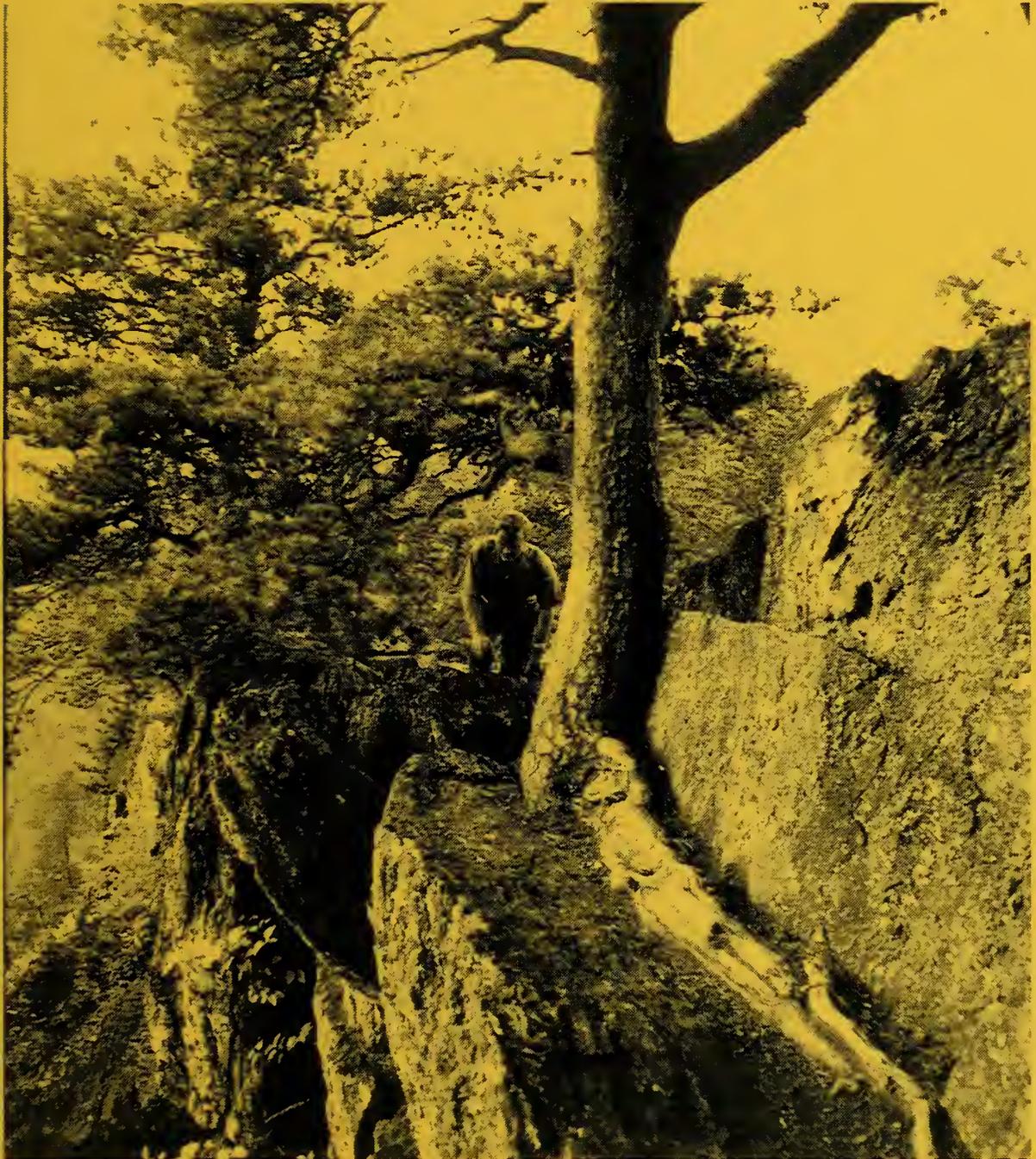


*Crowders Mountain State Park  
General Management Plan*





**GENERAL MANAGEMENT PLAN  
FOR  
CROWDERS MOUNTAIN STATE PARK**

**Department of Environment, Health, and Natural Resources**

**Division of Parks and Recreation**

**Planning and Development Section**

**April, 1993**



## 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 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 Crowders Mountain State Park, developed with public involvement, is intended to serve these purposes.

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# I. DESCRIPTION OF CROWDERS MOUNTAIN STATE PARK

## LOCATION

Crowders Mountain State Park is located in the south central part of the state in Gaston County, near the North Carolina-South Carolina state line. In relation to major population centers, the park is six miles southwest of Gastonia, 17 miles southeast of Shelby, and 25 miles west of Charlotte, North Carolina's largest city. This location puts the park in the most heavily populated region of North Carolina.

## ACCESS

Regional access to Crowders Mountain is provided primarily by Interstate 85, which lies approximately three miles north as it runs from Charlotte through Gastonia and on into South Carolina. U.S. Highways 29/74, 321 and N.C. 161 surround the park to the north, east and west, respectively.

## LAND BASE

Crowders Mountain State Park contains 2,591 acres including the peaks of Crowders Mountain and Kings Pinnacle. These peaks rise 800 feet above the surrounding countryside. Having resisted the forces of erosion over vast periods of time, these surviving peaks are part of the Appalachian chain that formed in the region 450 to 500 million years ago. Geologically classified as kyanite-quartzite monadnocks, only the strength of quartzite has allowed these pinnacles to withstand the wind, water and other forces that eroded less resistant rock.

Crowders Mountain, with an elevation of 1,625 feet, is a registered natural heritage area. It features sheer vertical cliffs ranging from 100 to 150 feet in height. Kings Pinnacle, by contrast, has a round, gentle profile and reaches an elevation of 1,705 feet. Spectacular views can be seen from each of the peaks.

## VISITOR FACILITIES

Crowders Mountain State Park offers a variety of hiking trails, ranging from the more rugged trails leading to the summits of Crowders Mountain and Kings Pinnacle, to the flat, easy trail circling the nine-acre park lake. Canoes for use on the lake can be rented at the park office from June through Labor Day, and both canoe and bank fishing are allowed.

Located approximately one mile from the park office are secluded areas for both back-country tent camping and group camping. The six group-camping areas include fire circles. Non-potable water and pit privies (outhouses) are located nearby.

Twenty-eight picnic tables and eight grills are available for picnickers. For groups, two large shelters with tables are available. A park office provides a contact point for park visitors. The office also contains a small display area used for interpretive purposes. Figure I-1 shows the location of park facilities.

## HISTORY OF THE PARK AREA

Prior to the arrival of European settlers, much of the land in the area was a vast upland savanna covered in canebrakes and pea-vine grass and grazed by herds of woodland bison. The peaks marked the boundary between the hunting lands of the Catawba and Cherokee Indians, and a major trading route of the Cherokees crossed Crowders Mountain.

The region encompassing Crowders Mountain was settled by European immigrants during the mid-18th century. By 1775 approximately 90,000 settlers had migrated to the area, primarily from Pennsylvania and other northern colonies. Many Scotch-Irish and Germans had settled in the area by 1775. A treaty with the Cherokee in 1777 turned over all the land east of the Blue Ridge to the new settlers. The Catawba retreated peacefully southward, but conflict between the settlers and the Cherokees persisted on and near Crowders Mountain until after the Revolutionary War.

During the American Revolution, the "over-mountain men" won a major victory for the colonists at nearby Kings Mountain, located a few miles south of Crowders Mountain in South Carolina. This small volunteer army of patriots was composed of hunters, farmers, and herdsmen from the fertile valleys west of the Alleghenies. Their conquest of British loyalists at Kings Mountain marked the first step of defeat that led to Cornwallis' surrender and the end of a long and bitter war.

A training camp for heavy artillery units was located at the northern base of Crowders Mountain during World War I. Evidence of the use of the mountainside for target practice remains today. With the exception of this and the battle of Kings Mountain, the

# CROWDER'S MOUNTAIN STATE PARK



### LEGEND

- FOOT TRAILS
- ..... BRIDLE TRAILS
- GRAVEL ROADS
- \* Backcountry Camping
- \*\* Group Camping
- ⊗ Park Office

### GRAPHIC SCALE

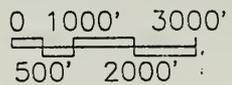


Figure I-1. Crowders Mountain Facilities

past history of the Crowders Mountain area has been a quiet one in which the land and the people formed a large though not affluent farming community.

The discovery of valuable minerals had considerable impact on the area. In 1799, a 17-pound gold nugget was discovered in the Piedmont, and another weighing 28 pounds was discovered in 1803. Soon after, significant quantities of the treasured mineral were uncovered near Crowders Mountain. Until the discovery of gold in California in 1849, North Carolina was the chief gold-producing state in the nation.

Gold mining was carried on vigorously in the southwest part of the state for most of the 19th century. Hundreds of mines scarred at least ten counties during this North Carolina gold rush. The Catawba mine, located one-and-a-half miles south of Kings Mountain station, was worked for about 40 years. The Crowders Mountain mine is located about four miles east of the Catawba mine on the east side of Kings Mountain.

During the 1960s, a firm built a large kyanite-processing plant on a hillside near Kings Pinnacle. The company went bankrupt before any processing was done, and the building burned in the late 1970s.

With the drilling of core samples in 1970 to determine the feasibility of mining Crowders Mountain for kyanite, residents became aware of the possibility that the mountain would be strip mined as nearby Henry's Knob had been, thus producing a devastating effect on the environment. As a result, local preservation efforts began.

A November 12, 1970 letter from the Citizens for the Preservation of Crowders Mountain asked the Division for information on the procedure for establishing state parks. The Gaston County Conservation Society was organized in order to alert people to the danger of the loss of the landmark, to block mining operations, and to encourage the state to acquire the mountain for a park. The society made a presentation in January of 1971 to a state parks committee concerning the Crowders Mountain mining and conservation issue. Later, in July of 1971, the Board of Conservation and Development adopted a resolution that the state acquire the Crowders Mountain and Kings Pinnacle area for the establishment of a new state park.

In 1972 initial funding was appropriated for land acquisition, and the new state park opened to the public in 1974. It was not until 1977, however, that the summit of Crowders Mountain was included within the park boundary. Kings Pinnacle and additional acreage were acquired in 1987. Land acquisition efforts to complete the park's boundary as it is identified in the master plan are still underway.

## 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.

### CROWDERS MOUNTAIN PARK PURPOSE STATEMENT

Crowders Mountain State Park was established in 1973 as a result of a grassroots citizens' effort to protect the area from possible strip mining. The park is a source of pride for local citizens, who remain interested in the park's significant geologic, scenic, and biologic resources.

