



North Carolina
**WILDLIFE
FEDERATION**

Journal

WILD LIVES □ WILD PLACES

Fall 2020



ROAD BLOCKS

Wildlife face deadly challenges simply crossing the road. Here's what NCWF is doing about it.

FIXING THE PUBLIC TRUST

PHOTO CONTEST WINNERS!



Who Holds Our Trust?

BY TIM GESTWICKI, NCWF CEO

Conservation for NCWF is both passion-driven and science-based. We have worked for the past 75 years, and continue to do so, passionately dedicated, guided by science, and with a solemn sense of urgency while using strategy and intentionality to further conservation goals.

As I write this in late October, I have no idea who will be the next Governor, President, members of Congress or the General Assembly. Despite the final votes, we will work with any and all elected officials regardless of party affiliation. But I can't shake the feelings of divisiveness, tribalism, angst, chaos and an eroding of trust mostly if not solely due to politics.

"Politics needs a reference point outside of politics," offers Hebrew University religious philosopher Moshe Halbertal. "It needs values, it needs facts and it needs leaders who respect that there is a sacred domain of decisions that will never be used to promote political gain, only the common good." Public trust is eroded, adds Halbertal, when people believe the notion of the common good doesn't exist because everything has become politics.

For wildlife and natural resources, I'll add commercialization to the political maelstrom. From the forests and fields to the rivers and sounds of North Carolina and America, one need only to simply look at who stands to benefit from unsustainably exploiting natural resources.

Inarguably, in my opinion, the best conservation president in history, Theodore Roosevelt, summed up this exploitation and political dynamic perfectly. He stated in 1916: "Defenders of the short-sighted men who in their greed and selfishness will, if permitted, rob our country of half its charm by their reckless extermination of all useful and beautiful wild things... The greatest good for the greatest number applies to the number within the womb of time, compared to which those now alive form but an insignificant fraction. Our duty to the whole, including the unborn generations, bids us to restrain an unprincipled present-day minority from wasting the heritage of these unborn generations. The movement for the conservation of wildlife and the larger movement for the conservation of all our natural resources are essentially democratic in spirit, purpose, and method."

Trust—that's a word actually codified for natural resources. Dating back to Roman times, the public trust doctrine sets forth the principle that the community as a whole and its citizens are entitled to the benefits and enjoyment of the common natural resources of the "sovereign" (state) for their collective well-being. No one person may take or be given exclusive or proprietary rights to these resources. All citizens shall have equal right and access to the public trust resources.

The public trust doctrine is the basis for the North American Model for Fish and Wildlife Conservation which sets forth the principle that fish and wildlife resources belong to all the people and are to be managed by the state in the best interests of all based upon principles of scientific management and the concept of equal access and fair chase. Without these basic principles to guide the development of modern fish and wildlife management programs at the state and federal levels, we could not have the progressive programs of today based upon science, the welfare of the resource, and the best interests of all the public. In other words, we would have chaos and commercialization.

Trust. We are grateful for the investment you make and the trust you have in us to steward your contribution support wisely and to affect.

Trust. Politicians must uphold natural resources for all.

Trust. Your Federation will work ever diligently to remove politics from the conservation equation.

Trust. The greater good will prevail; it must to ensure democracy now and for the future. **NCWF**

Fish and wildlife
resources belong
to all the people.

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WILD LIVES □ WILD PLACES

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NORTH CAROLINA WILDLIFE FEDERATION

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

VISION Our stewardship will result in a North Carolina with bountiful and diverse wildlife, including all species of wild flora and fauna, that is valued by its citizens and elected officials, 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.



OVER, UNDER, AROUND

Connecting Habitat Saves Lives

by Liz Rutledge Ph.D., Director of Wildlife Resources

NUMEROUS WILDLIFE SPECIES around the world are in decline or imperiled due to habitat loss and fragmentation, much of which results from development and deforestation. Road networks span millions of miles, which divides large, contiguous areas of habitat into smaller fragments, increasing the risk of animal mortality from vehicle-wildlife collisions. Not only do these collisions claim the lives of more than one million animals per day in the United States, these events cost tens of millions of dollars in damages and injuries, and loss of human life. As human populations continue to grow, the demand for homes, businesses, and transportation networks rises, creating an increasingly more fragmented landscape where human infrastructure and wildlife needs are not always compatible. However, proactive transportation planning and habitat connectivity can improve wildlife species' ability to navigate this patchwork landscape.

To further understand this issue, we must think about the effects vehicles and roads have on animal behavior. Naturally, wildlife response will vary by species and by individuals within a species. Roads fragment habitat and create physical barriers as well as noise barriers for animals. Some potential variables influencing animal behavior may include the width of a road, amount of traffic, the level of noise produced by the traffic, time

of day of the traffic, the type and density of roadside vegetation, and the potential presence of physical barriers used to separate lanes. These factors may influence whether or not an animal attempts to cross a roadway, and if so, where they cross, and at what time of day or night crossing events occur. Wildlife mortality on roads is likely underestimated due to the quick work of scavengers, the extent of destruction of smaller animals such as frogs and salamanders, and the chance injured animals like white-tailed deer or black bear succumb to their injuries at locations out of view from the roadway.

