invasive species, such as those undertaken by NCWF Community Wildlife Chapters statewide, are vital for managing early succession habitats. When combined with controlled burns and other wildlife-friendly land management techniques, these efforts can significantly enhance the habitat for species that rely on early succession environments.



NANCY COZART / INDIGO BUNTING / NCWF PHOTO CONTEST SUBMISSION

### Wildlife that Depends on Early Succession Habitat

- ▶ Indigo bunting (*Passerina cyanea*)
- ▶ Northern bobwhite quail (*Colinus virginianus*)
- ▶ Old-field deermouse (*Peromyscus polionotus*)
- ▶ Cottontail rabbit (*Sylvilagus floridanus*)
- ▶ Eastern whip-poor-will (*Antrostomus vociferus*)
- ▶ Native pollinators

## MATURE AND OLD GROWTH FOREST HABITAT

At the opposite end of the succession process is the ultimate stage in the progression, known as late succession, where mature or old-growth forests are classified.

As species progress into mid and late succession stages, they enter a period in which trees reach a level of maturity and intensify their competition for resources. Their crowns, growing closer together, are buffeted by the wind, causing branches to break and smaller, less competitive trees to be displaced. As these branches and trees are removed from the overstory, light is able to penetrate through the newly created gaps and reach the forest floor, allowing dormant seeds and understory plants to re-emerge.

At this stage, certain tree species may become dominant. Over the decades, as the forest continues to mature, dominant species may shift. The duration of this phase and the transition from mid to late succession can vary widely, ranging from 60 to over 100 years before the forest enters the steady state.

The steady state is characterized by a mature forest with large, fully-grown trees, leading to the decline of early succession plants and sporadic presence of understory vegetation in the small openings where light reaches the forest floor. During this phase, the forest landscape remains relatively stable, with dominant species reproducing and excluding many other plant types. This steady state persists until the forest is disturbed by human activities or natural events.

Several wildlife species depend on the mid to late succession stage of the forest, including flying squirrels and various cavity-nesting birds.

Old growth forests play a crucial role in providing diverse habitats for wildlife, sequestering carbon to help combat climate change, and offering countless opportunities for outdoor recreation. However, these forests are facing significant challenges across the nation. They are threatened by diseases, invasive species, insects, drought, megafires, and various effects of climate change. Currently, there are about 32 million acres of old growth and 80 million acres of mature forests on federal lands. Since 2000, however, approximately 2.5 million acres of these vital ecosystems have been lost, according to the U.S. Forest Service.

This situation prompted the National Wildlife Federation and its 52 affiliates, including the North Carolina Wildlife Federation, to adopt a resolution this summer. The resolution emphasizes the importance of all forest successional stages for wildlife habitat and calls for a robust national policy to monitor, protect, conserve, and sustain mature and old growth forests on public lands, aiming to restore their distribution and enhance climate resilience.

And earlier this year, the U.S. Forest Service introduced a plan known as the National Old Growth Amendment, which aims to improve the management of older forests, ensuring they can thrive for future generations.





AMBER PARLER / EASTERN WILD TURKEY / NCWF PHOTO CONTEST SUBMISSION

### Wildlife that Depends on Mature and Old Growth Forest Habitat

- ▶ Carolina northern flying squirrel (*Glaucomys sabrinus coloratus*)
- ▶ Cerulean warbler (*Setophaga cerulea*)
- ▶ Brown-headed nuthatch (*Sitta pusilla*)
- ▶ Eastern wild turkey (*Meleagris gallopavo*)
- ▶ Wood duck (*Aix sponsa*)
- ▶ Barred owl (*Strix varia*)



DALE SUITER / LONGLEAF PINE HABITAT, EASTERN NC / USFWS

## LONGLEAF PINE HABITAT

One example of a habitat type that showcases both early and late-stage succession is the longleaf pine savanna. Thriving in sandy soil and open, sunny conditions, longleaf pine savannas are known for their diverse understory, including various grass species such as wiregrass, broomsedge bluestem, and eastern gamagrass, all growing below and among longleaf pine trees. Once abundant across the southeastern United States, longleaf pine trees were extensively harvested for lumber and pitch, leading to early issues of overexploitation with legacy impacts still seen today.

