



North Carolina Wildlife Resources Commission



# Wildlife Diversity Program Quarterly Update

January - March 2013





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**155 Cold-Stunned Sea Turtles Recovered This Winter**

Cold coastal water temperatures in North Carolina produced two waves of cold-stunned sea turtles this winter. The North Carolina Sea Turtle Stranding and Salvage Network, which comprises hundreds of volunteers and is coordinated by Wildlife Diversity biologists, responded to the hypothermic turtles.

The first wave hit Pamlico Sound and Cape Lookout Bight between Dec. 23 and Jan. 12. The second wave occurred between Jan. 23 and Feb. 7 and was largely concentrated in Cape Lookout Bight.

In total, 155 cold-stunned turtles were recovered during these two events, including 106 green turtles, 32 Kemp’s ridleys, and 17 loggerheads. Rehabilitation facilities quickly filled, as 139 of these cold-stunned turtles were found alive. Of these, 32 turtles died soon after recovery while 57 currently remain in rehabilitation.

Fifty turtles recuperated fully and were released near the Gulf Stream through cooperative efforts with the U.S. Coast Guard.



*Cape Lookout National Seashore biologist Jon Altman and volunteers retrieved 38 cold-stunned turtles from Cape Lookout Bight on Jan. 25. The turtles were transported by boat from the Bight to Harkers Island, where they were picked up by Wildlife Diversity Program and NOAA biologists and taken to rehabilitation.*



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## Waterbird Management Committee Annual Meeting Held at Hammocks Beach

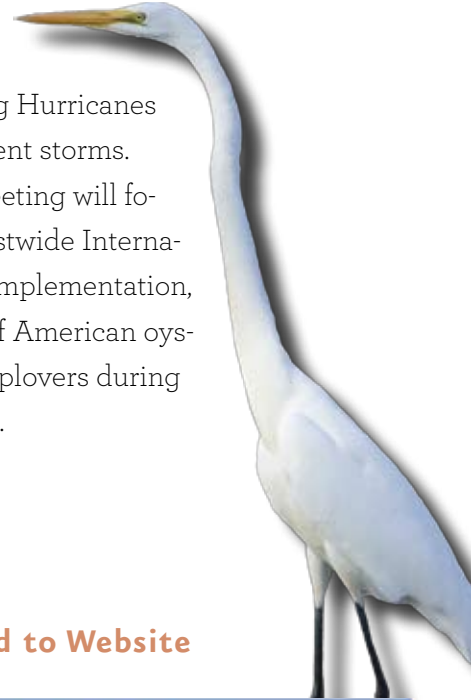
On March 6, the N.C. Wildlife Resources Commission’s Waterbird Program held the North Carolina Waterbird Management Committee’s annual meeting at Hammocks Beach State Park.

Thirty-three people attended, representing six state agencies, two state universities, five federal agencies, the National Audubon Society – North Carolina, and eight independent groups.

Twelve presentations were given on topics that included shorebird monitoring and research, rehabilitation of brown pelican chicks, first record of double-crested cormorants’ nesting on a coastal island, a study of large-bodied gulls nesting on islands, and the beginning of a great egret telemetry and outreach project.

Following the presentations, attendees discussed current events affecting waterbirds, such as the N.C. Department of Transportation’s work on state Hwy. 12 and bridges at inlets following Hurricanes Irene and Sandy, and recent storms.

Follow-up from the meeting will focus on final plans for coastwide International Shorebird Survey implementation, and a coastwide survey of American oystercatchers and Wilson’s plovers during their 2013 nesting season.



## Red-Cockaded Woodpecker and Safe Harbor Program Information Added to Website

The N.C. Wildlife Resources Commission recently added two new webpages to its website dedicated to the red-cockaded woodpecker and the Safe Harbor Program.

