

Field Notes

*The newsletter of the U.S. Fish & Wildlife Service's
North Carolina Ecological Service's Field Offices*

Note from the Field Supervisors: Working Together for the future

The drought has been on everyone's mind in North Carolina and throughout the Southeast. Biologists from our offices recently met with representatives from state wildlife agencies from North Carolina and South Carolina, as well as representatives from education, conservation and environmental organizations to discuss the drought's impact on aquatic wildlife. There are six species of mussels federally listed as endangered in North Carolina. One of these, the Tar spiny mussel, only exists in North Carolina. Many stream reaches that provide habitat for these and other wildlife species have run dry at some point during the drought. As such, there is real concern that many populations of these vulnerable and important organisms may be lost. As North Carolina struggles to meet the water needs of its rapidly growing population, it is vitally important to ensure that sufficient water is allocated to meet the needs of North Carolina's wildlife.

We are working with our partners to get the message out that constant water conservation and improving water quality are essential to North Carolina's future. As you can see from some of the work featured in this edition we are continuing to work with partners on informing and educating others on the importance of our aquatic resources, and we are continually working to protect and improve aquatic habitat for the remarkable diversity of aquatic life in this great state. As North Carolina continues to struggle with rapid population growth and the challenges of global climate change, we will face many difficult decisions regarding what we want the future to look like. It is our mission to ensure that the future includes a rich diversity and abundance of fish and wildlife, including the water to support it.

Brian Cole and Pete Benjamin

North Carolina Passes Legislation Protecting Refuges from Landfill Siting Impacts



Fall scene at Dismal Swamp National Wildlife Refuge. The new law prevented siting of a proposed mega-landfill within a mile of the refuge.

During the 2007 North Carolina legislative session, Service Environmental Contaminants biologists, together with refuge staff, worked with State regulators with the North Carolina Division of Waste Management and a stakeholder group of the North Carolina Legislature on including a provision for five-mile protective buffers around North Carolina wildlife refuges in solid waste management legislation under consideration. The recommended buffer was based on reviewing technical literature on waste facility disposal siting and protective measures employed in other states as interpreted for the unique characteristics of eastern North Carolina. Benefits to National Wildlife Refuges that

may result from the buffer provision include continued public enjoyment of NWRs by preserving the viewscape and avoidance of noise and odor nuisances. Buffers also prevent alteration of wildlife foraging patterns and habitat quality and water quality degradation.

In August, the Solid Waste Management Act of 2007 was signed, embracing the Service's recommendation to prohibit construction of landfill waste disposal units within five-miles of NWR boundaries in the State. Despite significant opposition to the provision, the bill passed based on the public's desire to preserve these sensitive areas and the technical recommendation to help achieve that preservation. In addition to the future protections provided by the protective buffer around refuges, the law halted permit applications for the two solid waste facilities seeking to construct landfills near refuges. The law included provisions to compensate these permit applicants, creating a mechanism to both protect the environmental quality of refuge lands as well as equitably increase the stringency of landfill siting requirements. With known landfill-related problems on other refuges, the buffer protection provision in the new law secures tangible resource protection now and into the future.

North Carolina and Beyond

Back from the Brink: The Red Wolf Recovery Program Wins Nation's Top Wildlife Conservation Award



Photo left: Red Wolf. Photo right: Will Waddell, the Red Wolf Species Survival Plan Coordinator at Point Defiance Zoo and Aquarium, accepts the award from Bruce Babbitt, former Secretary of the Interior.

Thirty-five years ago, only 17 red wolves roamed the planet, with only 14 used to begin a captive breeding program. Since then, the red wolf population has grown to more than 300 individuals. On September 19, 2007, the Red Wolf Recovery Program received the North America Conservation Award from the Association of Zoos and Aquariums (AZA).

In 1987, the U.S. Fish and Wildlife Service, in partnership with Point Defiance Zoo and Aquarium (PDZA) and the Red Wolf Species Survival Plan®, made the first attempt in history to restore a carnivore species that

was extinct in the wild. Four adult red wolf pairs were released into a part of their natural habitat on the Alligator River National Wildlife Refuge, just 14 years after the red wolf captive breeding program began. The year 2007 marks the 20th anniversary of that release and the 30th anniversary of the first red wolf litter born at PDZA after the breeding program was formalized in 1973.