Many times, white-tailed deer are the first species people think of when asked about vehicle-wildlife collisions in our state; however, mortality events on roads can involve a variety of species and the frequency of mortality events can vary by location and time of year. Insects such as bees and butterflies, reptiles and amphibians like salamanders, snakes and turtles, birds, small mammals including opossums and raccoons, and large mammals like black bear or elk are all subject to vehicle-wildlife collisions. With approximately 80,000 miles of state-maintained highways in North Carolina combined with projected human population growth, it's imperative we implement effective mitigation strategies in the interest of wildlife conservation and diversity.



WILDLANDS NETWORK AND NATIONAL PARKS CONSERVATION ASSOCIATION



LEFT: WITH NEARLY 80,000 MILES OF NORTH CAROLINA HIGHWAYS, LARGE MAMMALS LIKE BLACK BEARS ARE AT RISK FOR VEHICLE-WILDLIFE COLLISIONS.

RIGHT: BLACK BEAR ENTERING A CULVERT UNDER A ROADWAY.

WHY DO ANIMALS MOVE? For some of the same reasons that people do. We travel to grocery stores in search of food, go on dates in search of a potential mate, and make trips to large box stores for resources we believe will help sustain our everyday lives. Similarly, wildlife moves to fulfill life functions. Wildlife may travel in search of food, new territory, a mate, cover, water, or other habitat type. It's important to remember that wildlife movements and the amount and type of contiguous habitat needed to meet resource requirements occur at different scales and can vary temporally as well. Take for example, the differences in size of a caribou migration versus a white-tailed deer's home range, or a field mouse's core area of use. Each species may also have resource needs that can change daily, seasonally, or over the course of years.

Often, growth of animal populations is dependent upon or limited by the amount of available, suitable habitat, so loss of relatively small patches of land can greatly influence a species' ability to fulfill its biological needs and survive. A number of currently threatened and endangered species rely on specific attributes of habitat to fulfill biological processes and are unlikely to increase in number unless suitable habitat is increased or the quality of habitat is improved. Fire-dependent species are an example of wildlife that are not only dependent on available habitat, but are dependent upon a naturally-occurring or management-induced practice to survive, which can potentially be a limiting factor for population growth or expansion. On occasion, the lack of or destruction of habitat can cause wildlife to move in search of new suitable habitat. The impacts of climate change can also require species to adapt to changing temperatures and seasonal weather patterns, which gradually impact habitat composition and can cause

habitat types to shift in elevation or range, resulting in a shift of wildlife inhabitants as well. Unfortunately, numerous species are becoming extinct before scientists can identify and learn about their needs in hopes of maintaining habitat and biodiversity to the extent possible.

CARVING OUT A PATH FOR WILDLIFE Now that we know some of the reasons why wildlife move, what can be done to help animals navigate a fragmented landscape? Habitat and connectivity hold the key. First of all, maintaining natural areas for wildlife through conservation easements or other land acquisition programs is a great first step. Large, contiguous tracts of land supporting unique habitat types, high biodiversity of flora and fauna, or threatened or endangered species should be prioritized, followed by land with high potential for habitat restoration or improvement. It's beneficial to know what species are present and this can be accomplished through surveys and monitoring. Connecting these natural areas or unique habitats through systems of corridors is an effective method to reconnect land for wildlife to travel unobstructed by roads and vehicles, reducing their risk of mortality.

So, how do corridors promote safe wildlife movement? Think of a corridor system as a network of sidewalks or greenways to ensure on-foot movement from one location to another. Linking sites together that supply the resources needed to support wildlife can potentially reduce or prevent genetic isolation. Many times, the use of riparian areas as corridors can support safe travel of a wide array of species. Maintaining genetic flow between disjointed sub-populations is also important to maintaining healthy, sustainable wildlife populations. Wildlife can



WILDLANDS NETWORK AND NATIONAL PARKS CONSERVATION ASSOCIATION



NC WILDLIFE RESOURCES COMMISSION

ABOVE LEFT: ELK TRAVELING UNDER A HIGHWAY. ABOVE RIGHT: A BOBCAT USING AN UNDERPASS IN EASTERN NORTH CAROLINA.

become more susceptible to extinction from naturally occurring weather events such as hurricanes and flooding when small numbers of individuals requiring specialized habitat types are restricted to small areas of suitable habitat. For example, wildlife species found only in mountain bog systems, like the bog turtle, are vulnerable to loss through habitat destruction, fragmentation due to roads, and changing hydrology or weather patterns.

When evaluating larger scale movements of species such as black bear, elk, and white-tailed deer across the landscape, one of the most cost-effective approaches is to advocate for incorporation of wildlife crossing structures in transportation planning to prevent vehicle-wildlife mortalities. Wildlife crossing structures are also beneficial to numerous smaller species including toads, salamanders, and turtles. Proactive inclusion of wildlife mitigation measures early in the planning process of roads can reduce the risk of injury and mortality to wildlife and humans alike. Strong partnerships between state and federal wildlife and transportation agencies, conservation groups, policy makers, and the public can ensure that wildlife species continue to flourish through coexistence.

