



North Carolina
**WILDLIFE
FEDERATION**

Journal

WILD LIVES □ WILD PLACES

Summer 2021



FUNDING FINALE

Simply put, the Recovering America's Wildlife Act is wildlife's last best chance.

GOVERNOR'S CONSERVATION AWARD WINNERS

AN URGENT PLEA FOR MARINE RESOURCES



Boiling Frogs: The Quest for Common Sense

BY TIM GESTWICKI, NCWF CEO

Some things sneak up on us. Regardless of any warnings we might receive, or data presented well in advance, there are some aspects of life that we can see coming if we only would look. Tax deadlines are one example. Mortgage and rent payments fit the bill. Aging does, as well. We know it's coming and it's up to each individual to take care of their health and make the aging process as smooth as possible. Eat vegetables, exercise, and get enough rest. It's difficult if not impossible to jump-start that process when we reach a certain age and expect to reverse decades of bodily abuse.

There's a wildlife reference that sheds light on these sorts of situations. The old saw goes something like this: If a frog is placed in a pot of boiling water, it will jump out immediately. If the same frog is put into a pot of water at room temperature, however, and the water is slowly brought to boil, the frog, not recognizing the imminent danger, will succumb to inevitable death.

In the work of conservation, the frog boiling metaphor is readily applicable. If a hurricane destroys a town and results in flooding of residences and businesses, the water can easily be observed. If a large tract of hardwood bottomland forests is suddenly cut down to feed the farce that is the European "green energy" demand for wood pellets, that, again, can be seen. So, too, can a large fish kill that comes after a hog lagoon floods into the river. You can easily see the bycatch of a large-scale shrimp trawl dump. Our metaphorical frog would jump quickly under any of these scenarios.

Humans, too, have immediate reactions to these easy-to-see, in-our-face examples, often rising to help in any possible way with cries of "why didn't, or shouldn't, someone do something." After calamity hits, there's an immediate reaction to assist and help rebuild or lend a hand to get folks back on their feet. But these calls to action subside after the storm passes and folks move on with their daily lives. Or elected officials make do with short-term fixes.

When it comes to wildlife issues, there are plenty of frog-in-the-pot examples. Some are likely a long time coming, but then they suddenly appear, such as the rapid decline in bird populations as evidenced by the recent 3 billion decrease in breeding birds in North America in the span of a human lifetime. Habitat loss, pesticides, climate change—all of these impact birds and other species over a steady period of decline. How about fish? Same drastic decline over the decades in North Carolina as evidenced by the nearly 80 percent plunge in coastal harvests over only the last two decades. The frogs are boiling, folks! Warning signs have been ignored. It is now time to pay the piper—my apologies, I'm on a metaphor roll—before it's too late or the costs are prohibitive. This is no time for leaders to go along to get along, or lick fingers stuck in the air to determine which way the crowd winds are blowing. It is time for some uncommonly common sense these days.

Solutions to serious wildlife issues are present and ripe for realizing with hard work and support.

Whether the pot is boiling, or the frog has been slowly stewing for a while, solutions to serious wildlife issues are present and ripe for realizing with hard work and support. In this Journal we cover the ongoing saga of the loss of hundreds of millions of juvenile fish in large scale inshore shrimp trawl operations. We take a look at the Recovering America's Wildlife Act. Thousands of nongame species are declining in population numbers, and resources are needed in order to avoid emergency-room types of funding and efforts to prevent species from being listed as threatened or endangered. Pay now or pay way more down the road. That's just common sense.

We also feature our award-winning Great Outdoors University program. Connecting kids to nature and working to reverse the trend of technology-obsessed youth is crucial for the future. The job of raising future conservation advocates and wildlife enthusiasts is ours alone. This year's Governor's Conservation Achievement Award winners sure aren't waiting around, either. Legislators who are leading the way for public lands and climate resiliency and storm mitigation recognize that failure is unacceptable. Volunteers, organizations and agency personnel are actively working for solutions to problems, too often the uncommon practice these days. We applaud them all and hope you can join us in celebrating their courage, dedication, and work.

Our supporters aren't sitting on the sidelines either, waiting for the pot to boil over. You invest and support the Federation to accomplish proactive, innovative, data-driven solutions. You have been with us through thick and thin, and rewards are being reaped, now and for the future. And it's your vision that helps keep us focused on the work at hand: Keeping frogs out of pots. Turning the heat down on the wild places and wild things we love.

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Designed by: Kimberly KC Schott, Red Gate Design
Printed by: Progress Printing, Lynchburg, VA
Published by: North Carolina Wildlife Federation

ABOUT THE COVER

Cover photograph A green sea turtle lays eggs along the Cape Hatteras National Seashore. NPS / © Alamy Stock Photo. Contents photograph Barking treefrog / © iStock.com / sdbower. Other photos, unless noted, courtesy of NCWF.

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North Carolina WILDLIFE FEDERATION *Journal*

WILD LIVES □ WILD PLACES Summer 2021

Official publication, North Carolina Wildlife Federation (Affiliate of National Wildlife Federation)

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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.

RECOVERING THE WILD



USFWS / KEN THOMAS

Many of North Carolina's most beloved wildlife species are well known and pretty easy to spot. Many wildlife species, however, are rarely seen, and are declining and of great conservation concern. There are 37 North Carolina wildlife species listed for protection under the Endangered Species Act. There are more than 200 species listed for protection in North Carolina as endangered, threatened or species of special concern. The state's Wildlife Action Plan seeks to give these species the helping hand they need to thrive in the future. Rarely seen. Underappreciated. Often strikingly gorgeous. And too often, increasingly rare. But these are species every bit as worthy of conservation action — and human awe — as sea turtles and elk.

NCWF and the N.C. Wildlife Resources Commission (WRC) entered into a Memorandum of Understanding (MOU) many years ago as a partnership to convene stakeholders for crafting the first Wildlife Action Plan. North Carolina's plan was the first one submitted in the U.S. and the state was an early adopter in the work towards implementing the plan. The MOU was recently updated to hone in on the RAWA and states: "The results of this partnership are intended to build a community of conservationists, including professional staff employed by both agencies, to implement impactful projects to protect, conserve, and restore wildlife, specifically those species of greatest conservation need and their habitats as identified within the Action Plan."

Now, help may be on the way.



