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## **SOUTH CAROLINA**

In South Carolina, trying to identify old-growth sites creates a dilemma, Dale Soblo of The Nature Conservancy told us in 1993. If one adheres to a strict scientific definition of old growth, which he prefers, the state has none, he said. However, if one concentrates on old-growth characteristics rather than on the history of disruption, the state has an overwhelming number of sites. By 2003 researchers had found in South Carolina old growth that would fit a strict scientific definition. On the other hand, the number of sites that are not strictly old growth but have old-growth characteristics is decreasing because of logging. The shrinking is particularly obvious in relation to bottomland forests.

Albert Pittman of the Heritage Trust reported in 1993 and again in 2001 that extensive mature forest with many old-growth characteristics is under attack along the red water rivers, the chief of which are the Great Pee Dee, Santee, Savannah, Broad, Catawba, Congaree, and Wateree. (Red water rivers arise in the Piedmont, have extensive drainages, and carry huge loads of silty mineral soil. In contrast, black water rivers rise in the coastal plain and run through mucky, organic soils. Consequently the forests of the black water rivers are harder to reach and to cut.) The red river bottomland is owned by private parties, mostly lumber companies. Around 1900 to 1920 most of the virgin cypress, plus some ash, was removed from them. Between the 1930s and the 1950s, they suffered from highgrading operations, mostly selective cutting of bottomland hardwoods (1993, 2001). Clearcutting began in 1965 and continues today.

The obvious damage from the early logging healed quickly; given South Carolina's moist equable climate, in 40 years a tree can grow to a size of 18 to 40 inches in diameter. By the 1960s and 1970s timber companies had the means to cut entire stands. Basically the forests are now being managed on a 40-year rotation by means of clearcutting, which precludes the development of old-growth characteristics.

John Cely of the South Carolina Wildlife and Marine Resources Department, researched timbering on the Congaree Wateree Santee River and found that in ten years (1979-1989) 25% of the bottomland was logged. He reports that foresters say that a lot of the forest that grew back was composed of cull trees, but he does not agree (Cely 1993, 2001). The forests still have high species diversity, Pittman says. However, with paper mills taking both hardwoods and softwoods, he fears that the bottomland forests will be gone in a generation (1993, 2001).

Steven Jones located 40 small old-growth stands in upland hardwood forests of the Piedmont, an area that had been largely cleared for agriculture in the nineteenth and early twentieth centuries. Most of the 40 stands were undisrupted remnants, about 1/4 acre in size, within bigger disrupted areas; but some were 5 acres in extent. They ranged from xeric sites on exposed ridges and upper slopes, with Post Oak-Black Oak-Lowbush Blueberry, to mesic sites on lower slopes, with American Beech-Northern Red Oak-Christmas Fern. At least one site has now been logged, but many, owned by the federal or state government, are informally protected (1988).

As of early 2003, the US Forest Service (USFS) was in the process of revising the management plan for Sumter National Forest. A draft plan and a draft Environmental Impact Statement were scheduled to be mailed to the public in February or March. The agency expects to complete the revision process within a year. The management plan for the Francis Marion Forest was revised in 1995 (White 2003).

### **Greenville Watershed Property**, northwestern South Carolina (Greenville County)

Twenty-eight thousand acres of varied forest communities with old-growth characteristics in two tracts: 9000 acres, surrounding Table Rock Reservoir, that have been closed to the public for 80 years and 19,000 on the North Saluda River that have been closed for 60 years. According to Gaddy, the 9000-acre area "is a vast expanse of wild land with few paths and acres of old-growth forests." Much of this area is "inaccessible and poorly known" (Gaddy 2000). The two tracts are owned by the Greenville Water Commission, which has given a conservation easement to The Nature Conservancy. At least the forest in the North Saluda River area was selectively cut in the past and at one time had some homes within it. The forty natural communities on the watershed property include northern hardwoods cove forest, acidic mesophytic forest, xeric Shortleaf Pine-oak forest, and Southern Appalachian-northern hardwood forest

(Soblo 1993). Riddle writes that the old-growth area on the top of Table Rock (see below) probably extends north into the Greenville Watershed (2003).