Emerging after severe droughts in the Miocene era, longleaf pine savannas originally developed as grasslands along the Eastern and Gulf coasts, providing habitat and food for grazers such as bison, early native horses long extinct, mammoths, mastodons, and giant ground sloths. This community of large herbivores played a crucial role in the ecosystem by controlling vegetation and cycling nutrients. These herbivores also shaped the mosaic landscape, maintaining wide spacing between trees for their paths, spreading seeds, and developing the understory into the diverse array of forage we recognize as a feature of the savanna today. This “mosaic” landscape changed dramatically (and regularly) as fire raked across

the 90 million acres prior to large-scale human structures. Contrary to popular belief, longleaf pine savannas are not a monotonous swath of grass and trees, but include bogs, forests, dry bushy ecotones, and swamps.

To mimic natural fire regimes critical for maintaining the health of these ecosystems, modern conservation efforts employ prescribed burning, a practice first implemented by the indigenous peoples of the Southeast. Many state agencies and private/public land stewards use controlled burns to manage vegetation and support ecosystem function. Fire is used to maintain a high diversity of forb, woody vine, and grass species in the understory, which would otherwise be outcompeted by hardwood trees whose large foliage shades smaller plants that require full sunlight to thrive. Many species rely on the heat of fire or compounds in smoke to release seed pods and kick-start germination. Fire also clears dead leaves from the ground, allowing water and sunlight to penetrate the sandy soil and be used readily by the unharmed root systems that send up new growth within weeks of a burn.

Despite the absence of extinct megafauna, longleaf pine ecosystems remain one of the most biodiverse landscapes in the world. Numerous insects, including essential pollinators, depend on these habitats for survival. Among the canopy, you



can still find spotted purples while regal fritillaries flit below in the flowering understory. The populations of these species, however, have suffered as less than three percent of the historic range of the longleaf pine savanna has been left intact.

Flying wildlife abound in longleaf pine savannas, which provide habitat and migratory pathways for over 200 species of birds, including Bachman's sparrow, wild turkey, eastern meadowlark, northern bobwhite, and brown-headed nuthatch. Among these inhabitants is the critically endangered red-cockaded woodpecker, which specifically relies on old longleaf pine trees in mature stands for nesting cavities. The loss of intact old-growth stands poses a significant threat to the survival of this keystone species. Many mammals are prominent members of longleaf pine communities, including eastern fox squirrel, bobcat, and white-tailed deer.

Considering that both early and late succession habitat types exist within the longleaf pine community, it follows that the associated threats are also present in this landscape. As mentioned earlier, controlled burning is the most effective land management practice for maintaining the health of longleaf pine ecosystems. Without regular burning, these communities face risks from invasive plant species and the decline of fire-dependent plants, which contribute to their unique habitat characteristics.

## URBAN AND SUBURBAN HABITAT

Variation in habitat types and the processes of change that they experience do not only occur in the big woods. Wildlife is resilient. Often overlooked are the species that exist closer to urban centers, what might be collectively referred to as urban wildlife.

While there is nothing biologically different from urban wildlife and wildlife that live in more rural areas (for instance, a white-tailed deer that lives in the country versus a white-tailed deer that lives in or near a city), the title "urban wildlife" better denotes a state of being for this classification of wildlife. They may not be taxonomically different from their contemporaries in the countryside, but their lives are unmistakably affected by their proximity to these urban areas.

There is much concern surrounding the fever-pitch expansion of urban centers into previously undeveloped natural areas. Urbanization, habitat degradation, and fragmentation are indeed some of the largest threats facing wildlife. But nevertheless, wildlife finds a way to push through the threatening elements of these urban spaces, particularly when steps are taken by the conservation community to make them safer and more hospitable for our urban wildlife.

In spite of—and perhaps enhanced by—the fact that wildlife exists near urban settings, urban wildlife still requires the essentials. In urban settings, these essentials can be harder for wildlife to find. That's where wildlife enthusiasts come in, to supply the habitat needs wildlife—even urban wildlife—need to thrive.

**Food** ▶ Support local wildlife by planting native species in your garden or yard. Setting up bird feeders can supplement wild bird diets, but these feeders often lack the nutrients that native plants and local prey species provide.

**Water** ▶ Install a bird bath or a small fountain with chemical-free water to offer wildlife a place to drink and bathe. Whether it's a compact bubbler or a gently flowing stream, adding a water feature significantly enhances your wildlife-friendly space.

**Cover** ▶ Incorporating sufficient cover is essential for urban or suburban wildlife habitats, especially near food and water sources. Bird feeders and water stations can attract predators, including pets, so providing nearby cover gives wildlife a safe retreat from threats and harsh weather.



