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# CONGAREE SWAMP

National Monument

South Carolina



General Management Plan

December 1988

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General Management Plan Approved: Robert M. Baker  
Regional Director  
Southeast Region  
National Park Service

December 13, 1988  
Date

GENERAL MANAGEMENT PLAN

CONGAREE SWAMP NATIONAL MONUMENT  
SOUTH CAROLINA

SOUTHEAST REGION  
NATIONAL PARK SERVICE  
UNITED STATES DEPARTMENT OF THE INTERIOR

December 1988



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## PREFACE

During the latter part of the process of completing this plan, legislation was introduced by the South Carolina delegation to expand the boundaries of Congaree Swamp National Monument, designate certain areas as wilderness and potential wilderness, and to authorize appropriations for land acquisition and development. Just prior to plan completion, the legislation was signed into law (Public Law 100-524, October 24, 1988).

The Act specified that the total acreage of the monument shall not exceed 22,200 acres as generally depicted on a map entitled "Citizens' Boundary Proposal for Congaree Swamp National Monument," numbered 178-80,009 and dated July 1988. Of that total acreage, 15,010 acres are designated wilderness and 6,840 acres potential wilderness. The section of this plan entitled "Description of the Monument" continues to reflect the conditions prior to passage of Public Law 100-524. The section, "General Management Plan" was revised where necessary to assure complete conformance with the legislation.

## SUMMARY

In order to preserve an outstanding example of an old-growth bottomland hardwood forest, a 15,138-acre portion of the Congaree River floodplain was set aside by Congress in 1976 as Congaree Swamp National Monument. In the establishing legislation, Congress requested preparation of a general management plan and wilderness suitability study. Recognizing that acquisition of one large tract would likely present difficulties in resource protection and management due to its boundary configuration, Congress stated that the general management plan should include consideration of additional lands for resource protection, scenic integrity, and management of the area. An assessment of the appropriate amount and types of visitor use and facilities was also to be included.

Other management issues needing attention included public access, visitor services, resource protection, and administrative facilities.

Approximately 7,000 acres will be added to the monument. This addition will help protect resources within the current boundary. Including these lands will also protect closely related, complementary resources, such as additional record size trees, an unprotected portion of the monument's primary canoeing stream, an unprotected portion of a historic dike, and additional endangered species habitat. Management zoning will keep all significant development on the periphery of the monument and out of the prime resource area. Zoning is consistent with wilderness designation. The plan provides a primitive-type visitor experience conducive to resource appreciation and study. Primary activity types will be hiking, canoeing, and primitive camping. Principal development includes a visitor center/ administrative office, minor road and parking lot construction, and a maintenance facility. Inventories of natural and cultural resources, monitoring, and coordination will be continued to protect monument resources and provide for visitor enjoyment.

## PURPOSE AND NEED FOR THE PLAN

In order to preserve and protect for the education, inspiration, and enjoyment of present and future generations an outstanding example of an old-growth southern bottomland forest, the Congaree Swamp National Monument was established by Public Law 94-545 on October 18, 1976, and expanded by Public Law 100-524 on October 24, 1988 (see Appendix A).

The establishing Act specified that a general management plan (GMP) for the use and development of the monument would be prepared. The purpose of the GMP is to identify:

- (1) the lands and interests in lands adjacent or related to the monument which are deemed necessary or desirable for the purposes of resource protection, scenic integrity, or management and administration of the area in furtherance of the purposes of the Act, and the estimated cost thereof (Public Law 100-524 addresses this subject);
- (2) the number of visitors and types of public use within the monument which can be accommodated in accordance with the protection of its resources; and
- (3) the location and estimated cost of facilities deemed necessary to accommodate such visitors and uses.

The Act also specified that a recommendation as to the suitability or nonsuitability of any area within the monument for preservation as wilderness will be reported to the President. While official wilderness planning procedures were followed and the majority of the existing monument and lands proposed for addition were found suitable for designation, no official recommendation was developed since passage of Public Law 100-524 rendered such a recommendation moot.

A general management plan sets forth the basic management philosophy for a park and provides the strategies for addressing issues and achieving identified management objectives over a 5- to 10-year period. Two types of strategies are presented in the GMP: those required to properly manage the park's resources and those required to provide for appropriate visitor use and interpretation of the resources. Based on these strategies, programs, actions, and support facilities necessary for efficient park operation and visitor use are identified. In addition, plans must be consistent with National Park Service (NPS) Management Policies, must be in compliance with legislative and executive requirements, must reflect resource limitations, visitor safety considerations, and budgetary constraints, and must recognize the concern expressed by the public and other agencies during planning efforts.

Park-specific management issues addressed by the plan follow.

(a) Currently, access to the park is over private lands which does not assure the public's access to the monument. (Through Public Law 100-524, the boundary expansion and planned land acquisition resolve this issue.)

(b) The boundary of the monument follows the boundary of the previous owner's property and does not necessarily enclose an appropriate area considering resource protection and administration. (The new boundary resolves this issue.)

(c) Visitor use is relatively low in the monument (16,524 in 1986) and is focused on hiking, fishing, canoeing, bird watching and camping. Schools are using the area for field trips and outdoor laboratory studies. Camping is by permit only. Canoeing on the creeks is often hampered by debris and fallen trees. What types and quantities of visitor use are appropriate to this area?

(d) Considering that the monument is almost entirely floodplain, what development is appropriate to provide for visitor enjoyment and administration of the area?

(e) Visitor orientation is limited in the monument. Consequently, understanding of the resources and appreciation of the monument's significance are confined to only a portion the visitors.

(f) Four out of five hiking trails begin near the inactive hunt camp complex in the interior of the park. Since the road to the complex is closed to vehicles of the general public, there is a question concerning the effectiveness of these facilities in providing for visitor enjoyment.

(g) The inactive hunt camp building is underutilized, in poor condition and closed to the general public. There is a question concerning disposition of this building.

The monument's current management objectives, as found in the Statement for Management, are included in the Appendices. They are primarily directed toward protection of the resource and providing a safe, educational, and enjoyable visitor experience.

## **PLAN DEVELOPMENT**

A draft General Management Plan/Wilderness Suitability Study/Environmental Assessment was released in November 1987 for a 60-day public review period. As a result of comments received and the passage of Public Law 100-524, the Regional Director of the

Southeast Region made certain revisions in the draft and approved the final plan. This decision is documented in the "Finding of No Significant Impact," which determines that an environmental impact statement will not be prepared and provides evidence of compliance with the National Environmental Policy Act, as amended, and other relevant environmental legislation and regulations. A copy of the "Finding of No Significant Impact" may be obtained from either the Superintendent of Congaree Swamp National Monument or the Regional Director of the Southeast Region.



## DESCRIPTION OF THE MONUMENT

### REGIONAL SETTING

Congaree Swamp National Monument is located approximately 20 miles southeast of Columbia, South Carolina, near the center of the State (see Regional Location and Access map). Columbia lies in Richland County, an area encompassing the industrial piedmont and the more rural coastal plain. The monument lies in the eastern part of the county in an area characterized by timber management and small farms.

The Congaree River is the life blood of the monument due to the interdependence of the floodplain with this major river. The river is formed in Columbia at the confluence of the Saluda and Broad Rivers. Lake Murray, a large hydroelectric impoundment, is located on the Saluda River. There are no major impoundments on the Broad River at this time.

Water impounded in Lake Murray and released by the South Carolina Electric and Gas Company influences the amount of water that flows into the Congaree River. Flooding conditions are generally caused when excessive rainfall occurs in the western section of North and South Carolina and by release of water from Lake Murray. Warning of impending flooding conditions is adequate to move visitors safely from the monument.

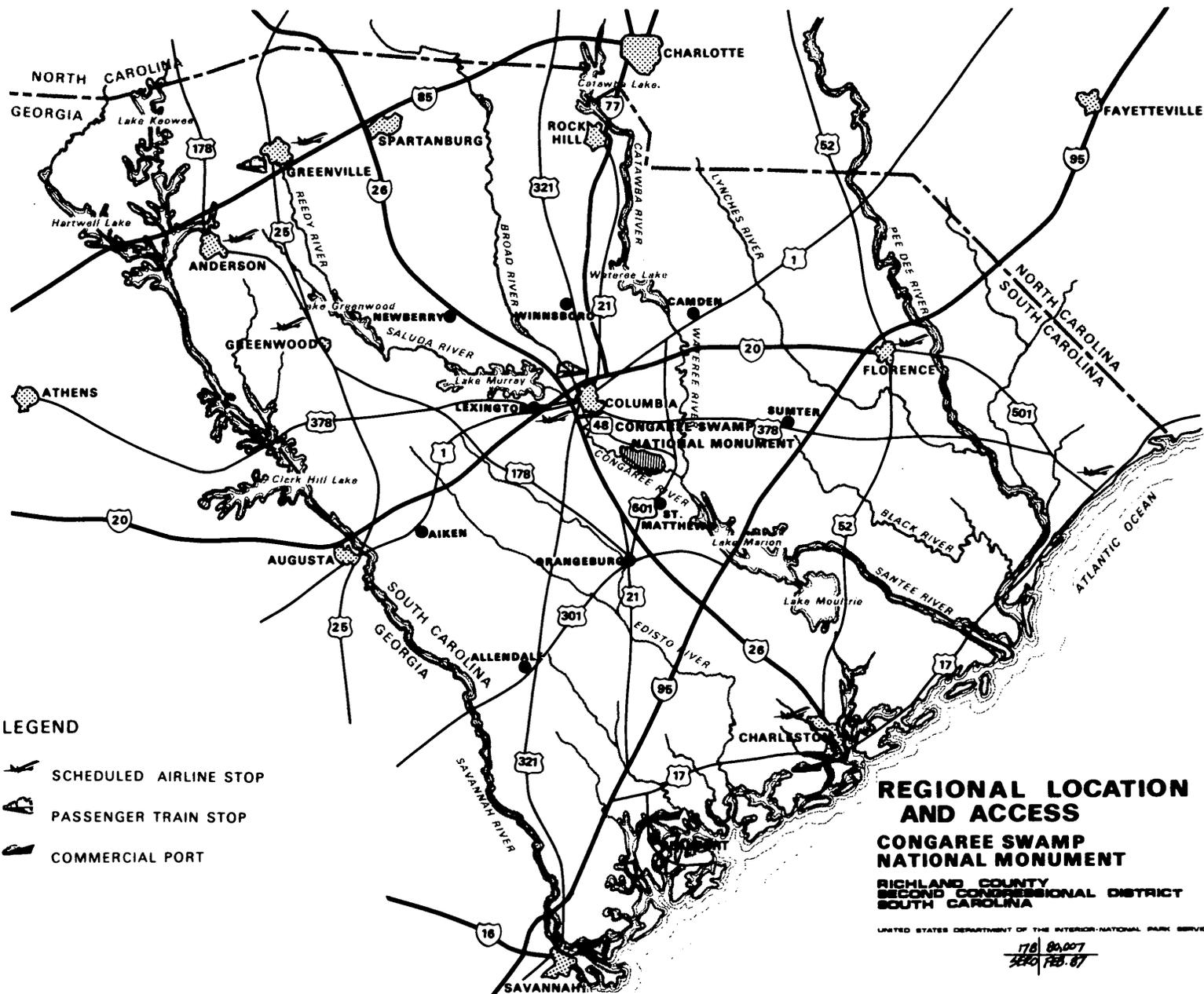
Waste from rapidly developing Columbia, unless properly treated, can adversely affect water entering the monument. During heavy rains, raw sewage overflows have occurred from some points on the city's collection system. The city is correcting this problem. Treated effluent from two large industries is discharged into the Congaree River and is monitored by the State Department of Health and Environmental Control.