### **Congaree Swamp National Park**, central South Carolina (Richland County)

Approximately 11,000 acres of old-growth bottomland hardwoods on the floodplain of the Congaree River, within the 24,393-acre National Park. (The area was a National Monument prior to Congress's authorization of a change in status in 2003.) About 17% of the park has been clearcut or selectively cut. Most of the bottomland hardwood forest consists of Sweetgum and mixed hardwoods. Lower elevations along creeks and sloughs contain cypress and tupelo trees. Eighty-seven species of trees have been identified at the park.

The park is actual or potential habitat for several Endangered or Threatened species. It is potential habitat for the Eastern Cougar. The American Alligator is occasionally seen there. The Bald Eagle is a transient, and one or two colonies of Red-cockaded Woodpecker live on the high ground or bluff.

Hiking trails through the park are concentrated in the northwestern section (McDaniel 1990).

In 2008 the Trust for Public Land purchased 625 acres of the Silverstone tract, for addition to the Park when the National Park Service has the money to buy them from the Trust. The 1840-acre Silverstone tract, which is entirely within the acquisition boundary for the park, has been almost entirely logged, but has some large cypress trees (Holleman 2008) (*updated 4/16/08*).

### **SUMTER NATIONAL FOREST**, northwestern South Carolina

The forest is composed of three widely separated ranger districts. Most of the old growth is in the mountainous Andrew Pickens District, which adjoins North Carolina on the north and Georgia on the west.

#### **Andrew Pickens District**

--**Ellicott Rock Wilderness** (Oconee County). More than 1000 acres of old growth divided among numerous sites in South Carolina. The Wilderness, which lies in three states and totals more than 9000 acres, includes more than 2000 acres of old growth. It and the adjacent extension (see below) have the greatest variety of old-growth types in the Chattooga Basin, as a result of the varied terrain.

---*Fork Mountain*. Seven stands totaling 530 acres. The first stand comprises 73 acres of Class B mesic forest along the riparian zones of Indian Camp Branch. The riparian zones contain Eastern Hemlock, Eastern White Pine, Tulip Tree, and American Holly. A cathedral stand of Eastern White Pine and Eastern Hemlock rises 150' on the flats. One American Holly with a diameter of 15" was aged at 330 years. Selective timber harvest was evident; however. The second stand comprises 248 acres of selectively logged forest. The third stand comprises 26 acres of Class A forest dominated by oak with scattered old Pitch and Shortleaf Pines. No signs of major disturbance were found. The fourth stand consists of 30 acres of Class B mixed mesophytic cove forest. While no signs of logging were present, the canopy has been disturbed by loss of American Chestnut due to chestnut blight. The fifth stand comprises forty-two acres of Class A submesic forest on the upper southern slope. No signs of unnatural disturbance were present. The sixth stand comprises 49 acres of Class B forest on the steep northern slope and in coves. This area was severely affected by the chestnut blight. The seventh stand comprises 62 acres of Class A submesic forest on steep slopes. Eastern White Pine dominated this stand, which exhibited no signs of disturbance (Carlson 1995).

----*Medlin Mountain*. Five mesic stands totaling 244 acres of Class B forest. The first stand comprises 22 acres of cove hardwood forest. The upper cove area boasts a cathedral stand of Eastern Hemlock (53.2 inch dbh), American Basswood (30 inch + dbh), American Beech (35 inch dbh), and Black Birch (22 inch dbh). Eastern Hemlock (some trees aged at 434 years) grows along the riparian zone within the cove. The stand has experienced selective harvesting. The second stand, of 181 acres, exhibited no evidence of logging; however, disturbance by chestnut blight was apparent and widespread. Dominant canopy species are Chestnut Oak and Tulip Tree. The third and fourth stands together comprise 30 acres. Both stands are located in coves rich in Northern Red Oak (40-47 inch dbh) and Tulip Tree. Each stand once held an abundance of American Chestnut. The fifth stand consists of 11 acres of Eastern Hemlock (30-45 inch dbh) and Eastern White Pine (20-30 inch dbh). The National Champion Pepper-bush (*Clethra acuminata*) at 11" grows within this stand. A picnic area with a boardwalk bisects the stand (Carlson 1995).