Since we know different species and individuals within species respond differently to roads, solutions to ensure safe wildlife passage will also vary, and no one solution fits all. Wildlife-friendly passage structures enhance the ability of wildlife to move safely over or under roads and can be incorporated when repairing infrastructure like on- and off-ramps and bridges. When new construction is inevitable, surveys should be conducted to identify species that will potentially cross the roads and monitoring (i.e., camera surveys, GPS or

VHF tracking, or through personal observation) can identify places where wildlife are most likely to cross. Mortality 'hot-spots' can be identified through research and monitoring and these locations should be prioritized to receive crossing structures when possible. In some instances, natural landscape features or other barriers may funnel wildlife to particular places for crossing. It's important to keep in mind that young may also travel with adults, which may require further analysis of potential barriers to movement. The loss of juvenile offspring or reproductive adults to mortality events can have detrimental effects on populations already struggling to maintain or expand their current numbers.

Wildlife crossing structures come in a variety of shapes and sizes and should be tailored to the species to ensure successful usage of the structures. Crossing structures can include overpasses and underpasses with examples including naturally-occurring land bridges, man-made bridges with dry pathways or 'benching' or aquatic, free-flowing water, and various types of culverts. Also, proactive planning for implementing crossing structures should take into account whether the structures will support terrestrial or aquatic species, or both. Use of natural substrate is best, when possible, as opposed to pavement or concrete which may feel unnatural to animals, possibly preventing individuals from utilizing the crossing structures. Wildlife crossings increase in effectiveness when proper fencing and significant protected public, natural lands exist adjacent to the structures.

Fish species that spawn upriver are an example of aquatic wildlife that require free-flowing water to move from one area to another to carry out a life function intended to continue a

species' existence. If barriers such as dams exist or aquatic passageways are in danger of drying up or clogging during weather events, the fish may no longer be able to reproduce effectively. As mentioned previously, barriers can prevent genetic mixing that can result in isolated populations of species. These barriers can be geographic in nature; however, many are man-made structures such as dams or roads. While pre-project studies, implementation of crossing structures, and routine maintenance and monitoring can be expensive, these mitigation methods have been shown to be cost-effective over the long-term.

HOW IS NCWF HELPING? As a conservation organization that values wildlife, NCWF supports habitat protection and connectivity through a variety of on-the-ground projects, partnerships, and advocacy opportunities. For the last few years, NCWF has been a partner in the Pigeon River Gorge Wildlife Connectivity Collaborative; a diverse group of biologists, wildlife managers, transportation planners, and wildlife advocates representing state and federal agencies and non-governmental conservation organizations to name a few. The purpose of the Collaborative is to develop practical and feasible solutions to an increasing amount of wildlife mortality on roads in western North Carolina. NCWF staff has participated in the Collaborative meetings and submitted joint comments to the NC Department of Transportation (NCDOT) on conceptual plans to upgrade highway infrastructure and will continue to assist with proactive planning for new construction projects to reduce wildlife mortality on roads. Elk, black bear, and white-tailed deer have been the focal species of the Collaborative; however, improvements for wildlife help small mammals, reptiles and amphibians, and aquatic species as well.

As a long-time supporter of the reintroduction of elk in the mountains of North Carolina, NCWF has maintained a lease agreement on property providing substantial benefit to elk. The current elk population consists of an estimated 200 individuals and NCWF will continue to help grow these numbers through educational opportunities and events, assistance with land acquisition and connectivity, and advocating for funding to support wildlife crossings to connect elk habitat. NCWF has and will continue to support national transportation policy to provide increased funding for wildlife mitigation on roadways. In eastern North Carolina, NCWF partnered with the NC Wildlife Resources Commission and NCDOT to collect data from camera traps to evaluate when and how wildlife utilizes highway underpasses. In addition, volunteers monitor the wildlife underpasses and report any fence maintenance issues in need of repair and remove overgrown vegetation to ensure the crossings remains open for wildlife use.

As the state affiliate to the National Wildlife Federation, NCWF provided input that assisted with development of a formal resolution to address wildlife mortalities on roads and what can be done to mitigate these issues. The formal resolution provided recommendations to address transportation planning and funding shortcomings to ensure wildlife are able to thrive

and coexist with human development. The bottom line is, how and when we travel can affect how and when animals travel. A healthy environment for humans includes healthy wildlife, plants, air, and water, which sustain life and are important to our mental and physical well-being. As humans, we're learning more and more of what the resulting impacts are of not providing adequate space and connectivity for wildlife.

HOW YOU CAN HELP There are many ways residents, private landowners, wildlife enthusiasts, conservation organizations, and state and federal agencies can help reduce fragmentation and vehicle-wildlife mortality. As an individual, educating yourself on the topic and getting involved is the first step. Consider providing support to groups or agencies that are making a difference for wildlife and get involved with volunteer projects. Conservation organizations like NCWF have a grassroots-chapter network doing local habitat and wildlife projects, such as maintaining the wildlife underpasses in eastern North Carolina. Advocate for wildlife by staying up-to-date on environmental policy and contact your local Congressional Representatives to voice your opinions on national legislation to provide adequate funds to support wildlife, connectivity, crossing structures and transportation planning. As a landowner, you can familiarize yourself with species on your property and make responsible stewardship and management decisions to improve wildlife habitat. When traveling, look for wildlife crossing signs. By simply slowing down in areas where wildlife is known to cross roads you can reduce the risk of a wildlife-vehicle collision. Drive safely! **NCWF**

US FISH AND WILDLIFE SERVICE



RED WOLF CROSSING SIGN INDICATING POTENTIAL WILDLIFE TRAVEL.