The Safe Harbor Program web page ([www.ncwildlife.org/rcwsafeharbor](http://www.ncwildlife.org/rcwsafeharbor)) provides an overview and outlines the benefits of the voluntary program, which was created in 2006 to encourage private landowners to undertake voluntary land conservation measures that benefit RCWs. The page explains in greater detail the process of enrolling private land into a Safe Harbor Agreement and also provides information on the various land management activities that can be done to make properties more suitable for RCWs and other wildlife species while at the same time protecting landowners from any additional encumbrances of having a listed species on their property.

The Red-cockaded Woodpecker web page ([www.ncwildlife.org/rcw](http://www.ncwildlife.org/rcw)) provides a wealth of information on the federally endangered bird, including its life history, habitat requirements and status and distribution in North Carolina.

**Red-cockaded Woodpecker**  
 Scientific Name: *Picoides borealis*  
 Classification: Endangered  
 Species Profile (USFWS) (PDF)  
 Safe Harbor Program

**Identification** | Life History | Management | Status & Distribution | Video

The common name came into use during the early 1800's when 'cockade' was regularly used to refer to a ribbon or other ornament worn on a hat. Female Red-cockaded Woodpeckers (RCWs) lack the red cockade. Juvenile males have a red 'patch' in the center of their black crown. This patch disappears during the fall of their first year at which time their 'red-cockades' appear.

The RCW shares the southeast with seven other species of woodpeckers (see below). Only the RCW has the white cheek patch. Other woodpecker species, including the red-bellied, red-headed, pileated, northern flicker and yellow-bellied sapsucker, can be distinguished from the RCW by either having very noticeable red on their head or lacking the black and white bars on the back.

(Hover over the bird images for the species name and click for a photo gallery of each species.)

**Southeastern woodpeckers:**

1. Red-cockaded woodpecker
2. Hairy woodpecker
3. Downy woodpecker
4. Pileated woodpecker
5. Red-bellied woodpecker
6. Red-headed woodpecker
7. Yellow-bellied sapsucker
8. Northern flicker
9. Ivory-billed woodpecker

- from Thomas H. Inhof's "Alabama Birds"

## Wildlife Resources Commission Working to Stop the Spread of Hydrilla in Lake Waccamaw

Biologists with the N.C. Wildlife Resources Commission are working with other state, federal and local agencies, municipalities and organizations to stop the spread of hydrilla in Lake Waccamaw.

Lake Waccamaw, a 9,000-acre natural lake in Columbus County, is habitat for several endemic species, including the federally threatened

Waccamaw silverside. Hydrilla, an invasive exotic weed, was discovered this past winter in the lake. Approximately 600 acres are infested. Models predict that much of the lake could become infested within the next five years. This would pose a serious risk to the numerous endemic species in Lake Waccamaw. Controlling the hydrilla will be a long and

expensive process. It will take several years of applying the herbicide Sonar to adequately treat Lake Waccamaw. The first application of Sonar will take place early this summer and cost approximately \$450,000.

Wildlife Commission biologists will monitor the fish and mussels in the lake to determine what effects, if any, the herbicide will have.



*Hydrilla has spread to approximately 600 acres in Lake Waccamaw. If left to spread unchecked, hydrilla could disrupt boating, fishing and swimming at the popular Columbus County lake.*

## States Coordinate to Conserve Species

Wildlife Diversity Program managers from several states are working together to conserve species in the Southeast. Diversity programs from all member states of the Southeastern Association of Fish and Wildlife Agencies worked with the U.S. Fish and Wildlife Service to develop a plan to monitor and conduct conservation actions for

multiple species, such as the sicklefin redhorse, petitioned for federal listing. Representatives from 13 states and three USFWS regions met near Atlanta in January to develop the plan.

This is a significant development because it represents the first time states have worked together on this scale to plan conservation actions.



*Sicklefin redhorse*



## Biologists Use Automated Recorders to Survey Calling Amphibians

N.C. Wildlife Resources Commission biologists are using automated recorders called Frogloggers to survey for rare and elusive frog species at wetlands in eastern North Carolina.

These recorders can be programmed to record at specific time intervals throughout the night and can be deployed in the field for days, weeks or months. Recordings are downloaded and analyzed with software to determine the species calling at each wetland sampled.

