

# Field Notes

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

*Welcome to the inaugural issue of "Field Notes," the quarterly newsletter of the U.S. Fish and Wildlife Service's North Carolina Ecological Services Field Offices. The Service's Ecological Services Division works closely with other federal agencies, state and local governments, and private organizations and individuals to help conserve fish, wildlife, and plant resources, especially endangered and threatened species, migratory fish, and migratory birds. There are two Ecological Services Field Offices in North Carolina—one in Raleigh and the other in Asheville, and a suboffice in Southern Pines.*

*Ecological Services is just one branch of the U.S. Fish and Wildlife Service in North Carolina, others include: eleven National Wildlife Refuges, part of the 95 million acre national wildlife refuge system; the Law Enforcement Division, which enforces federal wildlife laws; the Migratory Bird Division, which helps coordinate the conservation of migratory birds; and the Fisheries Division, which supports fish conservation and maintains the National Fish Hatchery System, including a hatchery in Edenton, North Carolina.*



*Rough-leaved loosestrife, an endangered plant benefiting from expanded partnership (see article, page 6)*

## Note from the Field Supervisors

In these pages, we share with you some of the work of the Service's Ecological Services program in North Carolina, and examine the conservation issues that face not only the Service, but also our partners, and people across the state who are interested in conserving our natural resources. Through these stories, we hope to not only increase awareness of our work and the efforts of our partners, but also share success stories that may inspire others, encourage feedback and advice from people who face similar challenges, and plant the seed for future collaboration with would-be partners.

Pete Benjamin  
Field Office Supervisor, Raleigh

Brian P. Cole  
Field Office Supervisor, Asheville

## 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 Review*

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

*(continued on page 2)*

## What Ecological Services Does

(continued from page 1)

projects include:

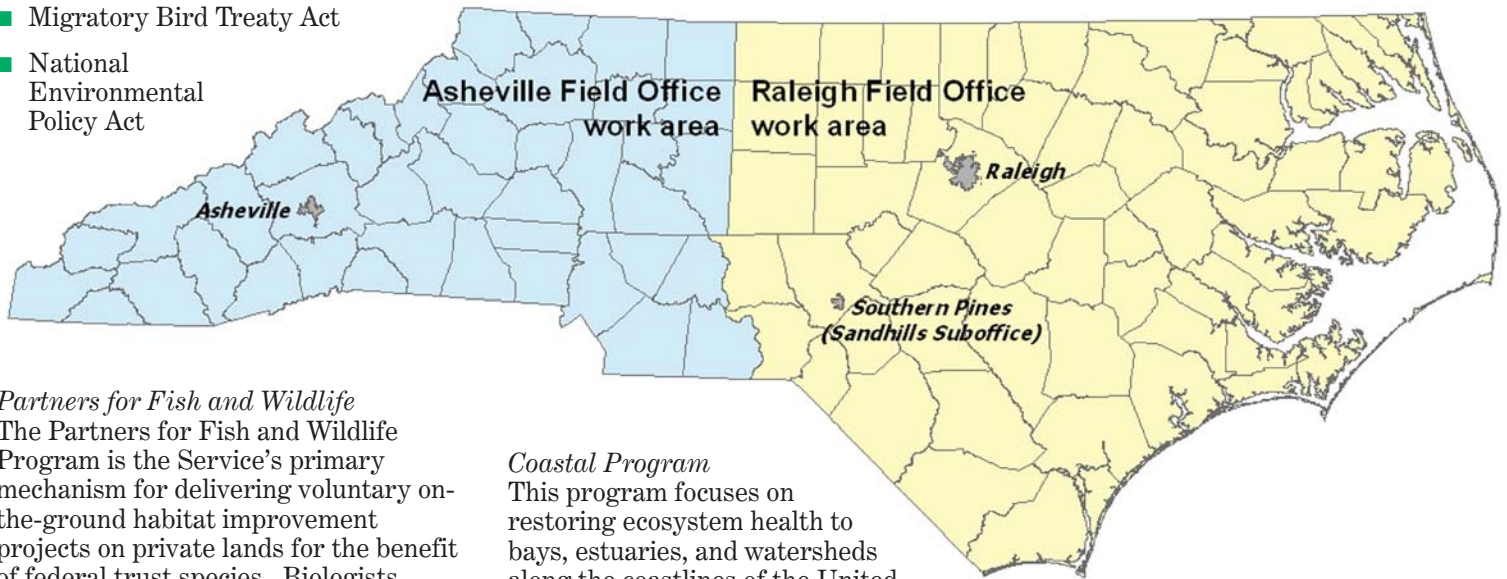
- The Endangered Species Act
- Fish and Wildlife Coordination Act
- Clean Water Act
- Federal Power Act
- Migratory Bird Treaty Act
- National Environmental Policy Act

