



North Carolina
**WILDLIFE
FEDERATION**

Journal

WILD LIVES □ WILD PLACES

Summer 2020



BIG WINS FOR YOUR LAND

Great news—and more challenges—
for North Carolina's public lands.

FIXING THE MARINE MESS

GOT BISON?



The Road Never Traveled

BY TIM GESTWICKI, NCWF CEO

I enjoy a good trail. Whether in a park or wildlife refuge, trails provide a well-thought-out pathway towards a destination, be it a birding spot or hunting location. And a good trail often avoids dangerous traverses or sketchy river crossing. Admittedly, I have strayed off many paths and trails in my life, especially in my early exploring years. The thrill of going off-road with my buddies to hike and find a remote campsite or fishing hole was exciting and fun. We were young thrill seekers and, of course, we knew everything.

Problems arose, however, when we lost our way. Not scary lost, but off course so we came out of the woods in the dark and miles away from home. Sometimes that necessitated a phone call from a stranger's house for a rescue ride home, or even resorting to hitching a ride from a willing stranger on some country road. We also often encountered unforeseen challenges along the way such as bad weather, lack of provisions during a longer-than-expected romp, or an unhappy encounter with yellow jackets. But we were young and strong-headed. We pushed through.

Some of those lessons have come in handy of late. COVID-19 has changed how the world operates, and it's clear this will take our conservation efforts down an unfamiliar—and unmarked—path. Thinking through the pandemic's effects on NCWF's outdoor programs, fundraising events, annual conference, and conservation projects was important, but confusing and uncertain. Yet one thing remained intact: Our mission.

Even though NCWF staff has transferred from working in the office to our homes, we still work every day to protect, conserve, and restore native habitat. We have adapted with virtual webinars and newsletters, legislator and policy calls, and other means to further our NCWF mission regardless of these new changes, obstacles, and learning curves. And we plan on this being the new normal for the immediate future. The show must go on, and we are ready for the challenge.

**We know for certain
that this is the time to
get outside, maybe
now more than ever.**

Our pathways and guardrails have to change. We will have to go off-trail a few times. I continue to be amazed at our staff's resiliency and creativity that's coming to bear as we work to figure out how to deliver our impactful mission work. We cannot assume we can get back to work life as we knew it before the pandemic hit. But we know for certain that this is the time to get outside, maybe now more than ever. And you can read in this Journal about our safety measures to get kids outside through our Great Outdoors University and how

we will be planting and restoring habitats this fall.

Thankfully, huge victories for conservation are coming to fruition, even in this difficult period. The escalating pandemic and economic crisis demand bold, equitable solutions that match the magnitude of the challenge. We share historic conservation legislation from Congress in the Great American Outdoors Act and huge progress in legislation-moving forward to accelerate our national economic economy and restore our natural resources. We provide a detailed roadmap of how we can create millions of good-paying jobs by building clean infrastructure, deploying natural solutions that sequester emissions and bolster community resilience from storms, and revitalizing frontline communities that have borne the brunt of pollution for too long. While great progress is being made in Congress, there are still historic attacks by the Administration on clean water, migratory birds, and safeguards to protecting habitats which we will fight by any means necessary.

There is plenty of good news to share in this Journal. Unfortunately, that proactive positive effort is still not being realized or even accepted with regards to our marine fisheries. The management by the agencies charged with our public trust marine resources remains shambolic, yet we present the solution in these pages with our One Mission, One Commission effort.

Realizing the racial divides facing our country, NCWF is committed fully to building our conservation army to represent and include all. Whether we are male or female, black, brown, or white, young or old, rich or poor, nature openly welcomes each of us to explore and enjoy the bounty of the outdoors. To that end, we formed a board and staff committee at the beginning of 2020 to create and implement policies, programs, and best management practices designed to improve the organization's awareness of diversity, equity, and inclusion. Our informed and aware actions will help us embrace diversity, equity, and inclusion as core organization values, striving for them in practice. By doing so, we will greatly enhance our ability to foster all people of North Carolina to be enthusiastic and resolute protectors and advocates for habitat and wildlife.

The storm is here. The trails are fraught. But we are neither whimpering nor sheltering under a rock outcrop in the middle of the woods during a thunderstorm. Chaos and times of strife are challenges that reveal one's true colors. Adapting and thriving, and not just surviving, is our pledge. New trails are being established, and I, for one, am very pleased with our direction. **NCWF**

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Cover photograph White-tailed deer on an early morning meadow foray. / © Dominique Braud / Alamy Stock Photo. Other photos, unless noted, courtesy of NCWF.

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North Carolina WILDLIFE Federation Journal

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1 commission + 1 division = 1 mission.
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...is a forest in the making.
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The story behind NCWF's logo mascot.

Annual Meeting Rescheduled

In order to safeguard staff, board, members, and our strength as conservation advocates, the NCWF annual meeting and Governor's Conservation Achievement Awards program has been rescheduled for September 2021.

Stay tuned for more details. We look forward to hosting the 57th year of the awards program next year so we may honor the best of the best in conservation.

DEPARTMENTS

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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.

Commons Sense

Breaking news on North Carolina's public lands is a bright spot in the headlines.

Big breakthroughs and big plans have conservationists on a roll when it comes to public lands. While there are still big fights across the country, recent positive action in Congress and across North Carolina should help fill the tank for public lands advocates. Here are three ideas that will—and could—change public lands forever.



National Forest Plan a Model for Collaboration

The North Carolina Wildlife Federation was a key organization in the development of the Nantahala and Pisgah National Forest Partnership Draft Plan Comments and the Stakeholders Forum Agreements and Continuing Discussion Comments, recently submitted to the U.S. Forest Service. This was a 6-year-long process. Words can't express our appreciation for the dedicated long-term volunteer leadership of Bill Kane, as representative, and Manley Fuller, alternate representative.

These documents recommend how stakeholders collectively agree on how the Pisgah and Nantahala national forests should be managed as the Forest Service refines the draft management plans for both national forests into a final plan, which should be released in late 2020 or early 2021. Both the Partnership and Forum recommendations represent a tremendous amount of collaborative work, and provide valuable input. NCWF will carefully review the final plan to determine how closely the plan meets the needs of fish and wildlife, protects and manages important habitats and natural areas, and assures sustainable outdoor recreation and scientifically based long-term enjoyment of the forests.

"The development of an EIS and Forest Plan that will govern the Nantahala/Pisgah forest for the next 15 to 20 years is a complex problem," explains Kane. "Within the bounds of the appropriate laws and regulations, there is not a single 'right' answer, given all the variables. The final EIS and Plan will not please everyone, particularly those who see only their interests. Hopefully, the final documents will balance the various interests and produce a final EIS and Plan that all can live with."