Biologists particularly were interested in locating gopher frogs, ornate chorus frogs and southern chorus frogs and determining some measure of calling male abundance.

During the winter of 2012 and spring of 2013, they placed recorders at 15 wetlands and obtained more than 500 hours of recordings.

Overall, they recorded gopher frogs at only three sites, ornate chorus frogs at two sites and southern chorus frogs at one site.

This relatively new technology is proving to be an extremely useful method for gathering data about specific populations of amphibians, especially when coupled with other methods, such as traditional egg mass and tadpole surveys. However, recordings are also raising questions about the accuracy of traditionally used survey methods. For instance, large numbers of calling gopher frogs were documented on recordings at two sites, but egg mass surveys revealed a general lack of breeding this year.

Commission biologists will continue to use automated recorders to survey and monitor populations of numerous species of amphibians.

Automated recorders called frogloggers, like the one hidden in the tree (bottom left photo), allow Commission biologists to download recordings of rare and elusive frog species, such as the ornate chorus frog (below) and gopher frog (middle photo).



Jeff Hall



Jeff Hall





## Green Growth Toolbox In-Depth Data Training Session for Cumberland County



Wildlife Diversity Program staffed a Green Growth Toolbox workshop in Spring Lake in Cumberland County. Six planners from the county and the City of Fayetteville and two transportation planners from the Fayetteville Area

Metropolitan Planning Organization at-

tended the workshop, which focused on how to use conservation data in GIS to generate land use plans and policies. Wildlife Diversity Program staff stressed the importance of maintaining connectivity in an increasingly fragmented landscape for red-cockaded woodpeckers and other priority species.

The workshop culminated in a field trip to private land to see what conservation data looked like on the ground and to discuss how the land could be developed while still pro-

tecting environmentally sensitive areas and wildlife habitat.

All participants provided positive reviews in their evaluations. Planners have followed up with a request for technical assistance on a small area plan for the county. Program staff also will present to the Cumberland County Planning Board and the City of Fayetteville's Planning Commission in upcoming meetings.



## Integrating Wildlife Habitat into Long-Range Transportation Planning

Biologists with the N.C. Wildlife Resources Commission Green Growth Toolbox project and the N.C. Conservation Planning Tool are teaming up to provide training and guidance to transportation planners.

The goal is to show transportation planners how to use the Biodiversity and Wildlife Habitat Assessment map and data to avoid and minimize impacts to priority wildlife species and habitats through long-range transportation planning. So far more than 20 transportation planners have received introductory training in the Triangle area.

The Wildlife Commission and the Natural Heritage Program also provided a mapping analysis for the Durham-Chapel Hill-Carrboro 2040 Comprehensive Transportation Plan that highlighted areas where future road projects could have a negative impact on priority wildlife species and habitats.

The hope is that road impacts can be avoided ahead of the final planning stage. This analysis can serve as a template for other metropolitan and rural planning organizations in North Carolina.

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a plate



*Your purchase helps conserve wildlife in North Carolina.*



## Thomas Tract Acquisition Will Improve Access to and Management of the Sandhills Game Land

The Nature Conservancy purchased the 262-acre Thomas tract in Moore County and will soon transfer the property to the N.C. Wildlife Resources Commission. The Commission has secured funding from the N.C. Natural Heritage Trust Fund for this acquisition, which is also being funded by the U.S. Army and The Nature Conservancy.

Surrounded on three sides by the Sandhills Game Land, the Thomas tract will greatly improve access to and management of the game land. The tract includes mature longleaf pine habitat with wiregrass understory, as well as a longleaf pine plantation and agricultural fields.

Through controlled burning and planting longleaf pines and native groundcover, Commission personnel will restore this property as longleaf pine habitat.

This acquisition will benefit red-cockaded woodpeckers, Bachman’s sparrows, southern hognose snakes, fox

squirrels, wild turkeys and many other priority game and non-game species that have been found on or adjacent to the property. Hunting, bird watching and military training are among the activities that will be enhanced with this acquisition.