### *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.

### *Sandhills Suboffice*

The North Carolina Sandhills Suboffice is responsible for coordinating red-cockaded woodpecker recovery in the North Carolina Sandhills, as well as, implementing the North Carolina Sandhills Safe Harbor Program. In addition, our office promotes conservation, restoration, and ecologically sound management of the Southeast's "endangered" longleaf pine ecosystem, the ecosystem upon which



### *Partners for Fish and Wildlife*

The Partners for Fish and Wildlife Program is the Service's primary mechanism for delivering voluntary on-the-ground habitat improvement projects on private lands for the benefit of federal trust species. Biologists provide technical and financial assistance to landowners who want to restore and enhance fish and wildlife habitats on their property. Partners for Fish and Wildlife projects may include improving habitat for species such as migratory birds, anadromous or migratory fish, endangered or threatened species, or any other declining or imperiled species.

### *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.

red-cockaded woodpecker recovery depends, via full implementation of the newly revised red-cockaded woodpecker recovery plan.

# North Carolina and Beyond

## Hydropower Relicensing Developments

In April biologists from Conservation Fisheries, Inc., a non-profit partner of the Service, placed a pair of plastic bags, each holding 10 small, endangered fish, in the edge of Abrams Creek until the water equalized. Then the fish were released to their new habitat in Great Smoky Mountains National Park. This release was the first in the fish passage agreement reached with Alcoa Power Generating Inc. as a result of the hydropower licensing efforts at Alcoa's Tapoco Project, a series of four hydropower dams along the Tennessee and North Carolina line.

The Federal Power Act identifies the Service's roles and responsibilities in evaluating and mitigating the environmental impacts of hydropower projects on fish and wildlife. The Service seeks to correct environmental damage caused by hydroelectric dam operations and brings these matters before the Federal Energy Regulatory Commission (FERC) so any new federal license for these developments represents the best possible balance between our nation's valuable hydropower resources and the protection and enhancement of our nation's natural resources.

Populations of yellowfin and smoky madtoms, are separated by Chilhowee Dam and Reservoir on the Little Tennessee River. The fish are too small to navigate typical fish ladders at large dams or the deep reservoirs constructed for hydroelectric generation. Therefore, the fish are captured and driven around the dam and reservoir for release, mixing populations from Abrams Creek with nearby Citico Creek, benefiting the



*Top to bottom: smoky madtom and yellowfin madtom*

long-term genetic health of the two rare fish species.

The Raleigh Field Office has been in negotiations with Alcoa Power Generating Inc. (Alcoa) and Progress Energy Carolinas, Inc. (Progress Energy) since 2002 concerning the federal relicensing of six hydroelectric facilities on the Yadkin and Pee Dee Rivers in central North Carolina. Alcoa operates four dams on the Yadkin River and Progress Energy operates two dams on the Pee Dee River downstream of the Alcoa projects. These projects affect more than 73 miles of previous pristine wildlife habitats. Biologist Mark Bowers is leading the relicensing effort for the Raleigh Field Office on the Alcoa and Progress Energy projects in the Yadkin-Pee Dee River Basin.

Many of the dams on the Yadkin and Pee Dee Rivers were built in the early 1900's before any laws or safeguards were required, and the existing conditions

have had, and continue to have significant adverse impacts to fish and wildlife. These relicensing efforts are expected to provide significant opportunities to ensure the impacts of the dams are mitigated through the establishment of proper instream flows, water quality and the protection of significant habitats.

Some of the important species being considered in these efforts include the imperiled Carolina redhorse and the robust redhorse, as well as native mussels found in the Pee Dee River Basin. Migratory species affected and blocked from historic spawning habitats include American shad, hickory shad, striped bass, American eel, Atlantic sturgeon and the endangered shortnose sturgeon. Other federally listed species in the project area include the threatened bald eagle, and the endangered Schweinitz's sunflower. The rare Yadkin River goldenrod is also a species of interest to the USFWS.