“The Red Wolf Recovery Program gratefully acknowledges this prestigious national award from AZA and the recognition that it brings to all of the partnerships needed to save this endangered

species,” said Bud Fazio, team leader of the Red Wolf Recovery Program. “The award is a tribute to long-term conservation efforts in red wolf recovery,” He said.

“We thank all those who have dedicated many years of hard work through their involvement in the AZA Red Wolf Species Survival Plan, associated research and population management, propagation on island national wildlife refuges and parks, restoration of a wild population, scientific research, development of planning documents, museum assistance for specimen storage, and public education,” Fazio said.



Red Wolf dad and his pups

Winter 2008 Magazine dedicated to Red Wolf

The entire winter 2008 issue of International Wolf Magazine is devoted to the recovery of the red wolf. Many of the articles were written by people directly involved in red wolf recovery, including red wolf field biologists. You can view the magazine issue and download articles from the magazine by visiting: www.wolf.org/wolves/news/iwmag/2007/winter/winter2007.asp

Red Wolf Exhibit Update

The “Wolves and Wildlands in the 21st Century” exhibit which ran from April through August at the Walter B. Jones Center for the Sounds in Columbia, N.C. drew more than 7,000 visitors. This exhibit featured six mounted wolves and nine interpretive panels. For further information on the red wolf in North Carolina visit www.redwolves.com

Students Focus On Aquatic Ecosystem



Red Wolf Dad and pups

Photo: Mountain Heritage High School biology teacher Gabriel Riesener tries out river snorkeling.

Led by Asheville Field Office outreach specialist Gary Peeples, members of Yancey County's Mountain Heritage High School Eco-Club spent a September afternoon surveying and identifying aquatic macroinvertebrates – the insects, worms, crayfish and other animals whose presence is an indicator of water quality.

The field day with Mountain Heritage High School's Eco-Club is part of an on-going effort to educate about the importance and complexity of aquatic ecosystems. In late August, Peeples led every 4th grader at Madison County's Brush Creek Elementary school in

macroinvertebrates sampling and basic hydrology measurements, like using oranges to measure stream velocity.

This fall, the Asheville Field Office continued its support of Haywood Waterway's Kids in the Creek program which gets every Haywood County public school 8th grader into a stream to learn about fish, macroinvertebrates, and includes sessions on water chemistry and how land-use affects water quality. The Service will also soon begin a partnership with a Union County middle school, guiding excursions to a nearby stream and leading classroom discussions on water quality.

Troy Wilson Joins Asheville Field Office



Troy Wilson

Troy Wilson started work with the Asheville Field Office earlier this fall, replacing Denise Moldenhauer who left earlier this year. Like Denise, he will review North Carolina Department of Transportation Projects.

Prior to the Asheville Field Office, Troy worked in the Service's Ohio Field Office, where he reviewed projects, including Ohio Department of Transportation projects, for impacts to fish, plants, and wildlife. An Ohio native, Troy has a master's degree in conservation biology from Central Michigan University, and one in evolutionary ecology and organismal biology from Ohio State University.

He moves to Asheville with So Yung Wilson, his wife of twelve years.

Bat Biologists Descend on Eastern Tennessee

Robert Currie, a biologist in the Asheville Field Office, was one of more than 100 biologists helping with this year's Southeastern Bat Diversity Network Bat Blitz. Each year, the blitz brings together dozens of biologists to capture and collect

information on bats in one of the most intense data collection efforts across the southeast.

This year's blitz, the 6th annual, was held at Roan Mountain State Park in East Tennessee. Biologists

collecting at more than 40 different sites over the course of 4 nights captured 462 bats of seven species, including the endangered gray bat. Information was collected on the captured bats and they were released.

Publications Advance Understanding Of Freshwater Mussel Sensitivity To Pollutants



Photo Left: Biologists conducting a mussel survey
Top: Photo of dwarf wedge mussel.