The next, best chance for imperiled wildlife

IT CAN BE DONE

The good news is that a bold, bipartisan bill has just been introduced in Congress that will go a long way to addressing the wildlife crisis while creating desperately needed jobs and bridging the political divide. The Recovering America's Wildlife Act (HR 2773) — led by Debbie Dingell (D-Mich.) and Jeff Fortenberry (R-Neb.) — will direct \$1.4 billion of existing federal revenue toward state and tribal efforts to help fish and wildlife species in decline. More than 180 representatives from both sides of the aisle cosponsored the bill in the last session, including North Carolina's Rouzer, Budd, McHenry and Price. At the time of printing this journal, Representatives David Rouzer, Patrick McHenry, and Deborah Ross from the N.C. delegation have signed on as sponsors.

If passed, the bill would send around \$25 million annually to North Carolina, which would use the money to help the nearly 500 at-risk species by restoring habitat, removing invasive species, addressing wildlife diseases, reducing water pollution, and mitigating climate change. The bill will also assist wildlife conservation efforts lead by tribes, such as the Eastern Band of the Cherokee's collaborative work for the sicklefin redbreast, a rare fish species endemic to the Hiwassee and Little Tennessee River basins.

The Recovering America's Wildlife Act also provides additional funding for federally-listed endangered species, like the Roanoke logperch and Carolina northern flying squirrel. But the main thrust of the bill is intended to prevent wildlife from needing the Endangered Species Act's federal protections in the first place.

America has a proud history of bringing fish and wildlife back from the brink of extinction through professional wildlife management. A century ago, prized game species such as elk, wood ducks, pronghorn antelope, and striped bass were at risk of extinction. Today, they are thriving due largely to user fees from licenses and excise taxes on ammo, gear, and tackle provided by hunters and anglers. Today, we face a new conservation crisis as emerging diseases, invasive species, habitat loss, and extreme weather threaten many wildlife populations at a scale inconceivable just a few decades ago. Nongame species, among them pollinators, frogs, turtles, songbirds, shorebirds, freshwater mussels, oysters, and others, often receive neither the attention nor funding sufficient to recover their populations.

This growing wildlife crisis poses a threat to the vibrant outdoor economy of America and North Carolina. Hunters, anglers, birders, hikers, campers, and backyard wildlife watchers have created a fast-growing outdoor economic base that depends on healthy wildlife populations. Today, the outdoor economy contributes \$887 billion to the national economy and \$28 billion to our state economy annually, creating 7.6 million direct jobs with 260,000 in North Carolina, and generating \$124.5 billion in federal, state, and local tax revenue.

Further, by preventing the decline of species so that they do not require the stricter protections of the Endangered Species Act (ESA), businesses will be able to operate with more regulatory certainty and reduced risk. As the decline of numerous species and their habitats across the country worsens, pre-emptive action can reverse this trend and keep species from the critical, yet often costly, "emergency room" measures required by the ESA. Proactive conservation is good for wildlife, good for taxpayers, and good for business. This will be especially important to rapidly developing states like North Carolina.

With the annual allocation of funds from RAWA, and by leveraging the bill-mandated 25-percent match, the N.C. Wildlife Resources Commission, along with partners, volunteers and others, could accomplish significant goals, in addition to keeping common species common and restoring species that are on the ropes. The funds would pay for efforts to connect people with nature, expand conservation education, and focus on illegal collection and sale of listed wildlife and plant species.

Restoration and enhancement of species and their habitats are at the basis of North Carolina's Wildlife Action Plan. Here are two native species that would flourish with the kind of funding support available under RAWA.



NCFISHES.COM


CAROLINA PYGMY SUNFISH CONSERVATION

The Carolina pygmy sunfish (*Elassoma boehlkei*) is a small fish found only in streams, swamps and ditches in Columbus and Brunswick counties in North Carolina and counties in northeastern South Carolina. The N.C. Wildlife Resources Commission (WRC), along with the U.S. Fish & Wildlife Service, S.C. Department of Natural Resources, NOAA Fisheries and Three Oaks Engineering, has been working since 2016 to conserve this sunfish by conducting surveys, protecting much of the land within its range in the state, and including the species in a state-wide Safe Harbor/Candidate Conservation Agreement with Assurance so the species can be stocked into unoccupied suitable habitat, if necessary, in the future.



NCWRC

GOPHER FROG REARING AND RELEASING

Gopher frogs (*Lithobates capito*) are specialists of the long-leaf pine ecosystem and their populations have declined for several decades primarily due to habitat loss. The WRC partners with the N.C. Zoo, N.C. Aquariums, NCSU-Center for Marine Science and Technology, and Carteret Community College to captive-rear and release young frogs back to the wild. Since 2011, more than 3,000 frogs have been reared and released. Captive-rearing frogs, wetland restoration, land conservation, and research are some of the proactive approaches the NCWRC is taking to increase populations of this North Carolina native. 



Governor's Conservation Achievement Awards Recipients

This year's honorees of the state's most prestigious conservation awards include agency professionals, elected officials, volunteers, and organizations who have

demonstrated a commitment to North Carolina's wildlife, habitat and natural resources.

"Each year, we're amazed by the commitment and creativity of North Carolinians working to protect the wildlife, air, water and land we all depend on," said T. Edward Nickens, NCWF awards committee chair. "This year's conservation heroes are land stewardship champions, clean water advocates, and leaders in the preservation of unique ecosystems. We're thrilled to be able to honor them in person at our banquet this year."

Award recipients will be honored at a gala banquet on Saturday, September 11, at Embassy Suites in Cary, North Carolina.

"For nearly 60 years, this annual awards program has brought together a diverse group of conservationists to highlight the good news about wildlife conservation across the state," Nickens said. "We hope it inspires others to take a more active role in protecting North Carolina's natural resources for future generations."

CONSERVATIONIST OF THE YEAR

Walter Clark (*Lansing*)

For nearly four decades, Clark has dedicated himself to conserving and protecting North Carolina's natural resources, whether they're in his backyard or across the state. His long tenure, most recently as executive director of the state's Land and Water Fund, has centered on managing coastal wetlands, beaches, public trust waters, and estuarine shorelines and educating and advocating for natural resource management. Clark's conservation legacy of overseeing the protection of thousands of acres—from the mountains to the coast—will forever remain on North Carolina's landscape.

WILDLIFE CONSERVATIONIST OF THE YEAR

Dr. Mathew H. Godfrey (*Beaufort*)

A renowned sea turtle biologist, educator, researcher, and policy expert, Dr. Godfrey organizes and inspires a thousand-strong force of citizen scientists who monitor, protect, collect data, and even rescue sea turtles. His extended "eyes and hands" also facilitate real-time responses by other agencies, land and water managers, scientists, and non-profits to unusual occurrences affecting our marine mammals, sea birds and local wildlife.

