

Friends of the Apalachicola National Forest Fact Sheet No. 1, v. 1

An Introduction to the History, Ecology, and Management of the Apalachicola National Forest

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4 May 2006

History

Today the Apalachicola National Forest covers 575,849 acres in Franklin, Leon, Liberty, and Wakulla counties of Florida. It is the largest of the three national forests in Florida and one of 154 national forests and grasslands in the United States administered by the U.S. Department of Agriculture. The drainage areas of the Apalachicola National Forest are parts of the Sopchoppy, Ochlockonee, New River, and Apalachicola watershed basins. In presettlement times this region was dominated by the same extensive open longleaf-pine/wiregrass ecosystem that extended from southern Virginia to eastern Texas in the coastal plain of the United States. The original old-growth forest had trees 90–120 feet tall, many of which were 120 to 250 years old, along with dense groves of younger tall saplings. The old-growth forest was cut between 1880 and the early 1900s, after similar exploitation had led to harvest of the original forests in New England and around the Great Lakes. Many of the remaining pine trees in the southeast were tapped for gum, which was distilled for turpentine and rosin. In the mid-1930s the USDA Forest Service bought large areas of these damaged cutover lands. One such area became the Apalachicola National Forest in 1936. The mission of the Forest Service was conservation, to care for the land and also to assure that it would be used to serve the public. During and after World War II demand was great for timber, and the availability of heavy equipment allowed extensive harvest in this and other national forests. At that time the technology for the artificial regeneration of longleaf pine was not available, so clearcut areas were site prepared and replanted with slash pine. The older pine trees today have regenerated naturally from stands cut between 1900 and 1935, but about 25% of the acreage that was originally native longleaf is now in slash pine plantations (58,000 acres). In 1992, largely as a result of a public outcry against clearcutting, Forest Service policy shifted its emphasis away from clearcutting toward one of promoting ecosystem health and sustainability.

The formal policies for the Apalachicola National Forest are described in the legislation as it applies to all national forest holdings, the current Forest Plan as it applies to the national forests of Florida, and the Recovery Plan for the Red-cockaded Woodpecker:

Multiple Use Sustained Yield Act 1960

Wilderness Act of 1964

National Environmental Policy Act (NEPA) of 1969

Endangered Species Act (ESA) of 1973

National Forest Management Act (NFMA) of 1976

Revised Land and Resource Management Plan for National Forests in Florida 1999 (U.S. Forest Service 1999b)

Recovery Plan for the Red-cockaded Woodpecker 2003

Ecology

The generally flat terrain of the forest is pocked by bays, sinkholes, and swamps. Some soils are excessively drained, others poorly drained. The largest area of natural forest is dominated by longleaf pine and slash pine with an understory of palmetto, gallberry, and wiregrass. The Munson Sandhills just south of Tallahassee have turkey oak and bluejack oak, species favored by the deep well-drained sandy soil, as well as pine. The geological sinks in the area are surrounded by mesic hardwood forests. The Apalachicola Savannas in the southwestern section of the forest have longleaf pine on their sandy ridges but also include large treeless concave areas with a highly diverse wetland herbaceous community. The forest includes many seepage bogs and numerous bay, cypress, gum, and titi swamps, where black gum, red maple, and wax myrtle are common.

a. Sensitive, Threatened, and Endangered Species

As of January 2002, the Apalachicola National Forest was believed to be home to seven endangered animals and one plant listed by the U.S. Fish and Wildlife Service under the Endangered Species Act. The endangered animals were the gray bat, red-cockaded woodpecker, wood stork, and four mollusks. The endangered plant is Harper's beauty. Threatened species included five animals and three plants. The animals were the bald eagle, the eastern indigo snake, the flatwoods salamander, the Gulf sturgeon and the purple bankclimber mussel. The threatened plants were white birds-in-a-nest, Godfrey's butterwort, and the Florida skullcap. The Forest Service monitors these species plus an additional set (like the black bear and the gopher tortoise) whose population viability is considered to be "sensitive." The lists of sensitive, threatened, and endangered [plants](#) and [animals](#) (PETS) are revised regularly and are made available at our website <http://bio.fsu.edu/FANF/>.

