Field Notes

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

Note from the Field Supervisors: Strategic Planning

As more houses go up along North Carolina's beaches and mountains, and pavement reaches increasingly out into the landscape, the challenge of conserving our state's fish, wildlife and plant resources grows.

North Carolina is not the same state it was 50 years ago, ten years ago, or even one year ago. A changing landscape calls for a changing approach to conservation. Old methods might not work as well, while new ideas may provide the key to future wildlife abundance.

The Service's North Carolina Field Offices are reexamining their approaches to conservation. The Raleigh Field Office is currently reviewing and updating a strategic plan created a year ago, while the Asheville Field Office is in the process of creating their plan.

Through the strategic planning process, the offices pinpoint where fish, wildlife, and plant resources face the greatest threats, need the greatest amount of resources, and where creative solutions are needed for conservation problems.

At the end of the process comes a more focused, efficient, and effective approach to protecting the state's fish, wildlife and plant resources. Conservation priorities are defined, work priorities are shifted to reflect those conservation priorities, old partnerships are strengthened, and new partnerships formed around those priorities. Ultimately, those fish, plant, and wildlife resources in greatest need are a step closer to receiving the attention necessary to ensure they remain part of our state's natural heritage.

If you would like a copy of either office's strategic plan, or would like to learn more about their strategic planning processes, please contact the appropriate office (contact information is provided on the last two pages of this newsletter).

Pete Benjamin and Brian P. Cole



Leathernecks Saving Leatherbacks

The Marine Corps and the Service unveil the latest in their string of conservation-themed posters. "Leathernecks Saving Leatherbacks" is the theme of the seventh poster in an ongoing partnership between the U.S. Marine Corps, and the U.S. Fish and Wildlife Service (Service). This poster included collaboration with the National Oceanographic and Atmospheric Administration. See story, page 4.

Workshops Look at Protecting Aquatic Habitat

Three workshops were recently held across the state in an effort to educate local government officials and leaders about the environmental review of infrastructure projects such as roads and waterlines, and how incorporating local conservation measures can expedite the review of these projects. 169 people attended the August workshops in Asheville, Greensboro, and Greenville.

They come as natural resource agencies work to address the negative environmental impacts associated with the development that typically follows infrastructure improvements. The workshops were sponsored by the N.C. Wildlife Resources Commissions, N.C. Department of Environment and Natural Resources, N.C. Department of Transportation, the N.C. League of Municipalities and the Service.

North Carolina and Beyond



The endangered Virginia big-eared bat

New Technology Keeps Tabs on Bats

Biologists are testing infrared imagery for its ability to help in monitoring rare bat populations. Service biologist Robert Currie, along with an engineer and computer programmer from the U.S. Army Corps of Engineers, and biologists from the states of Alabama, Tennessee, Missouri and Kentucky are testing a device that records the heat image given off by a bat as it leaves a cave. A computer program developed by the Corps then takes that film and counts the number of bats that come out of a cave or mine, distinguishing them from anything else in the vicinity of the cave mouth, and even discounting for bats that make multiple trips in front of the camera lens. The technology has been tested at numerous caves in Tennessee, Missouri, and Kentucky and offers biologists an easy way to track numbers of cave-and mine-dwelling bats.

Contaminants Biologists

Here to help with your pollution questions

In addition to conducting our own pollutant investigations, the Raleigh Field Office's environmental contaminants staff responded to over 80 requests for technical assistance last year. Providing technical assistance and scientific information regarding land, air and water-related contaminant issues are important parts of assisting our partners in protection and management of fish and wildlife resources. Requests came from other federal agencies (U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, National Oceanic and Atmospheric Administration), state agencies (N.C. Division of Water Quality, N.C. Division of Water Resources, N.C. Wildlife Resources Commission, and N.C.

Division of Marine Fisheries), local government, academic institutions, industry, private landowners, nonprofit conservation organizations, as well as other Service programs. The program received a technical assistance award from other biologists at the National Environmental Contaminants Workshop in July. Contact us if we can help with pollution, fish and wildlife toxicology, or chemical risk assessment questions.