SPORTSMAN OF THE YEAR

Chris Williams (*Princeton*)

North Carolina native Chris Williams fell in love with waterfowl hunting on the coast early in life, and it's a passion that continues today. Through 20-plus years as Atlantic Flyway regional director for Delta Waterfowl, Williams serves on the front lines of policy and advocacy for waterfowl hunters and wetlands conservation. He's built the North Carolina chapter of Delta into an influential voice for duck hunters, and his flyway-wide understanding of both the biology and politics of waterfowl hunting is a significant benefit to his home state.

LAND CONSERVATIONIST OF THE YEAR

John Isenhour (*Salisbury*)

Isenhour is a standout wildlife biologist with the North Carolina Wildlife Resources Commission. He has gained a considerable reputation as a leading biologist to consult when managing wildlife and habitat on private lands, and his passion for nature runs deep. His dedication to the resource includes providing landowners with the proper tools and guidance to create quality wildlife habitats based on the best available science. In addition to fieldwork, he serves on numerous wildlife- and habitat-related committees. He takes on opportunities to educate youth while still finding time to assist with farm programs for non-traditional landowners. His decades of

work have resulted in long-term, meaningful relationships with empowered landowners and immeasurable benefits to the native flora and fauna of North Carolina.

WATER CONSERVATIONIST OF THE YEAR

Chandra Taylor (*Durham*)

A senior attorney with the Southern Environmental Law Center, Taylor specializes in water quality and environmental justice issues. Taylor has had an immense impact on addressing environmental damage to our waterways and the people who live by them. She has been a champion of the Badin Lake cleanup efforts and forced cleanups at contaminated industrial sites, stopping water pollution threatening North Carolina communities. She also ensures lower-wealth communities, communities of color, and natural resources aren't disproportionately harmed.

FOREST CONSERVATIONIST OF THE YEAR

William "Buck" Vaughan (*Raleigh*)

A farmer by birth and a forester by training, Vaughan is an expert in forest conservation, protection, and acquisition. His work focuses on advancing forest conservation, protecting large-scale working forests, strengthening rural economies, protecting military installation encroachment areas, and supporting landowners and communities. Vaughan's deep understanding of the land, combined with innovative science, technology, and finance applications, helps protect and conserve working forest resources now and for future generations.

MARINE RESOURCE CONSERVATIONIST OF THE YEAR

Rick Sasser (*Goldsboro*)

Rick Sasser has worked tirelessly for decades to conserve and preserve the coastal marine resources of North Carolina for future generations. Sasser has dedicated countless hours of volunteer time studying, researching, and compiling exhaustive information identifying nursery areas for grey trout and other marine species within Pamlico Sound. He has spent years advocating for better management practices throughout the fisheries, all based upon comprehensive data.

ENVIRONMENTAL EDUCATOR OF THE YEAR

Jonathan Marchal (*Asheville*)

Marchal is director of education at the North Carolina Arboretum and a leader in environmental education. He has exponentially increased youth involvement by developing a curriculum that applies science to outdoor learning and has used partnerships and resources to expand educational programming for school children. Marchal's work positively impacts teachers and students across the state by applying the outdoors as a classroom while ensuring programming includes traditionally underserved audiences.

CONSERVATION ORGANIZATION OF THE YEAR

Black Folks Camp Too (*Brevard*)

Founded by entrepreneur Earl B. Hunter, Jr., Black Folks Camp Too is mission-oriented to increase diversity in the outdoor industry by making it more accessible and enjoyable for minorities to go camping. The group's core principles (sincerity, meaningfulness, measurability, and sustainability) help break down barriers and create more inclusive and stronger communities.

LEGISLATOR OF THE YEAR

John Bell (*Goldsboro*)

Rep. John Bell is a lifelong sportsman who serves as the N.C. House majority leader. Bell actively works for pragmatic, nature-based solutions to significant resource issues, including sustainable fisheries and ongoing community flooding. To address flood and storm preparedness, he introduced legislation, the Disaster Relief and Mitigation Act. This proactive, coordinated approach includes funding for wetland and floodplain restoration—the first of its kind considered in the state.

BUSINESS CONSERVATIONIST OF THE YEAR

Leaf & Limb (*Raleigh*)

Owner Basil Camu and his company broke the mold when they shifted focus from tree removal to tree preservation and habitat restoration through plantings, healing the soil, and maintaining existing trees for long-term success and wildlife. Leaf & Limb employees have served nearly 4,000 volunteer hours cleaning up and enhancing the local community through the company's Project Pando initiative, which has evolved

into a volunteer-driven tree farm providing free trees to the public to improve local ecosystems.

NATURAL RESOURCES SCIENTIST OF THE YEAR

Dr. Nils Peterson (*Raleigh*)

Dr. Peterson, a professor in the College of Natural Resources at N.C. State University, specializes in human dimensions of conservation biology. His teaching and research in the field are unique, often ground-breaking, and highly regarded by his peers. Peterson's research makes connections between people, wildlife and the environment. He develops and applies solutions to issues that further promote positive relationships between people and nature.

WILDLIFE VOLUNTEER OF THE YEAR

Ernie McLaney (*Charlotte*)

McLaney lives and breathes conservation and sustainability every day while relentlessly donating his time, energy and resources to preserving wild lives and wild places in North Carolina. McLaney is constantly exploring ways to nourish the environment, spread awareness to future generations, and promote sustainable practices. Whether it's by contacting local politicians, picking up roadside trash or leading kayak and hiking trips, he is a tireless advocate for living things with no voice of their own.

PUBLIC LANDS CONSERVATIONIST OF THE YEAR

Hugh Blackwell (*Valdese*)

A true "trailblazer," N.C. Rep. Blackwell has spent years inspiring North Carolinians to experience wild places for themselves and is a champion in the General Assembly for increasing public trails and state parks. His work to establish the Fonta Flora State Trail and others raised the number of state trails from six to nine while preserving thousands of acres in the process.

NCWF CHAPTER OF THE YEAR

Concord Wildlife Alliance (*Concord*)

A global pandemic and cancellation of all in-person events was no match for the creativity and adaptability of the Concord Wildlife Alliance. Collaborating with local partner organizations and quickly pivoting to virtual presentations and outings allowed the chapter to thrive seamlessly.

Members created and maintained wildlife habitats and natural resources by collecting trash, planting native trees and shrubs, certifying backyard and schoolyard habitats, and engaging the community on conservation topics.

NCWF AFFILIATE OF THE YEAR

Cape Fear Garden Club (*Wilmington*)

Since 1925, the Cape Fear Garden Club has been sowing seeds — metaphorically and literally — throughout Wilmington. During the pandemic, the club focused on its "roots," planting organic and sustainable backyard and community gardens filled with herbs, flowers and plants that benefit birds, pollinators and wildlife. Members also created videos to inspire those who want to establish healthy habitats, attract wildlife and turn their outdoor space into a Certified Wildlife Habitat.