The October 2007 issue of the journal *Environmental Toxicology and Chemistry* had a special section on the pollutant sensitivity of freshwater mussels. Scientists with U.S. Geological Survey and U.S. Fish and Wildlife Service were guest editors and contributors to 7 of the 10 papers. The papers contain data that will help scientists and managers working toward mussel recovery address water quality problems.

Freshwater mussels are important but imperiled animals. These bivalve mollusks are a renewable resource supporting a shell industry in the U.S. valued at about \$50 million annually. Mussels are a food source for other animals, and they help stabilize stream sediments and filter bacteria and particulates from water. Unfortunately, 70 of the nearly 300 species native to the

U.S. are federally-listed as threatened or endangered and 35 species are extinct. Because water pollution is one of the main causes of declining mussel populations, our work to provide sound scientific data on how pollutants affect mussels is important.

The new series includes papers on test methods and application of these methods to test common pollutants. There are also examples of how the data can be used to assess mussel habitat and evaluate the protection afforded by water quality standards.

The papers include:

- Results of over 170 tests with 16 species of mussels and 21 chemicals or mixtures.
- Findings that mussels are sensitive to some pollutants, particularly copper, ammonia, chlorothalonil (a fungicide)

and some components of currently used pesticide mixtures.

- Observations that mussels are more sensitive than the other animals used to develop water quality criteria and standards for some pollutants, like ammonia.

- Recommendations on water quality guidelines to protect mussels.

The papers can be retrieved from the *Environmental Toxicology and Chemistry* website (www.setacjournals.org/). Reprints can also be obtained from the USFWS.

For more information, contact Tom Augspurger, U.S. Fish and Wildlife Service, Raleigh, NC (919/856-4520 x.21 or tom_augspurger@fws.gov).

Regional Team Visits Partners And Coastal Program Sites In N.C.



Photos from left: Mike Wicker, USFWS Coastal Program Coordinator for North Carolina and Dr. Ronnie Haynes, Region 4 Coastal and Partners for Fish and Wildlife Program Coordinator take a look at an kiosk explaining the benefits of the Lowell Dam Removal. Middle: Wetland Restoration on Pocosin Lakes National Wildlife Refuge. Far right: Mike Norris, Land Steward for The Nature Conservancy explains the longleaf pine restoration plan on their Pine Hill Preserve in Hoke County to Richard Warner, Regional 4 Staff Archeologist, Joe Cockrell, South Carolina Partners for Fish and Wildlife Coordinator, Ronnie Haynes, Pete Benjamin, Field Supervisor, and John Ann Shearer, North Carolina Coordinator for Partners for Fish and Wildlife.

A review is conducted every several years by staff from the USFWS regional office to provide oversight of the programs and maintain communication with the field. It is an opportunity for the field staff to share on-the-ground successes. In September, the Coastal Program Coordinator for North Carolina Mike Wicker showed the review team the site where the Lowell Dam was successfully removed in 2005,

allowing passage of anadromous fish. He also toured the review team around the Pocosin Lakes National Wildlife Refuge where the Coastal Program has played a large role in wetland restoration.

The Partners for Fish and Wildlife Coordinator for North Carolina, John Ann Shearer featured longleaf pine restoration projects on private lands in the Sandhills. Landowners and partner

there share a mutual goal to manage and restore the Longleaf pine ecosystem for the recovery of the endangered red-cockaded woodpecker and other focal species such as Northern Bobwhite and Bachman's sparrow. Since 1998 the Partners for Fish and Wildlife Program has provided \$240,000 for 21 projects contributing to the restoration of 2,136 acres of longleaf pine in the Sandhills.

New Web-based Conservation Tool For North Carolina

Geographic Information System (GIS) software can be expensive to acquire, hard to set up, and also time consuming to learn. There is a constant need, however, for the timely and spatially accurate collection of species data from different governmental and non-governmental entities. Entities with differing levels of GIS expertise and different GIS software systems. The Raleigh Field Office has been working with our partners at the North Carolina Natural Heritage Program (NCNHP) to build a web-based tool to satisfy this need.

John Finnegan at the NCNHP, with technical assistance from Doug Newcomb in the Raleigh Field Office, obtained funding through the U.S. Fish and Wildlife Service Region 4 to purchase hardware and contracting services to build a web-

based system to allow for the Online query of species locations and the electronic update of the NCNHP Element Occurrence spatial database.