FOX SQUIRREL / NCWF PHOTO CONTEST SUBMISSION

### Wildlife that Depends on Longleaf Pine Habitat

- ▶ Red-cockaded woodpecker (*Dryobates borealis*)
- ▶ Bachman's sparrow (*Peucaea aestivalis*)
- ▶ Southern hognose snake (*Heterodon simus*)
- ▶ Fox squirrel (*Sciurus niger*)
- ▶ Regal fritillary (*Argynnis idalia*)
- ▶ Post-burn datana (*Datana ranaeiceps*)



## The Science of Succession

Generally, succession occurs in three steps – early succession, mid succession, and late succession. Though this progression specifically follows the succession stages within the Piedmont region, it looks similar throughout much of the state, with some regional fluctuations and species differentiation. And these transitions from stage to stage do not occur instantaneously and one after the other, but take place over many years and through many stages of microsuccession. Each has great implications for wildlife that can fit into one or several stages of the succession process.

As noted by Duke Forest, the general timeline of forest succession in the North Carolina Piedmont region occurs as follows:



**Places to Raise Young** ▶ Different species have varied requirements for nesting. Adding birdhouses for bluebirds, barn owls, and brown-headed nuthatches enhances your habitat. Additionally, leaving brush piles on the edges of your yard can create nesting and burrowing opportunities for ground-dwelling wildlife.

By implementing these wildlife essentials, you can join a community of conservationists creating a patchwork of wildlife habitats throughout the state. North Carolina is the second in the nation for Certified Wildlife Habitats, and over 3,000 Pollinator Pitstops have been registered along NCWF's Butterfly Highway. It's all to provide the essential needs to wildlife living in and among an ever-changing world.

Make your wildlife habitat official, and certify at [certifiedwildlifehabitat.nwf.org](https://certifiedwildlifehabitat.nwf.org)



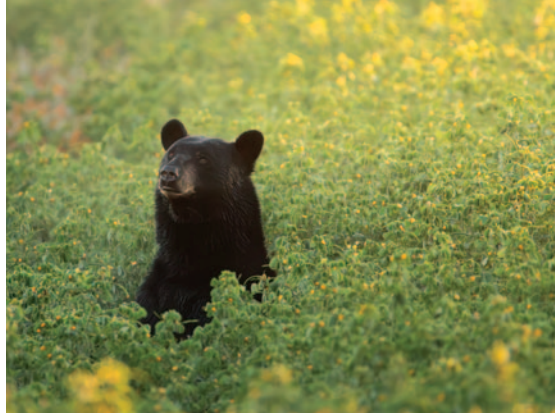
ROB COLQUHOUN / EASTERN COTTONTAIL RABBIT / NCWF PHOTO CONTEST SUBMISSION



# 6th Annual Wildlife Photo Contest

Photographers across the state perfectly captured the beauty and diversity of our state's natural resources for North Carolina Wildlife Federation's 6th Annual Wildlife Photography Contest.

NCWF received over 1,000 submissions from professional, amateur and youth photographers highlighting North Carolina's wildlife and habitat – from the coast to the mountains. Categories included Critters, People in Nature, Scenes of North Carolina and Pollinators, and were anonymously presented to a panel of 15 judges to determine who would be this year's winners and honorable mentions.



**WINNER CRITTERS, AMATEUR:** Cassia Rivera / Black bear (*Ursus americanus*) in a field of wildflowers at golden hour.



**WINNER POLLINATORS, AMATEUR:** Amy Sawyer / A ruby-throated hummingbird (*Archilochus colubris*) competing for nectar with an American bumble bee (*Bombus pensylvanicus*).



**WINNER PEOPLE, AMATEUR:** Courtney Lewis / A view of the North Carolina mountains just off of the Blue Ridge Parkway.



**WINNER CRITTERS, PROFESSIONAL:** Jacob Long / Two male elk (*Cervus elaphus manitobensis*) sizing each other up.



**WINNER POLLINATORS, PROFESSIONAL:** Jacob Long / An adult common paper wasp (*Polistes exclamans*) tending to a nest full of young larvae.



**WINNER YOUTH:** Luke Dussia / A green anole (*Anolis carolinensis*) molting its skin on a rose bush.



**WINNER PEOPLE, PROFESSIONAL:** Gavin Shwahla / A paddleboarder gliding through Topsail Island sound.



**WINNER SCENES, AMATEUR:** David Courtenay / A cypress swamp with brilliant fall colors just after sunrise.





**WINNER SCENES, PROFESSIONAL:** Gavin Shwahla / A sanderling (*Calidris alba*) hunting for food beneath a rainbow on Topsail Island.



