INTRODUCTION

During the rapid development of the United States after the American Revolution, and during most of the 1900s, many forests in the United States were logged, with the logging often followed by devastating fires; ranchers converted the prairies and the plains into vast pastures for livestock; sheep were allowed to venture onto heretofore undisturbed alpine areas; and great amounts of land were turned over in an attempt to find gold, silver, and other minerals.

In 1875, the American Forestry Association was born. This organization was asked by Secretary of the Interior Carl Schurz to try to change the concept that most people had about the wasting of our natural resources. One year later, the Division of Forestry was created within the Department of Agriculture. However, land fraud continued, with homesteaders asked by large lumber companies to buy land and then transfer the title of the land to the companies. In 1891, the American Forestry Association lobbied Congress to pass legislation that would allow forest reserves to be set aside and administered by the Department of the Interior, thus stopping wanton destruction of forest lands. President Benjamin Harrison established forest reserves totaling 13 million acres, the first being the Yellowstone Timberland Reserve, which later became the Shoshone and Teton national forests.

Gifford Pinchot was the founder of scientific forestry in the United States, and President Theodore Roosevelt named him chief of the Forest Service in 1898 because of his wide-ranging policy on the conservation of natural resources. Pinchot persuaded Congress to transfer the Forest Service to the Department of Agriculture, an event that transpired on February 1, 1905. He realized that the forest reserves were areas where timber production would be beneficial to the nation and where clear water, diverse wildlife, and scenic beauty could be maintained.

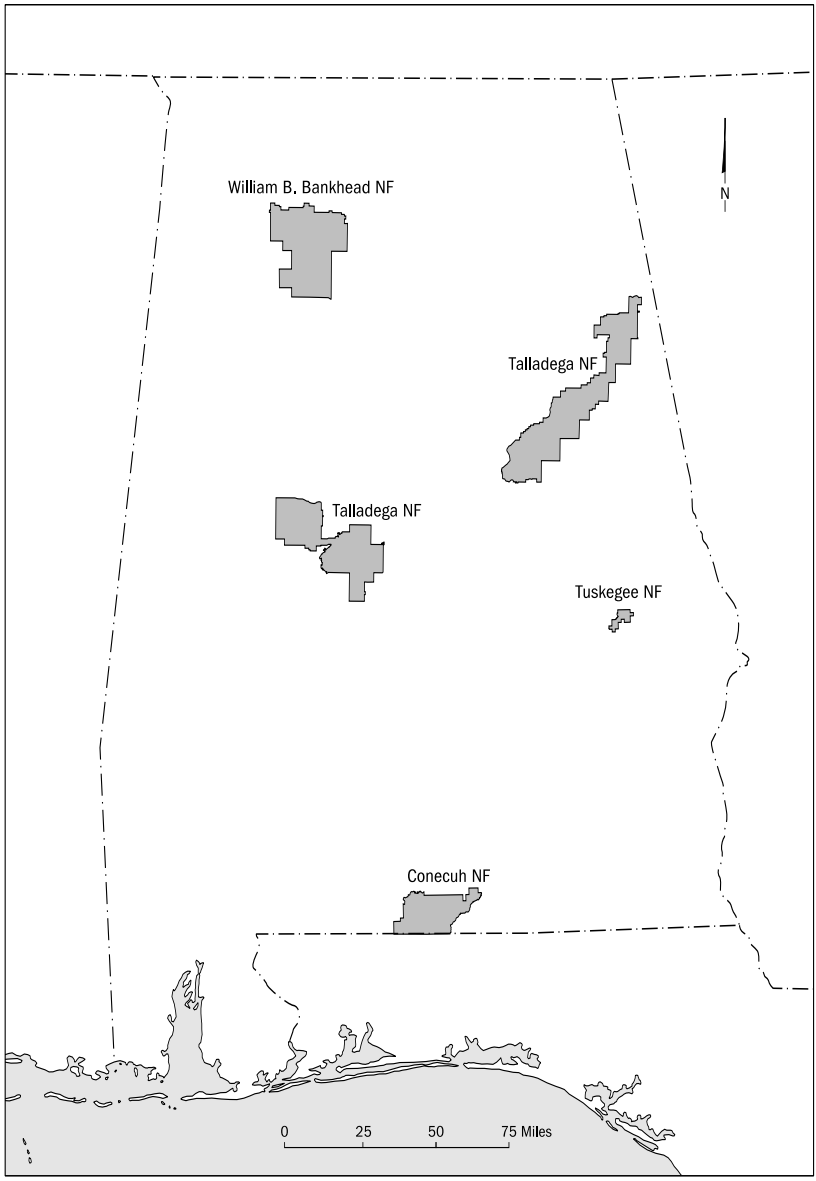
In 1964, the Wilderness Act was passed by Congress, authorizing the setting aside of vast areas that were still in pristine condition. Although the establishment of wilderness areas has preserved some of our most beautiful