Representative examples of significant geologic resources in the park include: an exemplary quartzite hogback; unusually large bladed crystals of kyanite, an aluminum silicate imbedded in the quartzite; and an excellent example of Draytonville conglomerate, a coarse quartz pebble conglomerate with rounded pebbles that commonly reach an inch or two in diameter.

The significant scenic resources of the park include the contrast between rolling Piedmont hills and the sheer rock outcrops of the Kings Mountain Range. Numerous opportunities exist to view the panoramic Piedmont plateau from the park's cliffs, a scenic experience that cannot be found elsewhere in the rapidly urbanizing region. The two peaks protected by the park, Crowders Mountain and King's Pinnacle, rise approximately 800 feet above the plateau, offering impressive natural scenery to the large local population and travelers on Interstate 85.

Among the park's significant biological values are three exemplary plant communities and several rare plant species. The natural communities include low elevation rocky summit, which is rare in the Piedmont, Piedmont monadnock forest, and pine-oak heath. Rare plants present in the park include Bradley's spleenwort (Asplenium bradleyi), ground juniper (Juniperus communis var. depressa), Appalachian golden-banner (Thermopsis mollis var. mollis), Biltmore carrion-flower (Smilax biltmoreana), mountain witch alder (Fothergilla major), and smooth sunflower (Helianthus laevigatus). A special species of butterfly, long dash (Polites mystic), also inhabits the park, and vultures have been noted

nesting on the cliffs. Crowders Mountain State Park is characterized by a significant amount of biological diversity and a transition of microenvironments from the Piedmont plateau to the two summits within the park.

Crowders Mountain serves as a significant resource for the study of natural history and environmental education. Given the large regional population, an outstanding opportunity for day-use interpretive programs exists. Primary interpretive themes for the park center around its geological and biological values.

The park offers a contrast to local and regional facility-oriented recreation. Recreational opportunities at Crowders Mountain focus upon interpretive activities in a natural environment. These opportunities should be compatible with one another and with the park's natural history emphasis. Camping should be provided in order to encourage people to enjoy and learn about the park.

Crowders Mountain State Park should offer a contrast to the rapidly developing local area by maintaining boundaries that adequately protect the park's resources and by providing high quality outdoor recreation experiences. Visitors to the park should feel they are in a setting predominated by the forces of nature. Park boundaries should be designed to provide resource protection and access control, and to protect the scenic and biological integrity.

### 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.

Crowders Mountain State Park, with its excellent representation of Piedmont habitat types, is well suited to environmental education. The park has three primary interpretive themes and several secondary themes. The primary themes, in order of priority, are geology, stream and lake ecology, and diverse plant communities.

#### PRIMARY INTERPRETIVE THEMES

##### GEOLOGY

This theme focuses on the formation and erosion of the Kings Mountain range. It highlights the range's two tallest peaks, Crowders Mountain and Kings Pinnacle. These peaks have many exposed rock outcrops and vertical cliffs as well as diversity of rock types. The geologic theme also focuses on the role of the park in protecting these unique monadnocks.

### STREAM AND LAKE ECOLOGY

This theme focuses on the diversity of plant and animal life found in and around the water. It also concerns the area's water quality and health of the ecosystem.

### DIVERSE PLANT COMMUNITIES

This theme focuses on the diverse array of plant communities found at the various elevations and slopes. The plant communities are related to the soils, rocks, and exposures. The importance of the park in protecting these communities is also a part of this theme.

### SECONDARY INTERPRETIVE THEMES

Several secondary themes for Crowders Mountain State Park have also been identified. They are:

- Land stewardship
- Wildlife - birds, reptiles, mammals, hibernation
- Astronomy
- Night awareness
- Park history
- Low-impact outdoor recreation activities
- Plants - trees, wildflowers
- Winter studies
- Summer safety
- Environmental appreciation

## **IV. PARK AND RECREATION DEMAND AND TRENDS**

### **ANNUAL VISITATION TRENDS**

Crowders Mountain State Park experienced a relatively steady increase in annual visitation over the 10-year period from 1982 to 1991, rising at an average compounded annual rate of 6.1 percent. Attendance increased in all but one of the past 10 years, reaching an all-time high of 163,432 in 1991 (Figure IV-1).

The attendance drop in 1989 resulted primarily from Hurricane Hugo's effects. The hurricane damage resulted in the park being closed for over two weeks in late September and early October, normally one of the busiest times of the year at Crowders Mountain.

Crowders Mountain State Park also receives additional uncounted visitation. Access to the park takes place from state roads that pass through the park.

Crowders Mountain's visitation is expected to continue to increase. If it continues at approximately the same rate of growth, annual visitation will have doubled from the 1991 high of 163,432 in the year 2003. If capital improvement and staffing recommendations contained in this GMP are implemented, visitation will likely increase at a faster pace.

Crowders Mountain has no shortage of potential visitors. It is estimated that approximately 20 percent of North Carolina's population and 20 percent of South Carolina's population live within a 50-mile radius of the park. Easy park access is also available from all directions.

### **MONTHLY VISITATION TRENDS**

The park receives its heaviest use in early spring through mid-summer. During the five months from March through July, Crowders Mountain normally receives a little over half its annual visitation. Figure IV-2 shows the monthly attendance pattern for the years 1990 and 1991. As figure IV-2 shows, monthly visitation at Crowders Mountain is relatively steady through most of the year. Its visitation is much less seasonal than most state park units, although visitation does drop during the cold winter months.

## CROWDERS MOUNTAIN ANNUAL VISITATION 1982-1991

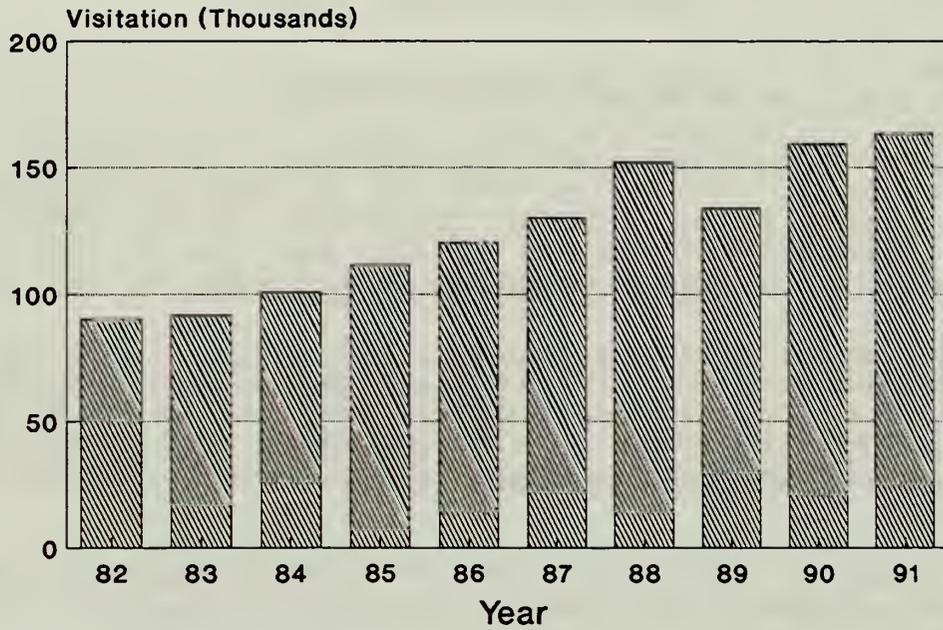


Figure IV-1. CRMO Annual Visitation

## CROWDERS MOUNTAIN MONTHLY VISITATION 1990 and 1991

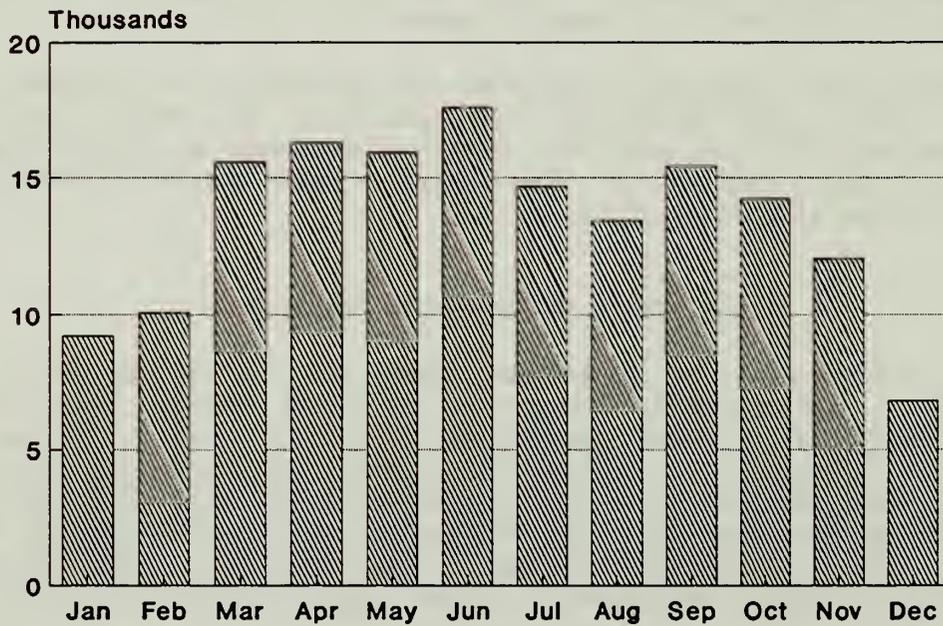


Figure IV-2. Average Monthly Visitation

## 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. While Crowders Mountain was not one of the eight parks involved in the survey, some information concerning state park visitors in general was learned.

Why do people visit state park units? The convenient location was cited by 31 percent of the respondents; 25 percent thought other areas were too crowded; 21 percent liked the good facilities; 8 percent wanted to try a new area; 7 percent enjoyed the scenic beauty; and 6 percent came to see the attraction.

A good percentage of park visitors come from within a 30-mile radius (37 percent), while 17 percent come from 30 to 60 miles away. Park visitors surveyed indicated that the parks served as their sole destination 86 percent of the time. While most visitors come from nearby, the average one-way distance travelled was 139 miles.

Seventy-eight percent of those surveyed indicated that they were return visitors. The average number of return trips per year was six.

Sixty-one percent of visitors statewide came with family members, 16 percent with friends, and 7 percent with family and friends. Ten percent of visitors came alone. Visitors also came in small numbers in organized groups and multiple families. The average group size surveyed was 3.59.

PARVS data indicates that 16.8 percent of groups surveyed used more than one car, and that the average number of persons per car was 3.05. This figure is very close to the three-person-per-car figure used in compiling Crowders Mountain visitation figures.