WILDLIFE ENFORCEMENT OFFICER OF THE YEAR

Master Officer John Howell (*Salisbury*)

Officer Howell has developed strong relationships with his community. Some of those relationships directly resulted in the apprehension of two night deer hunters, one individual harassing hunters, three subjects involved in closed season turkey violations, one person taking over the limit of turkeys, one turkey bait violator, and many trespassing and fishing violations. Howell built relationships within the Latino community including and a YouTube interview that focused on explaining fishing laws to the Latino community. And to cap off a stellar year of performance, Howell saved a kayak fisherman from drowning near the High Rock dam.

MARINE PATROL OFFICER OF THE YEAR

Sergeant Odell Williams (*Swan Quarter*)

A stand-out officer, Williams is known for making numerous substantial cases, one of which resulted in a large seizure of striped bass with replacement costs totaling more than \$373,000. Sgt. Williams further demonstrated his commitment this past year by filling the gap when his region's long-time captain retired. With Covid-19 procedures in place, the captain's retirement left the district without a leader for six months, during which Williams worked in the field in vacant officer positions. He held multiple titles this past year and carried the torch for at least four positions. 



The Healing Hunt

by T. Edward Nickens

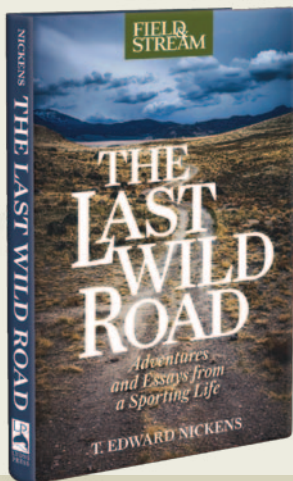
I DIDN'T FULLY UNDERSTAND UNTIL LATER.

Not until the day was done, and I was leaning against the truck and waiting for Tommy to walk out of the dove field.

It had been a rainy, nasty, post-hurricane dove opener. When I picked up Tommy Krisulewicz at his house, we both felt it. The storm was scrambling our plans. No one would spend the night at Stillwater. There would be no late night by the bonfire, no big feed with Greg's funky white Alabama barbecue sauce, and no caravan of trucks storming the field at dawn. There would be none of the pageantry and community that typically marks our opening-day dove hunt.

But I haven't missed a dove opener since 1980, when I went home with a college buddy over Labor Day weekend and shot my first dove. That bird spiraled down into cut corn and red clay mud, and there was laughter all around the field and a pig picking afterward. It was the first time I'd ever hunted in a big group. In the years since, I've hunted opening day when I had nowhere else to go but crowded public fields, and I've hunted when "hunting" meant pulling a pickup truck into a borrow pit and sniping doves as they flew in to pick grit. I never miss opening day. So it was just me and Tommy and my little Lab, Minnie, driving east in a hard, gray rain.

The storm wasn't the only thing that had fouled my mood. Work was a mess. I was behind on deadlines, juggling projects as all the balls fell at once. It didn't help that it was my first opening-day hunt in a decade without my son, Jack, who was away at his freshman year in college. There are times when you



North Carolina makes a strong presence in T. Edward Nickens' latest book, *The Last Wild Road*. Nickens has served as conservation communications editor for NCWF for more than 30 years, during which he has traveled and written about the outdoors across North America for magazines such as *Field & Stream*, *Garden & Gun*, *Ducks Unlimited*, *Smithsonian*, *Our State*, and many more. *The Last Wild Road*, published by Lyons Press, is a collection of more than 50 of his features and essays published in *Field & Stream*. The Uwharries, Croatan National Forest, the trout streams of Wilson Creek Gorge, and deer woods and duck swamps across North Carolina are the frequent backdrop for an author who, according to one reviewer, "is that rarest of writers who can both break your heart and make you wet yourself laughing." This excerpt is published with the permission of Lyons Press.

just feel sorry for yourself. I had worked till nearly midnight on Friday night and was staring at a laptop at 6:45 A.M. on opening-day morning. I opened the refrigerator for cereal milk, and the duck breasts and wild pig loin I'd planned to cook at the club were dull lumps on a plate. Outside, the rain pounded.

Tommy's phone call had been a pinprick of light. Hell or high water, he was hunting too. On the drive to the dove field, he told me that he'd just returned from three days at the Mayo Clinic in Minnesota—his third round in the ring with prostate cancer. I told him I was sorry, that I hadn't known. He said he needed a day under the sky, rain or no rain, and the smell of gunpowder and fresh dirt.

For the first time in days, I felt a little lucky: Minutes from the sunflower field, the rain tailed off to a mist. By the time we pulled the guns from the cases, the sky was clearing. The storm had passed. Minnie bounded ahead, so excited that she ran with a stilted, bow-legged gait, peeing on the run.

In a field turned sweltering and steamy, the birds went crazy. Bottled up through 36 hours of hurricane slop, they rained into the sunflowers low and fast. The shooting was stupid. Minnie held steady with each downed bird, flanks tremoring with anticipation before vaulting through the field.

On my 5-gallon bucket, I thought about that little dog and all our mornings together, and how lucky I was to have my farmer friend, Robert, who let us have his dove field after the club hunt fell through. I thought about the way a dove hunter can recognize a dove in flight a quarter mile away by its arrowed trajectory and the long tail feathers and stout chest that you sense almost subconsciously. I thought about Jack at his first college football game as a student. Slowly, like clouds breaking, I began to understand how wonderful it all was.

Across the field, Tommy whooped with every bird he shot. There was no ring of triumph in his shouts. Each sounded like a cry of gratitude, hurled to the sky for the gift of this day.

Minnie picked up 14 of my 15 birds. We walked back to the truck, and I leaned against the tailgate as she rolled in a cow pie, and I swear I heard my own voice: *Remember this. Remember what it feels like to lose yourself in the moment of the hunt, in the healing power of something that requires all of yourself—mind, body, spirit.* I thought of how Tommy hadn't whooped in the last few minutes, and how I bet he'd limited out too. I thought of how I hadn't fussed about work for one single second. *Remember what you never thought about.*

As I watched Tommy make his way through the sunflowers, my phone beeped. A text came in, a last benediction. "Happy opening day, Pops." **NE**

Signed copies of *The Last Wild Road* are available to NCWF members and friends. For purchase details, send an email request to lastwildroad@tedwardnickens.com.



NO SMALL Failure

Management of North Carolina's shrimp fishery defies science.