Tom Augspurger 919/856 4520 ext. 21 tom augspurger@fws.gov

Sara Ward 919/856 4520 ext. 30 sara_ward@fws.gov



Carolyn Wells

Biologist Becomes NRLI Fellow

Service botanist Carolyn Wells became the latest Service employee to complete training at North Carolina State University's Natural Resources Leadership Institute (NRLI), becoming a NRLI fellow in June. The course entails completing nearly 200 hours of coursework and a practicum. For her practicum, she convened a group of biologists to try to reach a consensus on mapping and monitoring federally listed species across Roan Mountain. The NRLI program is designed to provide natural resource professionals with the skills needed to resolve natural resource conflicts.

Coastal Plain



Leatherback sea turtle

Service Completes Review of Cape Hatteras and Cape Lookout Protected Species Management Plans

The Fish and Wildlife Service's Raleigh Field Office submitted its biological opinions to the National Park Service's Cape Hatteras National Seashore on August 14, 2006 and to the Cape Lookout National Seashore on November 20, 2006. The Service's biological opinions are in response to the Seashores' proposed Interim Protected Species Management Strategy/Plan. The Seashores' interim plans were developed to implement strategies to protect sensitive imperiled species and provide for recreational use of the Seashores until long-term off-road vehicle management plans are developed. The submission of the Service's biological opinions, which assessed the effects of the Seashores' plans on seabeach amaranth (Amaranthus pumilus), piping plover (Charadrius melodus), and loggerhead (Caretta caretta), green (Chelonia mydas), and leatherback (Dermochelys coriacea) sea turtles, concluded the formal consultation process in accordance with the Endangered Species Act.

The Raleigh Field Office continues to coordinate with Cape Hatteras and Cape Lookout in the implementation of their plans and management of federally threatened and endangered species. For more information about the Cape Hatteras National Seashore protected species management strategy or the off-road vehicle management plan and rule making process, visit http://www.nps.gov/caha/parkmgmt/planning.htm. For more information about the Cape Lookout National Seashore protected species management plan or the off-road vehicle management plan and rule making process, visit http://www.nps.gov/calo/parkmgmt/planning.htm.



Piping plover

Piping Plover Critical Habitat Proposed

On June 12, 2006, the Fish and Wildlife Service (Service) published in the Federal Register a proposed rule to designate critical habitat for the wintering population of the federally threatened piping plover (*Charadrius melodus*) in Dare and Hyde counties, North Carolina.

The Service's proposed rule is in response to a November 1, 2004, court opinion (ref. Cape Hatteras Access Preservation Alliance v. U.S. Department of the Interior (344 F. Supp. 2d 108 (D.D.C. 2004)), which vacated and remanded four units of critical habitat for wintering piping plovers (Units NC-1, NC-2, NC-4, and NC-5) back to the Service for reconsideration. All four units are within the Cape Hatteras National Seashore. The court also found that the Service's original economic analysis was invalid and that the Service should comply with the National Environmental Policy Act in reevaluating these four remanded units.

We are currently preparing a draft environmental assessment and economic analysis in accordance with the court's ruling. We will announce the availability of the draft environmental assessment and economic analysis as soon as they are completed (expected late 2006 or early 2007), at which time we will reopen the public review and comment period. The Service will schedule public hearings, if requested, once the draft economic analysis is available such that we can take public comment on the proposed designation and economic analysis simultaneously.

Coastal Plain

Possible Dam Removal on the Horizon

The removal or modification of locks and dams No. 1, No. 2 and No. 3 on the Cape Fear River could improve recreational and commercial fisheries for striped bass, American shad, hickory shad, and help tremendously in restoration efforts for river herring, Atlantic sturgeon and shortnose sturgeon. The Cape Fear River is North Carolina's largest river basin and the only river in North Carolina that flows directly into the ocean.

The U.S. Army Corps of Engineers (Corps) owns and operates Locks and Dams No. 1, No. 2 and No. 3 on the Cape Fear River, and these structures are no longer used for navigation, which was their intended purpose. The Corps is interested in "decommissioning" the dams and is currently studying their options as part of a General Reevaluation Report for the Wilmington Harbor Deepening Project.

