

Conserving Georgia's Nongame Wildlife



2008-2009
R E P O R T

Georgia Department of Natural Resources
Wildlife Resources Division
Nongame Conservation Section



The **Nongame Conservation Section** of Georgia DNR's Wildlife Resources Division is charged with conserving nongame wildlife. Nongame means animals not legally hunted, fished for or trapped, as well as rare plants and natural habitats.

Our work at NCS is wide-ranging. It varies from studying southeastern American kestrels in the Fall Line sandhills to

strategy for conserving Georgia's biological diversity, guides all of our conservation actions.

That plan shows there are many conservation priorities. More than 1,000 of Georgia's plant and animal species are considered species of conservation concern; 318 are listed as rare, unusual, threatened or endangered, and protected by law.

You - contributors to nongame conservation in Georgia - are critical to achieving those priorities. The Nongame Conservation Section receives no state general funds. We depend on your financial support, particularly through nongame license plate sales and the Give Wildlife a Chance state income tax checkoff.

Those contributions are leveraged with federal and other grants. For the period covered in this report, the ratio of Nongame Wildlife Conservation Fund expenditures used to match grants was 1-to-4, or 25 cents for every \$1 in grants.

You can find out more in these pages, through our Web sites and e-newsletter, or by contacting us directly. The Web links are below. Contact details are on the back.

Thank you for your support of Georgia's nongame wildlife and rich natural heritage.

MIKE HARRIS
Chief • Nongame Conservation Section

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Our Mission

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monitoring sea turtle nesting on barrier islands, from surveying the Toccoa River for rare fish to restoring habitat for a mint found worldwide only in south Georgia, and from encouraging appreciation of wildlife through the annual Youth Birding Competition to spreading news by Twitter of successful efforts to disentangle North Atlantic right whales from fishing gear.

I hope through this report you gain a better understanding of that effort and the value of conserving our state's nongame wildlife.

During fiscal 2008 and 2009, the Nongame Conservation Section mapped coastal and sandhills habitats in regional projects, documented data on native animals from bats to bottlenose dolphins to improve species management, helped acquire more than 17,000 acres of priority habitat, and funded regional education centers that reached about 100,000 students.

These are only some of the highlights. The State Wildlife Action Plan, a comprehensive

PHOTO CREDITS

Cover main
Silver Lake WMA/John M. Hall

Cover snapshots
Diamondback terrapin/Andrew Grosse
Fringed campion
Shinyrayed pocketbook
Bald eagle/Curtis Compton
/Atlanta Journal & Constitution

This Page
Wilson's plover
Eastern indigo snake/Dirk J. Stevenson
Brimley's chorus frog
Dragonfly

All photos are from Georgia DNR unless noted

Adult loggerhead sea turtle



The **loggerhead sea turtle** is found in Georgia’s coastal waters year-round and nests on barrier island beaches during spring and summer. In accordance with the U.S. Fish and Wildlife Service and NOAA Marine Fisheries Service recovery plan, DNR focuses on surveying and protecting loggerhead nests and managing nesting beach habitat. The agency also coordinates the Georgia Sea Turtle Cooperative, made up of volunteers, researchers and government employees who help monitor and manage nests. Strategies include relocating nests, installing protective screens and removing predators.

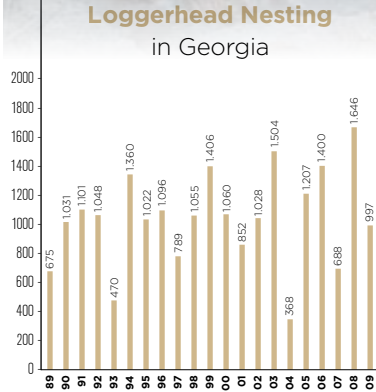
This work has provided a genetic “fingerprint” of the turtles, revealing – among other things – that at least 20 mother/daughter pairs nest on our barrier beaches. Because it takes at least 30 years for a loggerhead to begin nesting, that means at least 20 of these turtles are 60 years or older, nesting alongside their 30-year-old daughters.

Strandings: Green, Kemp’s ridley, leatherback and hawksbill turtles — all federally endangered or threatened — are also found in Georgia’s coastal waters. With NOAA’s support, DNR monitors marine turtle mortality through the Sea Turtle Stranding and Salvage Network. Strandings are the primary index for threats to turtles in coastal waters. Barrier island beaches are patrolled, aerial surveys are flown to help determine distribution and abundance of marine turtles during migration, and, when possible, necropsies of stranded turtles are done to evaluate the cause of death.

The network documented 87 dead or injured turtles in 2008 and 132 in 2009. Strandings averaged 107 from 2007 to 2009, the lowest three-year average since surveys began in 1989. The most likely causes of the decline are increased enforcement of turtle excluder devices, or TEDs, and a decline in shrimp fishing.

Sea Turtle Conservation and Research

Taking genetic samples from nesting turtle



Since comprehensive surveys began in 1989, loggerhead nesting has varied widely. The average is about 1,000 nests a year. Cooperators found 997 nests on Georgia beaches in 2009 and a record 1,646 in 2008. According to the recovery plan, loggerheads may be considered recovered if the population increases 2 percent annually for 50 years, resulting in a state total of 2,800 nests a year.

Genetics: To develop a comprehensive understanding of the number and relatedness of loggerheads nesting in Georgia, DNR and the University of Georgia developed a genetic profile of nesting female turtles.

Loggerhead hatching



The **North Atlantic right whale** is one of the world's most endangered marine mammals. The population is estimated at about 400 whales. Commercial whaling in the late 1800s decimated the whales. Since whaling was banned in 1935, mortality from ship collisions and entanglement in commercial fishing gear has limited the population's recovery.

Each winter, right whales migrate from waters off the northeastern U.S. and Canada to calving grounds along Georgia and northeastern Florida. An average of 24 calves has been documented each year since 2001, compared with 11 calves a year from 1980-2000. A record 39 calves were documented in winter 2008-2009. While the increase is encouraging, the number of breeding females in the population is less than 100.

