PROPOSED
CONGAREE SWAMP
NATIONAL MONUMENT
SPECIFIC AREA REPORT

PROPOSED CONGAREE SWAMP NATIONAL MONUMENT

SOUTH CAROLINA

United States
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PROPOSED CONGAREE SWAMP NATIONAL MONUMENT
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PROPOSED

CONGAREE SWAMP
NATIONAL MONUMENT
SOUTH CAROLINA
SUMMARY AND CONCLUSIONS

The history of the woodlands of South Carolina is that of the south in general. Much of the virgin forest still stood when the rapidly growing lumber industry moved southward in the 1880's. Giant trees representing nature's growth of centuries were harvested during the next twenty years -- giants that do not now appear except in small widely scattered and protected places such as the Congaree Swamp. Today the forest within the study area exists in a near virgin state. This magnificent forest of "specimen" trees is a rare remnant of what was once typical of southern river bottom lands. Elsewhere lumbering has all but wiped out such forest stands.

The Congaree Swamp forest would make a fine complement to the record trees of other species preserved in the upland forests of Great Smoky Mountains National Park. The swamp-like flood plain with visible former river courses reflected clearly in its topographic and vegetative patterns emphasizes the relationship of the geology to the biology of the area and is truly a remarkable ecological story deserving protection by the National Park Service. The biological and geological attributes
of the area are in themselves worthy of national recognition and all the more so since they are unique, none being presently represented in the National Park System.

A sense of urgency to acquire this area exists if intrinsic values are to be protected in light of known proposals to improve the navigability of the Congaree River and the ever-threatening possibility of extensive logging activities. It goes without saying that these adverse actions, if carried through, would destroy the nationally significant features of Congaree Swamp.

Here then along the narrow strip of land bordering the Congaree River lies an opportunity to preserve for future generations an outstanding example of a near virgin southern hardwood forested swamp.

RECOMMENDATION

It is recommended that Congaree Swamp be favorably considered for addition to the National Park System as a National Monument.
INTRODUCTION

The Congaree Swamp is a bottom land area lying along the north bank of the Congaree River approximately twenty miles southeast of Columbia, South Carolina. In the ecological sense the area may be classified as a forested swamp, being periodically flooded, interlaced with slow-moving meandering streams, having sloughs or "guts" and marshy spots. Within this area is found a typical southern river bottom hardwood forest containing such trees as sweetgum, blackgum, swamp white oak, southern red oak, willow oak, black oak, water tupelo, baldcypress and loblolly pine. This community of trees exists in a near virgin state with many "specimen trees" reaching 160 feet in height and measuring in circumference up to twenty-one feet.

In 1959 the National Park Service made a preliminary investigation of the scenic, scientific, historical and recreational values of the area. The conclusions of this survey were that a biological community of rare quality and considerable scientific value exist. Since that time there have been investigations by Service personnel of other similar areas in the southeast but none was found which appeared to contain geological and biological significance comparable to the Congaree Swamp.
Therefore in October, 1961, a study team from the Southeast Regional Office visited the area for the purpose of detailed investigations of those qualities that might recommend it for inclusion in the National Park System. This report is a result of that study. It evaluates the area primarily on the basis of its apparent outstanding biological aspects.

ACCESSIBILITY

This magnificent forest swamp is at once remote and accessible: remote in atmosphere; accessible in that it lies within one day's drive of 1.5 million people.

The Congaree Swamp is within easy driving distance from the southern and central portions of the Atlantic Seaboard. Large centers of population within 200 miles of the study area include Atlanta, Charlotte and Savannah. Columbia, with a population of over 87,000, is twenty miles northwest of the area.

U. S. Routes 1 and 321 provide good north-south access, as do Routes 378 from the west and 301 from the east. When completed, Interstate 26 near Columbia will, as a part of the Federal highway system, also serve this area. From these major roads, state and county roads lead to the proposed National Monument.
POPULATION IN GENERAL AREA

A rural atmosphere prevails throughout the vicinity of the Congaree Swamp. The local population consists mostly of tenant farm people and day laborers. This locality is not heavily populated and it is doubtful if any significant population increase will take place in the foreseeable future. As a matter of interest, the current total population for a five-state area, all of which have some area within a 200 air-mile radius of Congaree, totals 8.8 million people.