Before the dams can be considered for removal sediments upstream of the dam must be examined for contaminants. In that regard, the Service is assisting the Corps and others interested in the Cape Fear River's natural resources. Between May and August, the Service conducted a review of existing information on pollutant sources within a one-mile boundary of the impounded reach of each of the three locks and dams. A final report (Tier 1 Preliminary Evaluation of Pollutant Sources to the Impounded Reaches of Cape Fear River Locks and Dams 1, 2 and 3) was submitted to the Corps in August. This initial report did not find any significant concern for the release of pollutants if the locks and dams were removed. The Service is just beginning its Tier 2 contaminant



The removal of Lock 1 on the Cape Fear River would be a step toward improved fisheries.

evaluation and part of this study will include on-site sampling. This report will be released to the Corps as well.

Nationwide, removal of old and nonfunctioning dams from rivers and waterways is a growing trend. Many small dams that once provided water power to turn grist mills or saw blades now serve no useful function but block migratory fish from their historic spawning and nursery areas.

In North Carolina, the removal in 1998 of Quaker Neck Dam on the Neuse River near Raleigh resulted in migratory striped bass and American shad being able to reach their former spawning grounds.

Leathernecks Saving Leatherbacks

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"It was an honor to work on this poster project and to represent the Service and our Director, Dale Hall, during its unveiling" said Lewis Gorman, the Service's Department of Defense liaison. "The USMC Endangered Species Poster Series highlights the valuable and continuing conservation partnership between the Service and the Marine Corps," said Gorman. "This event at Cherry Point was made even more special for me, since my father trained here during World War II with his dive bomber squadron," Gorman added.

The poster was unveiled during a ceremony on August 10 at the Marine Corps Air Station Cherry Point. The poster is part of a campaign to raise awareness and help protect sea turtle habitats in the surrounding areas, including the air station and Camp Lejeune.

In addition to the poster unveiling, ceremony guests were treated to a tour of the installation, as well as a flight over the training ranges in the salt marshes off the coast. Visitors saw how the Marines help protect seas turtles and other wildlife while conducting military exercises.

"To keep the turtles safe, numerous methods are used," said Robin T. Ferguson, natural resources specialist at Cherry Point. We scan potential targeted areas using video cameras for any movement in the waters where turtles may be swimming, she said. "We also have help from search and rescue helicopters who survey the area and give us feedback on possible dangers to the wildlife," said Ferguson.

"People may think we have exclusive use of military training zones, but they are anything but exclusive," Col. Francis P. Bottorff, Cherry Point commander.

Piedmont



Harperella Reintroduced into the Deep River Area

Harperella (*Ptilimnium nodosum*) was listed as federally endangered in 1988. There are currently 13 remaining populations in the eastern United States from Arkansas to Maryland.

In 1997, Marj Boyer, former botanist with the N.C. Plant Conservation Program, noticed that one of the North Carolina populations was in severe decline and she rescued the last eight individual plants known in the Deep River. The plants were turned over to the North Carolina Botanical Garden in order to protect the only remaining genetic material from the Cape Fear River Basin.

Through a grant from the National Fish and Wildlife Foundation, Johnny Randall of the N.C. Botanical Garden initiated a project to reintroduce harperella into the historical location. The original eight plants were used to propagate hundreds of additional plants. On June 22, 2006, 720 harperella were reintroduced to Deep River in Chatham County, N.C., within 500 feet of where the original plants were removed.

The reintroduction includes two experimental treatments (one planting in geocell material and one in coconut fabric) and one control (natural stream bed). According to N.C. Botanical Garden Conservation Ecologist Michael Kunz, recent monitoring indicates that approximately 65% of the plants survived the initial transplant. N.C. Botanical Garden staff plan to monitor the site for at least 10 years. If it's determined that this is a viable, self-sustaining population, it may count toward the recovery goals of the species.



Carolina heelsplitter

Future of Goose Creek Heelsplitters Still in Flux

Local governments in Union County's Goose Creek basin reached agreement on conservation measures they would implement to address impacts to the endangered Carolina heelsplitter mussel associated with increased development resulting from construction of the I-485 Connector/Monroe By-pass highway project. The Service is waiting for the Federal Highway Administration to incorporate these measures, and any other they deem appropriate, into their analysis of the project's impacts to the heelsplitter and its habitat, then submit it to the Service for review.