Stunning Images from the NCWF Photography Contest

In the North Carolina Wildlife Federation's second Wildlife Photography contest, hundreds of photos were submitted from across the state, representing the diversity of North Carolina's wildlife, natural habitats and outdoor interests. Animal submissions ranged from butterflies on host plants and raccoons nestled in trees to bear cubs going for a swim. Landscape images included sandy beaches, breathtaking waterfalls, and mountain-top views. Thank you North Carolina wildlife photographers for this year's outstanding submissions.



▲ WINNER: Critters

The winner of the Critter category is Nancy Arehart of Raleigh who submitted her original photograph of a red fox in a Raleigh backyard. "A neighbor called to let me know that a mama and two kits had a den along the creek behind their house," Arehart reports. "For four days, I arrived on his deck before sunrise and waited for them to come up the hill. Mama spotted me every time and never took her eyes off of me."



▲ WINNER: Scenes of NC

A scene of cypress trees at Lake Mattamuskeet is the winner of the Scenes of North Carolina. Photographer Kathryn Greven of Winston-Salem says it was a "beautiful twilight sunset and I love cypress trees. I took several compositions but I really thought this one worked."

WINNER: People in Nature ►

Laura Meta of Fayetteville is the People in Nature category winner. Meta photographed Dr. Bob Brown during the kayaking group's annual Hope Floats trip, a week-long paddle trip of 208 miles along the Neuse River to raise funds for the American Cancer Society.





◀ **HONORABLE MENTION: Youth**

Photo by Joshua Petty,
Cornelius, NC



▲ **HONORABLE MENTION: Critters**

Photo by Christopher Austin
Bolivia, NC

▼ **WINNER: Youth Category**

The first youth winner is Walker Coley of Holly Springs for his framed image of Canada geese on a pond in his neighborhood. As someone who loves to explore nature in his own backyard, Walker is thankful for the opportunity to expand his wildlife interests through photography.



VENERABLE PIEDMONT WILDLIFE GROUPS ‘PAY IT FORWARD’ ^{FOR} WILDLIFE

A long-time legacy of stewardship continues despite dramatic turn of events.

Two of the North Carolina Wildlife Federation’s longest and most storied partners have completed their conservation missions and are “paying it forward” with significant donations to the Federation. “The leadership of the Guilford Wildlife Club and Catawba Waterfowl Inc. have proven to have had incredible foresight,” says Tim Gestwicki, NCWF CEO. “These were the forefathers of North Carolina conservation, and we’re honored and humbled that they entrust the Federation to honor their legacy and continue their fight.”

The Guilford Wildlife Club formed in 1948, just three years after NCWF was born. A few years later this group of dedicated hunters and anglers found a permanent home on the shores of Lake Jeanette near Greensboro. Over the next 70 years the group grew from a few early stalwarts to more than 300 members in

will work to connect the next generation of conservationists to the wonders of North Carolina’s wildlife and wild places. We are grateful for the trust shown in our mission.

Similarly, the assets of the former Catawba Waterfowl Inc. have been donated to NCWF. Catawba Waterfowl Inc. was formed in 1960 by a group of far-sighted Charlotte sportsmen who formed the non-profit organization to manage an 850-acre wildlife oasis called Cowan’s Ford Waterfowl Refuge. When Mecklenburg County purchased the land in 1992, it inherited a thriving refuge that became the first conservation tract in the Mountain Island Lake watershed. The lake, part of the Catawba River, is the source of drinking water for Charlotte-Mecklenburg. The refuge was the progenitor of future parks and conservation lands that today buffer the watershed from pollution. Those buffer lands, upstream of the water intake, now total 3,000 acres on the Mecklenburg side of the river and 2,000 acres on the Gaston-Lincoln side.



the early 2000s, carefully shepherding Lake Jeanette against development and textile mill runoff. Members led countless efforts to keep Lake Jeanette a healthy place for wildlife, managing shoreline clean-ups, building wood duck boxes, taking thousands of local kids fishing, and arranging community fishing tournaments to bring more folks into the cause. Their passion and action over the decades led many of their leadership to become board members of NCWF.

Unfortunately, the lake was sold and the Guilford Wildlife Club lost its home. Faced with insurmountable odds, members made the difficult decision to disband. In late 2017, Marshall Blake, one of the original founders of the club, passed away at the age of 94. To honor him and his contributions to conservation, the club made a legacy gift to the Greensboro Science Center. A bronze plaque now welcomes the curious down the new boardwalk and into the wild areas of a large pond that serves as a living model of healthy waters for students of wildlife and habitat. That’s just what Marshall would have wanted. And the Guilford Wildlife Club’s final gift was to NCWF, which

Over time, the N.C. Wildlife Resources Commission would lease the refuge lands and develop the refuge in a cooperative management agreement with Catawba Waterfowl to attract and propagate Canada geese and other waterfowl.

In the 1990s, the state purchased 1,300 acres in the Mountain Island Lake watershed, including the Cowan’s Ford Waterfowl Refuge. As it was absorbed into public ownership, managers gradually shifted away from a focus on geese and ducks to all kinds of wildlife. The N.C. Wildlife Federation and parks staff continue to periodically install wood duck nest boxes as well as boxes for prothonotary warblers, the bright yellow swamp bird that is a declining species.