For more than two decades, DNR has collaborated with federal, state and private organizations to conserve North Atlantic right

whales. Management actions focus on reducing human-related mortality and protecting habitat. From December through March each year, the Nongame Conservation Section and Wildlife Trust conduct extensive aerial surveys to document calf production and warn ships about whale locations. NCS also takes part in management and research efforts, including whale disentanglement, genetic sampling, whale tagging studies and injury/mortality investigations.

Since 2004, staff have helped disentangle eight right whales and participated in five injury/mortality investigations. The 2008-2009 season proved particularly busy with five right whales migrating to Georgia wrapped in line consistent with that used in fixed-gear fisheries in north Atlantic waters.

NCS also works to protect right whales and their habitat through the Right Whale Southeast Implementation

North Atlantic Right Whale Conservation

Team and the North Atlantic Right Whale Consortium. The section receives strong support from the DNR Coastal Resources Division and the Wildlife Resources Division's Law Enforcement Section in education and outreach, policy efforts, and enforcement of federal right whale protections.

Also...



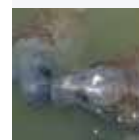
Bottlenose Dolphin Contaminants Project

Research involving NCS, NOAA

Fisheries, the National Ocean Service and others found PCB concentrations 10 times higher in Brunswick-area bottlenose dolphins than those documented at other sites. A 2008-2009 photo-identification study off Brunswick and Sapelo Island indicated many dolphins in this area are year-round residents. In summer 2009, the project culminated in the two-week capture and health assessment of 29 dolphins. Contaminants, abundance and VHF tracking analyses are due in 2010.

Georgia Marine Mammal Stranding Network

NCS coordinates this network, which monitors the numbers and species of animals that strand on Georgia beaches, with help from NOAA Fisheries and others. Strandings from 1999-2008 totaled 270 (13 to 46 per year). The most common species stranded in Georgia: bottlenose dolphins, followed by pygmy and dwarf sperm whales.



Florida Manatee Conservation

Georgia DNR works with the Fish and Wildlife Service,

the Navy and the Florida Fish and Wildlife Conservation Commission to reduce human-related deaths of Florida manatees and protect habitat for this endangered species. 2007-08 aerial surveys of manatee abundance and habitat use in Cumberland Sound and Kings Bay Naval Submarine Base indicated peaks of 15-30 manatees during spring and early summer.

Breaching right whale



DNR's Brad Winn with a transmitter-carrying marbled godwit



Georgia's barrier island beaches, coastal salt marshes and freshwater wetlands support 86 species of seabirds, shorebirds and wading birds, collectively known as waterbirds. The **Waterbird Conservation Initiative** includes protecting important colonial waterbird nesting habitats, identifying other habitats vital for these species, and conducting surveys to determine habitat needs of other resident, migratory and wintering waterbirds.

Little Egg Island Bar has supported one of the largest colonies of nesting seabirds on the South Atlantic coast.

A new dredge-spoil island near the Brunswick shipping channel has become an important nesting site for waterbirds. Created by the U.S. Army Corp of Engineers in 2007 and owned by the state of Georgia, the island supported large numbers of black skimmers, least terns, gull-billed terns and royal terns in 2009. And while much of the coast was hit by washing storm tides in 2009, the dredge island was high enough to keep these rare ground-nesting birds above flooding tides.

Waterbird Conservation Initiative

Five sand islands are managed for beach-nesting and migratory birds. While primarily valuable for seabirds, resident and migratory shorebirds also benefit from the protection of critical nesting and disturbance-free resting areas.

Surveys of migrant and wintering shorebirds documented the continued importance of staging areas for red knots in late summer and fall, spring staging of whimbrels that may include a significant portion of the Atlantic flyway population, the single largest concentration of wintering semipalmated plovers in the U.S., and an important Atlantic Coast concentration of wintering piping plovers from all three breeding populations.

A cooperative project involving marbled godwits used satellite telemetry to identify breeding and migration habitat. Marbled godwits wintering in Georgia spend nine months here every year and breed in North and South Dakota.

American oystercatcher



Red-cockaded Woodpecker Recovery

Due to the drastic loss of mature pine forests on most private lands, habitat for the endangered **red-cockaded woodpecker** – the only woodpecker in the U.S. that excavates cavities in living pines – is mainly found on military bases, national forests and other public lands where large tracts of pine forest are managed for multiple uses. However, a few birds remain on private lands.

In 1999, Georgia DNR developed the nation's first statewide Red-cockaded Woodpecker Habitat Conservation Plan to provide management options for private landowners. The plan includes provisions for mitigated incidental take and Safe Harbor. Under Safe Harbor, a site's number of woodpecker family groups and the landowner's level of management responsibility is determined. If the woodpecker population increases, the landowner's obligation to provide habitat does not. The program has been especially successful in southwestern Georgia, where quail plantations support a significant population of the woodpeckers.

As of 2009, 157,469 acres are enrolled in Safe Harbor management agreements. These cover 107 baseline and 32 surplus groups of red-cockaded woodpeckers. Most of the acreage is in the Red Hills Region near Thomasville, an area with the largest population of the rare woodpeckers on private land. Since the start of Safe Harbor in 2000, the Red Hills population has grown from about 175 family groups to more than 190. The Nongame Conservation Section also has teamed with the Joseph W. Jones Ecological Research Center to restore the red-cockaded woodpecker population at Ichauway Plantation in Baker County. The 29,000-acre site had a single male in 1999. Through the translocation of 54 young birds, Ichauway now supports 20 family groups.

In 2008, NCS began managing red-cockaded woodpeckers at Silver Lake Wildlife Management Area. Habitat improvements included hardwood control on 200 acres, prescribed fire on 5,200 acres, replacement of 30 artificial nesting cavities, and creation of 17 new artificial cavities. Silver Lake has 19 red-cockaded woodpecker groups and 44 adult birds.

Red-cockaded woodpecker being banded



Also...



Wood Stork Nest Surveys

Georgia supports about 20 percent of the U.S. nesting population for this endangered species, and the recovery plan calls for monitoring reproductive success of nesting colonies and identifying potential threats. Surveys documented 26 colonies and a record 2,292 nests in 2008, and 19 colonies with 1,676 nesting pairs in 2009. (Wide annual fluctuations are likely due to hydrologic conditions at nesting and feeding sites.) More than 75 percent of Georgia's stork rookeries are on private land.

