



North Carolina Wildlife Resources Commission

Wildlife Diversity Program Quarterly Update

July - September 2012

Pine Barrens treefrog by Jeff Hall





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Commission Surveys Piping Plovers during the 2012 Nesting Season

From June 1 - 9, biologists and volunteers surveyed all potential nesting areas along North Carolina's coast for piping plovers, a federally listed species that is present in North Carolina during nesting and winter seasons, and during fall and spring migrations. North Carolina is the only state in the piping plover's range that is used throughout the year.

Preliminary data from the 2012 nesting season indicate that most nesting pairs were within Cape Hatteras National Seashore ($n = 15$) and Cape Lookout National Seashore S ($n = 48$). One pair was recorded at an Onslow Beach overwash near New River

Inlet, and one pair was recorded on Bear Island near Bear Inlet. Frequent storms during the nesting season washed out several nests and likely reduced chick survival. At Cape Hatteras National Seashore, 11 fledglings were recorded and at Cape Lookout National Seashore, 23 fledglings were documented. No fledglings were detected elsewhere in North Carolina.

The number of pairs of piping plovers has remained stable over the last few years, but the number of fledglings and the estimated productivity declined in 2012 relative to the two previous seasons.



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N.C. Wildlife Resources Commission
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Piping plover chick (Photo by Sidney Maddox ©2004)



