

*Goose Creek State Park
General Management Plan*



**GENERAL MANAGEMENT PLAN
FOR
GOOSE CREEK STATE PARK**

Department of Environment, Health, and Natural Resources

Division of Parks and Recreation

Planning and Development Section

November, 1992



Digitized by the Internet Archive
in 2012 with funding from
LYRASIS Members and Sloan Foundation

<http://archive.org/details/goosecreekstatep92unse>

INTRODUCTION

Planning is an essential element of effective and efficient park administration and management. The North Carolina General Assembly acknowledged its importance by passing state parks system legislation that includes planning requirements.

The 1987 State Parks Act (G.S.114-44.7 through 114-44.14) stipulates that a State Parks System Plan be prepared. Such a plan was completed in December of 1988. It evaluated the statewide significance of parks, identified duplications and deficiencies in the system, described the resources of the system, proposed solutions to problems, described anticipated trends, and recommended means and methods to accommodate trends.

The State Parks Act also requires each park to have an individual general management plan. The general management plans are required to:

...include a statement of purpose for the park based upon its relationship to the System Plan and its classification. An analysis of the major resources and facilities on hand to achieve those purposes shall be completed along with a statement of management direction. The general management plan shall be revised as necessary to comply with the System Plan and to achieve the purpose of the [State Parks Act].

The general management plan (GMP) is to be a comprehensive five-year plan of management for a park unit. GMP's function to:

1. describe park resources and facilities;
2. state the purpose and importance of each park unit;
3. outline interpretive themes and propose locations for informational and interpretive facilities;
4. analyze park and recreation demands and trends in the park's service area;
5. summarize the primary laws guiding park operations;
6. identify internal and external threats to park natural and cultural resources, and propose appropriate responses;
7. identify and set priorities for capital improvement needs;
8. analyze visitor services and propose efficient, effective, and appropriate means of responding to visitor needs; and
9. review park operations and identify actions to support efficient and effective park administrative procedures.

The GMP for Goose Creek State Park, developed with public involvement, is intended to serve these purposes.

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	
I. DESCRIPTION OF GOOSE CREEK STATE PARK.....	I-1
Location.....	I-1
Land Base.....	I-1
Visitor Use Facilities.....	I-1
History of the Park Area.....	I-3
II. PARK PURPOSES.....	II-1
Mission Statement for the State Parks System.....	II-1
Goose Creek Park Purpose Statement.....	II-1
III. SUMMARY OF INTERPRETIVE THEMES.....	III-1
Primary Interpretive Themes.....	III-1
Secondary Interpretive Themes.....	III-2
IV. PARK AND RECREATION DEMAND AND TRENDS.....	IV-1
Annual Visitation Trends.....	IV-1
Monthly Visitation Trends.....	IV-1
Visitor Information.....	IV-3
Population Density and Growth.....	IV-4
Interpretation and Environmental Education Trends.....	IV-7
Outdoor Recreation Participation in North Carolina	IV-7
Priorities of Public Outdoor Recreation Funding....	IV-9
Nearby Park Areas and Facilities.....	IV-11
V. SUMMARY OF LAWS GUIDING PARK MANAGEMENT.....	V-1
North Carolina Constitution.....	V-1
State Laws.....	V-1
State Parks Act.....	V-1
Powers and Duties of DEHNR.....	V-2
State Nature and Historic Preserve Dedication Act.....	V-2
N.C. Environmental Policy Act.....	V-2
Coastal Area Management Act.....	V-3
Federal Laws.....	V-4
Land and Water Conservation Fund Act of 1965...	V-4
Clean Water Act.....	V-4
River and Harbors Act of 1899.....	V-4
Goose Creek Master Plan.....	V-5
Goose Creek Deed Restrictions.....	V-5

VI. NATURAL AND CULTURAL RESOURCE MANAGEMENT.....	VI-1
Plant Communities of Goose Creek State Park.....	VI-1
Natural Heritage Program Element Occurrences.....	VI-3
Resource Management Issues at Goose Creek.....	VI-4
State Park	
VII. PHYSICAL PLANT INVENTORY AND LAND ACQUISITION NEEDS....	VII-1
Facility Inventory and Inspection Program.....	VII-1
Building Inventory.....	VII-2
Facilities Improvement and Repair Needs.....	VII-2
Road and Utility Inventory.....	VII-6
Major Capital Improvement Project Priorities.....	VII-10
Land Acquisition Needs.....	VII-15
VIII. VISITOR SERVICES AND OPERATIONS.....	VIII-1
Current Visitor Services.....	VIII-1
Operations Evaluation.....	VIII-2
APPENDIX A: PARK PROFILE.....	A-1
APPENDIX B: CAPITAL IMPROVEMENT REQUESTS.....	B-1

I. DESCRIPTION OF GOOSE CREEK STATE PARK

LOCATION

Goose Creek State Park is located in the eastern part of the state on the north side of the Pamlico River in Beaufort County. From the city of Washington, the park is reached by traveling east on U.S. 264 for 10 miles, then turning onto state road 1334 for 2.5 miles. To the east of the park on N.C. 92 is the historic town of Bath.

LAND BASE

Goose Creek was established in 1974 with the purchase of 1,208 acres of land from the Weyerhaeuser Company. Additional acreage has since been acquired, and the park now contains 1,597 acres.

The park's land base includes brackish marshes along the Pamlico River, evergreen shrub thickets, hardwood swamp forests, upline pine forests, cypress trees draped with Spanish moss, sandy beaches, and approximately nine miles of shoreline along the Pamlico River and Goose Creek. The broad and slow-moving Goose Creek runs along the western edge of the park. Its banks are lined with a dense growth of tall, overhanging trees that reflect on the water's surface in a beautiful, dramatic fashion.

VISITOR USE FACILITIES

In keeping with the park master plan, Goose Creek State Park has retained much of its natural and wilderness-like condition. At a public meeting held in 1975 as a part of the master plan process, the desire for such a park, with a special emphasis on nature interpretation, was expressed. Requests were also made by the public at that time for boating and fishing facilities, picnicking and swimming facilities, and camping.

Visitor-use facilities at Goose Creek currently include a park office; a picnic area with running water, grills, and 20 tables; a swimming beach with four picnic tables; a primitive family campground containing 12 tent sites, each with a table and grill; a boat ramp at Dinah's Landing on the west side of Goose Creek; and 6.9 miles of winding hiking trails.

The location of Goose Creek's facilities is shown on Figure 1.

GOOSE CREEK STATE PARK

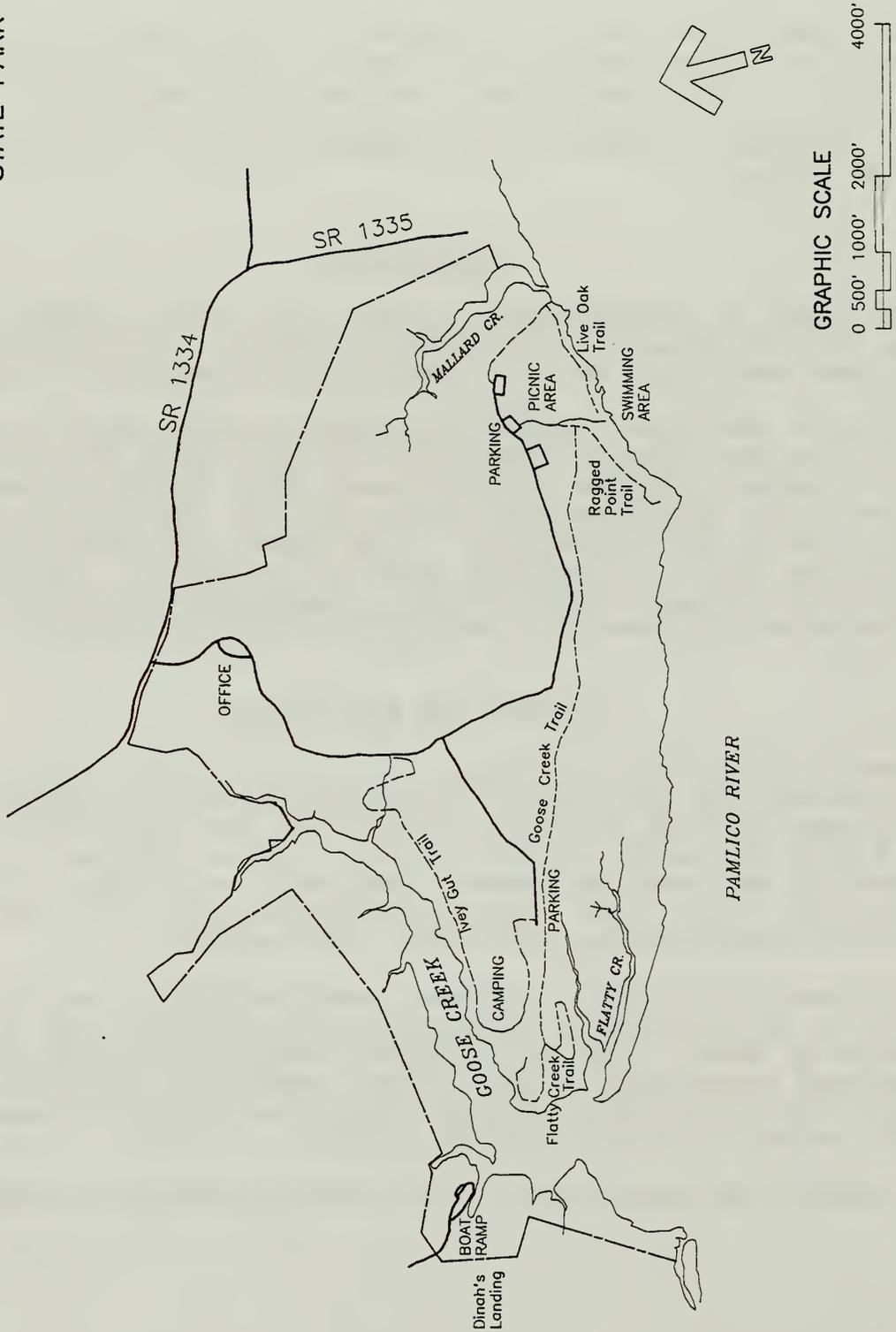


Figure 1. Facilities at Goose Creek State Park

HISTORY OF THE PARK AREA

Documented historical information on the park site area is rather sparse, but it is known that prior to the arrival of white settlers, the area was occupied by the Tuscarora Indians. An Indian village was located between Goose Creek and what is now the town of Bath. It is likely that many artifacts are present in the area.

On May 21, 1701, Captain Thomas Blount, exploring the Pamlico region, landed near Ragged Point on the present park site. Additionally, the famous explorer and surveyor-general of North Carolina, John Lawson, may have owned some land now in park ownership. Records in Bath indicate that he owned large parcels of land in the vicinity of Goose Creek in the early 1700's. The town of Bath, a State Historic Site, contains abundant historic features, including the homesite of the notorious pirate Blackbeard.

The more recent cultural past of the Goose Creek area is a history of marginal agriculture and a livelihood related to the fishing industry associated with the Pamlico River. An examination of the area exposes several old homesites and related fields that have long since been abandoned or returned to forest. Similarly, several sites along the edge of Goose Creek and the Pamlico River exhibit remains of old loading docks or piers extending into the water, a reminder of a water-related industry considerably more pervasive and important to the community as a whole than it is today.

A long, raised mound can be found on the park site, evidently an old railroad bed that extended into Upper Goose Creek -- a product of the logging operations during the early 1900's. Laborers of the Eureka Lumber Company are said to have camped in the vicinity for many years.

The logging operation initiated by the Eureka firm was taken over by the Weyerhaeuser Company, which owned not only the majority of land making up the current park site, but enormous acreages around the Goose Creek area.

The need to establish a state park in the Goose Creek area was first identified in 1963 in a report titled, "Planning for State Parks and State Forests in North Carolina." This document identified the coastal plains region as the fourth priority among needed state park locations. Several years later, at the request of interested local citizens, the Division of State Parks conducted several field trips along the Pamlico River to investigate potential state park sites. During June, 1970, the Goose Creek area was found to possess the qualities necessary for a North Carolina state park. A proposal to establish a state park at Goose Creek was made, and on September 11, 1970, the Board of Conservation and Development resolved to carry out a detailed site investigation. During this period, it was learned that most

of the property in question belonged to the Weyerhaeuser Company. Representatives from this company approached the Division in the summer of 1971 and requested that a more comprehensive study of the Pamlico region be carried out for the purpose of investigating alternative state park sites. Their contention was that the Goose Creek area was one of their most valued "banks" of timberland since it could be cut in wet seasons when none of the other lands would permit logging operations.

The Division then engaged in an exhaustive study of both sides of the Pamlico River over a period of several months. The result of this investigation was a strengthening of the original finding -- that the Goose Creek area was of primary value as a state park.

In May, 1972, Weyerhaeuser representatives met with the Department of Natural and Economic Resources' representatives and members of the Board of Conservation and Development. At this meeting, an abbreviated or revised plan was presented by Weyerhaeuser that included 1200 acres within the original proposed boundaries. On May 13, 1972, at the Conservation and Development Board meeting in Washington, North Carolina, this plan was approved.

As an indication of the support of the citizenry, a resolution was adopted on October 18, 1972, by the Southern Albemarle Association recommending the establishment of Goose Creek State Park. The Association, a body representing the people of the six-county areas surrounding the park site, addressed the resolution to the governor, Robert W. Scott.

On September 25, 1974, negotiations with Weyerhaeuser were completed, and Goose Creek State Park was officially established. A total of 1208.6 acres had been acquired for the park at a cost of \$1,115,000 -- the full market price of the land having been reduced by \$50,000 due to the reservation of mineral rights.

Initial park development was aided by a 50 percent cost-sharing grant in the amount of \$361,257 from the U.S. Department of Agriculture's Soil Conservation Service. The 1977 grant helped develop the park roadways, electrical and sewer service, and most of the park's recreational areas.

II . PARK PURPOSES

MISSION STATEMENT FOR THE STATE PARKS SYSTEM

The North Carolina state parks system exists for the enjoyment, education, health, and inspiration of all our citizens and visitors. The mission of the state parks system is to conserve and protect representative examples of the natural beauty, ecological features and recreation resources of statewide significance; to provide outdoor recreation opportunities in a safe and healthy environment; and to provide environmental education opportunities that promote stewardship of the state's natural heritage.

GOOSE CREEK PARK PURPOSE STATEMENT

Goose Creek State Park was established on September 25, 1974, to protect and provide public access to representative examples of the unique biologic, geologic, scenic, recreation, and archaeological resources of the central portion of North Carolina's lower (or outer) coastal plain. The park's resources and programs are intended to promote the knowledge, health and happiness of the residents of and visitors to this region, both now and in the future.

