



North Carolina
**WILDLIFE
FEDERATION**

Journal

WILD LIVES □ WILD PLACES

Fall 2019

WILDLIFE & WILD PLACES

NCWF works for the wild everywhere,
all the time—for everyone.

CONSERVATION AWARD WINNERS

SALTWATER SHOWDOWN





Points of Light

BY TIM GESTWICKI, NCWF CEO

As a young boy growing up, I spent most of my summers deep in the Maine woods. At night, I would return to our cabin after fishing for catfish or playing capture-the-flag with my buddies. Those activities meant chugging across the small pond with my little 6-horsepower Johnson outboard or walking the dirt road. By land or by sea, I invariably gazed up at the stars overhead, and counted on their light to help me find my way home. Sometimes, during cloudy nights, I had to get on my hands and knees, or walk slowly with my arms straight out in front of me, to fend off branches and spiderwebs. A moonless night was darker still. It surprised me how quickly I could lose my way without a guiding light, no matter how dim.

Life these days can seem like a dark night, too often. What a tough few months of October heat-wave misery and public affairs boondoggles. I can't turn around without some snippet of doom-saying news in my face: Melting icebergs, plastics in the oceans, political malfeasance, natural resource managers rearranging the chairs on North Carolina's Titanic-like marine fisheries programs. The list is long, and I will be honest. It's been a bit of a slog lately on the conservation issues that matter. It's sometimes difficult to keep the faith. Darkness can capture us, cause us to lose our way, suck us into despair. I can get plumb worn out.

But that is not the way of the North Carolina Wildlife Federation. It wasn't Teddy Roosevelt's "Wilderness Warrior" way, either. So, these days, when I think of how conservation will find its way forward in an increasingly dark time, I think of President George Bush Sr.'s thousand points of light. He likened America's clubs, volunteer organizations, and faith groups to "a brilliant diversity spread like stars, like a thousand points of light in a broad and peaceful sky." That resonates with me today. I can see it in the organizations working for wildlife. I certainly saw such a phenomenon in evidence at our annual Governor's Conservation Achievement Awards celebration, which recently celebrated its fifty-sixth year.

It's fun to be a part of a program that is positive and builds up the conservation community. For me and others, every year, this one night is like going back to the well. We dip our gourd deep into waters that inspire and re-invigorate. We learn that it's been a long slog for a long time, and the only way to win for conservation is to slog as long as it takes. The people we celebrate and shine a light on within the pages of this *Journal*—their lives have been marked, I am sure of this—by wonder. At some point in their lives they have been struck by awe and wonder at the song of a scarlet tanager or the bugle of an elk or those green vermiculated squiggles on the back of a brook trout that help it stay hidden in the dappled sunlight of the creek bottom. And the result of that wonder has been a quest to learn more, to do more, to protect more, to work hard, and to fight harder, to leave behind a world where wonder can still worm its way into the human heart and help chart a way across the darkness of ignorance and misunderstanding. These are the points of light. Our points of light, and connected they glisten with power.

To ensure there are future points of light, we focus on connecting kids and families to nature through our Great Outdoors University. We also highlight our scholarship program, now in its fifth decade, which supports the next generation of wildlife researchers, managers, and advocates. (Some of our past scholarship recipients are now on our board and staff!) Shining bright are our community wildlife chapters which exude enthusiasm and bristle with activity that is contagious. These are positive conservation points that, as interconnected pieces, begin to shine for us all. Thanks to all of these, we can see a little more clearly down the dark trail.

It's really my honor to be able to share with you some of the stories we hear, the positive and effective work that keeps us on track, and on task, and on point. We know it's a big night for our award winners, but every single year I hear from folks in the audience how they've been inspired by these stories, and rejuvenated to work for wildlife, so we wanted to share with you these stories of inspiration. These points of light. Our winners and volunteers and wildlife leaders have planned and plotted, failed and succeeded, wondered why and if. But they've never given up. They've never left the woods. They've never walked out of the arena. Their lives have been marked by grit and gumption. They have slogged, and continue to slog, and will evermore slog. Because conservation success, I'm convinced, has and will continue to come. It simply must. I have seen the light, and trust me, it is very bright.

I firmly believe the work you support, participate, and share in is special, crucial, and binding. We celebrate and press forward to make sure that years from now, North Carolinians will look back at these generations, our generations, and think: *Those folks way back then? They were looking out for us. They were beaming, lights shining brightly.* **NCWF**

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CONTACT

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

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NORTH CAROLINA WILDLIFE FEDERATION

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

VISION Our stewardship will result in a North Carolina with 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.



Conservation's FRONT LINES

The North Carolina Wildlife Federation presented its 56th annual Governor's Conservation Achievement Awards to notable citizens dedicated to conservation in North Carolina. This year's winners ranged from volunteers to lifelong professionals. They are water quality advocates, stewards of public lands and leaders in the preservation of unique ecosystems and species. The award winners include agency professionals, elected officials, and non-profit leaders. This year, it was an honor to extend Awards recognition for the first time to a Native American tribe.



WILSON LANEY



DOTTIE BROWN

North Carolina Wildlife Federation hopes to inspire all North Carolinians—young and old, professional and volunteer, singly and with others—to take a more active role in protecting the natural resources of our state by recognizing, publicizing and honoring leading conservationists each year.

CONSERVATIONIST OF THE YEAR

Wilson Laney / Raleigh

Some 60 years ago, a very young boy named Wilson Laney was nearly swallowed by a mucky hole in a stream bank. Dr. Laney relayed how that early life and death, eye-level view of nature's might and complexity forged his lifelong fascination and tireless dedication to fish, wildlife, and natural habitats. That early spark culminated in an illustrious career with the U.S. Fish and Wildlife Service that spanned almost four decades.

While you might not know him if you met him on the street, if you love to catch a fish, or sit on your deck and watch a piece of water that's clean and whole, or care about the health of waterways or nesting prothonotary warblers in cypress trees on the river, then Wilson Laney has enriched your life. He is widely recognized as an expert in a diversity of conservation arenas including hydropower relicensing,

striped bass conservation, and interstate management of marine fish populations. His broad knowledge of biological resources and deep commitment to their preservation continues to generate a strong demand for his guidance and participation by numerous scientific councils and conservation organizations.