From January to July, the Service was engaged with the towns of Fairview, Stallings, Indian Trail, Hemby Bridge, and Union County, and the Federal Highway Administration, N.C. Department of Transportation and the N.C. Wildlife Resources Commission in developing local conservation measures to help protect the heelsplitter from impacts associated with increased development resulting from the federally-funded highway project.

Harperella reintroduction on the Deep River; by Johnny Randall, N.C. Botanical Garden

The towns of Fairview, Stallings, and Indian Trail pledged to move ahead with developing 35 ft. riparian buffer ordinances, which is less than the Service's recommended 100 ft. on intermittent streams and 200 ft. on perennial. However, Union County has a draft stormwater ordinance that includes 100ft. buffers on intermittent streams, and 200ft. on perennial in watersheds occupied by the Carolina heelsplitter.

The road project will be constructed in part with funds from the Federal Highway Administration. Under the Endangered Species Act, any federal agency that funds or authorizes a project must evaluate that project for impacts to threatened or endangered species and minimize or eliminate any negative impacts, including ensuring their project will not jeopardize the existence of a protected species. Because of expected impacts to the endangered Carolina heelsplitter mussel from the new highway, the Federal Highway Administration is consulting with the U.S. Fish and Wildlife Service to address those impacts.

Beyond the review of the highway project, the Service has committed to help local communities explore conservation strategies that not only protect the heelsplitter and stream quality, but also improve quality of life. These include other types of conservation ordinances such as Low Impact Development, and non-regulatory conservation measures like seeking funding to acquire greenspace that would both protect heelsplitter habitat and provide recreational opportunities for residents.

Mountains

Rare Plants Find New Home at Grandfather Mountain

In June, Roan mountain bluet, Heller's blazing star, and Blue Ridge goldenrod all federally protected plants - received a new home at Grandfather Mountain, a private, 4,500-acre preserve in Avery County. The plants were grown from seeds collected at Grandfather Mountain by botanists from the Atlanta Botanical Garden. The Garden then raised the plants in their greenhouses, thereby reducing mortality, and transplanted the seedlings to Grandfather Mountain this summer. This augmentation of existing populations of these rare plants is part of an ongoing project between the Service, the Garden, and Grandfather Mountain, to improve the vitality of these populations.

Rare Plant Identification Workshop

Service botanist Carolyn Wells teamed up with the N.C. Natural Heritage Program and the N.C. Association of Environmental Professionals to offer a rare plant identification workshop in the mountains of Western North Carolina. Workshop participants visited Mt. Jefferson state natural heritage area in Ashe County and Grandfather Mountain in Avery County, looking at a handful of federally protected plants, including Virginia spiraea, Heller's blazing star, Roan Mountain bluet, Blue Ridge goldenrod, and spreading avens. The workshop was designed to help consultants and other natural resource professionals learn to identify plants that could occur in or near projects they are or will be working on.



Carol Denhof of the Atlanta Botanical Garden helping augment rare plant populations

Organizations Team up to Tackle Roan Mountain

Biologists from numerous state and private organizations came together in July to ramp up efforts to manage for numerous rare plants found in the Roan Mountain area. The area, on the North Carolina/Tennessee state line in Mitchell County, is home to spruce-fir forests, grassy balds, and high-elevation rocky summits—three of the Southern Appalachians' rarest plant communities. Biologists with the U.S. Fish and Wildlife Service, USDA Forest Service, National Park Service, East Tennessee State University, Southern Appalachian Highlands Conservancy, and the Archbold Biological Station agreed on a number of measures they believe will help several federally protected plants that are found on the mountain.

Standardized annual monitoring will be carried out on the mountain for the endangered Roan Mountain bluet and spreading avens, with the objective of completing a population census of the two plants. These data can then be used to perform a population viability analysis—a technique that basically determines extinction probability and can assist biologists in establishing measurable objectives for self-sustaining populations. They also agreed to install trail counters to track people entering areas that have been closed in order to protect rare plants. This will allow the biologists to get a more accurate idea of the recreational impacts on these species and their habitats.