The Nantahala and Pisgah national forests comprise more than a million acres of public conservation lands. They are subject to many uses, and are extremely valuable places for fish and wildlife, natural diversity, and for significant outdoor recreational opportunities supporting a significant nature-based economy in western North Carolina. These forests are iconic and many people visit and use them and are passionate advocates for their respective activities. The Partnership was established in 2013 with over 30 stakeholders, while the Forum was convened with 24 stakeholder entities in 2015. Both efforts brought together varying interests to work through consensus driven processes to achieve common positions. In the earlier phases of both the Partnership and Forum, Bill Kane and Richard Mode were key volunteers for NCWF.

The Forum members ultimately reached a number of areas

of agreement in developing comments to the Forest Service regarding the Draft Plan. In those areas where a consensus could not be reached, we noted those as areas of ongoing discussion and summarized different position categories within the Forum membership. A key element of the Partnership comments is that the recommendations must be taken as a whole and not put forward in a piecemeal manner as the Partnership consensus positions have direct nexus to each component of the plan.

NCWF worked closely with the wildlife-focused organizations in both the Partnership and Forum processes. An area of concern was the language regarding listed species. We encourage the Forest Service to manage to recover listed species rather than for them to simply persist. There was broad agreement in the need to protect and manage the forests to benefit listed species as well as to provide habitat for species requiring more open habitats like golden-winged warblers and ruffed grouse and to encourage elk range expansion.

Deer will also benefit from increased open habitats and woodlands. NCWF supported increases in the use of fire management across the forest in ecologically appropriate areas as well as increased efforts to control and eradicate invasive exotic species of plants. We support sustainable timber harvest management within the suitable timber base areas and cutting in areas to be restored to site appropriate forest types and plant communities. We and others through collaboration agreed on a number of recommended measures to better protect aquatic habitats.

The importance of incorporating management and protection of the North Carolina Natural Heritage areas through regular coordination with the N.C. Natural Heritage Program regarding Forest management decisions was an area of high interest to stakeholders. Likewise, the Wildlife Resources Commission recommendations were integral to the Forum process.

The Partnership made consensus recommendations on areas supporting the future expansion of designated Wilderness Areas in both national forests, as well as supporting the management and protection of the Forest's old growth network. The Nantahala-Pisgah National Forests contain significant portions of the remaining old growth habitat in the eastern United States. The need for increased restoration activities within the forests was also strongly supported. Partnership recommendations were made for expansion of designated Wild and Scenic Rivers within the forests. The need for a more sustainable trail network was recommended, including



BILL KANE...THE MILLION-ACRE MAN

a mechanism to identify and restore degraded trails or to close unsustainable trails. Road management policy recommendations were made with an object of improving water quality. The key partnership role that stakeholders from different trail-using organizations play in maintaining forest trails was also identified in both Forum and Partnership comments.

Other management recommendations were made concerning outdoor recreational activities including appropriate areas for rock climbing, canoeing and kayaking, horseback riding, hiking, and cycling. The importance of hunting and fishing were broadly recognized by stakeholders as valuable sustainable activities across the forests.

The Partnership's detailed comments also recognize and encourage the Forest Service to incorporate the best scientific information regarding climate change into their planning and project activities through adaptive management. Many plants and animals in the forests are sensitive to climate change. Another concern is that climate change may increase problems associated with exotic invasive species and pests which negatively impact native forests.

NCWF is encouraged that these collaborative processes have helped bring interested parties closer together on behalf of a better future for the Nantahala and Pisgah National Forests. We will report back to you on the Forest Service Plan and how well it captures our vision.

America Just Got \$900 Million Better

The North Carolina Wildlife Federation is hailing a sweeping 75-23 U.S. Senate vote followed by a whopping 310-107 House vote supporting historic bipartisan legislation for The Great American Outdoors Act. The legislation, now signed into law by President Trump, permanently and fully funds the Land and Water Conservation Fund (LWCF) and creates a fund to address the maintenance backlog on public lands. Permanent funding will allow LWCF to reach its full potential

HOW THE N.C. DELEGATION VOTED ON GAOA

YES

- Representatives:
 G.K. Butterfield (D)
 Greg Murphy (R)
 David Price (D)
 Virginia Foxx (R)
 Patrick McHenry (R)
 Alma Adams (D)
 Ted Budd (R)
- Senator Richard Burr (R)
 Senator Thom Tillis (R)

NO

- Representatives:
 Mark Walker (R)
 David Rouzer (R)
 Dan Bishop (R)

NOT VOTING

- George Holding (R)
 Richard Hudson (R)

NORTH CAROLINA'S \$459 MILLION NPS DEFERRED MAINTENANCE BACKLOG

Outdoor recreation is huge in North Carolina. Great Smoky Mountains National Park is the most visited in the federal park system, and our Blue Ridge Parkway receives nearly fifteen million visitors per year. Funding for deferred maintenance at the nation's national parks and other public lands will help repair deteriorating roads, visitor centers, and facilities, including the more than \$400 million in back-logged needs for North Carolina.

Blue Ridge Parkway	\$295,374,451
Cape Hatteras National Seashore	\$49,834,106
Cape Lookout National Seashore	\$27,718,515
Carl Sandburg Home National Historic Site	\$2,377,929
Great Smoky Mountains National Park	\$73,122,970
Guilford Courthouse National Military Park	\$7,169,566
Moores Creek National Battlefield	\$3,450,505

in creating access to national, state and local parks, forests and wildlife refuges, and many other recreation areas. Providing permanent funding at \$900 million per year for LWCF, which has provided critical assistance for the acquisition and maintenance of state and local outdoor recreational areas, trails and boat ramps, has been a priority issue conservationists have worked tirelessly for over the years.

“Whether you hunt, fish, hike, paddle or simply value the ecological services these habitats provide, public lands are part of our heritage and future,” said Tim Gestwicki, CEO. “This legislation will ensure our iconic and treasured public lands and cherished natural landscapes will endure for future generations. Furthermore, it shows that conservation has and can bridge divides once again as there are no Republican national parks nor elk and there are no Democratic national wildlife refuges nor box turtles.”

Each year hundreds of millions of people travel to national parks, forests and refuges. These visits help fuel the outdoor recreation economy, which supports over 7.6 million jobs and over \$887 billion in annual consumer spending.