CLIMATE

In general, the climate is relatively temperate. Winters are mild with many days that encourage out-of-doors activity. Snowstorms are intermittent and sustained snow covers are rare. Spring is generally warm, but an occasional cold snap can be expected. Summers are long and hot, a period that discourages visitation to Congaree Swamp. In contrast to these hot sultry months of June through September, autumn is delightful with invigorating day and nighttime temperatures with rainfall at a minimum. Visitor use of the area can be expected to span a period of seven months each year.
ANALYSIS OF THE AREA

General Description

The proposed Congaree Swamp National Monument falls clearly in the scientific category -- in the disciplines of biology and geology.

As to whether or not the proposed area is "scenic" depends on one's definition and concept of that word. Except from the Congaree River, open vistas are lacking, but the magnificent forest associations, for all their denseness, are indeed stirringly beautiful scenes, as are the tranquil dark views gained from a john-boat while floating silently down Cedar Creek. The historical and archeological values seem to be negligible. Recreation values in the sense used by the National Park Service for active recreation pursuits are also minimal although limited fishing and limited boating would be compatible visitor-use activities.

The swamp area is a two or three-mile wide strip largely on the northeast or left bank of the Congaree River, starting at the first river bend below the City of Columbia and continuing to the Wateree River junction. On the right bank (southwest side) of the river it extends for short distances from the river, rarely exceeding a
quarter of a mile. It is limited to the southwest by the Sand Hills which in places crowd the swamp out entirely with bluffs as high as 300 feet at or near the river's edge. The swamp is in the western margin or piedmont transition of the Atlantic Coastal Plain Province.

The path of the Congaree River is so tortuous, yet leisurely, that in the thirty miles traversed by this stream, its course is over sixty miles long. The swamp area under consideration is roughly located along the middle third of the course of the river. The Congaree River flood plain is the highest level of a terrace-like series of flood plains. It is the first below the "fall-line" which passes through the City of Columbia. The river is scenic, and is both the architect and the maintainer of Congaree Swamp, which is interlaced by the Toms and Cedar Creek tributaries. The swamp is in a rich fine textured alluvium remarkably free from pebbles and cobbles, except, of course, in the bed of the Congaree River proper. The area lies within the 90 to 120-foot levels of elevation.

While Congaree Swamp is not a great quagmire and might disappoint visitors expecting knee-high water throughout with great jungles of vegetation teeming with snakes and exotic birds, "... the periodic flooding of the land in this area, together with the presence of sloughs, or guts, and bogs, and the dense growth of trees and shrubs, all combine
to fulfill the requirements in the term 'swamp', at least in the ecological sense". (An Ecological Study of the Fauna & Flora of the Savannah River Project Area, Section VIII Comparison Sites, The Congaree, William F. Hoy, Biology Department, University of South Carolina, page 294, 1955.) There are several shallow lakes. Some flats and most of the sloughs remain wet even in the dry seasons of normal years. The major portion of the swamp, however, is reasonably dry except under normal seasonal flood conditions. A few cleared fields of relatively small extent exist along both banks of the river.

Plants

Among the plants of the area are thirteen true grass species including giant cane, nineteen sedges, seven oaks including overcup oak, five hickories, seven violets, and three trees not known in any other area in the National Park System: Cyrilla racemiflora or swamp cyrilla, Planera aquatica or planertree, and Prunus umbellata or flatwoods plum. No doubt there will be others when the botanical inventory is complete.

The magnificent forest of "specimen trees" is a rare remnant of what once was typical of southern river bottom lands. Deciduous hardwoods grow on the general intermediate topographic level with huge loblolly pines on slightly higher ground and baldcypress and tupelos
Surprisingly, here in a state that boasts forest products as its second largest industry, we find a unique forest virtually uncut or otherwise disturbed.

Some baldcypress have developed very large knees, many in excess of six feet high.
on the slightly lower swampy or flooded ground. Some baldcypress have developed very large knees - some in excess of six feet high. Elsewhere lumbering has all but wiped out such forest stands. The Congaree River Swamp forest would make a fine complement to the record trees of other species preserved in the upland forests of Great Smoky Mountains National Park.