Mountains

Spreading the Word

Budding Naturalists Learn Stream Ecology

The inch-long stonefly crawling in the bottom of the net was the first stone-fly many of the students had ever seen. The students were part of the University of North Carolina at Asheville's Blue Ridge Naturalist Program, designed to teach area residents about the ecology of Western North Carolina. Service biologist Gary Peeples led aquatic invertebrate sampling classes for the program in Henderson County's North Fork of the Mills River, and in Madison County's Laurel River.

Retirees Learn about Endangered Species Act

Service botanist Carolyn Wells spoke to residents at Asheville's Givens Estates retirement community as part of a class on the Endangered Species Act presented at the facility. Wells' presentation was on the listing and recovery of species under the Act.

Haywood County Eighth Graders

672 Haywood County Eighth graders participated in this year's Kids in the Creek activity, organized by the Haywood Waterways Association. The activity rotates students through four different stations that look at water quality issues, including water chemistry, fish, macroinvertebrates, and watershed health. This is the third year the Service has helped with the event.

Small-whorled Pogonia Discovery and Possible Loss

Biologists working for an environmental consulting firm discovered a new population of the threatened smallwhorled pogonia near U.S. Highway 64 in Transylvania County, a discovery that was confirmed by Service botanist Carolyn Wells and USDA Forest Service botanist Gary Kauffman. That discovery brings to six the number of known populations still in existence in North Carolina, while eight known populations have disappeared in the last 25 years. In Haywood County, biologists with the Service, USDA Forest Service, and Equinox Environmental searched but failed to find a reported small-whorled pogonia this past June. They were trying to locate a plant that had been documented in 2001 by Dan Pitillo, a retired botany professor and Kevin Caldwell, biologist with Equinox Environmental.



Small-whorled pogonia

The land is currently owned by the Town of Canton as part of their watershed and is protected under a conservation easement held by the Southern Appalachian Highlands Conservancy. Once known from 86 sites in 15 states, the small-whorled pogonia was listed as endangered in 1982 and was downlisted to threatened in 1994.



Haywood County eighth-graders searching for stream insects

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

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 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.

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.



Asheville Field Office Staff Listing

160 Zillicoa Street Asheville, NC 28801 Phone: 828/258 3939 Fax: 828/258 5330

Brian Cole Field Supervisor Ext. 223

Marella Buncick
Fish and Wildlife
Biologist
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



Mark Cantrell Fish and Wildlife **Biologist** Hydroelectric project review; Endangered Species Act habitat conservation planning; federal project review under the Endangered Species Act, Clean Water Act, Fish and Wildlife Coordination Act, and Migratory Bird Treaty Act: stream restoration; Ext. 227

Nancy Cole
Office Automation
Assistant
Word Processing,
editing and
proofreading; time and attendance
processing; property management;

records management; Ext. 232





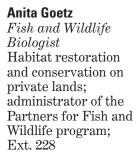




Robert Currie

Fish and Wildlife
Biologist
Terrestrial endangered
species listing and
recovery in Tennessee
and Kentucky; bat and
other cave fauna
specialist; cave and
abandoned mine
protection specialist;
Ext. 224

John Fridell
Fish and Wildlife
Biologist
Invertebrate and
aquatic vertebrate
endangered species
listing and recovery;
federal project review
under the Endangered
Species Act, Clean
Water Act, Fish and
Wildlife Coordination
Act, and Migratory
Bird Treaty Act;
Ext. 225



Denise Moldenhauer
Fish and Wildlife
Biologist
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; Ext. 226













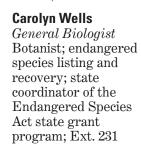
Laura Pickens
Information
Technology Specialist
Computer and GIS
support, network
administration;
Ext. 238

Allen Ratzlaff
Fish and Wildlife
Biologist
Endangered Species
listing and recovery;
federal project review
under the Endangered
Species Act, Clean
Water Act, Fish and
Wildlife Coordination
Act, and Migratory
Bird Treaty Act;
Ext. 229





Bryan Tompkins
General Biologist
Federal project review
under the Endangered
Species Act, Clean
Water Act, Fish and
Wildlife Coordination
Act, and Migratory
Bird Treaty Act;
mitigation bank
review; Ext. 240















Raleigh Field Office Staff Listing

P.O. Box 33726

Raleigh, NC 27636 - 3726 Phone: 919/856 4520 Fax: 919/856 4556 Street Address: 551F Pylon Drive

(Our street address is for express mail/shipping only. Please use our PO Box for

correspondence.)