Funding of the federal government's deferred maintenance of public lands will be through a newly established National Parks and Public Land Legacy Restoration Fund which will provide for thousands of jobs and to stimulate a nature-based economy. North Carolina's iconic and popular public lands will benefit, such as the Great Smoky Mountains National Park, the Blue Ridge Parkway, and national forests, national seashores, national wildlife refuges, and other cultural and historic sites.

Bold Conservation: Reinstitute the Civilian Conservation Corps

by Collin O'Mara, President & CEO National Wildlife Federation / Tim Gestwicki, CEO North Carolina Wildlife Federation

As we prepare to rebuild from the devastation wrought by the pandemic, we will need to summon solutions that match the magnitude of the moment. One challenge we will have to address is the youth unemployment crisis. Americans under 30 years of age are out of work at a level not seen since the Great Depression. This crisis touches all demographics, but disproportionately affects youth of color, indigenous youth, and rural youth. North Carolina alone has seen roughly a million unemployment claims since mid-March.

The good news is that we already have a strong foundation upon which to build.

Shortly after his inauguration in 1933, President Franklin Roosevelt created the Civilian Conservation Corps to “conserve our natural resources, create future national wealth and prove of moral and spiritual value not only to those of you who are taking part, but to the rest of the country as well.” Roosevelt’s “Tree Army” ultimately employed 3.4 million young men, who planted three billion trees, created more than 700 state and local parks, and constructed trails across the country.

The same opportunity lies before us today. Investments in restoration, recreation, and resilience create good-paying jobs more quickly than many other alternatives because most of the funds go towards labor, rather than materials. By establishing a 21st-century CCC, leaders in Washington, D.C. and Raleigh could put young Americans to work, restoring our natural places and repairing the crumbling recreational infrastructure in places like the Great Smoky National Park, Nantahala-Pisgah National Forests, and Alligator River National Wildlife Refuge.

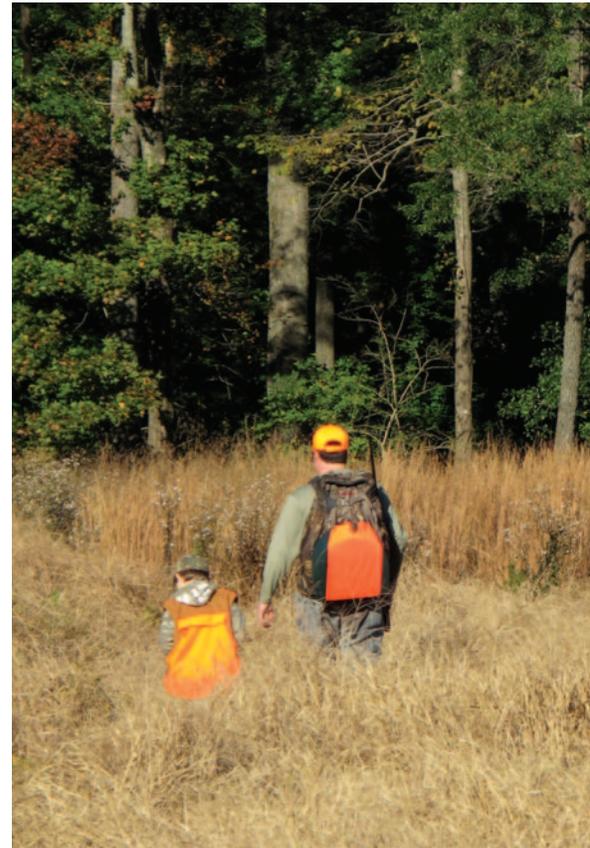
To scale up quickly, we could build on an existing AmeriCorps program and we could have these young workers implement shovel-ready state, local and federal plans. A new CCC could offer jobs in outdoor recreation, agriculture, forestry and ranching to rural and Native American youth, and young people of color—all of whom are being hit hard with unemployment.

We all remember the devastating recent floods on the Carolina coast. Young workers could strengthen our coasts from hurricanes by building living shorelines, restoring oyster reefs, planting marshes, and upgrading stormwater systems. These workers could also accelerate the long-overdue plans to restore Albemarle and Pamlico sounds. Collectively, these efforts would reduce risks for coastal residents—all while improving water quality, enhancing fishing opportunities and boosting tourism.

We also know that increasingly extreme weather is a threat to North Carolina’s forests. The 2016 fires in Tennessee scorched approximately 16,000 acres and took 14 lives. A new “Tree Army” could improve the health of our forests by not just planting trees but also by removing invasive species and working with forest managers to conduct controlled burns. These measures could help prevent out-of-control “megafires.”

There are also specific actions we can take to help the more than 450 local species of concern identified by the North Carolina Wildlife Resources Commission. The commission already has a plan in place to save these at-risk species, such as golden-winged warblers. A new CCC could help these species by restoring their habitats, particularly if the bipartisan Recovering America’s Wildlife Act supporting these efforts were enacted.

Time is of the essence. We believe this is as close to an economic recovery silver bullet as is out there right now. We need to lay the groundwork now, so we can swiftly put young people to work restoring America’s natural treasures as soon as it is safe. A new CCC will not just restart the economy, it will increase our strength and resilience as a nation. **NCWF**



ISTOCK.COM / IOFOTO

“WHETHER YOU HUNT, FISH, HIKE, PADDLE OR SIMPLY VALUE THE ECOLOGICAL SERVICES THESE HABITATS PROVIDE, PUBLIC LANDS ARE PART OF OUR HERITAGE AND FUTURE.”

—TIM GESTWICKI

why ONE MISSION, ONE COMMISSION?

The system is broken for managing North Carolina's marine fisheries. Here's one case study.

The North Carolina Wildlife Federation continues to develop the argument for moving the N.C. Division of Marine Fisheries (DMF) out of the Department of Environmental Quality (DEQ) and consolidating it into the N.C. Wildlife Resource Commission (WRC). These three current issues are illustrative of the need to make this natural resource agency change.

Southern Flounder Recently, the DMF/DEQ established the commercial fishing season for southern flounder in 2020 to rebuild the stock in 10 years, the goal of the approved fishery management plan (FMP). The DMF indicated that a 62 percent reduction in harvest in 2019 and a 72 percent reduction in harvest in 2020 was required to meet the statutory guidelines and reach the spawning stock biomass target by 2028.

So far so good. But not for long.

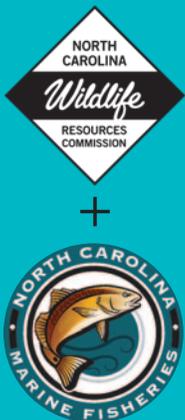
Commercial fishing regulations implemented for 2019 were projected to result in a 62 percent reduction from landings observed in 2017 (1,394,741 pounds). Landings in 2019 should not have exceeded 530,001 pounds. Based on landings data presented by DMF to the MFC, the 2019 southern flounder landings were 798,904 pounds. Consequently, the FMP only achieved a 35 percent reduction for all fisheries as opposed to the required 62 percent.