---*Cove South of Bad Creek.* Forty-five acres of cove hardwood forest aged at 210 years. Northern Red Oak, hickory, Eastern Hemlock, White Oak, Black Oak, and Chestnut Oak are the dominant canopy species. Tree diameters range from 18-24 inches. Some highgrading of Northern Red Oak, Tulip Tree, and American Chestnut has occurred within the area (Carlson 1995)

---*East Fork of the Chattooga.* An old-growth White Pine-hemlock stand of approximately 5 acres in a stream flat near the Walhalla Fish Hatchery, which is in the National Forest. Trees are over 100 feet in height and 4 feet in diameter. The understory includes Fraser's Magnolia, Sweet Birch, and Sassafras over one foot in diameter. The shrub layer is composed of huge Mountain Laurel and Great Rhododendron (Gaddy 2000). The stand is more than 200 years old (Gaddy 1993).

--**Ellicott Rock Extension** (Oconee County). Three stands of old growth totaling 278 acres in an area that Paul Carlson names "Dark Branch/Slatten Ridge/Ellicott Mountain South."

The largest stand is 260 acres of an "exceptional old-growth submesic oak/pine forest." White, Chestnut, Black, and Scarlet Oaks dominate. They are mingled with White Pine and Pitch Pine. The stand includes the oldest Chestnut Oak that was aged during the Chatooga Project. At the time, it was 365 years old. Many White Oaks were more than 300 years old; the old Pitch Pines were around 220 years old. The "stand likely continues south" toward Walhalla Fish Hatchery, perhaps to the edge of old growth on Chinquapin Mountain.

The smaller stands are a "steep, narrow mesic cove" and "an old-growth shrub forest" under a canopy of Eastern Hemlock, Tulip Trees, and other species. One Tulip Tree was aged at 387 years. No signs of human disruption were evident, and the stands were categorized as "A" (Carlson 1995). Other small stands include two southwest-facing, steep-sided slopes (Roecker 2003).

The old growth in the Extension is not formally protected. In its 1985 forest plan, USFS recommended the Ellicott Rock Extension for Wilderness designation, and Senator Strom Thurmond introduced legislation to implement the recommendation; but it did not pass. The Ellicott Rock extension lies between the South Carolina portion of Ellicott Rock Wilderness and Highway 107.

--**Lower Chauga River Basin**, southeastern part of Andrew Pickens Ranger District (Oconee County)

Sixteen stands meeting the USFS minimum age criteria for old growth, and sixty-one potential old-growth sites. L. L. Gaddy, a private consultant, aged and identified the stands for the nonprofit group Forest Watch. Gaddy classified as potential old growth, mature stands that did not meet USFS criteria but were at least, if pine-dominated, 75 years old or, if hardwood dominated, 100 years old. The largest old-growth areas surveyed were 50 to 100 acres in size. Near ridge tops where USFS roads usually run and on upper slopes where old logging roads exist, trees tend to be young. On steep bluffs, in ravines, in coves, and on lower, inaccessible slopes, they tend to be older.

The 77 old-growth and potential old-growth stands represent 18 forest types. The types most frequently encountered are White Oak-Black Oak-Northern Red Oak, Tulip Tree-White Oak-Northern Red Oak, Shortleaf Pine-oak, and Shortleaf Pine. Only a thin corridor in the 3300-acre Chauga River Scenic Area is protected (Gaddy 1998), but the corridor is proposed for expansion in the draft Revised Land and Resource Management Plan. Additionally, when the plan is revised, all stands meeting the USFS criteria for existing old growth are likely to be protected based on a Forest Plan standard, Robin Roecker of USFS reports (2003).

--**White Rock Scenic Area**, in the northeastern corner of the district (Oconee County). According to USFS, a possible 223 acres of old growth in White Rock Cove, which is within the 3416-acre Scenic Area (Roecker 2003). The mixed forest is dominated by Tulip Tree with Black Walnut and Persimmon. Pawpaw is in the understory. Gaddy, who described the site in a 1992 report, does not characterize it as old growth (Gaddy 1992).

--**Tamassee Knob and Coves** (Oconee County). Extensive possible old growth on Tamassee Knob and in the northeasterly facing coves, to the north of it. On the upper slopes of the Knob and in the coves grow Black Walnut, White Ash, Tulip Tree, Northern Red Oak, Red Maple, American Beech, Yellow Buckeye, and hickories. Gaddy reported that "although there are pockets that have been cut within the last 50 years, much of this entire site is old-growth forest" (Gaddy 1992, 2000).