**HONORABLE MENTION POLLINATORS, PROFESSIONAL:** Heather Harman / A ruby-throated hummingbird (*Archilochus colubris*) taking a rest at Greenfield Lake in Wilmington.



**HONORABLE MENTION PEOPLE, PROFESSIONAL:** Gavin Shwahla / A father and son fishing on Topsail Island beneath a setting sun.



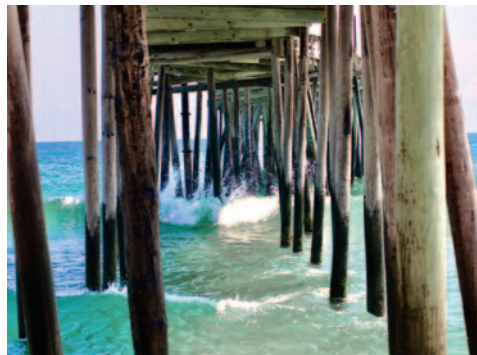
**HONORABLE MENTION PEOPLE, AMATEUR:** Jocelyn Painter.



**HONORABLE MENTION CRITTERS, AMATEUR:** Alexandra Knudson / A group of American bullfrogs (*Lithobates catesbeianus*)—called a “chorus”—gathered on the edge of a pond.



**HONORABLE MENTION SCENES, PROFESSIONAL:** Gavin Shwahla / A windblown sandy beach at Serenity Point at the south end of Topsail Island.



**HONORABLE MENTION YOUTH:** Henry Clark.



**HONORABLE MENTION CRITTERS, PROFESSIONAL:** Heather Harman / An American white ibis (*Eudocimus albus*) at Airlie Gardens in Wilmington, NC.



**HONORABLE MENTION POLLINATORS, AMATEUR:** Andrew Trenholm / A fly pollinating a false aster (*Boltonia asteroides*) on a greenway in Wake Forest.



## Nominate Your Conservation Hero

NORTH CAROLINA WILDLIFE FEDERATION has opened nominations for the 60th Annual Governor’s Conservation Achievement Awards. There are numerous categories to nominate a wide array of agency professionals, elected officials, volunteers, and organizations committed to North Carolina’s wildlife, habitat and natural resources. NCWF first presented its conservation awards in 1958. These prestigious awards are a long-standing 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—North Carolina Wildlife Federation hopes to inspire all North Carolinians to take a more active role in protecting the natural resources of our state.



“Each year we are amazed at the commitment and creativity of North Carolina citizens in protecting wildlife and wild places,” stated T. Edward Nickens, NCWF’s awards committee chair. “Many of our award winners tell us their Governor’s Conservation Achievement Award represents the high point of their career, whether they are full-time scientists or full-time volunteer conservationists.”

For 60 years, this annual awards program has brought together a diverse group of conservationists to highlight the good news about wildlife conservation across the state. “We hope it inspires others to take a more active role in protecting North Carolina’s natural resources for future generations,” Nickens said. Nominations are being accepted through January 31, 2025, at <https://bit.ly/3U9oaKa> or by using the QR code at left.

## Welcome New Staff to NCWF

To support our ever-growing commitment to wildlife habitat and conservation, NCWF recently added three staff members to the team.

**Carrie Smith, campaigns manager** • “I’m excited to join NCWF and contribute to its incredible work. With a deep respect for wildlife, I’m grateful for the chance to support initiatives like the Butterfly Highway. Using my marketing and communications skills to raise awareness for all these impactful programs feels especially rewarding. I’m excited to be part of a team that’s making a real difference for North Carolina’s wildlife and natural habitats.”

**Kara Solomon, conservation coordinator** • “Growing up in North Carolina, I fell in love with all of the state’s wild places. Through undertaking degrees in biology and environmental sustainability at Meredith College, I conducted research examining fungal infections in local amphibian populations. Through my research, I found joy in field work and sharing my curiosity about wildlife with others through outreach. While studying abroad in Costa Rica, I discovered a passion for conservation and sustainable habitat restoration which drove me to pursue a career that would help conserve North Carolina’s wild places and wildlife.”