NATURAL RESOURCES SCIENTIST OF THE YEAR

Dottie Brown / Raleigh

Since the winter of 2006, untold millions of bats have died from a fungus called white-nose syndrome, which has been confirmed in 33 states and seven Canadian provinces. North Carolina is one of the hardest-hit regions, with some populations of hibernating bats falling by an astonishing 95 percent. Standing in the gap are scientists like Dottie Brown, who has focused on bat populations in North Carolina for the last 13 years. Brown works as a senior bat biologist at VHB Engineering, where she uses her expertise to conserve bat populations on military installations, along transportation corridors, and in intact forests.

Brown and her team have endured 20-hour days slogging through cypress swamps, netting bats deep into the night and waist-deep in muck to spotlight the critical condition and requirements of North

Carolina bats. She has also led surveys for federally-listed endangered and threatened species on projects throughout the southeast and central United States, serving as a vast resource for her peers and a mentor for rising ecologists. While her unwavering commitment to bats is a personal passion, she is also interested in the conservation of northern flying squirrels, bog turtles, hellbenders, and peregrine falcons.

WILDLIFE VOLUNTEER OF THE YEAR

Larry Capps / Gastonia

A list of all of Larry Capps' contributions to wildlife, habitats and engaging youth in outdoor activities would fill the pages of this publication and more. He is, essentially, a full-time volunteer, deeply dedicated to his family and his community.

The whining about not enough people caring about conservation? The hand wringing about who is going to work for wildlife? The complaints about trash in the river and not enough fish, or who's going to get kids outdoors? Larry Capps doesn't want to hear the complaining. What he wants to hear is what he's been saying for decades: Yep. I can do that. Absolutely. What time do you want me there? That sounds like a lot of work. When do we get started?

Capps is a founding member and the current president of Gaston County's local NCWF wildlife chapter, Gaston County PAWS, and is either a leader or member of at least a dozen other local, state and national organizations. Wherever and whenever there is a need, Capps is in the front row with his hand up. And along the way, Capps has transformed not only thousands of acres of wildlife habitat, but also untold numbers of his fellow citizens from being people who wring their hands over the state of things, to people who put their hands up. He is a force of and for nature, and a true inspiration in Gaston County and beyond.

WATER CONSERVATIONIST OF THE YEAR

The Coharie Tribe / Clinton

When the Coharie Tribe of eastern North Carolina looks at its family tree, it sees a river. For the Coharie people, this creek—the Great Coharie River—is its ancestral mother, the deep spring that has tied its people together across time. The river was a cultural and community touchstone for the tribe until the last few decades when hurricanes clogged the river with debris and the water slowed and stagnated, choked by too many beaver dams and too little flow.

A river that once stitched together the Coharie people became a thing to be ignored and even feared. In 2015, the Tribe was permitted to forge a navigable corridor through a 9.5-mile section of the main river in what would become a 4-year effort called the Great Coharie Initiative. Tribal and other volunteers have logged more than 5,000 miles on the water, restoring not just 9.5, but 20 miles of access to the Coharie and increasing the vitality of the community through reconnecting with the sacred waters.

Rejuvenating the stream has renewed the community and flooded it with resources. Now, the Coharie Tribe is gathering once again at the water's edge with their children and grand-children—and grandmothers and grandfathers—coming to the river to celebrate what we all should be celebrating on North Carolina streams: how free-flowing water lifts and fills the spirit, and carries it downriver, where there is always another stream in need of care.

SPORTSMAN OF THE YEAR

Rocky Carter / Swansboro

Rocky Carter is a passionate hunter and angler, and the epitome of the sportsman-conservationist as one of the state's staunchest advocates for protecting public resources for future generations to enjoy. He jumps in with both feet for youth outdoor education and Wounded Warrior fishing events, and is always ready to act for habitat restoration and conservation of resources.

When Carter joined the North Carolina Wildlife Habitat Foundation board of directors in 2016, he shared a vision for the New River Oyster Highway. The idea was to construct 12 man-made oyster reefs along a 20-mile stretch of the New River south of Jacksonville that had lost all of its oysters. Carter helped raise awareness, supporters, and more than \$1.3 million for the oyster highway, which is now a reality, filled with oysters to purify the water and boost fish populations for the benefit of all. Carter's commitment to marine resources is top of mind, always, whether he is leading the charge for big conservation ideas or giving a young angler a hand-made fishing rod to help spark an interest in chasing sea trout and flounder. Carter epitomizes the attitude of paying it forward.



COHARIE TRIBE



LARRY CAPPS



ROCKY CARTER (on right)

Yep. I can do that. Absolutely. What time do you want me there? That sounds like a lot of work. When do we get started?



USFWS / LAURIE SHEPPARD



SWEAT BEE

USFWS / GARRY PEBBLES



BOG TURTLE

WILDLIFE CONSERVATIONIST OF THE YEAR

Debbie Roos / Sanford

Roos is an Agricultural Agent for the Chatham County N.C. Cooperative Extension Service whose professional focus is supporting small farmers in the area and hosting educational seminars and field days on sustainable agriculture. In her early work to support beekeepers, she became aware of the more than 500 native bee species in the state, changing her career trajectory. Her position has grown to include support for the wider audience of gardening and wildlife enthusiasts, which culminated in the establishment of the Pollinator Paradise Garden in Chatham County.

LAND CONSERVATIONIST OF THE YEAR

Three Rivers Land Trust / Salisbury

As a dynamic land conservation organization, Three Rivers Land Trust has conserved thousands of acres of land for the benefit of wildlife, habitat protection, water quality, cultural significance, and the public. Not only does the land trust raise funds to protect lands for ecological purposes, but this organization values and implements unique ways to connect the public with natural resources, such as through its Sportsman Access Program.