--**Mill Mountain**, Chatooga River Watershed (Oconee County). Two stands totaling 103 acres. The first stand comprises 63 acres of Class A submesic forest. This area was never logged, due to steep west-facing slopes. White Oak and Chestnut Oak are the dominant canopy species, with Eastern White Pine and Eastern Hemlock growing on rocky areas. The second stand is 40 acres of Class B subseric forest. Pitch Pine was the dominant canopy species, with Southern Red Oak, White Oak, Chestnut Oak,

and Scarlet Oak scattered throughout the forest. Although no logging was observed, Chestnut Blight caused much disturbance within the forest (Carlson 1995).

--**Rock Gorge**, in the Chattooga National Wild and Scenic River Corridor (Oconee County). Three stands of Class B forest totaling 96 acres in a “deep rock-walled stretch of the Chattooga” (Gaddy 2000). The first stand is a 17-acre cove forest dominated by Eastern Hemlock and Tulip Tree with diameters ranging from 25-45 inches. Chestnut blight seems to be the only major disturbance within this stand. The second stand comprises 66 acres of primarily White Oak, Chestnut Oak, Eastern White Pine, and Eastern Hemlock. Post Oak aged at 225 years is found on the southwest-facing slope. Evidence of logging is found just at the edges of the stand. The third stand consists of 13 acres of subxeric oak-pine forest. No evidence of logging was found on the site (Carlson 1995).

--**Round Top**, in the Chattooga National Wild and Scenic River Corridor (Oconee County). Two stands totaling 68 acres. The first stand is 8 acres of Class A xeric forest. The stand is primarily Pitch Pine with Scarlet Oak and Southern Red Oak. No evidence of logging was found on the site. The second stand comprises 60 acres of nearly pure Chestnut Oak exceeding 200 years. This Class B stand exhibited chestnut blight disturbance (Carlson 1995).

--**Big Stakey Mountain**, Chatooga River watershed (Oconee County). Forty-five acres of Class B subxeric forest. Many areas of the forest are purely Chestnut Oak aged at 185-212 years. Some areas have Pitch Pine and Eastern White Pine as dominant canopy species. Selective logging of Yellow Pine has occurred in the past (Carlson 1995).

--**Hickory Top**, Chatooga River watershed (Oconee County). Forty-three acres of Class B submesic forest. This stand is primarily Chestnut Oak with diameters of 36-44 inches. Selective logging has occurred within the stand (Carlson 1995).

--**Lee Falls and Botanical Area** (Oconee County).

--Station Cove. Within the Botanical Area, a site only 5 acres in size, but significant as one of the southernmost stands of Braun's mixed mesophytic forest. The dominants are American Beech, White Ash, White Basswood, and Yellow Buckeye. Hemlock is absent, because the ground is calcareous. Canopy trees are 100 to 200 years in age (Gaddy 1993, 2000).

--Lee Falls/Tamassee Falls. A small area of old growth below the falls on Tamassee Creek. Tulip Tree and hemlock are major canopy species in the area. Rhododendron is common in the understory (Riddle 2003).

--**Rich Mountain** (Oconee County). On the west face of the mountain is an “exemplary stand” of old-growth Northern Red Oak-Tulip Tree. The stand is on the headwaters of Barton Creek (Gaddy 2000).

### **Enoree District**

-- **Duncan Creek Bottomland** (Laurens County). One hundred and nine acres of possible old-growth bottomland. USFS lists the 109 acres in its possible old-growth inventory, but has not ground truthed the site to find out whether it meets USFS old-growth criteria (Roecker 2003).

--**Broad River Scenic Area** (Chester County). Possibly some bottomland old growth within a 58-acre bottomland hardwoods stand beside the river, and an adjacent 39-acre upland hardwoods stand. USFS reports 53 acres of possible old-growth bottomland (Roecker 2003). Meadows and Nowaki list the Broad River in Chester County as a site where “representative old-growth eastern riverfront forests may occur” (1996). According to the Heritage Trust, Steven Jones identified up to a couple of hundred acres of possible old growth at this site in the 1980s (Pittman 2001).