Raleigh, NC 27606

Pete Benjamin

Ecological Services Supervisor Ext. 11

Tom Augspurger

Ecologist

Wildlife toxicology; environmental contaminants / pollution; water quality Ext. 21

Mark Bowers

Fish and Wildlife Biologist
Federal energy regulatory coordinator;
COE 404 regulatory permits
Ext. 19

Peter Campbell

Wildlife Biologist Red-cockaded woodpecker recovery biologist - Southern Pines Suboffice 910/695 3323

John Ellis

Fish and Wildlife Biologist
Federal permits and projects coordinator;
Federal Energy Regulatory Commission
(FERC) issues; 404 regulatory coordinator
Ext. 26

Laura Fogo

Fish and Wildlife Biologist
Partners for Fish and Wildlife and Farm
Bill programs, Work area: Catawaba,
Yadkin-Pee Dee, Lumber and Waccamaw
River Basins.
910/695 3323

John Hammond

Fish and Wildlife Biologist
Endangered species coordinator; military
projects; Endangered Species Act-Section 7
Ext. 28

Howard Hall

Fish and Wildlife Biologist
U.S Army Corps of Engineers civil work
projects (beach nourishment, dredging
and restoration); Corps of Engineers 404
Permits (Wilmington Field Office);
commercial mitigation banks; and Coastal
Barrier Resources Act (CBRA) determinations
Ext. 27



Front row from left to right: John Ann Shearer, John Hammond, Susan Miller, Dale Suiter, Doug Newcomb; second row from left to right: Mike Wicker, Patty Matteson, Joe Pittman, Leigh Mann, Sara Ward; back row from left to right: Tom Augspurger, David Rabon, Pete Campbell, Pete Benjamin, Howard Hall Not pictured: Gary Jordan, Mark Bowers, John Ellis, Laura Fogo

Gary Jordan

Fish and Wildlife Biologist
Endangered Species Act - Section 7,
Clean Water Act - Section 404
consultation for North Carolina
Department of Transportation projects;
permit and mitigation bank review
Ext. 32

Patty Matteson

Public Affairs Specialist
Public affairs and outreach specialist;
primary media and congressional contact
Ext. 25

Leigh Mann

Office Automation Clerk Receptionist, secretary Ext. 10

Susan Miller

General Biologist Safe harbor biologist, Southern Pines Suboffice 910/695 3323

Doug Newcomb

GIS Specialist/Information Technology Specialist/Webmaster, GIS analysis and data manager, system administration and support for Windows95/98/NT/2000, Linux, and Solaris desktops, file servers and web servers; network administration Ext. 14

Joe Pittman

Administrative Officer Budget and administration Ext. 13

David Rabon

Fish and Wildlife Biologist
Terrestrial and aquatic vertebrate
Species, Endangered Species Act Section 7 consultation and recovery in
Eastern North Carolina
Ext. 16

John Ann Shearer

Fish and Wildlife Biologist Partners for Fish and Wildlife state coordinator, Farm Bill/private lands coordinator Ext. 17

Dale Suiter

Fish and Wildlife Biologist
Recovery of threatened and endangered
plants and invertebrates, Section 7
consultation, national forest consultations
and invasive species control
Ext. 18

Sara Ward

Ecologist

Wildlife toxicology; environmental contaminants / pollution; water quality Ext. 30

Mike Wicker

Fish and Wildlife Biologist
Coastal coordinator; dam removal and breaching/rapids creation; wetlands restoration on deep peat soils; riparian protection
Ext. 22