The average age of the park visitor was 38.24 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>
6.7	11.6	10.6	12.5	20.1	16.9	0.9	7.3	4.4

Because the PARVS information shown above was gathered at eight park sites, not including Crowders Mountain State Park, it cannot be considered a valid study of Crowders Mountain visitation. It is useful, however, in providing a general assessment of the state park system's visitation as well as a general indication of likely visitation at Crowders Mountain.

PARVS data indicates that approximately 25 percent of state park visitation comes from out of state. Crowders Mountain State Park's out-of-state visitation, because of the park's location just a few miles above the South Carolina-North Carolina state line, would likely be higher. PARVS data also indicates that out-of-state visitors averaged 4.1 trips per year to North Carolina state parks.

Since over 18 percent of visitors are under the age of 13, demand exists for children's programs and facilities. Facilities such as an expanded campground, picnic area, and a swimming area would help to meet such needs. Approximately 12 percent of visitors are 56 and older. This older segment of the general population will be increasing, and as it does, demand for improved quality, accessibility, and safety should increase.

#### POPULATION TRENDS

The primary service area of Crowders Mountain State Park is identified as Gaston County, in which Crowders Mountain is located, and the three surrounding counties of Cleveland, Lincoln and Mecklenburg. The location of Crowders Mountain near the North Carolina-South Carolina state lines makes part of South Carolina fall within the park's primary service area as well.

The total 1990 population of Gaston, Cleveland, Lincoln and Mecklenburg counties was 821,559. This figure is projected to increase to 903,590 in the year 2000, up 9.98 percent for the decade. Due primarily to a slowing in the migration rate, the projected rate of growth will be substantially slowed from the rate experienced during the 1980s, a decade that saw an 18.6 percent increase. The populations of Gaston, Cleveland, Lincoln and Mecklenburg counties in 1980 and 1990 and projections for the year 2000 are shown below:

#### CROWDERS MOUNTAIN AREA POPULATION

	<u>1980</u>	<u>1990</u>	<u>2000</u>
Cleveland	82,435	84,714	90,063
Gaston	162,568	175,093	188,089
Lincoln	42,372	50,319	56,161
Mecklenburg	404,270	511,433	569,277
	=====	=====	=====
TOTALS:	692,645	821,559	903,590

The percentage of population increase in the area during the 1980s (18.6 percent) was 146 percent of the rate at which the total state grew (12.7 percent). The slower rate of growth projected for the Crowders Mountain area in the decade of the 1990s (9.98 percent) closely approximates the projected growth of the state as a whole (9.53 percent).

Increases in visitation at Crowders Mountain State Park have far outpaced the population growth of the area, an indication of a stronger demand for outdoor recreation in the Crowders Mountain area. This increased demand is likely due in large measure to the explosive growth of Mecklenburg County and the surrounding area. Such growth often results in natural areas becoming more sought after. During the 1980s, park attendance increased approximately 89 percent. The area's population during this period grew at a much slower (18.6 percent) pace. As previously mentioned, the rate of population growth in the area is expected to drop during the 1990s to under 10 percent for the decade. For the decade of the 1990s, growth in park attendance at Crowders Mountain is projected to continue to far outpace population 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. Continued population growth in the Crowders Mountain area and the trend of increasing annual visitation at the park indicate that annual visitation growth at Crowders Mountain State Park will continue.

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.

While shifts in population age groups are particularly significant in school and some social programs, it is not thought that

# 1990 POPULATION DENSITY CROWDERS MOUNTAIN AREA

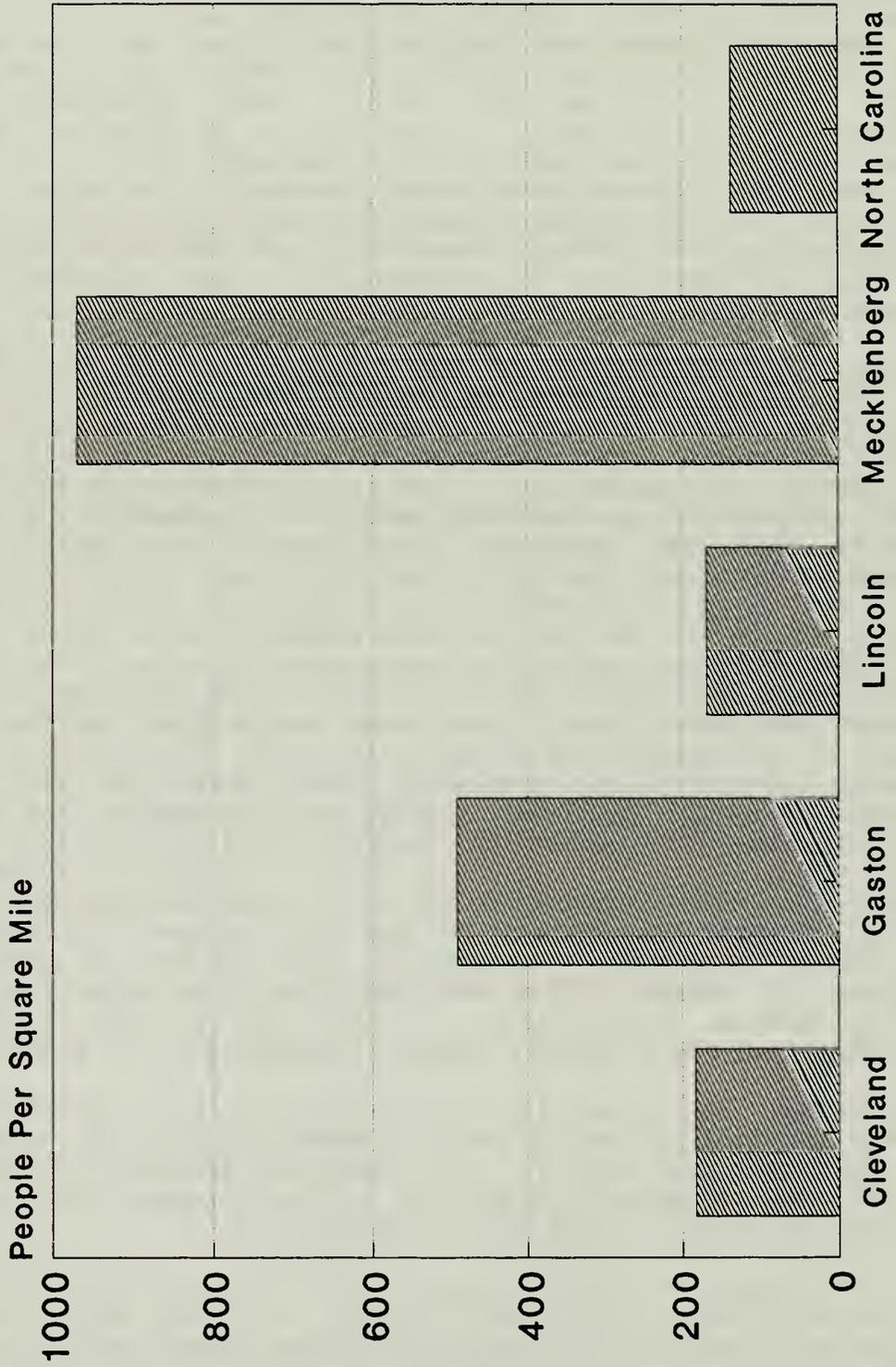


Figure IV-3. CRMO Area Population Density

these age-group changes that will be taking place will have a significant effect on Crowders Mountain 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.

### **POPULATION DENSITY**

The Crowders Mountain State Park service area is one of the most heavily populated areas in North Carolina. Mecklenburg County is the state's most densely populated county, while Gaston is the seventh most dense. Cleveland and Lincoln counties also have population densities above the state's average 1990 density of 136 people per square mile (Figure IV-3). As these counties continue to grow in population, park areas such as Crowders Mountain should become increasingly important outdoor recreation and natural areas.

### **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 IV-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.

Table IV-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 asked residents to identify and rank their future public outdoor recreation needs. High priority needs for public outdoor recreation were determined by combining ratings for future demand and public funding priorities. Each activity received a rating of high, moderate or low for both future demand and support for public funding.

These ratings were combined to produce a score from one to nine, reflecting an overall priority for which one is the highest priority and nine is the lowest. The combined rating is produced using a matrix that assigns a higher priority to support for public funding than future demand for the outdoor recreation activity (Table IV-2).

Based on this analysis, many of the activities rated as the highest priorities are activities that are currently or could potentially be provided at Crowders Mountain State Park. The activities include walking for pleasure, tent or vehicle camping, picnicking, freshwater fishing, visiting natural areas, viewing scenery, and trail hiking (Table IV-3).

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

Table IV-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

## AREA OUTDOOR RECREATION OPPORTUNITIES

Crowders Mountain State Park is an important outdoor recreation resource. It offers recreational opportunities in a natural setting that are not generally found in the counties around the park. In particular, it offers residents of the nearby large cities of Gastonia and Charlotte an opportunity to enjoy hiking, climbing, and scenic vistas not readily available elsewhere.

Duke Power State Park and South Mountains State Park are the closest North Carolina state parks to Crowders Mountain. Duke Power State Park is approximately a 60-mile drive away. It is located on the northern end of Lake Norman and is oriented towards recreational use of that lake. It thus offers a very different recreational land base and orientation than Crowders Mountain. South Mountains is approximately the same distance away. It offers hiking, fishing, bridle trails, picnicking, and primitive group and family camping in a wilderness setting. South Mountains is 18 miles south of Morganton.

The closest outdoor recreation areas to Crowders Mountain are in York County, South Carolina. Kings Mountain National Military Park offers day-use activities that focus on the historical importance of the area to the American Revolution. It has a visitors center and walking trails. Kings Mountain State Park is a developed day-use and overnight facility that offers typical state park experiences, including camping and swimming.

The towns of Shelby and Kings Mountain, both located in Cleveland County to the west of Crowders Mountain, have park and recreation departments. Cleveland County has no park and recreation department.

In Gaston County, the county and the cities of Stanly, Belmont, Bessemer City, Mount Holly, and Gastonia support park and recreation departments. In Lincoln County, the county and Lincolnton have established departments. Pineville and Davidson have park and recreation departments, and recently the Mecklenburg County and Charlotte departments merged.

Even with these municipal and county departments established in Gaston County and the three surrounding North Carolina counties, the area falls short of Statewide Comprehensive Outdoor Recreation Plan (SCORP) standards for outdoor recreation areas of all types as well as what are generally thought of as state park facilities.

Table IV-4 shows the need for various types of outdoor recreation facilities in Lincoln, Mecklenburg, Cleveland and Gaston counties, based upon SCORP standards. The table also shows the existing supply of these facilities as well as the percentage of sufficiency.