Representative examples of significant biologic resources found in the park include habitat for the red-cockaded woodpecker (Picoides borealis) and the following four exemplary natural community types: tidal freshwater marsh, tidal cypress-gum swamp forest, coastal fringe evergreen forest, and estuarine fringe loblolly pine forest.

The significant geologic resource in the park is the 375-acre registered natural landmark that comprises the longest segment of publicly owned, undeveloped, low-salinity estuarine shoreline in the state and, possibly, in the Southeast. Development and management aims for the park must include the protection and maintenance of this resource as an example of how geologic, topographic, and hydrologic forces interact to create a pattern of natural communities. At the same time, the park's essentially wilderness condition would be retained.

The park's significant scenic resources provide opportunities to view broad expanses of the Pamlico River and its associated estuarine marsh, water fowl, and birds of prey. Archaeologic resources include two nineteenth-century cemeteries found in the park.

Recreational opportunities at Goose Creek State Park should be compatible with one another and with the protection of the park's unique natural resources. They should not result in excessive noise. They should promote family solidarity and provide for the education, health and happiness of park visitors. Nature interpretation activities should be emphasized. Properly developed and programmed, the environmental education opportunities at the park should be extremely effective in promoting resource stewardship by illustrating the consequences of continued pollution and the destruction of species.

The park's location on the Pamlico River within the Goose Creek/Mallard Creek watershed is a strategic one for scientific studies of how land-use changes affect water quality in estuarine environments. The park plays an important role by maintaining the rural character of the immediate vicinity.

III. SUMMARY OF INTERPRETIVE THEMES

The 1987 State Parks Act defines the purposes of the state parks system. It establishes that:

The State of North Carolina offers unique archaeological, geologic, biologic, scenic and recreational resources. These resources are part of the heritage of the people of this State. The heritage of a people should be preserved and managed by those people for their use and for the use of their visitors and descendants.

It further provides that:

Park lands are to be used by the people of this State and their visitors in order to promote understanding of and pride in the natural heritage of this State.

One of the best methods of meeting these purposes is through environmental education. The Department of Environment, Health, and Natural Resources has adopted the following definition of environmental education:

Environmental education is a process that increases awareness, knowledge, and understanding of natural systems -- the interdependence of living things, the impact of human activities -- and results in informed decisions, responsible behavior, and constructive action.

Goose Creek State Park, with its excellent representation of habitat types found throughout North Carolina's inner Coastal Plain, is well suited to environmental education.

Goose Creek has two primary interpretive themes and several secondary themes. The primary themes, in order of priority, are wetlands and diversity of habitats.

PRIMARY INTERPRETIVE THEMES

WETLANDS

Wetlands are one of coastal North Carolina's most valuable habitat types. This interpretive theme focuses on the diversity of wetland types and how they evolve; how wetlands function in terms of hydrology and nutrient cycling; plant and animal habitat and how the habitat and animal users change through the seasons; the importance of wetlands to people, especially in terms of

water quality and flood and erosion control; and the uniqueness of the combination of fresh water and salt water wetlands in the park.

DIVERSITY OF HABITATS

This interpretive theme focuses on the large number of community types and successional stages exhibited in the park. It also focuses on the wide array of niches available in such a small area due to the diversity in habitats.

SECONDARY INTERPRETIVE THEMES

Ten secondary interpretive themes have been identified. They are:

- Reptiles and amphibians
- Astronomy
- Animals - mammals (skulls), beavers, insects, animal signs
- Seining
- Birds
- Nature games
- Conservation ethic
- Park history - how it came to be and where it is going
- Wildflowers
- Night hikes - on boardwalk, sensory programs

IV. DEMAND

ANNUAL VISITATION TRENDS

Annual visitation at Goose Creek almost doubled from 1981 to 1982 after the opening of the park campground and Dinah's Landing. Since 1983, when park visitation exceeded 100,000 for the first time, annual visitation has fluctuated from a high of 117,050 (1984) to a low of 101,347 (1989).

As Figure 2 illustrates, average annual visitation has been relatively flat since 1982. The average visitation for the latest four years is 109,183. This figure is not expected to change significantly over the next five years, although a small increase in keeping with overall population growth can be anticipated. If additional facilities are constructed -- such as the planned environmental education center -- or if improved information about the park increases public awareness, a concomitant rise in attendance would be expected.

Visitation counts are taken from traffic counters placed at the entrance to the park and at Dinah's Landing. The accuracy of the totals is questionable, especially in light of Park Area Recreation Visitors Survey data accumulated in 1987. This data suggested a visitors-per-car count of 2.21, far below the four visitors per car figure generally used throughout the state parks system. Figure 2, however, should be accurate as far as annual visitation trends are considered.

MONTHLY VISITATION TRENDS

As shown in Figure 3, Goose Creek receives its heaviest use from May through August. The park receives about 54.2 percent of its annual visitation in this four-month period. As expected in this coastal park with water-based recreation, warm weather results in greater attendance. Conversely, the colder months see a drop in attendance. No changes in this pattern are likely.

The monthly visitation suggests that part-time personnel should continue to be used in the busier May-through-August period. Permanent staff also need to be available to serve visitors during this period. Where possible, work scheduling should be undertaken with this in mind.

GOOSE CREEK STATE PARK VISITATION 1977-1991

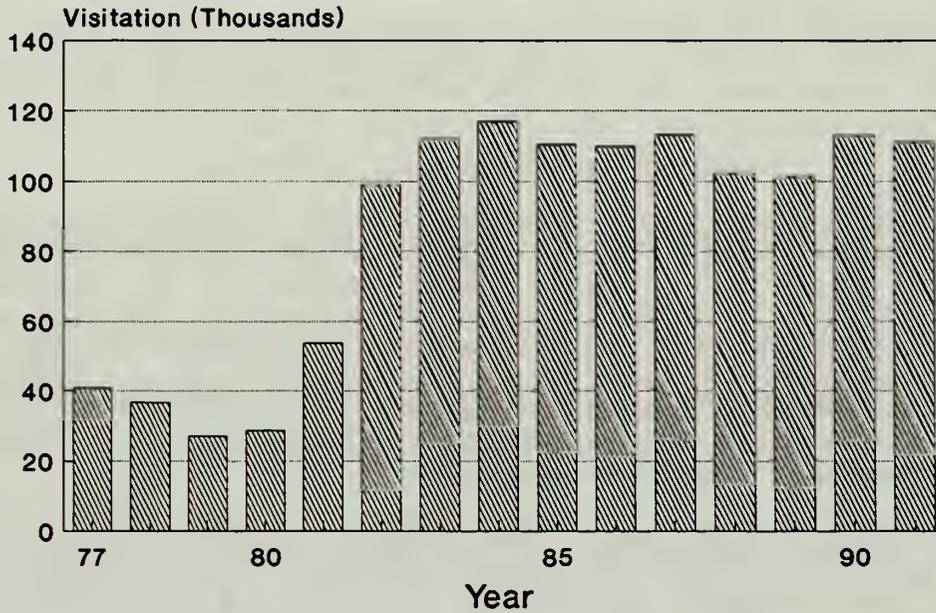


Figure 2. Goose Creek Annual Visitation

GOOSE CREEK AVERAGE MONTHLY VISITATION JULY 1987- JUNE 1991

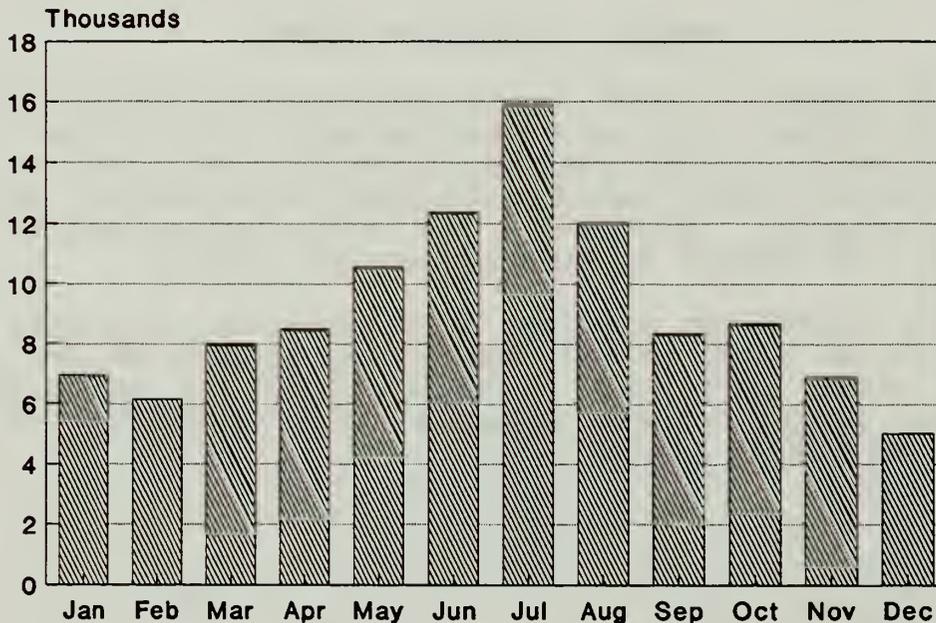


Figure 3. Average Monthly Visitation

VISITOR INFORMATION

In 1987 the U.S.D.A. Forest Service was contracted by the Department to conduct a Park Areas Recreation Visitors Survey (PARVS) of the North Carolina state parks system visitors in order to identify their socio-economic characteristics and economic contribution to the state's economy. As part of that effort, 19 groups visiting Goose Creek completed surveys. While this survey sample was not large enough to ensure the accuracy of the results, the findings are nonetheless of interest and some merit.

Why do people visit Goose Creek? Over half the visitors surveyed (53 percent) cited the convenient location; 37 percent thought other areas were too crowded; 32 percent liked the good facilities; 21 percent came to see the attraction; and 16 percent wanted to try a new area.

Goose Creek gets most of its visitation from within a 30-mile radius (68 percent), and 11 percent comes from 30-to-60 miles away. The park visitors surveyed indicated that Goose Creek served as the sole destination 79 percent of the time. While most of the visitation comes from nearby, the average one-way distance travelled was 155 miles.

Sixty-eight percent of groups surveyed indicated that they were return visitors. Of the eight state park units surveyed, Goose Creek had the highest average number of return trips per year, 12.84.

Thirty-two percent of visitors came with family members. An equal percentage came with friends, and 10.5 percent came with family and friends. The average group size was 2.47, more than one person below the average for all park units surveyed. Twenty-six percent of the groups consisted of one person, and 47.4 percent had two persons.

PARVS data indicates that 10.5 percent of groups used more than one car, and that the average number of persons per car was 2.21. If this figure were used for visitation counts, annual attendance totals would drop to about 60,000 visits annually.

The average age of the park visitor was 38.16 years. The age distribution was as follows:

Percent of Visitors by Age Group

<u>Under 6</u>	<u>6-12</u>	<u>13-18</u>	<u>19-25</u>	<u>26-35</u>	<u>36-45</u>	<u>46-55</u>	<u>56-65</u>	<u>over 65</u>
4.26	14.89	8.51	12.77	21.28	12.77	4.26	10.64	10.64

Again, not enough visitors were surveyed for this information to be as accurate as is desirable. It is useful, however, in providing a general assessment of who uses Goose Creek State Park.

From a review of PARVS data, it becomes obvious that Goose Creek serves primarily as a recreation resource for local citizens. Most visitors come from nearby, and many use the park frequently.

Since approximately 19 percent of the visitors are 12 years old or younger, demand exists for children's programs and facilities. Offering play equipment near visitor-use areas can help meet such needs and also direct children's energies away from destructive behavior impacting park natural resources. Since 21 percent of the visitors are 56 years of age and older, demand for services catering to this age group exists as well. As the elderly segment of the general population increases, demand for improved quality, accessibility, and safety should increase.

POPULATION DENSITY AND GROWTH TRENDS

Goose Creek is located in one of the more sparsely populated regions of the state. Beaufort County, with a population density of 51.09 people per square mile, ranks 71st of North Carolina's 100 counties in density. This population density is far below the 1990 state average of 136.06 people per square mile (Figure 4). Four of the six counties surrounding Beaufort County are also sparsely populated: Hyde (100th in density), Pamlico (91st in density), Washington (82nd in density), and Martin (65th in density).

The two other counties surrounding Beaufort County are Craven and Pitt. These rank 38th and 29th in population density. Craven County's population is concentrated in New Bern and Havelock, both of which are geographically situated so that access to Goose Creek is difficult. Additionally, residents of Craven County are unlikely to leave the natural and scenic beauty of the Neuse River area and nearby beaches to travel north to Goose Creek.

Because of recreational opportunities in surrounding counties similar to those found at Goose Creek, and also because of the isolating effect that the Pamlico River has on travel, Goose Creek's regional visitation comes primarily from within Beaufort County and from Pitt County. The area served by Goose Creek, therefore, is identified for purposes of this analysis as Beaufort and Pitt counties. The PARVS data supports this identification of Goose Creek's primary service area.

Figure 5 shows the population growth of Beaufort and Pitt counties from 1980 to 1990 as well as projections for 1995 and 2000.