This system allows a registered user to zoom into a web-based map of the State of North Carolina and display USGS quadrangles or aerial photography seamlessly to accurately locate the area of interest. The user can then either query the area for existing species, or can draw polygons of new species locations and enter the associated data. Any new data entered is then reviewed and, if correct, entered into the master NCNHP database.

Since the software and operating system chosen for this system were all open source the cost of the hardware and consulting costs were only \$18,000. This software was jointly developed with the

Natural heritage program and a modified version is currently in use in Oregon. The software configuration and database structure are available for free to any other conservation entity that wishes to deploy a similar system. The open source components of the system can be deployed on Windows servers as well.

To access the program visit:
http://nhpweb.enr.state.nc.us/nhis/partner/gmap75_main.phtml

For further information contact John Finnegan, Information Systems Manager, NCNHP, 919-715-8702 or john.finnegan@ncmail.net or Doug Newcomb, IT Specialist USFWS, 919-856-4520 ext 14 or doug_newcomb@fws.gov

Mountains

The Service Responds To Balsam Mountain Preserve Dam Break



The compromised dam at Balsam Mountain Preserve

During the night of June 7th, an earthen dam at the 4,500 acre Jackson County residential development, Balsam Mountain Preserve, gave way, sending about 3,000 cubic yards of sediment down Scott's Creek and into the Tuckasegee River.

Fortunately no one was hurt when the dam gave way, but sediment from the break reached the Tuckasegee River, home to the endangered Appalachian elktoe mussel.

Service biologist Bryan Tompkins worked closely with the N.C.

Division of Water Quality, N.C. Wildlife Resources Commission, and the U.S. Army Corps of Engineers to help develop measures to address the stream damage done by the dam break, including installing miniature dams designed to temporarily slow the water down so the sediment could settle to the bottom, where it could be sucked out.

The dam was constructed to create an irrigation pond for the development's golf course.

Fungicide Contaminates Endangered Mussel Habitat In Mill's River

According to the North Carolina Division of Water Quality, it was an agricultural fungicide, chlorothalonil, that led to a mid-summer fish-kill in Henderson County's Mills River, a water body that's also home to the endangered Appalachian elktoe mussel, and that provides drinking water for the cities of Hendersonville and Asheville.

The fish kill was reported on July 27. Service biologists responded that same day to assess any effects on the elktoe mussel. As a federally endangered species, it's illegal to harm the elktoe without a permit. Although the fish kill resulted in the deaths of hundreds of fish, after repeated searches of the river over the next several days, Service biologists were unable to see any obvious impacts to the endangered elktoe mussel. Unless an elktoe was killed or injured by the fungicide, no criminal investigation will be made under the Endangered Species Act. Scientists from the North Carolina Division of Natural Resources were also on hand, investigating the cause of the fish kill.

Biologists Chart A Course for Management Of High-Elevation Communities

The Southern Appalachians are home to the highest peaks in the Eastern United States, and many of these are home to some of the rarest natural communities in the country, which, in turn, are home to concentrations of some of our rarest plant and animal species. In late October, biologists from state and federal agencies, non-profits,

and academia gathered in Johnson City Tennessee at the 2007 Summit on the Summits, a three-day workshop to look at recent research and coordinate management of these areas.

It was the first time biologists had convened on this topic in over a decade and they walked away with a clearer understanding

of the roles and potential contributions of each of the concerned organizations, looked at ways to use the internet and the National Biological Information Infrastructure to improve data sharing and coordination, and developed a prioritized list of activities they could collaboratively work on to improve the conservation of these areas.

Service Gives Nearly \$50,000 To Yancey And Mitchell Counties In North Carolina For Stream Restoration

The U.S. Fish & Wildlife Service awarded two grants totaling \$49,259 to support water quality and stream corridor improvement projects in the Upper Nolichucky River Basin, home to the federally endangered Appalachian elktoe mussel.

A \$25,000 grant was awarded to the Blue Ridge Resource Conservation and Development program (Blue Ridge RC&D), while \$24,259 went to the Toe River Valley Watch (TRVW). Both Blue Ridge RC&D and the TRVW will identify willing land owners interested in receiving funds to participate in watershed conservation projects on their lands.