Table IV-4. Crowders Mountain Area Facility Demand and Supply

	Camp Sites	Picnic Tables	Playgrounds/ Tot Lots	Miles of Trails
Need	4,614	1,604	801	801
Supply	667	782	150	140
% Sufficiency	14.5%	48.8%	18.7%	17.5%

Table IV-5 shows the need for various types of outdoor recreation areas in Lincoln, Mecklenburg, Cleveland and Gaston counties, based upon SCORP standards. The table also shows the existing supply of these types of park and recreational areas as well as the percentage sufficiency of the four-county area. State park lands fall into the regional park acreage category. Dispersed park acreage includes state game lands.

Table IV-5. Crowders Mountain Area Park Acreage Demand and Supply

	<u>Type of Park Acreage</u>				
	<u>Neighborhood</u>	<u>Community</u>	<u>District</u>	<u>Regional</u>	<u>Dispersed</u>
Need	1,604	6,423	8,029	16,061	104,402
Supply	749	1,534	3,241	2,316	2,349
Sufficiency	46.7%	23.9%	40.4%	14.4%	2.2%

The above figures include all the public park and recreation areas and facilities in Lincoln, Mecklenburg, Cleveland, and Gaston counties. Private campsites are also included.

Based upon SCORP standards, there is a clear need for additional park and recreation areas and facilities in the Crowders Mountain area. These data support additional land acquisition and facility development at Crowders Mountain.

## 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 2,368 acres within Crowders Mountain 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.

#### **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 Crowders Mountain 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.

## CROWDERS MOUNTAIN MASTER PLAN

A master plan for Crowders Mountain State Park was completed in 1975. 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 the primary objective of providing a development plan and program compatible with the nature of the site. The plan sought to efficiently provide for administrative services and operations by unifying them physically. The plan also called for a review of the impact of site development and visitor use after each development phase, thus ensuring long-range protection of the natural resources.

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 Crowders Mountain, GMP evaluation determined that changes to the master plan were needed.

The master plan had proposed development of a Valley Unit that was to include group and family camping. Since 1975, considerable private development has taken place in the Valley Unit area, however, an area the state never acquired for park purposes. Because of the private development, the proposed Valley Unit was dropped, and camping proposed for the Valley Unit has been relocated to the office and lake area.

## VI. RESOURCE MANAGEMENT

### NATURAL RESOURCE MANAGEMENT POLICY

The Division of Parks and Recreation's approach to natural resource management is directed by the North Carolina Constitution and the State Parks Act, both of which require the management of natural resources. The 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 State Parks Act states that unique archaeological, geological, biological, scenic, and recreational resources are a part of the heritage of the people, which "...should be preserved and managed by those people for their use and for the use of their visitors and descendants."

The North Carolina State Parks System plays an important role in maintaining, rehabilitating, and perpetuating the state's natural heritage. The natural resources of the state parks system are: high quality, rare or representative examples of natural communities; native plants and animals; geological features and landforms; water resources; and the natural processes that affect these elements. The primary objective in natural resource management will be the protection of natural resources for their inherent integrity and for appropriate types of enjoyment while ensuring their availability to future generations.

It is the policy of the Division that natural resources will be managed by allowing natural environments to evolve through natural processes with minimal influence from human activities. Resource management will not attempt solely to preserve individual species or individual process; rather, it will try to maintain all the components and processes of naturally evolving ecosystems. When intervention is necessary, direct or secondary effects on park resources will be minimized to the greatest extent possible. Intervention with natural processes may occur:

- 1) to correct or compensate for the disruption of natural processes caused by human activities;
- 2) to protect, restore, or enhance rare species;
- 3) to protect, restore, or enhance significant archaeological resources;
- 4) to construct, maintain, improve, or protect park facilities; and
- 5) to prevent danger to human health and safety.

## PLANT COMMUNITIES OF CROWDERS MOUNTAIN STATE PARK

### LOW ELEVATION ROCKY SUMMIT

This community type is rare in the Piedmont, where it is confined to the highest monadnocks (hills or mountains rising above the general landscape, often abruptly). Characteristics of this community are rugged rock outcrop areas with isolated pockets of vegetation and very dry conditions. Crowders Mountain State Park has three such areas.

#### Crowders Mountain

The Low Elevation Rocky Summit community on Crowders Mountain has been impacted by park visitors. There are remnant populations of several special plants, including Bradley's spleenwort (Asplenium bradleyi), bear oak (Quercus ilicifolia), ground juniper (Juniperus communis var. depressa), Biltmore carrion-flower (Smilax biltmorianana), and a species found just this year, Piedmont indigo-bush (Amorpha schwerinii) found in this community.

#### Kings Pinnacle (The Pinnacle)

This peak is some 80 feet higher than Crowders Mountain and has a number of rocky faces at the summit. Most of the same plant species found on Crowders are present. Kings Pinnacle is an excellent example of a Low Elevation Rocky Summit. The health of this community on Kings Pinnacle is better because it is less accessible than Crowders Mountain and therefore less impacted by hikers and climbers. Kings Pinnacle is believed to be the southern limit of the natural range for bear oak. Also, populations of Biltmore carrion-flower, Bradley's spleenwort, and ground juniper are found in this community. Vaccinium constablaei (mountain highbush blueberry), previously known only above 4000' elevation, was discovered in 1991.

#### Little Mountain

This peak is considerably lower in elevation and has a much smaller but significant version of this community type on the north end. Significant populations of Bradley's spleenwort and Biltmore carrion-flower are present. In addition, a population of Appalachian golden-banner (Thermopsis mollis var. mollis) was found in current explorations.

## PIEDMONT MONADNOCK FOREST

This community is generally on the dry, upper slopes below the rocky bluffs or on the ridges leading to the bluffs. Logging in this century is evident in many areas, but high quality examples of this community are present. Chestnut oak (Quercus montana) is dominant in the less disturbed portions, with mixtures of chestnut oak and other oaks, hickories, Virginia pine (Pinus virginiana), and occasionally shortleaf pine (P. echinata) in other areas.

## Crowders Mountain

Pockets of this community type remain intact, with a few sizeable chestnut oaks; other areas are of varying quality, with considerable Virginia pine. The topographic variation provides a great diversity of microhabitats.

## Kings Pinnacle (The Pinnacle)

As on Crowders Mountain, there is strong evidence of logging in this century as shown by significant numbers of pines, but there is also a significant quantity of hardwoods, including chestnut oaks.

## Little Mountain

This community type is well represented in varying stages of maturity. Fires in recent years and the relatively low amount of impact from hikers should provide more insight into the natural ecology.

## PINE-OAK HEATH

This community type occurs on the extremely dry (xeric), generally thin and rocky, extremely acidic soils of the ridge tops and steep south slopes. Virginia pine and mountain laurel (Kalmia latifolia) are major components of this community, but the presence of chestnut (Castanea dentata) sprouts and occasional chestnut oaks indicates that these species were probably major components in the past. Fire is probably important in the ecology of this community type.

## Crowders Mountain

There is an open canopy of stunted Virginia pine with ericaceous shrubs, bear oak, ground juniper, and chestnut sprouts.

## Kings Pinnacle (The Pinnacle)

This community is well represented and similar to the community found on Crowders Mountain, but less disturbed.

## Little Mountain

This community is represented and has been impacted by recent fires.

The Piedmont Monadnock Forest and Pine-Oak Heath grade into Dry Oak-Hickory Forest and Dry-Mesic Oak-Hickory Forest at the lower elevations, but the latter two community types are more poorly represented due to past logging and other human disturbance.

## MESIC MIXED HARDWOOD FOREST - PIEDMONT SUBTYPE

Although much of it has been disturbed by logging, this community type is found on the lower, steep slopes along Crowders Creek as well as along the other smaller streams and ravines. The herbaceous diversity found along on the northwest-facing slopes along Crowders Creek and "Cistern Spring" northwest of Crowders Mountain is particularly notable.

## NATURAL HERITAGE PROGRAM ELEMENT OCCURRENCES

BRADLEY'S SPLEENWORT (ASPLENIUM BRADLEYI)

This fern is a candidate for state listing as a protected species. Populations have been found in the dry forests on Crowders Mountain, Little Mountain and Kings Pinnacle.

BEAR OAK (QUERCUS ILICIFOLIA)

This small tree is significantly rare in the state. Remnant populations of Bear Oak are found within the park, on both Crowders Mountain and Kings Pinnacle. Kings Pinnacle is believed to be the southern limit of the natural range of this species.

GROUND JUNIPER (JUNIPERUS COMMUNIS VAR. DEPRESSA)

This plant is a candidate for state listing as a protected species. It inhabits dry forests and rocky bluffs and is found on both Crowders Mountain and Kings Pinnacle.

BILTMORE CARRION-FLOWER (SMILAX BILTMORIANA)

This plant is a candidate for state listing as a protected species. It inhabits dry forests. Populations have been found on Crowders Mountain, Little Mountain and Kings Pinnacle.

PIEDMONT INDIGO-BUSH (AMORPHA SCHWERINII)

This plant is a candidate for state listing as a protected species. It inhabits dry forests and rocky bluffs. Populations of this plant were found this year on both Crowders Mountain and Kings Pinnacle.

APPALACHIAN GOLDEN-BANNER (THERMOPSIS MOLLIS VAR. MOLLIS)

This plant is significantly rare in the state. It inhabits dry ridges and is found on Little Mountain within the park.

CAROLINA PIGMY RATTLESNAKE (SISTRURUS MILIARIUS)

This snake is significantly rare in the state and was proposed for Special Concern status. It inhabits the pine/oak forests within the park.

## REGISTERED NATURAL AREA

The Crowders Mountain registered natural area within the park encompasses approximately 375 acres and includes Little Mountain. Many geologists consider Crowders Mountain to be the best example of a quartzite hogback in the state. Crowders Mountain is a sharp-crested ridge formed by the outcropping edges of steeply inclined resistant rocks. The scenic beauty of the mountain, with its panoramic views and steep rock faces, attracts both hikers and rock climbers.

Climbers and hikers have had a major impact on the natural resources of Crowders Mountain, damaging much of the natural habitat for species such as Bradley's spleenwort. Long-term impact will probably lead to large expanses of bare rock and soil, with increasing numbers of weed species such as pokeberry (Phytolacca americana). Overuse and abuse have damaged the natural plant communities and wildlife habitat, but some pockets remain intact, such as at Buzzard's Roost. Recent efforts by park staff to protect Buzzard's Roost appear to be successful, but the protected area needs to be expanded and augmented with interpretive displays explaining the significance of the natural area. High use of the area by hikers and climbers has seriously impacted the natural resources. Designating climbing areas and limiting the number of climbers at a given time should be given consideration. The Little Mountain area has had minimal impact by hikers and climbers and has high biological diversity.