### **Long Cane District**

--**Post Oak stand** (Saluda County). Thirteen acres of old-growth Post Oak. Some trees have been aged at up to 200 years (Shelfer 1990). USFS has proposed the site for a Botanical Area.

--**Long Cane Creek Bottomland** (McCormick County). One hundred seventy-eight acres of old-growth bottomland included by USFS in its possible old-growth inventory (Roecker 2003).

### **Sandy Island Preserve**, eastern South Carolina (Georgetown County )

Between 2500 and 3000 acres of old Longleaf Pine in a 9000-acre natural area. The land has never been plowed, and logging has been only by single tree selection. Some trees are in excess of two hundred years in age. The forest supports a dense collection of Red-cockaded Woodpeckers.

The land that is not in Longleaf Pine is forested wetlands, most of which originally were cypress-tupelo swamps. After construction of dikes, they gave way to rice fields. The rice culture collapsed in the late 1800s, and wetlands are now recovering.

Sandy Island is 12,000 acres in total. It is bounded by the Pee Dee River on the west, the Waccamaw River on the east and creeks on the north and south. Two small villages are located on the 3000 acres not included in the natural area.

In 1996 the South Carolina Department of Transportation (DOT) bought the 9000 acres, mostly for wetlands mitigation. The South Carolina Chapter of The Nature Conservancy contributed to the purchase price. The Conservancy manages the property. When DOT has destroyed enough wetlands elsewhere to use up all the mitigation credits that it received for the purchase, The Conservancy will own the property (Robinson 2001).

**Beidler Sanctuary**, southern South Carolina (Dorchester County)

Seventeen hundred virgin acres in a 5800-acre refuge, which constitutes a portion of a 60-mile-long swamp. The virgin area includes both mixed hardwoods and deep cypress-tupelo swamp. The hardwoods include Red Maple, Overcup Oak, Water Oak, Swamp Chestnut Oak, Laurel Oak, Mockernut Hickory, and Water Hickory. The balance of the sanctuary was logged anywhere from 20 to 100 years ago. The sanctuary has no trails other than a board walk and a canoe trail on which visitors can take only guided trips. The American Alligator, the Dwarf Trillium, and the rare Swainson's Warbler are all found at the sanctuary. It is co-owned by The Nature Conservancy and Audubon Society (Dawson 1990, Nelson 1989).

\*\*Between 2001 and early 2006 the Nature Conservancy acquired three tracts to protect the Sanctuary. All have been logged in the past. A 900-acre area supports bottomland hardwoods that are 80 years old but that have already recovered to a large extent from the logging. The trees look mature. An area of very young hardwoods, which will be allowed to recover, helps to connect the two main portions of the refuge. About 600 acres of upland serve as a buffer to prevent development incompatible with the swamp. One more tract is needed to complete the link between the two main portions of the Sanctuary, which are separated by one thousand acres. The Nature Conservancy hopes to acquire them through donation or easement (Prevost 2006). (Updated July 14, 2006)

**Mountain Bridge Wilderness**, in northwestern South Carolina (Greenville County)

Within the 10,883-acre state-designated Wilderness, close to 700 acres of old growth in two State Parks. Here the Blue Ridge escarpment ends in an abrupt 2000-foot drop to the foothills where the Piedmont begins. The area was logged in the 1920s, when available logging equipment did not permit the cutting of steep slopes.

--**Caesar's Head State Park**. Around 500 acres of old growth within a park of approximately 7600 acres. The oak and hemlock-dominated forest on the ridge above Raven Cliff is unlogged. The steep north and south slopes below Raven Cliff, including the Dismals, support unlogged oak-hickory forest. Low on the slopes in the old growth, hemlock reappears near water. Large Pignut Hickories grow in an area with an open understory between Matthews Creek and Raven Cliff.

--**Jones Gap State Park**. A couple of hundred acres of old growth on Little Pinnacle Mountain within the 3400-acre Park. The ridge line on Little Pinnacle has been logged, as it was more accessible than the ridge above Raven Cliffs. However, the steep slopes on the north and south sides of Little Pinnacle support apparently unlogged forest, with the same species as at Raven Cliff. The north side of the ridge connecting Little Pinnacle Mountain to Caesar's Head also has old growth (Riddle 2003, Anderson 2003, Lee 2003).