In 2001, officials and leaders with Catawba Waterfowl decided that the group had accomplished its goals and dissolved the organization, leaving behind a remarkable legacy and a heritage of conservation action. The remaining proceeds from the group were donated to the North Carolina Wildlife Federation, which resolves to continue Catawba Waterfowl’s heritage of long-range conservation planning. ^{NC}WF

Silver Linings, *Dark Clouds*

From the silver linings perspective, there's more positive news for the national conservation agenda in Congress. Coming on the heels of the historic passage of the Great American Outdoors Act earlier this summer is the adoption of America's Conservation Enhancement Act (ACE). The Federation urged the North Carolina delegation to support and work hard for the important conservation package (Senate bill 3051) which was approved unanimously by the U.S. Senate and by unanimous consent in the House as fall began.

This bipartisan bill contains many long-standing conservation priorities for North Carolina and the nation. Among them:


- Reauthorize the North American Wetlands Conservation Act, which seeks to increase waterfowl populations and wetland habitat, while also supporting local economies, hunting, fishing, seafood production, and flood control
- Fund additional research and develop an interstate action plan for cooperation on Chronic Wasting Disease, a deadly transmissible disease of the nervous systems of moose, elk and deer
- Authorize new funds to fight invasive species
- Encourage public-private partnerships for promoting fish conservation
- Reauthorize the National Fish and Wildlife Foundation Establishment Act which supports conservation and public-private partnerships

But bad policy is still rampant in Washington, D.C. The administration is hastily ramming through the gutting of a cornerstone environmental protection law. The National Environmental Policy Act, commonly known as "NEPA," requires federal agencies to take a "hard look" at the environmental consequences of their proposed major actions and to take all practicable measures to prevent environmental harm before finalizing their decisions. The Act, often referred to as the "Magna Carta of environmental laws," promotes government transparency and public participation by providing affected citizens a voice in agency decision-making, and requires federal agencies to include community impacts in their environmental analyses.

Regulations implementing NEPA have been in place, little changed and largely working, for more than 40 years. Regardless, President Trump's Council on Environmental Quality finalized and published new rules that would gut NEPA's substantive, procedural, and public participation safeguards. Among other things, the Trump administration is reducing the amount of public input from NEPA's requirements and making it far more difficult for communities and stakeholders to propose alternatives to major projects that may permanently alter communities.

The Federation has used NEPA as a practical tool to comment and make recommendations for proper stewardship of natural resources in proposed federal projects over the decades. One such example was the ill-conceived proposal to build an outlying landing field (OLF) adjacent to Pocosin Lakes National Wildlife Refuge in eastern North Carolina. The Navy desired another practice landing field which would have taken over 30,000 acres of prime farmland away from local farmers while jeopardizing pilot and fighter jet safety given the 100,000 large snow geese, tundra swans and other waterfowl that use the Refuge. NEPA afforded opportunity for critical analysis of the Navy's plans which ended in scotching it. Jennifer Alligood, Federation board member and president during the opposition battle of North Carolinians Opposed to the Outlying Landing Field (NoOLF), stated "without NEPA the landing field for the F16 would currently be operational, ultimately devastating the Pocosin Lakes Refuge and surrounding region."

NCWF joined a lawsuit based around a claim that the administration illegally cut corners in a way that the courts have rejected time and time again and that the new rule violates the NEPA's plain language, purpose, and intent. Specifically, the rule would eliminate NEPA's requirement to consider the cumulative effects of similar projects. It also ignores climate change impacts and changes the consideration of less environmentally damaging alternatives in ways that would undermine the intent of NEPA. The rule is thus the product of an arbitrary and capricious agency action.

"For decades, hunters, anglers, and other wildlife enthusiasts have relied on the National Environmental Policy Act to ensure that the government takes a careful look at the impact it will have before spending large sums of the public's money," said Tim Gestwicki, the Federation's CEO. "This maneuver by the Trump administration is an affront to all those who enjoy the outdoors and who value democracy. It is also illegal and we look forward to fighting it in court." 



Welcome New Board Member



DR. STACY NELSON WAS RECENTLY elected to the NCWF board of directors. Nelson received his B.S. in Biology from Jackson State University, his Masters in Marine Science/Resource Management and Policy from William and Mary, and his Ph.D. in Fisheries and Wildlife Sciences from Michigan State University. A professor in the Department of Forestry and Environmental Resources, Center for Geospatial Analytics, at N.C. State University, Nelson is also the Interim, Associate Dean for Diversity and Inclusion, for NCSU's College of Natural Resources.

Nelson has had a wide range of field and lab experiences from open ocean, coastal and wetland sampling, to monitoring trout species in the Appalachian Mountains, to working with veterinary medical students on bear movements, wolf habitats, and freshwater mussel metabolomics.

"I am extremely excited and pleased to be a board member of this prestigious organization," says Nelson. "I would like to help lead and expand the reach of the organization on how the board thinks about and promotes developing a more inclusive agenda that leads to cultivating wider appreciations, stewardship, and support of our natural resources."

Nelson notes that "all of my work requires being able to talk, share and listen to not only experts in the field, but also watermen, anglers, hunters, farmers, naturalists and concerned citizens and school children. These groups often get left out of the peer and scientific journals, but are the groups of people that can have the greatest impact in caring for each of these resources. We must do everything we can to ensure that everyone has an opportunity to be heard."