Bald Eagle Nest Surveys

DNR monitors all known nests and works with landowners to protect nest sites from disturbance. In 2008 and 2009, 112 and 126 occupied nesting territories, respectively, were documented, a 257 percent increase over the past decade. NCS biologists participated in a nationwide post-delisting monitoring effort to help determine eagle nest detection rates. Within Georgia's best habitat along the coast, five, 10-kilometer-square blocks were searched by air. One new nest site was discovered in Camden County, but it likely represented a previously known territory

	2000	01	02	03	04	05	06	07	08	09
Occupied Territories	55	61	73	81	83	82	96	114	112	126
Successful Nests	47	53	51	63	67	62	81	91	85	100
Young Fledged	78	95	84	97	107	94	125	143	134	164



Swallow-tailed Kite Nest and Roosting Surveys

The breeding range of these elegant raptors is down to seven Southeastern states. DNR surveys marked 21 nests in 2008 and 22 in 2009. Three nests failed and 29 young fledged in 2008 – a good year – while 2009 yielded 15 fledglings and 11 failed nests, a drop likely due to heavy rains in May. In the first range-wide roost survey, biologists counted 204 kites in two days of flying in July 2009. DNR also monitored radio-tagged kites and held workshops to help landowners learn how to manage and conserve nesting habitat. Most nests are on industrial timberlands.

Painted Bunting Survey

NCS participated in a 2007-2009 survey of breeding painted buntings along the coast and interior Coastal Plain. While analysis is incomplete, it appears that the number of eastern painted buntings is higher than previously thought and there is a larger interior population along the Savannah River Basin.

Surveying for rare fishes in the Toccoa River



DNR's Brett Albanese with a sicklefin redhorse



Sampling for mussels on Coolewahee Creek



Altamaha spiny mussel

Georgia DNR launched the **Aquatic Conservation Initiative** in 1998 to determine the status of Georgia's aquatic fauna and develop conservation plans for declining species.

The Nongame Conservation Section has completed hundreds of surveys since 2007, documenting or monitoring populations of high-priority species such as the Altamaha spiny mussel, Savannah lilliput, bluefin killifish and sicklefin redhorse. As part of the development of a monitoring baseline for rare fishes, staff surveyed 30 sites spanning the entire Toccoa River from Suches to the Tennessee line, documenting populations of the state-endangered tangerine darter, wounded darter and blotched chub. In a workshop, landowners were presented results, plus details on riparian zone management and conservation opportunities. A 2009 survey along the Cartecay, Ellijay and Coosawattee rivers recorded many new and updated occurrences of the federally threatened goldline darter. One unexpected find: eastern hellbenders in the Cartecay, the first record of this large aquatic salamander in the Mobile River basin.

Data are entered into the Biotics Database and data partnerships maintained with the Georgia Museum of Natural History and the Wildlife Resources Division's Stream Survey Team. The partnerships greatly expand the information available for environmental review and conservation planning. The database has more than 2,200 distribution records representing important populations of 283 rare aquatic species around the state.

In other partnerships, NCS staff worked with the Conasauga River Alliance and the Tennessee Aquarium to remove sediment from a spring supporting the state-endangered coldwater darter. The section collaborated with Wildlife Resources' Game Management Section, Georgia Power and The Nature Conservancy to monitor Etowah and Cherokee darters in sections of Raccoon Creek targeted for stream restoration. To assess the impact of extreme drought on mussels, NCS biologists also led sampling efforts in drought-affected waters in Georgia and Florida. The U.S. Fish and Wildlife Service was given technical assistance in drafting a drought contingency plan for conserving the Southeast's rare and endangered mussels.

Aquatic Conservation Initiative

A State Wildlife Grant project initiated in 2008 is funding field surveys and management efforts for **Georgia's bat species**. DNR hired biologists to complete emergence counts at caves containing summer roosts for gray bats and Southeastern myotis. Surveys are also being completed on wildlife management areas throughout the state. Two interns, funded in part by Bat Conservation International, surveyed Coastal Plain sites in summer 2009 and found numerous new roosts for Rafinesque's big-eared bats, state-listed as rare.

At Chickamauga Cave near Ringgold, NCS staff handled planning and labor for building a gate at the private cave, site of Georgia's only known maternity colony of federally endangered gray bats. The U.S. Fish and Wildlife Service provided a Partners for Fish & Wildlife Grant for the gate, which was finished in spring 2009.

NCS biologists also prepared for the Southeastern Bat Diversity Network's 2010 Bat Blitz at Fort Mountain State Park, near Chatsworth. DNR and the U.S. Forest Service will serve as hosts. Through the blitz, Georgia agencies will receive help from bat researchers across the Southeast in a rapid survey of the area for bats. The event will also provide information on bat communities in the park and surrounding forestland, and support future bat conservation efforts for the region.

Staff also began planning for the possible arrival in Georgia of white nose syndrome, which is deadly to bats and had spread as far south as Virginia by late 2009. The syndrome is expected to reach deeper into the South in winter 2009-2010. Surveys are in the works to compile more baseline information before Georgia is affected.

Also...

Fishes of Georgia Atlas

The Fishes of Georgia Atlas went online in March 2009 (<http://fishesofgeorgia.uga.edu/>), meeting the need for comprehensive, updated information on the state's rich fish fauna. The site features range maps and photographs for 337 coastal and freshwater species. The project compiled large amounts of data from sources including DNR and the Georgia Museum of Natural History.



Habitat Improvements on State Lands

To conserve and restore habitats on dozens of public tracts, NCS applied prescribed fire to more than 29,170 acres. Fire leaders trained staff,

Prescribed fire



partners and volunteers in prescribed burning. The NCS fire crew, hired seasonally through the Student Conservation Association, worked statewide on short notice. Other habitat improvements on about 20 sites included planting more than 850 acres of native groundcover, thinning 1,500 acres-plus of upland forest and planting several hundred acres of longleaf pines. Invasive exotic plants such as kudzu, sand pine and Chinese privet were removed from several sites. Wiregrass seed was also harvested and wire grass nurseries prepared.

