



North Carolina
**WILDLIFE
FEDERATION**

Journal

WILD LIVES □ WILD PLACES

Fall 2021



WINNER WINNER

Highlighting conservation achievements for 2021

HOW BLACK BEARS ARE ADAPTING TO URBANIZATION

PHOTOGRAPHY CONTEST & GOVERNOR'S
CONSERVATION AWARDS WINNERS



Let the **Good Times** Roll

BY TIM GESTWICKI, NCWF CEO

I realize that life for each of us looks different, and comes with its own unique ups and downs. For sure there are problems in the world and no one's life resembles an episode of *The Andy Griffith Show*. Native son Griffith, a life-long member of the North Carolina Wildlife Federation, always solved the issue at hand over an Aunt Bea cookie or a Barney Fife chuckle. At NCWF, conservation challenges don't end after a half hour, and we are often so engrossed with the work at hand that we rarely celebrate sufficiently any progress made. Typically, we just jump headlong into the next foray.

That comes with the territory when so many issues face wildlife and habitat and when dedication to making a difference is so high. Too often, we focus on the negative. Not in a sky-is-falling approach, but with the serious realization that we have many solemn conservation challenges to overcome. "If you can't say something nice, don't say anything at all" is a good mantra most of the time. Often, we find ourselves having to modify that notion by pointing out exploitation and commercialization of natural resources, or by calling out window dressing "solutions" that fall short of meaningful conservation outcomes.

But this *Journal* features celebration. It's packed with positive news to lift our spirits and help us all focus on the beauty of nature and the commitment of those working for it daily. Within these pages we are recognizing efforts, accomplishments, and progress in moving the conservation ball down the field. We are shining a light on excellence. We are providing hope with conservation wins and historic momentum in the legislative arena. And we are amplifying science-based wildlife management and efforts to connect people to nature.

This is a period to reap what we all collectively sow. A time to celebrate. We all can succumb to discouragement and being downtrodden. That's human nature, and it's an accepted part of the conservation arena where the pace of progress can be slow. When the going gets especially tough, some of us will head to the park for a stroll, the woods or lake for peace, or simply the porch to hear the birds sing. A little pick-me-up. A little reboot. So, enjoy a few recent celebration-worthy and inspiring stories.

Let's begin with the excellence exhibited by this year's Governor's Conservation Achievement Awards, which brings together diverse groups of conservationists to highlight wildlife conservation achievements and inspire others to take a more active role in protecting North Carolina's natural resources for future generations. They all bring hope and celebratory stories of accomplishments.

Our group of scholarship winners will follow past winners as leaders in conservation management, academia, and advocacy. The images of our photo contest winners capture awe-inspiring species and places. We tout our collaborators—those that are cleaning waterways of litter and re-planting habitat across North Carolina and those working together to connect people to nature in fun, rewarding ways. And we hail accomplishments in land and water conservation with historic legislative victories.

We won't pretend to act as if we are the eyes of the world, nor our brothers' keeper, but we will do our very best to provide a voice for the voiceless, be protectors of public trust resources, and provide ongoing possibilities to engage in conservation solutions for all. Let's pause for a moment to enjoy, exhale, and appreciate all of nature and what it means to each of us. Time to value each sunrise and each sunset. Appreciate each first fish caught, every soda can picked up, all bluebird nest boxes erected, each acre conserved, and every animal. Nature renews and delights us. Thanks to you all, let's celebrate.

Feels good, doesn't it?

Now, let's talk about marine fisheries reform. 

This *Journal* is
packed with positive
news to lift our
spirits and help us
all focus on the
beauty of nature.

STAFF

Mary Bures, Great Outdoors University Director
Dom Canavaro, Development and Operations Director
Dr. Louis Daniel, Senior Marine Scientist
Manley Fuller, Vice President Conservation Policy
Tim Gestwicki, Chief Executive Officer
Kristine Goodyear, Communications and Marketing Director

Kate Greiner, Vice President of Philanthropy
Fred Harris, Natural Resource Specialist
Sarah Hollis, Membership and Outreach Manager
Tara Moore, Director of Conservation Partnerships
T. Edward Nickens, Communications Editor
Madison Ohmen, Conservation Coordinator
Katerina Ramos, Refuge Volunteer and Programs Coordinator
Dr. Liz Rutledge, Director of Wildlife Resources
Greta Salem, Office Manager

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Cover photograph Northern cardinal and American beautyberry are a classic Carolina combo. Nice work by Rohan Yadav, winner in the Youth Category of our NCWF Photography Contest! Contents photograph Buck / ©iStock.com / CoreyFord. Other photos, unless noted, courtesy of NCWF.

CONTACT

NCWF Raleigh office: (919) 833-1923
1024 Washington Street, Raleigh, NC 27605
NCWF Charlotte office: (704) 332-5696
1346 St. Julien Street, Charlotte, NC 28205



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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.

Winning for Wildlife





Hard work and unflagging supporters keep NCWF's policy agenda moving forward.

No serious discussion or on-the-ground effort for the conservation of elk, owls, monarch butterflies, trout, or turkey can effectively occur without a focused understanding of habitat and the needs each species requires to flourish. They're similar to what humans need to thrive in their own habitat: The trinity of land, water, and air. Whether the habitat supports species for hunting and fishing, watching and photographing, or for ecological services and the health of the planet, habitat is the foundation for wildlife and natural resource management. Habitat is the currency for all conservation.

NCWF works for land and water conservation whether those efforts take the form of public acquisition of gamelands or support of wildlife habitat initiatives on private lands. Forest or field, public or private, high country or cypress-ringed swamp, land is where conservation starts for wildlife. Thus, increasing public land and habitat conservation remains a top priority. Mechanisms for such work can include investments in public lands, protections of current public lands, and engaging more people in restoring habitat and nature-based solutions for flooding and ocean rise.