**Page Turner, conservation coordinator** • “While working in administration of the undergraduate and graduate biology programs at UNC-Greensboro, I worked on eight research projects between the Department of Teacher Education and Higher Education and the Department of Biology. I found my passion in studying understory community dynamics of the longleaf pine savanna. My master’s coursework in sustainability introduced me to organizations that work throughout the Cape Fear River watershed, and gave me the motivation to pursue a career in conservation to protect the wildlife impacted by climate change and industry in southeastern North Carolina.”



## Scholarship Winners Announced

EACH YEAR THE NORTH CAROLINA WILDLIFE FEDERATION AWARDS GRANTS TO ASPIRING, COMMITTED SCHOLARS SEEKING TO BETTER THE NATURAL WORLD. HERE ARE THE MOST RECENT GRANTEES.

***\$2500 Alamance Wildlife Club Sponsored Grant: Sweta Dixit (N.C. State University)*** Sweta Dixit is dedicated to advancing her career in the human dimensions of wildlife conservation, with a focus on promoting human-wildlife coexistence. As a Ph.D. student, she collaborates with the USFWS on research assessing public tolerance towards red wolves and Florida panthers, aiming to improve conservation communication strategies. This summer, she served as a social research assistant at the N.C. Wildlife Resources Commission, conducting a segmentation analysis of outdoor recreationists to enhance their Recruitment, Retention, and Reactivation framework. For her master's thesis, Sweta conducted a mixed-methods study on park-revenue sharing policies, with two of three related research papers published. In her leisure time, she enjoys camping and hiking, which she says always further deepens her appreciation for nature.

***\$2500 Conservation Leadership Grant: Lauren Pharr (N.C. State University)*** Lauren Pharr aims to become a professor, mentor, and public scientist specializing in natural resources, with a focus on avian conservation and the longleaf pine ecosystem. Her current research investigates the causes of increased nestling mortality in the recently downlisted to federally threatened red-cockaded woodpecker. Lauren has authored three peer-reviewed publications and delivered numerous presentations, including 15 academic talks and 22 public engagements. Her contributions to research and conservation earned her the 2023 NCWF's Governor's Conservation Achievement Award for Young Conservationist of the Year. In addition to her academic pursuits, she is an avid birdwatcher and an award-winning science communicator.

***\$1500 Undergraduate Awards Naomi Scott (Duke University)*** Naomi Scott is a dedicated marine scientist focused on

conservation policy, particularly at the intersection of marine life and human communities. During the Salish Sea Sciences Field and Lab Science Research Program, she identified over twenty previously undocumented behaviors of the sunflower sea star. After earning her B.S. in marine science and conservation from Duke University, she aims to address anthropogenic hazards impacting marine ecosystems. With six years of volunteer experience at the Aquarium of the Pacific, she led the Teen Climate Council and created the annual Teen Climate Fest to inspire youth action against climate change. Currently a Rachel Carson Scholar at Duke, Naomi conducts research at the Duke Marine Labs and enjoys scuba diving to explore underwater ecosystems.

***Sarah Stevens (UNC-Wilmington)*** Sarah Stevens aspires to work with agencies such as the U.S. Fish and Wildlife Service, the Bureau of Land Management, and the National Park Service to help promote and protect biodiversity. Before pursuing her environmental science degree, she spent a transformative gap year exploring various conservation settings, including an organic farm in Alaska and a backcountry conservation crew in Oregon. Her experiences, which included small mammal trapping and bird banding, equipped her with valuable technical skills and interpersonal abilities essential for a career in environmental science. Passionate about fieldwork, she has engaged in genetic and geospatial analyses as well as hands-on conservation efforts. In her free time, Sarah enjoys birdwatching and herping, which allow her to connect with nature across diverse ecosystems.

***Paige Meadows (N.C. State University)*** Paige Meadows has had a lifelong passion for wildlife, inspired by her aunt, a park ranger at Kerr Lake. She aims to foster a love for wildlife in future generations, whether as an educator, rehabilitator, or wildlife law enforcement, and is

committed to highlighting women's roles in conservation. An avid hunter, Paige appreciates wildlife conservation from both ecological and population control perspectives. Currently, she works as a childcare counselor at the Piedmont Wildlife Center, where she plans and facilitates hands-on activities that promote understanding and conservation of nature. Her goal is to leave a lasting impact on aspiring wildlife conservationists.