Bolstering the Conservation Army

NCWF welcomes Interfaith Creation Care of the Triangle (ICCT) as a new affiliate! ICCT was founded by members of twenty faith communities, including Buddhists, Catholics, Hindus, Jews, Muslims and Protestants in the Triangle area in February 2019. ICCT's mission is "to work within and across communities of faith to urgently fulfill our sacred duty to love and protect creation, address our changing climate, and ensure justice for all life."

ICCT is looking forward to partnering with NCWF in diversity and inclusion issues and expanding wildlife habitats across their communities of worship.



INTERFAITH
CREATION CARE
OF THE TRIANGLE

CONSERVATION OFFICERS OF THE YEAR

WHILE WE WERE UNABLE to hold our 57th Annual Governor's Conservation Achievement Awards banquet, we fully realize and value all the ongoing conservation work being done every day across North Carolina, and look forward to next years' banquet. While nearly all of the categories are driven by nominations from the public, the wildlife and marine patrol officers of the year are determined by the respective agencies. We are pleased to announce and introduce you to this years' officers of the year:

North Carolina Marine Patrol Officer of the Year: BRIAN DEANES

Officer Brian Deanes has served as a Marine Patrol officer for 17 years. He is a certified law enforcement instructor who has undergone extensive training to enhance his capabilities in the field and as a mentor. Officer Deane shares his expertise with other officers through regular trainings on field operations and

the identification of fish and other species for newer Marine Patrol officers and Wildlife Enforcement officers in his area.

Officer Deanes' jurisdiction includes areas in Pasquotank and Camden counties that have a large amount of commercial crabbing activity, and he is a staunch enforcer of harvest, possession, and sale regulations. He has cited violations of size and creel, crab pot, peeler crab and commercial and dealer license regulations. He has also rendered charges for the illegal use of gill nets in our waters, resulting in fines and the suspension of the permits and licenses of the violators.

North Carolina Wildlife Enforcement Officer of the Year: DARBY D.W. ENOCH

Master Officer Darby Enoch has served the division for eight years and currently patrols in Stanly County. In the summer of 2019, Officer Enoch received a report of an antlered deer that had been shot

from the roadway. An investigation revealed that the subject was shooting deer from the roadway, night deer hunting, and trespassing with the use of his moped scooter. In February 2020, Officer Enoch and his colleagues executed a search warrant on the residence of the suspect and seized 25 antlered deer skull plates, seven deer hides, two shotguns with 11 in. barrels, marijuana and methamphetamine pipes, parts of two wild turkeys and deer meat. The antlered deer that was documented from the initial report was also seized. The subject was charged with 82 misdemeanor wildlife violations and three felonies including possession of a weapon of mass destruction and altering/removing serial numbers on a firearm.

As a lead instructor for martial development, Officer Enoch plays a critical role in shaping the mindset of new officers.



NCWF SCHOLARSHIP WINNERS ANNOUNCED

For more than 50 years, the Federation has provided scholarship grants to North Carolina college students, helping hundreds of youths pursue their dreams of studying and working in the wildlife and conservation fields. We are pleased to announce this year's scholarship recipients.

Molly Bruce is a graduate student at the Duke University School of Law and Duke's Nicholas School of the Environment. Bruce aims to pursue an interdisciplinary career in environmental science and environmental law related to climate adaptation and resiliency using technology such as drones and satellites to improve communication between scientists and policymakers to shape climate policy.

Timothy Lee is a doctoral candidate at East Carolina University's Biological Sciences program. Lee is broadly interested in conservation issues related to invasive species, and is specifically exploring the influence of an invasive foundation seaweed on community composition and diversity, and how that differs from the composition of macro-invertebrates using a native foundation seagrass species. He has collected specimens in estuaries along the Eastern seaboard and has mentored several undergraduate students in the lab and in the field.

Doctoral candidate **Greg Merrill** is a graduate student in Ecology at Duke University whose work centers on locating, extracting and analyzing micro-plastics embedded in the blubber of marine mammals. Merrill will pursue a career as a conservation biologist focused on evaluating the impact of humans on species and ecosystems.

East Carolina University's **Quentin Bratkowski Nichols** is a graduate student who has his sights set on a career as a fisheries scientist for a state or federal agency. His experiences have included work with federally endangered sturgeon, participation in a NOAA lab study on right whale food supplies, fish sampling in Pamlico Sound and evaluating tern colony productivity. Nichols' research goals include collecting striped bass eggs in the Roanoke River to study the species' migration timing.

Lauren Pharr is an ornithologist who is pursuing a Master's degree in Fisheries, Wildlife and Conservation Biology at North Carolina State University. Pharr has extensive experience with handling and researching birds, from blue-breasted quail to vultures, swans, chickens, ducks and a wide variety of passerines. Her current research evaluates the effects of urban noise and light pollution on song-bird physiology.

Chelsea Greenhaw Sloggy is pursuing a Master's degree in Environmental Management with a focus on Ecosystem Science and Conservation at the Duke University Nicholas School of the Environment. Sloggy has a deep background in environmental education and identifies community outreach as a critical tool for rallying public support of environmental conservation. She is particularly interested in justice, diversity, equity, and inclusion in outdoor spaces and these concepts are at the center of her graduate work.