From 1990 to 1995, the population of Beaufort and Pitt counties is expected to grow approximately 7.7 percent, a slower rate than the previous five-year period. This rate of growth will continue to exceed the rate for the entire state, projected to be 6.08

POPULATION DENSITY GOOSE CREEK AREA AND NORTH CAROLINA

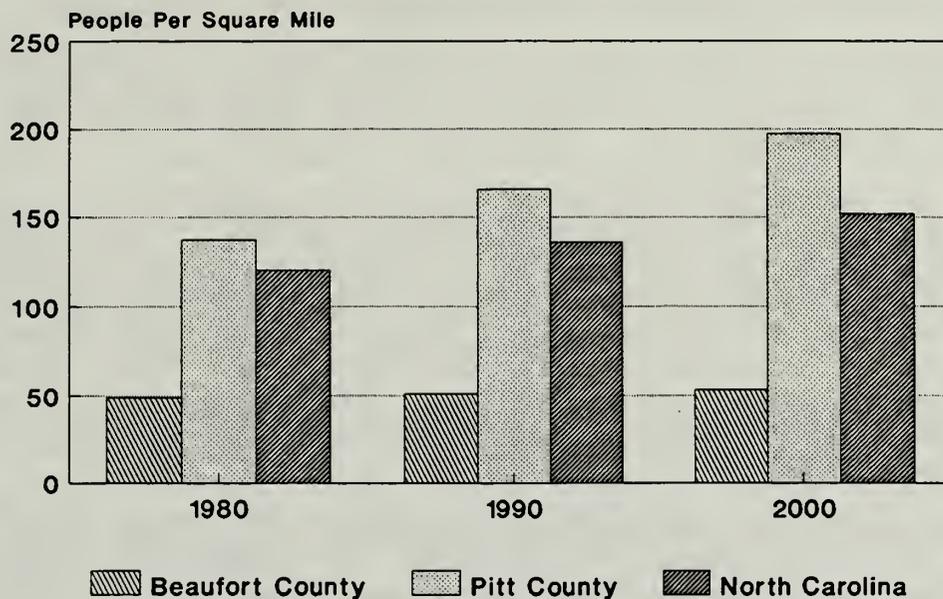


Figure 4. Population Density, GOCR Area

POPULATION TRENDS 1980- 2000 BEAUFORT AND PITT COUNTIES

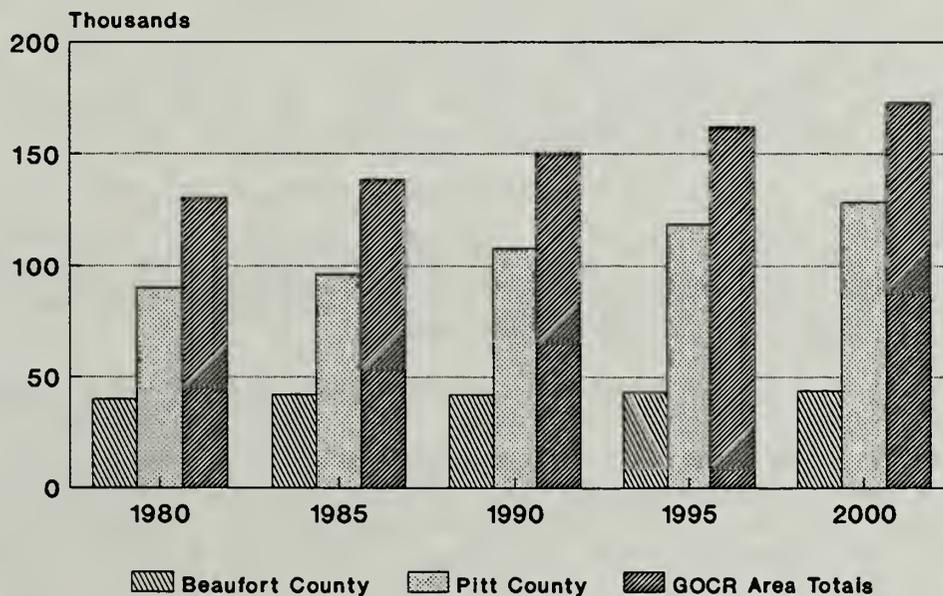


Figure 5. Population Trends, GOCR Area

percent. Most of the population growth will come in Pitt County. Pitt County's five-year rate of growth is projected to be 8.9 percent, well above the state average. The 2.45 percent projected rate of growth for Beaufort County, in contrast to Pitt, will be far below the state's rate of growth.

According to the Office of State Budget and Management, outside of catastrophic events such as a depression or outbreak of a rapidly spreading incapacitating disease, the single most influential force affecting the need for state services is the growth and shifts in population.

The state's continuing population growth suggests that visitation at Goose Creek will continue to increase as well. Both the Goose Creek area population and the state population are projected to increase at a slower rate through the decade of the 1990's than they did in the 1980's, however. When this slowing population-growth rate is considered with the relatively flat visitation trends at Goose Creek since 1983, park visitation is not expected to significantly increase due to population growth over the next five to ten years.

Population shifts in various age segments will also take place. Over the past 10 years, the number of women in their prime childbearing years has declined with the aging of the 1940's baby boomers, and the result has been a decline in the number of births. The number of women in their late teens to middle thirties is projected to change little over the next 20 years. Assuming a stable childbearing rate, the number of children in the newborn to four-year-old category will remain stable.

Public-school-age population (5 to 17) has declined significantly during the past 10 years. It has now reached a plateau that is expected to continue. The college age (18 to 24) population has declined in recent years and is likely to continue its small decline before stabilizing at the end of the century. The percentage of the 18-to-34 population started to decline in 1990.

In contrast, the growth in the middle-age and elderly population during the next 20 years is a virtual certainty, thanks to the baby boom of the 1940's. The fastest-growing age segment over the next two decades will be the over-85 segment, followed by the 75-to-84 and then the 65-to-74 segments.

Over the past 10 years, the elderly population has become an increasingly vital political force. For the short-term future, it is anticipated that the growing elderly population will confine its demands primarily to health, nursing homes, activities of daily living, and protective services. Numerous surveys have shown these areas to be of primary concern to the elderly.

While shifts in population age groups are particularly significant in school and some social programs, it is not thought that these age-group changes that will be taking place will have a

significant effect on Goose Creek State Park over the next five to 10 years. Over a longer period of time, as the elderly population grows, demand for improved services and facilities catering to this age group can be expected.

INTERPRETIVE AND ENVIRONMENTAL EDUCATION TRENDS

Figures available for park visitors participating in interpretive and environmental education activities at Goose Creek show significant growth from 1988 to 1990. In 1988, 1,060 visitors participated in environmental education programs; in 1989, 2,797 visitors participated; and in 1990, 8,514 participated. Total attendance at the various interpretive programs also increased during this period. In 1988, 4,875 persons or 4.77 percent of park visitors, participated. In 1989, 5,650 visitors (5.57 percent) participated. In 1990, participation had risen to 13,778 or 12.19 percent of park visitors.

In 1991, visitor attendance at both environmental education and interpretive programs was down significantly due to a ranger position being vacant most of the year. Without the needed staff, fewer interpretive and environmental education programs were offered, and thus fewer park visitors had the opportunity to participate.

OUTDOOR RECREATION PARTICIPATION IN NORTH CAROLINA

The five most popular outdoor recreation activities in North Carolina are walking for pleasure, driving for pleasure, viewing scenery, beach activities, and visiting historical sites. Three out of every four households participated in walking for pleasure at least once in the past 12 months (Table 1). In addition to the five most popular activities, over fifty percent of the households responding to a 1989 survey participated at least once in the following activities: swimming (in lakes, rivers, or oceans), visiting natural areas, picnicking, attending sports events, visiting zoos, and freshwater fishing.

The North Carolina Outdoor Recreation Participation Survey was mailed to 3,100 randomly selected residents in the spring of 1989. Forty-five percent, or 1,399 people, returned completed surveys. Each person receiving the survey was asked to estimate the number of times the members of his household had participated in each of 43 activities.

The survey results provide good insight into the current participation of North Carolinians in a wide range of outdoor recreation activities. The most popular activities can be determined by identifying the activities in which the highest percentage of the population participates. The survey results can also identify leisure activities that are important parts of daily routine. These regular activities are ones that respondents report participating in many times during the year.

Table 1. Outdoor recreation activities ranked by popularity.

Rank	Activity	Percentage of Households Participating
1.	Walking for Pleasure	75%
2.	Driving for Pleasure	72
3.	Viewing Scenery	71
4.	Beach Activities	69
5.	Visiting Historical Sites	62
6.	Swimming (in Lakes, Rivers, and Oceans)	54
7.	Visiting Natural Areas	53
8.	Picnicking	52
9.	Attending Sports Events	52
10.	Visiting Zoos	51
11.	Fishing - Freshwater	50
12.	Use of Open Areas	41
13.	Swimming (in Pools)	40
14.	Fishing - Saltwater	38
15.	Attending Outdoor Cultural Events	35
16.	Bicycling for Pleasure	32
17.	Other Winter Sports	31
18.	Camping, Tent or Vehicle	29
19.	Softball and Baseball	28
20.	Hunting	28
21.	Use of Play Equipment	28
22.	Power Boating	26
23.	Trail Hiking	26
24.	Jogging or Running	24
25.	Basketball	24
26.	Nature Study	22
27.	Golf	22
28.	Target Shooting	20
29.	Water Skiing	19
30.	Camping, Primitive	14
31.	Tennis	14
32.	Use Motorcycles, Dirt Bikes, ATV's	13
33.	Use Four Wheel Drive Vehicles	13
34.	Canoeing and Kayaking	13
35.	Horseback Riding	12
36.	Volleyball	12
37.	Downhill Skiing	12
38.	Football	11
39.	Soccer	7
40.	Sailboating	7
41.	Skateboarding	6
42.	Cross Country Skiing	2
43.	Windsurfing	1

PRIORITIES OF PUBLIC OUTDOOR RECREATION FUNDING

The North Carolina Outdoor Recreation Survey also asked residents to identify and rank their unmet public outdoor recreation needs. Future demand was determined by asking them which activities they would have tried more often had adequate facilities been available. Respondents were then asked to rank these activities in order of importance. A scoring system was used assigning each activity a rating of high, moderate or low future demand based on the survey results.

In the second part of the analysis, the respondents' level of support for publicly funded outdoor recreation activities was determined by asking them to identify and rank those activities to which government should give highest priority when spending public money. The same scoring system used to analyze unmet demand was then applied to the survey results, with each activity receiving a high, moderate or low rating in public support for public funding.

In the final part of the needs analysis, the two ratings were combined for each activity, producing a score of one to nine that reflected both future demand and public funding priorities. The activities that ranked high in both future demand and support for public funding received the highest priority in the needs assessment (Table 2).

Table IV-2. Scoring Matrix for Future Recreation Priorities

Future Demand	Public Support		
	High	Moderate	Low
High	1	3	6
Moderate	2	4	8
Low	5	7	9

Based on this analysis, many of the activities rated as the highest priorities are activities that are currently or could potentially be provided at Goose Creek State Park (Table 3). The activities include walking for pleasure, tent or vehicle camping, picnicking, freshwater fishing, beach activities, visiting natural areas, viewing scenery, and trail hiking. As the second fastest-growing recreational activity in the United States, bicycling is already having an impact on state parks in general and on Goose Creek. Park literature dispensed by the Division mentions that trails are for hiking only, not bicycling. With the historic town of Bath and the city of Washington a reasonable cycling distance away, current and future park demand suggests that provisions for cycling be incorporated into park operations.

Table 3. Priorities of Future Outdoor Recreation Activities

Activity	Code
Walking for Pleasure	1
Camping, Tent or Vehicle	1
Picnicking	1
Beach Activities	1
Fishing - Freshwater	1
Attend Outdoor Cultural Events	1
Visiting Natural Areas	2
Use of Play Equipment	2
Visiting Zoos	2
Visiting Historical Sites	2
Bicycling for Pleasure	3
Swimming (in Pools)	3
Viewing Scenery	4
Hunting	4
Trail Hiking	4
Use of Open Areas	4
Target Shooting	4
Swimming (Lakes, Rivers, Ocean)	4
Fishing - Saltwater	4
Camping, Primitive	7
Driving for Pleasure	8
Horseback Riding	8
Golf	8
Attending Sports Events	8
Jogging or Running	9
Nature Study	9
Softball and Baseball	9
Basketball	9
Football	9
Soccer	9
Tennis	9
Volleyball	9
Skateboarding	9
Sailboating	9
Windsurfing	9
Canoeing and Kayaking	9
Power Boating	9
Water Skiing	9
Downhill Skiing	9
Cross Country Skiing	9
Other Winter Sports	9
Use Motorcycles, Dirt Bikes, ATV	9
Use Four-Wheel-Drive Vehicles	9

NEARBY PARK AREAS AND FACILITIES

There is only one state park within a 50-mile radius of Goose Creek, and that is Pettigrew State Park. Pettigrew is located northeast of Goose Creek, about 35 miles as the crow flies and about 52 miles driving distance. Pettigrew presently contains 1,143 acres of land, and 16,600 acres of water in Lake Phelps, the second largest natural lake in North Carolina.

Pettigrew's prime attractions are the Somerset Mansion managed by the N.C. Division of Archives and History, and the excellent sport fishing found in Lake Phelps. It also offers camping, picnicking, and 5.5 miles of trails.

Although generally serving purposes that differ from state parks, several public game lands operated by the Wildlife Resources Commission and wildlife refuges operated by the U.S. Fish and Wildlife Service are found in the counties surrounding Beaufort County (Table 4).

Table 4. Public Game Lands, National Forests, and Wildlife Refuges Near Goose Creek

Name	County(ies)	Agency	Driving Miles	Acres
Swan Quarter National Wildlife Refuge	Hyde	USFWS	49	15,500
Lake Matamuskeet National Wildlife Refuge	Hyde	USFWS	58	50,000
Pocosin Lakes National Wildlife Refuge	Tyrell Washington Hyde	USFWS	34	111,000
Bachelor Bay Game Land	Washington Martin	WRC	35	9,446
Gull Rock Game Land	Hyde	WRC	68	19,436
Croatan National Forest	Carteret Craven Jones	USFS	60	157,000
Big Pocosin Game Land	Beaufort Craven	WRC	30	13,242
Tuscarora Game Land	Craven	WRC	65	1,362
Goose Creek Game Land	Beaufort Pamlico	WRC	33	7,599
Pungo River Game Land	Hyde	WRC	39	530
Hoffman Forest	Jones Onslow	NCSU	70	29,654

The city of Washington currently operates a small boating access area between Washington and Washington Park. Washington also offers boating tie-ups for up to 48 hours at its downtown bulkhead. The tie-ups provide electricity and water. The city is also working on a lease with the Wildlife Resources Commission to build and manage a large (approximately 50-vehicle parking capacity) boating access area at Tranters Creek, west of Washington. This facility is scheduled to open in 1992. When it opens, it is anticipated that use of Goose Creek for boat launching will drop. Washington offers no public swimming facilities (either pool or river), nor does it offer any camping facilities. Four private marinas operate in the Washington area.

The town of Belhaven operates one boat ramp. It also manages a beach area that includes a pier, swimming area, bathhouse, and beach volleyball. Two private marinas with boat ramps that are available for public use are also in the Belhaven area, 25 miles west of Goose Creek.

Five commercial campgrounds are located within a 50-mile radius of Goose Creek State Park. These usually offer amenities such as flush toilets and hot showers, sewage disposal, LP gas refill, picnicking, swimming, recreation rooms, fishing, and various sports. The locations and campsite information for these is as follows:

Bath - 12 trailer sites and 15 tent sites.

Belhaven - 200 semi-wooded sites (65 full hookups; 135 water and electricity).

Greenville - 100 sites (25 full hookups; 25 no hookups; 50 water and electricity).

New Bern - 101 wooded sites adjacent to the Neuse River (36 full hookups; 60 water and electricity; 5 electricity).

Washington - 220 shaded sites along river (183 full hookups; 37 water and electricity). 118 sites (41 full hookups; 77 water and electricity).

Williamston - 175 semi-wooded sites (85 full hookups; 79 water and electricity; 11 no hookups).

1990 SCORP standards indicate a need for approximately 900 campsites (primitive and tent-and-trailer) in Beaufort and Pitt counties. The total number available, including the 12 primitive sites at Goose Creek State Park and the private sites listed above, is 953. Demand and supply for camping, based upon SCORP standards, are well balanced at this time.