Thankfully, great progress is being made. Here are the stories of NCWF's conservation efforts that are having a significant positive impact on the wildlife and wild places of North Carolina.

The Foundational Funds North Carolina's natural resource trust funds are the cornerstones for conservation in the state, from the mountains to the coast. There are three primary funds. The Land and Water Fund is the primary source of grants that support hundreds of local governments, state agencies, and conservation nonprofits in their efforts to address water pollution and conserve lands that are ecologically, culturally, or historically significant. The Parks and Recreation Trust Fund supports land acquisition and improvements within the state's park system, including local and state parks as well as public beach access. The Agriculture Development and Farmland Preservation Fund provides funding to support working family farms through conservation easements on threatened farmland and agricultural development projects.

In this session of the General Assembly, the Federation, along with our partner Land for Tomorrow, doubled up on advocacy efforts to significantly increase funding for the trust funds since investment had dwindled since the peak period of 2008. Both the Senate, House and Governor's budgets all included \$100 million in both the Land and Water and Parks funds. As this Journal goes to print, the budget news is historic, involving a two-year increase in both funds at over \$100 million in recurring and non-recurring funding. In addition, \$30 million in funding for trail completions is included. "These investments are a significant step forward for land, water and outdoor access conservation in North Carolina," said Manley Fuller, NCWF vice president for policy. "The consensus support in all three chambers of our government shows recognition of the important role that land and water conservation play in our economic and public health." The

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need is evidenced by a recent study by RTI International that found that projected growth will lead to the loss of 2 million acres of the state's undeveloped land in the next three decades. It also points to the role that undeveloped lands play in flood protection, buffering of mission-critical military bases, and providing places for people to recreate.

Investing in public lands boosts the state and local economy. In fact, North Carolina's outdoor economy is a critical foundation for a vibrant and sustainable financial future for the state. Spending on outdoor recreation in the state provides more dollars than the banking, finance, and insurance services combined.

Flooding and Resiliency Take Center Stage Legislators are now taking a serious look at the need to invest in floodplain and wetland protections, flood area relocations, coastal habitat protections, and climate resiliency programs. The Disaster Relief and Mitigation Act was introduced this General Assembly session and incorporated into the state budget. Conservationists hailed this move. "We applaud this significant funding that will provide dollars for flood resilience blueprints, local capacity and transportation resiliency studies, land and water funding, and incentives for private landowners," said Fuller. "The resilience tools and strategies will provide coastal, Piedmont, and western communities with the resources to plan for future flooding events by investing in making the state more resilient and reducing the risk of catastrophic flooding."

Resilience priorities provided include:

- Establishment of statewide flood resiliency blueprints
- Investments in the Land and Water Fund for projects that reduce flood risk
- Permanent positions at the Division of Coastal Management for the Resilient Coastal Communities program
- Funding for flood risk reduction projects
- Funding for stormwater quality and quantity projects with an emphasis on nature-based solutions

"This is one of the largest proactive statewide investments in flood mitigation that North Carolina has ever made," majority leader John Bell told members of the House. "It will help us get out of the costly cycle of spending after disasters. We know that every dollar spent on pre-disaster mitigation saves dollars in the future." Reducing flooding and increasing resiliency is a huge win for conservation.

Tuckertown Victory When the N.C. Wildlife Resources Commission announced its purchase of 2,424 acres, including 31 miles of shoreline along the eastern shore of the Tuckertown Reservoir in Davidson and Montgomery counties, conservationists and public lands advocates were thrilled. On the shores of Tuckertown lay the Alcoa Game Lands, and nearly 80 percent of North Carolina's population reside within 100 miles of these game lands. The Wildlife Commission, Three Rivers Land Trust (TRLT) and The Conservation Fund worked for years, with many conservation partners, including NCWF, to permanently conserve these game lands for future generations. With the completion of this acquisition, the Wildlife

Commission announced the formal name change of these lands to the Yadkin River Game Land, to reflect the vicinity of the game land to the Yadkin River.

"The conservation of the Alcoa lands on the eastern shore of the Tuckertown reservoir is a momentous win for conservation," said Travis Morehead, executive director of Three Rivers Land Trust, an NCWF affiliate. "What that conservation win translates into for the people of North Carolina is cleaner water for the local consumers in Albemarle, Concord, and Kannapolis that receive their municipal water from Tuckertown. It's a win for the local outdoor economy that relies on the public recreation that takes place on Tuckertown, whether it be hunting, fishing, or paddling. And it's a win for those who love unspoiled views and public recreational opportunities, whether you're a visitor or a local resident."

Additionally, the U.S. Fish and Wildlife Service and North Carolina Land and Water Fund were critical partners for the project, which have more than a 30-year history of providing the public opportunities for hunting, fishing, and wildlife-associated recreation in the Piedmont.

The clock began ticking in 2019 to raise the \$8.5 million needed to acquire the property for perpetual conservation. Three Rivers Land Trust and The Conservation Fund worked with the Wildlife Commission to lead the private fundraising effort to ensure these lands remained protected and publicly accessible. This collaborative project brought federal, state, non-profit, family foundation partners and general private donors together, including the U.S. Fish and Wildlife Service Wildlife Restoration Program, N.C. Land and Water Fund, Mr. Rednecheck, Brad Stanback, Jim Cogdell, Ducks Unlimited, Environmental Enhancement Grants Program, Cannon Foundation, Louis Eubanks, F&M Bank, Carolina Bird Club and many other generous private donors.