North Carolina has the largest and most productive estuarine system of any state on the east coast. Estuarine-dependent species account for more than 90 percent of the state's commercial fisheries landings and over 60 percent of the recreational harvest. The success and viability of these fisheries requires protection of important habitat areas on which these species rely for survival. North Carolina's existing nursery program provides important protections to larval and early juvenile populations that inhabit shallow, protected habitat areas. Later stage juveniles—those juveniles that have not yet reached adulthood and therefore have not spawned—lose habitat protection once they move into the sounds and ocean waters and are exposed to shrimp trawls and other fishing gear.



North Carolina is the **only** state on the Atlantic and Gulf coasts that permits extensive trawling in inshore estuarine waters.

Shrimp trawl bycatch is the leading source of waste and finfish mortality in the state, and the fisheries most impacted by shrimp trawl bycatch are collapsing. On average, large-scale trawls catch four pounds of juvenile finfish for every pound of shrimp harvested. The highest levels of bycatch in North Carolina are found in the Pamlico Sound, which is a highly productive nursery area for several species of finfish, including Atlantic croaker, spot, weakfish, and southern flounder, and other invertebrates such as blue crabs and horseshoe crabs. The majority of non-targeted fish caught as bycatch are juveniles that, as a result, die before they ever have the opportunity to spawn and reproduce.

Over the past five years, the North Carolina Wildlife Federation has been intensely involved in shrimp trawl management to reduce bycatch and protect essential habitats, through two formal petitions for rulemaking. The Federation has provided numerous comments and technical suggestions to N.C. Division of Marine Fisheries (DMF) and the Marine Fisheries Commission (MFC) since its original Petition for Rulemaking was submitted to the MFC in November 2016.

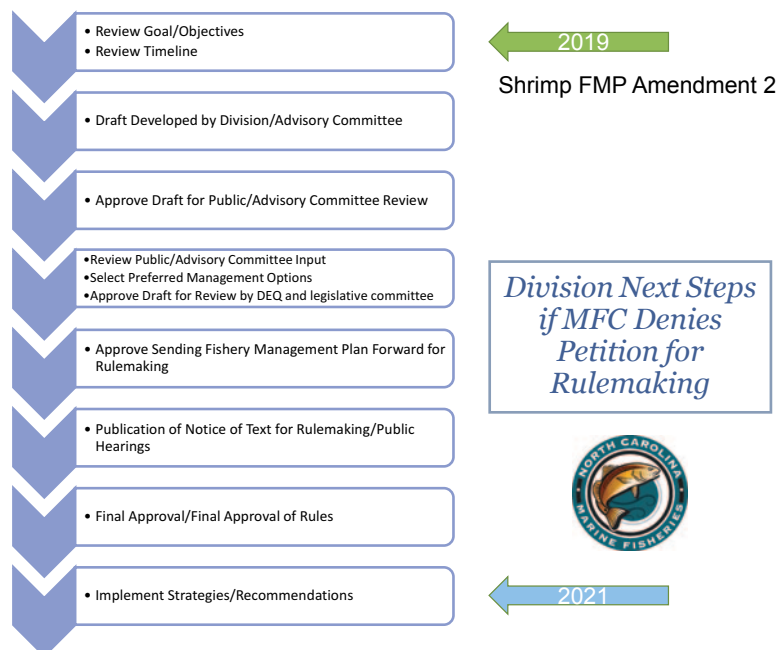
In February 2017, the MFC granted the petition for rulemaking submitted to it by the Federation. However, the MFC failed to follow through on its obligations to initiate the rulemaking process at that time. In May 2019, the Federation submitted a second, narrower petition for rulemaking that we hoped the MFC could readily adopt and implement to support a productive shrimp trawl fishery and rebuild and conserve depleted finfish populations. The measures proposed in the petition were designed to achieve these goals by managing: (1) the areas open to shrimping; (2) the appropriate times when shrimp may be taken; and (3) the gear used to take shrimp. Taken together, these measures would ensure that shrimp trawling was conducted in a responsible manner that minimizes the bycatch of juvenile finfish species from estuarine waters.

At its August 2019 meeting, the MFC discussed the Federation's second, more narrowed rulemaking petition, and voted to deny the petition. The MFC's primary stated justification for the denial was that it could better address the measures proposed during the forthcoming Shrimp Fisheries Management Plan (FMP) review process. Upon review and audit of the meeting discussions, the opposition by those commissioners—who eventually ended up voting against the petition—focused on process, timeframes, and additional public, stakeholder input exhaustively deferring to the FMP process. One commissioner made the final comments prior to a vote to reject the petition. The Commissioner pointed out that the MFC very specifically required the FMP planning process to address the major tenets of the discussion in February 2019, calling it a mandate for the MFC to consider the petition requests.

He further commented that the FMP process invites broader review of all the important components more

easily. Other comments in support of rejection indicated the FMP process would be quicker and raised concerns over economic data. Most critically, there was no discussion of the scientific basis upon which the petition was filed.

Almost two years later, the MFC has now voted to send out draft Amendment 2 for public comment. This has not been the timely process that the MFC promised, or at least used as subterfuge, in denying our petitioning. Draft Amendment 2 both ignores several strategies proposed in the Petition and is inconsistent with the DMF's earlier positions on key proposals within the Petition. This draft plan raises serious concerns regarding science-based management and options that truly provide any progress towards meeting the goals of the FMP.



Currently, DMF's Draft Amendment 2 fails to provide options that achieve similar protections for the resource and industry as would have been provided by the measures proposed in the Federation's rulemaking petition. Additionally, the document itself is technically deficient, and much of the document's discussion of different management options appears to ignore best management practices, the best available science, and the precautionary principle. For example, the science on which DMF relies for its decision to not consider designating new nursery areas in the FMP process has been challenged and refuted by scientific reviews. The best science indicates that the occurrence of large concentrations of juvenile fishes vulnerable to shrimp trawls should be the sole criteria for protection in North Carolina. Other states without inshore shrimping (i.e., *all* other states) may be able to be more selective in their nursery designations, but the new, questionable criteria put forth by DMF do not fit the situation in North Carolina. Furthermore, while Draft Amendment 2 purports to present a suite of management options for consideration, from maintaining the status quo to completely closing the Pamlico Sound and other inshore habitats to shrimp trawling, DMF does not indicate

which of these options it is seriously considering for recommendation to the MFC.

Given the options provided in Draft Amendment 2, the Federation supports the total closure option as long as corridors in the Atlantic Ocean around inlets are included to greatly enhance the survival to offshore overwintering and spawning areas, thereby improving population biomass and sustainable fisheries yield. In the absence of a complete closure of the Pamlico Sound to shrimp trawling, or the adoption of the management measures detailed in the Federation's petitions for rulemaking, we would support a combination of management options listed in Draft Amendment 2 that may work together to reduce bycatch.