Although no significant impact is expected over the next five years, demand for camping will likely increase slowly in the coming years. Baby boomers (born between 1946 and 1964) spend 55

percent above average on cars, boats, and recreation vehicles. Increasing recreation vehicle sales should result in greater demand for campsites and dump stations to accommodate RV's.

Because of the abundance of Wildlife Resources Commission Game Lands and National Wildlife Refuges in Beaufort and surrounding counties, SCORP standards do not indicate a need for additional regional park acreage (the category in which state parks fall) or dispersed park acreage for Beaufort and Pitt counties.

The lack of municipal and county parks near Goose Creek may help explain why Goose Creek's visitation is so heavily composed of people who travel under 30 miles and why multiple trips annually are common. For example, the city of Washington, only 12.5 miles away and having a population of almost 10,000, does not operate any public swimming facilities, either pool or otherwise. Some of the demand for public swimming is certain to spill over to Goose Creek.

An analysis of other types of park acreage -- neighborhood, community and district -- shows that Beaufort and Pitt counties have additional acreage needs for these types of parks. Both counties are extremely low in percentage sufficiency for district and community parks, and both have under 50 percent sufficiency for neighborhood parks.

Bicycling is the second-fastest-growing recreational activity in the United States. It is a popular activity in North Carolina, as shown in the North Carolina Outdoor Recreation Participation Survey. It was also seen by North Carolinians as a priority for future public outdoor recreation activities.

State parks, including Goose Creek, are logical destination and embarkation points. Nearby Washington, Bath, and Belhaven are within easy cycling distance from Goose Creek. With mountain biking demand increasing as well, making suitable trails available for cycling and mountain biking, both inside and outside park boundaries, may be warranted. Care must be taken to ensure that off-road biking does not conflict with other trail uses or damage park natural resources.

V. SUMMARY OF LAWS

GUIDING PARK MANAGEMENT

There are many federal and state statutes, state and federal executive orders, and administrative rules and policies that govern the operation of the state parks system. A thorough listing and discussion of these will be available in the System-wide Policies Manual, which is under development.

This chapter includes a brief discussion of the primary legal basis for the existence and operation of the state parks system.

NORTH CAROLINA CONSTITUTION

Article XIV, Section 5, of the North Carolina Constitution sets overall policy by broadly defining the conservation and protection of natural resources and the acquisition of such resources as a proper function of government. The amendment reads in part as follows:

It shall be the policy of this State to conserve and protect its lands and waters for the benefit of all its citizenry, and to this end it shall be a proper function of the State of North Carolina and its political subdivision to acquire and preserve park, recreation, and scenic areas, to control and limit the pollution of our air and water, to control excessive noise, and in every other appropriate way to preserve as a part of the common heritage of this state its forests, wetlands, estuaries, beaches, historical sites, open land, and places of beauty.

STATE LAWS

STATE PARKS ACT

The State Parks Act (G.S. 113-44.7 through 113-44.14) sets forth a mission statement for the state parks system. It states that the system functions to preserve and manage representative examples of significant biologic, geologic, scenic, archaeologic, and recreational resources, and that park lands are to be used by the people of the state and their visitors and descendants in order to promote understanding of and pride in the state's natural heritage.

The State Parks Act also calls for development and periodic revisions of a System Plan to achieve the mission and purpose of

the state parks system in a reasonable, timely, and cost-efficient manner. The Act describes System Plan components and requires that public participation be a component of plan development and revisions.

The State Parks Act also calls for the classification of park resources and development of general management plans (GMPs) for each park. GMPs are to include a statement of park purpose, an analysis of major resources and facilities, and a statement of management direction.

POWERS AND DUTIES OF THE DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES

This act authorizes the Department to make investigations of the resources of the state and to take such measures as it may deem best suited to promote the conservation and development of such resources. The Act also authorizes the Department to care for state forests and parks and other recreational areas now owned, or to be acquired by the state. (G.S. 113-8)

STATE NATURE AND HISTORIC PRESERVE DEDICATION ACT

The State Nature and Historic Preserve Dedication Act (G.S.143-260.6) was authorized by Article 14, Section 5, of the North Carolina Constitution. It seeks to ensure that lands and waters acquired and preserved for park, recreational and scenic areas for the purpose of controlling and limiting the pollution of air and water, controlling excessive noise, and in every other appropriate way preserving as a part of the common heritage of the state, continue to be used for those purposes. The State Nature and Historic Preserve therefore provides a strong legal tool for protecting lands from incompatible uses.

The addition and removal of lands to and from the State Nature and Historic Preserve require a law enacted by a vote of three-fifths of the members of each house of the General Assembly.

A total of 1,327 acres within Goose Creek State Park are in the State Nature and Historic Preserve.

NORTH CAROLINA ENVIRONMENTAL POLICY ACT OF 1971

Recognizing the profound influence that man's activity has on the natural environment, the General Assembly passed the Environmental Policy Act "to assure that an environment of high quality will be maintained for the health and well-being of all..."

The Act declares that:

It shall be the continuing policy of the State of North Carolina to conserve and protect its natural resources and to create and maintain conditions under which man and nature can exist in productive harmony. Further, it shall be the policy of the State to seek, for all its citizens safe, healthful, productive, and aesthetically pleasing surroundings; to attain the widest possible range of beneficial uses of the environment without degradation, risk to health or safety; and to preserve the important historic and cultural elements of our common inheritance. (G.S. 113A-3)

While there are other General Statutes that concern the state parks system and the environment, the above-described statutes, along with Article XIV, Section 5, of the North Carolina Constitution, largely define the purposes of the state parks system and serve to guide the operation of state park system units.

COASTAL AREA MANAGEMENT ACT

Because of their inherent natural significance in the coastal environment, certain "areas of environmental concern" (AEC) are defined by and protected under the Coastal Area Management Act (CAMA). (G.S.113A-100 et.seq.) Activities within an AEC require permits, obtained from the N.C. Division of Coastal management, in addition to any other required state or local permits. Areas of environmental concern defined by the act include:

- Estuarine systems: sounds, bays tidal waters, inland fishing waters, marshes and shorelines.
- Public water supply: watersheds and well fields.
- Natural and cultural resources: areas of historic, aesthetic, scientific, or biological significance.

The Pamlico River has been designated as an estuarine and public trust AEC, and a permitting zone extends 75 feet shoreward from the Pamlico River and includes all coastal wetlands. Goose Creek is an inland water, and Coastal Management has no jurisdiction along Goose Creek except for coastal marshlands. Questions regarding AEC regulations should be directed to the Division of Coastal Management in Washington, N.C. (919-946-6481).

FEDERAL LAWS

LAND AND WATER CONSERVATION FUND ACT OF 1965

The federal Land and Water Conservation Fund Act (PL 88-578) offers protection and places restrictions on fund-assisted outdoor recreation areas.

By virtue of receiving Land and Water Conservation Fund (LWCF) grant assistance, most of the state parks system, including all of Goose Creek State Park, is subject to LWCF rules and regulation. Property acquired or developed in whole or in part with LWCF assistance cannot be converted to other than public outdoor recreation use without federal approval. A conversion may only take place if approved by the secretary of the Interior, and only then if replacement property of equal fair market value and reasonably equivalent usefulness and location is made.

LWCF requirements include: programming, operating and maintaining areas in a manner that encourages public participation; maintaining the property so it appears attractive and inviting to the public; maintaining property, facilities and equipment to provide for public safety; keeping facilities, roads, trails and other improvements in reasonable repair throughout their lifetime to prevent undue deterioration and encourage public use; keeping the park and facilities open for use at reasonable hours and times; and making future development meet LWCF rules and regulations. LWCF-assisted sites are periodically inspected by state and federal inspectors to ensure compliance with LWCF requirements.

CLEAN WATER ACT

Goose Creek has extensive wetland areas. These sensitive areas receive some protection from Section 404 of the federal Clean Water Act. The Act prohibits the discharge of dredge or fill materials into waters, including wetlands, without a permit from the U.S. Army Corps of Engineers. Activities in wetlands for which permits may be required include, but are not limited to: placement of fill material; ditching activities when excavated material is side cast; land clearing involving relocation of soil material; land leveling; most road construction; and dam construction. (33 USC 1344) The Division will avoid undertaking construction located in wetlands unless there is no practical alternative and all practical measures are taken to minimize harm to the wetland.

RIVER AND HARBORS ACT OF 1899

The navigable waters at Goose Creek State Park are subject to Section 10 of the federal River and Harbors Act of 1899 (33 USC 403). This act prohibits the obstruction or alteration of navigable waters without a permit from the Corps of Engineers. Permit review considerations include, beside navigation, those

things that would be of general public interest, such as activities affecting fish and wildlife, conservation, pollution, aesthetics, and ecology. CAMA permits may also be required.

GOOSE CREEK MASTER PLAN

A master plan for Goose Creek State Park was completed in 1976. The plan is to serve as a guide for development and management of park resources. It includes an analysis of cultural and natural resources as well as site analysis and development recommendations.

The master plan was developed with two primary objectives in mind: preserving and protection the park's unique natural condition and character, and establishing a recreation program that provides an opportunity for public enjoyment of the park's assets and wilderness condition.

The master plan still serves to guide overall park development. During the general management plan process, the existing master plan was reviewed to determine if master plan proposals are still valid or if modifications are needed. At Goose Creek, GMP evaluation determined that major changes to the master plan are not needed.

GOOSE CREEK DEED RESTRICTIONS

Both the initial 1,208 park acres and a parcel acquired later from Weyerhaeuser Company were conveyed to the state subject to the reservation of mineral rights. While extensive mineral rights are reserved, the reservation also contains language that states that Weyerhaeuser will not exercise its rights in any manner that would injure or damage park facilities or interfere with the primary use of the land for park purposes.

VI . RESOURCE MANAGEMENT

PLANT COMMUNITIES OF GOOSE CREEK STATE PARK

TIDAL FRESHWATER MARSH - OLIGOHALINE VARIANT

A low salinity estuarine shoreline community is found in low, flat areas adjacent to Goose Creek, Flatty Creek, Mallard Creek, and the Pamlico River. This community type is dominated by grasses, sedges, and rushes, especially big cordgrass (Spartina cynosuroides), sawgrass (Cladium mariscus var. jamaicense), and occasionally black needlerush (Juncus roemerianus). There is a high degree of plant and animal diversity with subtle changes in elevation, moisture regime, and salinity.

ESTUARINE FRINGE LOBLOLLY PINE FOREST

This community type is found along the margins of estuaries, between the marsh and upland or peatland communities. It is primarily dominated by loblolly pine (Pinus taeda), but often includes other tree species and a variety of shrubs. At the park, red cedar (Juniperus virginiana) is an unusual component of this and the above community type.

COASTAL FRINGE EVERGREEN FOREST

This community type occurs on upland, moist, sandy soil adjacent to the river in the southeast portion of the park and in a very small area at Dinah's Landing. Dominant trees include live oak (Quercus virginiana), loblolly pine, and other oaks. The variant occurring in the park is a northern extension of the prime range of the community type.

TIDAL CYPRESS-GUM SWAMP FOREST

This swamp forest type is found along the margins of creeks, primarily back away from the Pamlico River. It contains bald cypress (Taxodium distichum), swamp tupelo (Nyssa biflora), water tupelo (Nyssa aquatica), and a variety of other species. Pond cypress (Taxodium ascendens) is also present in limited numbers around Mallard Creek.

COASTAL PLAIN SMALL STREAM SWAMP FOREST BLACKWATER SUBTYPE

Another swamp forest type is found farther upstream on the creeks, with a shift in species composition and community structure.

NONRIVERINE SWAMP FOREST

Poorly drained upland flats away from the streams contain non-riverine swamp forests, distinguished by their location in the landscape and the presence of swamp trees such as cypress and swamp tupelo.

MATURE LOBLOLLY PINE FOREST

Some of the loblolly pine forests occur naturally, but most are planted or are a product of human activities. In most cases, these forests have replaced communities that would be dominated by longleaf pine (Pinus palustris) and pond pine (Pinus serotina) in the presence of frequent fire.

The Shortleaf Pine Variant is found on upland "islands" surrounded by wetlands which often excluded fire. An area south of the Goose Creek Trail is a remnant of an apparently natural community type.

The Silky Camellia Variant has an understory dominated by silky camellia (Stewartia malacodendron), occurring in the same area with shortleaf pine. This may be the largest population of this species in a state park. Historically, the surrounding wetlands probably excluded most fires from this area.

YOUNG LOBLOLLY PINE FOREST

Young pine forests are the result of logging about 20 years ago. These areas are found to the east of the park road.

OPEN MEADOW

An open field maintained by mowing and prescribed burning occurs near the park entrance.

POORLY DRAINED DISTURBED COMMUNITIES

Poorly drained areas that were logged and now contain loblolly pine probably once contained community types such as pocosins, wet pine flatwoods, and possibly limited pond pine woodland or Atlantic white cedar forest.

NATURAL HERITAGE PROGRAM ELEMENT OCCURRENCES

RED-COCKADED WOODPECKER SITES

Three known colony sites of this federally listed endangered species occur in the park, only two of which are apparently still active. One colony site is near the picnic and swimming area. There appears to be one or two recently active trees in the area, although many of the potential trees have been lost to southern pine beetle. The habitat appears marginal, although a burning program has been initiated in this area.

A second colony site is located near the campground. Several trees were apparently explored for nesting and abandoned this year. Several old holes have been enlarged by flickers. Although several loblolly pines have been lost to beetles, there are many potential nesting trees in this area. Prescribed burning has been initiated in the campground area.

The third colony site is along the road leading to the campground. Two recently active trees and numerous potential trees are found here. The habitat appears marginal, primarily due to excessive subcanopy. No burning program has yet been conducted on this site.

NATIONAL NATURAL LANDMARK

A 375-acre portion of Goose Creek State Park has been designated by the National Park Service as a National Natural Landmark. This landmark includes the longest segment of publicly owned, undeveloped, low-salinity estuarine shoreline in North Carolina and probably in the Southeast. Its varied natural communities, including Tidal Freshwater Marsh (brackish marsh), Estuarine Fringe Loblolly Pine Forest (marsh transition), Tidal Cypress-Gum Swamp Forest, and Nonriverine Swamp Forest, reflect shoreline response to slowly rising sea levels.

POTENTIAL REGISTERED NATURAL AREAS

Three additional areas within the park may be eligible for registry as Natural Heritage Areas.

Upper Goose Creek

This area contains high quality examples of two significant natural communities. The Tidal Cypress-Gum Swamp Forest grades into Coastal Plain Small Stream Swamp Forest. Although much of this area has been disturbed in the past, the size of the trees indicates that it is still notable and will continue to improve. This area provides excellent wildlife habitat for a wide range of species.

The Tidal Freshwater Marsh (Oligohaline Variant) grades into Estuarine Fringe Loblolly Pine Forest and additional Swamp

Forest. This area contains a very diverse character with its many transition zones, similar to the National Natural Landmark area. Although parts of it show signs of past disturbance, much of it is relatively undisturbed. The disturbed areas on the extreme west could be included as buffer.