areas, it has also made these areas off-limits to anyone who is aged or has a physical disability, or who just cannot backpack for miles and miles into an area.

Slowly, as people from all walks of life began to use the national forests for recreational purposes, the U.S. Forest Service adopted the multiple-use concept, where timber production, wildlife management, conservation of plants and animals, preservation of clear water, maintenance of historic sites, and recreation could be accommodated in the national forests and enjoyed year-round. Although camping, picnicking, and scenic driving are the major recreational activities on national forest land, other activities include boating, swimming, fishing, hunting, whitewater rafting, horseback riding, bird-watching, nature study, photography, wilderness trekking, hang-gliding, rockhounding, and winter sports. Special areas are set aside for off-road vehicle activity.

Today, we have 155 national forests, although to save administrative costs, some have been combined. The U.S. Forest Service administers other areas as well, such as national grasslands, the Columbia River Gorge National Scenic Area, and the Lake Tahoe Basin Management Area.

NATIONAL FORESTS IN ALABAMA



Four national forests are within the boundaries of Alabama and together are in the three physiographic provinces of the state. The Conecuh is in the Coastal Plain Province of Alabama, the Tuskegee is in the Piedmont Province, and the Talladega and William B. Bankhead are in the Mountain

Province. All four of the national forests are under the administration of one forest supervisor, whose office is at 2946 Chestnut Street, Montgomery, AL 36107. Alabama's national forests are in Region 8 of the United States Forest Service.

Conecuh National Forest

SIZE AND LOCATION: 83,898 acres along the southern border of Alabama, between Andalusia and Brewton. Major access routes are U.S. Highway 19 and State Routes 55 and 137. District Ranger Station: Andalusia. Forest Supervisor's Office: 2946 Chestnut Street, Montgomery, AL 36107, www.southernregion.fs.fed.us/alabama.

SPECIAL FACILITIES: Boat ramp; swimming beaches.

SPECIAL ATTRACTIONS: Open Pond Recreation Area; Blue Lake Recreation Area.

Although the Florida Panhandle separates the Conecuh National Forest from the Gulf of Mexico, the national forest is still in the Coastal Plain Province where boglike habitats alternate with stands of longleaf pine in a setting typical of the terrain adjacent to the Gulf Coast. The Conecuh National Forest is situated between the Conecuh River to the northwest and the Yellow River to the southeast. The Yellow River Basin includes a number of open-water ponds that may be used for swimming and fishing. The headwaters of the Blackwater River are also in the Conecuh National Forest.

The uplands in the national forest are dry and sandy, supporting fine forests of longleaf pine and a good variety of broad-leaved deciduous trees. Of unusual interest in the dry sandy woods are the endangered red-cockaded woodpecker and gopher frog. Scattered throughout the Conecuh National Forest are wetlands formed by sinkhole ponds, natural springs, and bottomland swamps. Swamp gum, tupelo gum, bald cypress, pumpkin ash, swamp cottonwood, overcup oak, swamp chestnut oak, and cherrybark oak are common trees in the bottomland swamps, while more boggy terrain is home to many carnivorous plants and several other rare plant species.

One of the best ways to experience what the Conecuh National Forest has to offer is to hike the Conecuh National Recreation Trail (commonly referred to as simply the Conecuh Trail), which was constructed during the last quarter of the 20th century by the Youth Conservation Corps. This trail meanders for 20 miles through longleaf pine forests, longleaf pine savannas, and bottomland hardwood forests; around several ponds, springs, and bogs; and

across small streams. Foot bridges have been built over most of the streams. All of the trail is within the 22,500-acre Blue Spring Wildlife Management Area.