Longleaf pine and wiregrass habitat on the Thomas tract, a 262-acre property adjacent to the Sandhills Game Land in Moore County. (Photo by Jeff Marcus)



National Wild Turkey Federation



Scott Hartley

The acquisition and subsequent management of the Thomas tract will benefit a wide variety of game and nongame species, such as Eastern wild turkeys (NWF), fox squirrels and red-cockaded woodpeckers.

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

Wildlife Diversity staff facilitated several workshops and presentations on topics such as amphibians, tadpole identification, survey techniques and the Calling Amphibian Survey Program. Additionally, staff helped facilitate a BBC filming of rattlesnakes on the Holly Shelter Game Land in Pender County.



BBC film crew filming captive timber rattlesnake on Holly Shelter Game Land (Photo by Jeff Hall)

## North Carolina Partners in Flight Brings Bluebird Nest Boxes to the Classroom

The North Carolina Partners in Flight Program, an extension of the International Partners in Flight Initiative, brings together those interested in improving bird conservation: citizen scientists, bird researchers, naturalists and anyone who is interested in the conservation of birds in North Carolina.

Last year, in partnership with and with funding from the U.S. Fish & Wildlife Service, eight elementary schools across North Carolina received Eastern bluebird nest boxes equipped with cameras. These boxes allow students to study active nesting without disturbing the birds.

Each school has a sponsor biologist who assists teachers with developing activities or giving presentations to students. This year, Wildlife Diversity Program staff has encouraged students to log their observations in the Cornell Lab of Ornithology's online Citizen Science program for capturing nesting attempts.

They hope to continue this program in the coming years, and to develop lesson plans designed to fit with North Carolina Common Core Curriculum Standards.

Visit the [N.C. Nest Watchers website](http://www.ncnestwatchers.org) to read more about some of the schools' experiences with nesting boxes.





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

Wildlife Diversity Program staff, along with staff from several partner agencies, continued the third year of Neuse River waterdog surveys. They sampled many sites along the Neuse and Tar River drainages for the salamander, which is state listed as special concern.

Weather conditions were excellent for monitoring of other rare amphibians, such as Carolina gopher frogs and ornate chorus frogs. Staff monitored populations of these N.C. Wildlife Action Plan priority species in the Boiling Spring Lakes area and on the Holly Shelter Game Land, Croatan National Forest and Camp Lejeune. One particularly exciting moment was recapturing a marked gopher

frog. The recapture was part of a head-starting effort from 2011. Jeff Hall, a Wildlife Diversity Program biologist, found the recaptured frog incidentally, while conducting egg mass surveys. According to Hall, finding the mature male frog made the entire 2011 effort worthwhile.

Biologists and volunteers also conducted upland snake surveys at several locations including Croatan National Forest and Holly Shelter Game Land. Despite the fact that weather conditions were cooler and wetter this spring, biologists did detect several priority species from the N.C. Wildlife Action Plan, including an eastern kingsnake and pigmy rattlesnake.



David Allen, Wildlife Diversity Program Supervisor for the coastal region checks a trap for Neuse River waterdogs. (Photos by Jeff Hall)



Recaptured gopher frog (Photo by Jeff Hall)



Pigmy rattlesnake (Photo by Jeff Hall)