Consideration should be given to expansion of the registered natural area all the way to SR 1122 and Crowders Creek, which would include land not currently in the park. A comprehensive inventory and resource management plan are needed for the Crowders Mountain natural area.

## POTENTIAL REGISTERED NATURAL AREA

An additional area within the park may be eligible for registry as a Natural Heritage Area and was identified during the master planning process.

## Kings Pinnacle

This peak, the ridges on either end, and sufficient buffer all the way to SR 1104 should be registered. Climbing should be eliminated and every effort made to minimize the impact of hikers. Significant populations of many of the special plants and good examples of many of the community types are present on Kings Pinnacle. A number of other plant species have been reported from Kings Pinnacle in the past, including sand myrtle (Leio-phyllum buxifolium) and foothills Carolina rhododendron (Rhodo-dendron minus) that need verification and/or clarification. Recent acquisition of Kings Pinnacle and side slopes brings this significant area under park management. The area of the proposed Kings Pinnacle natural area is approximately 620 acres. A detailed natural heritage inventory and management plan is needed for this proposed natural area within the park.

## RESOURCE MANAGEMENT ISSUES

### IMPACT OF HIKERS/CLIMBERS ON COMMUNITIES AND SPECIAL PLANTS

Hikers and climbers have impacted the communities and special plants found on Crowders Mountain. Planned capital projects will try to control access and the number of climbers and hikers accessing Crowders Mountain from Linwood Road. A climber registration program is being implemented systemwide in parks where rock climbing occurs. The registration program will enable interpretive materials to be targeted at climbers. These interpretive materials will include location of climbing sites, access to climbing sites, the significance of the area and what measures are required to protect the area. Climbing will continue to be allowed at Crowders Mountain north of the radio towers and at Hidden Wall and will be prohibited from all areas of Kings Pinnacle.

### NESTING VULTURES

Park staff have documented nesting vultures at both Buzzard's Roost and Kings Pinnacle. The Kings Pinnacle nesting site is away from the hiking trail, resulting in little impact on the nesting site from park visitors. Buzzard's Roost is near the heavily used portions of Crowders Mountain and requires additional control measures to isolate the area from park users. Access to Buzzard's Roost has been blocked with downed trees, and this has been effective. The continued practice of isolating the nesting sites from the park visitors is recommended. Park staff should continue to document the locations of nesting vultures within the park.

### FIRE ECOLOGY

The fire ecology of the Piedmont is very poorly understood. There is strong evidence that fire was an important factor in the ecology of many of the natural plant communities of the park in the past. Old fire scars, char marks and species composition of the communities are evidence of the presence and influence of fire in the communities found in the park. Future research on this topic would help determine the need for a prescribed burning program in this park.

### RESEARCH NEEDS

A floristic study is needed for this park. More information is needed on the status of special plant and animal populations in the park, including the Carolina pigmy rattlesnake and the newly discovered Piedmont indigo-bush and Kings Mountain liatris (*Liatris regimontis*). Currently, monitoring of special species is done primarily by volunteer biologists.

## HURRICANE DAMAGE

In 1989, Hurricane Hugo left some downed trees and other timber damage in the park. Hazard trees near the facilities have been cut or moved. An area near the group camp posed a high fire hazard. A prescribed hazard reduction burn was conducted in May 1991 on this area of high fire hazard with very good results.

## STATE ROADS WITHIN THE PARK

Sparrow Springs/Freedom Mill Road (SR 1125 and SR 1106 respectively) bisects the park. The trail access from the park office to Crowders Mountain crosses this road at the intersection. Any widening of this road would adversely impact the park resources, park visitor experiences and the safety of hikers.

## CLOSING OF ROAD

Through traffic on Sparrow Springs Road (SR 1125) below the intersection with Freedom Mill Road (SR 1106) creates serious access and safety problems for the park. The development of master-planned facilities in this area is dependent upon closing of this section of the road to through traffic. Closing the road would dramatically improve the park's ability to provide visitor facilities and services.

## ZONING

Gaston County is starting zoning on a county-wide basis. Protective zoning around Crowders Mountain State Park would be appropriate and beneficial.

## POWERLINE RIGHTS-OF-WAY AND SPECIAL PLANTS

Populations of Yellow-fringed Orchids have recently been found in powerline rights-of-way within the park. Smooth Sunflower (Helianthus laevigatus) had been found previously in powerline rights of way within the park. Kings Mountain liatris (Liatris regimontis) was found this year. This plant is named for the Kings Mountain area. These three species prefer the more open sunny conditions that are associated with powerline clearing. Coordination of mowing schedules with flowering periods would be beneficial to these species. Inventory of the powerline right-of-way habitat needs to be done.

## TOWER SITE

A privately owned communication site is located on Crowders Mountain. This inholding and its access road negatively impact the biological and scenic resources surrounding the site.

## BARRELS WITH UNKNOWN CONTENTS

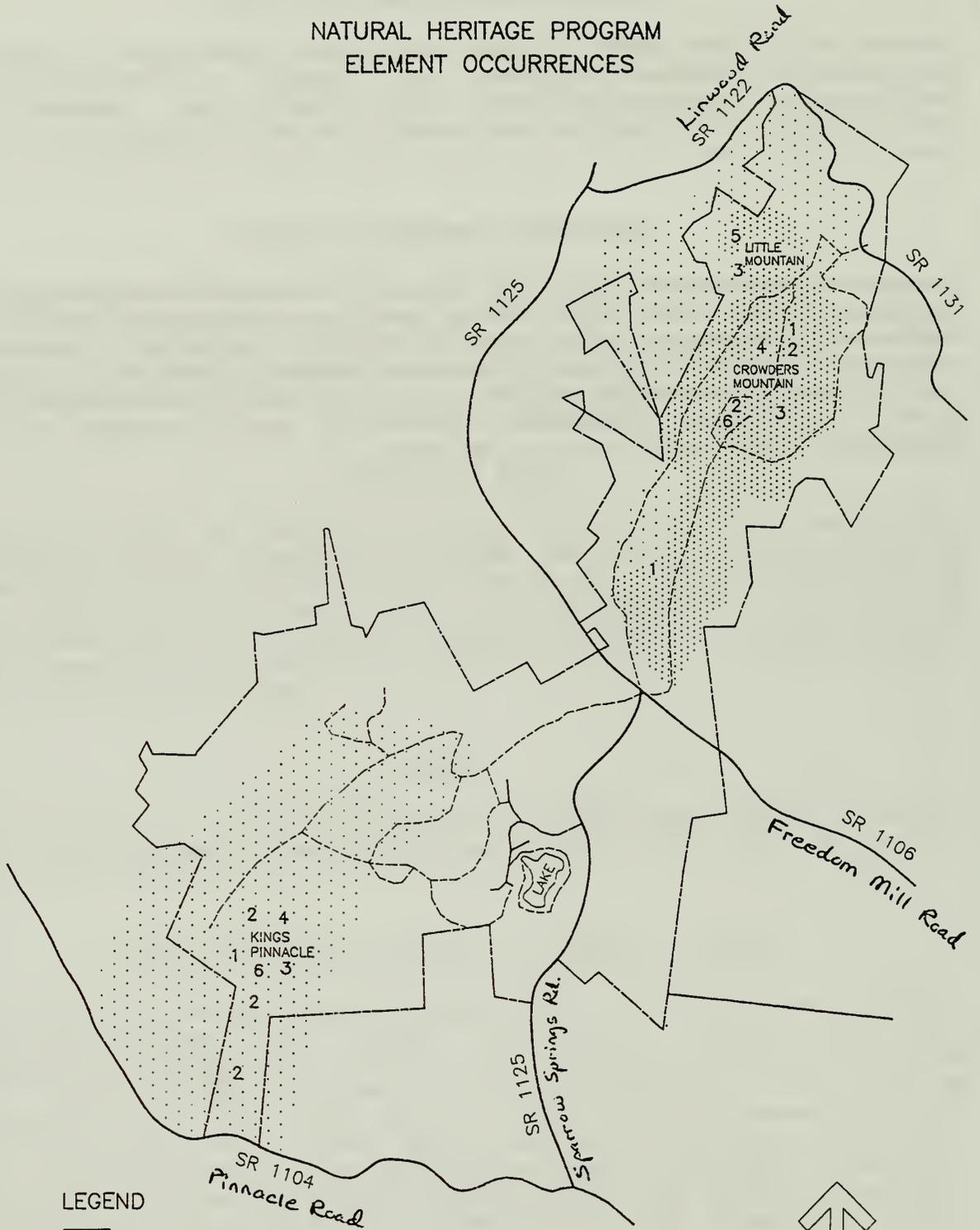
A portion of the park on the northwest side has a number of barrels with unknown contents. A request to the Division of Environmental Management to investigate and document the condition of these barrels and their recommended disposal will be made.

## RESOURCE MANAGEMENT PLAN

A resource management plan for the park needs to be developed to address these issues and other resource management issues. A resource management plan should include detailed alternative actions and their implementation to address, prevent or correct the different resource threats or issues. The addition of a district resource management specialist would enable the park resource management plans to be done.

# CROWDER'S MOUNTAIN STATE PARK

## NATURAL HERITAGE PROGRAM ELEMENT OCCURRENCES



### LEGEND

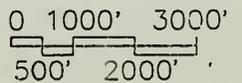
-  REGISTERED NATURAL AREA
-  PROPOSED NATURAL AREA

### ELEMENT OCCURRENCES - PLANTS

- 1 Bradley's Spleenwort
- 2 Ground Juniper
- 3 Biltmore Carrion-flower
- 4 Piedmont Indigo-bush
- 5 Appalachian Golden-banner
- 6 Bear Oak



### GRAPHIC SCALE



## VII. PHYSICAL PLANT INVENTORY

### 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).

## CROWDERS MOUNTAIN STATE PARK BUILDING INVENTORY

<u>CODE</u>	<u>BUILDING NAME</u>	<u>IN USE</u>
023001	Park Office	Y
023002	Flume House	N
023003	Superintendent's Residence	Y
023004	Ranger II Residence	Y
023005	Charles Barnett House	N
023006	Ranger I Residence	Y
023007	Storage Bldg at Asset 4	Y
023008	Storage Bldg at Asset 6	Y
023009	Pit Privy	Y
023010	Pit Privy	Y
023011	Toilet Building	Y
023012	Pumphouse	Y
023013	Picnic Shelter	Y
023014	Maintenance Bldg	Y
023015	Picnic Shelter	Y
023016	Pit Privy	Y
023017	Tobacco Barn	N
023018	Storage Bldg at Asset 3	Y
023019	Kiwanis Lodge	N

## CROWDERS MOUNTAIN STATE PARK FACILITY REPAIR NEEDS

Inspection of park facilities in July of 1991 determined that nearly all the buildings at Crowders Mountain State Park are in good condition and need only minor repairs. There are three notable exceptions requiring work of over \$10,000, although none of the renovations needed are major.