Several places in the Conecuh National Forest offer entry points to the Conecuh Trail. If you opt to start at the southern end of the trail, you should seek out the Open Pond Recreation Area at the end of County Road 24, about 1.5 miles east of State Route 137. The Recreation Area consists of approximately 280 acres around a large body of water known as Open Pond. The area offers camping facilities, picnic areas, boat ramps, and, of course, hiking. From the campgrounds one may hike the Lake Shore Trail that completely encircles Open Pond. Be on the lookout for southern bald eagles and ospreys in the sky and alligators on the wet ground. From the campgrounds you may also pick up the 4.5-mile southern loop of the Conecuh Trail that circles around Ditch Pond and Buck Pond, follows Five Runs Creek for 0.5 mile, passes Blue Spring, and returns to the Open Pond Recreation Area. Blue Spring is a large natural spring of clear blue water. In the ponds you may see one or more of the 10 species of bladderworts (*Utricularia*) that live in the Conecuh National Forest. These aquatic carnivorous plants have numerous bladders that are attached to a multibranched stem system below the water's surface. Equipped with sensitive hairs, the bladders invaginate quickly when the sensitive hairs are brushed by a minute aquatic organism, sucking the hapless creature into the bladder where its nitrogenous compounds are broken down by enzymes. Most of the bladderworts produce attractive yellow flowers, but a couple of them have purple flowers. Some of the bladderworts may survive for a while stranded on mud.

The more extensive northern part of the Conecuh Trail leaves Open Pond Recreation Area and passes a natural spring as it stays in low terrain for 3 miles until it comes to Blue Lake in the 305-acre Blue Lake Recreation Area. Featured attractions at Blue Lake are swimming and picnicking. From Blue Lake you may begin the northern loop of the Conecuh Trail, which is 11.5 miles long, ending again at Blue Lake. This part of the trail passes by a swampy area and crosses Camp Creek before circling below the two Nellie Ponds. From Nellie Ponds it is 1.1 miles to Gum Pond. The trail then meanders around the northern and western edges of a large, formidable swamp before passing the two Mossy Ponds and several smaller ponds. After crossing Moccasin Branch, the trail eventually returns to Blue Lake.

Along the shores of the ponds that have filled limestone sinks, look for gorgeous pink-flowering, willow-leaved meadow beauty and the yellow heads of the uncommon Conecuh yellow-eyed grass during summer and autumn. On terraces above the streams you may see the rare needle palm, named for the long, black spines usually found at the base of the plant.

The best places to see carnivorous plants and other rare species are in the bogs and wet pine savannas. In addition to five kinds of pitcher plants, four species of sundews, and three types of butterworts, all carnivorous, there are also spreading rose orchid, thistle-leaved aster, and a kind of turk's-cap lily known as the panhandle lily. If you decide to explore in the pitcher plant savannas, be on the lookout for eastern diamondback rattlesnakes, including some extremely large ones that will scare the pants off you.

Ponds bordered by bald cypresses and swamps containing bald cypresses are very scenic, with several species of bromeliads, including Spanish moss, clinging to the tree branches. Also in the swamps is a climbing member of the heath family, known as *Pieris*, and gorgeous white arum, with spoon-shaped white flowers and arrowhead-shaped leaves.

Other interesting areas in the Conecuh National Forest are Bear Bay, a dark swampy area south of Forest Road 305 a mile west of Otter Pond; Sandstone Hill, a high forested hill of sand just east of Forest Road 311; and Brook Hines Lake, the largest body of water in the Conecuh National Forest at the extreme southwestern corner of the national forest.

Two historic lookout towers are in the national forest, one near Open Pond and one near Parker Springs just north of Brook Hines Lake.

Conecuh Bogs

The primary activity in Alabama's Conecuh National Forest is timber production. The original tree cover was harvested long ago, and subsequent generations of trees have been planted and cut. Stands of slash pine and longleaf pine, arranged in densely crowded rows, cover much of the sandy uplands of the forest, interspersed with recently clear-cut tracts in which ragged tree stumps are surrounded by scrubby regrowth. But tucked away within this artificial and often unattractive landscape are more than two dozen pitcher plant bogs, ranging in size from a few square feet to a few acres, that still support a remarkable variety of plants and animals.