Depending on the final commercial landings tally for 2019, that fails to account for all southern flounder fishing mortality. A commercial reduction of 90 percent or greater is needed in 2020 to achieve the goal of the FMP. Unfortunately, the harvest reductions implemented in July 2020 do not take this into account and are insufficient to reach the rebuilding goal or meet statutory guidelines. By failing to achieve the required harvest reduction in 2019, the reductions required in 2020 are closer to 90 percent. Without a mechanism to track landings and achieve the required landings this year, the resource will fall even further behind, ultimately requiring a complete moratorium. That will be the ultimate failure.

While this issue is the most immediate and significant concern for the health of southern flounder, it is by no means the only one. Continued harvest of mostly juvenile females that have yet to spawn, a much-reduced age structure with few older fish remaining in the population, directed trawl fisheries in the ocean and bycatch in N.C. estuarine shrimp trawls all remain unaddressed.

While our primary goal is to be able explain to the public how this fishery is being managed in the best interest of the public trust, it is impossible to prove a negative. There is little faith that implementation of the current FMP is sufficient to rebuild southern flounder.

Large-scale Trawling in Sounds Our second issue centers around NCWF having patiently awaited action on the issues related to our shrimp trawl rulemaking petition. First accepted by the Marine Fisheries Commission (MFC) under the McCrory administration in 2016, the petition was ultimately rejected under the Cooper administration on procedural grounds through a DMF fiscal analysis that was never publicly reviewed or discussed. Subsequently, NCWF presented a modified legal rulemaking petition to address many of the concerns expressed by DMF/DEQ and commercial fishermen. The second petition was rejected by the MFC in August 2019 in favor of the FMP procedures already in place. At the August 2019 meeting in rebuttal to the NCWF petition, the DMF Director stated that "amendment 2 is ready to begin and goals and objectives include looking at bycatch and nursery concerns." The DMF Director went on to state that "the MFC approval of the petition will delay division work on FMP amendment 2 until resolution is reached on petition rules" and that "they will begin



with plan development, advisory committee development, issue papers for amendment 2.” Based on these assurances from DMF that the FMP would be much quicker and not “circumvent the process,” the petition was denied.

The FMP review provided at the May 14, 2020, MFC meeting—which took place nine months later— informed the MFC and public that staff was developing Amendment 2 and would work with an advisory committee (AC). Specifically, the timeline presented to the MFC indicated that a first draft of Amendment 2 would be completed by June 2020 and that a second draft would be developed with the AC by September 2020. Now we know that this timeline has been adjusted and extended. In light of this, it is now unclear whether DMF will even be prepared to present the draft plan to the Commission by its November 2020 business meeting. At best, this means that Amendment 2 will not be presented to the Commission until at least a year and a half after the denial of the petition and two years since the FMP process was voted upon to move forward. Then at least into 2021 for any final vote.

Again, the specific reason for denying the NCWF petition was the state’s claim that the plan had been re-opened in August of 2018 and that it would be quicker to go through the FMP process. This does not appear to be shaping up to be the case.

Diamondback Terrapins Going to Pot Diamondback terrapins occur along North Carolina’s coastline from Virginia to South Carolina, spending their lives near the shoreline. Populations have declined as a result of habitat loss and being subject to by-catch in the blue crab fishery. As a result, the Wildlife Resources Commission designates diamondback terrapins as being of State Special Concern and a Species of Greatest Conservation Need. However, management authority for terrapins is divided between the WRC and the Marine Fisheries Commission. WRC has jurisdictional management authority for the species only when individuals are on land, while the MFC retains management authority in coastal waters.

A significant source of mortality for diamondback terrapins are crab pots in which terrapins are caught as by-catch, cannot escape, and subsequently drown. These mortalities are exacerbated by the tendency of trapped terrapins to attract other terrapins to the crab pots. In 2013, the MFC recognized the by-catch problem and authorized the DMF director to issue proclamations requiring terrapin excluder devices on crab pots. The authority was subject to the development of criteria for implementing use of the excluder devices.

In 2020, seven years after MFC authorized the excluder devices, DMF has recommended criteria for their use. Terrapin excluder devices may be required in waters inhabited by diamondback terrapins that are less than 3 meters in depth and are less than 250 meters from shore. Concurrently, DMF proposed establishment of two Diamondback Terrapin Management Areas, the Masonboro Island DTMA and the Bald Head Island DTMA. The proposed areas contain lands already designated as N.C. Coastal Reserves and National Estuarine Research Reserves.

NCWF recognizes the proposed management action as being a positive, although inadequate, step for the conservation of diamondback terrapins. In a letter to the MFC chair, NCWF recommended that the proposed management areas should be extended at least to the South Carolina border. And for maximum effectiveness, the excluder requirement should extend the length of the North Carolina coastline since terrapin habitat occurs along our entire coast.

This protracted issue exemplifies the reasoning for One Mission, One Commission. Conservation initiatives are needed throughout its range. Should the proposed criteria and management areas be approved by the MFC, the management areas would only comprise a small area around Masonboro Sound and Bald Head Island, and this action would come seven years after the initial authority was approved. One agency prioritizes the need to take actions to conserve a valuable natural resource. The other takes a more casual approach to science-based resource management.

The management of our public trust resources has been paralyzed by the process and politics under DEQ. We must demand better and move the decision making for these valuable public trust resources out of the current DEQ and into an agency, WRC, that has a proven track record of success. Soon it will be too late. **NCWF**



**DIAMONDBACK
TERRAPIN**
J.D. WILLSON

NCWF HELD ITS FIRST VIRTUAL TREES4TRASH (T4T) EVENT in May to encourage people to get out of their homes, social distance, and collect bags of trash from their neighborhoods and natural areas. Participation soared through social media posts and email, and so did the amount of collected trash. By the end of the week, over 15,000 pounds of trash had been collected by over 400 participants statewide. And for every 25 pounds of trash collected, a tree will be planted. That nets out to roughly 600 trees that will be planted as a result of the virtual T4T event.

NCWF and our chapters and volunteers are eager to get back outside and begin planting and cleaning waterways of harmful trash. Utilizing all protocol guidelines, including social distancing, face masks and sanitized tools, conservation projects will be able to continue while also taking steps to ensure that volunteers and participants are safe from potential infection.

WHY ARE TREES IMPORTANT FOR OUR ENVIRONMENT?