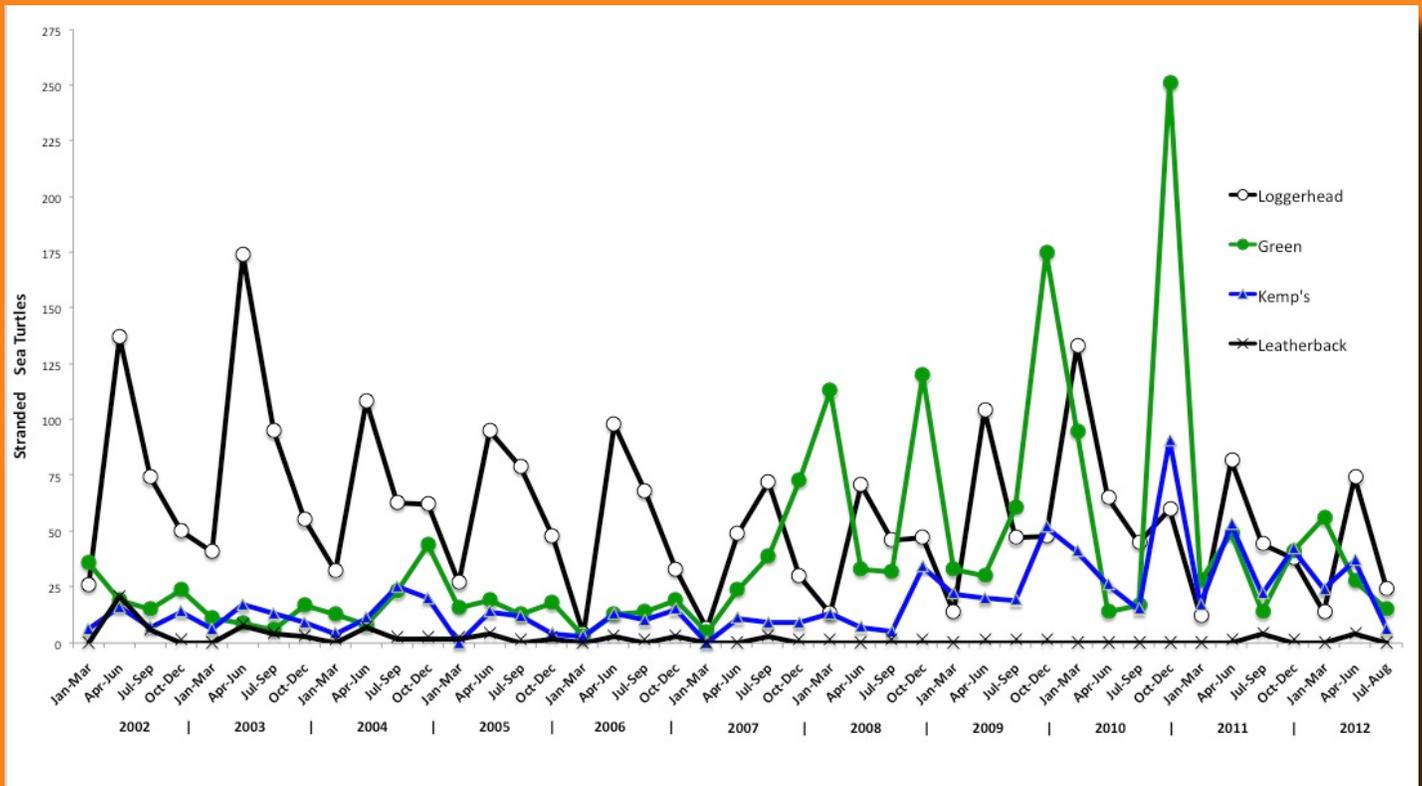
Sea Turtle Strandings in North Carolina

The North Carolina Sea Turtle Stranding and Salvage Network (STSSN), coordinated by Wildlife Diversity biologists, observed 288 stranded sea turtles and 37 incidental captures for 2012, as of Aug. 25. Of the incidental captures, 16 were reported at the Brunswick Steam Electric Plant (BSEP).

In July, Wildlife Diversity staff attended a meeting with BSEP to discuss the increase in turtle interactions and ways to minimize incidental captures of sea turtles at the plant.



A Kemp's ridley sea turtle that was captured alive and unharmed at the Brunswick Steam Electric Plant awaits release. Eight of the 16 BSEP incidental captures were immediately tagged and released unharmed. (Photo by Brunswick Steam Electric Plant)



Sea turtle strandings in North Carolina from Jan. 1, 2002 through Aug. 25, 2012. In 2012, 111 loggerhead, 101 green, 64 Kemp's ridley, four leatherbacks and eight unidentified sea turtles were stranded.



Breeding Census of Henslow's Sparrow in Eastern North Carolina

The Coastal Plain's Wildlife Diversity Program performed a breeding census of Henslow's sparrow (*Ammodramus henslowii*), a North Carolina priority species that occupies an extremely restricted breeding range in North Carolina, at Voice of America (VOA) site A on June 13 and 15. Staff detected 18 singing male Henslow's sparrows from 45 point

count stations located throughout the property. This number is strikingly lower than the 33 males detected on May 17 and 18, 2011, while using the same protocol.

This site is currently being decommissioned by the International Broadcasting Bureau, and the Wildlife Diversity Program has pursued collaborations with other agencies to ensure that future management of this species is considered after ownership of the site has been transferred.



Voice of America Site A, located approximately 20 miles east of Greenville, N.C. Henslow's sparrow (Photo by Matt Sileo, Michigan State University)



Support the Wildlife Diversity Program and Help Keep North Carolina Wild!

Whether you hunt, fish, watch, or just appreciate wildlife, you can help conserve North Carolina's wildlife and their habitats and keep North Carolina wild for future generations to enjoy. To make a direct donation for conservation of North Carolina's wildlife, print this [form](#) and send it with your check or money order payable to the N.C. Wildlife Resources Commission, to: N.C. Wildlife Resources Commission, 1702 Mail Service Center, Raleigh, N.C. 27699-1702.

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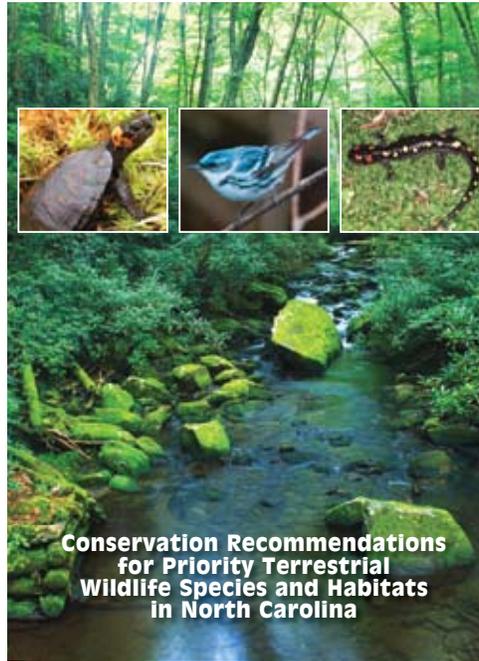
Wildlife Diversity Endowment Fund – Give a gift that lasts forever.