Pitcher plants can be found in boggy habitats all across the Coastal Plain of the southeastern United States, from the Carolinas and Florida to southern Louisiana and southeastern Texas. George Folkerts, a former student of mine and now a zoology professor at Auburn University, as well as an authority on carnivorous plants, guided me through the Conecuh National Forest. He noted that pitcher plants grow in 11 different kinds of wetlands—from river terraces to sphagnum mat bogs to savannas, swales, and seepage bogs. Although these habitats differ in their topography and source of water, they all have an acidic soil, saturated for at least a portion of the year, and depend on periodic fires to maintain their characteristic mix of vegetation.

The pitcher plant bogs in the Conecuh National Forest are seepage bogs created by rainwater percolating down through the sandy uplands and accumulating near the bottom of slopes. In some instances, a distinct shrub swamp community is found at the very bottom of the slope, where several inches of water stand throughout the year, while the pitcher plant bogs begin a little upslope, where the soil is saturated but not flooded. Rills and rivulets of cool, clear water, most less than a foot wide, form networks throughout the bogs.

The bogs contain at least 20 different species of carnivorous plants—plants that obtain some of their nutrition from the insects they trap. These include four kinds of sundews, three butterworts, nine bladderworts, and five types of pitcher plants. In addition, Conecuh bogs are home to a dozen species of wild orchids and a variety of sedges, including some known as beaked rushes.

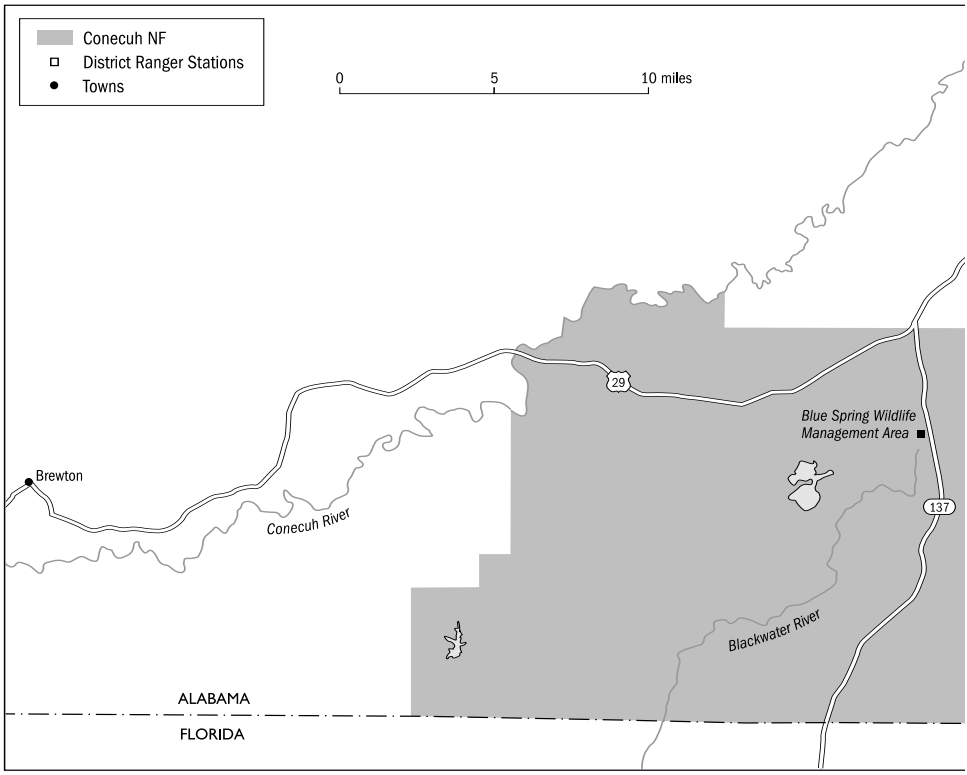
Animal life is equally diverse. Cottonmouths often emerge from the shrub swamps to sun themselves in the open bogs. Diamondback rattlesnakes from the surrounding uplands frequently come to the bogs for water and then return to their drier habitat. The narrow trails used by armadillos that visit the bogs to drink can be seen. These nocturnal animals use the same trails so often that they wear them into deep ruts.

When Folkerts and I were in one of the bogs in April 1991, we saw a female crane skim just above one of the narrow rivulets and periodically dip her abdomen into the water to lay her eggs. On that spring day, caddis flies were swarming in the air. Folkerts and I paused to look at the emerging leaves of the orange macranthera, a beardtongue-like plant. During autumn, the gorgeous orange, tube-shaped flowers of this plant open to welcome the hummingbirds that are migrating through the area.