The Congaree River receives effluent from many smaller companies and from sewage treatment plants in adjacent counties and the city of Columbia. These plant effluents are also monitored by the State Department of Health and Environmental Control.

There are no existing municipal water supply or sewage disposal systems in the immediate vicinity of the monument. The closest such utilities are found in Columbia, and the utility lines do not extend much farther than the city limits. Adjacent to the monument, potable water is obtained from wells, and sewage is disposed of by septic tank systems.

The South Carolina Department of Health and Environmental Control has classified the Congaree River as Class B waters. This classification indicates that the Congaree waters are suitable for secondary contact recreation (i.e. boating, sport fishing),





**LEGEND**

-  SCHEDULED AIRLINE STOP
-  PASSENGER TRAIN STOP
-  COMMERCIAL PORT

**REGIONAL LOCATION AND ACCESS**  
**CONGAREE SWAMP NATIONAL MONUMENT**  
 RICHLAND COUNTY  
 SECOND CONGRESSIONAL DISTRICT  
 SOUTH CAROLINA

UNITED STATES DEPARTMENT OF THE INTERIOR-NATIONAL PARK SERVICE

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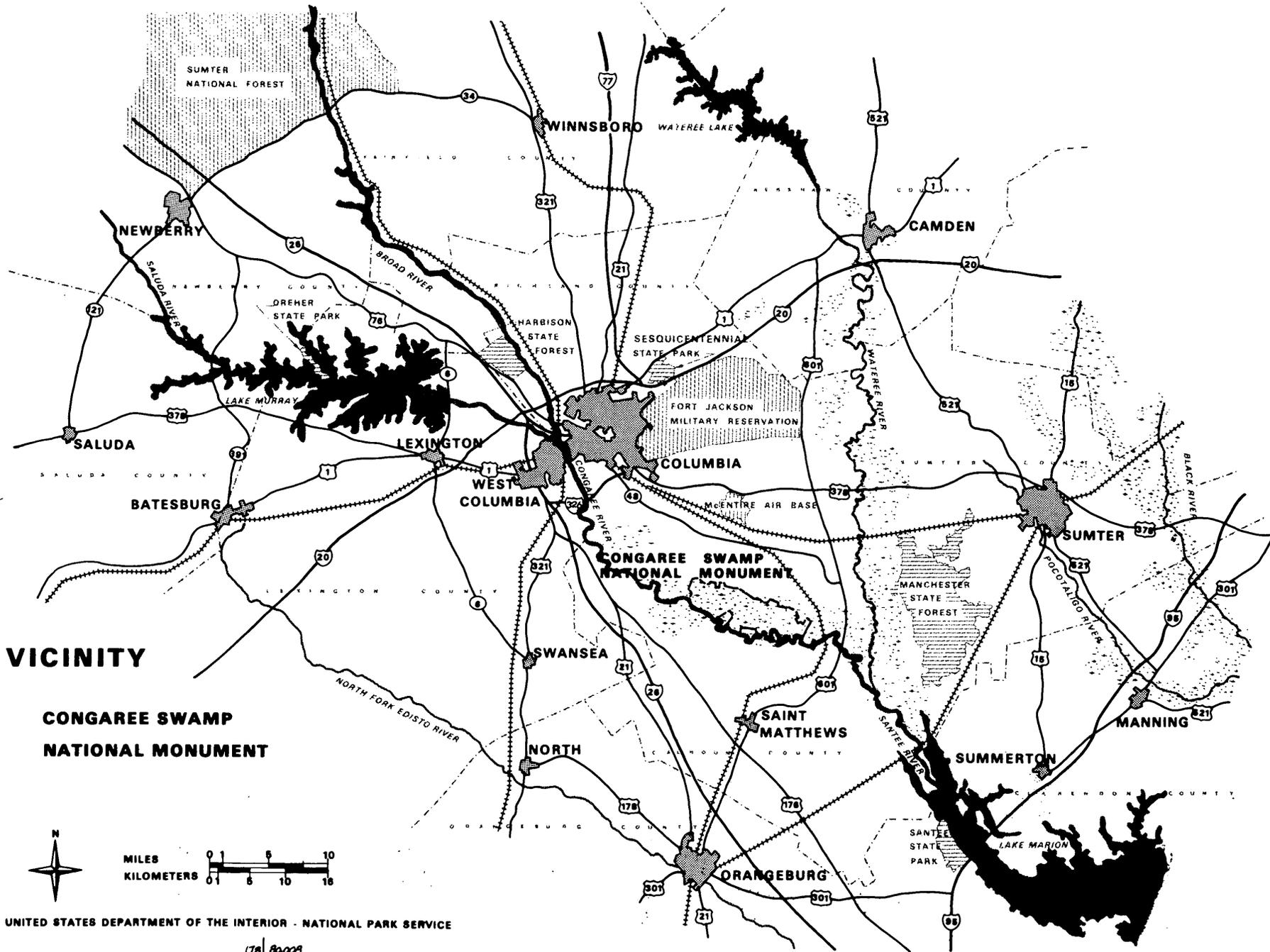


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as a source of drinking water supply after conventional treatment, as a resource which supports the propagation of flora and fish populations, and for industrial and agricultural uses. The State's Water Resources Commission has identified as eligible for designation as a Class II State Scenic River 37 miles of the Congaree River. Of this length, 10 are along the monument boundary. The purpose of the State Scenic Rivers Act is to provide protection of selected river areas for the benefit of present and future generations. The State has authority to purchase scenic easements along designated rivers. Management would seek to maintain and enhance the scenic values of the river corridor while preserving the rights of adjacent landowners to use their lands for customary agriculture and other rural purposes.

Another outside influence on the monument is noise from overflights by military aircraft which has an adverse effect on the visitor's experience and may impact birds and wildlife.

Use of a toxic waste site located about 4 miles from the monument has ceased and the area cleaned up. There is still concern, however, over runoff from the site since it drains into Myers Creek, a tributary of Cedar Creek at the northwest corner of the monument. Contaminated ground water which flows toward Myers Creek is also a concern. The State has classified Cedar Creek as Class A waters indicating fresh water suitable for primary contact recreation (direct water-body contact).

A nuclear fuel plant is within 4 miles of the western boundary on State Highway 48. It has no known detrimental effect on monument resources.

Major northeast-southwest transportation arteries include I-20, I-77, and I-95. The major northwest-southeast transportation artery is I-26, which passes just south of Columbia and links Charleston, South Carolina, with the Greenville-Spartanburg area. Recent completion of I-326 makes the monument very accessible to travelers of I-26. U.S. routes provide north-south and east-west access. State Highway 48 (also known as Bluff Road) provides access close to the northern edge of the monument via Old Bluff Road (see Vicinity map). Primary access from Old Bluff Road to the monument is currently provided only by means of dirt roads across private property. There are no easements across the private property, and access now is by tacit agreement.

Within a 50-mile radius of the monument, the emphasis is on flat-water recreational pursuits on Lakes Marion, Murray, and Moultrie. Eight State parks with overnight facilities are found in the area. To the south are Francis Marion National Forest and Four-Holes Swamp.

The climate of the area is temperate and characterized by warm summers and mild winters. Spring, the most changeable season of the year, varies in temperature from an occasional cold snap in March to a generally warm and pleasant May. Long summers are prevalent with warm weather usually lasting from May until September. Fall is the most pleasant time of the year. Rainfall during the late fall is at an annual minimum, while sunshine is at a relative maximum. Winters are generally mild with the colder weather usually lasting from late November to mid-March.

The Columbia Metropolitan Statistical Area population is projected to increase from 409,953 in 1980 to 587,700 in 2010, an increase of 177,747 persons or 43.4 percent. Richland County's population is expected to increase by 78,900 from 1980 to 2010, 29.3 percent. The large rural census tract which contains the monument is expected to continue its past trend of a slightly increasing population, reaching 7,400 in 2010 from 6,035 in 1980. Calhoun County, adjacent to the southern boundary of the monument, is primarily agricultural and had a 1980 population of 12,206. Projected population in 2010 is 13,700.

#### **ADJACENT LANDS**

The area immediately surrounding the monument is primarily used for small farms or timber management. The lands above the bluffs are used substantially for both, while on the floodplain, timber management predominates. Hunting preserves represent an important secondary land use category.

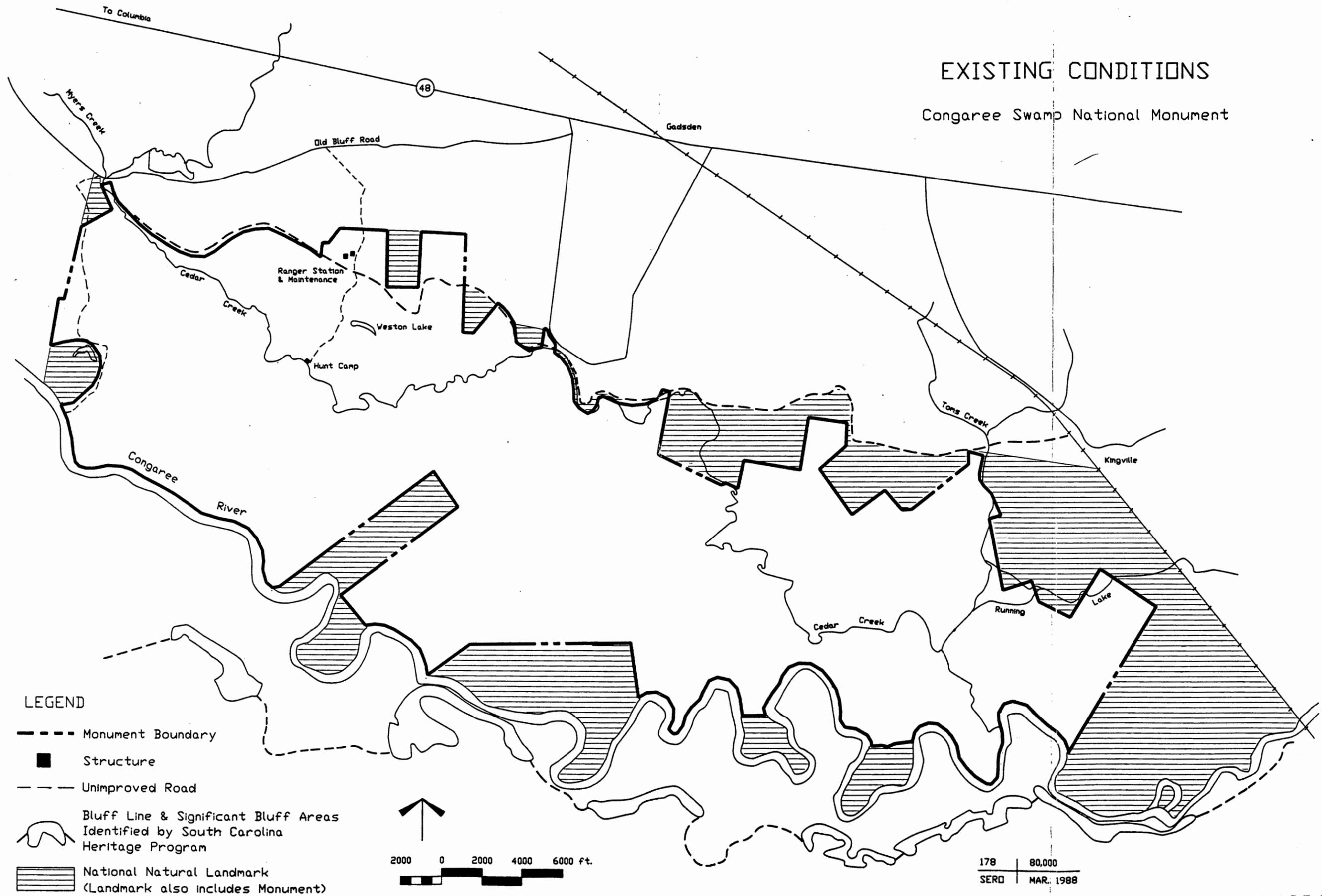
The portion of Richland County in which the monument lies is zoned a "rural district." No land use regulation exists in Calhoun County across the Congaree River. Calhoun County is beginning to draw considerable interest from various types of industry that are looking for land close to the Congaree River. If any change in the area is to be expected over the next 10-20 years, it will be gradual transformation from agricultural to residential and industrial land use. There is an increasing amount of land going on the market for sale of 1 to 15-acre tracts.