Green Growth Toolbox Project Terrestrial habitat conservation recommendations

In August, the N.C. Wildlife Resources Commission unanimously endorsed the “Conservation Recommendations for Priority Terrestrial Wildlife and Habitats in North Carolina.” Former Commission employees Jacquelyn Wallace and Nathan Tarr led the development of this publication, which standardizes conservation recommendations and provides land-use planners and other users with science-based information about terrestrial wildlife habitat needs.

This project scoured the scientific literature for information to answer questions such as “How big must a habitat area be?” “How close must habitat areas be to maintain connectivity?” “How big a habitat buffer is



best?” The compilation of answers in one reference publication will help to conserve priority wildlife species of conservation concern. The publi-

cation can be used with the Green Growth Toolbox for designing parks and greenways and for use in plans, ordinances, development design and development review. This document complements the Commission’s 2002 Memorandum on Cumulative and Secondary Impacts, which provides conservation recommendations primarily for aquatic habitats.

Although this publication was targeted for a land use planning audience, it can be used for a variety wildlife conservation purposes. Find it on the Green Growth Toolbox website at: www.ncwildlife.org/greengrowth.

Cumberland County Green Growth Toolbox Training

In August, the Wildlife Diversity Program partnered with Sustainable Sandhills to give an introductory Green Growth Toolbox workshop to government officials and planners working in and around Cumberland County.

The workshop was well-attended, with 17 participants. Attendees came away with a better understanding of the benefits of green growth and how to use conservation data to make decisions on land-use issues.

This workshop has spurred requests from the county, the Fayetteville Area Metropolitan Organization, and the city of Fayetteville for follow-up technical assistance and additional training on the use of conservation data.



Cumberland County and City of Fayetteville planners and elected officials attend a Green Growth Toolbox introductory training workshop. (Photo by Jeff Marcus)

Eastern Amphibian and Reptile Surveys and Management Project

Pine Barrens treefrog surveys

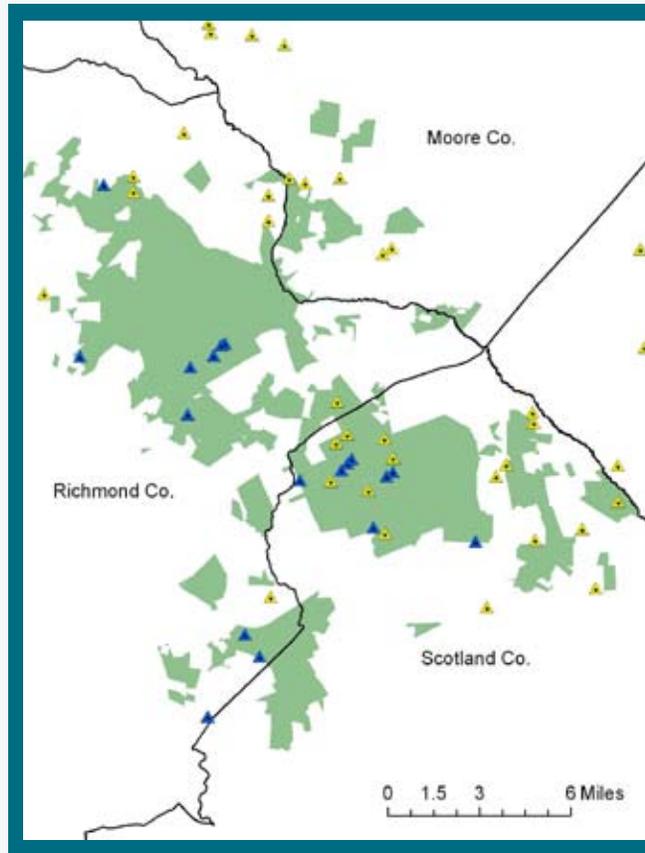
Because little is known about the status of Pine Barrens treefrogs (*Hyla andersonii*) in North Carolina, Wildlife Diversity staff began surveys specifically for this treefrog in 2011. Staff also has partnered with a graduate student from Florida State University to determine population sizes and examine the genetic diversity of Pine Barrens treefrogs in the state.

Pine Barrens treefrogs are limited to upland, sandy habitats in New Jersey, southern North Carolina, South Carolina, Alabama, and western Florida. In North Carolina, they frequent hillside seepages, streamhead pocosins, and open drainages, mainly in the Sandhills.

Surveys for this species were conducted during the summer by listening for calling males on wet or humid nights. Surveys for the past two years have focused specifically on the Sandhills Game Land, where approximately 16 records of Pine Barrens treefrogs were documented officially by the N.C. Natural Heritage Program or the N.C. Museum of Natural Sciences. Recent surveys have identified an additional 18 sites with Pine Barrens treefrogs on or near the Sandhills Game Land.