## MAINTENANCE NEEDS

<u>Bldg. #</u>	<u>Building Name/Need</u>	<u>Demolition Cost</u>	<u>Repair Cost</u>
023001	<u>Park Office</u>		\$21,177.00
	Hard wired smoke detector		125.00
	Replace furnace, insulate ductwork		5,984.00
	Improvements to electrical system		3,953.00
	Windows, trim paint		6,955.00
	Flooring, interior trim		4,160.00

<u>Bldg. #</u>	<u>Building Name/Need</u>	<u>Demolition Cost</u>	<u>Repair Cost</u>
023002	<u>Flume House</u> Comment: This unused building is near the park entrance and attracts unwanted activity. In several places the floors are caved in and pose a serious safety hazard. The walls are formed of large logs that could possibly be salvaged by a historical group.	\$ 7,500.00	
023003	<u>Superintendent's Residence</u> Exterior door, trim, gutters Reverse improperly installed insulation Air conditioning		\$ 7,720.00 2,799.00 421.00 4,500.00
023004	<u>Residence</u> New electrical system Storm windows, siding Remove floor furnace, repair and refinish floor Plumbing repairs		13,133.00 5,436.00 4,697.00 2,100.00 900.00
023005	<u>Barnett House</u> Repair siding and glazing Provide drainage swale Comment: This 1,000-sq.ft. building is structurally sound, but not in regular use. A determination of its operational value should be made.		818.00 668.00 150.00
023006	<u>Ranger Residence</u> New windows, storm doors, gutters Air conditioning		8,333.00 3,833.00 4,500.00
023007	<u>Storage Building</u> Demolish portion of bldg, provide structural piers & rebuild one wall		936.00
023008	<u>Storage Building</u> Replace siding and trim Repaint roof		630.00 570.00 60.00
023009	<u>Pit Privy</u> Provide drainage swale		75.00

<u>Bldg. #</u>	<u>Building Name/Need</u>	<u>Demolition Cost</u>	<u>Repair Cost</u>
023010	<u>Pit Privy</u> Provide drainage swale		75.00
023011	<u>Toilet Building</u> Provide HA parking, hardened surface Repair partitions		\$ 6,286.00 6,196.00 90.00
023012	<u>Pumphouse</u> Minor electrical repairs Replace door		860.00 110.00 750.00
023015	<u>Picnic Shelter</u> HA fountain		169.00 169.00
023016	<u>Pit Privy</u> Provide drainage swale		75.00
023017	<u>Tobacco Barn</u> Comment: This building is of no operational value. Portions of the roof are collapsing and hazardous. The bldg also attracts undesirable activity. The vertical siding & portions of the structure may be salvageable, however.	4,500.00	
023019	<u>Kiwanis Lodge</u>	10,000.00	
	Totals:	===== \$22,000.00	===== \$60,287.00

CROWDERS MOUNTAIN STATE PARK  
FACILITY REPAIR NEEDS COST 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	7500	15300	150	22950
EXTERIOR ENVELOPE	360	14834	5499	20693
INTERIOR ENVELOPE	0	3683	2788	6471
FIRE/LIFE SAFETY	125	167	0	291
HANDICAPPED ACCESS	0	0	6364	6364
PUBLIC HEALTH	0	0	0	0
HVAC	5520	9000	763	15283
PLUMBING/UTILITY	0	900	0	900
ELECTRICAL	5436	3899	0	9335
=====				
	18941	47781	15565	82287

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. This category usually includes building code violations. "Minor" deficiencies are those requiring general maintenance and repair.

# CROWDERS MOUNTAIN STATE PARK BUILDING LOCATIONS

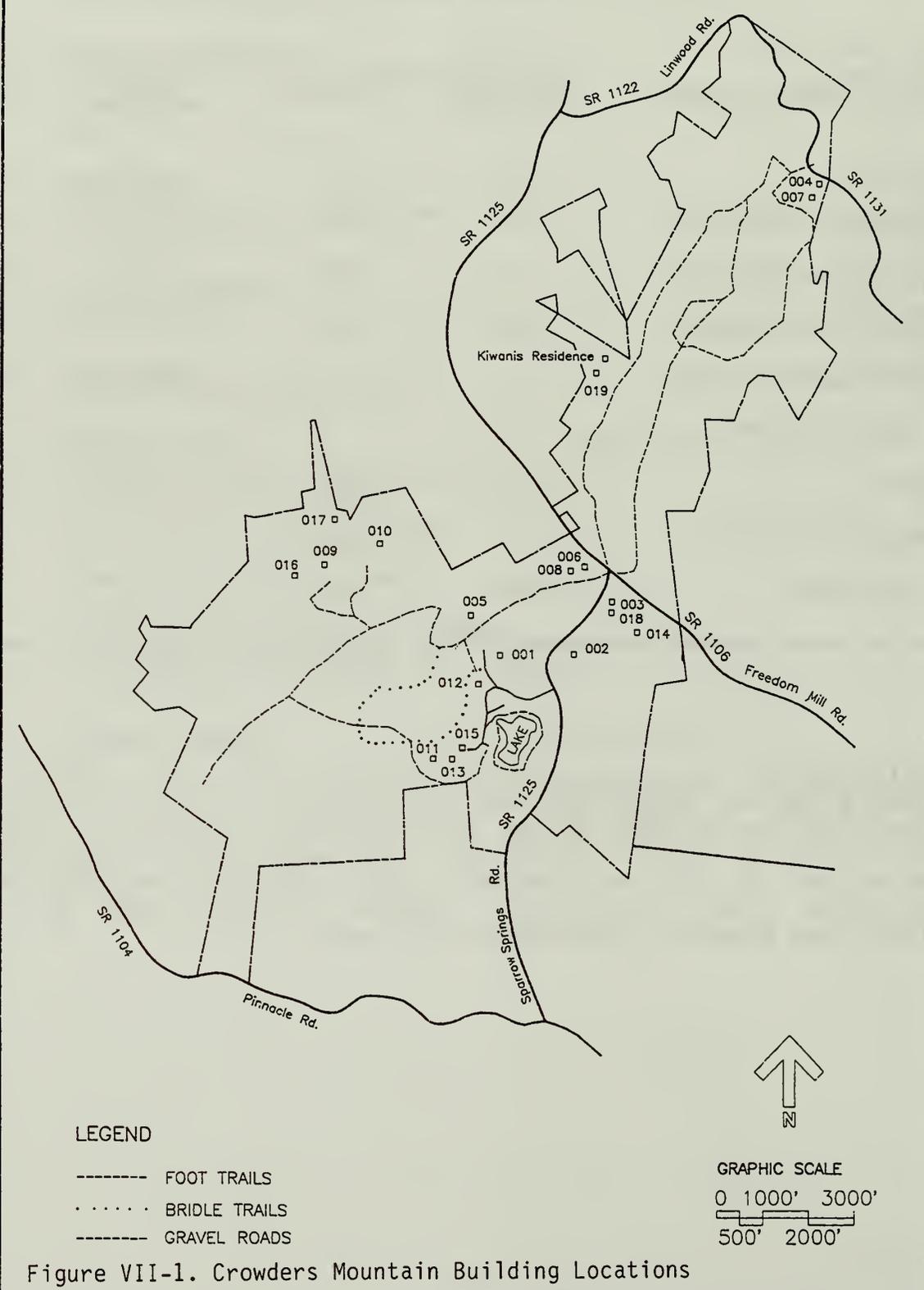


Figure VII-1. Crowders Mountain Building Locations

## ROAD AND UTILITY INVENTORY

In 1981, Crowders Mountain underwent major capital improvement. The main park road was paved and all major utilities were installed. The project was completed at a cost of approximately \$400,000.

Information for the road and utility inventory is based primarily upon a one-day inspection of the park facilities with Superintendent Joe Sox conducted on July 11, 1991. Other information comes from the Institute for Transportation Research and Education (ITRE) study on roads and parking, original construction drawings, and from past experience with the park.

The inventory is divided into four major sections: roads and parking areas; water system; electrical system; and telephone system. Each section is broken into two parts: existing conditions and system recommendations.

The condition of the park infrastructure is, overall, fair to good.

### EXISTING CONDITIONS - ROADS

According to the Institute for Transportation Research and Education (ITRE) study completed in March of 1990, there are .72 miles of paved and 3.15 miles of unpaved road within the park. Parking areas include 1859 square yards of paved parking areas and 2,299 square yards of unpaved roads and parking areas.

The paved roads are in good shape except for a few minor areas that need a little patch work. The main road has no center line stripe. Road shoulders are well drained and have a good stand of grass. The ditch lines are in fair shape, with some mowing needed. The back slopes have been left to grow back. The unpaved roads have been maintained by the Department of Transportation and are in fair shape.

The majority of pipe culverts are corrugated metal. Most are in good condition except for those on the tower trail road, where at least four culverts need to be replaced. Some of the culverts are undersized and need to be replaced.

The unpaved parking lots have recently been upgraded with additional stone from the Department of Transportation. The parking lot located off SR 1122 at the beginning of the tower trail road provides mainly road-side parking that is on a sharp curve. An improved parking area is needed here.

### RECOMMENDATIONS FOR ROAD AND PARKING AREAS

The existing annual service agreement with the N.C. Department of Transportation is adequate for the unpaved roads within the park. Brevard Road may be taken off the N.C. Department of Transporta-

tion system within the next year. Maintenance should still be done, but the road should then be gated. This road serves as an access to group camps. The paved road should be striped and a few minor areas patched. This can be done for less than \$500 by Department of Transportation forces.

The office area needs to be paved if funds can be secured. This will be included in a visitor center to be located at the old office area. A new parking lot off SR 1122 needs to be constructed for use by rock climbers. A location with good sight distance has been selected. Department of Transportation forces could do this work.

#### EXISTING CONDITIONS - WATER SYSTEMS

The park is supplied water by water wells with a hydropneumatic pressure tank and PVC piping distribution system. The main well for the area is approximately 200 feet north of the intersection of the entrance road and office road. Its capacity is unknown. A 2,000-gallon hydropneumatic pressure tank is located at the pump house. A two-inch PVC waterline distributes the water to the picnic toilet building and drinking fountains in both picnic areas. A one-inch line installed by park staff in 1983 serves the park office. The system appears to be in good shape. Although a chlorinator is provided at the well house, it has never been used.

The maintenance building is served by its own well. It has a capacity of 50 GPM, but is high in iron. The system has a bladder tank with PVC piping to the building. It appears to be in good condition.

The two camping areas have separate wells. The group camp well produces 10 gallons per minute, and the family campground well produces 22 gallons per minute. There is no electrical service at these areas, and both wells have only a hand pump for pumping water. The hand pumps need additional piping.