Mark Bowers is continuing to work cooperatively with the power companies, and state and federal resource agencies including the North Carolina Wildlife Resources Commission, the North Carolina Department of Environment and Natural Resources, South Carolina Department of Natural Resources, NOAA Fisheries, and the U.S. EPA in the development of terms conditions and fishway prescriptions for both of these large hydroelectric developments.



*"Camouflages" by Stephanie Gaetano, an acrylic of two blue-winged teals won North Carolina's Best of Show.*

## North Carolina Federal Junior Duck Stamp Art Competition

Stephanie Gaetano, 17, Senior, Tuscola High School, won the 2006 North Carolina Federal Junior Duck Stamp art competition. She went on to receive an Honorable Mention in the Federal Junior Duck Stamp Competition. Her artwork will travel throughout the United States as part of the Federal Junior Duck Stamp Art Tour Program. For dates and places of tour visit:

<http://www.fws.gov/duckstamps/>

More than 950 students representing 20 North Carolina schools participated in this year's competition. More than \$2,000 in prizes for this year's winners are being provided by Jerry's Artarama, a fine art supply store that also offers custom framing based in Raleigh, N.C.

The contest was held at the North Carolina Ruby C. McSwain Education Center, JC Raulston Arboretum, North Carolina State University. This year's judges included: Sharon Digiulio and

Meghan Gregory from this year's sponsoring agency Jerry's Artarama; Clayton Wilkes representing the N.C. Wildlife Resources Commission; the 2004 and 2005 North Carolina Junior Duck Stamp winner Jessica Roush now a student at N.C. State University; Colin Daniels from the JC Raulston Arboretum, NCSU; and Dale Suiter, biologist, Raleigh Field Office, U.S. Fish and Wildlife Service.

## Freshwater Mussels' Pollution Tolerance Studied

In cooperation with partners, environmental contaminants specialists Dr. Tom Augspurger and Sara Ward have been working to provide the science to improve water quality for restoration of freshwater mussels. Freshwater mussels comprise the largest group of federally threatened or endangered invertebrates. Over 70% of the nearly 300 species found in the United States are listed as threatened, endangered, or of special concern. Although many factors have contributed to the decline in freshwater mussels, water pollutants are among the stressors most frequently cited and improving water quality is often considered necessary to recover imperiled populations.

Until recently, there has not been a good understanding of the true sensitivity of mussels to water pollutants. Because of their unique life history, few tests had been performed to gauge their pollutant sensitivity using early life stages of freshwater mussels; however, Service

scientists in conjunction with researchers from the U.S. Geological Survey (USGS) and the U.S. Environmental Protection Agency (USEPA) have recently standardized test methods. They found that young mussels are highly sensitive to some common water pollutants, such as ammonia. In fact, mussels appear to be more sensitive to ammonia than other species, including some commonly used to set water quality standards. This finding has raised concerns as to whether the current standards for regulating ammonia are adequate for protecting mussels.

Consequently, the Service has been working with the USEPA to ensure that data from mussel tests are used when water quality criteria are established. These new data have

- prompted USEPA to re-evaluate the protectiveness of the current ammonia water quality criterion for mussels and

- allowed the Service to develop science-based water quality thresholds to guide recovery efforts. In June, USEPA updated its website with new information on the national aquatic life criterion for ammonia (<http://www.epa.gov/waterscience/criteria/ammonia>). The site describes the status of the re-evaluation and includes the proceedings from a mussel toxicity workshop held last August at which the Raleigh Field Office presented data. By working with our partners to provide sound science and to have that science guide regulations, the Service is fulfilling its responsibility to protect, conserve and restore these valuable natural resources.

# Mountains



## Making Way for the Mountain Sweet Pitcher Plant

Service Botanist Carolyn Wells joined botanists from the South Carolina Department of Natural Resources at a state preserve in Greenville County, South Carolina, to work to eradicate invasive plants and prepare sites for the transplanting of more of these endangered pitcher plants, which are being raised at the Atlanta Botanical

Garden. The mountain sweet pitcher plant was listed as endangered in 1989, and the Atlanta Botanical Garden has long been a Service partner, collecting seeds from wild plants, raising them in their greenhouse to minimize mortality, and then transplanting them back into suitable sites in the wild.

## Hundreds of Students Hear Conservation Message

Another season of Soil and Water Conservation District Conservation Field Days concluded this spring, with Service biologists Gary Peeples and Bryan Tompkins reaching more than 500 students in Buncombe, Clay, and Swain Counties and on the Cherokee Indian Reservation with lessons about wildlife. Such events bring together natural resource experts in fields ranging from air quality to forestry, giving them a chance to talk with school children across Western North Carolina.