Robust Redhorse Conservation

The multi-agency Robust Redhorse Conservation Committee has led intensive efforts since the 1990s to recover this rare sucker in Georgia and the Carolinas. About 115,000 have been stocked in the Broad, Ocmulgee, Oconee and Ogeechee rivers in Georgia, and 54,000 in South Carolina's Broad and Wateree rivers. Both states have documented healthy growth and survival rates. Spawning behavior has been observed in the Ocmulgee and Broad. Survival and recruitment of wild-spawned fish in stocked populations is being studied. Recent projects include tracking adult robust redhorse by telemetry and adding gravel to increase spawning habitat on the Oconee.

Gating Chickamauga Cave to protect bats



Bat Conservation

Many publicly owned lands and private sites with habitat for **rare plant populations** have not been adequately surveyed. Yet, inventories are important to locate new populations so their habitats can be protected. Surveys also help ensure that proposed public-land developments such as roads, trails and buildings do not inadvertently harm rare species. Nongame Conservation Section botanists continue to explore state lands, with a focus on newly acquired properties. Surveys are done throughout the state to identify and inventory locations of rare plants and provide guidance on appropriate management activities.

Among the 2008-2009 highlights, staff partnered with the Atlanta Botanical Garden to locate populations of rare native terrestrial orchids. New sites for purple-fringed orchids were verified on Chattahoochee National Forest, and seeds were collected and placed in tissue

small white-fringed orchid was documented in Marion County. Three-birds orchid was verified at Pickett's Mill Battlefield Historic Site.

NCS staff and Georgia Botanical Society volunteers documented about 450 vascular plants from Pickett's Mill. Insight into the management of historic old-field sites with remnant savanna or prairie-like vegetation is another result of intensive plant surveys. Additional examples of montane longleaf pine forest and Piedmont granite outcrops were verified from the state's newest park, Chattahoochee Bend.

Several discoveries of populations of federally listed plants were made: pond spicebush on Mayhaw Wildlife Management Area in Miller County, relict trillium on private property in Wilkinson County and additional sites for Tennessee yellow-eyed grass in Bartow County. Remarkably, 47 sites representing nine population centers of American chaffseed were documented in a detailed survey throughout Georgia's wiregrass country. At least 40 sites were linked to increased use of prescribed burning on large quail plantations and DNR lands, particularly Doerun Pitcherplant Bog Natural Area in Colquitt County.

Plant species new to Georgia were also documented: Florida milkvine in a pristine, beech-magnolia-spruce pine forest in Thomas County and Bartram's rose gentian in Charlton County. Swamp post oak was collected in Camden and Charlton counties in a unique willow oak wetland discovered during the ongoing coastal vegetation survey.

Rare Plant Surveys

on Public and Private Lands

culture to perfect propagation techniques. Several other orchids are being studied, including species representing significant new discoveries from private lands. Chapman's orange-fringed orchid and smooth-lipped Eulophia were found in Camden County, and

Mountain bogs are one of the most critically endangered habitats in the Southern Appalachians. Typically small and usually associated with seeps, springs and small creeks, these bogs support unique and imperiled flora and fauna, including the federally threatened bog turtle and swamp pink, possibly the state's rarest reptile and plant species, respectively. Other exceptionally rare and state-protected mountain bog plants include the montane purple pitcher plant, Carolina bog laurel and Cuthbert's turtlehead.

For 17 years, NCS, working both independently and as a Georgia Plant Conservation Alliance member, has been engaged in mountain bog restoration. This has involved finding bogs with restoration potential, restoration at eight sites, rearing and outplanting rare plants, and creating a bog turtle "headstart" and population establishment program that includes Chattahoochee Nature Center and the Tennessee Aquarium. (Seventeen captive-reared bog turtles have been released in restored bogs.)

In the last two years, NCS has initiated a robust field experiment to test restoration protocols. The natural disturbance factors needed to maintain these early successional habitats are largely missing from the landscape, and remaining bogs must be maintained by mimicking these natural effects through techniques like manual clearing and prescribed fire. The research goal is maximizing effectiveness and efficiency, saving the NCS and its partners time and expense.

Bog turtle



Also...

Georgia Plant Conservation Alliance

The network of 20 public gardens, government agencies, academic institutions and environmental groups protects natural habitats and endangered species through biodiversity management, rare plant propagation and outplanting, and public education. In one example, the alliance helped the U.S. Forest Service and NCS, a charter member, restore six oak/pine mafic woodland sites in the northern Piedmont, clearing woody vegetation and outplanting almost a thousand rare plants. The group's wildland firefighters aided the Forest Service in burning nearly 2,000 acres of this imperiled, fire-dependent habitat in the last three years.



Partners in Flight

In Georgia, Partners in Flight has focused on the 33 top-tier bird species in the State Wildlife Action Plan. Stakeholder meetings in 2008

identified research and survey questions and conservation needs for these species, information used in developing an ambitious series of landbird conservation programs funded by a State Wildlife Grant. Target species span the state. Survey and monitoring efforts included helicopter searches for swallow-tailed kite nests, monitoring breeding populations of golden-winged and cerulean warblers in the Blue Ridge, and banding and radio-tracking loggerhead shrikes (pictured) in the Piedmont and Coastal Plain. Thousands of acres were burned on state-managed lands including Spirewell Bluff, Tallulah Gorge and Moody Forest to benefit these and other rare species.



Interagency Burn Team

This partnership between Georgia DNR, The Nature Conservancy, the Georgia Forestry Commission and the U.S. Fish and Wildlife Service greatly benefits fire management. The Interagency Burn Team is a public-private group of qualified personnel that conducts prescribed burns on lands that need fire for rare species or fire-dependent ecosystems. The team also addresses training and statewide fire issues.

Mountain Bog Restoration

Sandhills at Oropsee Dunes Natural Area/Marc Del Sanitro

In 2006, the Nongame Conservation Section began a project to **inventory sandhills habitats** in the state. These habitats include longleaf pine-turkey oak ecosystems along the Fall Line and larger streams in southern Georgia, as well as similar habitats associated with former barrier islands in inland coastal Georgia. The areas harbor a number of rare species including the Southeastern pocket gopher, gopher tortoise, indigo snake, gopher frog, Bachman's sparrow and striped newt.