The superintendent's residence and Sparrow Springs Road ranger residence have their own 24-inch bored well of an unknown capacity. The superintendent's well has gone dry on occasion. The wells have bladder pressure tanks with jet pumps. The well at the ranger residence is of an unknown quality. The ranger residence (#004) on Linwood Road has a 6-inch drilled well with a submersible pump.

#### RECOMMENDATIONS FOR THE WATER SYSTEM

Chlorination should be used for the main water well at the picnic area. A new water well should be dug at the superintendent's residence. The estimated cost is \$3,500, including the pump.

Because of limited use and the high cost (\$40,000) to provide electrical service and pump at the group camp, it is deemed best

to keep the existing system. Campers should be warned to boil water prior to consumption.

The wells at the superintendent's residence (#003) and Sparrow Springs Road ranger residence (building #004) need new pumps. The estimated cost is \$2,000 for both systems.

The well at the maintenance building needs a small iron filter. Estimated cost is \$3,000. Since there is so little usage, this is not a high priority.

#### EXISTING CONDITIONS - POWER DISTRIBUTION SYSTEM

All main park facilities are served by a primary underground power distribution system with three power transformers. The system is owned by Rutherford Rural Electric Power Company in Forest City.

The underground power is in good shape except for a problem with the underground at the entrance to the park. The section to the first transformer is to be replaced by the power company. The total length is approximately 1,200 lineal feet. The ranger residence and ranger I residence (#006) are served by conventional overhead power with service risers.

#### RECOMMENDATION FOR THE POWER DISTRIBUTION SYSTEM

The power company will replace and maintain the system at no charge.

#### EXISTING CONDITIONS - SEWER SYSTEM

All buildings with toilet facilities have their own septic tanks with nitrification lines. The picnic area toilet building has a 2,000-gallon septic tank with four 120-foot drain lines. It has never been pumped out and needs access risers. It was built in 1981. The maintenance building has a 1,000 gallon tank with three 100-foot lines. It seems to be in good shape. There are no risers on the tank. It was built in 1981.

The office and ranger residences have sewers of unknown size and age. These are probably from 1,000 to 1,200 gallon systems with three 100-foot lines. These systems existed when the park property was bought.

#### RECOMMENDATIONS FOR THE SEWER SYSTEMS

None of the septic tanks have been pumped out, nor do they have inspection risers. All tanks should be pumped and risers installed. The estimated cost is six tanks at \$750 each for a total of \$4,500. The drainfields appear to be in fair shape. They need to be kept mowed and surface water diverted.

## EXISTING CONDITIONS - TELEPHONE SYSTEM

A public telephone is located at the park office. The office phone is served by Southern Bell Telephone Company. The two residences have individual private lines.

## RECOMMENDATIONS FOR THE TELEPHONE SYSTEM

A telephone line needs to be run to the maintenance area. Southern Bell will probably charge for this service. The estimated cost is \$5,000.

## SUMMARY OF ROAD AND UTILITY INVENTORY

At the present time there are no major problems with the roads, parking areas or park utilities. The park roads will be satisfactory for at least five to seven more years, except for some pavement patching that is needed. The volume of traffic is not very large. The sewer systems are satisfactory except for those in some of the ranger residences. Water, electric and telephone systems are in good shape. Water pumps will have to be replaced in the near future.

# CROWDERS MOUNTAIN

VII-11

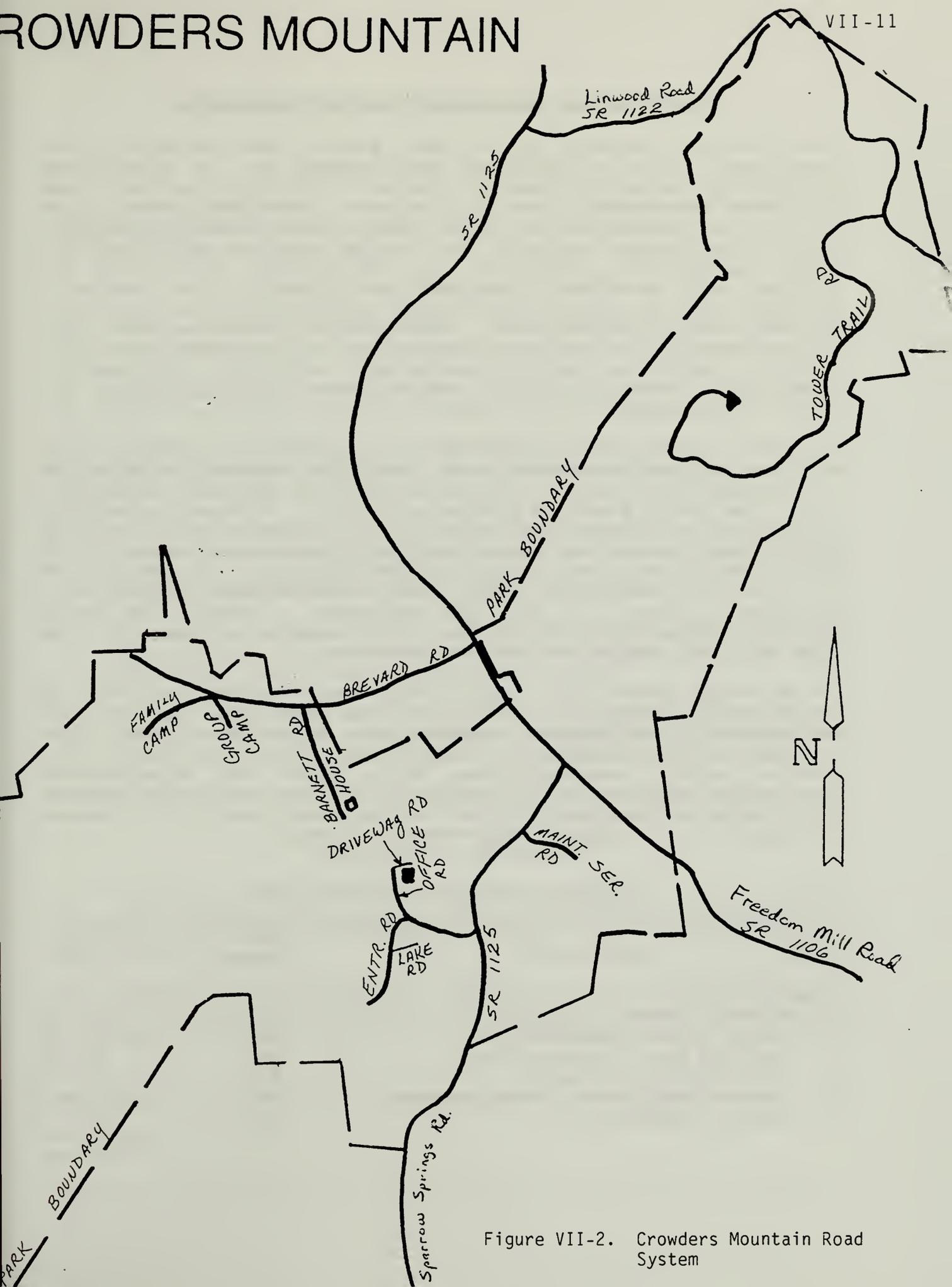


Figure VII-2. Crowders Mountain Road System

## MAJOR CAPITAL IMPROVEMENT PROJECT PRIORITIES

The Crowders Mountain 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- 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 Crowders Mountain 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 1975. Changes in development plans were deemed necessary. The original project priority list, shown below, was based upon development proposed in the park master plan. The original project priority list represented a logical and reasonable first phase of development needed for a functioning park. It did not represent a total listing of proposed master plan development. 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, development adjacent to the park, and current recreation demand. This review of proposed capital improvements resulted in changes and additions to capital improvement proposals.

### ORIGINAL PROJECT PRIORITY LIST

Rank	Description	Mean Score	Total Costs
1.	Visitor Center Complex	564	\$ 689,300
2.	Water System Improvements	500	25,900
3.	Parking Area, Crowders Unit	498	55,400
4.	Lake and Road Crossing	447	1,917,191
5.	Expand Picnic Area, Road, Parking	416	855,600
6.	Ranger Residence (1)	314	130,700
			=====
			\$3,674,091

**RECOMMENDED CHANGES TO PROJECT PRIORITY LIST****PROJECTS TO BE DELETED**

No projects proposed on the original project priority list developed from the master plan are to be deleted.

**PROJECTS WITH CHANGED SCOPES**

1. Visitor Center (\$1,470,600) - increase small VC to Division standard design to accommodate appropriate I&E programs.
2. Utilities Improvement Project (\$35,100) - combine all sewer, water, and other utility needs into one project.
3. Parking at Crowders unit (\$231,100) - increase number of parking spaces (50 paved plus grassy spillover area), add public toilets and public telephone at Linwood Road.
4. Intensive recreation facility development (\$1,938,200) - combine boathouse, lake enlargement, camping area improvements, and road and bridge project into one project. This project deletes horse facilities in the park.
5. Expand picnic area, road, and parking (\$523,700) - add next development unit as demand increases rather than completing all picnic facilities in the master plan.
6. Ranger residences (2) (\$277,100) - increase residence from one to two; one is a replacement structure and the second is a new one to give security to the Kings Mountain Trail.

For further explanation of these projects, see Appendix B.

**PROJECTS TO BE ADDED**

1. Building demolition and repair (\$122,900) - This project will include all needed FIIP repairs beyond the ability of the park staff. It also will call for the demolition of three buildings.
2. Trails project (\$300,500) - This project will make necessary trail repairs as indicated in the trails report developed by park staff and Division trails specialists.

For further explanation of these projects, see Appendix B.

## CHANGES TO THE MASTER PLAN

The GMP review of the Crowders Mountain master plan resulted in elimination of plans to develop a Valley Unit, which was to include group and family camping. Land in the Valley Unit area, however, had never been acquired by the state for park purposes. Over the years since the master plan was written, considerable private development had taken place, thus necessitating its elimination. Camping proposed for the Valley Unit was relocated to the office and lake area and equestrian use in this area eliminated.

The 1975 park master plan called for closing Sparrow Springs Road and enlarging the park lake. GMP review confirmed the desirability of closing Sparrow Springs Road (SR 1125) and expanding the existing lake to 28 acres, thus allowing adequate space for fishing and boating. Use of the lake is expected to increase significantly with development of camping facilities. Lake expansion is not possible without the road closure.

The location of development originally proposed in the master plan is shown in Figure VII-3. The site plan updated by the GMP process is shown in Figure VII-4.