West Side of Mouth of Goose Creek

This area is similar to parts of the National Natural Landmark, with high quality Tidal Freshwater Marsh and Estuarine Fringe Loblolly Pine Forest. The area to the west, outside the current park boundaries, is also of high biological significance and may be eligible for registry as a natural area.

Mallard Creek

This area, which was recently added to the park, contains an exemplary Tidal Freshwater Marsh and a variety of other communities. Preliminary examination indicates little disturbance in most of this area (possibly the least disturbed marsh in the park) and a high diversity of both plant and animal species. As with other areas of the park, the transition zones need further exploration, but contain additional high-quality natural communities and valuable buffer for protection of the most significant areas.

RESOURCE MANAGEMENT ISSUES AT GOOSE CREEK STATE PARK

FIRE MANAGEMENT

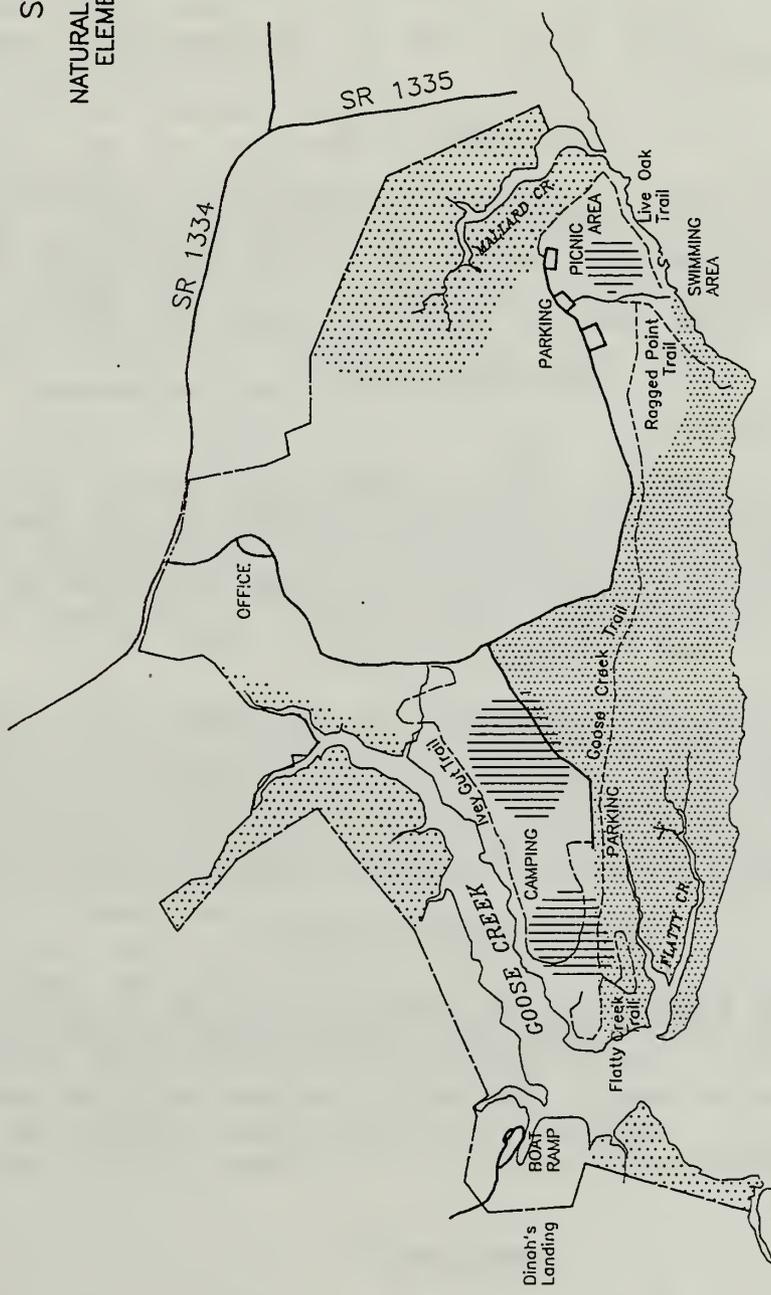
Goose Creek State Park has an approved fire management plan that includes four prescribed burn units. These four units have been burned during the winter for the past several years. The burns have been successful in reducing fuel loads and suppressing understory vegetation. Burning is thought to have helped in controlling tick populations in the visitor use areas, but no studies have been done to verify this.

Once fuel loads in these burn units have been reduced, prescribed burns should be conducted during the growing season to more closely simulate the natural fire regime. Burning early in the growing season may help to minimize conflicts with visitor uses.

In addition to converting to a growing-season burn regime in existing burn units, new burn units should continue to be added to the park's fire management program. Two areas should receive priority for addition to the burn program, which should be initiated this year if possible:

1. The burn unit near the picnic and swimming area should be expanded eastward to the Live Oak Trail to encompass all of the red-cockaded woodpecker colony in this area. In the future, an additional unit could be added between Live Oak Trail and the Mallard Creek wetlands.

GOOSE CREEK
STATE PARK
NATURAL HERITAGE PROGRAM
ELEMENT OCCURRENCES



LEGEND

-  Red-cockaded woodpecker sites
-  National Natural Landmark
-  Potential Registered Natural Areas

GRAPHIC SCALE



Figure 6. Natural Heritage Program Element Occurrences

2. A burn unit should be added on the north side of the road leading to the campground, at the location of the red-cockaded woodpecker colony site in that area. Sweet gums and other understory trees around potential nesting trees should be mechanically removed.

Burn units in other areas of the park should eventually be established, because fire played a major role in the development of most of the natural plant communities in the park. The park's fire management plan should be revised to address long-term fire management needs throughout the entire park. Areas of Goose Creek State Park have been burned for the past four years. The burning has met Division objectives and has been well received by neighboring landowners.

LONGLEAF PINE

Goose Creek State Park historically contained fire-adapted plant communities that were dominated by longleaf pine. There was probably a pine savanna community with an open-to-sparse canopy and a predominantly herb understory. A wet pine flatwoods community would have had an open-to-closed canopy of longleaf pine, sometimes mixed with pond pine or loblolly pine, and a sparse understory with more shrubs and less herbaceous diversity than the pine savanna.

These formerly present plant communities were disturbed by logging and altered by the artificial exclusion of fire for many years. Restoration of the natural, fire-dependent community types will result from restoring something as close as possible to the natural fire regime. Regeneration of longleaf is already occurring on a limited basis in prescribed burn units.

Longleaf seed trees are scattered in the park, but may not be sufficient to provide regeneration in burned areas. Distribution of seeds or seedlings from a local source would accelerate the natural regeneration process. Rapid conversion of forests to longleaf is not recommended, but as the burning program advances and openings become available, longleaf should be introduced.

PARKING AREA ISLANDS

These large areas are presently mowed regularly to create a lawn. If mowing were discontinued, they would grow up as old fields. These areas provide a good opportunity to establish some longleaf seedlings and can be easily burned to reduce the time and expense needed for mowing. Longleaf pine seedlings should be obtained from a local source and planted in the areas within the next few years.

POWER BOATS

Fast power boats and water skiers in Goose Creek have created conflicts with fishermen, canoers, and campers. The noise

disrupts visitors in the nearby campground, and the waves accelerate shoreline erosion and create hazardous conditions for slower or non-motorized boats. Division staff are exploring ways to reduce or eliminate this problem.

SPANISH MOSS

Park staff have noticed a decline in Spanish moss (Tillandsia usneoides) populations in the park. Research should be conducted to determine the cause of this decline.

TICKS

Abundant tick populations in the park annoy both visitors and staff and have the potential to transmit serious diseases. One objective of the prescribed burning program in the campground and picnic area is to control ticks. The effectiveness of the burning program in controlling ticks is unknown, because no sampling or monitoring has been conducted. Appropriate research would help to determine the effect of fire frequency, seasonality, and intensity on ticks, so that the burning program could be adjusted, if appropriate, to maximize effectiveness.

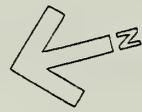
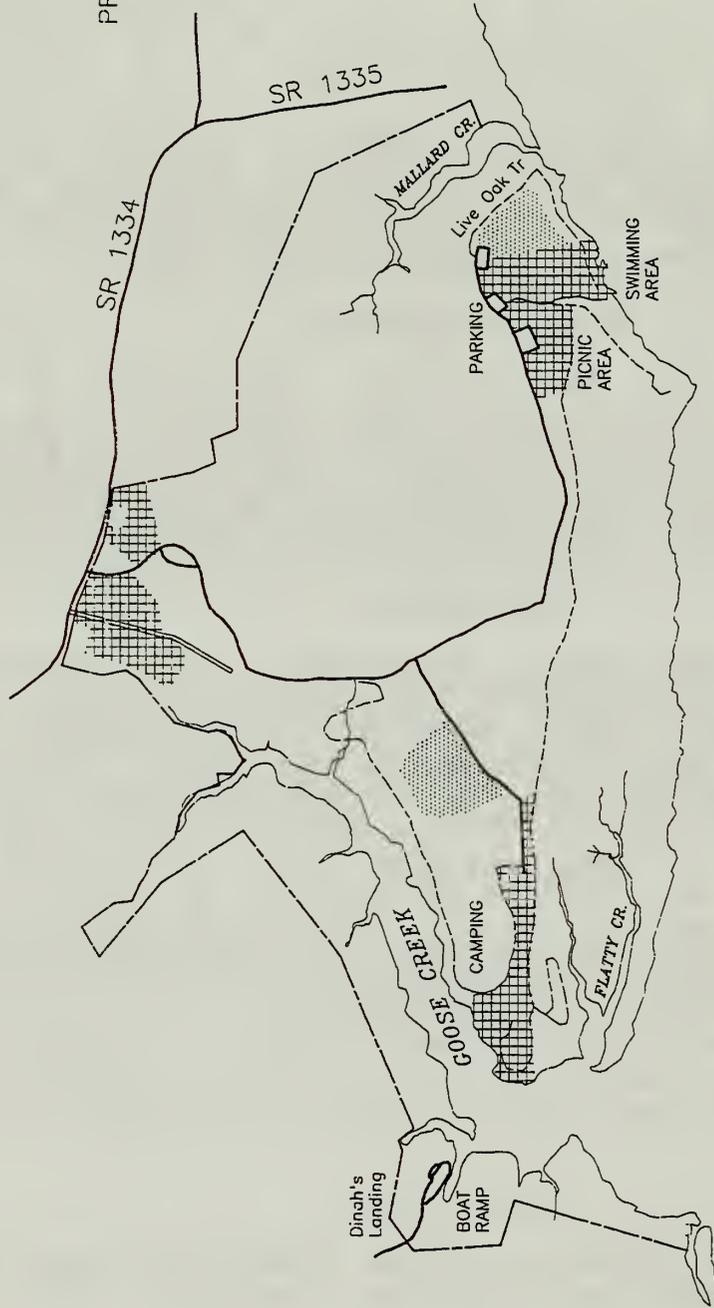
MILITARY AIRSPACE

The U.S. Marine Corps has proposed establishing a Military Operations Area, called Cherry I MOA, which would include the airspace over Goose Creek State Park. Flight altitudes would be as low as 500 feet above ground level. The Division has objected to the establishment of this MOA, and has requested that flights over the park be restricted to a minimum altitude of 3000 feet.

WATER QUALITY

The Division of Environmental Management has a water quality sampling station at the mouth of Broad Creek, just west of Goose Creek. For the last couple of years, this station has been sampled monthly at three points across the river. Prior to that, the station was sampled quarterly at only one point. The sampling program tests a variety of water quality parameters, including metals, fecal coliform, and turbidity. This sampling will help to detect any acute pollution incident or sudden change in water quality, but the data do not yet show long-term changes or trends. Aquatic grasses in the river have been disappearing, but the cause of this has not been determined.

GOOSE CREEK STATE PARK BURN UNITS and PROPOSED ADDITIONS



LEGEND

-  EXISTING BURN UNITS
-  PRIORITY ADDITIONS

Figure 7. Burn Units and Proposed Additions

VII. PHYSICAL PLANT INVENTORY AND LAND ACQUISITION NEEDS

FACILITY INVENTORY AND INSPECTION PROGRAM

The buildings in state parks are needed for park operations and visitor services. These buildings and facilities are essential components of protecting the public's health and safety. They include facilities providing safe drinking water, restrooms, and electricity, as well as recreation facilities such as bathhouses, group camps, and cabins. Without proper maintenance, these facilities are, at best, a disservice to the citizens who use them, and at worst, potentially harmful.

The Facility Inventory and Inspection Program (FIIP) is a computer-based system used to track the condition, maintenance needs, and repair costs of every building in the state parks system. A principal objective of FIIP is to identify deficiencies that may affect health, fire, or life safety. Other objectives are to identify accessibility deficiencies and other significant maintenance-related deficiencies.

During a field evaluation of each facility, deficiencies are given priority ratings of critical, serious, or minor. The deficiencies are classified in nine basic categories: site (the grounds and walkways surrounding the building); exterior envelope; interior envelope; fire/life safety; handicapped accessibility; public health; heating/ventilation/air conditioning (HVAC); plumbing; and electrical.

The field evaluation begins with an inventory of all structures in the park. The results of the inventory are presented using the building name and state property numbers as identification. Next, the types of repairs and repair costs are listed for each building. Finally, the cost summary for the park is given using the nine basic categories of repairs (e.g. exterior envelope) and the three levels of deficiencies (critical, serious, and minor).

GOOSE CREEK STATE PARK BUILDING INVENTORY

<u>CODE</u>	<u>BUILDING NAME</u>	<u>IN USE</u>
029001	Chief Ranger Residence	Y
029002	Old Shop	Y
029003	Old Park Office	N
029004	Pumphouse	Y
029005	Tractor Shed	Y
029006	Truck Storage Building	Y
029007	Wood Storage Building	Y
029008	Tobacco Barn	Y
029009	Pit Toilet	N
029010	Pit Privy	Y
029011	Pit Privy (demolished)	N
029012	Pit Privy (demolished)	N
029013	Superintendent Residence	Y
029014	Park Office	Y
029015	Wellhouse	Y
029016	Wellhouse	Y
029017	Public Restroom	Y
029018	Public Restroom	Y
029019	Information Kiosk	Y
029020	Shelter 1	Y
029021	Shelter 2	Y
029022	Tractor Shed	
029023	Ranger Residence	Y

FACILITIES INSPECTION AND IMPROVEMENT

As of May 13, 1991, with the exception of simple maintenance work needing completion, the majority of the park's facilities were in very good condition. When the maintenance work is done, at an estimated cost of \$15,000, all facilities will be in excellent condition. Maintenance needs are listed below.