Four adjacent land parcels were sold in 1984 and 1985. New owners are improving these lands as hunting preserves. One in particular, the tract that protrudes into the center of the monument, is planned for development by the current owners as a hunting preserve with roads, field for grazing, lodges and a clubhouse.

Some private land between the southern boundary of the monument and the Congaree River has been clear-cut and selectively cut as late as 1983. Lands immediately to the east have been clear-cut

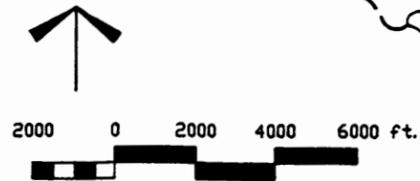
# EXISTING CONDITIONS

Congaree Swamp National Monument



## LEGEND

- Monument Boundary
- Structure
- - - Unimproved Road
- Bluff Line & Significant Bluff Areas Identified by South Carolina Heritage Program
- ▨ National Natural Landmark (Landmark also includes Monument)



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in small patches right up to the monument boundary. Timber lands on the north boundary are scheduled for cutting in the immediate future. These timber practices adjacent to the monument adversely affect the monument by exposing the large trees to windthrow, by promoting understory growth from greater light penetration, and by adding greater sediment loads to waters in the monument from the disturbed areas.

Floodplain lands outside the monument relate importantly to the monument because of their ecological interrelationship. These lands lie generally along the northern boundary of the monument, in scattered parcels between the monument and the Congaree River, and on the south side of the river up to the bluffs in Calhoun County. Up and down river, the floodplain extends for many miles. The fact that the present monument boundary does not include more of the immediately adjacent floodplain is because only the one, primary ownership in the floodplain was acquired.

The Bluffs south of the monument are themselves of notable significance. Personnel of the South Carolina Heritage Trust Program and other noted field scientists have identified these steep, relatively undisturbed, forested bluffs as existing nowhere else in comparable form in the coastal plain, and perhaps even the piedmont, of the State. It would appear that they are also of at least regional significance. The South Carolina Heritage Program considers these bluffs to be high priority for protection.

## **NATURAL RESOURCES**

### **A. Vegetation**

Although most of the plant species found in Congaree Swamp National Monument are common to bottomland environments of the southeastern United States in general, the uncut portions of the monument are the most extensive mature bottomland hardwood forest remaining in the southeastern United States. (Note: See Appendix E for scientific names of plants and wildlife referred to in this document.) Because of these expansive stands of old-growth timber, the area of the monument and certain adjacent lands as shown on the Existing Conditions map were designated a National Natural Landmark in 1974. Such a designation is a recognition of resource significance regardless of ownership. While landowners are encouraged to protect the resource, they are in no way prohibited from any land use practices that may harm the resource. Establishment of the monument through acquisition of the largest tract guaranteed protection of the majority of the Landmark.

At the turn of the century, some of the monument area was logged for bald cypress. Soon before monument establishment, approximately 700 acres of the present monument area were clear-cut and approximately 2,000 acres selectively cut.

The hardwood forest which covers the majority of the monument represents the primary resource. This unique and diverse plant community contains numerous national and State record trees including vast stands of magnificent tupelo and bald cypress, oaks and sweetgums. Record trees include five national champions and many South Carolina champions, with over 60 additional trees measuring at least 80 percent of the national record for their species. Numerous loblolly pines over 150 feet tall are interspersed among the hardwoods. The number of different tree species identified in the monument has reached 87.

The floodplain, having an elevation change of only 10 feet in over 13 miles, has a surprisingly varied and complex pattern of vegetative communities. These exist in response to slight topographic gradients and the successional stages related to sedimentation of old channels of the river. Because of this minimal relief, even slight elevation changes affect the duration and frequency of flooding and, therefore, the variety of plant communities. In general appearance, the forests are grove-like and largely clear of heavy undergrowth except vines and shrubs.

In 1983, the monument was included in UNESCO's international network of biosphere reserves as part of the South Atlantic Coastal Plain Biosphere Reserve. As such, the monument serves as a representative ecological area and as a focus for research and education. The area will serve as a benchmark for measurements of long-term changes.

#### **B. Water Resources**

The Broad and Saluda Rivers converge west of the city of Columbia to form the Congaree River. Most of the monument is contained within the floodplain of the Congaree River. The U.S. Geological Survey reports that 90 percent of the monument will flood on the average of once a year. In an average year, 10 separate flooding events may occur. Flooding coupled with the old-growth vegetation provides a very unique ecosystem that has been all but lost in the southeastern United States.

Under average flood conditions, the natural levees and other elevated points on the floodplain and the bordering bluffs escape inundation. According to the Flood Insurance Rate Map for Richland County, nearly all land within the boundary of the monument would be inundated by a 100-year flood--a flood with a

1 percent chance of occurring in a given year. The 100-year flood is estimated to rise to approximately the 110-foot contour in the vicinity of the monument. Thus, any development in the existing monument boundary must conform to guidelines concerning floodplain management and wetland protection.

The watershed upstream from the monument extends into the North Carolina foothills and the northwestern section of South Carolina. This vast watershed brings with it a potential for contamination of surface waters to the monument. Since the monument is directly affected by flooding, surface water quality is of major concern as polluted water would come into direct contact with vegetation and wildlife.

Ground and surface water are closely related in the monument. The ground water table is only within a few feet of the surface and during floods the ground water may rise to the surface. Therefore, any disturbances in the ground water could affect the monument's water quality and quantity.

#### C. Air Quality

The monument is classified as a Class II clean air area (42 USC 7401 et seq.). Under Class II, modest increases in air pollution are allowed beyond baseline levels for sulfur dioxide and particulate matter, provided that the national ambient air quality standards established by the Environmental Protection Agency are not exceeded.

The State Legislature appropriated funding for air quality and acid deposition monitoring. In 1981, the South Carolina Department of Health and Environmental Control, in cooperation with the National Park Service, established and maintains an acid deposition station and air quality monitoring equipment for total suspended particulates, sulfur dioxide, ozone, and nitrogen dioxide in the monument.

#### D. Wildlife

Congaree Swamp National Monument and its surrounding area provide some good wildlife habitat. Habitat attributes include high fall mast production and the partial sanctuary provided by the monument. Places for feeding, nesting, and resting are found throughout the area. The principal limiting factor is periodic inundation; flooding may hinder full-time use of the area by such animals as deer, turkeys, raccoons, and squirrels.

Wading birds, songbirds, raptors, turkeys, and barred owls are some of the bird species found in the area. The wood duck is the most common species of waterfowl. White-tailed deer, raccoons,

and squirrels thrive on the mast produced by trees of the monument. Feral hogs, which are relatively common in the area, compete with the deer and other animals for food. Amphibians are plentiful because of the wet environment. Reptiles are common inhabitants. Bobcats and river otters are seen occasionally. Several other animals considered significant by local naturalists are found in the monument. These include the Swainson's warbler, Louisiana heron, swallow-tailed kite, Mississippi kite, spotted turtle, marsh rabbit, fox squirrel, and pinewood snake.

The Congaree River is the primary fishery of the area. On the floodplain, fishing is limited to accessible reaches of Cedar Creek and Toms Creek and to some of the oxbow lakes. Game fishes of the monument include largemouth bass, blue gills, black crappies, yellow perch, catfish, and several species of sunfish; nongame fishes include gar, daces, shiners, bowfin, and minnows. Striped bass are found in the Congaree River. Other aquatic fauna in the monument include swamp crayfish, chimney crayfish, Asiatic clams, and several species of snails.

#### **E. Endangered or Threatened Species**

**Flora** - Several plants of State significance may be found in the monument although they have not yet been inventoried. These are the nutmeg hickory, wahoo, umbrella tree, Florida adder's mouth, green fringed orchid, and false rue-anemone.

There are no plants known to occur within the monument that are endangered or threatened as defined by the Endangered Species Act of 1973, as amended. However, several plant species listed by the Smithsonian Institution as threatened could potentially occur. These plant species are the serviceberry holly, North American sandalwood, dwarf trillium, bay starvine, Schweinitz's sunflower, barren strawberry, smooth coneflower, and the southern rein-orchid.

**Fauna** - The nationally endangered red-cockaded woodpecker is known to have active colonies within a small portion of the monument on the pine uplands. The nationally endangered bald eagle is occasionally seen flying over the monument but is not known to be nesting in the monument at the present time. Given its habitat requirements, the American alligator is probably no more than a periodic visitor to the monument. There have been reports of observations of the nationally endangered (possibly extirpated) ivory-billed woodpecker and the nationally endangered eastern cougar. It is doubtful that either of these animals still inhabits the monument, but if they do exist here, they would probably be found in the isolated eastern section of the monument.

## **CULTURAL RESOURCES**

In accordance with provisions of Executive Order 11593 (Protection and Enhancement of the Cultural Environment) and the National Historic Preservation Act, as amended, cultural resources within the monument have been inventoried for the NPS by the University of South Carolina Institute of Archeology and Anthropology. Results of that survey indicate that prehistoric occupation of the present Congaree Swamp National Monument consisted of brief visits during which prehistoric inhabitants hunted for and gathered necessary items on the riverine floodplain.

During this cultural resource inventory, nine historic and twelve prehistoric sites were located. A total of six historic sites are in the process of being nominated to the National Register due to their State and local importance. Only two prehistoric sites were considered potentially significant, pending further research. The remaining historic and prehistoric sites were considered to be too modern, disturbed or of questionable integrity to be considered significant.

A small number of prehistoric and historic objects have been collected by monument staff and others. No suitable storage facilities currently exist.

The distribution of sites within the monument area generally seems to reflect a prehistoric occupation pattern that occurs sporadically in the swamp interior rather than near the river. The distribution of historic sites shows more of an orientation toward the river, expressed in the construction of dikes and earthen "cattle mount" mounds.