## 2005-2006 Lecture Series Concludes

The 2005-2006 Environmental Issues in Western North Carolina lecture series concluded with a presentation by Stephanie Webb of the City of Asheville Water Department. Webb's lecture focused on ways people can conserve water around their home, ranging from detecting leaking toilets to choosing plants for landscaping that have low water needs.

This year's lecture series focused on water issues in Western North Carolina, including issues of watershed logging, aquatic biodiversity, and opportunities for citizen monitoring of water quality. The series, the fourth annual, was a partnership involving the Service, University of North Carolina at Asheville's Environmental Studies Department, USDA Forest Service, and Friends of the Blue Ridge Parkway.

# Piedmont



*Biologists from state, federal and private agencies work together to transplant an endangered sunflower.*

## Beginning of New Population of Rare Sunflower

What is hoped to become a new, protected population of the endangered Schweinitz's sunflower is taking root at Hanging Rock State Park. The plants were transplanted to the park from the path of a pending road-paving project. While transplanting individuals is a conservation measure of last resort, moving these plants provided biologists an opportunity to try to establish a population in Hanging Rock State Park where there are historic records of the species. The project brought together a host of partners, including Service biologist Denise Moldenhauer, North Carolina Department of Transportation, Hanging Rock State Park, North Carolina Natural Heritage Program,



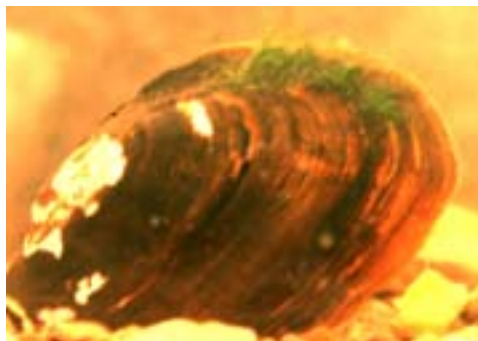
*Schweinitz's sunflower*

North Carolina Plant Conservation Program, Ecologic Inc., Natural Resources Conservation Service, Environmental Defense and private landowners.

## New Carolina Heelsplitter Population Found

An environmental consultant working in Lancaster County, South Carolina, discovered a new population of the Carolina heelsplitter mussel in Sixmile Creek, which forms the Mecklenburg/Union County line before flowing into South Carolina. The discovery brings to nine the total number of populations of this mussel.

John Fridell and Lora Zimmerman, two of the Service's mussel experts, have begun visiting Sixmile Creek to determine the health of the stream and evaluate conservation options. The heelsplitter is one of the most critically endangered aquatic animals on the Atlantic seaboard, and while



*Carolina heelsplitter*

conservation efforts are underway to protect the previously known populations, the discovery of a new population helps brighten the future for this species.

## Progress Energy Joins Natural Heritage Program in Protecting Rare Plant Sites

Misty Franklin and Scott Pohlman of the North Carolina Natural Heritage Program has expanded a partnership with Progress Energy to protect rare plant habitat occurring in power line rights of way across the Piedmont and Coastal Plain of North Carolina. At the encouragement of Service biologist Dale Suiter, Progress Energy recently added 13 new Registered Heritage Areas to the memorandum of understanding signed in 1993, which originally protected 26 power line sites.

*This agreement, which formalizes Progress Energy's commitment to protect the state's natural diversity and natural areas, outlines a set of management guidelines that will protect and enhance habitat for 26 plant species listed as federally endangered or threatened and many more species that are significantly rare in the state.*

Management practices will include mowing only during the non-growing seasons, avoiding impacts to the soil and hydrology, reduced and carefully managed herbicide use in unique natural areas, and periodic monitoring and consultation with the Natural Heritage Program.

## Coastal Plain Red-cockaded Woodpecker Recovery on Fort Bragg

On June 7 at Fort Bragg, Dale Hall, director of the U.S. Fish and Wildlife Service, Addison D. Davis, IV, deputy



Director Dale Hall

assistant secretary of the army for environment, safety and occupational health, Col Al Aycock, garrison commander, U.S. Army Fort Bragg, Mike Anderson, chief

operating officer, The Nature Conservancy, and Bill Ross, secretary of the department of environment and natural resources celebrated the recovery of the North Carolina Sandhills populations of the federally-endangered red-cockaded woodpecker five years earlier than anticipated.