MAINTENANCE NEEDS

<u>Bldg. #</u>	<u>Building Name/Need</u>	<u>Demolition Cost</u>	<u>Repair Cost</u>
029001	<u>Chief Ranger Residence</u> Restain siding Replace floor under water heater Replace heating unit		\$ 7,468.00
029002	<u>Old Shops</u> (Demolish)	\$ 1,770.00	
029003	<u>Old Park Office</u> (Demolish)	2,528.00	
029006	<u>Truck Storage Building</u> (Demolish)	3,034.00	

<u>Bldg. #</u>	<u>Building Name/Need</u>	<u>Demolition Cost</u>	<u>Repair Cost</u>
029007	<u>Wood Storage Bldg</u> (Demolish)	843.00	
029008	<u>Tobacco Barn</u> (Demolish)	843.00	
029013	<u>Superintendent Residence</u> Electrical		375.00
029014	<u>Park Office</u> 6FI Outlets		375.00
	Replace exterior door		476.00
	Replace thresholds for handicap access		375.00
	Restripe 3 handicap parking spaces		101.00
	Replace attic fan motor		263.00
	Remove existing heater		75.00
029015	<u>Wellhouses</u> Replace missing vent		39.00
	Replace washer in spigot		17.00
	Replace 2 wood doors with metal doors		800.00
029016	<u>Wellhouse</u> Replace missing vent		39.00
	Replace 2 wood doors with metal doors		800.00
029017	<u>Public Restroom</u> Lower drinking fountain		170.00
	Replace thresholds at doors (too high for handicapped)		252.00
	Replace electrical fixtures		450.00
	Restripe 2 install signs (handicapped)		201.00
	Paint metal braces		113.00
	Replace hinges		158.00
	Regrade		573.00
029018	<u>Public Restroom</u> Restripe parking (handicap)		84.00
	Lower drinking fountain		170.00
	Replace broken skylight		240.00
	Replace hinges		90.00
	Repaint metal braces		113.00
	Regrade		573.00
		=====	=====
	Demolition Total:	\$ 9,018.00	
	Total - FIIP Maintenance Items:		\$14,390.00
	Total - Demolition and FIIP:	\$23,408.00	

GOOSE CREEK STATE PARK BUILDING LOCATIONS

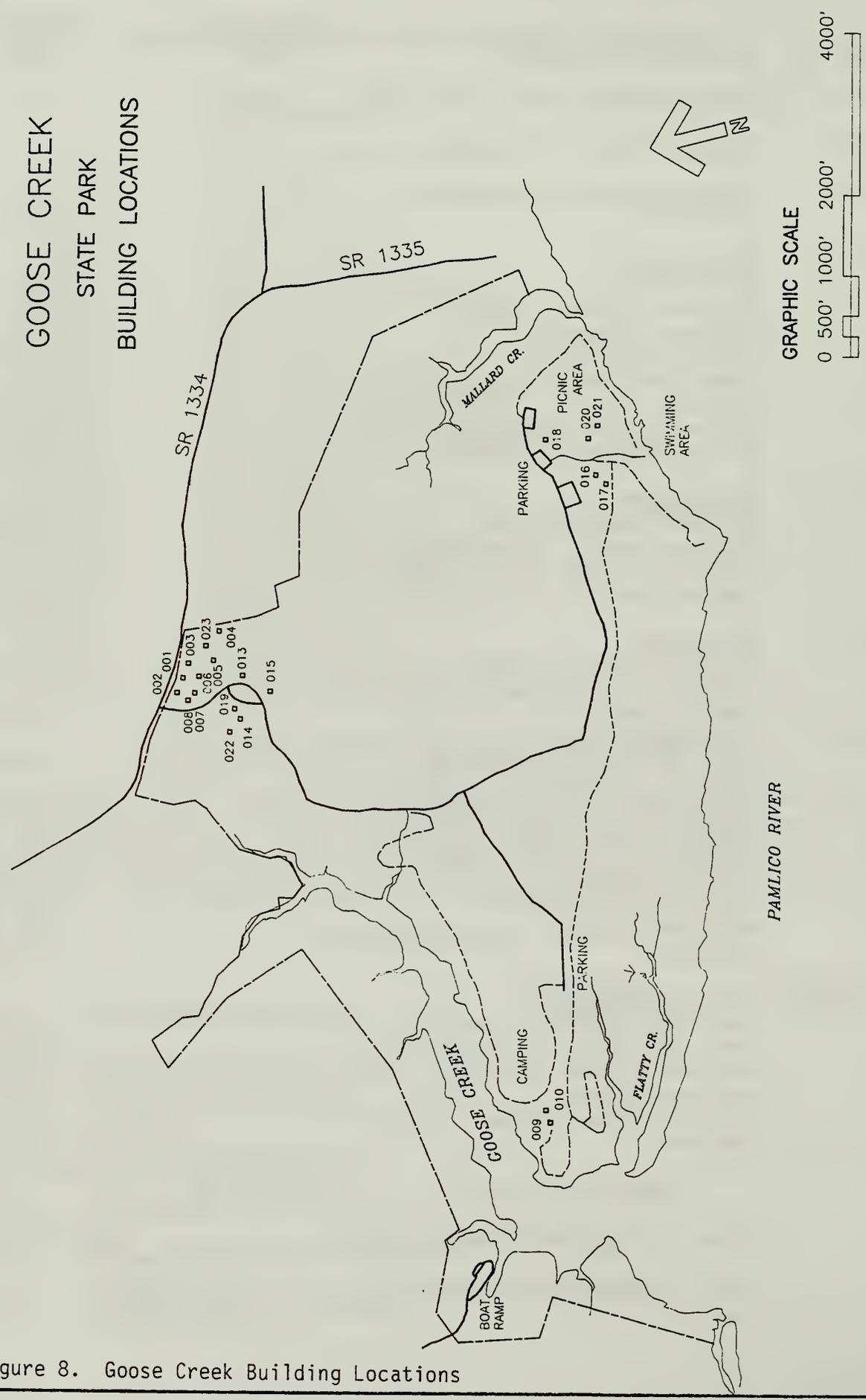


Figure 8. Goose Creek Building Locations

Changes to the public restrooms #029017 and #029018 are recommended. They are as follows:

1. Remove existing wood partitions and install new solid plastic partitions, doors, and stainless steel hardware in all restrooms.
2. Install 6" X 6" quarry tile floors.
3. Install 4" X 4" wall tile 8'-0" high (ceramic).
4. Install new handicapped grab bars, mirrors and shelf.
5. Install in each restroom a 160 CFM exhaust fan.

The approximate cost is \$8,500 per restroom.

GOOSE CREEK STATE PARK FACILITY REPAIR NEEDS SUMMARY

<u>DEFICIENCY CATEGORY</u>	<u>PRIORITY 1 (CRITICAL)</u>	<u>PRIORITY 2 (SERIOUS)</u>	<u>PRIORITY 3 (MINOR)</u>	<u>CATEGORY SUBTOTAL</u>
SITE	5562	0	4601	10163
EXTERIOR ENVELOPE	0	3335	555	3890
INTERIOR ENVELOPE	0	120	473	593
FIRE/LIFE SAFETY	0	0	0	0
HANDICAPPED ACCESS	421	728	202	1352
PUBLIC HEALTH	0	0	0	0
HVAC	0	6263	75	6338
PLUMBING/UTILITY	0	17	0	17
ELECTRICAL	426	375	863	1663
=====				
	6409	10837	6769	24014

Deficiencies that are a threat to fire and life safety or the health of an individual are considered to be "critical." A "serious" deficiency is one that is not considered a threat to fire and life safety, but which could cause further damage to the structure if left uncorrected. "Minor" deficiencies are those that require general maintenance and repair.

ROAD AND UTILITY INVENTORY

This section gives a brief description of the park infrastructure (roads and water, sewer, electrical and telephone systems) and makes general recommendations on upgrading and maintaining these systems. Because of major capital improvements to the park in 1981, including paving the main park road and installing all major utilities, the overall infrastructure of Goose Creek State Park is in good shape.

EXISTING CONDITIONS - ROADS

According to the ITRE study completed in March 1990, there are 2.8 miles of paved roads, 2.08 miles of unpaved roads, 3,539 square yards of paved parking, and 169 square yards of unpaved parking areas. There was no recommendation by ITRE to patch any of the roads or parking areas. Since July 1, 1990, all park roads except for parking areas are maintained by the N.C. Department of Transportation. In 1991, \$200 was allotted to scrape the 2.08 miles of dirt road at Goose Creek. During a site inspection made on the roads on May 1, 1990, several cracks in the pavement were noted, primarily along the drainage canal that runs parallel to the road. The cracks are caused by root damage from trees along the canal. The pavement has several low areas that hold water during rains, probably caused by a poor base material being used along the sides of the canal. The road shoulders are only about 2 to 3 feet in width. Budget restraints prevented the road from being widened in 1981. The new road alignment follows old logging roads built by Weyerhaeuser Company.

The road shoulders are in good shape except for approximately 2,200 linear feet that need additional fill dirt and reseeding. The dirt roads within the park receive very little traffic and are in good shape.

RECOMMENDATIONS FOR ROAD AND PARKING AREAS

Road maintenance should be increased under our annual Department of Transportation Agreement to take care of needed patching (approximately 25 square yards) and to seal cracks caused by tree roots. Approximately 7,000 linear feet of trench work is needed to prevent further root damage. Trenching would be more economical than removing the trees along the canal. The N.C. Department of Transportation needs to reseed the road shoulders that have unsatisfactory stands of grass. The annual Department of Transportation maintenance agreement should cover seeding. The estimated maintenance cost is approximately \$2,000. Parking lot striping will be needed within the next three years and can be taken care of by the park operations budget. The roads to the primitive camp and Dinah's Landing do not need paving until traffic loads increase. They are easily maintained due to the sandy soils.

EXISTING CONDITIONS - WATER SYSTEMS

The park is served by two main water wells in the park. One is behind the maintenance area and serves the park office, maintenance shop, and two ranger residences. The other is between the two toilet buildings at the family day-use area and serves the two toilet buildings and the drinking fountains at the picnic area. Both systems have their own pressure tank, chlorinator, well house, and PVC piping distribution system. Both systems are in working order. The two well houses need a metal door. A third shallow well with a hand pump is located in the primitive camp area. There is no electrical service to this area. The well has a history of contamination and a high sulfur content. The Division of Health Services recommends that we abandon this well. Overall the water system is in good shape.

RECOMMENDATIONS FOR THE WATER SYSTEMS

1. If development plans for the camping area are not funded, a new water line should be installed from the maintenance area to the primitive camp area. In addition, the storage capacity at this well needs to be enlarged to accommodate extra water usage at the camping area.
2. Replace doors and buy a spare chlorinator for each well site. The estimated cost is \$2,000 for each site.

EXISTING CONDITIONS - SEWER SYSTEM

The park is served by a conventional septic tank and nitrification field for each building that has public use. The soils are sandy and all buildings are located on high ground. There are several park areas with unsuitable conditions for sewage disposal due to high ground water, but most development is planned for the higher locations.

There are five different sewer systems located at the park, ranging in size from 1,000-gallon septic tanks at each residence to a 3,000-gallon septic tank at the swimming, toilet building, and office maintenance area. The toilet building at the picnic area is serviced by a 2,000 gallon septic tank. All drain fields have five lines, 80 feet in length. All systems have been inspected by Health Services and are in good condition.

RECOMMENDATIONS FOR THE SEWER SYSTEMS

1. Install manhole rings and a cover on each tank for annual inspection and cleaning. Estimated cost is \$2,500.
2. Mow drain fields annually and check for any failures.

EXISTING CONDITIONS - ELECTRICAL DISTRIBUTION SYSTEM

The park is served by an underground power line that is metered at each individual building. The power line goes underground at the former park entrance located off SR-1334. It then goes to the office area and follows the main road to the swimming day-use area. There are approximately 11,000 linear feet of primary power cable and 1,500 linear feet of secondary cable. There have been no problems with the system.

RECOMMENDATIONS FOR THE POWER DISTRIBUTION SYSTEM

Since the city of Washington's power company owns the power distribution system, no scheduled maintenance by park personnel should be necessary. The park superintendent should contact the power company to ensure periodic inspection of the power line.

SUMMARY OF ROAD AND UTILITY INVENTORY

There have been no major problems thus far with the roads or park utilities. The park roads will probably have to be resurfaced within the next five years. Except for the well in the primitive camping area, the utilities should be sufficient for at least three more years. The well pumps may have to be replaced in the near future, but these are not major items.

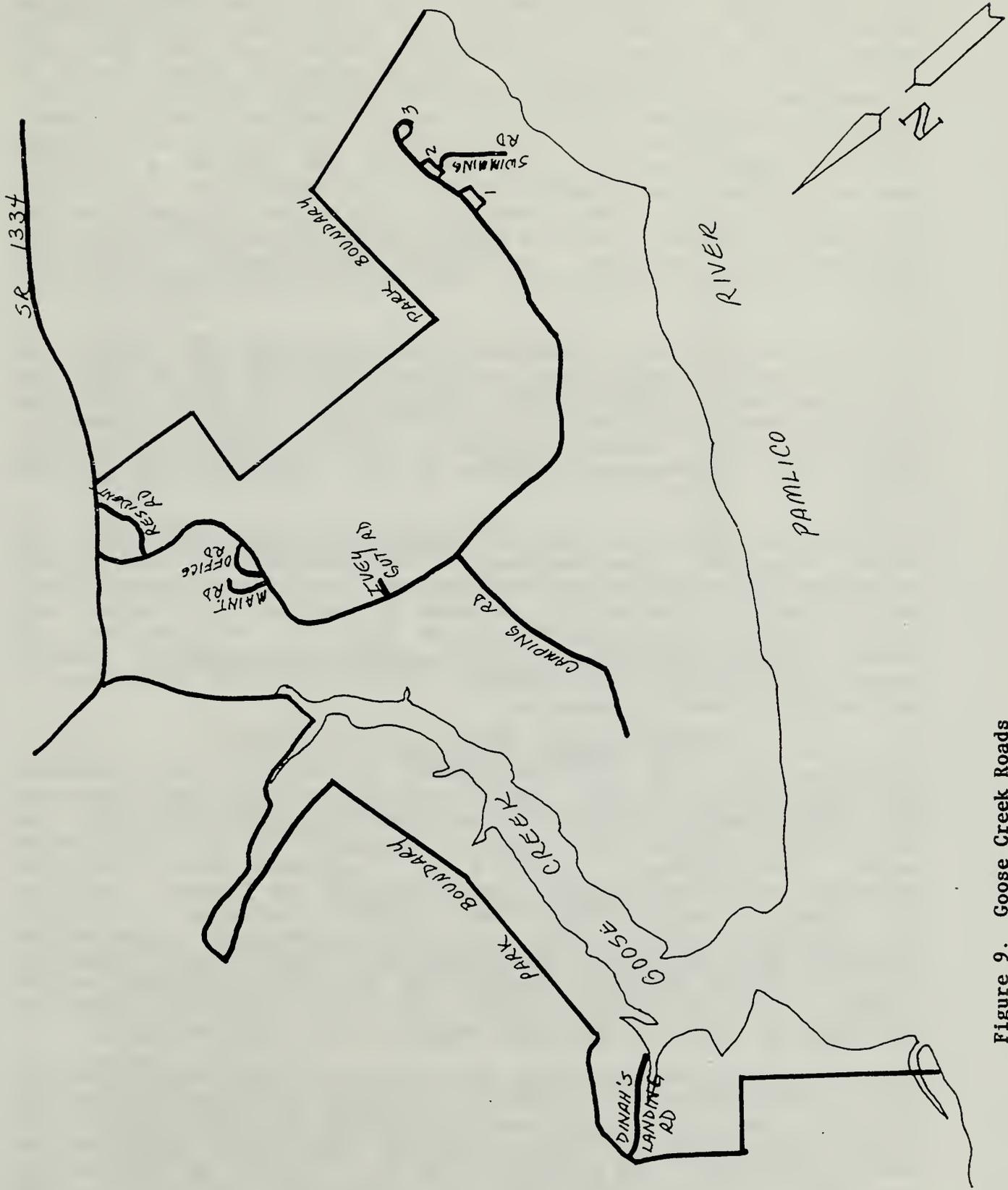


Figure 9. Goose Creek Roads

MAJOR CAPITAL IMPROVEMENT PROJECT PRIORITIES

The Goose Creek State Park Master Plan describes the long-range vision of what the park should be. A significant portion of the master plan is devoted to identifying short-term and long-term development plans for the park. The development plans are to be implemented by identifying and detailing specific capital improvement projects that can be constructed through the state construction process. By identifying, evaluating and ranking each development project, the Division has created a priority list of capital improvement projects for each park and for the state parks system. The Goose Creek State Park project ranking is based upon objectives such as promoting public health, protecting natural resources, enhancing environmental education, increasing public accessibility, and improving the park's appearance.