Trees Fulfill Important Needs of Wildlife

Food: Seeds, nuts and berries of trees are critical in the diets of thousands of species of wildlife.



Acorns are essential to the diet of over 100 species, from wood ducks to black bears.

Water: Many species obtain water indirectly by eating leaves. Forest cover prevents rapid evaporation of moisture from the forest floor.



Over 900 species of caterpillars eat the leaves of oak trees. Caterpillars are critical in the diet of birds.

Cover: Trees provide shelter from weather and nesting habitat for songbirds, owls, mammals, amphibians and insects.



As a larval host tree, tulip poplars are vital to the life cycle of the eastern tiger swallowtail butterfly.

Places to Raise Young: Several songbirds, raptors and mammals build nests in trees to raise young.



Trees Contribute to Our Communities

Water: Trees improve water quality by storing and filtering flood water with their roots.

Shade: Increased canopy cover reduces temperatures and provides shade.

Air: Trees improve air quality by absorbing carbon dioxide.

Health: Trees and plants reduce pollution and improve quality of life.

Native Trees for Planting in the Southeastern United States



Common name: Oaks
Scientific name: *Quercus* spp.
Insects supported: 557 species



Common name: Eastern red cedar
Scientific name: *Juniperus virginiana*
Insects supported: 203 species



Common name: Maples
Scientific name: *Acer* spp.
Insects supported: 297 species



TREES 4 TRASH



Trees4Trash provides an incentive to restore the environment by removing what doesn't belong and replacing it with what does.

IMPACTS OF TRASH ON WILDLIFE

How Does Trash Impact Wildlife?

By 2050, it is predicted there will be more plastic in the ocean than fish.



80% of marine litter enters the sea through sewers, storm drains and other inland sources.

Consumption: 180 marine SPECIES have been documented to eat trash after mistaking it for food.



The Six R's:
Reduce Repair
Reuse Rethink
Recycle Refuse

Suffocation: Wildlife such as sea turtles, dolphins, and waterfowl can become trapped in plastic and other debris leading to suffocation, starvation, or dehydration.



Trash Facts: 90% of trash is plastic. Plastic is not biodegradable.

Entanglement: Fishing line, plastic wraps, and drink rings can get caught on wildlife making it difficult or impossible for them to move.



How Trash Travels from Land to Sea:



When plastic is disposed of improperly, it washes into storm drains and waterways, and eventually enters the ocean.

You Can Be a Part of the Solution



Avoid purchasing single-use plastics



Participate in community trash clean-up days



Utilize re-usable bags for shopping



TREES 4 TRASH



Trees4Trash provides an incentive to restore the environment by removing what doesn't belong and replacing it with what does.

NCWF CHAPTERS UPDATE

Despite the uncertainty and setbacks of the last few months, NCWF's community wildlife chapters have persevered and shown resilience. Large fundraisers and annual events such as Gaston PAWS' wildlife banquet, Charlotte Wildlife Steward's Wild on the Water and Lake Norman Wildlife Conservationists' Shrimp and Oyster Fest have been postponed or cancelled, but chapters have continued to make headway by improvising and finding new ways to reach audiences. Some chapters have continued to take care of pollinator gardens by gardening in a social distance manner while other chapters have focused on remaining active on social media. Other chapters have learned how to utilize the various video call platforms to host online chapter meetings or to participate in an NCWF webinar.



Charlotte's wildlife community chapter (previously CROWN) is now rebranded as the **Charlotte Wildlife Stewards**. They have remained active in the face of COVID by participating in events and webinars and posting on their social media pages.

The **Neuse River Hawks**, located in Wake Forest, have continued weekly work on a native plant rain garden at Holding Park, which has also been added as a Butterfly Highway pollinator pitstop.

The **Concord Wildlife Alliance** and the **South Wake Conservationists** continued impacting and educating community members through virtual programs including tours of local gardens and discussions around climate change. Additionally, the Concord Wildlife Alliance was able to have their planned native plant sale using an online ordering and vehicle pick-up system.

Finally, a huge thanks to the several chapters who participated in the T4T challenge and contributed to the large amount of trash collected! The extent of NCWF wildlife work would not be possible without the help and support of our chapter network. We appreciate all of the NCWF chapters and look forward to seeing you all again in person. Keep up the great work!



WELCOME NEW CHAPTERS!

We would like to welcome three new chapters to the NCWF chapter network! Joining the NCWF chapter network is the **New Bern Wildlife Chapter**, the **Southwest Renewal Foundation (High Point)** and the **Enfield Economic Development and Revitalization Commission (EEDRC)**.

These amazing chapters are able to support their areas through conservation projects, nature activities and education. There are also forming chapters in **Durham**, **Carolina Beach**, and **Columbia** if you are interested in participating. If you would like to learn more about our current chapters or how to start a chapter in your area, please reach out to **Tara Moore (tara@ncwf.org)** or **Madison Ohmen (madison@ncwf.org)**.

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



CHARLOTTE WILDLIFE STEWARDS



EEDRC (ENFIELD ECONOMIC DEVELOPMENT AND REVITALIZATION COMMISSION)



HAWK (HABITAT AND WILDLIFE KEEPERS)



INNER BANKS WILDLIFE



LAKE JAMES AREA WILDLIFE AND NATURE SOCIETY



LAKE NORMAN WILDLIFE CONSERVATIONISTS



MARSH (MARVIN ASSOCIATION 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

THE CAROLINA BISON CONNECTION



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The Cherokee of North Carolina called them “Yansi” or “Yvsai.” The early settlers called them “buffalo,” derived from the French word “boeuf” for beef. We know them as the American bison (*Bison bison bison*). They’re the largest land mammal in North America, weighing up to 2,000 pounds and standing 6.5 feet tall. It joins the bald eagle as an official symbol of the United States of America after it was named the official mammal in May 2016 through the National Bison Legacy Act.

But how did they get here? Some 400,000 years ago, bison ancestors crossed the land bridge between Asia and North America during the Pliocene Epoch. Once here and over time, their numbers reached 40 to 60 million based on estimates in the 1500s. It is unknown how many bison resided in North Carolina, but the early explorers, hunters, and naturalists described “plenty of buffalos,” “tracks everywhere,” and robust herds in the western half of North Carolina possibly through the eastern Piedmont physiographic region. There are at least 40 locations in North Carolina named for the “buffalo” including Dutch Buffalo Creek, Irish Buffalo Creek, Buffalo Ford, Buffalo Shoals, Buffalo Cove, and the “lost town” of Buffalo.