ENVIRONMENTAL EDUCATOR OF THE YEAR

Lily Dancy-Jones / Asheville

This high school biology teacher has elevated pollinator habitat and awareness in the Asheville area by connecting students, community members and local businesses. Dancy-Jones was encouraged by pollinator efforts in urban Asheville, but the lack of interest and action for pollinators and habitat conservation in surrounding rural areas troubled her. She founded an Eco Club at the high school where she works, coordinated workdays to establish several gardens through grants on school grounds—complete with native flowers, “bee hotels” and educational signs—and chairs the steering committee of Youth for Environmental Stewardship in Asheville.

LEGISLATOR OF THE YEAR

Carla Cunningham / Charlotte

Representative Cunningham is the House minority whip. An avid angler, she is in her fourth term in the General Assembly, and has proven a steadfast champion for wildlife and habitat. Cunningham sponsored bills to revamp coastal marine fisheries management and licensing, and led the chorus

within her caucus and the wildlife committee on the way to successful passage of legislation to tie fisheries management to science.

MARINE RESOURCES CONSERVATIONIST OF THE YEAR

Larry Yarborough / Roxboro

Fully understanding the value of and opportunity for North Carolina's marine fisheries to be the envy of the Atlantic and Gulf Coast states, this avid fisherman worked tirelessly for marine fisheries reform. Knowing first-hand the great fishing in Mississippi and Florida that came out of reforms, Yarborough, undeterred by previous failed attempts in North Carolina, focused on the resource to help pass historic legislation in the House.

PUBLIC LANDS CONSERVATIONIST OF THE YEAR

NC Chapter of Backcountry Hunters & Anglers

Established in April of 2018, this state chapter of the North American public lands advocacy organization has been a whirlwind of conservation action. Kicking off its charter with a mountains-to-sea pint night tour of the state, NC-BHA has engaged in statewide public lands cleanups, led campaigns to contact state legislators, created a fund to aid fishing and hunting guides impacted by Hurricane Florence, and created a deeply active and vital network of public lands advocates across the state.

NCWF CHAPTER OF THE YEAR

Charlotte Reconnecting Ourselves with Nature (CROWN) / Charlotte

From leading family nature walks to organizing community paddling events, this dedicated group has led the way for environmental awareness and wildlife conservation in Charlotte. Celebrating its fifth year as a wildlife chapter, CROWN achieved recognition of Charlotte as a Community Wildlife Habitat, installed several pollinator gardens in schools and created venison recipe kits for those in need in Mecklenburg County.

NCWF AFFILIATE OF THE YEAR

North Carolina Herpetological Society

As a strong advocate for amphibians and reptiles, the NC Herpetological Society specializes in providing science-based information, research, and educational opportunities to working professionals, its members, and the public. This organization is dedicated to conserving North Carolina's native species and biodiversity through on-the-ground herpetological work, including Project Bog Turtle and Project Simus, documenting the natural history and distribution of numerous species including the southern hognose snake, bog turtle, and eastern chicken turtle.

FOREST CONSERVATIONIST OF THE YEAR

Bill Kane / Cullowhee

A longtime advocate for forest conservation, Kane served on the original forest management plan stakeholder team for the Nantahala-Pisgah national forests and is currently working on its updated plan advocating for wildlife and healthy habitats within that 1.1 million acres. Kane has been a long-time volunteer with the Nantahala Hiking Club Appalachian Trail maintenance crew and a leader in forest conservation and management for over four decades.

CONSERVATION ORGANIZATION OF THE YEAR

Cape Fear River Watch / Wilmington

Improving water quality and protecting the Lower Cape Fear River Basin through education, advocacy and action, this group was at the forefront when dangerous levels of the emerging contaminant GenX were discovered in the river, and ultimately in the drinking water of hundreds of thousands in the Wilmington area. CFRW assisted with public meetings for residents, provided support for official inquiries and demanded full funding for the Department of Environmental Quality to address the issue. As a result, discharges of GenX have ceased and recovery efforts are being pursued.

BUSINESS CONSERVATIONIST OF THE YEAR

Kellex Seating / Valdese

Kellex Seating's commitment to conservation is evident not only in its commitment to using recyclable and renewable materials in the manufacturing process, but also by its significant financial contribution to Valdese Lake Park to purchase 300 acres for a public recreational park. Taking it further, employees committed hundreds of hours towards cleaning up debris, removing invasive plants, installing pollinator gardens and improving wildlife habitat on the site of the future park.

WILDLIFE ENFORCEMENT OFFICER OF THE YEAR

Michael D. Paxinos / Kinston

This nine-year veteran is a well-rounded officer with a consistent record of excellence. When Hurricane Florence ravaged his county, Master Officer Paxinos coordinated emergency response efforts and exceeded the call of duty by housing several officers for the duration of the response. More recently, Officer Paxinos procured potentially life-saving Narcan for the entire Law Enforcement Division after a fellow officer was exposed to fentanyl during a traffic stop. He works tirelessly to cultivate relationships across agencies, serves as a leader for younger officers and has been innovative with equipment and techniques.

MARINE PATROL OFFICER OF THE YEAR

Malcolm Bryan Eure / Wilmington

Officer Eure is one of Marine Patrol's most seasoned, skilled and exemplary officers due to his strong work ethic, professionalism and good character. Officer Eure volunteered his knowledge of his area, regulations and commercial and recreational fisheries to the Rules Advisory Team, dedicated time and effort vetting new-hire prospects and participated in lease reviews to uphold the quality of coastal waters. He earned a Life Saving Award for his quick thinking and vital intervention in administering a tourniquet to an injured man on Wrightsville Beach. He is a valued resource for fellow officers and maintains positive, progressive relationships with the larger communities of Wrightsville Beach and New Hanover County. **WF**

GOVERNOR'S CONSERVATION ACHIEVEMENT AWARDS SPONSORS	
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A fishing boat is visible on the left side of the image, with a large school of fish swimming in the foreground on the right. The background is a clear blue sky and ocean.

Something FiSHY

And there's nothing funny about North Carolina's mismanagement of marine fisheries.