RAWA on the Roll North Carolina is the first state to have both senators sign on to the most significant wildlife conservation bill in half a century. Senators Thom Tillis and Richard Burr are co-sponsoring the Recovering America's Wildlife Act. The bipartisan bill would devote \$1.4 billion annually to state wildlife local agencies—including around \$24 million to North Carolina—to prevent wildlife species from becoming endangered. Nearly 500 North Carolina species of concern would benefit from the bill, including the Carolina northern flying squirrel, gopher frog, Appalachian cottontail, bog turtle, and zigzag salamander. "Our delegation support demonstrates that North Carolina leads the way once again and shows that wildlife conservation, and conservation more broadly, can still truly be one of the bipartisan issues in this Congress," says Dr. Liz Rutledge, director of wildlife resources for the Federation. Nine of North Carolina's House representatives are among the bipartisan supporters co-sponsoring a companion bill in the House: Republicans David Rouzer (NC-7), Patrick McHenry (NC-10) and Richard Hudson (NC-8) and Democrats Deborah Ross (NC-2), David Price (NC-4), Kathy Manning (NC-6), G.K. Butterfield (NC-1) and Alma Adams (NC-12). 

One **BiG** Night

Conservation Achievement Award Winners Honored at Gala



57th
ANNUAL

Conservationists honored with the North Carolina Wildlife Federation's 57th Annual Governor's Conservation Achievement Awards serve as our wildlife and habitat ambassadors, meeting the challenge of managing public lands that are filling up with new hikers, campers, birders, paddlers, hunters, and anglers. Awards were recently bestowed during a gala banquet at the Embassy Suites in Cary. "The 18 agency professionals,

elected officials, volunteers, and organizations we celebrate through this program have been in the choir for the long haul," said award chair T. Edward Nickens during opening remarks. "They've long loved the outdoors and cherished the wild lives that live just outside our windows. They are not newbies to a paddle or a fly rod. They understand their shared citizenship with the brook trout, the butterfly and the longleaf pine."

And they also understand their impact as a powerful opportunity to expand North Carolina's conservation constituency.

At the event, NCWF board chair John Hairr and N.C. Wildlife Resources Commission executive director Cameron Ingram presented honorees with specially made wildlife statuettes following a message of appreciation from Gov. Roy Cooper.

"Your commitment to North Carolina's wildlife, habitats and natural resources is clear, and our state is better off because of your work," Cooper said. "Protecting our state's natural resources is critical, not only for the beauty of our state but also for our economy. North Carolina has unique resources, and it's important that we protect our state's wildlife. By investing in clean water, expanding clean energy, and protecting waterways and greenways, North Carolina can continue to thrive."

First presented in 1958, the Governor's Conservation Achievement Awards are the highest natural resource honors given in the state. The annual program brings together diverse groups of conservationists to highlight wildlife conservation achievements to inspire others to take a more active role in protecting North Carolina's natural resources for future generations. **NCWF**

2021 Awards Recipients

Conservationist of the Year
Walter Clark (Lansing)

Wildlife Conservationist of the Year
Dr. Mathew H. Godfrey (Beaufort)

Sportsman of the Year
Chris Williams (Princeton)

Land Conservationist of the Year
John Isenhour (Salisbury)

Water Conservationist of the Year
Chandra Taylor (Durham)

Forest Conservationist of the Year
William "Buck" Vaughan (Raleigh)

Marine Resource Conservationist of the Year
Rick Sasser (Goldsboro)

Environmental Educator of the Year
Jonathan Marchal (Asheville)

Conservation Organization of the Year
Black Folks Camp Too (Brevard)

Legislator of the Year
John Bell (Goldsboro)

Business Conservationist of the Year
Leaf & Limb (Raleigh)

Natural Resources Scientist of the Year
Dr. Nils Peterson (Raleigh)

Wildlife Volunteer of the Year
Ernie McLaney (Charlotte)

Public Lands Conservationist of the Year
Hugh Blackwell (Valdese)

NCWF Chapter of the Year
Concord Wildlife Alliance (Concord)

NCWF Affiliate of the Year
Cape Fear Garden Club (Wilmington)

Wildlife Enforcement Officer of the Year
Master Officer John M. Howell, II
(Salisbury)

Marine Patrol Officer of the Year
Sgt. Odell Williams (Swan Quarter)





NCWF serves as a partner in the Pigeon River Gorge Wildlife Connectivity Collaborative, where science is used to reduce vehicle collisions with wildlife in western North Carolina. As a proponent of responsible coexistence between humans and wildlife, NCWF takes a deeper look at the dynamics between landscape, survival, and causes of black bear mortality with experts at N.C. State University and the N.C. Wildlife Resources Commission.

The following research is from Dr. Nick Gould's four-year study on black bears, funded by the Pittman-Robertson Federal Aid to Wildlife Restoration Grant.

SURVIVAL AND MORTALITY OF URBAN AMERICAN BLACK BEARS

Cities constitute one of the newest and fastest-growing ecosystems in the world, with subsequent habitat fragmentation affecting wildlife biodiversity, population dynamics, and geographic ranges. Urban environments alter mortality risks for many species including raccoons, coyotes, mountain lions, and black bears, and the increased mortality risks primarily caused by human development include collisions with vehicles, zoonotic disease, pollutants and toxins, the use of depredation permits to remove individual animals, and illegal harvest of wildlife.