Z. Reece Warfel is pursuing a Master's in Biology at East Carolina University with a focus on fish distribution and morphometric conditions. He has participated in a research project in Beaufort Inlet at the site of the longest running, continuous time series monitoring of ichthyoplankton. As an undergraduate, Warfel received the ECU Undergraduate Research and Creativity Award, and he was slated to present his research at this year's American Fisheries Society regional meeting. He aims to support North Carolina marine resources by contributing to the understanding of how the morphometric condition of larval fishes varies based on temperature and prey availability. Reece Warfel's scholarship was awarded by NCWF in conjunction with the Alamance Wildlife Club.

New Board Chair Takes the Helm



JOHN HAIRR OF CHARLOTTE has been elected as chairman of the board of the Federation.

"I am honored to serve as chair for an organization I have long admired," says Hairr. "As a non-partisan, science-based organization, with statewide reach and our vast legion of supporters, NCWF is uniquely positioned to lead conservation initiatives in North Carolina. And our extensive chapter and affiliate network will be critical in order to meet the challenges we face to protect all North Carolina flora and fauna from the ocean to the mountains."

Hairr enjoys fishing, hiking, and camping with his family and coaching his son's youth basketball teams. He received a BA in Political Science from the University of North Carolina at Chapel Hill and graduated from Duke Law School. Hairr is a partner with Parker Poe Adams & Bernstein LLP in its Corporate & Mergers & Acquisitions Practice Groups. Hairr has served on the NCWF board for seven years, and his experience includes six years on the board of directors of the Catawba Lands Conservancy.



FULL STEAM AHEAD ▶ The Federation's community chapters are moving forward, navigating through Covid precautions to accomplish significant conservation action. From record-breaking virtual wildlife seminars to introducing new participants to outdoors activities, chapters are a shining light, demonstrating a can-do philosophy epitomized by the following numbers. In just a couple of months, more than 3,500 pounds of garbage were cleaned from Carolina waterways. More than 3,000 native trees, shrubs and pollinator flowers were planted. And 2,200 participants signed up for online workshops and programs. Chapters are getting it done!

**VOLUNTEER
SPOTLIGHT**



GUY GARDNER (FAR LEFT) AND JUDY GARDNER (CENTER) WITH OTHER MEMBERS OF THE SOUTH WAKE CONSERVATIONISTS CHAPTER OF THE NCWF AT THEIR DEER DONATION SITE IN LILLINGTON.

DYNAMIC DUO ▶ NCWF is honored to acknowledge our depth of gratitude for an exceptional set of volunteers. Guy and Judy Gardner have gone over and beyond to support wildlife conservation in North Carolina. Over the years and on behalf of NCWF, they've partnered with the N.C. Wildlife Resources Commission to provide numerous "Introduction to Deer Hunting" and "Practical Deer Processing: From Field to Freezer" seminars to hundreds of new hunters, volunteering their time and expertise to ensure others have an opportunity to experience the benefits and joys of hunting. Their initial mentoring of new hunters with NCWF began with "Deer Camp," an off-shoot of the Farmers and Communities Manage Deer program. Their dedication to mentoring new hunters has now evolved into the year-round New Hill Educational Mentoring program, enabling new hunters to learn various fundamentals of wildlife and land management while preparing for the hunt.

Guy and Judy are also strong advocates of donating hunter-harvested venison to feed those in need. As members of NCWF's South Wake Conservationists chapter, they took it upon themselves to open and operate a deer donation site to feed the hungry in Lillington. They've volunteered their own time, energy, and money to ensure North Carolina residents impacted by recent hurricanes and those experiencing other hardships are able to receive ground venison from local food relief organizations. In addition, Guy and Judy have raised thousands of dollars to support the processing of deer into ground venison through grants and fundraising efforts. Their gracious and passionate spirits have touched numerous individuals in the wildlife community and we're sincerely thankful for their contributions. **NCWF**

CHECK OUT OUR CHAPTERS! For more information on how you can participate, contact Tara Moore at tara@ncwf.org.



ALBEMARLE CONSERVATION
AND WILDLIFE CHAPTER



BULL CITY
TRAILBLAZERS



CATAWBA RIVER
WILDLIFE COALITION



CHARLOTTE
WILDLIFE STEWARDS



COMMUNITY ALLIANCE
FOR WILDLIFE



CONCORD WILDLIFE
ALLIANCE



EEDRC (ENFIELD ECONOMIC
DEVELOPMENT AND
REVITALIZATION COMMISSION)



HAWK (HABITAT AND
WILDLIFE KEEPERS)



INNER BANKS
WILDLIFE



LAKE JAMES AREA WILDLIFE
AND NATURE SOCIETY



LAKE NORMAN WILDLIFE
CONSERVATIONISTS



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



MOUNTAIN WILD!



NEUSE RIVER HAWKS
(WAKE FOREST)



NEW BERN
WILDLIFE CHAPTER



PAWS (GASTON COUNTY
PIEDMONT AREA
WILDLIFE STEWARDS)



SOUTH WAKE
CONSERVATIONISTS



SOUTHWEST RENEWAL
FOUNDATION



UNION COUNTY
WILDLIFE CHAPTER

WHERE THERE'S A WILL, THERE'S A WAY

to ensure their future and your legacy.



NCWF has partnered with FreeWill to give all North Carolinians with a passion for wildlife conservation 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 their habitats in North Carolina—without paying a cent today.