The dikes and cattle mounts provide information about previously unrecognized cultural patterns of the cattle raising industry and the cultivation of cash crops in bottomland environments. These patterns are unique to the central portion of South Carolina, and especially the lower Congaree River valley floodplain. One dike in the northwest corner of the monument is partially outside of the boundary.

Sites are currently being affected only by natural processes including flooding, erosion and vegetative succession. Natural erosion of the dikes and mounds by flood water would be negligible if the ground cover of grass, cane and vines were maintained, but it is often destroyed by wild pigs.

The mounds and other structures are the only ground above water level during a normal flood. Pigs, deer and stray cattle use them as refuges until water continues to rise and drives them to

the bluffs. During these flooding periods, and even when the area is not flooded, the pigs root on the tops of the mounds loosening the dirt, which washes away when the water flows over it. The Horsepen Mound was heavily damaged by pigs in 1980. State and National Park Service specialists have recommended a special study on the pig problem, and this research effort is scheduled for the near future.

## **FACILITIES**

The monument has no permanent roads or buildings. The entrance road from Old Bluff Road (over private land) is a graded dirt road. The one-lane road leading to the hunt camp complex is also unimproved.

Several temporary buildings have been constructed which include a ranger station, public rest room, and several maintenance buildings. The environmental education center (abandoned hunt club house--initial construction in 1963-1964) and a patrol cabin are buildings that belonged to the former owner and are now being used for group meetings and housing when needed. These older buildings are marginally functional and in need of repair. These two buildings are located in the floodplain. Random parking is available along the roadway for 30-35 vehicles near the ranger station and at the club house.

Some 22 miles of primitive trails and footbridges have been constructed in the west central section of the monument. A 3/4-mile boardwalk has been constructed from the bluff line near the ranger station to Weston Lake.

The only access (administrative only) to the Congaree River is by unimproved road on the western edge of the monument leading to a boat ramp built by the former owners. The road is barely passable and the concrete ramp is in disrepair but usable. This road and ramp are used by park personnel for routine patrolling of the southern edge of the monument by boat. The northernmost portion of this road traverses three privately owned tracts used by agreement with the landowners.

Utility systems include one underground septic tank that serves the ranger station and public rest rooms. Water is provided by a well. At the hunt club house there are two exposed septic tanks without drain fields. A well provides water. Electricity is furnished by Tri-County Rural Electric Coop.

Monument headquarters, i.e., the office of the superintendent and a secretary, is located in a Federal office building in Columbia.

## VISITOR USE

A variety of visitor uses has evolved since the monument was opened to the public in January 1983. Although the park was established in 1976, a hunting lease restricted the use of the property through 1982. Visitor registration began in 1984 when a ranger station was built near the main entrance into the park.

Before then visitor counts were estimated. The following figures reflect park visitation for the years 1978-1986.

YEAR	ACTUAL VISITS
1978	190
1979	228
1980	540
1981	1,516
1982	2,702
1983	3,345
1984	9,126
1985	12,421
1986	16,524

Visitor-use patterns have been fairly consistent, with spring and fall being the highest use seasons due to moderate daily temperatures and fewer biting insects. This trend is expected to continue. The following monthly visitation figures for 1986 reflect this seasonal pattern.

January	-	764	July	-	647
February	-	1,277	August	-	825
March	-	2,535	September	-	805
April	-	1,889	October	-	1,658
May	-	1,296	November	-	2,800
June	-	965	December	-	1,063

Weekend visitation is the most popular. Use by school groups is significant and increasing. There is a 1-day annual event in November that drew over 400 people in 1986. Approximately 60 percent of visitors live within a 2- to 3-hour drive of the monument. Close to 20 percent of all visitors are on extended trips, stopping by the park as one stop on their itinerary.

Visitor activities offered in the park are hiking, fishing, bird watching, canoeing and primitive camping. The low visitation appears to be much less than the amount the area could sustain without deterioration of the resource and visitor enjoyment.

This judgment is based on the fact that a large portion of the area is completely undeveloped. The existing trail system is underutilized, based on staff observation, and the potential for additional trails would seem to be very large. Trail use, with associated activities such as environmental education, primitive camping, and fishing, is and will always be the predominant method of monument use.

Canoeing is and will continue to be the other major way to experience the monument. Cedar Creek is the primary canoeing stream. It traverses virtually the entire length of the monument, offering both short and long trip opportunities. In order to make the canoeing experience feasible for most who would want to participate, a minor amount of passageway clearing is undertaken. No attempt is made to clear all obstructions, but rather just to remove short sections of logs that otherwise would completely block passage during times of normal water levels.

One of the two primary access points to Cedar Creek, i.e., the one at the northwest corner of the monument, is available only by tacit agreement with a private landowner.

Primitive camping began in December 1984, by permit only. In 1985, 23 permits representing 113 campers were written. In 1986, 202 campers went in on 31 permits. Two areas have been designated as group campsites, one on high ground approximately 1/4 mile away from the ranger station, and one located on the grounds of the environmental education center (hunt camp).

Fishing occurs in the monument's creeks and lakes. Participation is largely by residents of the immediate vicinity.

The existing array of activity types is appropriate for the area, and there are no plans to introduce additional types of recreational opportunities.

Flooding affects visitor use in the monument. During February and March, flooding is considerable with water covering the entire bottomland much of the time. During this time, only the boardwalk and a trail on the upland are usable for the majority of visitors. Some visitors boat or canoe the area at this time but the dangers of getting lost are high. The relatively high visitation figures for these 2 months reflect the favorable combination of cool-to-moderate temperatures, few bothersome insects, and the unusual scenery afforded by a bottomland in flood. The boardwalk affords the interesting opportunity of safely traversing the flooded area.

During the rest of the year, flooding is unpredictable since it depends on sporadic rainfall in the watershed. Monument personnel have 16-hour notification of expected flooding. Typically, these floods last approximately 3 days. For several days after, trails are muddy and use is impractical. No primitive camping permits are issued under these conditions.

Boating and fishing in the Congaree River are actually outside the monument as the boundary is the mean water level on the left, or northern, bank. Use of the Congaree River as an avenue of access into the monument is currently very minor. Use of monument lands consists of short stops and occasional camping on sandbars. Boat access to the river that is available to the public is located approximately 5 river miles downstream and 12 river miles upstream. Typical use of the river in the vicinity of the monument is sport fishing and pleasure boating. The potential exists for greater use of the monument by providing designated primitive camp sites and trails in the vicinity of the river.

Unauthorized use of the monument exists in the form of illegal hunting. Also, hunting dogs frequently enter the monument when hunting occurs on adjacent lands causing game in the monument to be driven out and past hunt stands.

Orientation of the visitor occurs at the temporary ranger station. Interpretive displays consist of a small number of cultural and natural items, photographs, maps, and related books and pamphlets. Guided walks and canoe trips are provided. It has been noted that noise from overflights by jets from the nearby Air Force and Air National Guard bases significantly disrupt the visitor experience. Less frequent but even more disrupting are helicopter overflights from Fort Jackson.

Monument personnel are currently providing interpretation of the area along three main themes:

1. unique river bottom hardwood forest community associated with a swamp-like floodplain with visible former river courses reflected in its topography and vegetative patterns;
2. remarkable sizes of the trees including a number of national and State champions; and
3. presence of swamp ecology of the hardwood type with relatively unspoiled flora and fauna.

Cultural influences, e.g., Indian activities, farming, logging, and hunting, are treated as a minor theme in monument interpretation.

Considering the growth of visitation to the monument since 1984 (when visitor registration began), a low-range projection of annual visits is estimated at 60,000 in 1997 (through the life of this plan). With the greater attraction provided by the proposed development and increased interpretive programming, 1997 visitation could approach 80,000. Estimates include consideration of the limited array of activities to be available at the monument, a growing urban area nearby, increased awareness and interest in opportunities available at the monument, and better interstate highway accessibility.

## GENERAL MANAGEMENT PLAN

### BOUNDARY ADJUSTMENT AND LAND MANAGEMENT

Recent legislation expanding the boundary will add approximately 7,000 acres to the existing monument. The accompanying map, Boundary Adjustment, Wilderness, and Management Zoning, shows these lands.

Parcels included along the Congaree River will provide protection of significant timber resources including at least two national and 10 State record trees. Including these lands will also protect existing monument resources from effects of existing and possible future incompatible uses, e.g., hunting and timber harvest. Establishing the monument boundary at the Congaree River will permit much greater effectiveness in managing the area. Placing the boundary at such a distinct, easily recognized feature will allow both the public and monument staff to know immediately what is within the boundary. Resource management and law enforcement will then be enhanced. Having the river and the boundary coincident will also provide for protection of a continuous scenic view of the monument by users of the river.

Parcels included along the north and east sides of the monument will protect additional bottomland hardwood timber, the portion of Cedar Creek now outside the boundary, habitat for the endangered red-cockaded woodpecker, an historic floodplain dike, and remnants of historic Huger's Road. This will also protect existing monument resources through protection of adjacent bluffs, prohibiting incompatible use of these areas that are hydrologically related to the monument floodplain. These lands will also provide administrative access to the Congaree River, and access and facilities for the public. By establishing the boundary more along the natural feature of the bluff, the boundary will be more recognizable. Law enforcement and resource management will be enhanced. Visitors will also benefit from added protection of scenic views in several areas, most notably the Cedar Creek corridor.

Specifically, lands added along the northern bluff line are to extend approximately 50 to 100 feet beyond the crest of the bluff. The bluff line shown on the map is only approximate. At the northwest corner, the boundary is to extend to the right-of-way of Old Bluff Road. Along Cedar Creek in this area, where the existing boundary is very close to the stream, the proposed boundary will provide a corridor approximately 100 feet in width. In Development Zone 3 (see discussion following), the dirt road now providing access to Cedar Creek may not be within the existing boundary. Land records are inconclusive. It is desirable that the boundary adjustment include this existing

road. On the east, the new lands will include McKenzie Creek south to the Congaree River (less one parcel at the Devil's Elbow oxbow lake) and east to the railroad.

Additional lands were evaluated during the course of planning that included important resources. These lands include a parcel at the southwest corner of the monument which has an oxbow lake, a parcel at Devil's Elbow oxbow lake, and lands across the Congaree River including the bluffs. For various reasons, these lands were excluded. Any future consideration of these or other adjacent lands for inclusion in the monument will await changes in existing conditions. The South Carolina Heritage Trust Program has been considering protection of the bluffs south of the river, and the National Park Service will seek to assist in protection efforts depending on the State's plans and priorities for the area.

This plan for Congaree Swamp National Monument includes a classification of lands to designate where various strategies for management and use will best fulfill management objectives and achieve the purpose of the monument. Such classification considers land capability to support identified uses. Two primary management zones are used--Natural Zone and Development Zone.

**NATURAL ZONE** (approximately 21,975 acres ) - Lands and waters in this zone will be managed to ensure that natural resources and processes remain largely unaltered by human activity. Developments will either be absent or limited to dispersed recreational and management facilities that are essential for management, use, and appreciation of natural resources. A Protected Natural Area Subzone (110 acres) is used in this plan in recognition of the need for management strategies to enhance habitat/nesting sites of the endangered red-cockaded woodpecker. A Wilderness Subzone (15,010 acres) and a Potential Wilderness Subzone (6,840 acres) are also included to conform to Public Law 100-524. Special management policies apply to these areas.