In one of the shallow pools we saw tadpoles that would mature into pine barrens tree frogs, one of the rarest amphibians in the United States. This species lives in two widely separated places, the pine barrens of New Jersey and the pitcher plant bogs of the Coastal Plain. Two species of fish, a shiner and a madtom, also live in the rills of the pitcher plant bogs.

Pitcher plants are noted for leaves that are modified into elongated tubes, or pitchers, typically hooded by their folded-over tips. But these perennial plants also produce long, flat leaves and a large flower that hangs from the tip of a leafless stalk.

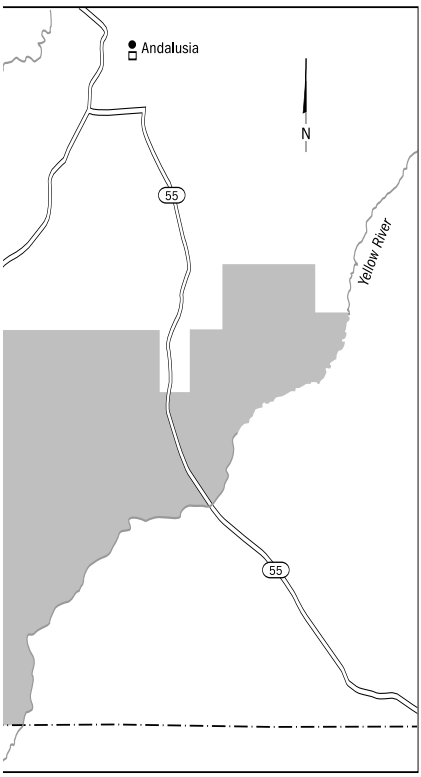
Each pitcher collects water, which fills the bottom of the funnel and mixes with digestive enzymes that the plant secretes. To attract insects, the plant usually has nectar-producing glands on the hood as well as the rim of the pitcher, which often is shiny and slippery. An insect alighting on the rim tends to plummet into the watery abyss. Downward-pointing hairs that grow inside the tube prevent the victim from crawling out to safety.



The pitcher's hood is arranged in a variety of positions, depending on the species, but never in a position that blocks the entrance to the funnel. Early naturalists speculated that the hood was hinged and that it automatically sealed off the opening when an insect fell inside, but this is not the case.

The most beautiful pitcher belongs to the white-topped pitcher plant. It grows up to 2 feet tall, and its upper end and hood are white with conspicuous green veins. These pitchers are commonly collected and sold for floral decoration. The Office of Scientific Authority of the United States Fish and Wildlife Service issues permits for this commerce, but many pitchers are harvested illegally every year, placing the plants in jeopardy of extinction.

The yellow pitcher plant is probably the most common and most sturdy of them all, with bright yellow or yellow-green pitchers up to 2.5 feet tall. Wherry's sweet pitcher plant has an erect pitcher usually less than 1 foot tall with a very short, wide, maroon-veined hood. The purple pitcher plant (pl. 1), the only one that is also found outside the Coastal Plain (it grows throughout the northeastern United States and westward to the Great Lakes), has a curved pitcher that more or less lies on its back. Its mouth is completely open because the hood is straight and does not arch over the tube.



The parrot pitcher plant is distinct. The variegated red-and-white pitchers are only 4 to 8 inches tall, and the hood is an inflated structure with a pointed, beaklike tip that superficially resembles the outline of a parrot's head. In spring, the pitcher stands erect and has a broad, green finlike "wing" that extends along the front of the pitcher from the base to the hood. This structure exposes more plant surface so that sunlight for photosynthesis reaches the surface. Pitchers that form later in the year essentially lie on their backs and lack the broad wing.

While many people think of pitcher plants as organisms that exploit insects, Folkerts has found that flies, mosquitoes, and other insects utilize pitcher plants for their own survival. The larvae of the mosquito *Wyeomia*, those of a midge, and those of several species of sarcophagid flies complete their larval development in the pitcher, feeding on microorganisms and insect corpses trapped in the pitcher's fluid. As much as half the prey trapped in the pitcher may be consumed by such larvae, which might seem to be detrimental to the pitcher plant. But Folkerts indicates that the larvae produce large quantities of nitrogen-rich wastes, which probably nourish pitcher plants.