Many of the large trees which have attracted attention to the Congaree Swamp were seen during the course of the investigation and several of the larger ones of each species noted were measured for circumference at breast height (4 1/2 feet above average ground level) and for height.

Although they are large, none of them is equal in circumference to that recorded for the largest of the species as compiled by the American Forestry Association, April, 1956. However, where measured, heights are greater than those of the record trees. The table below shows the comparison between the Congaree trees and the record trees.
Another botanical character of significance is the fact that the over-mature loblolly pines appear to be of an age class of about 130 years. A few small seedlings are present but are destined to die by shading as have their countless predecessors. It is apparent that some natural catastrophe made openings in the dense forest permitting establishment of the pines. Whatever the cause, there seems to have been an interruption of the normal development of the climax forest.

Animals

The animals of Congaree Swamp have considerable interest, but are distinctly secondary to the remarkable forest vegetation. The swamp
supports animal life typical of the sort of habitat in this geographical region.

Bears have been seen in recent years nearby, if not actually in the area, and the presence of panthers has been reported. Congaree Swamp, at least, has the sort of deep wilderness atmosphere that makes such rumors seem half credible. The fauna includes deer, otter, raccoons, grey squirrels, turkey, wild ducks and geese. While the area does support a limited spectrum of avian habitats, a bird list totalling fifty species was compiled in late October and this after many birds had already migrated south.

The known fauna includes no species so endangered that preservation of Congaree Swamp is necessary to assure its survival. The same is true of the flora. For the most part, the plant species represented are common and widespread in the southern states.

Congaree Swamp is large enough to maintain its ecological integrity despite most changes that could occur in the adjoining areas and large enough to represent adequately the forest type concerned.

Geology

Geologically, the ancient granitic basement is exposed at the fall line in the City of Columbia. In the area under consideration and eastward this is overlain by gently seaward sloping marine sedimentary beds of Cretaceous and younger ages. In the Congaree Swamp
area, these rocks are hidden by alluvial deposits of the local peneplain deposited and reworked by the Congaree River. The reason for its sinuous course, typical of slowly moving mature streams, is the development of a series of terraces or topographic steps of low relief between the fall line and the Atlantic Coast. This has been brought about by the periodic eastward retreat of the coastline from the fall line by corresponding elevation and slight tipping movement of the intervening area and its seaward continuation. Each terrace is quite broad but of small vertical extent, and each slopes slightly to the east, the lowest and also youngest one being about at present sea level. As a result of these elevations, the Congaree River is now about 100 feet above sea level. It moves slowly, but with sufficient swiftness that in the Congaree Swamp it undercuts banks on the outsides of its swinging curves, redepositing alluvial debris on its inner flanks. This is easily seen by the riverborne visitor; these differences are reflected not only in the concave and convexly curved bank profiles but by the nature and condition of the vegetation clothing them. While the sedimentary river burden is of necessity carried downstream, this is apparently accomplished slowly and piecemeal. This downstream progression appears to be a process of rearrangement and redeposition, picking up the fine textured thick soils at certain points and dropping them at others. Over the years this has caused major changes in the
Congaree River course. In fact, the past channels of the Congaree River are easily recognizable over the whole of the Congaree Swamp, both in the major area on the left bank as well as in the lesser part on the river's right bank.

These abandoned river courses are indicated by "dead rivers" which are now shallow elongated curved lakes, by sloughs, and by the distribution of such tree species as cottonwoods. Not only are the foregoing relationships clearly revealed in the field and by topographic maps, but also dramatically by aerial observation either direct or through aerial photographs.

Here is truly a remarkable ecological story which certainly deserves protection and interpretation by the National Park Service for the enlightenment and enjoyment of the visiting public.

EXISTING DEVELOPMENT AND USE OF LAND AND RESOURCES

The history of the woodlands of South Carolina is that of the south in general. When settlers came, the dense stands of virgin timber seemed endless. As the population grew the giant trees of straight-grained and clear pine, oak, poplar, and gum were in the way of expanding agriculture necessary to feed the ever-growing communities.