From top to bottom, North Carolina's marine fisheries management stinks. The facts are simple: This state looks the other way as hundreds of millions of juvenile fish are killed in legal bycatch each year, unlike any other state in the country. Meanwhile, the Department of Environmental Quality and the Division of Marine Fisheries act as if incremental, tiny modifications to processes are the solution—behavior akin to rearranging the chairs on a sinking *Titanic*.

Where does the buck stop? Who is responsible for the utter plundering of the public's marine fishes? The science is clear, and the solutions make practical and fiscal sense. Every other state along the Atlantic and Gulf seaboard has evolved and have both vibrant commercial and recreational fisheries.

Why not North Carolina?

SQUANDERED OPPORTUNITIES, FORGOTTEN PROMISES? As Governor, Roy Cooper has done many positive things for natural resources. He has fought tooth and nail to keep offshore drilling and seismic testing out of North Carolina's coast. He has budgeted for conservation lands and park funding. He has committed to a clean energy economy through executive order, and supported endangered species across North Carolina. There's a lot to applaud.

But the marine fisheries arena has been a glaring deficiency, and one hard to square with Cooper's campaign stumping. Conservationists and anglers were hopeful for progress as Governor Cooper ran on a conservation-focused fisheries management platform. Unfortunately, fisheries management has deteriorated in his administration. Fish stocks are plummeting to all-time lows while science-based management solutions are torpedoed by agencies that are charged with managing the resources.

THE PROBLEM Without better management practices in place for our sounds and estuarine ecosystems, commercial shrimp trawling results in the catch of unsustainably high levels of non-target (bycatch) species. **Trawling surveys have shown for every pound of shrimp caught in North Carolina waters by shrimp trawls, about four pounds of finfish and other marine life are caught, and killed, and discarded as bycatch.** Each year, hundreds of millions of fish are simply wasted. North Carolina's sounds and estuaries are highly productive nursery areas that provide vital habitat to juvenile fish before these fish mature and have an opportunity to spawn and reproduce. Shrimp trawling effort is highest in North Carolina's sensitive sounds, where trawling destroys fragile habitat areas and devastates substantial quantities of juvenile fish.

Astonishingly, the amount of trawling permitted in these sensitive, highly productive in-shore nursery habitats of all states from Texas to Maryland combined, pales in comparison to the level of effort currently permitted in North Carolina. In fact, the level of effort would still greatly exceed all other states combined even if the shrimp trawl petition was implemented in full.

Over the last several decades, the public trust has been wholly violated because the state has consistently failed to enact precautionary, meaningful rules that would lead to recovery of North Carolina's valuable marine fisheries resources.

The annual fishing mortality on these juvenile fish from shrimp trawling bycatch is unsustainable and has led to major declines in the health of these fish populations over the past twenty years. The primary species taken as bycatch in the shrimp trawl fishery, including spot, croaker, grey trout, and summer and southern flounder, have declined precipitously since the Fisheries Reform Act of 1997 was implemented. Landings of the fish subject to this bycatch mortality have decreased over the past two decades from 38.5 million pounds to 4.9 million pounds, a reduction of 87.3 percent. These species are not only economically valuable, they also serve an important role in ecosystem functioning.

SCIENCE-BASED SOLUTIONS REBUKED BY STATE AGENCIES The Wildlife Federation submitted a thorough, science-based, research-driven rule-making petition nearly three years ago to designate North Carolina's inland waters as nursery areas, and allow but restrict the frequency and intensity of shrimp trawling to give more of the juvenile fish raised in the nursery areas a chance to reach the ocean to mature, spawn, and rebuild populations. The Marine Fisheries Commission, at that time appointed by then-Governor Pat McCrory, agreed that the proposed rules restricting trawling bycatch were necessary. The MFC granted the petition and voted to send it through the rule-making process so the public could have its say. It never made it through the legal process. The Division of Marine Fisheries (which had objected to the rules) sat on the petition for two years under the Cooper administration while slow walking a "fiscal analysis." DMF finally submitted the revised petition to the Office of Budget Management, but this document was flawed and biased, riddled with technical inaccuracies and highly exaggerated costs. DMF eventually concluded it did not have the funds to implement the rules, effectively killing the proposed rules.

ROUND 2 This past year, the Federation offered a newly revised and simplified compromise proposal, narrower in scope yet still a way to begin to restore depleted fish stocks. Nonetheless, despite staggering data documenting the decline in spot, grey trout, and croaker, the MFC—now all Cooper appointees—voted against even considering rule-making proposals to curb the bycatch of hundreds of millions of juvenile fish by shrimp trawling in estuarine waters and to protect habitat areas essential to valuable fish species.

The responsibility of managing these valuable fisheries resources and ensuring a viable coastal economy rest squarely with the Governor and the Department of Environmental Quality, which oversees the Division of Marine Fisheries. Governor Cooper had an opportunity to follow through on campaign commitments when he appointed nine members to the MFC. Now, the second rule-making proposal has been voted down by the current administration's MFC with full opposition by its DEQ and Division of Marine Fisheries administrators. (DEQ and DMF similarly opposed the Let Them Spawn bill (H483) in the legislature, which passed the House and is now in the Senate.) The overt opposition exhibited by Cooper's agencies has left conservationists bewildered with regards to the basis for opposition to resource conservation measures.

The failure of the MFC, DEQ, and DMF to act on these conservation proposals is extremely disappointing and unfortunate for the resource, but NCWF will not halt our efforts for serious reform on this conservation priority. The compelling and undisputed data makes us even more resolved to help our marine fisheries. We remain convinced if the public was made aware of how mismanaged our coastal fisheries are, how much we have lost, and importantly what the potential could be if this public resource was properly managed, **citizens would be appalled and demand action** from the legislature and state officials that seem incapable of acting. Restoring these coastal fisheries would benefit commercial and recreational fishermen, not to mention coastal tourism and coastal communities. **NCWF**

Let Them Spawn...Before They're Gone!



ROY COOPER FOR GOVERNOR 2016 CAMPAIGN PLATFORM FOR MARINE FISHERIES:

'A Cooper Administration will work to ensure that those vital outdoor experiences from earlier times remain available to our state's future generations, including hunting and fishing. The sustainability and protection of North Carolina's natural resources must be a priority. North Carolina's lands and waters must be responsibly used and managed so that all the state's citizens will benefit.