Wasps, mites, and moths also feed on the tissues of the pitchers. According to Folkerts, the pitcher plant moth spends nearly its entire life in the pitcher. In spring, the female moth lays one to several eggs on the inside wall of a newly formed pitcher. The eggs develop into larvae that girdle the pitcher with a narrow feeding channel, which causes the upper portion to wilt and topple, closing off the opening. The larvae eat only the inner tissues of the pitcher, leaving the outer epidermis intact. Shortly before pupation, the larvae cut a tiny drainage hole in the pitcher. Until the females leave to lay their eggs, adults rarely stray from the pitcher, and copulation takes place there.

The reports of early European settlers show that pitcher plant bogs were once more common in the southeastern United States. The bogs were maintained by natural fires, which were started by lightning and spread unchecked over large areas. North American Indians also burned areas to drive game and for other reasons. Such fires killed or retarded the growth of the shrubs and trees that tend to invade open bog habitats. During the 1930s, however,

the U.S. Forest Service, with its symbol of Smokey the Bear, campaigned against fires in both forested and unforested lands. As a result, fires were not allowed to burn even in open bogs, and dozens of woody species invaded them, wiping out some and drastically reducing the size of others.

At present, the Conecuh National Forest defends and enhances bog sites by protecting them from heavy fire equipment that is now prohibited from entering the bogs, the transition zone, or the immediate recharge area. Control burns in the bogs now occur periodically throughout the year. In addition, hand and light mechanical cutting of encroaching shrubs is being done.

Talladega National Forest

SIZE AND LOCATION: 389,834 acres in east-central and west-central Alabama, on either side of Interstate Highway 65. Major access routes are Interstate Highways 20 and 65; U.S. Highways 75, 82, and 431; and State Routes 9, 25, 48, 49, 77, 148, 183, and 219. District Ranger Stations: Brent, Heflin, and Talladega. Forest Supervisor's Office: 2496 Chestnut Street, Montgomery, AL 36107, www.southernregion.fs.fed.us/alabama.

SPECIAL FACILITIES: Boat ramps; swimming beaches; off-road vehicle areas.

SPECIAL ATTRACTIONS: Talladega Scenic Drive.

WILDERNESS AREAS: Cheaha (6,544 acres); Dugger Mountain (9,200 acres).

The Talladega National Forest consists of two separated geographic areas representing two different biological provinces. The larger portion of the Talladega National Forest that lies east of Birmingham is mountainous, being part of the southernmost extension of the Appalachian Mountains. A smaller district of the Talladega National Forest is west of Birmingham in a region of undulating hills of the Piedmont Province.

Hiking all or part of the Pinhoti National Recreation Trail will give the forest visitor a firsthand view of the mountainous district of the Talladega National Forest. The trail winds for 102 miles up and down mountain slopes, through valleys, past small settlements, and over several streams. Most of the vegetation types found in this part of the Appalachian Mountains may be encountered along the trail. On upper ridges are mixtures of blackjack oak, post oak, white oak, mockernut hickory, pignut hickory, and persimmon trees, while on the mountain slopes are basswood, red mulberry, and more oaks and hickories. The densely shaded forested coves are home to tulip poplars, American beech, Ohio buckeye, flowering dogwood, and magnolias.

The southern trailhead for the Pinhoti Trail is about 10 miles east of the town of Talladega near Clairmont Gap on Talladega Mountain. For a while the trail stays upland, closely paralleling Forest Road 600 and actually crossing it twice. After about 6 miles, the trail comes to Adams Gap and the edge of the Cheaha Wilderness. For the next 8 miles, the Pinhoti Trail winds through the wilderness. This is one of the more difficult parts of the trail since the terrain is often very steep and rocky.

At the center of the wilderness, the Pinhoti Trail crosses a main trail junction where the Pinhoti continues northward, Odum Trail heads southward, and Chinnabee Silent Trail goes off to the west. If you choose to take the Odum Trail, built by Boy Scouts in 1961, you will climb over Cedar Mountain and end up at the High Falls parking lot 4.7 miles away. The Chinnabee Trail goes westward for 6 miles to Lake Chinnabee Recreation Area, which features a campground and picnic area near the lake. Where the trail crosses Cheaha Creek, you will find a low but pretty waterfall. The Chinnabee Silent Trail was constructed by a Boy Scout troop from the Alabama Institutes for Deaf and Blind and is named for the legendary chief Chinnabee Selocta. A 1.5-mile trail encircles Lake Chinnabee.