**DEVELOPMENT ZONE** (225 acres) - Lands in this zone will be managed to support development and intensive public use which substantially alter the natural environment. Parking lots, public use roads, aggregations of buildings, and park utilities will be included in this zone.

### **VISITOR USE**

In keeping with the primary purpose of the monument, i.e., the protection of the existing forest, as well as the new wilderness designation, the visitor experience that will be provided for will be one of resource appreciation and study, quiet contemplation, and solitude.

Except for basic visitor access and facilities that will be located on the periphery of the monument, visitors will enjoy the area as is, i.e., in its primitive condition. Only trails and primitive campsites will be available in the interior of the monument.

Interpretation of monument resources will remain unchanged in terms of themes presented. The proposed visitor center will significantly enhance this aspect of monument operations by providing more space for visitor contact, exhibits, and displays of informational material. It will also provide a needed central public contact point that will assist in disseminating safety hazard information and monument regulations.

The existing array of activities is appropriate for the area, and no changes are proposed. Since current use levels are very low, no special considerations such as limitations are included in this plan. Due to the nature of the area, the purpose of its establishment, and the wilderness designation, monitoring of use levels, crowding, and other concerns that would stem from visitor use will be an ongoing responsibility of monument personnel. Specific controls for visitor safety and resource protection will be implemented as necessary. Such controls may include closing trails, opening new ones, and relocating primitive campsites.

A complementary use of the monument that will be encouraged is an expanded environmental education and research opportunity. To facilitate this, the National Park Service will offer the educational community the opportunity to conduct special courses and research compatible with legislation. Construction and operation of a related facility adjacent to or near the monument would be appropriate and could even be located in the monument development zone if a suitable site nearby cannot be located.

#### **DEVELOPMENT**

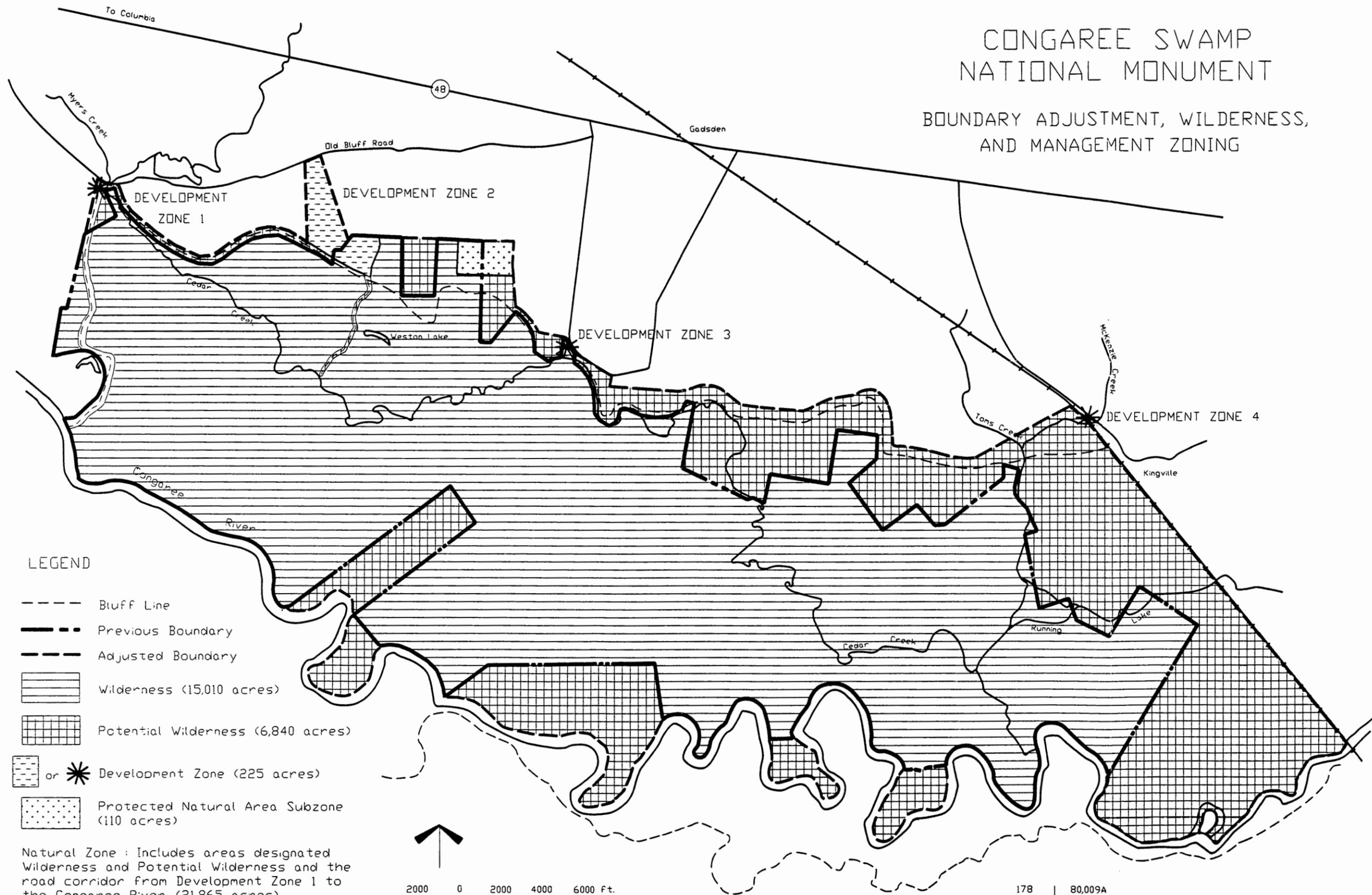
The development zones mentioned below are shown on the previous map. Quantities shown for various facilities are to be considered conceptual in nature. They have been used as the basis for cost estimates which appear in the Plan Implementation section.

**Development Zone 1** - This approximately 1-acre zone will provide access to Cedar Creek for fishing and canoeing. Currently there exists a dirt road off the paved county road (Old Bluff Road) and undesignated parking off the dirt road for 2-4 vehicles. A short trail leads to the creek. Proposed facilities are a gravel road (50 feet) leading from Old Bluff Road to a gravel parking area for 10 vehicles. No improvement of the trail is proposed.



# CONGAREE SWAMP NATIONAL MONUMENT

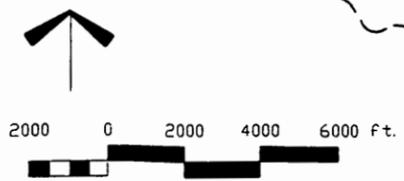
## BOUNDARY ADJUSTMENT, WILDERNESS, AND MANAGEMENT ZONING



### LEGEND

- Bluff Line
- - - Previous Boundary
- - - Adjusted Boundary
- Horizontal lines Wilderness (15,010 acres)
- Grid lines Potential Wilderness (6,840 acres)
- or \* Development Zone (225 acres)
- Stippled area Protected Natural Area Subzone (110 acres)

Natural Zone : Includes areas designated Wilderness and Potential Wilderness and the road corridor from Development Zone 1 to the Congaree River (21,865 acres)



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**ON MICROFILM**



**Development Zone 2** - This area of approximately 221 acres will be the primary entrance to the monument and will contain visitor contact and administrative facilities. Proposed facilities are a paved entrance road (0.8 miles), a 3,750-square foot visitor center/administrative office, paved visitor parking for 25 cars and 4 buses, a gravel access road (0.4 miles) leading from the visitor center to trailhead parking (gravel) for 20 cars and a primitive walk-in campground (10 sites) with associated parking. The monument's maintenance facility (2,100 square feet) will also be located in this zone. All permanent structures will be located outside the 100-year flood zone. Headquarters will be relocated from Columbia to the administrative offices in this zone. The monument is in the Uniform Building Code Earthquake Risk Zone 3. Site-specific geotechnical and geologic information will be evaluated prior to construction of permanent structures.

**Development Zone 3** - This approximately 2-acre zone will provide fishing and canoe access to Cedar Creek and could also serve as a trailhead. Like Zone 1, existing conditions include a short dirt road off the paved county road and undesignated parking off the dirt road for 4-5 vehicles. A short trail leads to Cedar Creek. Facilities proposed are a gravel road (200 feet) leading to a gravel parking lot for 15 cars. No improvement is proposed for the trail to the creek. A step-down ramp is proposed for safe and convenient canoe ingress/egress.

**Development Zone 4** - This approximately 1-acre zone will provide a gravel parking area suitable for five vehicles. Access will be from the highway near Kingville. Its purpose is a trailhead to the eastern portion of the monument.

**Other Development** - There is other development included in the proposal that falls outside of the development zones and remains consistent with the Natural Zone/Wilderness objectives.

On the western end of the monument, there is presently an unimproved road extending from Old Bluff Road to an old boat ramp on the Congaree River. This road and ramp are used by monument personnel only. This road provides the only vehicle access to the Congaree River. The northernmost portion of the road traverses privately-owned land. In order to minimize cost, this road will be realigned to avoid additional land acquisition. A short section of dirt road (0.2 mile) will be constructed to connect existing sections. Current actions to occasionally rehabilitate poorly drained sections of the road will continue. The boat ramp will be improved.

Primitive tent sites will be designated at several suitable locations along Cedar Creek, the Congaree River and existing

hiking trails. Such sites will promote greater use and appreciation of the interior of the monument by providing a backcountry camping experience.

Wayside exhibits will be placed at appropriate locations along the existing boardwalk.

The existing hiking trail system will be maintained in its primitive condition. Access to the system will be provided by the boardwalk with its wayside exhibits. Additional primitive trails and boardwalks will be provided incrementally as visitation increases and a need to disperse use appears in order to maintain a quality visitor experience and minimize resource impacts. Clearly marked trails allow use of the monument interior in the only safe way considering the ease with which people can get disoriented in this heavily-wooded area. Any new trails will not adversely impact natural systems, such as natural water flows and wildlife nesting and feeding areas, and will avoid impacts on cultural resources.

The old hunt camp structures will be removed along with the debris in Cedar Creek that forms an unnatural rapid. The camp area will then be scarified to promote natural revegetation. Because the structures are still occasionally used, removal will be delayed until construction of the new visitor center. Structures on lands to be acquired will also be removed.

The air quality monitoring station will be retained. Weekly vehicle access is necessary due to the present need to transport heavy compressed gas bottles used for the station's instrumentation. Therefore, the present road will be retained for administrative use only as long as such access is required. It is assumed that advances in technology will sometime obviate the need for this present mode of access. At such time, the roadway will be allowed to revert to natural conditions. Should circumstances ever allow for relocation of the station without nullifying the statistical value of available data, the station would be moved out of the floodplain.

The temporary ranger station will be remodeled to provide housing for an employee. The existing maintenance facility will be removed.

Suitable facilities such as all public use buildings will be designed to accommodate handicapped visitors in conformance with applicable laws and regulations.

## **RESOURCE MANAGEMENT**

In order to fulfill the legislative mandate to preserve and protect this outstanding example of bottomland forest, as well as to address identified management issues, a number of resource management strategies have been identified. Several have been previously discussed under other headings.

The new boundary adjustment and associated land acquisition represent a key strategy in protecting monument resources by adding to the monument lands that are hydrologically related and are related importantly in other ways as discussed previously in the Boundary Adjustment section.