The Federation hopes that DMF will recommend management actions to better protect all inshore waters from trawling, rather than continue to unnecessarily delay protections. But history doesn't give us a ton of confidence this will occur. This is one more reason we believe that the management of marine fisheries would be best served under the authority of the N.C. Wildlife Resources Commission.

My Dream of Abundant Waters by Rocky Carter



My dad was Cherokee Indian. He started taking me fishing when I was a little boy. We lived at the dead end of a dirt road, near High Point, and as a kid, I was free to roam the woods and sneak into ponds. The great outdoors was my entire world.

That world changed when I was 10 years old. We were visiting our rich cousins in Georgia. We knew they were rich because they had a basement instead of a crawl

space. I slept in their "dungeon" that night, and on the nightstand was a fishing magazine. Up until that moment, I thought there were 3 kinds of fish: bass, bream, and catfish. In my experience, none of those grew to more than a foot long. An article in that magazine told of tunas and marlins that weighed over 1,000 pounds. There were pictures of these giants.

At this point in my life, I have been fortunate to fish in 12 different states, and ironically, 12 countries. For my first 50 years, the very essence of fishing for me was honing my skills to catch game fish. Every day I fished, and every cast I made, was filled with hope.

Over the years, I've listened to the old-timers tell stories about how abundant our coastal waters were, especially in the 1960s and '70s. Now, I'm an old-timer. My hair is white. I have gout, an aching back, and sometimes I just don't have that pep in my step. And now, I fish more for fellowship. I've experienced, firsthand, declining fish stocks. But I still have my dreams. Thankfully, our generation is the first generation to recognize the need for conservation and preservation. Today, more than ever, we recognize the effect our footprint has had on our resources.

But there still exists a perception that "there is enough fish for everybody." That is no longer true. Ignoring the facts does not change the facts. Science shows declining stocks in most coastal species. The reasons are many—years of coastal development, destruction of habitat, and the netting of juvenile finfish among them. Yet the options for our response are limited. Immediate measures must be taken. Fishery management is not about allocations or redistribution. It's about preserving what we have and managing for sustainability. Why would we not allow existing stocks to repopulate our sounds, our bays, our estuaries, and our oceans? Simply let these fish spawn.

Many of you have heard the old saying, "recognizing a problem is half of solving it." For fishery management in North Carolina, that is not turning out to be true. It is the proverbial hot potato in Raleigh that legislators don't want to hold.

Our stocks have suffered. No one group or organization is to blame. Everyone is doing what they love to do and need to do, which is to catch fish. With pressure coming from nets, trawlers, and technology, it is no wonder our fisheries are dwindling. Immediate measures have to be taken or our current fisheries will go the way of river herring.

I have an amazing, wonderful daughter. She is now 16 years old. Some day she may have a son or a daughter who loves to fish. I want her to tell her children that their grandfather educated himself on the issues facing our fisheries and tried to educate others. I want her to tell her children, "*Your grandfather fought hard so that you might fish in abundant waters.*"

That's my dream, and always has been: A dream of abundant waters once again, not for me, but for you, your children, and your grandchildren. **WF**

New Board Members Welcomed to the Team

The North Carolina Wildlife Federation is pleased to announce two new members of its board of directors.



LUIS MARTINEZ

Luis Martinez is senior attorney for the Natural Resources Defense Council (NRDC) in its climate and clean energy program, where he focuses on enabling the transition to clean energy at the state and regional level, in addition to frequent local and international projects.

Martinez specializes in eliminating energy sector pollution through climate policy, regulation, clean energy programs, and legislation by building partnerships with local and regional groups, academic institutions, and businesses. He received his law degree from Tulane University School of Law. Among other legal work prior to joining NRDC, he worked for Puerto Rico's Environmental Quality Board.

"I am extremely excited and pleased to be a board member of this wonderful organization," says Martinez. "In my professional career, I've specialized in climate and energy policy and I look forward to engaging in some of my other personal interests like species and habitat protection and exploring opportunities to combine these areas to address climate resiliency."

Martinez enjoys hiking, fishing, and camping with his three young boys. He points to the Federation's big tent philos-



JON WALL

ophy as uniquely tuned to today's challenges and is looking forward to helping connect diverse communities to nature.

A partner with Higgins Benjamin, PLLC in Greensboro, **Jon Wall** is a seasoned employment attorney with cases throughout the state. Wall received his law degree from Washington & Lee University School of Law after attaining his B.A. from Duke University. He has taught as an adjunct professor at Elon University School of Law and has served on its board of advisors since the law school opened in 2006.

Wall has served on numerous boards and associations including the Community Foundation of Greater Greensboro. From volunteering for the Bermuda Biological Station as a teenager, to starting the Piedmont Mycological Association in 2012, Wall has enjoyed the outdoors since childhood. "Understanding human impact on wildlife, and protecting these unique habitats, is paramount at this time," Wall says. "NCWF is a special organization I have long admired. I'm impressed with the commitment of the hard-working board and staff and look forward to providing my legal knowledge and other skills towards the cause."

Connecting Kids to Nature Initiative Earns Recognition



a program of the North Carolina Wildlife Federation

Great Outdoors University, NCWF's flagship program geared to get kids outdoors and experiencing nature, was recently recognized

by one of its closest partners. The Boys & Girls Clubs of Greater Charlotte bestowed its 2020 Group of the Year award to Great Outdoors University in recognition of providing engaging educational experiences for Boys & Girls Club members. "We want to recognize Mary Bures, and Great Outdoors University, for outstanding work with our Boys & Girls Clubs," read a statement from the organization. "Since 2013, Mary and her team have exposed our Club kids to nature and the importance of conserving our natural habitats. The interactive experiences that Club members engage in include fishing, canoeing, bike riding, and trail hiking. THANK YOU for supporting our Clubs."



ANTHONY BUCKSON, (LEFT), DIRECTOR OF OPERATIONS FOR SALVATION ARMY BOYS & GIRLS CLUBS OF GREATER CHARLOTTE, WITH THE ORGANIZATION'S GROUP OF THE YEAR AWARD PRESENTED TO GOU'S DIRECTOR MARY BURES.



SUCK IT UP

This month, NCWF and other conservation organizations, represented by the Southern Environmental Law Center, filed a lawsuit against the U.S. Army Corps of Engineers' unlawful decision to conduct year-round hopper dredging in Wilmington and Morehead City Harbors. Hopper dredges are massive vessels that deepen a channel by essentially vacuuming up everything on the floor of the dredged area—including endangered and threatened sea turtles and sturgeon, as well as valuable fish species and fish habitat. Unfortunately, animals sucked into a hopper dredge are killed or maimed by the blunt force trauma associated with moving through the machinery.