But the bison disappeared from North Carolina 100 years before they were almost wiped out in the western United States. Joseph Rice, an early settler of Swannanoa Valley, is purported to have shot the last bison in 1799 near Bull Creek. There now is a historic marker on the Blue Ridge Parkway, at elevation 3,483 (milepost 373), designating the approximate location. A reestablishment of the “big shaggy” in Buncombe County was attempted in 1919 with “six head of buffalo” but after five years the wild introduction turned to disappointment. Now the bison can only be viewed at places such as the North Carolina Zoo in Asheboro and several bison farms scattered throughout the state.

To Native American tribes in North Carolina and throughout North America, the bison provided clothing, sustenance (a good portion of the animal was eaten), tools (e.g., spoons, awls,

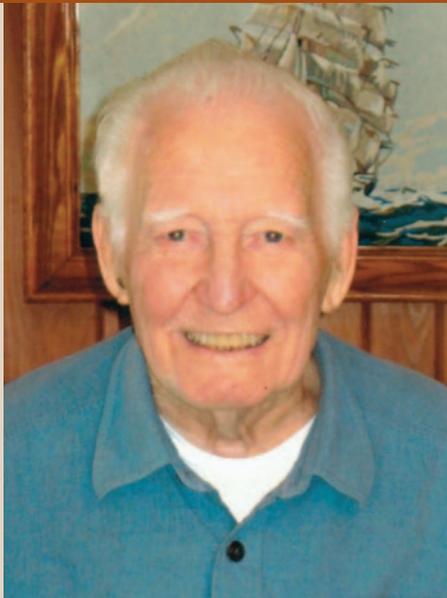
shovels), hides for shelter, and spiritual importance. Harvesting a bison was a daunting task:

THE ANIMAL CAN RUN 35 MILES PER HOUR. HAS TWO POINTS OF WEAPONRY IN THEIR HORNS (BOTH SEXES). ARE STRONG SWIMMERS. ARE EXTREMELY AGILE ON THE RUN, AND CAN TURN ON A NICKEL (A BUFFALO NICKEL).

Bison are known as a keystone species. Keystone species play a critical role in maintaining the structure of an ecological community. They helped create prairie habitat for numerous wildlife (e.g., grassland birds and mammals) and a diverse assemblage of early successional plant species. As the bison foraged on up to 24 pounds of vegetation per day, their hooves and horns aerated the turf and broke down competing woody vegetation. Their wallows also formed shallow depressions or “water holes” which collected rainwater and runoff. Several rare, threatened, and endangered “prairie remnant” plant species such as the smooth coneflower, Schweinitz’s sunflower, Michaux’s sumac, and Georgia aster, which were once maintained by large herbivores like bison, are now only found in a few early successional areas such as roadsides, utility powerline rights-of-way, and nature preserves such as Latta Plantation Nature Preserve in Mecklenburg County and the Uwharrie National Forest in Montgomery County.

The North Carolina Wildlife Federation logo features a prominent bison, which was introduced in 1969 to commemorate the organization’s 25th anniversary. Why the bison was originally selected as our symbol is subject to lore and discussion. But the bison was brought back from near extinction by conservationists and like-minded organizations and agencies whose commitment is to prevent the loss of wildlife and to protect and restore our natural habitats for future generations; and like the bison, the NCWF, is agile, strong, dedicated to the cause, and faces a challenge full on. What more can you ask for from the wildlife symbol of our country and our own conservation organization the North Carolina Wildlife Federation? **NCWF**

A Friend I Wish I Had Known



Wesley Lockwood Winne passed away in 2015 at the age of 92. He loved fast wooden motor boats, fast cars—he had a Corvette till the end—and his dog. He lived right on the banks of the Trent River where it backs up to the Croatan National Forest, having built his home with his two hands. He was a U.S. Army veteran and a machinist by training, class of '42, Central Commercial and Technical High School in Newark, New Jersey. In going through some of his old photos, there is one that struck me as quintessential Wes. It's from the 1950's, and he's out on the river, hanging on with a huge grin, racing what looks like a surfboard with a fast motor. He was wearing a crash helmet!

Needless to say, he loved the water, and the wildlife around his simple home, and birds. I have a small bird house on a shelf in my office. I rescued it from a tree in his front yard after the estate sale; no doubt built by Wes in his basement shop. Just the right size for chickadees. And next to that is his mail box sign also made with his own hands and varnished like those fast wooden boats from the 1930's; I believe in the shape of a Chris-Craft. They remind me every day of the man I never met but wish I had. Actually, no one at North Carolina Wildlife Federation knew him personally, but he knew us. He trusted

us to protect the waters and wildlife and wildness of North Carolina and his Trent River home. From Wes, I learned that simple connections to nature—bird watching and boating, dogs and watching the waters flow by—can play a profound role in one's life, and that they do indeed influence the decisions people make as they ponder the legacy they want to leave in this world.

Though married twice, both wives having passed before him, and with no children, Wes decided to leave his estate to do good for wildlife. In talking with his attorney who helped him with his will, I learned that Wes's next door neighbor happened to be Dr. Dade Moeller, a renowned author of a Harvard University School of Public Health textbook that covers everything from climate change to environmental justice issues. Dr. Moeller passed away some years before Wes. It is evident they were good friends because in the textbook credits, amongst a list of world class scientists and policy experts, Dr. Moeller made a simple reference of thanks to Wesley Winne; a nod to their

friendship, which I believe was instrumental in the will Wes created. After taking care of a few relatives and a couple of local dog related charities and making sure the local maritime museum wanted his boat, Wes decided to leave the bulk of his estate to North Carolina Wildlife Federation. It has had a tremendous impact on our organization and most importantly, our ability to protect, conserve, and restore wildlife and habitat in North Carolina. It has allowed us to expand and deepen our staff talent working for the mission and so much more.

That I know of, Wes was never active in conservation, or wrote letters to editors or the powers that be, or fought to protect a particular habitat, but he did realize that he wanted to make a difference for the things he loved that brought him joy. And what a wonderful legacy his trust and partnership with us continues to be. We are grateful beyond words to our friend of wildlife and wild places—Mr. Wesley Lockwood Winne.

Dom Canavarro, Director of Development and Operations



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Create a Sustainable Legacy

Mr. Winne's gift was transformational to NCWF and the work to protect, conserve, and restore wildlife and habitat in North Carolina.

If you were inspired by Mr. Winne's story, 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 preserve the wild, natural lands 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.