The money will support efforts to stabilize eroding stream banks, establish streamside forests, keep



Service biologists searching for Appalachian elktoe mussels, an endangered species that will benefit from stream improvement projects in the Upper Nolichucky River basin.

livestock out of streams where they contribute to stream bank erosion and can directly contaminate the water, keep agricultural runoff out of streams

and eradicate invasive plants. All work will be done on private lands with willing landowners in the Upper Nolichucky River Basin in an effort to improve water quality.



Federal and state biologists examine an aquatic barrier in a tributary to the Little Tennessee River.

Addressing Aquatic Wildlife Passage In The Little Tennessee River Basin

We usually think of streams as long, continuous strips of habitat for fish, crayfish, and other aquatic creatures, but that is often not the case. Poorly installed or maintained culverts or other stream obstructions can prevent fish and other creatures from moving up or downstream, effectively partitioning the stream into segments, fragmenting populations of aquatic wildlife.

Although a stream may have pristine water quality, it's useless to a fish that's unable to access it. The way road crossings are

designed and maintained goes a long way toward determining if fish and other aquatic life can move up and down stream. In September and October, a team of state, federal, and private biologists traveled the Little Tennessee River watershed in Macon and Swain Counties searching for and assessing barriers.

Biologists will evaluate the data to determine which road crossings need to be restored to open up additional aquatic habitat in the Little Tennessee River basin for a host of aquatic animals, including the threatened spotfin chub.



Dillsboro Dam

Service Praises Decision To Remove Dillsboro Dam

Following the recommendation of the U.S. Fish & Wildlife Service, the Federal Energy Regulatory Commission cleared the way for the removal of the Dillsboro Dam on the Tuckasegee River in Jackson County.

As a private hydropower facility, the Dillsboro dam hydroelectric facility requires a Federal Energy Regulatory Commission (FERC) license for operation, and in a July 19th decision, FERC accepted Duke Energy's surrender of the license for the Dillsboro dam hydroelectric facility, a move that includes the removal of both the dam and the powerhouse.

"We're pleased FERC took this step and we can begin gearing up for the dam's removal. The restoration of a free-flowing Tuckasegee River through Dillsboro will be a biological boon," said Mark Cantrell, a biologist with the U.S. Fish & Wildlife Service.

Federal law requires operators of private hydropower facilities to address impacts to fish and wildlife resources, including the limitation of up- and downstream fish movement caused by the dam. The

Collapsed Railroad Trestle Removed From Endangered Mussel Habitat



Removal of the collapsed railroad trestle across the Toe River.

In October, a collapsed railroad trestle was removed from a reach of the North Toe River near the Yancey-Mitchell County line known to be habitat for the endangered Appalachian elktoe mussel.

The trestle, part of the now-defunct Yancey County Railroad, collapsed into the river last spring

under unusual circumstances that included rumors of arson. Asheville Field Office biologist Anita Goetz helped bring attention to the trestle, which was removed by a team of contractors with funding from the state of North Carolina. Local Natural Resource Conservation Service District Conservationist Cliff Vinson coordinated the removal efforts.

Stretching from bank to bank, the trestle posed clear and significant dangers to people using the river, people who lived downstream, the health of the river, and the safety of nearby roads and rail lines. It completely blocked downstream passage for boaters and anglers, leached creosote into the water, and in the event of a flood, the trestle's web of cross-ties and metal supports would catch debris until water pressure dislodged it, sending a torrent of rubble downstream.

removal of the Dillsboro Dam is seen as a large step toward addressing those impacts on the Tuckasegee River.

Removing the dam will restore nearly a mile of the Tuckasegee River and create a stretch of unimpounded river more than 29 miles long. The result will be improved paddling opportunities, an improved fishery, and an improvement in the plight of the Appalachian

elktoe, an endangered mussel.

Currently, the mussel is found both below the dam and above the reservoir, and the dam's removal will open up new habitat behind the dam and reconnect the bisected population, allowing them to interbreed, thus improving their genetic diversity, and with it, their ability to survive.