The inventory, now complete, met all objectives. Staff produced a map of Georgia's sandhills and sandhills-

associated habitats; conducted a field-based assessment of ecological condition, rare and other priority species, and restoration potential; and developed estimates of gopher tortoise populations on selected sites.

Nearly 100 public and private sandhills sites representing more than 12,000 acres of habitat were visited. Approximately two-thirds had active gopher tortoise populations, accounting for approximately 2,600 tortoise burrows. Tortoise population

estimates also were obtained for 20 mainly state-owned conservation properties through a contract with the Joseph W. Jones Ecological Research Center at Ichaaway.

NCS is following up the inventory with ecological restoration on a number of lands. In cooperation with Alabama, Florida and South Carolina, Georgia received a \$1 million competitive State Wildlife Grant in early 2009 to assist with prescribed burning and other restoration efforts at high-priority sandhills sites.

Sandhills Inventory



Gopher tortoise/Jim Flynn • Eastern indigo snake/Dirk J. Stevenson

The Coastal Habitat Assessment project encompasses 11 counties and is part of the greater Coastal Georgia Land Conservation Initiative, a collaboration of the Georgia Conservancy, Association County Commissioners of Georgia and DNR. County governments, municipalities and conservation organizations can use the habitat assessment and the larger initiative to maximize conservation of critical and imperiled natural communities and wildlife habitat, while balancing development concerns and growth.

The habitat assessment entails aerial photo interpretation of ecological community types based on the U.S. National Vegetation Classification System and accompanied by data collected in the field. Since work began in December 2007 with the hiring of two natural resource biologists, three counties have been assessed and more than 75 plant associations discovered.

Significant findings include the discovery of two previously undescribed natural communities and bottomland post oak (*Quercus similis*), which had never been recorded in Georgia. More than half of the communities from the habitat assessment fall into G3-G1 categories, ranking them from globally vulnerable to extinction to critically imperiled.



Jacob Thompson of DNR working on habitat assessment • Sand cordgrass wetland on Sapelo Island (inset)

Also...



Breeding Bird Atlas

From 1994-2001, the Breeding Bird Atlas project collected more than 150,000 records to document the range of 182 species that breed in Georgia. The effort produced a baseline to gauge changes in species distribution. Data collected are critical to conservation planning and provide a starting point for many monitoring efforts. In February 2010, the University of Georgia Press (www.ugapress.edu) will release "The Breeding Bird Atlas of Georgia," a book documenting the results. Included are species accounts, photographs and range maps for each species.



Brown thrasher

Law Enforcement for Nongame

DNR wildlife law enforcement officers investigated 24 violations involving nongame during 2008 and 2009. Incidents varied from taking and

possessing protected species to possessing wildlife without a rehabilitator permit. Species included gopher tortoises; red-tailed and Cooper's hawks; black rat and Eastern milk snakes; alligator snapping turtles; and cowbirds, pileated woodpeckers, brown thrashers, turkey vultures and red-winged blackbirds.



Rose-breasted grosbeaks

Community Wildlife Projects

Created by NCS and the Garden Club of Georgia, the Community Wildlife Project has awarded more than 750 communities full certification. Another 600 are completing certification standards. The new Backyard Wildlife Certification survey has added more than 1,600 certified backyards since 2005, with 300 earning Neighborhood Backyard certification (two or more adjoining backyards). The program enhances native nongame and habitats in communities, fostering conservation, awareness and community beautification.

Coastal Habitat Assessment

The Wildlife Resources Division's **educational mission** involves cultivating an appreciation and understanding of wildlife resources, fostering wise stewardship of these resources, and promoting safe and ethical natural resource-based recreation. The need for wildlife education is paramount as growth and development make stewardship and conservation even more critical.



Regional Education Centers

Wildlife Resources operates six regional education centers in partnership with school systems, Regional Educational Service Agencies, and other state and federal agencies. The centers - Charlie Elliott, Smithgall Woods, McDuffie, Arrowhead, Grand Bay and Sapelo Island - provide wildlife-based education to students, adults and families. About 50,000 Georgia students visit each year, learning about conservation and wise use of natural and cultural resources through hands-on experiences.

The Nongame Conservation Section provided more than \$210,000 to Smithgall Woods, McDuffie and Arrowhead for staff salaries and programming in 2008 and 2009. Local cooperators also provided financial assistance.



DNR's Linda May leads Charlie Elliott Wildlife Center workshop

Striped newt/Dirk J. Stevenson

Amphibians and Reptiles of Georgia



The University of Georgia Press (www.ugapress.edu) released "Amphibians and Reptiles of Georgia" in April 2008. NCS helped compile the nearly 600-page guide to the state's more than 170 species of frogs, snakes, salamanders, lizards, crocodylians and turtles. A senior NCS wildlife biologist served as lead editor and a program manager as another of the four editors. Years in the making and aimed at a wide audience, the authoritative reference includes nearly 500 color photographs, range maps showing distribution by counties and species accounts done by 54 experts. More than 2,100 copies have been sold.

Youth Birding Competition

The Youth Birding Competition is a 24-hour birding event in which teams from schools and groups such as Scout troops, 4-H clubs and science clubs compete with others their age to identify as many bird species as they can in Georgia. In its third year, the 2008 statewide count drew 126 participants, ranging in age from 3 to 18. In 2009, 140 boys and girls ages 4-18 took part.

Each year, the young birders counted more than 200 bird species and raised more than \$4,800 for conservation projects throughout the state. In addition, almost 285 children and teens contributed paintings or drawings to a Youth Birding Competition T-shirt art contest.



Watchable Wildlife and Recreation

Wildlife Viewing Area

Improvements: The Nongame Conservation Section provides grants for watchable wildlife and education projects on properties managed by the Wildlife Resources Division. A total of \$16,674 was provided in 2008 for nature trail interpretive signs at Hugh Gillis Public Fishing Area, osprey nesting platforms at Lake Lanier, botanical interpretive signs at Paradise PFA, longleaf pine interpretive materials at McDuffie Environmental Education Center, and bird education materials at Smithgall Woods Conservation Park. Grants were not available in 2009 because of budget constraints.