Horseshoe Crabs Under Pressure

NCWF, the National Wildlife Federation, and other coastal affiliates and conservationists have formed the Horseshoe Crab Recovery Coalition to ensure recovery of the Atlantic horseshoe crab. These marine invertebrates play a critical role in the predator-prey relationship for many coastal fish and other wildlife such as endangered red knots. But horseshoe crabs have been over-harvested for use as bait and for their blood which is used in biomedical research. Today, effective and economical synthetic alternatives are available to pharmaceutical companies, with which the coalition is working to increase the use of synthetic alternatives and reduce pressure on wild horseshoe crab populations. Horseshoe crabs are also subject to bycatch mortality from commercial fishing gear and from habitat degradation along the Atlantic shoreline. The coalition seeks to stem the tide of decline and to recover populations by 2030 using these strategies:

- Manage horseshoe crab bait fisheries so that populations are large enough to support other species such as red knot



and weakfish that consume the eggs of horseshoe crabs.

- Encourage the expanded use of synthetic alternatives to horseshoe crab blood derivatives in biomedical research. And ensure best management practices are codified to reduce mortality when horseshoe crab blood must be drawn.
- Raise awareness of the ecological importance of horseshoe crabs and engage volunteers to conserve crabs along the Atlantic shore.
- Assist the Atlantic States Marine Fisheries Commission in developing and implementing better management plans for rapid recovery of horseshoe crab populations.
- Work to reduce bycatch of horseshoe crabs in other fisheries and to better monitor bycatch mortality of crabs so we can better understand the magnitude of this source of mortality.

Research suggests that horseshoe crab populations are capable of rapid recovery if mortality is significantly reduced.



Record Turkey Harvest

Sportsmen and women had a record-breaking turkey season in 2020, with a total harvest of 23,341 birds across the state. N.C. Wildlife Resources Commission biologists believe the notable increase is likely due to increased hunting as a result of COVID-19's stay-at-home measures. However, a record harvest would not be possible without the birds, and North Carolina's outdoor enthusiasts continue to reap the benefits of a prior eastern wild turkey restoration effort in the state.

At one time, the eastern wild turkey had become a relatively uncommon species in North Carolina due to hunting pressure and habitat alteration. Around 1960, NCWF urged NCWRC to begin a statewide restoration program for the species. In response to low population numbers, NCWRC and the state chapter of the National Wild Turkey Federation began working to increase turkey numbers through active restoration. The restoration of wild turkey occurred in North Carolina from the 1950s through 2005, and the statewide population vaulted from an estimated 2,000 birds in 1970 to 265,000 birds in 2015.

As annual harvest numbers continue to set records, there's no need to worry about depleting turkeys as the state's current population is doing just fine. NCWRC proactively manages turkey numbers through research and record keeping and can make adjustments to allowable harvest as needed. Also, to safeguard against overharvest, hunting occurs after the majority of turkeys have bred and the number of birds each hunter is allowed to harvest is regulated by the state agency.

As we look for silver linings in the ongoing pandemic, one of the most beneficial is people's increased connection to nature. That has come through turkey hunting, fishing, bird watching, kayaking, or other outdoor activities, and it's been a time to reflect on what matters most. This means not only enjoying the calming effect of the natural world but also responsibly protecting, conserving, and restoring wildlife and habitat.

SANDY BOTTOM PRESERVE, A WIN FOR CONSERVATION

Through a formal "petition for rulemaking," NCWF supported reclassification of Sandy Bottom Preserve in the French Broad River Basin of Buncombe County from a Freshwater Wetland to a Unique Wetland. After submission of the petition, a public hearing, and a final unanimous vote of the Department of Environmental Quality Environmental Management Commission, we are excited to announce the Preserve received this more-protective reclassification based on its natural wetland community structure supporting rare flora and fauna, including species of special concern.

The unique hydrology of this wetland complex is the foundation for an exceptional array of biodiversity. Many of the species present at this site have specific requirements for survival and reproduction and are highly sensitive to environmental changes. The intricate layout of ephemeral pools, spring-fed wetlands, mountain bog, and forest canopy at the Preserve are home to a suite of rare species including mole salamander, four-toed salamander, southern Appalachian salamander, queen snake, rusty blackbird, bog turtle, and gray bat, among others. Each of these species play a role in the health of the larger ecosystem and any future impacts to this site would be in direct conflict with conservation efforts to protect and maintain areas of high biodiversity. The reclassification of the Preserve represents a win for species and habitat conservation, and the people of North Carolina.

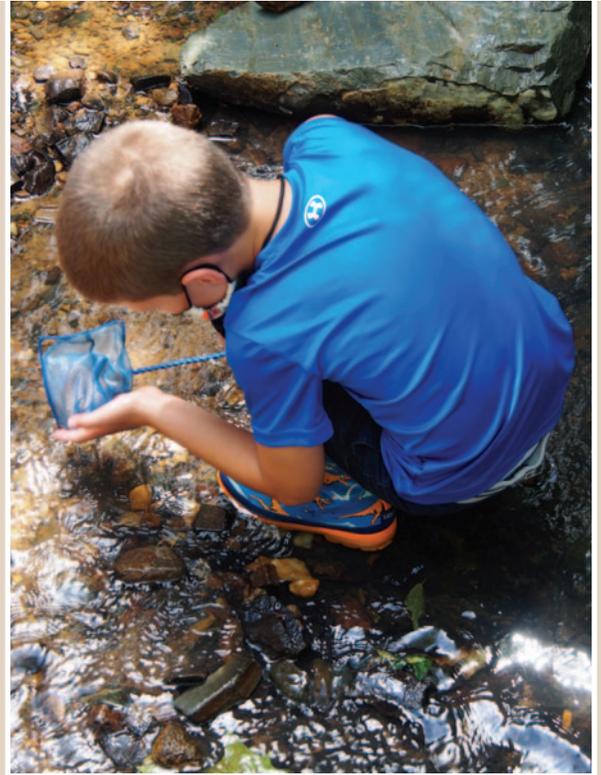


NOTHING BEATS THE GREAT OUTDOORS



NCWF's Great Outdoors University (GoU) has pivoted quickly to ensure connecting nature to kids continues in a safe, virtual manner for kids and families. We're offering videos that provide fun, engaging, outdoor-focused activities that require minimal and accessible supplies. We're also producing webinars, observations in the field with experts, and the Outside Every Day Challenge.

Of course, nothing compares to getting outside and experiencing nature, its sounds, smells, and sights. As the pandemic continues, we determined that we needed to prepare for how to offer GoU programs. We were in close communications with our participant partners to determine the best way to safely provide GoU experiences for kids. Program revisions were made as needed and protocols and guidelines were developed. A virtual training for the GoU staff was conducted in preparation for summer programming. Now, kids are having the opportunity to experience getting a closer look at toads, tadpoles, salamanders, slugs, and turtles. They are making leaf packs and installing them in creeks for future visits, watching the birds, butterflies and other pollinators, catching a fish and so much more. GoU is thrilled to be able to safely provide these experiences for the kids once again during these challenging times.