Unfortunately, today our once abundant marine fisheries resources are no longer. The fish, shrimp, oysters, and crabs in our sounds and estuaries that once defined our state are now declining or depleted. Between loss of habitat and overfishing of our fish stocks, North Carolina's marine resources have dwindled. Our oyster population may have declined to 10% of its historic levels. North Carolina's flounder, and weakfish populations are depleted; spot and croaker are under significant stress.

Our marine fisheries resources are under threat from pollution straining the ecosystems those fish need to survive, and fishing in nursery areas and oyster reefs that limit our stock's ability to grow. Overfishing in our nursery areas could threaten prized catches like red drum, speckled trout. That status quo cannot continue without doing significant, and probably irreparable, damage to our marine economies.

As Governor, Roy Cooper will put in place agency managers and Marine Fisheries Commission members who will make decisions in accordance with the best scientific evidence available and conservative principles to enhance the resource. The Fisheries Reform Act of 1997 will be 20 years old next year, and it needs to be modernized and updated to respond to the realities of our state's resources and economic well-being. If the current course.... is maintained; the availability of our natural resources for the use and enjoyment of future generations is in serious jeopardy.

As Governor, Cooper will change the direction of our natural resources policies to make the sustainability of our precious land, water, and air, and the ecosystems within them, a top priority.'



Wildlife Federation Board Member Lauded

Ann Berry Somers, a long-time NCWF board member, recently received the prestigious Thomas Quay Wildlife Diversity Award recognizing her 40-plus years of service and experience in the field of herpetology conservation in North Carolina. The N.C. Wildlife Resources Commission presents the Quay Award annually to North Carolinians who make outstanding contributions to wildlife diversity in North Carolina and who are considered leaders in wildlife resources conservation. WRC executive director Gordon Myers presented Somers with an engraved plaque and a framed print stating, “Ann’s thoughtful and innovative leadership have led to innumerable species conservation accomplishments.”

Somers, a Greensboro resident, has dedicated her life to the conservation and management of reptiles and amphibians. A Senior Lecturer and Lloyd International Honors College Faculty Fellow at UNC-Greensboro since 1989, Somers has been recognized multiple times for teaching excellence, publishing, and mentoring student-service learning projects.

As a board member of the Federation she has been a motivating force behind the Federation’s efforts to conserve nongame species, including the protection of native turtles from overharvest for sale to Asian markets and the conservation of aquatic ecosystems for freshwater mussels and threatened herpetofauna.

Somers is a member of several herp-related organizations, such as North Carolina Partners in Amphibian and Reptile Conservation, and is a 40-year charter member of the North Carolina Herpetological Society. She also has served on numerous conservation-related boards and committees, including a 20-year stint on the Commission’s Nongame Wildlife Advisory Committee, a board comprising 15 North Carolina citizens who advise the



Ann Berry Somers, winner of the Thomas Quay Wildlife Diversity Award, with N.C. Wildlife Resources Commission Executive Director Gordon Myers (left) and N.C. Wildlife Resources Commission Chairman John Coley (right).

agency on nongame wildlife conservation issues across the state. Perhaps Somers is best known for “The Box Turtle Connection,” a long-term, citizen-science project that collects scientific data, educates scientists and the public, and promotes a better understanding for the conservation and management of the eastern box turtle, North Carolina’s official state reptile.

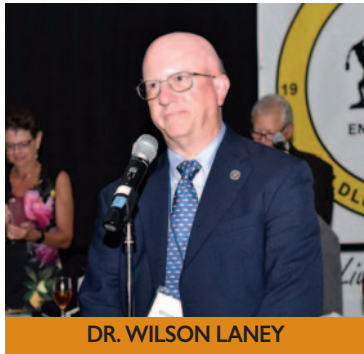
She and her students were the driving force behind the creation of the Commission’s new Wildlife Conservation license plate, which features the Pine Barrens tree frog, the official state frog of North Carolina. Revenues generated from each plate goes to the agency’s Nongame and Endangered Wildlife Fund, which is used to fund projects and programs benefitting native nongame wildlife.

“Ann’s knowledge, skills and experiences allow her to effectively work with sportsmen and sportswomen, birders, gardening enthusiasts, agencies, the business community and elected officials for the greater gain of nongame species conservation,” said Dr. Liz Rutledge, NCWF’s wildlife specialist. “From her advocating and rallying students and others to advocate for nongame funding in D.C., to her current efforts to conserve our estuarine species, Ann is truly a natural treasure for NCWF and for all species across N.C.”





Cream of the Crop *New NCWF board members bring passion and deep knowledge to the fight.*



DR. WILSON LANEY

Dr. Wilson Laney recently retired after nearly 38 years with the U.S. Fish and Wildlife Service (FWS). He received a BS in Biology from Mars Hill College, and MS and Ph.D. in Zoology with a marine science minor from North Carolina State University. He began his FWS career as a fish and wildlife biologist in the Raleigh field office in 1981, retiring as a senior biologist for endangered species and fisheries. In 1991 he transferred to the FWS Fisheries Division as the Assistant South Atlantic Fisheries Coordinator, where he served as technical coordinator for the North Carolina Striped Bass Study, and assisted with the annual Cooperative Winter Tagging Cruises in the Atlantic Ocean off North Carolina Virginia. His primary mission was coordinating the restoration of migratory fish species populations in the South Atlantic drainage basins. Laney has published peer-reviewed papers on Atlantic sturgeon and striped bass and worked on major Corps of Engineers projects. He worked as part of FERC relicensing teams for the Gaston-Roanoke and Yadkin-Pee Dee hydro-power projects.

Laney notes that during his career with the USFWS, he avoided joining major conservation groups in order to avoid the appearance of any conflict-of-interest. Upon his retirement, he decided that it was time for some "payback" to an organization that has made a huge difference toward the conservation of North Carolina's fish, wildlife and natural habitats since 1945.