State Parks & Historic Sites Interpretive Projects:

A similar grants program, also sidelined in 2009, targets wildlife viewing opportunities at State Parks and Historic Sites. In 2008, \$24,555 was awarded for wetland habitat enhancement at Panola Mountain State Park, a boardwalk and viewing platform at Skidaway Island, bird observation resources at Unicoi State Park, and a backyard habitat demonstration area at Victoria Bryant State Park.

Social media



Wildlife Resources Division staff created Facebook, Twitter, Flickr and YouTube sites, spreading awareness of conservation and the division's work to a wider audience. The Web sites quickly attracted fans, friends and views, and marked Wildlife Resources as one of the conservation agency leaders in social media. In January 2008, staff also started a monthly e-mail newsletter, Georgia Wild. The subscriber base grew to more than 4,200 by June 2009.

The online ventures and the e-newsletter expanded the reach of NCS communications efforts while also enhancing interactivity and customer service.





Land Acquisition

Silver Lake WMA/John M. Hall

The Nongame Conservation Section cooperated with many partners in fiscal 2008 and 2009 to continue conserving priority habitats identified in Georgia's State Wildlife Action Plan. In all, 17,355 acres valued at nearly \$90.5 million were acquired. The conservation value is untold. The acquisitions will benefit species from green salamanders to red-cockaded woodpeckers and natural habitats as varied as riverine sandhills along the Altamaha and montane longleaf pine forest in Paulding County.

The projects involved significant partnerships with the Georgia Land Conservation Program, local governments, federal agencies and conservation organizations. Many were new partnerships for NCS and Georgia DNR. Others represented the continuation of long-term collaborative efforts.

Here's a closer look.

● Silver Lake Wildlife Management Area

Silver Lake WMA was acquired in three transactions beginning in fiscal 2008. The final parcel closed in fiscal 2009. International Paper managed this property in Decatur County for more than 50 years as part of the Southlands Experimental Forest. Silver Lake WMA includes 8,398 acres with mature longleaf pine, mixed pine, hardwoods and wetlands. The site supports 19 groups of red-cockaded woodpeckers, a significant population of Bachman's sparrows, gopher tortoises, nesting bald eagles and many other priority species.

The Conservation Fund served as the key partner by purchasing the tract from International Paper and holding it until DNR arranged funding. Other partners included the Georgia Land Conservation Program, Decatur County, Association County Commissioners of Georgia, U.S. Fish and Wildlife Service, U.S. Forest Service, Georgia Forestry Commission, National Fish and Wildlife Foundation (through the Longleaf Legacy Program), Kirbo Foundation, Nongame Wildlife Conservation Fund, Georgia Ornithological Society, Woodruff Foundation, Wildlife Endowment Fund, Ducks Unlimited, National Wild Turkey Federation and the Doris Duke Charitable Foundation.

In addition to its conservation value, Silver Lake offers outstanding opportunities for hunting, fishing, birding, hiking and other recreation.

● Paulding Forest Wildlife Management Area

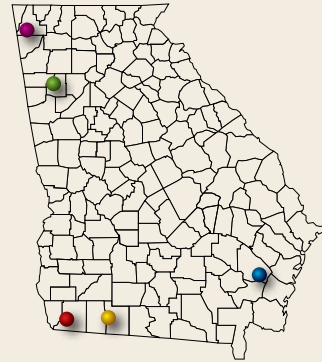
The fiscal 2008 acquisition of Paulding Forest, in collaboration with Paulding County, resulted in the conservation of 6,556 acres of priority habitat and protected the headwaters of Raccoon Creek, a priority stream in the State Wildlife Action Plan. Paulding Forest WMA contains remnants of montane longleaf forest. This rare habitat will be restored through careful management. The acquisition with Paulding County marked a new level of cooperation between the Georgia Land Conservation Program and local government in land conservation.

Paulding County voters approved a referendum to finance \$15 million in bonds for the project. The Nature Conservancy, Association County Commissioners of Georgia and Georgia Wildlife Federation also were key partners. Funding partners included the U.S. Fish and Wildlife Service, U.S. Forest Service, Doris Duke Charitable Foundation, The Conservation Fund, Woodruff Foundation, Georgia Forestry Commission and Polk County.

In 2009, two tracts totaling 502 acres were added to Paulding Forest WMA through the cooperation and support of The Nature Conservancy, the U.S. Forest Service, Georgia Forestry Commission, Woodruff Foundation and the Georgia Wetlands Trust Fund.

Paulding Forest WMA offers outstanding recreational opportunities for hunting, fishing, birding, and hiking. The WMA sports one of the most popular sections of the Silver Comet Trail. Protection of this tract in one of Georgia's fastest growing counties will ensure future recreational opportunities. The acquisition also protects much of the watershed of Raccoon Creek, a high-priority stream that supports a population of the endangered Etowah darter as well as other rare fish species.