***\$1500 Graduate Awards Kendal Paul (UNC-Charlotte)*** Kendal Paul aims to advance environmental conservation through scientific research and public education. Pursuing a master's degree, she seeks to gain expertise in stream and wetland management and urban ecology, along with valuable presentation skills and professional networks. Kendal believes her practical experiences and strong communication abilities will make her an effective scientist and educator in collaboration with those outside the natural resources field. She volunteers at a bird banding station in Raleigh, where she assists in collecting MAPS data, honing her skills in bird handling and data collection. Her ultimate goal is to contribute significant knowledge to the protection of the world's flora and fauna for future generations.

***Hannah Faye (UNC-Charlotte)*** Hannah Faye is focused on molecular conservation, aiming to merge her passion for environmental preservation with an understanding of biodiversity. Her goal is to develop targeted approaches to protect endangered species and fragile ecosystems. With experience in arachnology, including nurturing over 600 spiderlings and studying glow worms, she has built a solid foundation for her career in natural resources. This work has deepened her understanding of ecological dynamics and habitat management, emphasizing the importance of creating tailored environments for various species. Hannah's exploration of glow worm habitats has highlighted the necessity of adaptability in conservation efforts and the critical role of habitat preservation.



## HURRICANE HELENE AND THE MOUNTAINS

None of us could have imagined the catastrophic events that unfolded in western North Carolina since our last publication. In September 2024, the French Broad and Catawba river basins were overwhelmed by an unprecedented amount of floodwaters brought on by Hurricane Helene. These usually life-giving waters that provide habitat for countless species upended lives and changed the landscape of our great state of North Carolina forever. The mountains and the communities that thrive in this beautiful slice of our state are rich in culture, history, and world-renown biodiversity, and they are hurting in the aftermath of this destruction. Unfortunately, at the time of this writing, the human toll continues to rise, and the toll on wildlife has yet to be quantified.

Our hearts and minds are with our High Country Wild Chapter in the Ashe/Watauga County area, our friends in the Swannanoa and Asheville area, and the rest of the affected mountains and southwestern Piedmont regions. Until our communities in the mountains are back on their feet, our efforts to restore and enhance habitat for wildlife in the mountains through hands-on community participation will be on pause. NCWF understands that the road to recovery is a long one. Like our agency counterparts, we have pivoted to focus on supporting efforts for recovery in the mountains when we are called to do so. In the meantime, we will continue to collaborate with community partners to develop a plan to help with cleanup and restoration moving forward.

## DURHAM COUNTY HIGHLIGHTS



VOLUNTEERS HELPED PREPARE FOR A NATIVE PLANT POLLINATOR GARDEN BY PLACING CARDBOARD AND MULCH AT THE SALVATION ARMY BOYS AND GIRLS CLUB IN DOWNTOWN DURHAM.

What covers one new county, has seven leaders (and growing), and already has a few events under their belt? The new NCWF Durham Wildlife Stewards Chapter! Over the last few months, a passionate team of conservationists and wildlife enthusiasts has been hard at work forming the newest NCWF Community Wildlife Chapter. This dedicated leadership team comes armed with a wide range of backgrounds and skills, from social media marketing and graphic design experience to native plant and wildlife expertise. In October, they held their first chapter event, a well-attended social at a local brewery,

where they engaged community members in conversations about shared conservation interests and goals. The chapter hit the ground running by hosting garden workdays, native planting events, and invasive species removals throughout Durham County. If you are in the Durham County area and are interested in joining this energetic new chapter, email V.P. of Conservation Partnerships at [natalie@ncwf.org](mailto:natalie@ncwf.org), and follow the Durham Wildlife Stewards on social media to stay in the know of upcoming opportunities.

## SOUTHEASTERN NC UPDATES



LESS THAN A WEEK AFTER HISTORIC FLOODING IN SOUTHEASTERN NORTH CAROLINA, 21 KAYAKS WEAVED THROUGH A WETLAND FOREST, WHERE THE WATER SWALLOWED THE BASE OF TREES FAR BEYOND THE CREEK BED.

On September 21, the Southeastern Swamp Stewards in Columbus County, one of NCWF's newest Community Wildlife Chapters, were hosted by the Coharie Tribe for a guided tour of the Great Coharie River and Coharie Tribal Center. Less than a week after historic flooding in southeastern North Carolina, 21 kayaks weaved through a wetland forest, where the water swallowed the base of trees far beyond the creek bed. Our Coharie partners identified plant and bird species, beaver dams, and shared music with the river as fish jumped under the flash of kingfishers. Following the river tour, participants learned the history of the Great Coharie River Initiative around the display of a 650-year-old dugout canoe at the Coharie

Tribal Center. In 2019 The Coharie Tribe was awarded Water Conservationists of the Year by NCWF for their community-led effort in restoring the Coharie River so it is our pleasure to continue to foster a partnership for the future of the people, wildlife, and habitat of southeastern North Carolina.

