



U.S. Fish and Wildlife Service

Okefenokee National Wildlife Refuge **Upland Forest Management**

Background


Okefenokee National Wildlife Refuge (NWR) contains 363,000 acres of wetland forest, scrub shrub, open marsh and water, and 33,000 acres of upland forest. About 16,000 acres of Okefenokee's uplands are located in forest management compartments located around the perimeter of the swamp. The remainder is located within the Okefenokee Wilderness Area.

Okefenokee's uplands, like the rest of the southeastern coastal plain, were once dominated by fire dependent longleaf pine communities. Because of changes in the fire regime, indiscriminate timber harvesting, stand conversion, clearing, and settlement of the area, only a small percentage of this historical habitat remains. In addition, many of Okefenokee's longleaf communities are located around the perimeter of the swamp in poorly drained areas. These areas, critically dependent upon fire for maintenance, were rapidly invaded by other species when the natural fire regime was interrupted. Understories become a tangle of tall hardwood shrubs and vines. Former wetland longleaf savannas, indicated by longleaf stumps scattered through the scrub-shrub, no longer exist on the refuge. On higher areas, scattered stands of pure longleaf pine remain, interspersed with mixed pine stands and slash pine stands with single remnant relict longleaf stems left after the early 20th century logging operations.

The main thrust of management activities in Okefenokee's uplands is the restoration, management, and protection of longleaf pine communities. This diverse habitat supports a vast association of wildlife species including the red-cockaded woodpecker, Bachman's sparrow, gopher tortoise, indigo snake, flatwoods salamander, gopher frog, Sherman's fox squirrel, and many other native wildlife species common to the southeastern coastal plain. Most of Okefenokee's upland habitat management is centered around the red-cockaded woodpecker. Management goals on wilderness islands are similar to those of managed compartments except that the major management tool is fire.

Management activities conducted on Okefenokee Refuge to restore or manage longleaf pine communities include:

- Creation of new age classes in large, even-aged, longleaf pine stands by establishing natural regeneration in patch regeneration areas.
- Restoration of pure longleaf pine stands in mixed pine stands by selective thinning and establishing natural longleaf pine regeneration in patch regeneration areas or in shelterwood or seed tree stands.
- Conversion of slash pine plantations or pure slash pine stands to longleaf by harvesting and replanting.
- Planting of 15,000 to 25,000 containerized longleaf pine seedlings per year.
- Periodic use of dormant and growing season fire to destroy slash and loblolly pine seedlings, kill hardwood midstory and understory species, and to stimulate growth and reproduction of grasses, blueberry, ground oak, and other longleaf pine community species.
- Use of higher intensity fire on wilderness islands to thin stands, kill undesired pine species, and to create patch regeneration areas.

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- Use of volunteers, school groups, and other organized groups to assist with tree planting, timber stand improvement, and habitat inventories to accomplish management activities while increasing the community awareness of the importance of this habitat.

Habitat management surveys are conducted on forest management compartments and wilderness islands periodically to determine management needs. Surveys are completed each prescription cycle to determine:

- Age, size, crown density, basal area, and species composition, of each stand.
- Stand improvements needed to provide habitat for existing RCW colonies.
- Potential RCW habitat.
- Areas that should be converted to longleaf pine.
- New longleaf pine regeneration.
- Classification of various longleaf communities.
- Prescribed fire needs.
- Evaluation of past management activities.

Management trials currently being conducted to determine the most effective methods of restoring and managing longleaf pine communities:

- Containerized seedlings grown from wetland longleaf pine are being com-
- Various methods of site preparation are being compared to determine how to re-establish longleaf pine without destroying native ground cover.
- Develop methods of establishing longleaf regeneration under predominantly slash pine stands.

The following timber removal activities are conducted each year on forest management compartments:

- Selective marking on an average of 1,600 acres per year.
- Commercial removal of an average of 6,000 cords of forest products valued at \$200,000 per year.