Especially during the summer months, our coast is home to a wide range of species going through critical life stages. Hundreds of federally protected sea turtles, as well as many commercially and recreationally important fish species, travel to our beaches and estuaries around the harbors to nest, spawn, breed, feed, and grow. Protecting our coastal resources is essential for the North Carolina fishing community—and for decades, the Corps has successfully maintained Wilmington and Morehead City Harbors without resorting to regular dredging during spring and summer months. The Corps has not given a sufficient reason under the law for its about-face to now allow dredging during these seasons.

The stakes of the Corps' decision are too high. The summer months are when many species are most vulnerable to the impacts of hopper dredging, and the Corps has not fully studied the impacts of carrying out hopper dredging activities during the spring and summer months. The longstanding practice of restricting hopper dredging to the winter months is one of the best ways to protect our fish, turtles, and other resources from dredging, and NCWF stands ready to defend coastal wildlife in court.

Stronger Together

MANY WILDLIFE CONSERVATION GROUPS AND ORGANIZATIONS across the state help comprise NCWF's grassroots network for conservation. These affiliates range from youth and adult groups to statewide organizations and local chapters, or local extensions of national or statewide organizations and associations. Three new affiliates have recently joined the NCWF family.



ASHEVILLE GREENWORKS has been working for the environment since 1976. The group, led by executive director Dawn Chavez, works to inspire, equip, and mobilize individuals and communities to take care of the places they love to live. Through community-based, volunteer-led environmental conservation projects and education programs, they work together to enhance the environment and quality of life for all residents of Asheville and Buncombe County. Federation board member John Robbins, who also serves on this new affiliates' board, worked to forge the relationship, stating "there is a clear nexus to build upon for river cleanups, planting efforts and building awareness for conservation."



Black to Nature

BLACK TO NATURE is a Charlotte-based group focused on bringing the black community together through nature. Black to Nature's online platform connects members to nature through in-person and virtual events and offering opportunities to learn new skills to build community among black environmentalists locally and nationwide. Chief operating officer William Simmons Jr., who grew up hunting and exploring nature in rural South Carolina, states, "We are excited to partner with N.C. Wildlife Federation as this will give us an opportunity to not only get Black to Nature users more connected to the outdoors, but also more educated in regards to wildlife conservation. We are also excited to work together on community service events that can help us give back and improve the community."



CAPE FEAR RIVER WATCH (CFRW) works to protect and improve the water quality of the Cape Fear River basin for all people through education, advocacy, and action. CFRW has already teamed with NCWF's Carolina Beach-based chapter, Island Wildlife, on habitat restoration and educational projects. This group was the winner of the Governor's Conservation Achievement as Conservation Organization of the Year in 2019. We look forward to future partnership work protecting crucial riparian and fish habitat.

GARY TOG / THINKSTOCK



HICKORY PLANTING WITH THE CHEROKEE ▷

A new Federation partnership kicked off with the Eastern Band of Cherokee Indians, located in Cherokee, in western North Carolina. Earlier this year, staff was introduced to David Anderson, lead horticulturalist with the tribe. While the tribe grows plants for restoration projects, a particular need exists for hickory trees, which are culturally significant to the Cherokee. To help, NCWF purchased 120 hickory trees for the Cherokee, including five different native species such as mockernut and shagbark.

Hickory nuts are a valuable food source for many wildlife species including turkey, wood duck, bear, foxes, chipmunks, and squirrels. A wide range of insects feed on the foliage and twigs, and hickories support more than 235 Lepidopteran species, including butterflies and moths. The trees also provide valuable roosting, nesting, and cover for wildlife and sequester large amounts of carbon dioxide.

These native trees are also important culturally. Cherokee stickball, colloquially called Indian Ball, is a mix of lacrosse and football, played on a field with two goal posts set on opposing ends. Traditionally, hickory was used for the sport's sticks. Although stickball is now played recreationally with community teams throughout the Cherokee reservation, the game was once considered an alternative to war and a way to settle disputes among tribal factions. Tribal member Micah Swimmer explains that stickball is reserved for men in the tribe, as women are seen to have immense power and therefore must reserve their energy for themselves and allow the men to harness their own strength during the stickball matches.

Stickball sticks are made from a single long piece of hickory without the bark. A split, carved stave is soaked in a creek and then bent into shape. It usually takes 10 to 15 years for the hickory trees to grow tall and wide enough for the branches to be suitable stickball sticks. Tribal members emphasized that their new hickory groves will be sustainably managed to last centuries for future generations of wildlife and tribal members alike.

Cherokee tribal member Jeanne Burgess shares that hickories are also used in cooking, including the creation of hominy, which takes almost a full day to make. *Kanuchi*, or hickory nut soup, is another specialty dish of the Cherokee, created from ground hickory nuts.

NCWF is honored to partner for this habitat restoration at the Birdtown Community center and at the Kituwah Mound Mother Town site. Logistics were organized with volunteers using their trucks and trailers, at their personal cost, to transport trees from nurseries to the Cherokee reservation. Despite some challenges with fitting several dozen trees into the beds of pickup trucks, and tarping the trees to protect from wind burn during transportation, all of the trees arrived in Cherokee. Supporters were also given the opportunity to financially support a leg of the journey as another way to participate in this effort. A big thanks goes out to Don and Carol Hambridge, Kristie Bulla and sons, D.L. Roy Harrington, Fred Harris, and Bob and Regan Brown for making this planting possible.

David Anderson shares, "The EBCI Natural Resources program is grateful for this partnership with NCWF. Accomplishing projects like this creates a lot of excitement and community engagement, and helps put information out to the public on why it is important we continue to do this type of work. We hope we can continue to partner with NCWF on similar projects that lead to ecological restoration and cultural preservation. It is important to recognize that Indigenous peoples were the original stewards of the land, and that continued efforts such as this lead to sustainable landscape models."



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



CONCORD WILDLIFE
ALLIANCE



EEDRC (ENFIELD ECONOMIC
DEVELOPMENT AND
REVITALIZATION COMMISSION)



HAWK (HABITAT AND
WILDLIFE KEEPERS)



INNER BANKS
WILDLIFE



ISLAND 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

FOR THE LOVE *of* WILDLIFE UNDERDOGS

Loti Woods and Dale Weiler, after retiring from working in the corporate world, met at an art gallery in Tryon, NC and 8 days later, were engaged. Their love story is built around their passions for wildlife, the outdoors, and art.

“Loti and I feed off each other because we have the same mindset,” said Dale. “We’re never comfortable with sitting on our laurels. Which is why we’re busier than ever in retirement.”