The selection of management zones as portrayed on the previous map indicates that conservation of natural resources and processes, and accommodation of uses that do not adversely affect those resources and processes, will guide management action. The zoning of the entire bottomland as Natural Zone is consistent with and will promote the preservation and protection of the area. Placement of Development Zones outside the forested bottomland on the area's periphery will also promote resource protection. Zoning the woodpecker habitat on the upland as Protected Natural Area Subzone will allow for specific management actions promoting habitat maintenance and enhancement.

Designation of most of the monument as wilderness and potential wilderness underscores the preservation/protection objective.

Removal of the hunt camp complex from the floodplain will allow restoration of the affected area. Scarification of compacted areas will promote natural revegetation.

Updates on the record tree inventory and threatened and endangered species inventory will continue.

Protection of cultural resources will be enhanced by the boundary expansion in the northwest corner which will bring the remaining portion of a dike under National Park Service control. Portions of historic Huger's Road are included within the boundary expansion. Also, actions to be continued include boundary clarification of historic resources and nomination to the National Register of Historic Places, determination of significance of two prehistoric sites and possible register nomination, and monitoring the condition of known resources. In areas specifically slated for facility development, archeological testing will be conducted prior to construction and, if appropriate, either the facility site moved or a data recovery effort undertaken. Suitable artifacts will be exhibited in the visitor center while any others will be protected and housed offsite.

Use of trails and primitive camps will be monitored and limited as necessary to prohibit resource degradation. The removal of fallen trees or sections of trees on Cedar Creek to maintain canoe passage during normal water levels will be kept to a minimum.

Water quality and quantity and impacts of acid rain will continue to be monitored. Retention of the air quality monitoring station will promote resource protection efforts.

Coordination with State, other Federal, local, and private entities will continue as follows:

- with military establishments to reduce or eliminate noise impacts from aircraft overflights;
- with the State for air quality, water flows and quality, and fishery and wildlife management;
- with the State Heritage Trust and Water Resources Commission concerning protection of the Congaree River and the bluffs south of the river with a view toward assistance where possible;
- with counties concerning land use decisions affecting the monument;
- with the Federal Energy Regulatory Commission concerning hydropower development;
- with the Corps of Engineers and Environmental Protection Agency for water quality and wetland protection;
- with Fish and Wildlife Service for management of wetlands, fish, wildlife and threatened and endangered species;
- with U.S. Geological Survey for water resource monitoring and management;
- with timber companies and other private landowners concerning effects of adjacent land use;
- with Georgia-Pacific Corporation concerning administrative access over company land to more remote areas of the monument;
- with national (and international) research organizations for future biosphere reserve-related research; and

- with educational institutions concerning use of the monument for field studies and research.

The monument's Resource Management Plan will be updated periodically and will identify and prioritize actions needed to properly protect the monument's natural and cultural resources.

### **STAFFING**

Onsite management of the monument will be accomplished by a superintendent and staff responsible for administration, maintenance, interpretation, resource management, and law enforcement. The monument has six permanent full-time and two part-time employees. Implementation of the proposal will require additional personnel. A preliminary estimate calls for from four to six new positions. Specific staffing requirements will be evaluated and addressed through an operations plan.

### **PLAN IMPLEMENTATION**

With the new boundary adjustment, a detailed Land Protection Plan will be prepared which will identify the optimum strategy to achieve management objectives for these additional lands. Land Protection Plans analyze alternative protection methods including fee and less-than-fee acquisition and establish priorities for action.

Lands identified for acquisition will be acquired as funds are made available. Of primary concern are the tracts providing visitor and administrative access and the tracts that include portions of Cedar Creek. If the approximately 7,000 acres were acquired in fee, the estimated cost would be \$10,000,000.

The proposed facilities are basic to monument administration and visitor use and are not so extensive to suggest phasing their implementation. Estimated construction costs are shown in the following table.

Major equipment items needed are currently owned or leased by the monument and include two pickup trucks, one sedan, van, tractor, grader, and three outboard motor boats.

The monument's annual operating costs are currently \$216,000 (FY 1987). Annual operations and maintenance costs are expected to increase. They will be addressed in the operations plan to be developed after approval of this plan.

Current use of existing buildings will continue consistent with legislation and policies until construction of new facilities.

**ESTIMATED DEVELOPMENT COST**

<b>Development</b>	<b>Gross Construction Cost</b>	<b>Advance and Project Planning Cost</b>	<b>Total Project Cost</b>
<b>Zone 1:</b>			
Gravel road (50 feet) and parking (10 cars)	\$ 13,490	\$ 2,580	\$ 16,070
<b>Zone 2:</b>			
Paved entrance road (0.8 mile)	319,640	61,000	380,640
Visitor center/office (3,750 square feet)	786,000	150,000	936,000
Utilities	314,660	60,050	374,710
Parking (25 cars, 4 buses)	75,980	14,500	90,480
Maintenance facility (2,100 square feet)	483,390	92,250	575,640
Gravel road (0.4 mile) and trailhead parking (20 cars)	140,040	26,730	166,770
Primitive campground/parking (10 sites)	72,050	13,750	85,800
Rehabilitation of ranger station	39,300	7,500	46,800
Removal of old maintenance facility	5,110	980	6,090
<b>Zone 3:</b>			
Gravel road (200 feet) and parking (15 cars)	27,510	5,250	32,760
Step down ramp	1,970	380	2,350

	Gross Construction Cost	Advance and Project Planning Cost	Total Project Cost
<b>Zone 4:</b>			
Gravel road (50 feet) and parking (five cars)	\$ 8,250	\$ 1,580	\$ 9,830
<b>Other Development:</b>			
Road Construction (dirt; 0.2 mile)	20,960	4,000	24,960
Improve boat ramp	17,820	3,400	21,220
Primitive tent sites (10)	5,900	1,130	7,030
Trails (10 miles)	98,250	18,750	117,000
Boardwalk wayside exhibits	9,170	1,750	10,920
Removal of hunt camp facilities	21,750	4,150	25,900
Removal of buildings on lands to be acquired	13,100	2,500	15,600
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	\$2,474,340	\$472,230	\$2,946,570



## APPENDICES

- APPENDIX A: Agencies Consulted During Plan Preparation
- APPENDIX B: Congaree Swamp National Monument Legislation
- APPENDIX C: Congaree Swamp National Monument Management Objectives
- APPENDIX D: References and Available Literature
- APPENDIX E: List of Plant and Animal Scientific Names
- APPENDIX F: Study Team



APPENDIX A

AGENCIES CONSULTED DURING PLAN PREPARATION

**Federal**

U.S. Fish and Wildlife Service

President's Advisory Council on Historic Preservation

**State of South Carolina**

Office of the Governor, Division of Natural Resources and  
the Environment

Wildlife and Marine Resources Department, Heritage Trust

State Historic Preservation Officer

Water Resources Commission

**Local**

Central Midlands Regional Planning Council

Lower Savannah Council of Governments

### Congaree Swamp

**An Act to authorize the establishment of the Congaree Swamp National Monument in the State of South Carolina, and for other purposes. (90 Stat. 2517) (P.L. 94-545)**

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That in order to preserve and protect for the education, inspiration, and enjoyment of present and future generations an outstanding example of a near-virgin southern hardwood forest situated in the Congaree River floodplain in Richland County, South Carolina, there is hereby established the Congaree Swamp National Monument (hereinafter referred to as the "monument"). The monument shall consist of the area within the boundary as generally depicted on the map entitled "Congaree Swamp National Monument", numbered CS-80,001-B, and dated August 1976 (generally known as the Beidler Tract), which shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior. Following reasonable notice in writing to the Committees on Interior and Insular Affairs of the Senate and House of Representatives of his intention to do so, the Secretary of the Interior (hereinafter referred to as the "Secretary") may make minor revisions of the boundary of the monument by publication of a revised map or other boundary description in the Federal Register, but the total area may not exceed fifteen thousand, two hundred acres.

SEC. 2. (a) Within the monument the Secretary is authorized to acquire lands, waters, and interests therein by donation, purchase with donated or appropriated funds, or exchange. Any lands or interests therein owned by the State of South Carolina or any political subdivision thereof may be acquired only by donation.

(b) With respect to any lands acquired under the provisions of this Act which at the time of acquisition are leased for hunting purposes, such acquisition shall permit the continued exercise of such lease in accordance with its provisions for its unexpired term, or for a period of five years, whichever is less: *Provided*, That no provision of such lease may be exercised which, in the opinion of the Secretary, is incompatible with the preservation objectives of this Act, or which is inconsistent with applicable Federal and State game laws, whichever is more restrictive.

SEC. 3. (a) The Secretary shall administer property acquired for the monument in accordance with the Act of August 25, 1916 (39 Stat. 535), as amended and supplemented, and the provisions of this Act.

(b) The Secretary shall permit sport fishing on lands and waters under his jurisdiction within the monument in accordance with applicable Federal and State laws, except that he may designate zones where and establish

periods when no fishing shall be permitted for reasons of public safety, administration, fish or wildlife management, or public use and enjoyment. Except in emergencies, any regulations promulgated under this subsection shall be placed in effect only after consultation with the appropriate fish and game agency of the State of South Carolina.

SEC. 4. Within three years from the effective date of this Act, the Secretary shall review the area within the monument and shall report to the President, in accordance with subsections 3 (c) and 3 (d) of the Wilderness Act (78 Stat. 890; 16 U.S.C. 1132 (c) and (d)), his recommendations as to the suitability or nonsuitability of any area within the monument for preservation as wilderness, and any designation of any such area as wilderness shall be accomplished in accordance with said subsections of the Wilderness Act.

SEC. 5. (a) The Secretary may not expend more than \$35,500,000 from the Land and Water Conservation Fund for land acquisition nor more than \$500,000 for the development of essential facilities.

(b) Within three years from the effective date of this Act the Secretary shall, after consulting with the Governor of the State of South Carolina, develop and transmit to the Committees on Interior and Insular Affairs of the United States Congress a general management plan for the use and development of the monument consistent with the purposes of this Act, indicating:

(1) the lands and interests in lands adjacent or related to the monument which are deemed necessary or desirable for the purposes of resource protection, scenic integrity, or management and administration of the area in furtherance of the purposes of this Act, and the estimated cost thereof;

(2) the number of visitors and types of public use within the monument which can be accommodated in accordance with the protection of its resources;

(3) the location and estimated cost of facilities deemed necessary to accommodate such visitors and uses.

Approved October 18, 1976.

House Report No. 94-1570 (Comm. on Interior and Insular Affairs).  
Senate Report No. 94-1311 (Comm. on Interior and Insular Affairs).  
Congressional Record, Vol. 122 (1976):  
Sept. 21, considered and passed House.  
Sept. 28, considered and passed Senate, amended.  
Sept. 29, House agreed to Senate amendment.  
Weekly Compilation of Presidential Documents, Vol. 12, No. 43:  
Oct. 19, Presidential statement.