Laney also has been appointed to the South Atlantic Fishery Management Council's Science and Statistical Committee, Habitat Protection and Ecosystem Based Management Advisory Panel, and has been newly-appointed to both the Atlantic Coastal Fish Habitat Partnership Steering Committee and the Atlantic States Marine Fisheries Commission's Habitat Committee.

JOHN ROBBINS

John Robbins rejoined the board after a year's hiatus. He previously served three terms as director, including chairperson from 2014-2016. John also serves on the board of the National Wildlife Federation as Eastern Vice-Chair, as a member of the Executive Committee of the Worldwatch Institute, and as founding member of Environmental Entrepreneurs in North Carolina. He loves to fish, and is very passionate about the outdoors, including protecting nature and its habitat. Many of our supporters know him as the chair of the NCWF Charlie Shaw Society. Welcome back, John!



DAVE CABLE

Dave's career has evolved from real estate and banking to his real passion for conservation: urban forestry and preserving the environment. He currently volunteers as Davidson Lands Conservancy's land conservation director, co-leads TreesDavidson, and volunteers at Catawba Lands Conservancy (CLC). Previously, he was executive director of TreesCharlotte, a public/private collaboration to grow and diversify



WIKIMEDIA COMMONS

Charlotte's urban forest by planting 500,000 trees by 2050 and promoting tree stewardship and education about planting and preserving trees. Prior to launching TreesCharlotte and serving as its founding executive director, Dave served for seven years as executive director of Catawba CLC and the Carolina Thread Trail, laying the groundwork for a 15-county trail network of conservation corridors for wildlife, water quality and public enjoyment. CLC conserved more than 5,000 acres during his tenure.

Dave also manages a small real estate and natural resources consulting practice specializing in valuation and conservation issues. He holds the MAI, AI-GRS, and CRE professional designations. Dave worked for Wachovia Securities in investment banking before joining Catawba Lands Conservancy. Dave holds a Master's of Science degree from the University of Vermont and a Bachelor's degree from Bowdoin College in Maine.

He resides in Davidson and is an active volunteer for TreesDavidson and various committees within the Town of Davidson, including the Davidson Livability Board. He chairs the Redlair Foundation Board which oversees management and conservation of the Redlair observatory and preserve in Gaston County. "I joined the NCWF Board because I believe deeply in the organization's mission, its science-based culture, its consistent record of high conservation impact, and because I have the highest respect for, and trust in, the organization's leadership."

NCWF Chapters Work for Wildlife

NEWLY FORMING CHAPTERS

on the horizon! As the need for wildlife conservation grows, our conservation army grows with it. Look for these new additions to our chapter network in the next few months.

- Greensboro
- New Bern
- Wilmington
- High Point
- Columbia
- Enfield



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NCWF chapters put the pedal to the metal when it comes to working for wildlife. These are not sit-around social clubs, but active, engaged gatherings of like-minded individuals who don't wait for others to act. Our chapters signify long-term change for the conservation movement in North Carolina. Their local leaders possess the passion and spirit to enact change in attitudes, habitats and priorities among North Carolinians in general and elected officials in particular. Bringing together local conservationists into an active wildlife chapter more than doubles their impacts on the environment and on the political process as they are able to gather resources, ideas and efforts. Here is just a sampling of our chapters' recent efforts across the state.

ALBEMARLE CONSERVATION AND WILDLIFE CHAPTER (Elizabeth City)

After participating in annual events such as Bear Fest, ACWC hosted an educational program where NCWF staff updated on statewide efforts and how chapter participants can be more involved in both local and regional efforts.

CATAWBA RIVER WILDLIFE COALITION (Valdese)

One of NCWF's newest chapters, CRWC has been busy at work cleaning up waterways and roads, as well as bringing kids into nature. The chapter hosted "Fun at the Falls" where hundreds of kids engaged in nature activities. Chapter leaders also gathered on boats this fall for both a river and roadside clean-up to improve wildlife habitat.

COMMUNITY ALLIANCE FOR WILDLIFE (Charlotte)

CAW continues to make an impact on Charlotte community members through its work on pollinator gardens such as the one at Friendship Baptist Church. CAW will continue to transform this space into a showpiece of urban garden design and an impactful wildlife habitat.

CONCORD WILDLIFE ALLIANCE

CWA hosted a recent educational program on the Honey Bee calendar year as well as a native plant class to teach community members about the importance of planting native species. Chapter members also participated in a stream clean-up this fall and planning their Give Thanks for Wildlife Fundraiser.

GASTON COUNTY PAWS

Gaston PAWS hosted its annual Youth Day, during which kids and families participated in events such as skeet shooting, horseback riding and fishing. The chapter also hosted a Getting Started in the Outdoors event to teach participants various aspects of deer



CROWN RECEIVED THE CHAPTER OF THE YEAR FROM NCWF AT THE GOVERNOR'S CONSERVATION ACHIEVEMENT AWARDS BANQUET



HAWK HELD THEIR ANNUALLY SUCCESSFUL KIDS IN NATURE DAY

hunting including tree stand set-up and safety, game recovery, firearm and shooting safety, hunting ethics, and scouting techniques. Participants came from across the state and were selected to attend based on never having hunted and having no support system of hunters among friends and family. Highlights of the workshop included a gourmet-style lunch of venison chili, smoked and grilled trout, venison meatloaf, and dove breast with bacon. Additionally, Wildlife Resources Commission staff processed whole deer to teach attendees how to correctly field dress, skin, and process their own meat. The workshop intent is to connect interested participants with the outdoors in a safe and ethical way while teaching conservation through providing a skill set enabling these future hunters to not only harvest but also consume their own wild game.

MARSH (Marvin)

Still in its first year as a chapter, MARSH has made a real impact on Marvin and surrounding Union County towns. Leaders hosted a fall garden tour in chapter leaders' backyard habitats and at a public park. The chapter also hosted its first public program "For Snakes Sake!" at Marvin's Efid Park with over 80 attendees of all ages.

MOUNTAIN WILD! (Asheville)

Mountain WILD! recently participated in Hey Day at WNC Nature Center for a celebration of all things nature and environment-related. The chapter is working with local school teachers to promote wildlife conservation in the classroom and is also planning a BearWise program in the next few months to teach how to co-exist safely and happily with bears.