Some of these sites were well known by biologists in the state, but not documented officially. However, most new sites were previously unknown. Basic knowledge about where this

species occurs lays the groundwork for either protection of habitat or habitat management to benefit Pine Barrens treefrogs and other specialized plants and animals with which it lives. Future work will involve determining the status of treefrogs in other parts of the state and sizes of individual populations, as well as ways to manage the habitat needed for the continued survival of this species.



Pine Barrens treefrog
(Photo by Alvin Braswell)

Pine Barrens treefrog occurrence on and around Sandhills Game Land. Yellow symbols represent records from the N.C. Natural Heritage Program and N.C. Museum of Natural Sciences. Blue symbols represent treefrog records officially documented during 2011-2012 surveys.

Pine Barrens treefrogs mating
(Photo by Jeff Humphries)

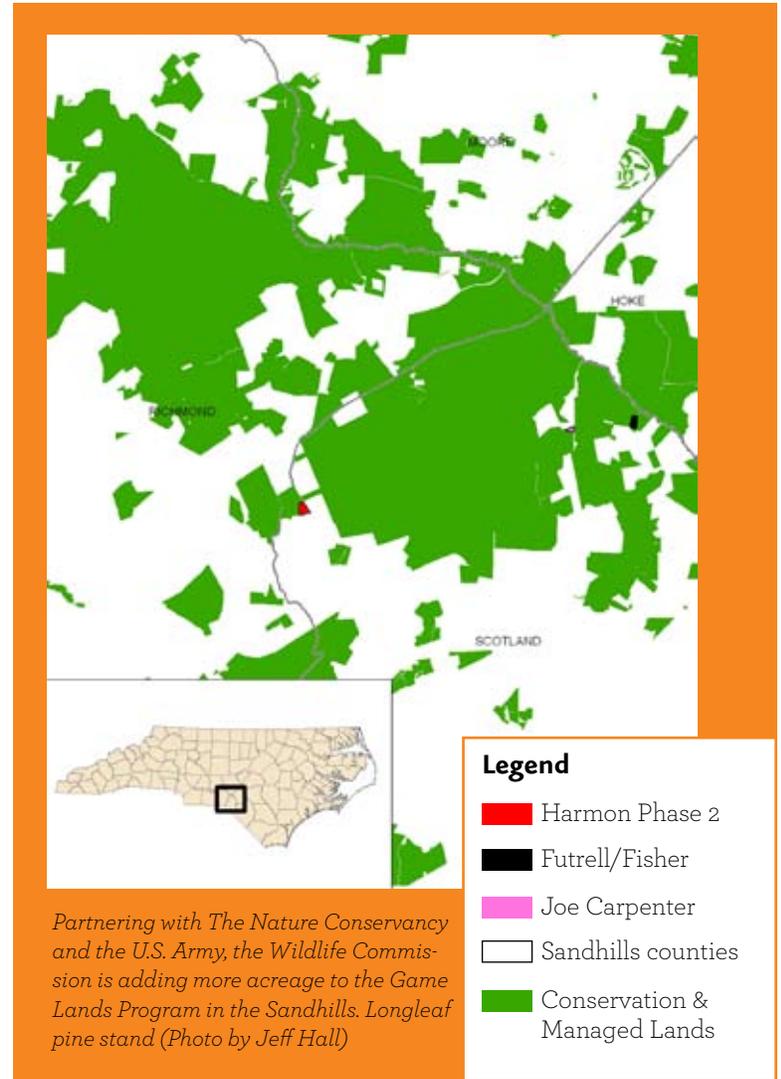




Cooperative Land Conservation Project Sandhills land acquisitions

In October, the N.C. Wildlife Resources Commission closed on two new acquisitions to the Sandhills Game Land: Carpenter (16 acres) and Futrell/Fisher (36 acres). A third acquisition, the 43-acre Harmon Phase 2, is in the works.

These acquisitions were done in partnership with The Nature Conservancy and the U.S. Army for the benefit of wildlife habitat management and conservation, wildlife-related recreation, and military training.



North Carolina Partners in Amphibian and Reptile Conservation (NCPARC) Surveys and research



The N.C. Partners in Amphibian and Reptile Conservation Research, Inventory, Monitoring & Management (RIMM) working group led a bio-blitz to Box Creek Wilderness natural area in McDowell and Rutherford counties. Approximately 15 RIMM members participated. During the trip, they found and collected several new county records and updated specimens.