PUBLIC LAW 98-141 [H.R. 1213]; October 31, 1983

## NATIONAL PARK SYSTEM AND PUBLIC LANDS

*For Legislative History of Act, see p. 1308*

*An Act to amend certain provisions of law relating to units of the national park system and other public lands, and for other purposes.*

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Public Lands and National Parks Act of 1983".*

SEC. 2. (a) The Secretary of the Interior is authorized to accept a conveyance of approximately four acres of land adjacent to the Effigy Mounds National Monument in the State of Iowa, and in exchange therefor to convey the grantor, without monetary consideration, approximately three acres of land within the monument, all as described in subsection (b) of this section. Effective upon consummation of the exchange, the land accepted by the Secretary shall become part of Effigy Mounds National Monument, subject to the laws and regulations applicable thereto, and the land conveyed by the Secretary shall cease to be part of the monument and the boundary of the monument is revised accordingly.

(b) The land referred to in subsection (a) which may be accepted by the Secretary is more particularly described as that portion of the southeast quarter of the southeast quarter of section 28 lying south and east of County Road Numbered 561, and the land referred to in subsection (a) which may be conveyed by the Secretary is more particularly described as that portion of the northeast quarter of the northeast quarter of section 33 lying north and west of County Road Numbered 561, all in township 96 north, range 3 west, fourth principal meridian, Allamakee County, Iowa.

SEC. 3. Section 9 of the Act entitled "An Act to provide for the establishment of Cape Cod National Seashore", approved August 7, 1961 (16 U.S.C. 459b-8), is amended by striking out "\$33,500,000" and inserting in lieu thereof "\$42,917,575".

SEC. 4. Section 8 of the Act entitled "An Act to provide for the establishment of the Cape Lookout National Seashore in the State of North Carolina, and for other purposes", approved March 10, 1966 (16 U.S.C. 459g-7), is amended by striking out "\$7,903,000" and inserting in lieu thereof "\$13,903,000".

SEC. 5. Section 15 of the Act entitled "An Act to establish in the State of Michigan the Sleeping Bear Dunes National Lakeshore, and for other purposes", approved October 21, 1970 (16 U.S.C. 460x-14), is amended by striking out "\$66,153,000" and inserting in lieu thereof "\$82,149,558".

SEC. 6. Section 5(a) of the Act of October 18, 1976, entitled "An Act to authorize the establishment of the Congaree Swamp National Monument in the State of South Carolina, and for other purposes" (Public Law 94-545; 90 Stat. 2517; 16 U.S.C. 431 note) is amended by striking out "\$35,500,000" and substituting "\$60,500,000"; and by striking out "\$500,000" and inserting in lieu thereof "\$2,000,000".

97 STAT. 909

Public Law 98-506  
98th Congress

An Act

Oct. 19, 1984  
[S. 1889]

To amend the Act authorizing the establishment of the Congaree Swamp National Monument to provide that at such time as the principal visitor center is established, such center shall be designated as the "Harry R. E. Hampton Visitor Center", and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

National parks,  
monuments, etc.

SECTION 1. Section 3 of the Act approved October 18, 1976 (90 Stat. 2517), is amended by adding at the end the following new subsection:

"(c) At such time as the principal visitor center at such monument is established, such center shall be designated as the 'Harry R. E. Hampton Visitor Center'."

Waste disposal.  
16 USC 4601-22.

SEC. 2. Section 5 of the Act of July 15, 1968 (82 Stat. 354), is amended by redesignating subsection (c) as subsection (d) and by inserting the following new subsection (c) after subsection (b):

"(c) In order to protect the air, land, water, and natural and cultural values of the National Park System and the property of the United States therein, no solid waste disposal site (including any site for the disposal of domestic or industrial solid wastes) may be operated within the boundary of any unit of the National Park System, other than—

"(1) a site which was operating as of September 1, 1984, or

"(2) a site used only for disposal of wastes generated within that unit of the park system so long as such site will not degrade any of the natural or cultural resources of such park unit.

Regulations.  
Waste disposal.

The Secretary of the Interior shall promulgate regulations to carry out the provisions of this subsection, including reasonable regulations to mitigate the adverse effects of solid waste disposal sites in operation as of September 1, 1984, upon property of the United States."

Approved October 19, 1984.

LEGISLATIVE HISTORY—S. 1889:

HOUSE REPORT No. 98-1069 (Comm. on Interior and Insular Affairs).  
SENATE REPORT No. 98-553 (Comm. on Energy and Natural Resources).  
CONGRESSIONAL RECORD, Vol. 130 (1984):

Aug. 9, considered and passed Senate.

Sept. 24, considered and passed House, amended.

Oct. 5, Senate concurred in House amendments.

Public Law 100-524  
100th Congress

An Act

Oct. 24, 1988  
[S. 2018]

To expand the boundaries of the Congaree Swamp National Monument, to designate wilderness therein, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

Congaree  
Swamp  
National  
Monument  
Expansion and  
Wilderness Act.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Congaree Swamp National Monument Expansion and Wilderness Act".

SEC. 2. NATIONAL MONUMENT WILDERNESS.

National  
Wilderness  
Preservation  
System.  
16 USC 1132  
note.

(a) DESIGNATION OF WILDERNESS.—Certain lands comprising approximately 15,010 acres as generally depicted on a map entitled "Congaree Swamp National Monument Wilderness—Proposed", and dated July 1988, are hereby designated as wilderness and therefore as components of the National Wilderness Preservation System. Such lands shall be known as the Congaree Swamp National Monument Wilderness.

(b) POTENTIAL WILDERNESS ADDITIONS.—Certain lands comprising approximately 6,840 acres as depicted on the map referenced in subsection (a) are hereby designated as potential wilderness additions. Such lands shall be managed by the Secretary of the Interior (hereinafter referred to as the "Secretary") insofar as practicable as wilderness until such time as said lands are designated as wilderness. Any lands designated as potential wilderness additions shall, upon acquisition of any non-Federal interests in land and publication in the Federal Register of a notice by the Secretary that all uses thereon prohibited by the Wilderness Act have ceased, thereby be designated wilderness, shall be part of the Congaree Swamp National Monument Wilderness, and shall be managed in accordance with the Wilderness Act.

SEC. 3. MAP AND LEGAL DESCRIPTION.

Public  
information.

As soon as practicable after the date of enactment of this Act, the map referenced in section 2 and a legal description of the boundaries of the wilderness and potential wilderness addition designated by this Act shall be on file and available for public inspection in the Office of the Director of the National Park Service, Department of the Interior, in the Office of the Superintendent of the Congaree Swamp National Monument and with the Committee on Interior and Insular Affairs of the United States House of Representatives and the Committee on Energy and Natural Resources of the United States Senate. Each such map and legal description shall have the same force and effect as if included in this Act, except that correction of clerical and typographical errors in such map and legal description may be made.

**SEC. 4. ADMINISTRATION.**

Subject to valid existing rights, the lands designated as wilderness pursuant to this Act shall be administered by the Secretary in accordance with the applicable provisions of the Wilderness Act governing areas designated by that Act as wilderness, except that any reference in such provisions to the effective date of the Wilderness Act shall be deemed to be a reference to the effective date of this Act, and where appropriate, any reference to the Secretary of Agriculture shall be deemed to be a reference to the Secretary.

**SEC. 5. ADDITION TO CONGAREE SWAMP NATIONAL MONUMENT.**

16 USC 431 note.

The first section of the Act approved October 18, 1976 (90 Stat. 2517), is amended by—

- (1) inserting "(a)" after "That";
- (2) striking all after "Federal Register" and inserting in lieu thereof a period; and
- (3) adding at the end thereof the following:

"(b) In addition to the lands described in subsection (a), the monument shall consist of the additional lands within the boundary as generally depicted on the map entitled 'Citizens Boundary Proposal for Congaree Swamp National Monument', numbered 178-80,009A, dated July 1988, which shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior. The map may be revised as provided in subsection (a). The total acreage of the monument including lands described in subsection (a) and this subsection shall not exceed 22,200 acres."

Public information.

**SEC. 6. AUTHORIZATION OF APPROPRIATIONS.**

16 USC 431 note.

(a) **LAND ACQUISITION FUNDS.**—Section 5(a) of the Act approved October 18, 1976 (90 Stat. 2518), is amended by adding at the end thereof the following: "The Secretary may expend such additional sums as are necessary from the Land and Water Conservation Fund for acquisition of lands described in subsection (b) of the first section."

(b) **DEVELOPMENT FUNDS.**—Section 5 of the Act approved October 18, 1976 (90 Stat. 2518), is amended by adding at the end thereof the following:

"(c) Notwithstanding subsection (a), there are hereby authorized to be appropriated \$3,000,000 for construction and development within the monument."

**SEC. 7. LATE PAYMENT CHARGES UNDER FEDERAL MINERAL LEASES.**

30 USC 191a.

(a) **DISTRIBUTION OF LATE PAYMENT CHARGES.**—Any interest or other charges paid to the United States by reason of the late payment of any royalty, rent, bonus, or other amount due to the United States under any lease issued by the United States for the extraction of oil, gas, coal, or any other mineral, or for geothermal steam, shall be deposited in the same account and distributed to the same recipients, in the same manner, as such royalty, rent, bonus, or other amount.

(b) **EFFECTIVE DATE.**—Subsection (a) shall apply with respect to any interest, or other charge referred to in subsection (a), which is paid to the United States on or after July 1, 1988.

(c) **PROHIBITION AGAINST RECOUPMENT.**—Any interest, or other charge referred to in subsection (a), which was paid to the United States before July 1, 1988, and distributed to any State or other

recipient is hereby deemed to be authorized and approved as of the date of payment or distribution, and no part of any such payment or distribution shall be recouped from the State or other recipient. This subsection shall not apply to interest or other charges paid in connection with any royalty, rent, bonus, or other amount determined not to be owing to the United States.

Approved October 24, 1988.

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**LEGISLATIVE HISTORY—S. 2018:**

**HOUSE REPORTS:** No. 100-977 (Comm. on Interior and Insular Affairs).  
**SENATE REPORTS:** No. 100-449 (Comm. on Energy and Natural Resources).  
**CONGRESSIONAL RECORD,** Vol. 134 (1988):  
Aug. 9, considered and passed Senate.  
Sept. 26, considered and passed House, amended.  
Oct. 7, Senate concurred in House amendment.

○

APPENDIX C

MANAGEMENT OBJECTIVES FROM CURRENT STATEMENT FOR MANAGEMENT

SHORT TERM

1. Secure NPS-controlled access to the monument.
2. Complete the GMP.
3. Revise the Resource Management Plan to depict current status of the resources and needs. Updated project statements will include requests for assistance and funding.
4. Survey several areas for boundary line marking.
5. Prepare needed action plans consistent with an approved General Management Plan, Statement For Management and other plans, i.e., a visitor use study, wayside exhibit plan, and handicapped access plan.

LONG TERM

Natural Resources

1. Protect and perpetuate the monument's natural resources, including the bottomland hardwood ecosystem, by protecting the complex hydrological and biological processes. Manage these resources in ways that enhance natural ecological and hydrological processes and mitigate the adverse effects of human activities.