**Tryon Watershed Property**, northwestern South Carolina (Greenville County)

Some 600 acres of forest with old-growth characteristics. The forest has been selectively logged in the past but never clearcut. The area supports eight natural communities, including cove hardwoods, Chestnut Oak, oak-hickory, hemlock, and spray cliff. It harbors *Coreopsis latifolia*, *Pychnanthemum montanum*, and the state's largest population of the federally endangered Reflexed Blue-eyed Grass (*Sisyrinchium dichotomum*). The Nature Conservancy holds a conservation easement on the property, which is owned by Tryon (Green 2001).

**Snuggedy Swamp**,\* southern South Carolina (Colleton County)

Within the swamp, an old-growth loblolly-bay forest of several hundred acres. The old growth is on the Ashepoo River of the ACE (Ashepoo-Combahee-Edisto) Basin and is accessible only by boat. It is privately owned and without protection (McKevlin 1996; Pittman 2001, Prevost 2003).

**Black River Swamp Heritage Preserve**, eastern South Carolina (Georgetown County)

A 1276-acre preserve that includes 9 acres of old-growth Loblolly Pine hammocks. The dominant vegetation in the preserve is Baldcypress and Water Tupelo. The preserve is owned by the state but managed by The Nature Conservancy (TNC 2003).

**Little Pee Dee River Heritage Preserves**, eastern South Carolina (Marion County)

A state-owned Heritage Preserve of 6538 acres, divided among five tracts. The preserve includes bottomland with Baldcypress and hardwoods, sand ridges, and uplands. Loggers cut it 100 years ago, but nobody today knows to what extent. Some parts are clearly in better shape than others; and the preserve may include uncut pockets (Greeter 1993).

**Table Rock State Park**, northwestern South Carolina (Pickens County)

Well over 100 acres of old growth in a continuous tract on the top of Table Rock, The Stool (a smaller peak to the east of Table Rock), and the steep south-facing slopes at the top of the Carrick Creek watershed. A large portion of this old growth is within the 3083-acre Table Rock State Park, which is on the Blue Ridge Escarpment.

The trees on the relatively flat top of Table Rock are stunted—probably around 30 feet tall. Scarlet Oak, Chestnut Oak, Virginia Pine, Table Mountain Pine, and, depending on the site, either Pitch Pine or Shortleaf Pine are the most common trees on the top of the mountain. Fringetree and Eastern Redcedar are common around some of the rock outcrops. The Stool apparently supports uncut mixed hardwoods. The upper slopes in the Carrick Creek drainage are surprisingly fertile. Here are Northern Red Oak, Tulip Tree, and Chestnut Oak up to three feet in diameter. White Oak and Black Oak with an open understory grow on the Carrick Creek ridge tops, except for the drier areas where Shortleaf Pine dominates with a heath understory (Riddle 2003).

**Coon Branch Natural Area**, Nantahala National Forest (Jackson County, NC) and northwestern South Carolina (Oconee County, SC)

Old-growth acidic cove forest comprising a 122-acre Natural Area on the west bank of the Whitewater River and in the adjacent Coon Branch Cove between the river's upper and lower falls. The Appalachian Society of American Foresters states that "very little logging has been done on the west bank of the river between the falls, although there is evidence that chestnut was removed from part of the area 45-55 years ago. The Coon Branch drainage appears undisturbed as the large trees there give evidence of ages between 300 and 400 years." Eastern Hemlock and Tulip Tree are the dominant trees. The understory is rhododendron. The upper falls drop 417 feet; and the lower, 300 feet in two stages. USFS owns the land between the upper falls and the North Carolina/South Carolina state line; Crescent Resources, the land between the state line and the lower falls (ApSAF 2002).

**Emory Creek**, the Jocassee Tract, northwestern South Carolina (Pickens County)

At least 90 acres of old growth above approximately 2560 feet in the Emory Creek drainage on the south side of Hickorynut Mountain. The only direct human disruption appears to have been the construction and maintenance of the Foothills Trail, which crosses the upper slopes. Chestnut Oak and Scarlet Oak, with a dense understory of Mountain Laurel, dominate the ridge at the eastern edge of the watershed. The upper slopes consist of a series of very shallow coves where White Oak is prominent in a mix of species. Silverbell and Sourwood are in the understory. In the riparian corridor, Tulip Tree, scattered hemlocks, and scattered Sweet Birch grow; White Basswood is found at the lower edge of the stand.