Participants search for herps in the Box Creek Wilderness natural area. A three-lined salamander found during the bio-blitz. (Photos by Jeff Hall)



North Carolina Partners in Amphibian and Reptile Conservation (NCPARC) Workshops and training

Wildlife Diversity staff gave presentations on the Calling Amphibian Survey Program (CASP), N.C. Partners in Amphibian and Reptile Conservation (NCPARC), and general reptile and amphibian identification, survey methods, and ecology at several camps over the summer including: Camp Chestnut Ridge, Wildlife Resources Commission

Herp Camp at Centennial Campus, Elon Academy and Camp Rockfish. Each of these camps had herps as the primary focus. Staff also assisted with field survey work at each of these sites. In addition to these camps, Wildlife Diversity staff conducted a workshop on snakes at Cool Springs E. E. Center near New Bern (20 participants).



Participants in the Snakes in North Carolina Workshop at Cool Springs Environmental Educational Center saw a variety of snakes, including (from left to right) a mole kingsnake, mud snake and redbelly watersnake. (Photos by Jeff Hall)



Participants in the Wildlife Commission's Herp Camp at Centennial Campus lift cover boards searching for herps while others hold up a few turtles they caught in traps. (Photos by Jeff Hall)



North Carolina Partners in Amphibian and Reptile Conservation (NCPARC) Workshops and training

In conjunction with Wildlife Resources Commission Law Enforcement officers, Sgt. Mark Cagle and Robert Wayne, and U.S. Fish and Wildlife Service (USFWS) officer Frank Simms, staff facilitated a reptile and amphibian training for District 1 Commission officers, USFWS officers, and National Park Service staff. Approximately 20 participants attended the training, which focused on identification of reptiles and amphibians and training on current regulations regarding these species. Several case studies of illegal activity also were highlighted.



Wildlife Enforcement Officers receive training on reptiles and amphibians, including how to pick up a snake using a snake hook (top right photo). Photos by Sgt. Mark Cagle

Western North Carolina Amphibian Conservation

Green salamander surveys

In April, Wildlife Diversity staff and volunteers conducted rock outcrop surveys for green salamanders (*Aneides aeneus*), a N.C. Wildlife Action Plan priority and state-listed endangered species.

They conducted surveys at a previously unexplored portion of the “headwaters” tract in southern Transylvania County. Green salamanders prefer shaded, cool, humid rock outcrops with deep crevices. Large canopy trees and woody shrubs on and around rock outcrops are important for maintaining the specific microclimate conditions salamanders need. Green salamanders also rely significantly on surrounding arboreal habitat for dispersal, cover and foraging, among other uses.

While these salamanders are more commonly found in suitable rock outcrops, they will emerge from rock crevices and use nearby trees and shrubs during a warm rain in spring or early summer. On April 26, staff witnessed such an event after a heavy rain. During a search of a rock outcrop where

they had found green salamanders previously, they noticed an individual on a nearby, large eastern hemlock tree. They watched the salamander start a few feet above ground and then spiral its way up the trunk until they lost sight of it over 30 feet above their heads.

On its journey, the salamander found a moist refuge at a contact point with a large, horizontal rhododendron branch. Here, it touched snouts with another green salamander that was hiding before continuing up the tree. The second salamander soon followed the same path up the tree trunk.

State, federal and private partners have been working for several years to conserve this ~8,000-acre private tract that serves as a significant landscape connector of other protected habitat on the North Carolina/South Carolina border.

Records of state-listed and priority species, like the green salamander and others, have helped raise the conservation value of this property.



Above photo shows a typical rock outcrop habitat for green salamanders. (Photo by Lori Williams); Wildlife Diversity Biologist Lori Williams observes an arboreal green salamander on a headwaters tract in Transylvania County, April 2012. (Photo by Dottie Brown); Green salamander climbing on eastern hemlock tree (Photos by Lori Williams)



Western North Carolina Reptile Conservation

Bog turtle surveys

During May and June, Wildlife Diversity Biologist Gabrielle Graeter, along with several volunteers, spent time searching for the elusive bog turtle in western North Carolina. Bog turtles (*Glyptemys muhlenbergii*) are a federal and state-listed threatened species and a priority species in the N.C. Wildlife Action Plan.