SOUTH WAKE CONSERVATIONISTS (Holly Springs)

SWC hosted a program last month on "Africa's Amazing Wildlife," which introduced chapter members to wildlife outside the state. SWC also received a grant to support its involvement in Farmers and Communities Manage Deer which will enable the chapter to help more families in need through venison donations. Chapter leaders also participated in Bass Lake Park Nature Festival to educate about wildlife and pollinators.

UNION COUNTY WILDLIFE CHAPTER (Monroe)

After recently participating in the Union County Heritage Festival and a program on butterflies, one of NCWF's newest chapters is off to a great start. The chapter will continue to host public educational programs on the second Thursdays of the month in the Monroe Agricultural Center.



NEUSE RIVER HAWKS CREATING A HAVEN FOR WILDLIFE AND HABITAT IN WAKE FOREST

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



Albemarle Conservation and Wildlife Chapter



Catawba River Wildlife Coalition



Community Alliance for Wildlife



Concord Wildlife Alliance



CROWN (Charlotte Reconnecting Ourselves With Nature)



HAWK (Habitat and Wildlife Keepers)



Inner Banks Wildlife



Lake James Area Wildlife and Nature Society



MARSH (Marvin Association for the Restoration and Sustainability of Wildlife Habitat)



Mountain WILD!



Neuse River Hawks (Wake Forest)



PAWS (Gaston County Piedmont Area Wildlife Stewards)



South Wake Conservationists



Union County Wildlife Chapter

Here are some ways you can take action for wildlife



Wildlife and their habitats face many threats to survival but together with NCWF, you can give them a fighting chance. There are many ways to help. To speak with a staff member about your interests, contact Kate Greiner, vice president of philanthropy at (704) 332-5696 or kate@ncwf.org.

Thank you for your partnership in the cause!

www.ncwf.org



JOIN THE CHARLIE SHAW SOCIETY

Charlie Shaw Society is a select group of individuals who give cumulative annual gifts of \$1,000 or more. Their level of investment gives them special access and invitations to participate in unique wildlife experiences in North Carolina as well as access to timely and tailored conservation news and updates that they care about.



LEAVE A WILDLIFE LEGACY

Many people like to leave a gift to charity in their will because they care about causes that are important to their lives. Do you care about wildlife diversity and connecting to the outdoors? A gift to NCWF in your will or estate plans can ensure future generations can enjoy the wildlife and habitat that you care about in North Carolina.



GIVE THROUGH STOCK, DONOR ADVISED FUND, OR FAMILY FOUNDATION

There are many ways to invest in NCWF. Doing so by stock, donor advised fund or family foundation are some unique ways that may best suit you given your particular financial situation.



BECOME A MONTHLY DONOR OR AN NCWF MEMBER

Monthly giving is the easiest and most efficient way to support NCWF and protect the wildlife and wild places you love. Automatically recurring gifts allow NCWF to respond to urgent conservation needs immediately when they arise. Recurring donors enjoy all of the benefits of membership. You can easily start, change or stop your gift any time by contacting Sarah Hollis, NCWF's membership & outreach coordinator, at (919) 833-1923.



A DONOR STORY : Avery Bates loves the water. He grew up boating and fishing and continues to do so at his home in Wilmington. "I did everything from catching fish and digging clams to cruising tidal creeks and seeing the wildlife," Avery said. Conserving this seaside lifestyle is important to him. "How we treat our marine resources and ecology has a direct impact on our economy and whether or not people want to move here," Avery said. Investing in NCWF as a Charlie Shaw Society Member supports work that he believes in and benefits from. "I support NCWF because they work in my own backyard to ensure our sounds are managed for the long-term sustainability of the ecosystem so all of us can enjoy the resource for generations to come," Avery said.



Your legacy. Their future.



How do you put wild turkeys in your will? Ask John Fuller.

John Fuller, former board member of the N.C. Wildlife Federation, has been backpacking and fishing in the North Carolina mountains since he was a boy. "My family and I enjoy spending time in the outdoors and I am proud to be able to take my sons to some of the most beautiful mountains in the country. I want the natural habitats of North Carolina preserved for future generations." John knows that NCWF is constantly pursuing ways to keep the environment healthy. He included NCWF in his will. "I want to make sure that my sons, and their children, can experience the same North Carolina that I know and love."

Wild Lives, Wild Places Legacy Society Many people like to leave a gift to charity in their will because they care about causes that are important to their lives. NC Wildlife Federation's Wild Lives, Wild Places Legacy Society celebrates the commitment of individuals who have shared that NC Wildlife Federation is in their will or living trust or have left a portion of their life insurance or retirement plan assets to NC Wildlife Federation. Thank you to those individuals for sharing their wishes with us. If you have left a gift to NC Wildlife Federation in your will, please let us know, we would like to honor your commitment. Please contact NCWF Development Director, Dom Canavarro, at (919) 833-1923 or dom@ncwf.org to share your news or to learn more about NCWF's Wild Lives, Wild Places Legacy Society.



NCWF Scholarship Winners Announced

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

Ridwaana Saara Allen is a doctoral candidate in Geography, Environment & Sustainability at the University of North Carolina at Greensboro, whose focus is green infrastructure, wildlife mobility in urban areas and identifying robust transportation systems that meet the needs of people and wildlife. She is passionate about the value of wildlife crossings and her professional goal is to work with others to address the often life-threatening challenges faced by wildlife in urban and protected areas. Allen enjoys exploring urban greenspaces. "Like wildflowers," she says, "they are hidden gems."


Evelyn Rowan is a rising sophomore in Environmental Science at North Carolina State University who is interested in the loss of biodiversity and finding solutions to the declining populations of endangered and threatened species. Rowan is an exemplary student, taking a professional, responsible and proactive approach to her studies and capacity for leadership. In high school, she was a member of the Jackson County Youth Leadership Council and participated in numerous cleanups in her community. These service projects had a lasting impact and fueled her passion for conservation.