For black bears, survival is known to vary by human-induced mortality sources such as harvest and collisions with vehicles, individual characteristics like sex and age, and variation in food availability from natural and non-natural sources. Mortality risk factors may vary across rural to urban gradients due to bear movement, space use, parental investment, interactions with humans, and the ability to obtain resources. For black bears, survival is often higher for adults than juveniles due to the adult's experience securing food, shelter, and mates, as well as their ability to navigate threats posed by development. Juveniles may be at elevated risk of mortality from multiple sources, including harvest and susceptibility to collisions with vehicles. Therefore, it is critical to determine if mortality factors of black bears alter their survival and impact bear population growth in areas of increased human development and modified landscapes.

Natural food availability influences black bear spatial ecology and seasonal movements, vulnerability to hunter harvest, mortality factors like collisions with vehicles and starvation, reproductive output, and survival. Bears in rural areas respond to poor natural food availability by increasing their home range size and the distance they will travel to meet their metabolic requirements. Longer movements may expose bears to increased risk of mortality from hunting and vehicle collisions and some bears may be drawn into developed areas in search of food. Many bear studies have linked a temporal increase in use of urban areas with indices of poor natural food production, although few studies have investigated survival and cause-specific bear mortality in urban areas. Therefore, our objectives for this study were to determine the causes of mortality and estimate annual survival rates for urban black bears while considering the effects of sex, age class, harvest season, and annual variation in natural food production on black bear survival. Determining the sources of mortality for bears utilizing developed areas is important for informing the science-based management of urban bear populations.

We conducted the study in and around Asheville, North Carolina. Located in a valley bottom, Asheville encompasses 45 square miles with about 92,000 people, with the surrounding urban, suburban, and exurban population of about 200,000 people. Since 2010, the human population in Asheville increased from 83,403 to approximately 91,902, a 9.3-percent increase resulting in urban and suburban encroachment into areas considered to be high-quality black bear habitat. We captured black bears within or adjacent to Asheville city limits with the assistance of homeowner reports of non-conflict black bears on private property. We fitted bears with Global Positioning System (GPS) tracking collars and recorded age, weight, sex, reproductive class, and date and location of capture for each bear. The N.C. Wildlife Resources Commission surveyed fall hard mast production annually from August through September to estimate natural food production; these indices were based on visual estimates of the percentage of tree crowns with nuts or acorns. We converted these indices into two hard mast categories, poor (0-39.4 percent) and average (39.5-79.4 percent). No bumper crop indices were observed during the study.

Over the four-year study period, we marked 157 black bears (76 male, 81 female) and GPS-collared 107 black bears (41 male, 66 female). For the GPS-collared bears, we documented 43 mortalities. We recorded 18 mortalities (5 male, 13 female) from collisions with vehicles, 16 (11/41 or 27 percent male, 5/66 or 8 percent female) from legal harvest, seven (5/41 or 12 percent male, 2/66 or 3 percent female) from illegal harvest, and two (1 male, 1 female) from other or unknown causes. No mortalities occurred from conflict management or depredation permits. Survival models indicated that monthly survival was lower during the hunting season, lower for males relative to females, and higher for adults relative to juveniles (but not significantly). Annual hard mast production did not have an impact on survival estimates. Model-averaged annual survival estimates were 84 percent and 67 percent for adult female and

male bears, and 74 percent and 49 percent for juvenile female and male bears, respectively. The leading cause of black bear mortality in our study was collisions with vehicles, which is consistent with trends of increased non-harvest, human-induced mortality of black bears in urban environments. Legal harvest was the second greatest cause of mortality and was linked to a statistically significant reduction in survival during the regulated hunting season.

Our results highlight the risks wildlife populations face in increasingly fragmented and urbanized landscapes. It was not surprising that collisions with vehicles were a primary source of bear mortality since our study area included three major interstates (I-40, I-26, and I-240) that bisected Asheville.

Our estimates of adult female survival (about 84%) were similar to studies conducted on black bears in non-urban areas in the southeastern U.S.; however, the majority (13/18) of the deaths from collisions with vehicles were female bears. Even though we documented relatively high female mortality from collisions with vehicles, we also documented consistent reproduction by two-year-old female bears in Asheville, which

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SCIENTISTS MONITOR THE HEART RATE OF A 430-POUND BLACK BEAR WHILE RESEARCHING BEAR MOVEMENTS IN THE NORTH CAROLINA MOUNTAINS.

may offset vehicle-induced mortality, helping to maintain positive population growth. Identifying potential mortality hotspots from vehicle-bear collision data may help implement mitigation measures to reduce mortality and make future bear management recommendations.

Monthly survival of black bears in Asheville was not associated with natural food production. The possible lack of importance of fall hard mast foods on black bear survival in our study is contrary to much of the work conducted in undeveloped areas, where survival can be linked to natural hard and soft mast food production. More research on the diet composition of urban bears and how that may influence mortality risk is needed to determine how urban food sources are influencing mortality, movements, and reproduction in urban bears.

Male bears had lower annual survival rates than females, which is common across the range for black bears where hunting occurs. In our study, survival of male adult (67 percent) and juvenile (1- and 2-year-old; 49 percent) bears was significantly lower than female bears, which was likely driven by the larger proportion of male bears legally harvested (11/16), and by the fact that male bears in this study had significantly larger home ranges than females, placing male bears at a higher risk of mortality. Our results for male bears are similar to studies of black bears in undeveloped areas where hunting and dispersing-age males are most vulnerable to mortality. Juvenile female survival estimates of about 74 percent was within the range of estimates (53-93 percent) reported for juvenile female black bears in North America.

BEARS ARE AN INCREASINGLY COMMON SIGHT IN SUBURBAN AND URBAN AREAS.