2. Manage the monument as an undeveloped natural area, except for such minimal facilities as may be required for the health and safety of monument visitors.
3. Manage the water resources of the monument to ensure that the water regimen is not impaired and that the adverse effects on the natural resources are minimized.
4. Educate and control visitors as necessary for the management of wildlife, the preservation of other natural resources and for the protection of the visitor.
5. Provide opportunities for fishing under applicable state laws and in conformance with other stated management objectives.
6. Minimize disturbance of natural landforms, vegetation, and wildlife habitat due to vehicle use, monument development, and public recreational activities at the monument, and restore natural ecological conditions to lands adversely affected by such uses and activities in the past.
7. Perpetuate, free from the adverse effects of human disturbance, suitable habitat conditions to support the monument's rich flora and fauna, with particular emphasis on endangered or threatened species, or species uncommon elsewhere.
8. Reduce the spread of and, to the extent necessary and practicable, eliminate existing populations of exotic animals and plants introduced through man's activities.

#### VISITOR USE

1. Encourage a range of recreational activities that do not adversely affect the monument's natural and cultural values or duplicate existing programs and facilities outside the monument.
2. Provide orientation, information, and essential services to visitors at environmentally and esthetically compatible locations. This information would solicit and encourage the visitors, as well as park neighbors, to help protect the monument's ecosystems.
3. Foster public enjoyment, appreciation, and understanding of the significance of the Congaree Swamp National Monument and its plant and animal communities.
4. Provide visitor access to remote areas of the park by use of a primitive trail system for fishing, hiking, nature study, primitive camping and other compatible recreational activities.
5. Obtain or provide water, power, communications and waste disposal systems that will meet management and visitor needs without adversely affecting the ecosystem or the scenic values.

#### VISITOR SAFETY

1. Provide for visitor safety and resource protection by disseminating information in the monument and nearby communities on the hazards associated with recreational activities in the monument.

2. Develop an efficient management capability in law enforcement as well as in search and rescue activities.

#### DEVELOPMENT

1. Ensure that development within the monument's authorized boundaries is the minimum necessary to provide essential visitor services and to support management operations.
2. Ensure that all facilities are visually compatible with each other and with the floodplain and woodland environment, and that any visual intrusions are eliminated.
3. Ensure that any and all facilities provided are in accordance with Executive Order 11988 (Floodplain Management).
4. Ensure to the greatest extent possible that all facilities utilize and contain energy efficient construction.

#### ENVIRONMENTAL EDUCATION

1. Encourage and assist in the use of the monument resources for educational purposes by schools and other groups studying river swamp or alluvial floodplain ecology.

#### ACQUISITION OF INFORMATION

1. Secure adequate information to facilitate effective management of the monument's resources and to ensure the safety of visitors and employees.

2. Encourage and participate in research by educational institutions and other suitable groups for the purpose of developing new information on which to base sound monument management.

3. Locate the national and state record trees within the boundary of the monument.

4. Determine the legal implications, through review of South Carolina's riparian law, of a change in the river channel on the presently authorized boundary.

#### LANDS

1. Establish a boundary that provides adequate protection for the monument's ecosystems.

2. Establish a permanent, surveyable boundary that does not fluctuate with natural phenomena.

#### COOPERATION

1. Cooperate with the State of South Carolina, Richland and Calhoun Counties, and other governmental agencies and private concerns for the purpose of assuring protection of monument resources and scenic values from the adverse impacts of boating, industrial development and operations, urban development, and other activities and uses.

2. Cooperate with other agencies monitoring the Congaree Swamp environment to identify, locate, and assess activities within the region that are polluting or otherwise adversely affecting monument resources.

3. Seek cooperative agreements with appropriate agencies of the State of South Carolina and involved federal agencies to study the Congaree River and determine the best possible methods of river management and the legal responsibility for that management.

APPENDIX D

REFERENCES  
AND AVAILABLE LITERATURE

A large amount of research and field studies have been conducted in the area of Congaree Swamp National Monument. The following list is excerpted from the monument's Statement for Management. Several of the items listed include extensive bibliographies. Many of the documents were either researched by the study team or the team consulted with specialists who are familiar with the documents' contents.

STATUS OF PLANNING

<u>Name of Plan/Study</u>	<u>Preparer</u>	<u>Date Approved</u>	<u>Comment on Adequacy</u>	<u>Repository</u>
ASSESSMENT OF ALTERNATIVES (GMP/WILDERNESS)	NPS	1980	NEEDS UPDATE	HDQ
AIR QUALITY MONITORING	STATE	1982	CONTINUING	HDQ
RESOURCE MGT. PLAN	NPS	1982	REVISION DUE	HDQ
STATEMENT FOR INTERPRETATION	NPS	1982	UPDATED '84	PARK
CULTURAL SITES INVENTORY	U.S.C.	1980	INITIAL	HDQ
NATURAL RESOURCE INVENTORY	GADDY	1979	ADEQUATE	HDQ
RESEARCH BIBLIOGRAPHY	U.S.C.	1979	ADEQUATE	HDQ
ARCHEOLOGICAL SURVEY	U.S.C.	1980	ADEQUATE	HDQ

ARCHEOLOGICAL FINDS	STAFF	1980	ONGOING	HDQ
STATUS OF BACHMAN'S WARBLER	HAMEL	1978	ADEQUATE	HDQ
BENTHIC MACRO- INVERTEBRATES	SMOCK	1984	ADEQUATE	HDQ
BIG TREE OF S.C.	CLEMSON	1984	ADEQUATE	HDQ
BIOLOGICAL ASSESSMENT	NPS	1980	ADEQUATE	HDQ
BIOLOGICAL RECON- NAISSANCE REPT.	CZUHAI	1972	ADEQUATE	HDQ
BREEDING BIRD	HAMEL	1979	ADEQUATE	HDQ
BREEDING BIRD CENSUS	CELY	1980	ADEQUATE	HDQ
CLADOCERANS STUDY	BERNER	1980	ADEQUATE	HDQ
CULTURAL RESOURCE STUDY	MANLY	1976	ADEQUATE	HDQ
ENDANGERED SPECIES MOUNTAIN LION	PELTON	1979	ADEQUATE	HDQ
VEGETATION OF CONGAREE SWAMP	GADDY	1980	ADEQUATE	HDQ
HERPETOFAUNAL SURVEY	MANCKE	1979	ADEQUATE	HDQ
HOLLIES OF CONGAREE SWAMP	GADDY	1979	ADEQUATE	HDQ
HYDROLOGY OF CONGAREE SWAMP	USGS	1985	ADEQUATE	HDQ
EFFECT OF HYDROPERIOD	BIRCH	1980	ADEQUATE	HDQ
INVENTORY OF HABITAT TYPES	GADDY	1979	ADEQUATE	HDQ
VEGETATION ANALYSIS	GADDY	1975	ADEQUATE	HDQ
WATER QUALITY OF CONGAREE SWAMP	BIRCH	1984	ADEQUATE	HDQ
BIOLOGIC/ENVIR. MGT SURVEY	RUDELL	1982	ADEQUATE	HDQ

Additional references used are listed below.

Central Midlands Regional Planning Council, Land Resources Management Plan for the Year 2005, June 1984.

-----, Populations Projections for the Central Midlands Region, May 1986.

Lower Savannah Council of Governments, Lower Savannah Region Overall Economic Development Plan 1986-1990, June 1986.

-----, Calhoun County Area Development Statistics (unbound), no date.

State of South Carolina, Department of Health and Environmental Control, Water Classifications and Standards, Water Classifications, Effective June 28, 1985.

-----, Department of Parks, Recreation, and Tourism, Action Plan for Outdoor Recreation in South Carolina (Revised 3/28/86).

-----, -----, Executive Summary, Outdoor Recreation, A Plan for South Carolina, 1985. November 1985.

-----, -----, Outdoor Recreation: A Plan for South Carolina, 1985. November 1985.

APPENDIX E

Congaree Swamp National Monument

Common Name

Scientific Name

PLANTS

Bald cypress	<u>Taxodium distictum</u>
Tupelo	<u>Nyssa sylvatica</u>
Oaks	<u>Quercus</u> spp.
Sweetgum	<u>Liquidambar styraciflua</u>
Loblolly Pine	<u>Pinus taeda</u>
Southern Rein-Orchid	<u>Habenaria flava</u>
Nutmeg Hickory	<u>Carya myristicaeformis</u>
Wahoo	<u>Euonymus atropurpureus</u>
Umbrella Tree	<u>Magnolia macrophylla</u>
Florida Adder's Mouth	<u>Malaxis spicata</u>
Green Fringed-Orchid	<u>Habenaria lacera</u>
False rue-anemone	<u>Isopyrum biternatum</u>
Serviceberry Holly	<u>Ilex amelanchier</u>
North American Sandalwood	<u>Nestronia umbellula</u>
Dwarf Trillium	<u>Trillium pusillum</u>
Schweinitz's sunflower	<u>Helianthus schweinitzii</u>
Barren Strawberry	<u>Waldsteinia fragarioides</u>
Smooth coneflower	<u>Rudbeckia</u> spp.

WILDLIFE

White-tailed Deer	<u>Odocoileus virginianus</u>
Turkey	<u>Melagris gallapavo</u>
Raccoon	<u>Procyon lotor</u>
Squirrel	<u>Scurius carolinensis</u>
Bobwhite Quail	<u>Colinus virginianus</u>
Hog	<u>Sus scrofa</u>
Largemouth Bass	<u>Micropterus salmoides</u>
Bluegill	<u>Lepomis macrochirus</u>
Black Crappy	<u>Pomoxis nigromaculatus</u>
Yellow Perch	<u>Perca flavescens</u>
Catfish	<u>Ictalurus</u> spp.
Gar	<u>Lepisosteus osseus</u>
Striped Bass	<u>Morone saxatilis</u>
Swamp Crayfish	<u>Procambarus clarki</u>
Chimney Crayfish	<u>Cambarus diogenes diogenes</u>
Asiatic Clam	<u>Corbicula manilensis</u>
Red-cockaded Woodpecker	<u>Picoides borealis</u>
American Alligator	<u>Alligator mississippiensis</u>
Ivory-billed Woodpecker	<u>Campephilus principalis</u>
Eastern Cougar	<u>Felis concolor</u>
Swainson's Warbler	<u>Limnothlypis swainsonii</u>
Tricolor	<u>Hydranassa tricolor ruficollis</u>
Swallow-tailed Kite	<u>Elanoides forficatus forficatus</u>
Mississippi Kite	<u>Ictinia mississippiensis</u>
Spotted Turtle	<u>Clemmys guttata</u>
Marsh Rabbit	<u>Sylvilagus palustris</u>
Fox Squirrel	<u>Scurius niger</u>
Pinewood Snake	<u>Pituophis melanoleucus melanoleucus</u>

APPENDIX F

**STUDY TEAM**

John Fischer, Park Planner, Southeast Regional Office (Team Captain)

Robert McDaniel, Superintendent, Congaree Swamp National Monument

Richard Sussman, Park Planner, Southeast Regional Office

Alan Woodrow, Landscape Architect, Southeast Regional Office

Steve Price, Environmental Protection Specialist, Southeast Regional Office

Steve Milton, Chief Appraiser, Southeast Regional Office

Valuable assistance was provided the study team by National Park Service personnel from the Regional Office's Divisions of Science and Ranger Activities, the Southeast Cultural Resource Preservation Center, the Southeast Archeological Center, and by staff at the monument.

The work of the study team was dependent in large part on the time and efforts of others. In particular, this includes personnel from the South Carolina Office of the Governor, the State Heritage Trust Program, the Office of the State Historic Preservation Officer, the South Carolina Chapter of the Sierra Club, and Georgia-Pacific Corporation.