Then, and until recently, there appeared no need for concern about the future of these forests. Much of the virgin forests still stood
when the rapidly growing timber industry moved southward in the 1880's. These giants of the forest, representing nature's growth of centuries, were harvested during the next twenty years -- giants that do not now appear except in small widely scattered and protected places such as the Congaree River Swamp. Today the forest within the study area exists in a near virgin state.

All lands within the proposed area are privately owned. They consist of forested swampland, agricultural land, developed land, and a scattering of old fields. The forested swamplands predominate and consist largely of southern hardwoods located near the river and extending back to the slightly higher northern edge of the swamp. Near and along the swamp margins and within the swamp on higher ground an over-mature stand of pine is found along with a hardwood understory. The surrounding countryside is typified by cultivated lands and scrub forests.

Principal fringe area developments are small farms, plantations, an occasional store and gas station, churches and school houses. Some farm activity has become established along the banks of the Congaree River. However, the periodic flooding of the land limits the agricultural operations but permits considerable ranging of cattle and hogs.
The grazing of livestock while not currently on a large scale, nevertheless presents a threat to the preservation of the fragile ecology. In addition to the grazing, a sizeable block of the forested swampland is leased by members of the private U. S. Hunting Club. Two unimproved roads penetrate the swamp; one extends about three miles to the river while the other extends only one mile. At the terminus of each is a two-story frame house used by members of the hunting club. A proposal to improve the channel and thus the navigability of the Congaree River has been made. It is quite certain that construction of low dams and channel dredging of the Congaree River would bring about a great change to the ecology of the swamp.

It goes without saying that any extensive logging activities within the study area would destroy major values.

Due to the proximity of the area to commercial and military airfields there is an unpleasant periodic intrusion of noise from low and high flying aircraft. These noises disturb the tranquility of the area but seem to have little effect upon wildlife.

SIGNIFICANCE AND NEED FOR CONSERVATION

The national significance of the proposed Congaree Swamp National Monument lies in:
1. Its now unique river bottom hardwood forest community associated with the swamp-like flood plain with visible former river courses reflected in its topography and vegetative patterns.

2. The remarkable size of its loblolly pine, baldcypress, tupelo, sweetgum, sycamores, cottonwood, oaks, and holly trees, not only in diameter, but especially in height.

3. The presence of a swamp ecology of the hardwood type with relatively unspoiled fauna.

These attributes are in themselves worthy of national recognition but all the more so since they are unique, none being presently represented in the National Park System.

SUITABILITY

Surprisingly, here in a state that boasts forest products as its second largest industry we find a unique forest virtually uncut or otherwise disturbed. Here, along the narrow strip of land bordering the Congaree River lies an opportunity to preserve for future generations an outstanding example of a near virgin southern hardwood forested swamp. This gem can at the same time be made available for the enjoyment of present-day people and generations to come who will seek escape from urban noise and confusion, and who possess the desire to get close to nature by guided or unguided walks and boat
Tranquil dark views are gained from a john-boat while floating silently down Cedar Creek.

The Congaree River moves slowly, but with sufficient swiftness that in the Congaree Swamp it undercuts banks on the outsides of its swinging curves, redepositing alluvial debris on its inner flanks.
trips through the forest. The Congaree River, flowing leisurely eastward, supplies the life blood that perpetuates the swamp and its ecological environment. In addition to the river, the natural scene is enhanced by meandering creeks that traverse the area. Within the confines of the swamp, the forest and river along with their wildlife present impressive scientific stories. The entire setting is one of tranquility and naturalness.

Some baldcypress has been cut on the area, but the lumbering occurred long ago and the objectionable scars have largely disappeared. In fact, the red maple trees, some of quite large size, that have taken root on top of many of the cypress stumps provide an additional interesting natural history sidelight.

The most noticeable inroad to area preservation has been the recent cutting and subsequent removal of several dying trees and a small number felled by a severe hurricane. Fortunately these forestry activities have been limited in scope, confined to a relatively restricted area, and have not penetrated the heart of the study area. Thus, the prime qualities of the forest remain virtually intact.

Preservation of these outstanding values in public ownership while the opportunity still exists would be in the national interest.