Unified for Marine Resources

At the recent National Wildlife Federation annual meeting, NCWF supported a suite of adopted resolutions that included protection and restoration of grassland ecosystems, the formation of a Mississippi River Basin Fishery Commission to fight invasive carp species, action on climate change moving towards wildlife-friendly energy development, opposing federal efforts to weaken the Migratory Bird Treaty Act of 1918, PFAS (polyfluoroalkyl contaminants) impacts on fish and wildlife, and reducing wild-

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LOGGERHEAD SEA
TURTLE HATCHLINGS

life mortality and habitat fragmentation caused by highways and roads.

NCWF brought forth a resolution to make marine resource conservation more of a focus among NWF and its affiliates. Building on NWF's Forage Fish Resolution passed several years ago, which promotes a healthy marine food web, we pursued a resolution that recognizes the need to enhance marine and estuarine species management and recovery. Titled Restoring Marine Fish and Wildlife Populations, the resolution

focuses on development and implementation of fisheries gear that are more selective and less impactful to non-target species. We are pleased that the resolution was adopted unanimously.

North Carolina marine fisheries have significant bycatch from inshore trawling which adversely affects other coastal fish and wildlife far beyond our state's waters. Other states have similar issues. This resolution encouraged further cooperation and consultation among coastal affiliates regarding key marine fish and wildlife issues of common concerns such as whales, sharks, forage fish, sea turtles and lesser-known but widespread conservation priorities such as horseshoe crabs and diamondback terrapins. Encouraging more fish passages, removal of obsolete dams and modifying others to allow anadromous species to move up and down their historic waterways, and recognizing climate change impacts to marine species are included in the resolution.

THE Season

Jeff Beane's GUIDE TO
NATURAL NORTH CAROLINA

North Carolina Wildlife Federation
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SEPTEMBER

September 1: It's hurricane season. Be safe, and watch for unusual seabirds driven inland by storms.

September 3: Peak birth time for copperheads.

September 4: National Wildlife Day (although for us, that's every day!).

September 5: Stick insects (walkingsticks) are mating.

September 6: Hellbenders are breeding in our Mountain rivers. Most male salamanders produce a sperm packet called a spermatophore that is picked up by the female, but hellbenders spawn the old-fashioned way, like most fishes, with males externally fertilizing the eggs.

September 7: Kidneyleaf grass-of-Parnassus and soapwort gentian are in bloom in the Mountains. Peak flight period for the little metalmark, a butterfly of our southeastern Coastal Plain.

September 8: Cottonmouths are giving birth.

September 9: American beautyberry is in fruit. Don't miss its aptly-named color display.

September 10: Wild muscadine grapes are ripe. Peak flight periods for several common and uncommon butterfly species, including cloudless sulphur; Gulf fritillary; little yellow; and Aaron's, Berry's, Dion, long-tailed, and Yehl skippers.

September 11: Neptune is at opposition. The blue giant planet will be at its closest approach to Earth and fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night. This is the best time to view and photograph Neptune (due to its distance, it will only appear as a tiny blue dot in all but the most powerful telescopes).

September 12: Whip-poor-wills and chuck-will's-widows have begun departing for their wintering grounds. Most will spend the winter in Mexico and Central America, but a few will overwinter along the Gulf Coast.

September 14: Butterfly watching can be excellent during September. Migrating monarchs can be particularly spectacular. The Blue Ridge Parkway is a good place for monarch watching, and Tunnel Gap at milepost 415.6 can be a good spot.

September 14-19: BugFest, the North Carolina Museum of Natural Sciences' huge annual educational expo featuring insects and other arthropods, will be held online for six days this year—a virtual infestation, due to COVID-19. This year's theme focuses on flies! For more information, visit www.natural.sciences.org.

September 15: Balsam Mountain gentian, a North Carolina endemic occurring in only a few of our southwestern Mountain counties, is in bloom.

September 16: Blue-winged teal are returning.

September 17: Diana fritillaries—rare butterflies found only in our Mountains and Foothills—are flying, following their summer diapause.

September 18: Southern hognose snake nests are hatching.

September 20: Summer farewell and threadleaf gerardia are in bloom.

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

September 22: It's fall, y'all! Autumnal equinox is at 9:30 a.m. EDT (13:30 Universal Coordinated Time).

September 23: In the Sandhills, pine snake nests are hatching and slender, Sandhills, and Earle's blazing-star are in bloom.

September 24: In mountain bogs, bog turtle nests are hatching and wild cranberries are ripe. Fern-leaf false foxglove is in bloom in the Coastal Plain.

September 25: Marbled salamanders begin migrating to their breeding sites on rainy nights. Males usually move in first. Females deposit their eggs under sheltering objects on land in or along dry woodland pools and attend them until winter rains flood the pools and hatch the eggs, giving them a head-start on most winter-breeding amphibians. This handsome salamander was adopted as North Carolina's official state salamander in 2013.

September 26: 48th National Hunting and Fishing Day and 27th National Public Lands Day. Visit your favorite public lands, or some you've never visited before, and/or take a kid (or adult) hunting or fishing.

September 27: Most white-tailed deer fawns have lost their spots. Carolina mantids are depositing their oothecae (egg clusters). Many fall warblers are migrating through.

September 28: In the Mountains, most wildflowers have wrapped up their bloom season, but a few goldenrod and aster species, New York ironweed, and yellow ironweed are still in bloom.

September 29: The first frosts may be expected in the Mountains.

September 30: The nests of most turtle species should 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, Brunner's stick mantids are active and depositing their oothecae (egg clusters). These slender native mantids occur only as females and reproduce parthenogenetically.

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

October 2-4: October is National Seafood Month. The 34th annual North Carolina Seafood Festival is slated to be held in Morehead City this weekend. For information, updates, or cancellations, call 252-726-6273 or email: fun@ncseafoodfestival.org.

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

October 5: Peak surface activity for eastern and southern hognose snakes.

October 6: Generally good surf fishing for bluefish, red drum, and some other species.

October 7-8: Draconid meteor shower peaks. Clear skies, watchful eyes, patience, and a spot as far as possible from artificial lights are all you need for successful meteor watching.

October 8: Peak migration for many sea duck species.

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

October 10-11: One of NC's older festivals, the 66th annual Mullet Festival, is slated to be held in downtown Swansboro this weekend.