North Carolina State University graduate student, **William Casola**, evaluates the use of public lands and the intrinsic and economic value of protected wild spaces. His goal is to help residents, management agencies and local governments achieve economic, conservation and recreational goals by quantifying the diverse values of those properties to local economies. Casola's research on the impact of deer on ecosystems, landowners and sporting communities highlights the environmental, social and economic benefits of state and national parks, wildlife refuges and public gamelands and elevates the potential for conscientious and lucrative wildlife conservation and management. This grant was awarded in conjunction with the Alamance County Wildlife Club.

Denise Salvetti is a graduate student at the University of North Carolina at Pembroke pursuing a Master's degree in Public Administration. As a Lumbee Indian who cares deeply about preserving wildlife and habitat for future generations, Salvetti is driving toward a career that allows her to work closely with tribes to help preserve their natural resources and traditional cultures. She currently serves as an intern with the USDA/APHIS Office of Tribal Liaisons through UNC-P and intends to join that office on a permanent basis after completing her studies.

Vincent Santini's passion for environmental stewardship led him to pursue a graduate degree at Appalachian State University with a focus on stream conservation biology. He has worked with freshwater mollusks, salamanders, fish and invertebrates in a wide variety of ecosystems. His current research involves understudied, yet critically important, responses and recovery of freshwater mussels that result from dam removals. His research requires frequent trips to field sites that span the entire Eastern Seaboard to perform surveys and data collection. Santini has proven a tireless resource for fellow students and colleagues, readily volunteering to help with field research, statistical analyses and map making, utilizing his proficiency in Arc-GIS.

Graduate student **Caroline Brinegar** is studying geography at the University of North Carolina at Charlotte, with a focus on urban land use patterns and their impacts on habitat fragmentation, wildlife and biodiversity. She is an active advocate for conservation and the protection of wildlife, writing letters to the editor and participating in environmental advocacy campaigns including resistance to seismic disturbance that harms marine life. Brinegar is helping to establish a new chapter of Supporting Women in Geography and Earth Sciences at UNC-C, volunteers at the Reedy Creek Nature Museum, and serves on the leadership board of CROWN, an NCWF wildlife chapter in Charlotte. She plans to further her education by pursuing a Ph.D. in Ecology upon completion of her Master's work.

North Carolina State University's **Brendan Runde** is the recipient of our \$2,500 Conservation Leadership Scholarship. He is currently a doctoral candidate, but excellence has defined his entire college career. He is the author of four publications and is co-author on several others, and the conservation impact of his research has gained wide attention from management and academic agencies. As an undergraduate, he excelled with a double major in Biological Science and Fisheries Science. During this time, he also conducted research resulting in two publications, contributed to projects in the Chesapeake Biological Laboratory, and was a Hollings scholar at the NOAA National Marine Fisheries Service, completing his undergraduate work with summa cum laud honors. He is deeply committed to identifying sustainable solutions to fisheries management that protects the resource and addresses the needs of all stakeholders. In 2017, the American Fisheries Society presented Runde with the prestigious Steven Berkeley Marine Conservation Fellowship for his reef fish conservation research, which focused on discard mortality of reef fish and the effectiveness of descender devices in promoting the post-release survival of these fish, such as red snapper. Last fall, he brought together commercial and recreational fishers for an outreach event promoting the use of descender devices to reduce fish mortality, and was able to secure funding to distribute devices to attendees. Runde's commitment, hard work and outreach efforts have proven valuable to the youth he mentors in the local community, to management professionals and fellow researchers, and to the marine life and ecosystems of North Carolina, and beyond. 

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 13-14: Geminid meteor shower peaks. Bundle up and find a dark beach or open field for this shower, which usually produces a good show.

December 14-January 5: Christmas Bird Counts are held around the state. For information on how you can participate in this 121st year of the world's largest and oldest organized wildlife survey, contact your local Audubon chapter or the Carolina Bird Club, www.carolinabirdclub.org.

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

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

December 17: Hairy white oldfield aster is often still blooming (hence another of its common names—frost aster).

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

December 21: Winter is coming! In fact, it'll be here by midnight. Solstice is at 11:19 p.m. Eastern Standard Time.

December 21-22: Ursid meteor shower peaks.

December 25: Most herbaceous plants have gone dormant or been killed by frost, but Christmas fern and running-cedar are still contributing holiday green to the forest floor. Likewise, there's mistletoe in the otherwise bare hardwood tree canopy. Be sure to stand under it.

December 27: The huge 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: Fishing can be good for striped bass in the larger reservoirs like Kerr and Lake Gaston.

December 31: Large flocks of yellow-rumped warblers frequent the red-cedar and wax-myrtle thickets along the coast.

JANUARY

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

January 3-4: Quadrantid meteor shower—the year's first major meteor shower—peaks in the predawn hours.

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

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

January 7: Bald eagles are laying eggs.

January 8: Seals (mostly harbor seals, but occasionally other species, including hooded seals and gray seals) may be seen along our coast in winter; more regularly in recent years. Oregon Inlet is often a good place to see these small marine mammals, either swimming or hauled out on beaches or spoil islands.

January 9: Shrews remain active all winter in tunnels underground or beneath surface litter or snow. Their high metabolism requires that these tiny predators eat more than their weight in insects, earthworms, and other food daily to survive.

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

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

January 12: Great horned owls are nesting.

January 14: Barred owls begin nesting.

January 16: Mourning doves are beginning their courtship flights.

January 17-19: The Carolina Bird Club will hold its winter meeting at Litchfield Beach, SC. For more information, visit www.carolinabirdclub.org.

January 20: Most flycatchers and other heavily insectivorous birds winter in the tropics, but the eastern phoebe hangs around all year, adding berries to its winter diet, along with whatever winter insects it can find. Always pay close attention to any flycatchers in winter—reports of rare winter visitors like Say's phoebes and ash-throated flycatchers have increased in recent years.

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

January 25: Watch for humpback whales and other marine mammals along the coast, particularly off 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: Chorus frogs have begun calling over much of the state: upland chorus frogs in the Piedmont; Brimley's, southern, and ornate chorus frogs in the Coastal Plain; and spring peepers nearly statewide.