Loti and Dale run Weiler Woods for Wildlife, a website and sculpture studio, to spread awareness about wildlife underdogs. Loti lovingly defines underdogs “as the misunderstood, underappreciated, and often unjustly feared creatures in nature.” While there are wildlife underdogs all around the world, their primary focus is on native North American Critters. “Think wolves, bats, vultures, opossums and hellbenders, for a start.”

When they’re not at home, they’re driving across country in their RV delivering Dale’s hand-crafted sculpture art to nonprofits working on red wolf conservation.

“Dale was tired of creating artwork to just sell or put into museums or corporations. It didn’t give him much joy,” Loti said.

“Loti is a talented writer,” Dale said, “and together we figured out how to combine her writing ability and my sculpture art to promote endangered wildlife.”

Over the next 12 months, Loti and Dale will donate more than 30 red wolf castings and other art to create awareness and help fund red wolf programs.

Red wolves are quintessential underdogs. With less than 20 left in the wild, “they are the most endangered wolf in the world,” Loti writes on their website.

“NCWF’s red wolf conservation work is a big reason why we support NCWF,” said Loti. “Plus, we have met some of the most passionate people who inspire us to work even harder to protect wildlife and habitat.”



LOTI, DALE, AND THEIR DOG GIBBS
STANDING BY THEIR POLLINATOR
GARDEN AT HOME IN TRYON, NC.

“We have met some of the most passionate people who inspire us to work even harder to protect wildlife and habitat.”

—LOTI WOODS

GINGER BARGER



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.



THE Season

Jeff Beane's GUIDE TO
NATURAL NORTH CAROLINA

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SEPTEMBER

September 10: Wild muscadines are ripe. Summer farewell is in bloom. Peak flight periods for several common and uncommon butterflies, among them cloudless sulphur, Gulf fritillary, little yellow, and Aaron's, Dion, Long-tailed, and Yehl skippers.

September 12: Whip-poor-wills and chuck-will's widows have begun to depart for their wintering grounds. Most overwinter in Mexico and Central America. Slender scratch-daisy is in bloom.

September 13-19: BugFest, Plan Bee! The North Carolina State Museum of Natural Sciences' huge annual educational expo, celebrating insects and other arthropods, will feature virtual programming Monday through Thursday this year, as well as three in-person events. This year's theme is **bees!** For more information and updates, visit www.natural.sciences.org.

September 14: Butterfly watching is usually great during September. Migrating monarchs can be particularly spectacular this time of year. The Blue Ridge Parkway is a good place for monarch watching, and Tunnel Gap at milepost 415.6 can be an especially good spot.

September 15: Balsam Mountain gentian is in bloom. This North Carolina endemic occurs in only a few counties in our southwestern Mountains.

September 16: Possumhaw berries are ripe and will persist through the winter. Blue-winged teal are arriving.

September 17: The Diana fritillary—a rare butterfly found only in our Mountains and Foothills—is flying, after its summer diapause.

September 20: Flowering dogwood berries are ripe. Watch trees for migrating scarlet tanagers, rose-breasted grosbeaks, and other birds that relish these berries.

September 21: Hawk migration peaks. Thousands of broad-winged hawks and other species may be seen in migration at this time of year. Mahogany Rock in Doughton Park along the Blue Ridge Parkway is an especially good spot to witness this phenomenon.

September 22: It's fall, all y'all! Autumnal equinox is at 3:21 p.m. EDT.

September 23: Pine snake nests are hatching. Sandhills blazing star is in bloom.

September 23-25: The Carolina Bird Club will hold its annual fall meeting in Havelock. For more information, visit www.carolinabirdclub.org.

September 24: Bog turtle nests are hatching in the Mountains and Foothills. Fern-leaf false foxglove is in bloom in the Coastal Plain.

September 25: National Hunting and Fishing Day and National Public Lands Day. Visit your favorite public lands, and/or take a kid (or adult) hunting or fishing.

September 26: Most white-tailed deer fawns have lost their spots. Marbled salamanders have begun moving to their breeding sites on rainy nights. Males usually move in first. This handsome salamander was adopted as North Carolina's official state salamander in 2013. Females deposit their eggs under sheltering objects on land in or along dry woodland pools and attend them until winter rains inundate the pools and hatch the eggs, giving them a jump on most winter-breeding amphibians.

September 28: Fall warblers and other migrants are coming through. Watch the trees for some challenging birding.

September 29: The first frosts can be expected any time now in the Mountains.

September 30: The nests of most turtle species will have hatched by now, but in some species, including sliders, cooters, painted turtles, and box turtles, hatchlings may sometimes overwinter in the nest, not emerging until spring.

OCTOBER

October 1: In the Coastal Plain and eastern Piedmont, walkingstick mantids (aka Brunner's mantids) are active and depositing their oothecae (egg clusters). These unusual native mantids occur only as females and reproduce parthenogenetically.

October 2: Last of the season's loggerhead sea turtle nests are hatching. Nodding ladies' tresses are in bloom.

October 3: Autumn tiger beetles are mating. This rare, usually bright green species is known from only a few areas in our Sandhills region. Nearly all our other tiger beetle species breed in spring.

October 5: Surface activity peaks for eastern and southern hognose snakes.

October 6: Fall runs of bluefish and red drum offer good surf fishing opportunities.

October 8: Peak migration for many sea duck species.

October 8-9: Draconid meteor shower peaks.

October 9-10: Celebrate the ecological and economic importance of the genus *Mugil* at the Crystal Coast's oldest festival—the Annual Mullet Festival in downtown Swansboro. For more information, call 910-353-0241 or visit www.swansborofestivals.com.

October 10: Tail end of migration peak for many shorebird species.

October 10-16: National Wildlife Refuge Week. Contact your favorite National Wildlife Refuge for listings of special activities.

October 11: Ruby-throated hummingbirds are leaving for Central and South America. Hummingbird feeders can be taken down.

October 12: Based on our limited information, this time of year appears to be a surface activity peak for the mimic glass lizard, a rare legless lizard associated with large pine flatwood tracts in our southeastern Coastal Plain. Yellow-bellied sapsuckers and other winter resident birds are returning to the Piedmont and Coastal Plain.

October 15: Eastern mud turtles and chicken turtles begin hibernating. Unlike most aquatic turtles, these two species typically leave their ponds to overwinter terrestrially in nearby uplands.

October 16: Eastern red bats are mating.

October 17: October-flower is in bloom.

October 18: Fall hardwood foliage colors are peaking in the Mountains. Many overlooks along the Blue Ridge Parkway provide especially good color shows.

October 19: The first frosts may be expected in the Piedmont.