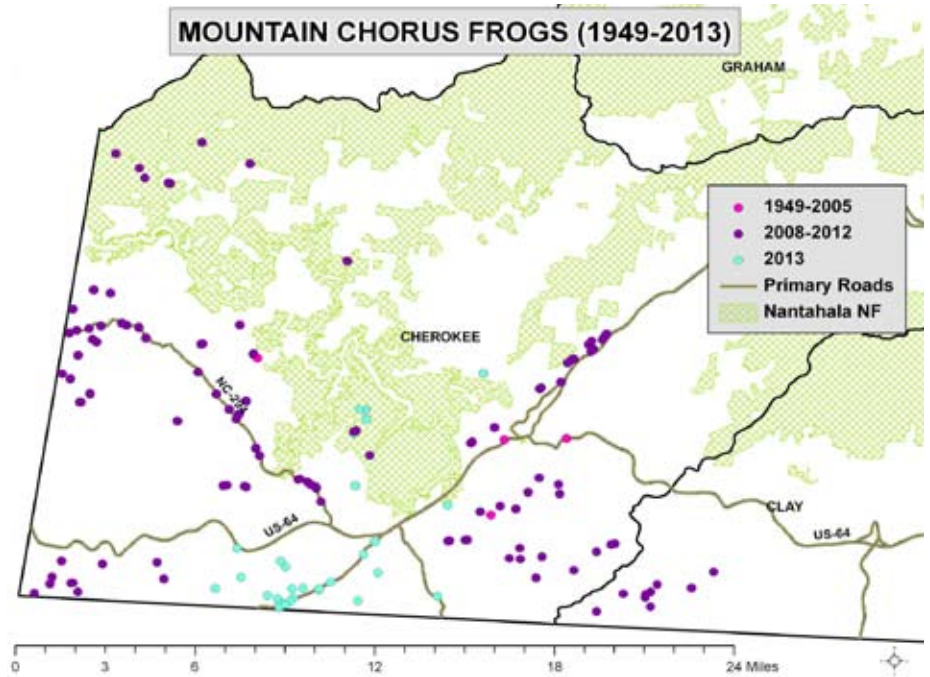


## Biologists Conduct Mountain Chorus Frog Surveys in Western North Carolina

In March, Wildlife Diversity staff conducted nighttime visual encounter surveys for the mountain chorus frog, a North Carolina Wildlife Action Plan priority and special concern species, at an aquatic breeding site on the Nantahala National Forest in Cherokee County. Staff captured frogs to collect morphological data in preparation for a potential research project in 2014.

Biologists know little about mountain chorus frogs' use of upland habitat and their movements when they're away from their breeding habitats but have identified these two topics as priorities. The potential project could include using telemetry techniques to find out more about their movements and habitat use.

Staff also continued nighttime auditory surveys for calling frogs, identifying more than 20 new mountain chorus frog breeding habitats in south-central Cherokee County. They have conducted these audio surveys each spring since 2008, which has increased significantly their knowledge of mountain chorus frog distribution in southwestern North Carolina.



Mountain chorus frog (*Pseudacris brachyphona*) distribution in Cherokee and Clay counties, historical locations (1949-2005) to the present. (Map by Lori Williams)



Biologists found this pair of breeding mountain chorus frogs in Cherokee County in March (above photo) while conducting an annual survey. They weigh and measure collected specimens — data that may be used for a potential research project in 2014. (Photos by Lori Williams)



## White-nose Syndrome Causes Dramatic Declines in North Carolina's Hibernating Bats

White-nose Syndrome (WNS), the disease that is devastating bat populations across the Eastern United States and Canada, has continued to spread to new sites in 2013.

Biologists with the N.C. Wildlife Resources Commission and U.S. Forest Service (USFWS) said the disease has been confirmed as far south as northern Alabama, Georgia and South Carolina, and as far west as Missouri.

The USFWS estimates that more than 5.7 to 6.7 million bats in North America have died from this disease. WNS was first discovered in North Carolina in the western part of the state in February 2011. That first winter, the disease was confirmed in four counties: Avery, McDowell, Transylvania and Yancey. A year later, in 2012, bats found in a hibernaculum in Haywood County were confirmed positive for the disease. This past winter, bats in two additional counties — Rutherford and Buncombe — were confirmed to have the disease, and the disease is suspected in Swain County bats. This brings the number of North Carolina counties confirmed with WNS up to seven.

In March 2013, a bat found dead on a deck in Buncombe County was confirmed positive for the disease. Soon after, a Rutherford County bat found dead at a cave on The Nature Conservancy's Bat Cave Preserve property also tested positive. In Swain County, two hibernation sites surveyed this year had bats with visible signs of WNS, and laboratory tests later confirmed the presence of the fungus, but not the disease.