Piedmont

Chatham Conservation Partnership comes to life

On October 4 at Central Carolina Community College in Pittsboro, a group of 45 people breathed life into the idea protecting Chatham County's natural resources.

By signing their names to a memorandum of understanding, the Chatham Conservation Partnership was officially born after more than a year of initial meetings. The Chatham Conservation Partnership's mission is to develop and implement strategies for a community conservation vision that builds awareness, protection and stewardship of Chatham County's natural resources.

Among those more than 45 people are county citizens, farmers, business-owners and developers, as well as representatives of conservation groups, educational institutions, county agencies, state agencies and federal agencies. The broad range of the membership makes the Chatham Conservation Partnership one of the largest and most diverse conservation partnerships in the state.

"We are working together on shared goals that provide for human needs while retaining the county's natural heritage," said Sarah McRae, Chair of the Chatham Conservation Partnership Steering Committee.

"We want to continue growth while maintaining our rural character," said Carl Thompson, who as Chair of the Chatham County Board of Commissioners signed the Partnership charter. "We do have some challenges where 60 percent of the people commute outside of the county to find work and the weekly income of many of our residents is far below the North Carolina average," he said. "But even with these challenges, we need to be committed to keeping this county clean, rustic and beautiful, while still attracting businesses and industries."

The Partnership has achieved its first goal—establishing its organizational framework. Its next goal is to develop centralized mapping resources for all Chatham County.

"There's a lot of information out there, but not in one place," said Tandy Jones, a member of the Chatham Conservation Partnership Steering Committee. That information includes 142 layers of mapping data that define the conservation resources of the county: working farms and forestlands, water resources, wildlife resources, and important natural areas, to name a few. The Partnership is working to make all of that information available in one place, preferably the county website.

The Partnership's third goal, Jones said, will be to produce a county-wide conservation assessment and protection plan. Chatham County has been identified by numerous conservation agencies as a high priority area for conservation efforts, both for the importance of its natural lands and its working lands.

Chatham's four major water bodies—the Haw, Deep and Rocky rivers and Jordan Lake—rank among the highest priority watersheds for aquatic wildlife conservation throughout the entire state. They are each also important sources of drinking water for local communities and important recreational resources for local communities.

Working lands—active farms and managed forests—are an equally important natural resource to Chatham County. Flemming Pfann, owner of Celebrity Dairy in Silk Hope, perhaps captured the true mission of the partnership when she explained what her grandmother always told her: "Use the land, but make it better for the next person."

For further information contact Sarah McRae, 919-715-1751.

Chatham Conservation Partnership members:

Alderman Environmental Services, Inc.
 Chatham Citizens for Effective Communities
 Chatham County Board of Commissioners
 Chatham County Environmental Review Board
 Chatham County Parks and Recreation Department
 Chatham County Planning Department
 Chatham County Soil and Water Conservation District
 Chatham Trail Committee
 Conservation Trust for North Carolina
 Elon University Center for Environmental Studies
 Friends of the Rocky River
 Haw River Assembly
 Haw River Canoe & Kayak Company
 Land Loss Prevention Project
 New Hope Audubon Society
 NC Division of Soil and Water Conservation
 NC Division of Forest Resources
 NC Division of Parks and Recreation
 NC Ecosystem Enhancement Program
 NC Natural Heritage Program
 NC State University Cooperative Extension
 NC Wildlife Resources Commission
 Town of Pittsboro
 Robeson Creek Watershed Council
 Triangle J Council of Governments
 Triangle Land Conservancy
 U.S. Army Corps of Engineers
 U.S. Fish and Wildlife Service
 Several Chatham County Private Landowners

Workshop Yields New Population of Endangered Schweinitz's Sunflower

How to identify rare species and the habitats where they occur was the focus of two rare plant workshops. The workshops were organized and led by staff from the N.C. Natural Heritage Program, the U.S. Fish and Wildlife Service, the U.S. Forest Service, the N.C. Zoo, and the N.C. Association of Environmental Professionals.

Attendees learned the importance of conducting surveys during the optimal search times and what the landowner rights and responsibilities are when a rare species is found on their property.