As a part of the general management plan process, the master plan with its proposed development was carefully reviewed to determine if changes were needed. Such a review had not been undertaken since the master plan was published in 1976. Changes in development plans were deemed necessary. The original development project list, recommended changes to that list, and the revised project list follow.

In reviewing master plan capital improvement recommendations, the general management plan evaluation team considered factors such as changes in environmental regulations, condition of facilities, natural heritage inventory, changes in recreation demand, park visitor safety considerations, State Parks Act stipulations, and current recreation demand. This review of proposed capital improvements resulted in changes, additions, and deletions to capital improvement proposals.

The Division's Systemwide Plan and Environmental Education Guidelines call for the development of regional environmental education centers (EEC's). These centers will provide comprehensive environmental education services of both overnight and day-use programming, with special emphasis on the surrounding region. The placement of EEC's on a regional basis will help implement statewide programs, particularly for teacher training, with themes covering natural and cultural resources. The EEC's will provide study areas for field learning experiences, research, and information dissemination. Programs will emphasize multi-day field learning experiences for school groups and on teacher training opportunities and environmental education workshops for other groups when school is not in session.

Goose Creek has been selected as a site for placement of an EEC for several reasons: The park has outstanding natural resources, which are easily accessible and can absorb increased use; it has several representative habitats of its geographic region of the state; sufficient land exists on which to locate an EEC without negatively affecting existing park operations and use; the EEC

could be located away from existing park uses and outside influences; Goose Creek has a good population base within a 50-mile radius; and the park has a diversity of available natural resources.

ORIGINAL PROJECT PRIORITY LIST

Rank	Description	Mean Score	Total Costs
1.	Environmental Education Center	578	\$2,407,000
2.	Water Supply to Primitive Camp	566	35,800
3.	Tent and Trailer Campground	538	542,500
4.	Personnel Barracks	483	150,000
5.	Warehouse	471	130,000
6.	Group Camp/Rd/Ut/Beach/Pier/Sites/Pl	462	688,600
7.	Vehicle Storage Shed	454	40,752
8.	Boat Launch/Pier/Clean Fac & Chan Dredge	453	24,200
9.	Picnic Area, Fam Day-Use/Beach/Bh/Pl/Sites	427	400,000
10.	Visitor Center Complex	425	418,000
11.	Parking/Access Rd - Dinah's Landing	402	110,209
12.	Ranger Residence	398	117,300
13.	Trails	363	139,700
14.	Tent Camping/Boat Dock/Walk-in	300	11,000
15.	Primitive Campsites, Family	282	66,000

RECOMMENDED CHANGES TO PROJECT PRIORITY LIST

PROJECTS WITH REVISED COST ESTIMATES AND UNCHANGED SCOPES

1. L - Wilderness camping (revised to \$73,100) delayed until land is purchased.

PROJECTS TO BE DELETED

1. Visitor Center Complex (\$418,000) - combined in EE Center.
2. Group camp, road, parking lot, group picnic area (\$688,600) delayed due to lack of demand. Existing picnic area to serve groups.
3. Dinah's Landing pier, ramp, dredging (\$24,200) delayed until demand increases.
4. Dinah's Landing parking and access road (\$110,209) delayed until demand increases.
5. Picnic area, beach, bathhouse, family picnic area (\$400,000) delayed until river quality improves and demand increases.
6. Ranger residence (\$117,300) combined into EEC project.

7. Tent camping boat dock (\$11,000) combined into primitive campsite improvements.
8. Warehouse (\$130,000) combined into maintenance area improvements.
9. Vehicle storage building (\$40,752) combined into maintenance area improvements.

PROJECTS WITH CHANGED SCOPES

1. Water supply to primitive campsites (\$259,300) revised to include clivus multrum toilets, boat dock tent pads on Goose Creek, large shelter in picnic area and enlarged parking area.
2. Trails (\$541,300) revised to include interpretive displays and EEC-related trail expansion.
3. Family tent and trailer campground (\$695,700) revised location requires additional access road length.
4. EE Center (\$3,236,200) scope revised to increase size of groups, building equipment, manager's residence, include visitor center functions.

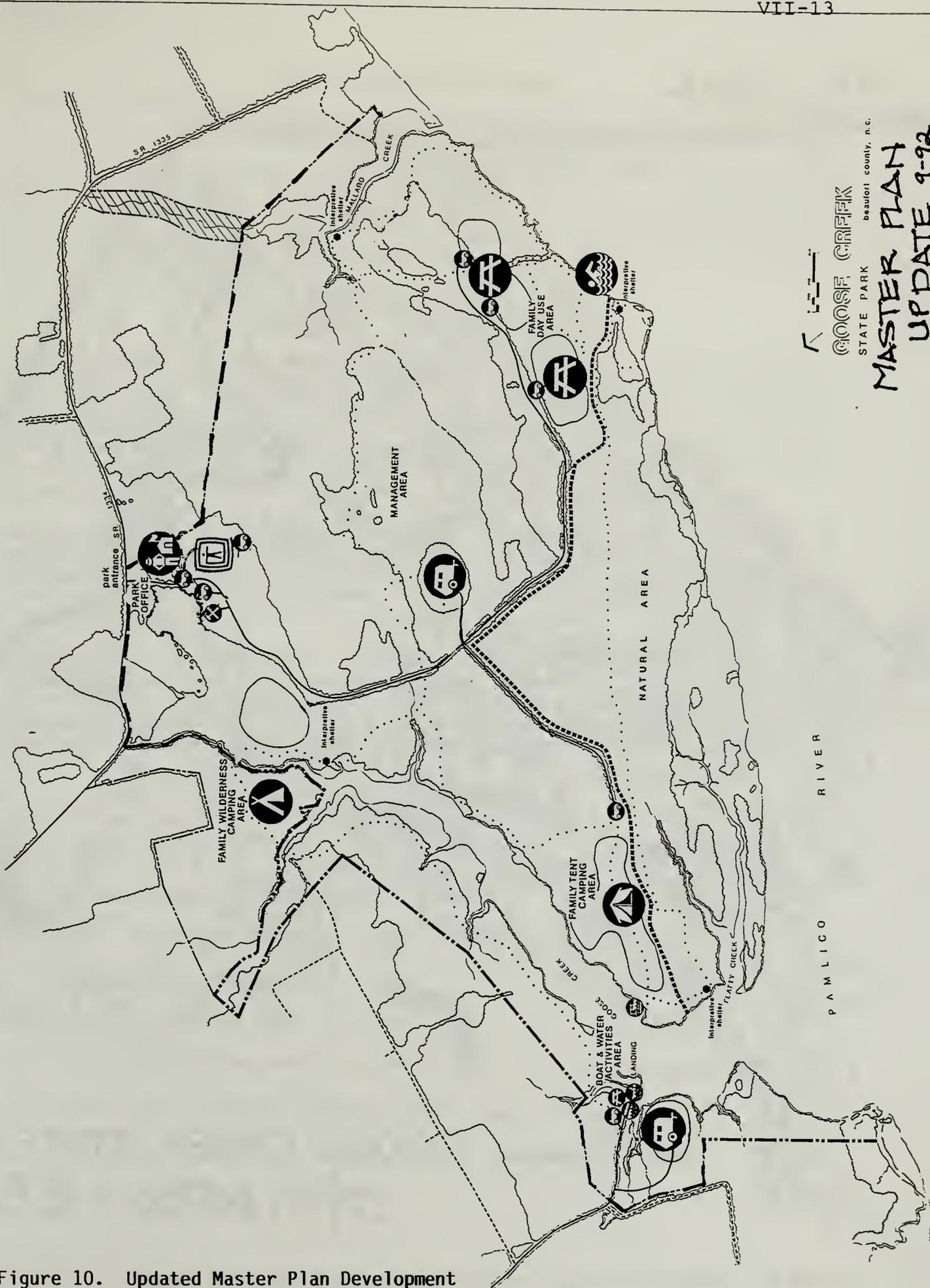
PROJECTS PROPOSED TO BE ADDED TO LIST

1. Maintenance area improvements (\$619,800) combines personnel barracks, warehouse, vehicle storage building, lumber shed and flammable storage building into one project.
2. Building repair and demolition project (\$60,100).

REVISED PROJECT PRIORITY LIST

Rank	Description	Mean Score	Total Costs
1.	Environmental Education Center	595	\$3,236,200
2.	Primitive Camp Improvements	519	259,300
3.	Barracks and Maint. Area Improvements	518	619,800
4.	Tent and Trailer Campground	475	695,700
5.	Building Repairs and Demolitions	454	60,100
6.	Trails and Signage	366	541,300
7.	Wilderness Campsites	275	73,100
			=====
			\$5,485,500

Figure 10 shows the updated Goose Creek State Park site plan. Figure 11 shows a map of the proposed environmental education center and office and maintenance area.



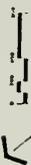
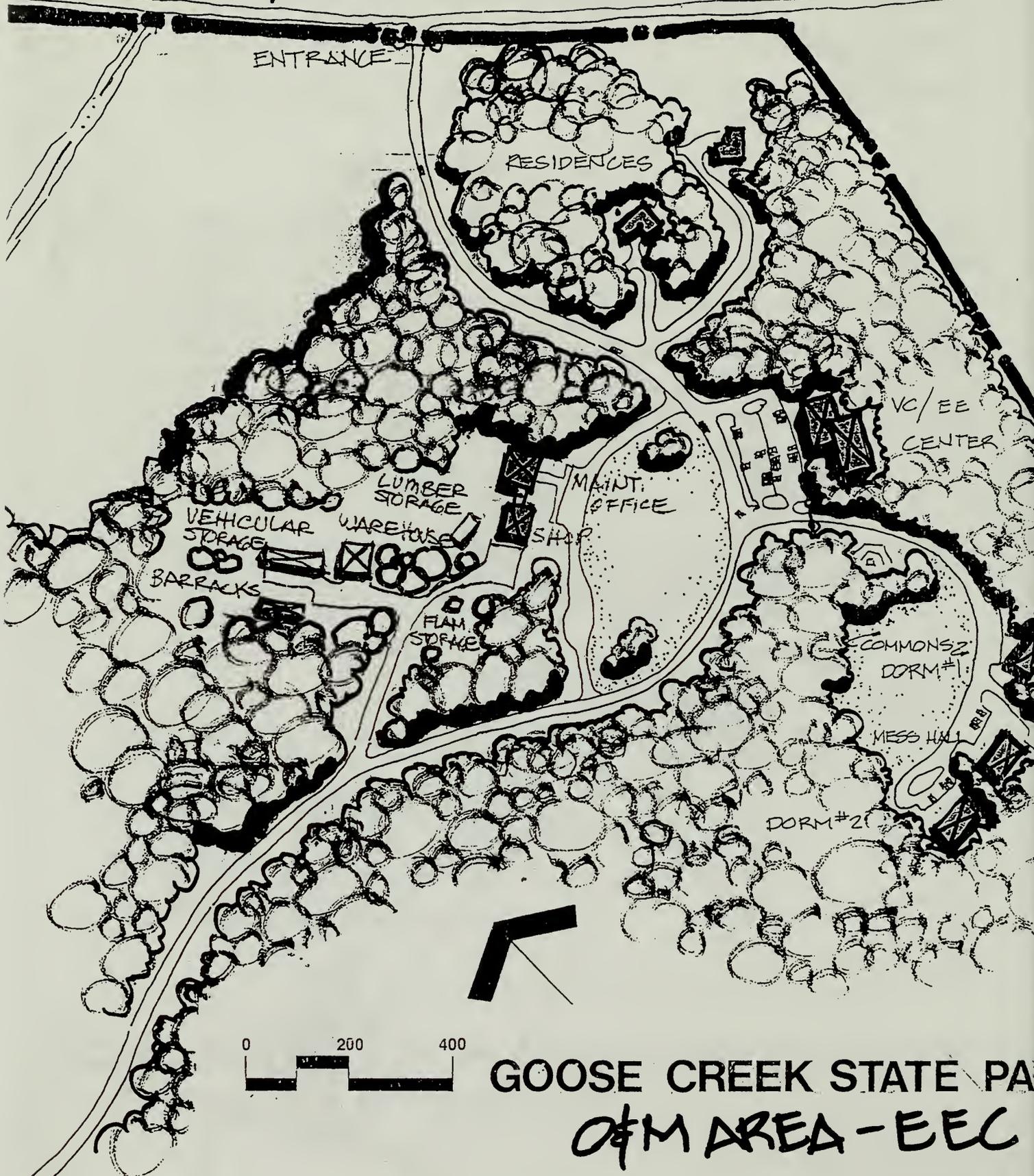

GOOSE CREEK
 STATE PARK beaufort county, n.c.
MASTER PLAN
UPDATE 9-92

Figure 10. Updated Master Plan Development

SR 1334



GOOSE CREEK STATE PARK
O&M AREA - EEC

Figure 11. Office Maintenance Area & Environmental Education Center

LAND ACQUISITION NEEDS

LAND ACQUISITION STATUS

Prior to the 1985 appropriation for state park land acquisition, Goose Creek State Park contained 1,326 acres. The 270-acre Mallard Creek tract was acquired in May 1991 with appropriations and LWCF cost-share assistance through Grant #37-00938. The park is now 1,596 acres. This was the only acquisition in the current land-acquisition program.