To the west, the forest surrounding a tributary of Reedy Cove Creek may also be old growth (Riddle 2003).

**Shealy's Pond**, central South Carolina (Lexington County)

An old-growth bay forest, along with an Atlantic White-cedar bog, in and beside a 62-acre Natural Heritage Preserve. The site, including the pond, is 100 acres. Part is publicly owned; part, private (Pittman 2001).

**Guillard Lake Scenic and Research Natural Area**, in Francis Marion National Forest, southeastern South Carolina (Berkeley County)

Approximately 60 acres of old-growth bottomland hardwoods on three sides of Guillard Lake in the 925-acre Scenic Area and, adjacent to it, a 23-acre stand of big pine, bottomland hardwood, Baldcypress, tupelo, and maple mostly within an 18-acre Research Natural Area. The Baldcypress have knees up to 8 feet tall. USFS does not know whether the stand is virgin but notes that the area was extensively farmed from settlement to the 1850s (Shelfer 1990).

**Paris Mountain State Park**, northwestern South Carolina (Greenville County)

A total of over 50 acres of old growth and perhaps considerably more, in patches, on the steep east side of Paris Mountain. The 1275-acre park was formerly a source of water for the city of Greenville. The mountain is a monadnock of alternating layers of mica schist and gneiss. The bedrock is near the surface and the soil dry. Therefore Chestnut Oak and pines dominate. Within the old growth, Chestnut Oak, Pale Hickory, and, in some stands, Shortleaf Pine are common. Table Mountain Pine is also found, as, in riparian areas, is Tulip Tree (Riddle 2003).

**Laurel Fork Heritage Preserve**, northwestern South Carolina (Pickens County)

Old-growth hemlock forest within a 1000-acre preserve in the Jocassee Gorges. Two headwater streams for Laurel Fork flow through the preserve. The old-growth hemlocks are along one stream; second-growth Tulip Trees, along the other. The hemlocks were left when the area was originally logged, because hemlock was not highly regarded as a source of lumber. The preserve is owned by the Wildlife Management section of the South Carolina Wildlife and Freshwater Fisheries Division, but managed by the Division's Wildlife Diversity section. The state purchased the thousand acres with help from the Richard K. Mellon Foundation. It is the first parcel that the state obtained in the Gorges (Stokes 2001).

**Cathedral Bay Preserve**, also known as Chitty Bay Preserve, southern South Carolina (Bamberg County)

Fifty-eight acres in two tracts, which The Nature Conservancy has described as including old-growth Pond Cypress (TNC 1966) and the South Carolina Wildlife and Marine Resources Department, the owner, characterizes as a "near-pristine example of a mature pond cypress community within one of the few undisturbed [Carolina] bays in its region" (SCWMRD [n.d.]).

**Stevens Creek Natural Area**, western South Carolina (McCormick County)

A mixed mesophytic community, believed to contain Pleistocene relic species. It is located on the side of a steep, north-facing bluff along the creek. Northern Red Oak, Pignut Hickory, Southern Sugar Maple, and Sugarberry dominate. Trees are 200 to 250 years old. The area includes disjunct species such as Baldcypress, which occurs beside the creek. The site is owned by the South Carolina Department of Natural Resources (Radford 1959, Barry 1980, Gaddy 1993, Soblo 1993, Robinson 2001).

**Eastatoe Creek Heritage Preserve**, the Jocassee Tract, northwestern South Carolina (Pickens County)

An old-growth hemlock-Tulip Tree forest, with an understory of Great and Carolina Rhododendron, within the 347-acre preserve in the upper Eastatoe Gorge. The trees are not unusually large for their respective species, as "the slopes of over 40 degrees inhibit the formation of rich soils and limit tree size" (Riddle 2001). The preserve is owned by the South Carolina Wildlife Management Section but is managed by the Wildlife Diversity Section (Bunch 2001). The flats in the lower part of the gorge support at least 22 tree species in a single acre but have been logged in the past (Riddle 2001).

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