The Congaree Swamp National Monument, as proposed in this report, would contain the major and most ecologically important portion of the swamp. Within this area are many miles of waterways which serve
as natural habitat for many species of wildlife including waterfowl. Extensions of these features in the bottom lands back to high ground makes possible their easy availability for public enjoyment. Preservation of the area with due regard for its fragile qualities, while allowing its use by the public would be the basic objective of all planning, development and administration.

FEASIBILITY

Lands surrounding the study area are for the most part submarginal. The existing improvements are widely scattered and consist mostly of farm houses and outbuildings. Achieving public ownership of adequate amounts of this type of land for boundary protection purposes should not be difficult. In contrast to the lowland values adjacent to the study area, the interior or heartlands of the proposed National Monument have unestimable scientific value along with a high monetary value placed on the timber resource.

Cost of land acquisition and other inherent problems connected with obtaining so valuable an area do not dim the unique opportunity to preserve this magnificent forest for posterity, nor should they distract attention from the necessity for action without delay.

Manufacturing, forest products and farming are the primary sources of basic income of Richland and Calhoun Counties, the two that
would be affected directly by the establishment of the proposed National Monument. However, the economy of the immediate vicinity is poor and this affects the living conditions of the people who reside in this area. The high value of the timber resources within the swamp has not contributed a source of income to local residents as it has never been commercially logged.

If visitation warrants, it is probable that private enterprise will develop tourist courts and restaurants adjacent to the proposed area.

BOUNDARIES AND ACREAGES

The area under consideration embraces approximately 21,000 acres. The Beidler Tract along with five inholdings located along the north bank of the river make up the bulk of this project and would be included in its entirety.

To the north of the principal tract there are numerous parcels of land held by small land owners. There is a need to acquire some of this land, now for the most part in open fields and young pine plantations. Space is needed here for buffer areas, roads, administrative headquarters, visitor-use facilities, and personnel housing.

The suggested east and west boundaries would generally follow the Beidler Tract lines. Easements should be purchased along the south shore of the Congaree River opposite the Beidler Tract. A 500-foot strip prohibiting building construction should suffice in this area.
LAND USE AND POSSIBLE DEVELOPMENT

The visitor center, located in the National Park Service developed area where the access road approaches the swamp, would fulfill all the needs implied by the name. Here would be scientific reference collections, an information desk, and interpretive facilities. This would be the starting point and the center of visitor activities. Visitors would see and learn to know the area largely by means of guided boat trips and guided and self-guiding walks. Roadside and trailside exhibits might well be a part of the self-guiding system.

On Cedar Creek a concessioner might rent and operate shallow draft boats equipped with low power silent electric motors for leisurely trips for short distances upstream and downstream. Some log removal would be necessary to permit this kind of visitor use. The creek is too narrow to permit private boating. The rest of the channel would remain undisturbed so as not to interfere with the resident otter population or otherwise adversely affect the fragile ecology along this beautiful and serene swamp scene. In times of flood more extensive boat trips might prove feasible. In both cases interpretation by a naturalist should be provided.

Near the middle of the swamp trail access might be provided to Western Lake, Cedar Creek, record trees, baldcypress and tupelo swamps, and other features of interpretive interest. Western Lake might be
the objective of a separate self-guiding trail. The others might be visited by guided hiking groups along "Big Tree Trail."

The western section of the swamp would be accessible by the existing narrow one-way road, slightly improved, but only enough to make it smoother, not to destroy any of the forest trees by creating wide shoulders with resultant loss of the charming intimacy of the road. A parking area and boat dock would permit visitors to rent concessioner boats for a cruise on or fishing in the Congaree River. Naturalist guided boat trips would be scheduled. The return one-way road would in general parallel the entrance road a couple of hundred feet to the west. This also would be a relatively low standard road with narrow shoulders and deviating from straight alignment to avoid large trees.

The general concept is to develop the area with due regard for the preservation of its fragile qualities, while allowing its use by the public. To achieve this goal the plan is to construct warranted initial facilities for public enjoyment at the most adaptable sites. In addition, it is proposed to develop and manage the area to protect health and safety, and through interpretation, acquaint the area user with the inspirational and aesthetic values represented.