Conservation Lands

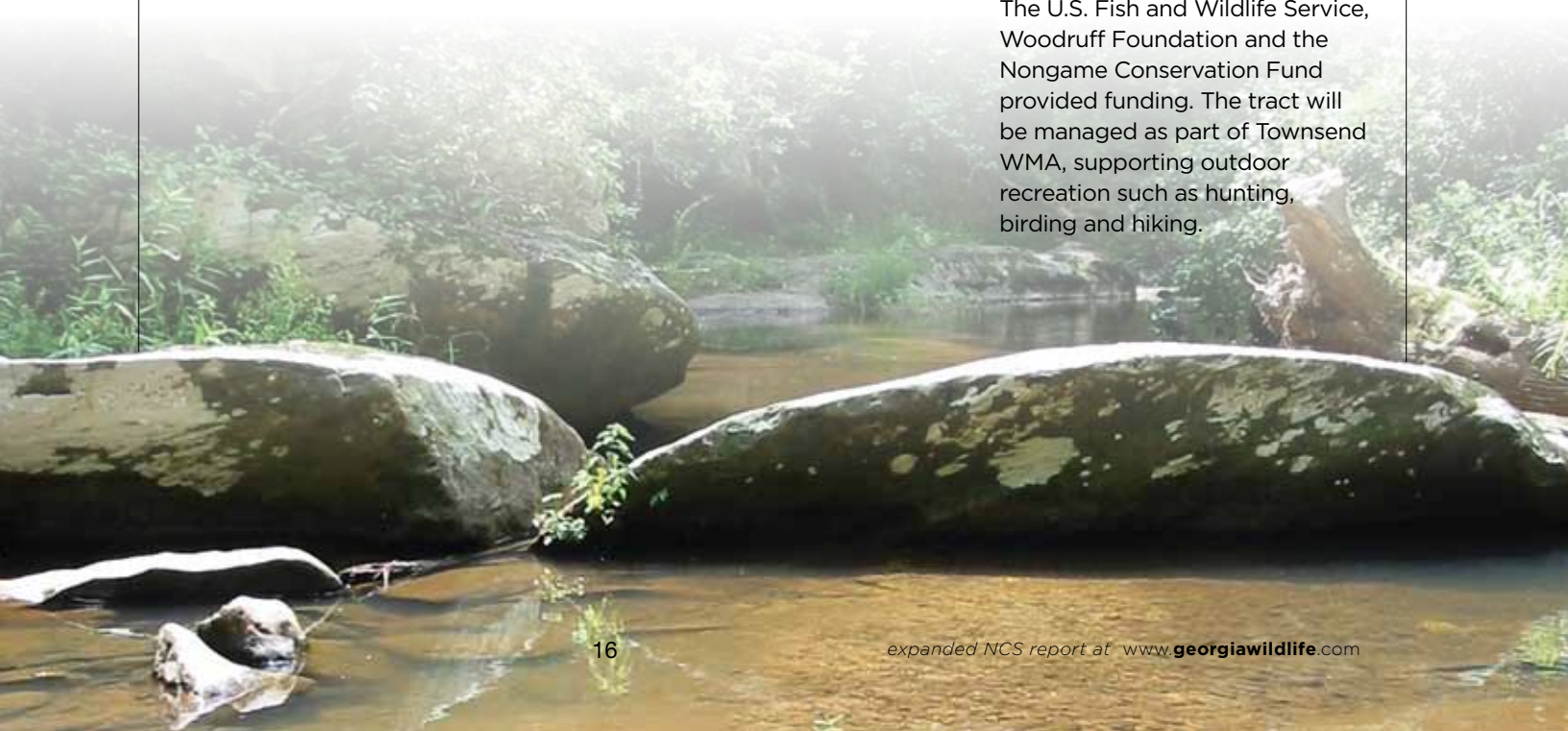


● Williams Tract

These 202 acres, acquired in fiscal 2008, eliminated a key inholding at Townsend WMA in Long County. The property features priority sandhill habitats for the gopher tortoise, indigo snake and other species. The riverine sandhill habitats along the Altamaha River in McIntosh and Long counties include a mosaic of habitats and have been identified as a priority in Georgia's Wildlife Action Plan.

The Nature Conservancy was a key partner in the acquisition. The U.S. Fish and Wildlife Service, Woodruff Foundation and the Nongame Conservation Fund provided funding. The tract will be managed as part of Townsend WMA, supporting outdoor recreation such as hunting, birding and hiking.

Raccoon Creek



● McLemore Cove Tract

The 1,543-acre McLemore Cove Tract was acquired in fiscal 2009 in cooperation with the Georgia Land Conservation Program, Open Space Institute, Woodruff Foundation and the National Fish and Wildlife Foundation. McLemore Cove Tract connects Crockford-Pigeon Mountain WMA and Zahnd Natural Area, and conserves priority habitat along the eastern escarpment of Lookout Mountain. The property has a number of caves, provides suitable habitat for green salamanders and protects the headwaters of West Chickamauga Creek, a Wildlife Action Plan priority stream. The mesic hardwood forests are excellent habitat for neotropical migratory birds.

Existing recreational opportunities at McLemore Cove include hunting, birding and hiking. The Wildlife Resources Division, Parks and Historic Sites Division, and Walker County will evaluate ways to further enhance outdoor recreation.



Brow at Zahnd Natural Area

● Sellers Tract

This tract was acquired in fiscal 2008 as an addition to River Creek, the Rolf and Alexandra Kauka WMA in Thomas County. Primary partners were The Conservation Fund and the Sellers family, which sold the property below appraised value. Funding came from the U.S. Fish and Wildlife Service and the Nongame Wildlife Conservation Fund.

The acquisition protected priority habitat along Barnetts Creek, a tributary to the Ochlocknee River. The tract also buffers River Creek WMA from encroachment and provides opportunity for longleaf pine forest restoration to benefit the northern bobwhite, Bachman's sparrow, gopher tortoise and red-cockaded woodpecker.

State Wildlife Action Plan Revision

The State Wildlife Action Plan, completed in August 2005, is due for an update. Like all state wildlife agencies, Georgia DNR made a commitment to review and revise its Wildlife Action Plan, better known as SWAP, within 10 years. The revision began in January 2010. The target completion date is January 2012.

The revision process will include a reassessment of priority species, habitats and conservation actions, as well as more detailed mapping of priority conservation areas. The process will involve evaluating the potential impacts of climate change on priority species and habitats and identifying "climate change adaptation strategies." Further assessment of monitoring needs and performance measures for comprehensive wildlife conservation in Georgia will also be part of the work.

Nongame Conservation Section staff will coordinate the SWAP revision process with help from other DNR staff and representatives of a wide variety of government agencies, nongovernmental conservation organizations, landowner groups and private corporations. The product of this two-year effort will be a strategic plan that reflects the most current information about wildlife conservation needs and opportunities in the state.

The **Nongame Conservation Section** receives no state appropriations, depending instead on grants, fundraising and donations to conserve Georgia's nongame wildlife, rare native plants and natural habitats. With fundraising a necessity, the section has three primary means: Weekend for Wildlife, the Give Wildlife a Chance State Income Tax Checkoff and the Nongame wildlife license plates. All contributions go to the Nongame Wildlife Conservation Fund. The section's friends group, The Environmental Resources Network, or TERN, also provides significant support.