## CHECK OUT OUR CHAPTERS!

For more information on how you can participate, email [natalie@ncwf.org](mailto:natalie@ncwf.org).



CHARLOTTE WILDLIFE STEWARDS



CONCORD WILDLIFE ALLIANCE



DURHAM WILDLIFE STEWARDS



HABITAT BUILDERS (Western Union County)



HAWK (HABITAT AND WILDLIFE KEEPERS) (Matthews)



INNER BANKS WILDLIFE (Washington)



LAKE JAMES AREA WILDLIFE AND NATURE SOCIETY (Nebo)



LAKE NORMAN WILDLIFE CONSERVATIONISTS



LOWER CAPE FEAR WILDLIFE



NEUSE RIVER HAWKS CONSERVATIONISTS (Wake Forest)



PAWS (GASTON COUNTY PIEDMONT AREA WILDLIFE STEWARDS)



SOUTHEASTERN SWAMP STEWARDS (Whiteville)



SOUTH WAKE CONSERVATIONISTS (Fuquay-Varina, Raleigh)



TRI-COUNTY CONSERVATIONISTS



UNION COUNTY WILDLIFE CHAPTER



WILDLIFE HABITAT STEWARDS (Northeastern NC)



# Charlie Shaw Society

Carol Buie-Jackson grew up in rural north Florida with lots of free time to get outside and explore the ponds and swamps. This is one reason why she invests in North Carolina Wildlife Federation as a Shaw Society member. She values the emphasis placed on protecting wildlife and habitat and connecting people with nature and conservation education.

“NCWF has given me a way of life,” said Carol. It all started with installing a Certified Wildlife Habitat. She then began to volunteer, helping others do the same. Carol and her husband, Jay Jackson, own Bird House on the Greenway, a birding and wildlife enthusiast stores in Charlotte. “NCWF covers the entire breadth and depth of wildlife and habitat in North Carolina,” said Carol. “If you hunt with cameras versus guns and fishing rods, or if you’re into gardening, plants, and restoring ecosystems, NCWF is a really big tent with a lot of interests and passions.”

NCWF greatly appreciates all the time, talent and treasure Carol has invested in protecting wildlife and habitat in NCWRC North Carolina. If you would like to join her as a Shaw Society member, contact NCWF Vice President of Philanthropy, Kate Greiner, in Charlotte at 704-332-5696 or [kate@ncwf.org](mailto:kate@ncwf.org).

Members in the Charlie Shaw Society are our most dedicated supporters—generous members who have made a commitment to the work and programs of North Carolina Wildlife Federation through an annual contribution of \$1,000 or more. Gifts can be made in one lump sum or in any number of smaller contributions within a calendar year, and can be directed to any Federation program that is of interest to the donor.



CHARLIE SHAW SOCIETY Donor Story

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[www.ncwf.org/legacy](http://www.ncwf.org/legacy)



*Interested?*

Kate Greiner, CFRE  
VP of Philanthropy  
P: 704/332-5696  
E: [Kate@ncwf.org](mailto:Kate@ncwf.org)



# The Season

Jeff Beane's GUIDE TO  
NATURAL NORTH CAROLINA

North Carolina Wildlife Federation  
1024 Washington Street  
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## DECEMBER

**December 7-8:** 36th annual Core Sound Decoy Festival, Harkers Island. For details, visit: <https://decoyguild.com/decoyfestival/schedule/>.

**December 12:** Winter hummingbirds are often vagrants of species other than our usual ruby-throats. The rufous hummingbird is most common, but others turn up occasionally.

**December 13-14:** Geminid meteor shower peaks. This shower usually produces a good show. Best viewing should be after midnight.

**December 14-January 5:** Christmas Bird Counts will be held statewide for the 125th year. To participate in the world's largest and oldest organized wildlife survey, contact your local Audubon chapter or the Carolina Bird Club, [www.carolinabirdclub.org](http://www.carolinabirdclub.org).

**December 15:** Tiger and Mabee's salamanders begin breeding in the Sandhills and Coastal Plain.

**December 16:** Black bears begin their winter dormancy but may be active during warm periods, or throughout winter if food is plentiful.