Urban bears were vulnerable to legal bear harvest in the Asheville region. Monthly survival during the hunting season was lower than the non-hunting season, demonstrating that legal harvest may be an important source of mortality affecting urban bear demography. Further, legal harvest was the second leading cause of mortality, thus, regulated hunting may be a viable management tool for urban bears in the Asheville region. Although our study confirms that urban bears are vulnerable to harvest, the impacts of harvest on bear density and population growth rates are unknown due to uncertainty in recruitment, immigration, and emigration. Future research focused on regional bear abundance, demographics, and movements could provide information for an adaptive research and management program investigating how the duration, timing,

NANCY COZART



Your Legacy protects their future.

Having a will is important to ensure your wishes are fulfilled as well as to care for that which you love — family, friends, pets, and even conservation. We want to make it easy for you to take action and have partnered with FreeWill to give you a free, online tool to help you write your will in 20 minutes or less. This is the most powerful way to protect the people you love, and can even be a bold step to ensure your legacy continues to protect, conserve, and restore wildlife and habitat of North Carolina—without spending a cent today.

Get started at FreeWill.com/NCWF or contact Dom Canavarro, NCWF Director of Development, at (919) 239-3361 or dom@ncwf.org, and he'll walk you through the process and answer any questions you have. Already have a will and committed a gift to NCWF? We'd love to know, would enjoy thanking you, and ensuring your wishes are acted upon.



and number of hunting seasons affects black bear mortality, survival, and population dynamics in urban landscapes.

Our results show the need to understand the effects of urbanization on local demography and regional-level effects on population dynamics, known as source and sink dynamics. Recent studies have suggested that high mortality rates around urban areas contribute to negative population growth (sink habitats) for the regional bear population because the costs of reduced survival exceed the incurred benefits of increased reproduction in urban settings. Although the survival of bears in Asheville appears to be unrelated to fall hard mast production, we believe that bears in Asheville likely can secure year-round foods from human-related sources that influences their survival. And although annual fluctuations in natural food supplies influence vital population characteristics for black bears, the availability of consistent human-provided foods may not be benefitting the urban bear population, as mortality



NCSU'S CHRISTOPHER DEPERNO WITH A BLACK BEAR CUB.

NCSU / NCWRC

for bears in the Asheville area may be high enough to offset the high reproduction observed in this same population. However, we documented annual reproduction by juvenile female bears (less than three years of age at first litter), thus this segment of the population may be offsetting mortality in urban areas, leading to some urban areas, like Asheville, potentially being classified as source populations for supplementing the surrounding bear populations. **WF**

Please see www.ncwf.org for the full article on the survival and mortality of urban black bears.

Authors: Nicholas Gould¹, Nathan Hostetter², Colleen Olfenbuttel³, and Christopher Deperno¹

¹Department of Fisheries, Wildlife, and Conservation Biology, NC State University

²USGS, NC Cooperative Fish and Wildlife Res. Unit, Dept. of Applied Ecology, NC State University

³Wildlife Management Division, NC Wildlife Resources Commission

INVESTING IN COMMUNITY *and* THE NATURAL WORLD

"Strive not for what you hope to have but rather the kind of person you want to be," is a quote from a capstone strategy textbook that Roger Dick took in college. In many ways, for Roger, those words were the compass for building a community bank from the ground up.

"I debated being a missionary or mercenary but couldn't stop cussing, so I became a banker," Roger said jokingly.

Roger is President and Chief Executive Officer of Uwharrie Capital Corp. and Chief Executive Officer and Director at Uwharrie Bank but really sees himself as someone who builds and invests in community.

Roger believes that doing the right thing means allocating capital to provide food, drinkable water, clothing, and shelter within a community. This was part of his culture growing up. Like a lot of people that grew up in rural, farm communities, no one was wealthy, but no one went hungry either because everyone looked after each other.

Roger started Uwharrie Bank because he was concerned about the loss of local banks and what that does to local wealth and local capital.

"Our purpose at Uwharrie is to build and sustain a sense of place and unity... This is why our company supports and is proud to share some of our blessings with NCWF," Roger said.

Roger believes NCWF does a lot of the same things his bank does in the way of reaching and investing in community. "When you educate yourself about the natural world, you realize there is an investment to be made because it contributes to a better quality of life," Roger said.

"The action and steps NCWF takes to protect wildlife and our natural resources are important and makes it such a great place to live," Roger said.

Clean, drinkable water and livable, prospering communities go hand in hand. Roger feels strongly about water as a human right and that it should be respected. As a leader in the cause, NCWF recognized him as Water Conservationist of the Year at the 2014 Governor's Conservation Achievement Awards.

"Water is the most important resource we have," Roger said. He is concerned by the privatization of it. When water becomes privatized, local communities lose control over a vital public resource that can impact their wallets, health, and jobs.

"Access to clean, safe water is not a given," Roger said. "The old joke out west is, 'whiskey is for drinking and water is for fighting'."

Because of Roger's local mindset, there's no doubt that Albemarle is a great place to live with clean water to drink and air to breathe.



"The action and steps NCWF takes to protect wildlife and our natural resources are important and makes this state such a great place to live." — ROGER DICK

Oh, Snap!

North Carolina's amateur shutterbugs did a whole lot of snapping for North Carolina Wildlife Federation's 3rd annual Wildlife Photography Contest held May through July. We received an astounding 600 submissions highlighting the beauty and diversity of North Carolina's nature, wildlife and recreational opportunities — from the coast to the mountains.

Categories included Carolina Critters, People in Nature, Scenes of North Carolina, Trail Camera Captures and Youth. "Picking a single standout photo from each of the five categories was no easy task for our panel of judges," said Tara Moore, director of conservation partnerships. "Thank you so much to the photographers across the state who beautifully captured and documented North Carolina's bountiful natural resources and help all of us connect to nature through all their pictures."