Nongame License Plates

The bald eagle and ruby-throated hummingbird automobile tags remain Nongame's largest funding source, raising more than \$1.9 million combined in fiscal 2008 and 2009. Yet that period also showed a 36 percent slide in sales, from \$1.16 million in 2008 to \$744,000 the following year. The eagle plate continues to outsell the newer hummingbird plate almost 2-to-1.

Fundraising

Weekend for Wildlife

Weekend for Wildlife is one of the country's most successful fundraisers for conservation, grossing more than \$6.5 million since its start in 1989. The annual event draws 300-400 guests to the prestigious Cloister at Sea Island for a unique weekend of outdoor trips, auctions and dining. In 2008, the 20th anniversary celebration grossed a record \$1.09 million. More than \$623,000 was raised in 2009.

Birding at Weekend for Wildlife



TERN

The Environmental Resources Network, a nonprofit advocacy group, funded \$78,000 in nongame projects in 2008 and \$61,853 in 2009. The work varied from documenting the life history of a newly discovered salamander to supporting advanced Project WILD workshops, landowner outreach publications and the annual Give Wildlife a Chance poster contest for K-5th grades. TERN, online at <http://tern.homestead.com>, raises money through membership fees, donations, and the sale of raffle tickets and gift, silent and verbal auctions at Weekend for Wildlife.



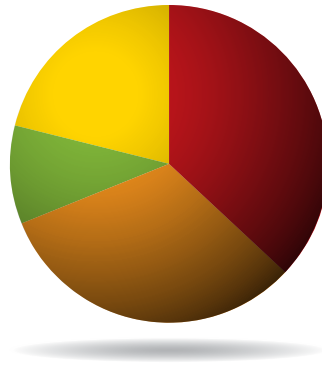
Give Wildlife a Chance Tax Checkoff

The state income tax checkoff offers Georgians a convenient way to contribute to the Nongame Wildlife Conservation Fund. Since the checkoff's creation in 1989, net contributions have averaged \$315,000, with a high of \$510,910 collected in 1991 and a low of \$184,065 in 1994. Revenues of \$234,758 for fiscal year 2009 marked a 20 percent decline from \$293,883 the previous year.

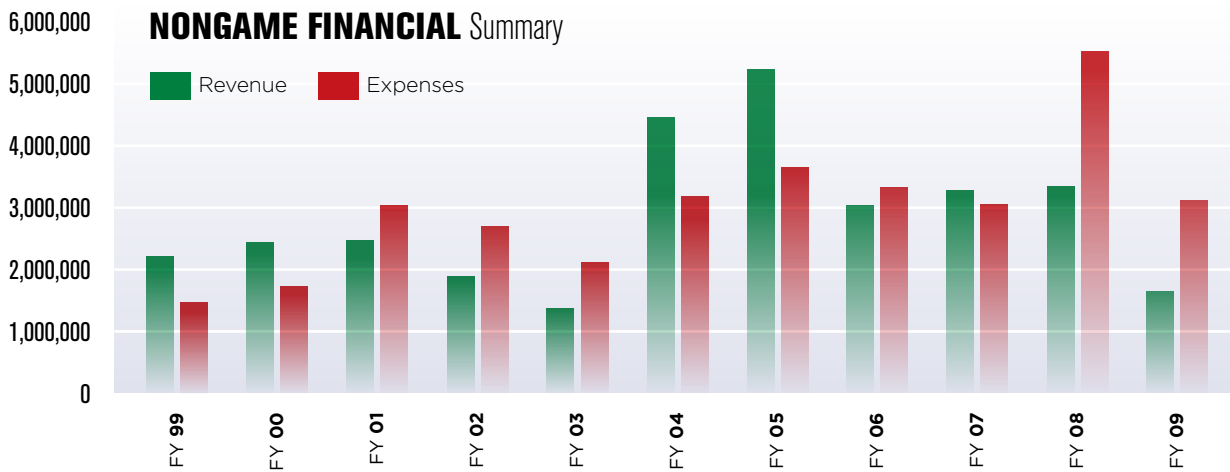
Federal and Other Funding

NCS received more than \$16.8 million in federal and other grants during fiscal 2008 and 2009. Georgia is sharing \$1 million from the State Wildlife Grants Competitive Program with Alabama, Florida and South Carolina to increase the quality, quantity and connectivity of prime sandhill habitat.

Revenue Sources FY 2008-2009



- Nongame Plates 37%
- Weekend for Wildlife 32%
- Tax Checkoff.....10%
- Earned Interest & Other Income..... 21%



What's next for the Nongame Conservation Section?



- Fundraising is a continuing emphasis, particularly in tight economic times. Revenue from license plate sales, Weekend for Wildlife and the state income tax checkoff fell 47 percent in fiscal 2009. Plans are being laid for a new license plate.
- Updating Georgia's Wildlife Action Plan to reflect the changing scope of nongame priorities and needs throughout the state will be a priority for the next two years. (Details on page 17.)
- Work such as the Coastal Habitat Assessment and the Multistate Sandhills Ecological Restoration project (pages 11-12) will shape those revisions and the very future of Georgia's wild places and creatures. The sandhills effort could restore nearly 38,600 acres over three years, helping conserve species from gopher tortoises and southern hognose snakes to Bachman's sparrows and striped newts.
- NCS staff will also be involved with the South Atlantic Landscape Conservation Cooperative. Part of a newly announced nationwide program led by the U.S. Fish and Wildlife Service and U.S. Geological Survey, this and other regional cooperatives will dovetail with State Wildlife Action plans to address climate change, invasive species and other conservation challenges.
- The NCS presence in social media will increase, efficiently using online outreach to engage tech-savvy generations in nongame conservation across the state. The Wildlife Resources Division's Web site will also be enhanced with more information on nongame species, habitats and programs.

DNR's Matt Elliott and Tim Keyes measure baldcypress at Rayonier Forest. Resources tract in Long, McIntosh counties./James Holland • DNR's Jim Ozier/Curtis Compton/Atlanta Journal & Constitution • DNR ecologist Shan Cammack and Commissioner Chris Clark



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Diamondback terrapin/Andrew Grosse