FUTURE LAND ACQUISITION NEEDS

The existing master plan for the park includes a 96-acre tract in the upper reaches of Goose Creek for a family wilderness campground and a 20-acre tract along the upper reaches of Mallard Creek to protect the water resources of this stream and associated wetlands. The tract along the upper reaches of Mallard Creek could be obtained by fee-simple acquisition or conservation easement.

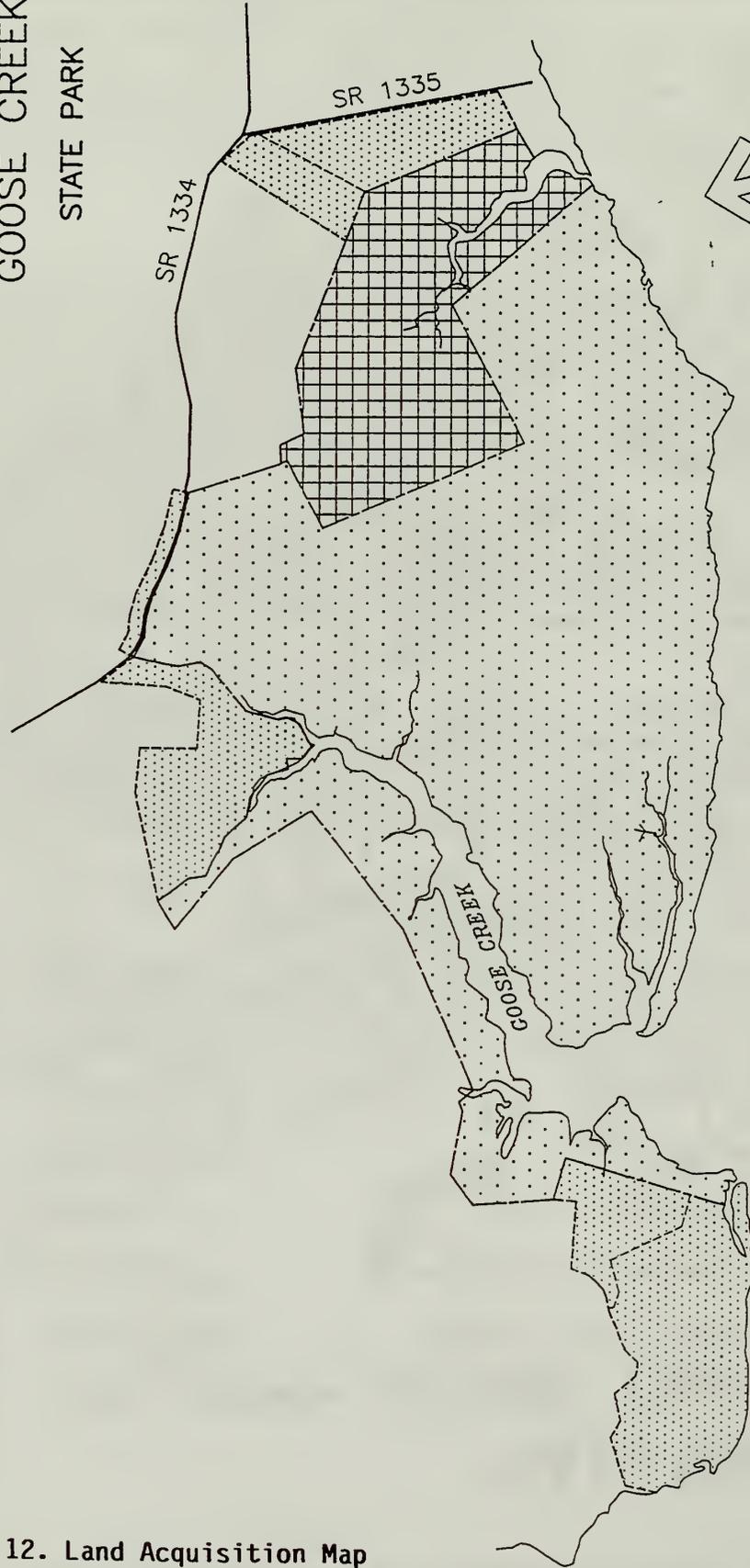
An additional 66 acres to the east of Mallard Creek should be added to the master plan to protect the wetlands associated with Mallard Creek and provide better operational control of the access road to Mallard Creek. This tract should be acquired in fee simple.

To the west of Dinah's Landing, the 210-acre natural area identified in the Albemarle-Pamlico Estuarine study should be added to the master-planned area of the park. This area contains elements similar to the existing registered natural area within the park and should be added to that registered natural area.

SUMMARY

1985 Size of the Park	1,326 acres
Current Program Additions	<u>270 acres</u>
1991 Size of the Park	1,596 acres
Master-planned Needs	<u>116 acres</u>
Master-planned Size of Park	1,712 acres
Additions to Master-planned Needs	<u>276 acres</u>
New Total Planned Size of Park	1,988 acres

GOOSE CREEK
STATE PARK



PAMLICO RIVER

GOOSE CREEK

SR 1334

SR 1335

LEGEND

-  PARK - 1985
-  ACQUIRED SINCE 1985
-  FUTURE NEEDS

GRAPHIC SCALE



Figure 12. Land Acquisition Map

CHAPTER VIII

VISITOR SERVICES AND OPERATIONS

CURRENT VISITOR SERVICES

Goose Creek State Park offers hiking, boating, fishing, camping, environmental education and nature study (Table 8-1). Six miles of hiking trails wind through the park including a boardwalk across the wetlands that features several observation decks. A boat ramp, located on the west bank of Goose Creek, provides access to the creek and the Pamlico River for canoeing and other types of boating. Fishing is permitted throughout the park in accordance with North Carolina fishing regulations.

Table 8-1. Current Visitor Services.

Facility	Number
Hiking Trails	6 miles
Boardwalk	1 boardwalk
Boat Ramp	1 ramp
Primitive Camping	12 sites
Picnicking	20 sites
Restrooms	1 toilet building
Parking Lots	4 lots

The camping area contains 12 primitive campsites, pit toilets, and a hand-pumped drinking water source. Each site consists of a tent pad, picnic table, grill, and fireplace. The picnic area offers 20 tables with grills.

Handicapped-accessible facilities include the parking lots, pathways, restrooms, picnic area, boardwalk through the swamp, and the observation decks located on the boardwalk.

OPERATIONS EVALUATION

Operations Evaluation Program (OEP) is a formal peer review of park operations according to Division guidelines. The guidelines describe procedures for managing a state parks system unit so that legal mandates are satisfied. These legal mandates are summarized in Chapter Five of this document. Guidelines exist for many aspects of park management, including administration, interpretation and education, visitor protection and safety, natural resource management, volunteers, and concessions.

The OEP prepared for Goose Creek State Park is a comprehensive review of park operations. It identifies a variety of issues and recommendations, some of which have also been included in the general management plan. The issues selected for the GMP are primarily ones that must be addressed with staffing and budget increases not related to capital improvements. Other issues selected require resolution of various legal questions involving policies, Administrative Procedures Act regulations, or state statutes.

The issues are presented by the general categories of park operations. More detailed explanations and analyses are contained in the Goose Creek State Park Operations Evaluation Program Review document, which is kept in the chief of operations' files.

MANAGEMENT OF PARK AREAS

Park Office Staffing - One clerk working 16 hours per week on peak-load labor payroll is available year round. During the peak-use season, the park office is staffed Monday through Friday. The park office is not staffed during weekends or on holidays when the large majority of park use occurs. A need exists for a full-time clerk position to answer written requests for information and telephone inquiries and to serve as a personnel contact and park representative to visitors who go to the park office for information, directions, and other forms of assistance. With the addition of a full-time clerk and the existing 16-hour-per-week peak-load position, the office could be staffed during operating hours, including weekends.

Development and Staffing of an Environmental Education Center - Goose Creek State Park is one of seven sites throughout the park system that meet all the geographic, demographic and natural resource criteria for placement of an environmental education center (EEC):

- (1) an outstanding natural resource that can withstand visitor impacts;
- (2) three or more habitats representative of its geographic region;
- (3) enough land to accommodate large groups yet keep them separated from other park activities;
- (4) a location remote from in-park vehicle traffic or inaccessible to outside traffic and that can be controlled and set aside for specific activities;

- inaccessible to outside traffic and that can be controlled and set aside for specific activities;
- (5) close proximity (within 50 miles) to major population centers and easily accessed by major traffic routes;
 - (6) natural diversity of natural resources; and
 - (7) community support from citizens, educators, businesses, and conservation groups.

Operation of a residential facility of the scope envisioned will require substantial increases in staff and equipment. A full-service environmental education center will require administrative and educational support, food service, housekeeping, and reservation services. Staffing additions needed for seven-day-a-week operation would include:

- two general utility workers - facility and grounds clean-up, trail maintenance, general repairs, etc.;
- two clerk-typists III - clerical and phone support, receptionist duties, reservations, etc.;
- maintenance mechanic III - all major facility and grounds maintenance and upkeep;
- park ranger III - interpretive and educational programming, program development, training of seasonals, lead education workshops;
- park superintendent I - manage environmental education center and oversee its operation;
- seven seasonal workers - interpretive and education specialists and general utility workers to give programs and maintain facilities.

Environmental education centers will enable the Division to take significant steps towards accomplishing the mission of the state parks system.

INTERPRETATION AND EDUCATION

Extensive Local Demand for Environmental Education Exists - Over 12 percent (13,778 visitors) of park visitors in 1990 received some type of environmental education message; sixty percent of these are school groups. The off-site to on-site programming ratio is two to one, with 25 percent of the programs being on the primary theme, wetlands. Additional staff, time, and equipment are required to develop more diverse environmental education programs. The park also has a need for an outdoor activity center in which less formal environmental education and interpretive programming can be conducted for organized groups and individuals.

VISITOR PROTECTION AND SAFETY

Substandard Visitor Services - The access and design of the campground is currently substandard, especially for the numerous recreational-vehicle campers who come to Goose Creek. Improvement of the camping facilities and more accurate information to

the public are needed. Camping facilities should be upgraded to include provisions for a family campground with tent and trailer sites, appropriate site furniture, and adequate provision for water and a shower facility.

Swim Area Management - Because of insufficient funding for seasonal lifeguard salaries, the park no longer operates a designated swimming area. This situation is unsatisfactory, given the lack of adequate swimming facilities in the Beaufort County area. The swimming area, although relatively small, is very popular and heavily used during the summer by local residents. Competitive lifeguard salaries, \$6 to \$7 an hour, are necessary to properly staff the swimming area. Current lifeguard salaries, at \$4.25 to \$4.53 per hour, are far below current standards for the training and job responsibilities. This is a Division-wide problem at all swimming areas. The Division will seek to increase lifeguard salaries to competitive levels and to improve the safety of these visitor-use facilities. Other less desirable options to consider include establishing a non-guarded buoyed beach area similar to those provided at the reservoirs.

Water quality in the Pamlico River is also a major concern. There have been periodic fish kills and observable injuries to fish and crabs, and there is reason for concern about long-term as well as short-term health effects of swimming in the Pamlico River. Park staff have no data and are not capable of taking water samples and testing for water quality. This information is available from the Division of Marine Fisheries, the Division of Environmental Management, the Albemarle-Pamlico Estuarine Study or other agencies that routinely sample the river and maintain water quality data. To effectively monitor water quality in the public swimming area, the Division will request this data from an agency currently sampling the river.

NATURAL RESOURCE MANAGEMENT

Boat Activity in Adjacent Waters - Fast power boats and water skiers in Goose Creek have created conflicts with fishermen, canoers, and campers. The noise disrupts visitors in the nearby campground, and the waves accelerate shoreline erosion and create hazardous conditions for slower or non-motorized boats. Division staff members are exploring ways to reduce or eliminate this problem.

MAINTENANCE

Adequate Cyclic Maintenance Funds - Operating budget line items for maintenance funds should be established at an appropriate level commensurate with the grounds and facility maintenance demands at the park.

STATE TRAILS

Trail Exhibits and Boardwalk Maintenance - Four new interpretive exhibits are needed at critical locations to better educate visitors about important natural resources. Approximately \$4,500 in increased maintenance budget is needed to provide annual maintenance of the extensive boardwalk system presently in place.

CONCESSIONS MANAGEMENT

No significant concession management issues have developed. No recognized potential for concessionaire operations exists at this park without significant facility development and programming.

APPENDIX A

PARK PROFILE

PARK PROFILE**Location:** Beaufort County**Size:** 1,327 acres**Reason for Establishment:**

Goose Creek was purchased in 1974 with funds appropriated by the General Assembly. The park contains significant biologic, scenic, and recreational resources including wetlands and river frontage along the Pamlico.

Facilities:

Boat launch
 Camping (12 primitive sites)
 Park office/maintenance building
 Picnic area (20 tables, restrooms)
 Residence (one house, one trailer)
 Hiking Trails (6 miles)

Existing Staff:Permanent:

Park Superintendent I
 Park Ranger II
 Park Ranger I
 Maintenance Mechanic

Seasonal

Park Attendant
 General Utility Worker
 Clerk Typist

Statistics:FY 1990-91

Visitation (calendar)	111,046
Operating Budget	\$ 139,663
Revenue	\$ 3,767

APPENDIX B

CAPITAL IMPROVEMENT REQUESTS

North Carolina's Division of Parks and Recreation

APR 9, 92

Page 1

Projects By Park In Priority Order

Job Description	Job Codes	Dst Cde	Locations	Mean Score	Total Costs
Environmental education center	156N29	1 EAS	Goose Creek	595	\$ 3,236,200
Primitive camp improvements	220R29	5 EAS	Goose Creek	519	\$ 259,300
Barracks and maint. area improvements	148N29	1 EAS	Goose Creek	518	\$ 619,800
Tent and trailer campground	230N29	3 EAS	Goose Creek	475	\$ 695,700
Building repairs and demolitions	530R29	1 EAS	Goose Creek	454	\$ 60,100
Trails and signage	260N29	5 EAS	Goose Creek	366	\$ 541,300
L- wilderness campsites	210N29	1 EAS	Goose Creek	275	\$ 73,100

					\$ 5,485,500

					\$ 5,485,500

Total number of jobs reported = 7



75 Copies of this document were printed at a total cost of \$167.25 or \$2.23 each.