The Forest Service is required to manage its land in compliance with the provisions of the Endangered Species Act and its official list of threatened and endangered species. The management is particularly affected by the foraging requirements for the red-cockaded woodpecker. The largest remaining population of this bird occurs in the Apalachicola

Ranger District of the forest. In recent years that population has been approximately stable at about 500 active territories, each defended by a social group of birds (a male, a pair, or a pair with helpers). In spite of substantial effort to provide it with artificial cavities, the population in the Wakulla Ranger District is unstable and currently has only about 100 social groups. The official Recovery Plan for the Red-cockaded Woodpecker (U.S. Fish and Wildlife Service 2003) specifies a target of 500 such active territories, each with a “cluster” of cavity trees where the birds roost at night, for the Apalachicola Ranger District and 506 for the similar-sized Wakulla Ranger District. The former population is therefore deemed recovered, but the latter is nowhere near that status.

b. Invasive species

Japanese climbing fern and cogongrass are the most damaging invasive plants in the forest. The former is particularly abundant in recreation areas along rivers and their associated ATV routes.

c. Research

Current research in the Apalachicola National Forest being conducted by biologists at Florida State University includes studies by Frances C. James of the dynamics of the longleaf pine ecosystem in relation to the timber and prescribed burning programs, studies by Thomas E. Miller of the community ecology of organisms that occupy the water inside the leaves of pitcher plants in the savannas, and studies by Walter R. Tschinkel of the separate and joint effects of disturbance and the introduced fire ant on native ant communities.

Management for Multiple Uses

The Forest Service has a history of managing forested areas for multiple uses, to provide more than one of the following resource objectives simultaneously: wood products, fish and wildlife, recreation, aesthetics, grazing, watershed protection, and historic or scientific values. The current Forest Plan (U.S. Forest Service 1999b) gives standards and guidelines for the management of all three of the national forests in Florida. It will be due for revision in 2009-2010. Public involvement is a large feature of the development of a forest plan. Following NEPA guidelines, it selects among alternative desired future conditions. Major ecological challenges are restoration of slash pine plantations and currently even-aged timber stands to naturally regenerating longleaf pine communities.

a. The Prescribed Fire Program

Recent Forest Service policy has changed from fire exclusion to acknowledgement that almost all ecosystems need occasional fire. The passage of the Healthy Forests Restoration Act of 2003 followed the 2002 deaths of 23 firefighters attempting to control fires on 7 million U.S. acres. Because the longleaf and slash pine ecosystems require frequent burning not only to reduce the fuel load and keep out invading hardwoods but

also to improve the ecological health of the understory vegetation, the Apalachicola National Forest has undergone a vigorous program of prescribed fire. In the case of the longleaf-pine/wiregrass ecosystem, prescribed fire is an essential component of ecosystem management.

Of all the national forests in the United States, the Apalachicola National Forest has the largest prescribed fire program, with targets of 90,000 to 100,000 acres burned each year. Given the right weather and fuel load conditions, teams of 5–18 workers set prescribed ground fires in units of about 500 to 3000 acres. The objective is to burn one-third of all the managed pine timber and the wilderness areas every year, to keep these areas in an average three-year rotation. Growing-season burning has ecological benefits and has been increasing. A limiting factor to the prescribed burning program recently has been a safety ruling that four-wheeler off-road vehicles cannot be used by Forest Service employees. The areas burned in 2000 and following years have been 47,200, 102,600, 96,100, 132,700, 118,800 and 89,100 acres. The fire program in the forest is coordinated with that of the Florida Interagency Coordination Center located at the Tallahassee Airport.

b. The Timber Program

Under the 1999 plan, emphasis switched from clearcutting to uneven-aged management (from artificial regeneration to natural regeneration). The number of acres treated by a regeneration system has dropped dramatically, and methods have changed. The plan suggests that the Apalachicola National Forest start uneven-aged management on 28,000 acres in the first 10 years of the plan and do about 40,000 acres of thinning and 8,000 acres of off-site slash conversion.