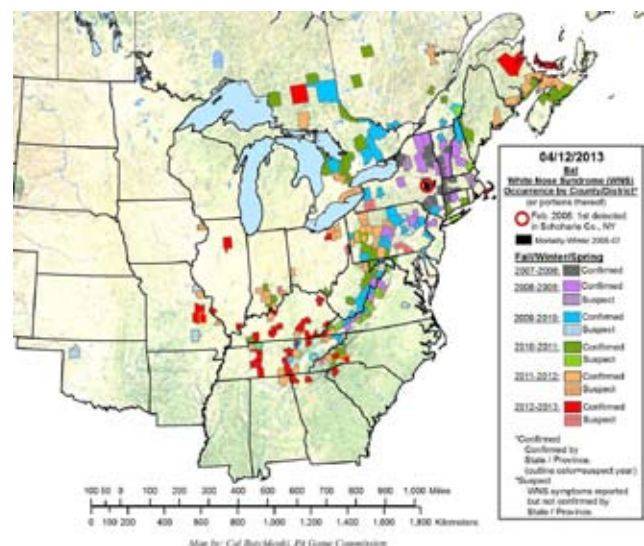
The fungus can be present on a bat and the bat is considered "suspect" for WNS, but it is not considered to have the white-nose syndrome disease unless invasion of the skin tissue by the fungus is observed with a microscope.

Declines in the number of hibernating bats at some WNS-infected caves have been catastrophic. Some infected locations have shown about a 95 percent decline in hibernating bats since WNS was discovered one to two years prior. For example, the total number of bats hibernating in

a retired mine in Avery County has plummeted from more than 1,000 bats prior to WNS to around 65 bats in just two years since the disease was discovered. At a mine in Haywood County, the number of bats hibernating dropped from nearly 4,000 bats to about 250 bats in only a year. At a cave in McDowell County, biologists saw numbers go from almost 300 prior to WNS to only a few bats remaining this winter.



Biologists found this dead tri-colored bat outside a cave entrance in Rutherford County. It later tested positive for white-nose syndrome. (Photo by Gabrielle Graeter)



Map showing continued spread of white-nose syndrome in North America and in North Carolina in winter 2013.

## Wildlife Commission Biologists Collaborate on Golden Eagle Migration Research

Between November and March, Mountain Wildlife Diversity staff, along with partners, participated in the Eastern Golden Eagle Working Group camera monitoring effort to evaluate the use of the Southern Appalachians by over-wintering golden eagles.

They documented golden eagles at five of nine camera monitoring sites in western North Carolina, including Mitchell, Yancey, Wilkes and Alleghany counties. In cooperation with the Tennessee Wildlife Resources Agency and West Virginia University, they captured and fitted with a transmitter an adult male golden eagle in Mitchell County to evaluate the length of its stay and movements.

Camera monitoring also documented an Eastern spotted skunk on Buffalo Cove Game Land in Caldwell County.



Biologists captured this golden eagle and placed a transmitter on it to evaluate the length of its stay and its movements. (Photo by Chris Kelly)

## Wildlife Commission Biologist Organizes Owl Pellet Lab for Community College Students

In January, Chris Kelly organized an owl pellet lab with Haywood Community College's Mammalogy class to evaluate the diet of barn owls and to introduce the students to mammal skulls and dentition.

Barn owl pellets collected at Sandy Mush Game Land contained the skulls of one unidentifiable bird species and nine species of mammals, with meadow vole being the most numerous prey taken, plus two rarities: a southern rock vole (North Carolina special concern) and a least weasel (significantly rare).



Instructor Shannon Rabby (right) works with a student in the owl pellet lab. (Photo by Chris Kelly)



## 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](http://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](http://www.ncwildstore.com). Or online at Neuse Sport Shop, [www.nssnc.com](http://www.nssnc.com).





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(Cover Photo: Golden eagle by Chris Kelly)