“It is not appropriate to look for Golden Sedge in the Fall because the plants have dropped their fruits and started dying back for winter,” said Dale Suiter, Endangered Species Biologist with the U.S. Fish and Wildlife Service in Raleigh. “Also, there are different requirements under the Endangered Species Act depending on whether an endangered plant is found on federal land versus private property,” said Suiter.

“In the workshop, we stressed the importance of knowing the key characteristics for identifying the species as well as how to recognize the habitats where these species occur,” he added.

The Spring workshop participants visited several Coastal Plain sites in and around the Croatan National Forest and N.C. Department of Transportation's Haw's Run Wetland Mitigation Site. These sites are known to support the endangered Rough-leaf loosestrife (*Lysimachia asperulaefolia*), Cooley's Meadowrue (*Thalictrum cooleyi*) and Golden Sedge (*Carex lutea*) and several federal species of concern and state listed species.



Photo Top left: Todd Tugwell, an environmental scientist with Kimley Horn and Associates, and his coworker Laura Thornbrough holding a Schweinitz's sunflower plant. The plant is listed as endangered.

Eighteen environmental professionals attended the Fall workshop held in the Uwharrie National Forest in the central Piedmont. Field trip highlights included visits to three known populations of the federally endangered Schweinitz's Sunflower (*Helianthus schweinitzii*) and a remnant Piedmont Longleaf Pine Forest. Several State-listed species were observed including Smooth Sunflower (*H. laevigatus*), Georgia Aster (*Symphyotrichum georgianum*), Glade Wild Quinine (*Parthenium auriculatum*), Piedmont Indigo Bush (*Amorpha schwerinii*), and

Large Witch-alder (*Fothergilla major*).

As a result of knowledge gained while attending the Fall workshop, Todd Tugwell, an environmental scientist with Kimley Horn and Associates and his coworker Laura Thornbrough, found a new population of Schweinitz's sunflower on a project in Anson County, North Carolina. “This population is one of only a few populations of this species known from Anson County and will contribute toward our knowledge of the species and its ultimate recovery,” said Suiter.

Coastal

2007 Nesting Season for Imperiled Coastal Wildlife Species



Photos from left: Nesting Loggerhead sea turtle by Matthew Godfrey. Least Tern and chick by Walker Golder.

The 2007 nesting season numbers are still being compiled, but the provisional tallies are:

Sea Turtles

Loggerhead

(Status: Federally Threatened)

Nests: 542

North Carolina's average total number of loggerhead nests is 725 nests per year. The 2007 season accounts for only 75% of the normal nesting total; nesting numbers can fluctuate from season to season. "We [state and federal biologists] will consider the data in more detail to determine if this is a natural fluctuation or if this year's nesting total is part of a decline in the sea turtle nesting numbers throughout the region," said Matthew Godfrey, Sea Turtle Coordinator N.C. Wildlife Resources Commission.

Green

(Status: Federally Threatened)

Nests: 15

Leatherback

(Status: Federally Endangered)

Nests: 10

Birds

Piping plover

(Status: Federally Threatened)

Pairs: 61

"This marks our highest number of nesting pairs since surveys began for the Piping plover in North Carolina, and represents an increase of 33% from 2006's count of 46 pairs," said David Rabon, Endangered Species Biologist, USFWS, Raleigh Field Office. "Unfortunately, their reproductive success was very low this year with just one chick fledging for every four pair of nesting adults," he said.

Gull-billed tern

(Status: State Threatened)

Nests: 90

Nine percent decline from the last complete nest count in 2004

Black skimmer

(Status: State Special Concern)

Nests: 555

Eleven percent decline from 2004 count

Common tern

(Status: State Special Concern)

Nests: 498

Thirteen percent decline from 2004 count.

Least tern

(Status: State Special Concern)

Nests: 2827

Seventeen percent increase from 2004 count. "This is the only beach nesting colonial waterbird species with an increasing population in North Carolina," said Sue Cameron, Waterbird Biologist, N.C. Wildlife Resources Commission. "The increasing trend is likely a result of this species' ability to nest on gravel roofs," she said.

For more information on North Carolina's beach nesting birds, take a look at the brochure "Sharing the Shore with North Carolina's Beach-Nesting Birds" at www.ncaudubon.org.



Piping Plover photo by David Rabon.