▲ WINNER: Critters

Deborah Roy, Charlotte "I captured this image of a gorgeous bugling bull elk on a beautiful fall morning in the Cataloochee Valley. The air was crisp and cool, allowing the steam from his breath to be captured. The sound of bugling elk combined with stunning foliage is amazing. This is definitely a fall trip that everyone should try to experience."



▲ WINNER: People in Nature

Aaron Murray, Greensboro "That's my buddy Craig climbing. It was a climb he had wanted to do and I knew the view would be amazing up there. We headed up without hesitation to the route known as 'Edge of a Dream.' Having the Viaduct in the background made the moment even more special. The view is definitely incredible up there. It's a route along an area known as Ship Rock by the climbing community. Located between Rough Ridge and the Viaduct along the Blue Ridge Parkway. There's not an official trail and it's easy to ride by without noticing. Just before you get to the Viaduct heading south you will look for a faint path on the right along the road. It's tough going but the path will eventually take you to the view in the photo. It's normally best to park at pull off beforehand and walk alongside of parkway."

▼ WINNER: Scenes of North Carolina

Mark Kwiatkowski, Wake Forest "A trip to the Outer Banks for a chance to catch the Bodie Island Lighthouse with the spectacular Milky Way in the background was well worth the trip. The clouds cleared in the evening to see this picture come to life at 2 a.m. this past June. A must-visit state landmark next time you are traveling down Hwy. 12."





▲ **WINNER: Game Cam**

Christopher Austin, Bolivia "My wife and I travel all over this great state, looking for wildlife to photography. This beautiful fox was in my backyard."

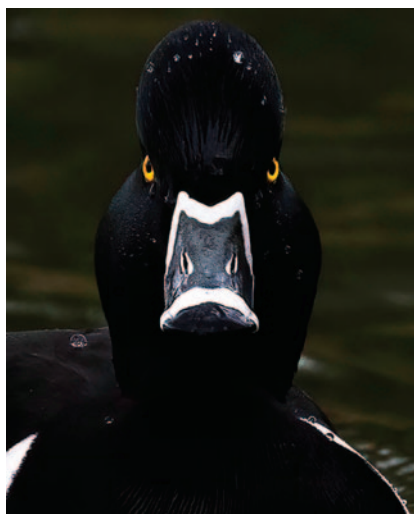
▼ **WINNER: Youth**

Rohan Yadav, Morrisville "One fall day me and my mom were at Lake Crabtree County park to do some bird photography. We were looking to capture something in the large beautyberry bush which attracted many birds in the fall. We saw many birds come and go, as they would eat something from the bush then they would go up to the tree above it and repeat that. We also got a lot of good shots where the birds would sit on the extending bush branches and eat the berries. But perhaps the best shot was this one where I captured the Northern cardinal sitting on a berry branch and enjoying the berries. It was convenient that we were sitting inside the car so that it wouldn't notice us." NCWF congratulates Rohan Yadav for this awesome cover photograph.



◀ **HONORABLE MENTION: Critters**

Carmen Cromer, Moncure



▲ **HONORABLE MENTION: Critters**

Griffin Nagle, Asheville



▲ **HONORABLE MENTION: Critters**

John McGillicuddy, Charlotte



New Board Members Announced

The North Carolina Wildlife Federation welcomes two new directors to the NCWF family.



Robert Booth is executive director of Alpha Life Enrichment Center, a Beaufort County nonprofit that focuses on empowering the local community through engagement, activism, and healthy living in the eastern region of North Carolina. A business and marketing graduate of Winston-Salem State University, Booth oversees programming on improving multicultural relations and building community activism and personal growth among young people. Over the last 30 years, the enrichment center has held voter registration events, built urban gardens, hosted classes on active and healthy living, and participated in farmer's markets. Booth is a small business entrepreneur who comes from a multigenerational family of landowners and farmers and is active with the Black Farmers and Agriculturalists Association. When he's not diversifying his skills within and outside the agricultural field, Booth loves fishing and spending time exploring the rivers in the eastern part of North Carolina. "I'm excited to join the NCWF board and look forward to putting my experience and community network to good use on behalf of wildlife and their habitat," he said. "Expanding NCWF's programs, policy efforts, and reach in the eastern part of the state is vital, especially among our community's youth populations."



Not only has **Dr. Anne Radke** lived and breathed conservation from an early age, it's in her blood: The Elizabeth City resident is a direct descendant of noted conservationist William T. Hornaday. As principal of Moyock Middle School in Currituck County, Radke practices what she preaches. The lifelong educator helps garner students' interest and passion in nature through learning. Most recently, Radke received a North Carolina Schools Go Outside Grant from the state's Outdoor Heritage Fund. The grant will help establish a nature trail on school grounds, implement a youth archery program, and engage students in river water quality sampling. Additionally, she's a lifetime member of Safari Club International and has served on numerous professional societies and civic and nonprofit boards. In 2005, she earned Environmental Educator of the Year honors through the annual Governor's Conservation Achievement Awards. "All things nature appeal to me," Radke said. "I enjoy being an advocate for all areas of the planet and using my passion for teaching, philanthropy and volunteering."

Getting People Outside

Wildlife and its habitats offer awe and wonder, but only if there are dynamic, meaningful experiences that put human communities in touch with the natural fabric of North Carolina. Outdoor experiences in backyards, fields, creeks, forests and parks provide a connection to the land, and underscore the responsibility humans have for the welfare of wildlife. NCWF works throughout the year to help provide outdoor avenues for learning, connecting and mentoring.