Units of several thousand acres at a time are selected for silviculture treatments, entering them at 10- or 20-year intervals. Surveys assess the sizes and densities of the trees, and timber markers paint trees to be taken. Contracts are let to private bidders, who will obtain contracts for the work. In some cases off-site slash-pine plantations will be removed by clearcutting, followed by some form of site preparation (fire, herbicides, or mechanical) and then planting of longleaf-pine seedlings. Some groundcover restoration may also take place, which would supplement the wiregrass or associated species. In others the forest is "thinned from below"; trees in the smaller size classes are removed. Recently the emphasis has been on "group selection," removal of 1/4- to 2-acre patches of trees intended to encourage longleaf-pine regeneration within a mature stand of trees. Through adaptive management, the Forest Service has been practicing a "modified group selection," which is really a thinning from below, and releasing established clumps of longleaf seedlings that are already established in the understory. These clumps are released by removal of extra trees around the opening where the seedlings are established. Another silvicultural method is the "irregular shelterwood method," a method of removal of all but a few seed trees (down to 25 square feet/acre of basal cross-sectional area of trees) so that the next mast year will allow a second generation of seedlings to become established. Once the seedlings are established, the overstory longleaf pines are reduced to approximately six trees/acre.

A recent example of a timber sale unit is the Arran Timber Sale. In an area of 16,000 acres, the Forest Service is treating about 1700 acres just west of the forest road 365 down by Crawfordville and the Spring Creek Road. The area has been surveyed and marked for thinning and "modified group selection" treatments, and the contract has been let. The bidder now has three years in which to remove the timber.

c. Fish and Wildlife

The forest harbors abundant game and nongame wildlife. Hunting is regulated, and the forest is designated a Wildlife Management Area by the Florida Fish and Wildlife Conservation Commission.

d. Recreation

Hiking (Florida National Scenic Trail passes through the forest), mountain biking (see the Munson Hills Off-road Bicycle Trail), ATVs and motorcycle riding (on designated trails), swimming, camping, canoeing and just enjoying nature (Leon Sinks Special Interest Area) are all encouraged. The largest recreation area is Silver Lake, 8 miles west of Tallahassee on State Highway 20. Other lakes, such as Camel Lake, Moore Lake, Silver Lake, Trout Pond, and Wright Lake, offer additional fishing opportunities. Wilderness hiking is available at the Clear Lake Wilderness Area (no trails) and Bradwell Bay (trail but no bicycles or motorized vehicles). Leon Sinks Special Use Area off US Highway 319 offers hiking through the karst topography of the Munson Sandhills with its many interesting geological sinks.

e. Grazing

Cattle graze on 40,000 acres of the Apalachicola Ranger District.

f. Other Uses

Permits are available for taking special resources. One example is worm "grunting" (a market in Sopchoppy offers \$30 per can of 500 earthworms); another is maintaining beehives (owners move hives within the forest according to the flowering of tupelo gum trees and gallberry bushes).

Philosophy

The mission of the USDA Forest Service has always been to serve the people. Conservation has meant controlled use, including economic return. Throughout its 100-year history, the philosophy of the agency has been that of its founder, Gifford Pinchot, who said in 1905 that ". . . where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run" (see <http://www.fs.fed.us/greatestgood/>). The Forest Service encourages

public involvement, and the Friends of the Apalachicola National Forest want to help with that process.

Acknowledgments

Thanks are due to Todd Engstrom, Paris Griep, Gary Hegg, Charles Hess, Dean Jue, Marsha Kearney, Richard Kelley, Louise Kirn, Thomas Miller, Steven Parrish, Denise Rains, and Walter Tschinkel.

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