Each year, Commission staff heads up an effort to survey bog turtles at sites where populations have been documented in the past as part of a long-term monitoring program for this species.

This year's monitoring effort included surveying for bog turtles at 20 sites in four counties (Alleghany, Ashe, Henderson and Wilkes), with two sites visited twice. During these surveys, the crew captured 59 turtles that had been

captured and marked previously and 28 turtles that had never been captured.

In that same period, they surveyed for turtles at 12 sites in Ashe and Wilkes counties that had never been surveyed before but appeared to have habitat suitable for the species. They spent a lot of time prior to these surveys laying the groundwork, including identifying potential suitable habitat, contacting landowners, and conducting preliminary habitat assessments to whittle the surveys down to 12 sites.

The hard work preparing and conducting these surveys paid off because Commission biologists discovered two new bog turtle populations in Wilkes County, with a total of six additional turtles captured.



At a site deemed to have potential for bog turtles due to suitability of the habitat, Wildlife Diversity Biologist Gabrielle Graeter holds up her find – an adult bog turtle and a juvenile snapping turtle (top left photo by Bob Davis); Wildlife Commission staff and volunteers search for bog turtles at a potential site (bottom left photo by Gabrielle Graeter).



Western North Carolina Bird Conservation

In May, partners in the Southeast golden-winged warbler working group set out to fill in distribution gaps in North Carolina and Tennessee. Highlights included a Blitz at Roan Mountain and surveys in the southwestern mountains.

Staff continues to monitor shelterwood units on the national forests to determine how long this type of habitat is suitable. Once again this year, Brewster's warbler (a hybrid between a golden-winged and a blue-winged warbler) occupied unusually high elevations.

Wildlife Diversity Biologist Chris Kelly led the annual Mountain Bird Identification Refresher on May 22. Wildlife management staff, key partners and volunteers caravanned up the



Blue Ridge Parkway from Asheville to Mt. Mitchell, reviewing the songs and visual identification of bird species occurring across a 3,400-foot elevation gradient. Participants saw or heard 48 species of birds on the foggy day. Highlights included excellent views of a yellow-billed cuckoo and Canada warbler and the discovery of a

nest of an American redstart, a boldly patterned warbler. New this year, the bird refresher included a fun (and memorable) flash card quiz. Confident in their bird identification skills, participants were ready to head to the field to conduct surveys on North Carolina game lands and for numerous priority species.



Golden-winged warbler habitat; a mosaic of grassland, shrubland, saplings and trees (top photo by Chris Kelly)

Conservation Technician Tony Wait points out a bird to participants. (Left photo by Chris Kelly); A golden-winged warbler (Above photo by Evan Madlinger, USDA)

THE WILDLIFE DIVERSITY PROGRAM



The Wildlife Diversity Program was established in North Carolina in 1983 to prevent nongame species from becoming endangered by maintaining viable, self-sustaining populations of all native wildlife, with an emphasis on species in decline.

More than 1,000 nongame animals call North Carolina home. Many nongame species, including mammals, reptiles, birds, amphibians, snails, mussels, and fish, are common and can be seen or heard in your own backyard. Other nongame animals, such as bald eagles and peregrine falcons, were, at one time, considered endangered, but now soar high in the sky, thanks to the work conducted by Wildlife Diversity biologists.

The men and women who work for the Wildlife Diversity Program are dedicated to conserving and promoting nongame wildlife and their habitats through a variety of survey and monitoring programs, species management, and habitat conservation or restoration projects. While these programs and projects target nongame animals and their habitats, game species — such as deer, turkey, mountain trout, and black bass — also benefit because they share many of these same habitats.

You can learn more about the many projects and programs conducted by Wildlife Diversity personnel on behalf of nongame and endangered wildlife by visiting www.ncwildlife.org/conserving.

BUY A T-SHIRT AND KEEP NORTH CAROLINA WILD

Through the purchase of this commemorative wildlife buttons T-shirt, you can help keep North Carolina wild for future generations to enjoy and appreciate. T-shirt sale proceeds benefit the N.C. Wildlife Resources Commission's Wildlife Diversity Program, thanks to a generous donation by Neuse Sport Shop, located in Kinston. T-shirts are \$15 for adult sizes and \$12 for youth sizes. They can be purchased online at the Wildlife Commission's N.C. Wild Store, www.ncwildstore.com. Or online at Neuse Sport Shop, www.nssnc.com.