What Ecological Services Does

Endangered and Threatened Species Listing/Recovery/Delisting

The Ecological Services Division is responsible for administering significant parts of the Endangered Species Act. We have programs that work to conserve rare species before they need legal protection, and we determine whether to add a species to the *Federal List of Endangered and Threatened Wildlife and Plants*.

Once a plant or animal is listed as threatened or endangered, we work to coordinate efforts to recover that species. These efforts include providing funding to state agencies to protect these species and working with other government agencies, private companies and individuals to help them protect these plants and animals on their land.

Ultimately, the goal of the Endangered Species Act is to recover species to the point where they no longer need federal protection, and Ecological Services determines which plants and animals have recovered to the point they can be delisted.

Project Planning

There are a number of federal laws that instruct the U.S. Fish and Wildlife Service, as the nation's wildlife agency, to review various projects that are funded and/or authorized by the federal government. The Service's role is typically to identify impacts to fish, wildlife, and plants and their habitats from these projects and work to minimize or eliminate those impacts. The laws under which the Service reviews projects include: the Endangered Species Act, Fish and Wildlife Coordination Act, Clean Water Act, Federal Power Act, the Migratory Bird Treaty Act, and the National Environmental Policy Act. The project planning program also focuses on large scale planning and conservation efforts; working with others to identify and implement strategies to meet the long term needs of wildlife and people at the landscape level.

Partners for Fish and Wildlife

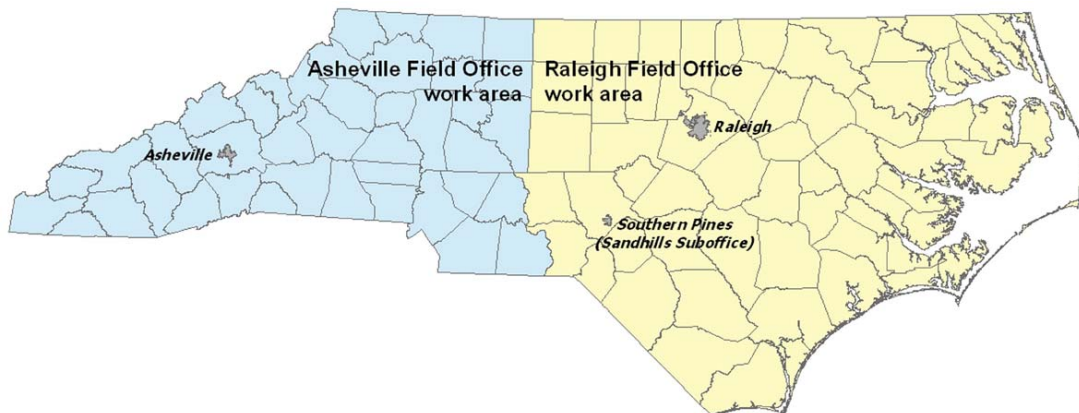
The Partners for Fish and Wildlife Program provides funding and technical assistance to private landowners to help them restore, improve, and protect fish and wildlife habitat while leaving the land in private ownership.

Environmental Contaminants

This program involves working with partners to prevent environmental contamination and to maintain the health of ecosystems; identifying contamination that adversely affects the health of fish, wildlife, and their ecosystems; serving as the federal trustee for fish and wildlife injured by contamination; and negotiating settlements from polluters to restore lost resources and their benefits to local citizens.

Coastal Program

This program focuses on restoring ecosystem health to bays, estuaries, and watersheds along the coastlines of the United States. Working with partners, the Coastal Program provides funding and technical assistance for projects to restore wetlands and seagrass beds, control invasive species, acquire rare or exceptionally important habitats, remove dams to allow fish passage to spawning areas, and provide community outreach regarding coastal fish and wildlife resources.



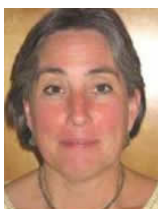
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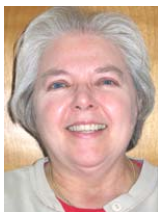
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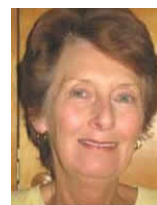
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