Get started at FreeWill.com/NCWF or contact NCWF Development Director Dom Canavarro at dom@ncwf.org or 919-833-1923. Using the enclosed envelope, you may also complete your information and indicate that you would like more details about creating your will or estate plan, mail it to us, and we'll contact you!

A black bear cub rests in a tree in Pocosin Lakes National Wildlife Refuge. PHOTO BY DANIEL GETTIS

THE Season

Jeff Beane's GUIDE TO
NATURAL NORTH CAROLINA

North Carolina Wildlife Federation
1024 Washington Street
Raleigh, NC 27605

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DECEMBER

December 1: Most wildflowers have succumbed to frost by now, but a search in the Sandhills might turn up a beautiful Pine Barrens gentian in bloom.

December 2: Buck moths are emerging. These large, showy silk moths, unlike most of their nocturnal, summer-flying relatives, emerge and fly on sunny autumn days. Look for them especially in turkey oak stands in the Coastal Plain and Sandhills.

December 3: Scaup migration peaks. White-tailed deer rut is peaking in the Mountains.

December 10: Good striped bass fishing in reservoirs like Kerr and Lake Gaston.

December 13–14: Geminid meteor shower will peak tonight. This is usually the strongest meteor shower of the year, so bundle up and find a dark beach or open field for the show.

December 14–January 5: Winter is great for birding, and annual Christmas Bird Counts are held around the state. Some counts may be cancelled this year, but others will go on with social distancing. For information on how you can participate in the world's largest and oldest organized wildlife survey, and to see what counts are being held and when, contact your local Audubon chapter or the Carolina Bird Club, www.carolinabirdclub.org.

December 15: Eastern tiger salamanders and Mabey's salamanders—two of our rarer ephemeral-pond-breeding salamander species—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 areas, including the big coastal refuges, where food is plentiful, bears may remain active all winter.

December 18: Migration is peaking for Canada geese and snow geese.

December 21–22: Ursid meteor shower peaks tonight—best viewing should be between midnight and dawn.

December 25: Christmas fern, running-cedar, and a few others are still contributing festive holiday green to the forest floor. Time for a Christmas tree? Consider a local, native one instead of a less-sustainable farm-raised tree.

December 27: Very large flocks of double-crested cormorants along the Outer Banks and other portions of our coast this time of year are a spectacle worth seeing.

December 28: Mink and muskrat fur is prime.

December 29: Black bear cubs are being born.

December 30: Impressive numbers of yellow-rumped warblers can be seen in the red-cedar and wax-myrtle thickets along the coast. It is worth checking those flocks carefully for occasional overwintering warblers of other species.

JANUARY

January 2–3: Quadrantid meteor shower—the first major meteor shower of the season—peaks tonight.

January 4: Most butterflies have migrated, hibernated, or been killed by freezing temperatures, but on warm January days, especially in the Coastal Plain, lingering adults of some of the hardier species, including the monarch, common buckeye, variegated fritillary, American lady, and red admiral may be seen flying.

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

January 6: Waterfowl populations are peaking along the coast, and our large coastal refuges, including Pea Island, Lake Mattamuskeet, and Pocosin Lakes, provide spectacular waterfowl viewing. The Swanquarter and Cedar Island ferries provide good viewing opportunities for sea ducks.

January 7: Ornate chorus frogs are calling in the southeastern Coastal Plain.

January 8: Harbor seals (and rarely other seal species, including hooded and gray seals) may be seen along the coast in winter, more regularly in recent years. Oregon Inlet can be an especially good place to see these small marine mammals, either swimming or hauled out on spoil islands.

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

January 11: Buck white-tailed deer are shedding their antlers.

January 12: Great horned owls are nesting.

January 14: Barred owls begin nesting.

January 15: Bald eagles have begun nesting.

January 16: Mourning doves are beginning their courtship flights.

January 20: The eastern phoebe hangs around all year, supplementing its winter diet with berries, along with whatever winter insects it can find.

January 21: The huge flocks of red-winged blackbirds and other blackbirds overwintering along the coast are impressive spectacles. Our large coastal refuges, including Pocosin Lakes, Alligator River, and Mattamuskeet, are good spots to view this phenomenon.

January 26: Watch for humpback whales and other marine mammals along the coast, particularly the Outer Banks.

January 28: Raccoons and opossums are mating.

January 30: Wood frogs breed during winter rains. Like many winter-breeding amphibians, these handsome frogs of our Mountains and Foothills are highly freeze-tolerant.

January 31: Brimley's and southern chorus frogs have begun calling in the Coastal Plain.

FEBRUARY

February 1: Spring waterfowl migrations are beginning. Upland chorus frogs and spring peepers have begun calling over much of the state.

February 2: It's World Wetlands Day—visit your favorite wetland. Groundhogs are normally still hibernating, so you probably won't see one out looking for its shadow (but it might be possible if the weather is warm enough).

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

February 6: Spotted salamanders and mole salamanders begin breeding in temporary woodland pools with the first warm, heavy rains.

February 8: Northern cardinals and song sparrows are beginning to sing their spring songs.

February 9: Striped skunks have begun their mating season; males are moving in search of females.

February 10: The aerial courtship displays of American woodcock can be observed during late evenings. Check with your local Audubon Society or bird club for woodcock-watching field trips.