NCWF'S GREAT OUTDOORS UNIVERSITY PARTNERS THROUGHOUT THE YEAR FOR KIDS IN NATURE DAY EVENTS LIKE THE ONE HELD WITH OUR HABITAT AND WILDLIFE KEEPERS CHAPTER IN MATHEWS.



YOUNG ADULTS ENJOYING A DAY AT THE ARCHERY RANGE WITH FEDERATION PARTNER WAKE COUNTY WILDLIFE CLUB AS PART OF THE ACADEMICS AFIELD INITIATIVE.



COLLABORATING PARTNERS NCWRC, NCWF, AND OUR LOCAL GASTON COUNTY CHAPTER PIEDMONT AREA WILDLIFE STEWARDS PROVIDED A FULL DAY OF EDUCATIONAL TRAINING FOR PARTICIPANTS WHO HAVE NEVER HUNTED AND DO NOT HAVE MENTORED SUPPORT.



College Scholarships for Future Conservationists

Since the 1970s, the Federation has awarded scholarships to more than 300 college students from across the state to follow their dreams of studying and working in the wildlife and conservation fields. We're pleased to announce the 2021 NCWF Conservation Leadership Scholarship recipients.

Murry Burgess is pursuing a Ph.D. in Fisheries, Wildlife and Conservation Biology at N.C. State University, focusing on bird health in urban and other environments. In addition to a career in academia, her goal is to conduct research that promotes effective conservation policy, environmental justice, and sustainable wildlife-friendly cities. The scholarship will help fund her training and research on the impact of artificial light on barn swallows. Burgess is passionate about connecting people from marginalized communities to nature and actively works to increase access and diversify outdoor spaces and professions. She is currently developing a picture book series to teach science skills and inspire a love of nature among diverse kids and families.

Daniel Baron is a rising senior at Warren Wilson College who is studying Conservation Biology and Science Communication. A self-starter with a passion for avian species, Baron has conducted research and served in a variety of capacities, including the evaluation of invasives on campus, analysis of data on Appalachian cottontails, and flying squirrel and pollinator monitoring. He has a penchant for natural history, an inquisitive nature, and dedication that sets him apart as a leader. NCWF awarded Baron's scholarship in conjunction with the Alamance Wildlife Club.

Alyssa Brookhart is a rising senior at Wesleyan College studying Environmental Science and Chemistry with a focus on investigating and reducing pharmaceutical pollution in bodies of water. Brookhart plans to pursue a career as an environmental health specialist and hopes her research will influence public policy and scientific study. Additionally, she wants to increase awareness around the impact that consumer choices, personal care products, and pharmaceuticals have on the environment. Brookhart has interned at the Calvert Marine Museum, Chesapeake Biological Lab Visitor Center and Calvert Health Department, pursuing her goal and fieldwork in the face of health and mobility challenges.

Morgan Frost is a Ph.D. student at the University of North Carolina–Greensboro pursuing a doctorate in Environmental Health Sciences. She has a passion for mentoring, science communication, and working with data and performing complex statistical analyses, which may lead to a career as an environmental statistician. Frost is a trained science communicator through the Morehead Planetarium and Science Center. Frost also started and co-leads a group geared toward offering support to adults with special needs, along with other community volunteer work that benefits her local community.

Joanna Paola Orozco is a graduate student pursuing a degree in Experiential and Outdoor Education at Western Carolina University. In addition to her studies, she works as an environmental educator at The North Carolina Arboretum, creating online content and conducting in-person programming for youth. As a first-generation Mexican American who grew up with limited access to outdoor and green spaces, Orozco is passionate about making outdoor experiences available to all. She's committed to paving the way for future generations and the Latinx community through relationship-building and culturally relevant environmental programming for youth and their families in western North Carolina.

Emma "Claire" Waters is a rising senior at North Carolina State University majoring in Environmental Sciences with a double minor in Applied Ecology and Spanish. She has a passion for ecological restoration and is inspired by how a few changes in land management can change a landscape and restore formerly degraded habitats. Currently, she conducts research in conjunction with the N.C. Museum of Natural Sciences and works full-time at a greenhouse. Waters, who grew up walking in the woods and kayaking with her mom, enjoys volunteering for research and habitat projects, birdwatching, and taking pictures of North Carolina flora and fauna.

Keep it Clean, Make it Green

For decades, NCWF has been restoring habitat for wildlife species across the state. Often habitat restoration starts by removing unsightly, harmful litter from the ground and waterways. Unfortunately, plastic and other materials are often mistaken as food and ingested by wildlife resulting in starvation, entanglement, or strangulation. Some 180 marine species have been documented to ingest litter after mistaking it for food. Around 80 percent of marine litter enters the ocean via sewers, storm drains, and other inland sources.

North Carolina's habitat degradation problem isn't going away anytime soon without a collective, statewide effort to remove litter and improve habitat through native pollinator plants, shrubs, and trees. In committing to making North Carolina "Clean and Green," NCWF and its chapters and partners organize cleanups and native plantings to restore these habitats and provide food, water, shelter, and places to raise young for all of our native wildlife. Priority areas for plantings include riparian habitats as well as habitats in under-resourced communities.

Several Federation chapters have adopted streams, trails, and highways to combat the litter issue and promote habitat restoration. For example, NCWF's local Bull City Trailblazers chapter has adopted Elmira Avenue in Durham to focus on trash cleanups. In September, the local chapter collected over 400 pounds of trash from a location near their adopted trail, preventing the debris from entering the nearby greenway and Three Fork Creek. Additionally, the Concord Wildlife Alliance chapter cleaned up more than 800 pounds of litter from local waterways. While small-scale projects happen almost every week, larger projects such as Fontana Dam's annual cleanup lead to the removal of over 50,000 pounds of trash from national park and state forest lands. Every cleanup effort is regarded as valuable and counts towards reaching our statewide campaign to "Keep it Clean, and Make it Green."