Wildlife biologists have validated more than 350 potential breeding groups of red-cockaded woodpeckers, the recovery target for the Sandhills East recovery population, on and around Fort Bragg. Agreements forged through the partnerships with state, federal, and private conservation groups resulted in the addition of 23 red-cockaded woodpecker breeding groups toward the installation's recovery goal. The recovery of the Sandhills East red-cockaded woodpecker recovery population will also result in relaxation of selected training restrictions on Fort Bragg.

Additionally, because of the excellent management of the Sandhills Game Land by the North Carolina Wildlife Resources Commission, the Sandhills West recovery population has also met its recovery goal of 100 red-cockaded woodpecker potential breeding pairs. Not only do birds from this population contribute to the Sandhills East population's health and stability, the military also trains on the Sandhills Game Land.



Left: fish ladder under construction; above: a close-up of the construction that helps hold the timber in place.

## Creation of Fish Ladder on Phelps Lake

A fish ladder was installed earlier this year on Phelps Lake to allow access to the lake by river herring. River herring are migratory fish that spend most of their lives in the ocean and come into fresh water to spawn. To reach Phelps Lake they travel from the Albemarle Sound to the Scuppernong River which feeds into Phelps Lake from a canal. The fish ladders are man-made structures that will allow the fish to swim a series of low steps from one elevation to the next.

Mike Wicker, coastal biologist, and David Kitts, assistant refuge manager, Pocosin Lakes National Wildlife Refuge oversaw the creation of the fish ladder which was built by the staff at the Pocosin Lakes National Wildlife Refuge. Phelps Lake is part of Pettigrew State Park and is adjacent to Pocosin Lakes National Wildlife Refuge. The ladders were constructed out of large old bald cypress trees that had blown over during

Hurricane Isabel and were salvaged out of Pettigrew State Park. Phelps lake is the second largest fresh water lake in North Carolina at 16,600 acres.

River herring is actually a term for two species of fish – alewife and blueback herring. Both have been historically present in the lake but have not been able to enter the lake since a fire in 1985 closed the only access point into the lake. The population of river herrings that had inhabited Phelps Lake was almost to the point of extinction. But the addition of the fish ladder should help both species return to Phelps Lake. Also, river herring will be stocked in lake in 2007. The system seems to be operating fine and will be further evaluated by East Carolina University during the 2007 spawning season.

## North Carolina Sandhills Conservation Partnership Summit

In conjunction with the red-cockaded woodpecker celebration on Fort Bragg, the North Carolina Sandhills Conservation Partnership hosted a conservation summit. The NCSCP is comprised of staff from: the U.S. Army at Fort Bragg, the U.S. Army Environmental Center, the Service, the North Carolina Wildlife Resources Commission, the North Carolina Division of Parks and Recreation, the Sandhills Area Land Trust and the Sandhills Ecological Institute. This Partnership, the first of its kind between the military and private conservation

groups, is used as a model for other military installations around the world.

The purpose of the conservation summit was to premier a draft conservation plan for the Sandhills. This plan contains strategies for land conservation and management designed to ensure the long-term health and integrity of the Sandhills longleaf pine ecosystem which red-cockaded woodpeckers and many other species rely on for their survival. To date, the partnership has conserved through fee-simple purchase or purchase of conservation easements more than 12,000 acres of land.

# Asheville Field Office Staff Listing

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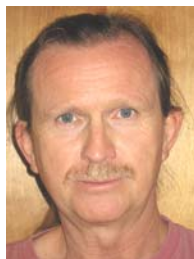
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**Marella Buncick**  
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 Review of North Carolina Department of Transportation projects under the Endangered Species Act, Clean Water Act, Fish and Wildlife Coordination Act, and Migratory Bird Treaty Act; mitigation bank review; Ext. 237



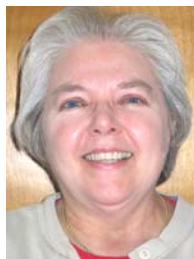
**Bob Butler**  
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 Aquatic macroinvertebrate and fish specialist; aquatic endangered species listing and recovery; imperiled aquatic species conservation; Ext. 235



**Mark Cantrell**  
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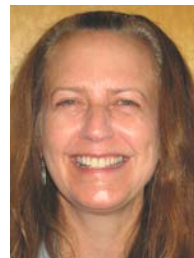
**Robert Currie**  
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 Terrestrial endangered species listing and recovery in Tennessee and Kentucky; bat and other cave fauna specialist; cave and abandoned mine protection specialist; Ext. 224



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