**December 21:** Winter is here! Solstice is at 4:20 a.m. EST.

**December 21-22:** Ursid meteor shower peaks. Best viewing should be just after midnight.

**December 25:** Christmas fern and running-cedar still add holiday green to the forest floor. In the otherwise bare hardwood canopy, there's mistletoe (sometimes it pays to stand under it). Also, Mercury reaches its greatest eastern elongation from the Sun—the best time to view the swift planet, which will be at its highest point above the horizon in the morning sky. Look for it low in the east just before sunrise.

**December 27:** Huge flocks of double-crested cormorants along the coast are an impressive wildlife spectacle.

**December 29:** Yaupon holly berries are ripe. Black bear cubs are being born.

**December 31:** Yellow-rumped warbler flocks frequenting the red-cedar and wax-myrtle groves along the coast sometimes conceal other overwintering warbler species. And amid the dunes, some hardy wildflowers, like Indian blanket and some asters and sundrops, are still blooming.

## JANUARY

**January 1:** Possible New Year's resolution: spend more time outdoors!

**January 2:** Most butterflies have migrated, hibernated, been killed by frost, or are overwintering as pupae, but on warm days, especially in the Coastal Plain, hardy species like common buckeye, variegated fritillary, monarch, red admiral, and American lady, may be flying.

**January 3-4:** The Quadrantids—the year's first major meteor shower—peaks tonight. Best viewing should be after midnight.

**January 6:** Coastal waterfowl populations are peaking. Our coastal refuges offer good hunting and viewing opportunities.

**January 7:** Bald eagles are laying eggs.

**January 9:** Many small mammals sleep during winter, but shrews are active in tunnels underground or beneath surface litter or snow. Their high metabolism requires eating more than their weight in insects, worms, and other food daily.

**January 11:** White-tailed deer are shedding their antlers. Great horned owls are nesting.

**January 14:** Barred owls begin nesting.

**January 16:** Mourning doves are beginning courtship. Mars is at its closest approach to Earth, brighter than any other time of the year, and visible all night—the best time to see and photograph the red planet.

**January 16-19:** The Carolina Bird Club will hold its winter meeting at Emerald Isle. For details, visit [www.carolinabirdclub.org](http://www.carolinabirdclub.org).

**January 19:** Snow geese along our coast are a not-to-be-missed wildlife spectacle. Pungo Unit of Pocosin Lakes National Wildlife Refuge is a good place to catch that show. Watch flocks carefully—they often include smaller and less common Ross's geese.

**January 21:** Huge winter flocks of red-winged blackbirds, common grackles, and brown-headed cowbirds are spectacular to witness. Rarities like Brewer's or yellow-headed blackbirds are occasionally mixed in. Our large coastal refuges are good spots to view these phenomena.

**January 27:** Opossums and raccoons are mating. Watch for humpback whales, harbor seals, and other marine mammals along the coast.

**January 29:** Wood frogs, highly freeze-tolerant, breed during winter rains in the Mountains and Foothills.

**January 31:** Upland chorus frogs are calling in the Piedmont; Brimley's, southern, and ornate chorus frogs in the Coastal Plain; and spring peepers nearly statewide. Southern two-lined salamanders are nesting.

## FEBRUARY

**February 2:** World Wetlands Day—a good time to visit and appreciate your favorite wetland. Visit <http://carolinawetlands.org/> to learn more. Groundhogs are typically still hibernating, so you probably won't see one looking for its shadow.

**February 4:** Atlantic sturgeon are migrating upriver to their spawning areas.

**February 7:** Spotted and mole salamanders breed in temporary woodland pools with the first substantial rains.

**February 9:** Male striped skunks are moving in search of females. Northern cardinals and song sparrows have begun singing their spring songs.

**February 11:** Mourning cloaks may be seen flying on warm winter days. These interesting butterflies overwinter as adults, enjoying the longest adult lifespan—up to 11 months—of any eastern U.S. butterfly.

**February 12:** Rainbow trout are spawning.

**February 13:** Wood ducks are seeking nest sites. Carolina Sandhills salamanders are nesting. Trailing arbutus begins blooming.

**February 14-17:** Great Backyard Bird Count. For information on how you can participate in this annual global citizen-science event, visit <https://www.birdcount.org/>.

**February 15:** Courtship displays of American woodcock can be observed during late evenings.

**February 16:** Yellow perch are spawning. Skunk-cabbage blooming.

**February 18:** Four-toed salamanders are nesting. Females conceal their egg clutches in moss hummocks or sedge tussocks in ephemeral pools.