THE Season

Jeff Beane's GUIDE TO
NATURAL NORTH CAROLINA

North Carolina Wildlife Federation
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Raleigh, NC 27605

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DECEMBER

December 10: Most reptiles are hibernating below the frost line, but a few species, including green anoles and several aquatic turtle species, may be seen basking on sunny days throughout the winter.

December 11: Hairy white oldfield aster is often still blooming (hence another of its common names—frost aster).

December 12: Hummingbirds seen in North Carolina during late fall and winter are often vagrant individuals of species other than our usual ruby-throats. The rufous hummingbird is the species most often seen, but others turn up as well.

December 13-14: Geminid meteor shower peaks. Bundle up and find a dark, open spot for this shower, which usually produces a good show. The best viewing should be at around 2:00 a.m.

December 14-January 5: Christmas Bird Counts will be held around the state for the 123rd year. For information on how you can participate in the world's largest and oldest organized wildlife survey, contact your local Audubon chapter or the Carolina Bird Club, www.carolinabirdclub.org.

December 15: Eastern tiger salamanders and Mabee's salamanders—two of our rarer ephemeral-pond-breeding amphibians—begin breeding with the first warm or heavy winter rains in the Sandhills and Coastal Plain.

December 16: Black bears begin their winter dormancy, but they may be active during warm periods. In some places where food is plentiful, like the large coastal refuges, bears may remain active throughout the winter.

December 18: Migration peaks for Canada geese and snow geese.

December 21: Winter is coming! In fact, it'll be here before lunch time. Solstice is at 10:59 a.m. Eastern Standard Time (15:59 Coordinated Universal Time).

December 22: Ursid meteor shower peaks. Best displays are just before dawn and just after dusk.

December 25: Most herbaceous plants have gone dormant or been killed by frost, but Christmas fern and running-cedar are still adding festive holiday green to the forest floor. Likewise, there's mistletoe in the otherwise bare hardwood tree canopy; it never hurts to stand under it and see what happens.

December 27: The huge flocks of double-crested cormorants along the Outer Banks and other portions of our coast are a wildlife spectacle worth seeing.

December 28: Mink and muskrat fur is prime. Yaupon holly berries are ripe.

December 29: Black bear cubs are being born.

December 30: Striped bass fishing can be good in the larger reservoirs like Kerr and Lake Gaston.

December 31: Flocks of yellow-rumped warblers frequent the red-cedar and wax-myrtle thickets along the coast. It can pay to check these carefully for uncommonly-overwintering warblers of other species that are occasionally mixed in. And in those coastal dunes, a few hardy wildflowers, such as Indian blanket and a few species of aster and sundrops, are often still blooming.

JANUARY

January 1: Consider New Year's resolutions to spend more time outdoors and learn more about what's happening in the natural (= real) world.

January 2: Most butterflies have migrated, hibernated, been killed by freezing temperatures, or are overwintering as pupae, but on warm winter days, especially in the Coastal Plain, lingering adults of several hardy species, including common buckeye, variegated fritillary, monarch, red admiral, and American lady, may be seen flying.

January 3-4: The Quadrantids—the year's first major meteor shower—peaks tonight.

January 5: Watch for rare visiting winter finches like red crossbills and common redpolls.

January 6: Waterfowl populations are peaking along the coast; Pea Island and Lake Mattamuskeet National Wildlife Refuges are especially good waterfowl viewing areas. The Swanquarter and Cedar Island ferries provide good viewing opportunities for sea ducks.

January 7: Bald eagles are laying eggs. Mercury is at its greatest eastern elongation from the Sun and should be at its peak visibility low in the western sky just after sunset.

January 8: Harbor seals (and occasionally other species, including hooded and gray seals) may be seen along our coast, more regularly in recent winters. Oregon Inlet is often a good place to encounter these marine mammals, either swimming or hauled out on beaches or spoil islands.

January 9: While many small mammals sleep during the cold months, shrews are active all winter in tunnels underground or beneath surface litter or snow. Their high metabolism requires that these tiny predators eat more than their weight in insects, earthworms, and other food daily.

January 10: Migration is peaking for mallards and black ducks.

January 11: White-tailed deer are shedding their antlers.

January 12: Great horned owls are nesting.

January 13-16: The Carolina Bird Club will hold its winter meeting on the Outer Banks of NC. For more information, visit www.carolinabirdclub.org.

January 14: Barred owls begin nesting.

January 16: Mourning doves are beginning their courtship flights.

January 17: Flocks of snow geese along our coast are a not-to-be-missed wildlife spectacle. The Pungo Unit of Pocosin Lakes National Wildlife Refuge is often a good place to take in that show.

January 20: Most flycatchers and other heavily insectivorous birds winter in the tropics, but the eastern phoebe sticks around all year, supplementing its usual diet of insects with berries. Pay attention to flycatchers in winter—reports of rare winter visitors like Say's phoebe and ash-throated flycatcher have increased in recent years.

January 21: The huge flocks of red-winged blackbirds, common grackles, and other blackbirds overwintering along our coast are spectacular to witness. The large coastal refuges, like Pocosin Lakes, Alligator River, and Mattamuskeet, are good spots to view these phenomena.

January 25: Watch for humpback whales and other marine mammals along the coast, particularly off the Outer Banks.

January 27: Pennsylvania bittercress is blooming.