The GMP process also identified the need for an off-road parking lot at the Linwood Road trail head. Public parking is now taking place along the shoulder of Linwood Road. The road in this area is sharply curved, which limits sight and poses safety problems. The trail head also gets heavy use. For these reasons, an off-road parking area is recommended. A restroom building and public telephone are also proposed.

master plan - phase 3  
**CROWDER'S**  
 mountain state park

**legend**

- interpretive station
- wilderness camping
- R ranger residence
- (M) maintenance area
- (E) equestrian area
- (b) boating area
- ↔ hiking trails
- ⋯⋯⋯ bridle trail
- | control gate
- natural area



Figure VII-3. Original Master Plan Development

legend

- interpretive station
- wilderness camping
- R ranger residence
- (M) maintenance area
- (P) parking
- (b) boating area
- ↔ hiking trails
- ! control gate
- ▨ natural area



Figure VII-4. Updated Master Plan Development

## REVISED PROJECT PRIORITY LIST

Rank	Description	*Mean Score	Total Costs
1.	Visitor Center Complex	553	\$1,470,600
2.	Linwood Road Access	552	231,100
3.	Trails Improvements	550	300,500
4.	Building Demolition and Repair	513	122,900
5.	Utility System Improvements	493	35,100
6.	Campground, Lake, Road, Bridge	452	1,938,200
7.	Expand Picnic Area, Road, Parking	437	523,700
8.	Ranger Residences (2)	348	277,100
			=====
			\$4,899,200

\* The mean score comes from the Division's Project Evaluation Program (PEP). The PEP uses an evaluation formula to rank projects that consider three factors: the objective of the project; the justification or urgency for funding; and the estimated annual number of persons (visitors and/or employees) who are affected by the project.



## VIII. VISITOR SERVICES AND OPERATIONS

### VISITOR FACILITIES

Crowders Mountain State Park offers a variety of hiking trails, ranging from the more rugged trails leading to the summits of Crowders Mountain and Kings Pinnacle, to the flat, easy trail circling the nine-acre park lake. Canoes for use on the lake can be rented at the park office from June through Labor Day, and both canoe and bank fishing are allowed. The lake is the only public lake in Gaston County.

Located approximately one mile from the park office are secluded areas for both back-country tent camping and group camping. The six group-camping areas include fire circles. Non-potable water and pit privies (outhouses) are located nearby.

Twenty-eight picnic tables and eight grills are available for picnicking. For groups, two large shelters with tables are available. A park office provides a contact point for park visitors. The office also contains a small display area used for interpretive purposes.

### OPERATIONS EVALUATION

The major issues concerning the park are identified by Division of Parks and Recreation staff at the initiation of the general management planning process. These issues are classified into three main categories: natural resources, capital improvements, and operations. This chapter deals with the park operations issues and recommendations.

Nine major operations/management issues are of significant concern at Crowders Mountain State Park.

- Development around the park
- Need for family type camping
- Additional staffing needs
- Tower inholding
- Interpretation and education needs
- Climbing at the Pinnacle area
- Parking needs at the Linwood Road area
- Maintenance needs
- Regional trails system potential

## DEVELOPMENT AROUND THE PARK

Significant residential and commercial development has occurred in the immediate area of the park since the publication of the park's master plan in 1975. Such development and associated increases in traffic, noise and air pollution have adversely affected the park's resources, diminished park visitor experiences, and increased park visitor safety concerns. Expanding development is also making land acquisition of the remaining master-planned park acreage more difficult.

The area population (Cleveland, Gaston, Lincoln, and Mecklenburg counties) grew 18.6 percent during the 1980's. It is projected to grow at a 9.98 percent rate during the 1990's. While the rate of growth is slowing, it is still above the state's projected rate of population growth. External threats to the park will continue to grow. This growth suggests the need for park district zoning in the area, which Gaston County is considering. The Division supports implementation of such zoning.

Completion of land acquisition for the park will improve natural resource protection by providing for needed buffer, by controlling the park lake's watershed, and by completing acquisition of natural areas surrounding the park's two peaks. Land acquisition will also eliminate inholdings, some access problems, visual intrusions, and various management concerns. It will also permit visitor facilities and use to be expanded and lessen public safety concerns. Even if land acquisition plans are completed, the park will still need the additional protection that park district zoning would provide.

Sparrow Springs Road (S.R. 1125) should be closed. Through traffic creates access problems as well as safety problems. Closure of the road, for which an alternative route already exists, would eliminate some park access and safety problems. Additionally, the road closure would allow facility expansion and improved visitor use of the park. The lake could then be enlarged and a campground constructed. (Proposed expansion of the lake and development of a campground is further described in Chapter VII.) Road closure should take place in conjunction with lake expansion and campground development.

## NEED FOR FAMILY-TYPE CAMPING

Park staff receive frequent inquiries about family-type camping. At present, only secluded areas for back-country tent camping and group camping exist. These have non-potable toilets and water nearby. As discussed in Chapter IV and illustrated in Table IV-4, the demand for a family-type camping area is great. SCORP standards call for 4,614 camp sites in the four-county area, but only 667 exist. Thus, the region has only a 14.5 percent sufficiency.

Completion of a family-type camping area is strongly recommended. Construction of the area is dependent upon the closure of Sparrow Springs Road and expansion of the park lake to a size that would adequately provide for expanded visitor use resulting from the family-type camping area.

#### ADDITIONAL STAFFING NEEDS

Present staffing at Crowders Mountain is inadequate. Crowders Mountain needs a permanent full-time clerk-typist position. The park office, which the public expects to be open during park operating hours -- including weekends -- is inadequately staffed. The superintendent and rangers are often called upon to staff the park office or else leave the office unattended. Administrative duties have increased as a result of issuing climbing permits and the rental of canoes.

Minimum park operating hours are 8 a.m. to 6 p.m., seven days a week, a total of 70 hours. For much of the year, the park is open for public use even more hours. In the summer, weekly hours of operation expand to 91 per week. To adequately staff the park office and serve the public, the addition of a permanent full-time clerk-typist is necessary.

The superintendent and rangers presently are required to spend too much time in the park office answering the telephone, issuing climbing permits, and handling clerical duties such as typing program materials and reports and answering basic visitor questions. The addition of a permanent full-time clerk-typist would free the superintendent and ranger from clerical duties and allow them to spend additional time on ranger duties involving public safety, interpretation and education, and natural resource protection.

Table VIII-1. Existing and Proposed Staff

<u>Existing</u>	<u>Proposed Additional Staff</u>
1 superintendent	1 full-time clerk-typist
1 ranger II	
1 general utility worker	
1 ranger I	
1 park attendant - seasonal	
1 general utility worker - seasonal	

### TOWER INHOLDING

Two communications towers on an inholding of 2/10th acre sit at the top of Crowders Mountain. The two towers stand out as an unattractive sight amid a lovely natural and scenic area. Because of their high location, the towers are used for communication purposes by a variety of organizations.

In addition to being a visual intrusion, the towers present other problems. The organizations using the towers require that an access road be maintained and require 24-hour accessibility. The road and traffic on it are detrimental to the biological and scenic resources in the area. At the present time, acquisition of the site seems remote because of its high value. But if circumstances arise in the future that would permit acquisition of the site, such action would be desirable. With the proximity of major interstates and U.S. highways in this most populated region of the Carolinas, millions of people view the area annually.

### INTERPRETATION AND EDUCATION NEEDS

Because of Crowders Mountain State Park's location in the greater Charlotte metropolitan area, the park has the potential to offer one of the most significant opportunities in North Carolina for interpretation and environmental education. A high level of programming takes place, considering the limited existing staff. Programming has been supplemented by using volunteers and outside agencies. While such supplemental help should continue, the park needs additional permanent staff to adequately fulfill interpretation and environmental education needs.

The addition of a full-time clerk-typist position, discussed earlier under "Additional Staffing Needs," would permit an expanded environmental education and interpretive program at Crowders Mountain by allowing rangers to spend less time on office and administrative duties and more time on environmental duties. Specifically, additional ranger time could be spent in the following areas: developing additional programs specific to the park's primary themes, particularly geology; improving the Park Information Handbook and creating a second handbook for the Crowders Mountain access area; developing and offering programs to overnight campers; developing the park information center at the park office to the minimum guideline level; improving outreach programming for schools; repairing current exhibits and exhibit cases; and creating additional exhibits focusing on the primary park themes at each of the four recommended new locations.

### CLIMBING IN THE PARK

Division resource management and operations staff agreed that climbing should be eliminated at the Kings Pinnacle area, and this has been done. Kings Pinnacle hosts an excellent example of a low

elevation rocky summit, and the health of this community is excellent because it has had only limited negative impact from hikers and climbers.

Park staff estimated that 90 percent of the park's climbing activity occurred at Crowders Mountain. This fact made elimination of the 10 percent at the Pinnacle area easier. In addition to protecting the peak's plant community, elimination of climbing at the Pinnacle area will aid emergency medical service (EMS) functions. Confusion as to accident location would be eliminated by restricting climbing to one area.

During the next five years, a number of general climbing issues need to be resolved, including: Should the numbers of climbers be controlled? Should climbing equipment have to meet certain standards and be inspected by park rangers? Should permanently installed climbing aids be allowed? And does climbing produce unacceptable resource damage?

#### PARKING NEEDS AT THE LINWOOD ROAD AREA

The Crowders Mountain Trail is often accessed by park visitors from Linwood Road (S.R. 1122). Frequently, cars park alongside Linwood Road, and at present there is not a large enough or safe enough area for parking purposes. Linwood Road curves sharply near the trail access, making the public safety situation more dangerous.

A 50-car hard-surfaced parking lot and a grassy spillover parking area on the trail side of Linwood Road and adequate warning signs for motorists are needed in order to adequately provide for visitor use and safety. Because of the level of use, toilet facilities and a telephone are also recommended.

Cars parked by visitors using the Linwood Road access present a traffic hazard for drivers by reducing their ability to see oncoming traffic. Park visitors using the area are also at risk as they cross the road to reach the hiking trail.

#### MAINTENANCE NEEDS

Consistent and increased funding for recurring and preventative maintenance is needed. The park's older structures, such as residences and the park office in particular, need repairs and ongoing maintenance; but funds for such purposes are lacking. FIIP-identified critical and serious needs for park structures are approximately 15 times the level of budgeted resources. This amount of current funding is barely enough to keep facilities operating and make emergency repairs. It does not allow for much-needed cyclic maintenance, such as roofing, flooring repairs, and modifications of structures. Without adequate cyclic maintenance, structures will deteriorate at a faster rate. Increased funding is

also needed for repairs to trails, camping areas, and other facilities.

Another area of particular concern at Crowders Mountain involving maintenance is equipment. Improved mowing equipment is greatly needed. Jobs such as mowing of the dam and clearing of ditches are done by hand with sling blades and weed-eaters because of the lack of proper equipment available, thus using staff time inefficiently. Shop tools are 15 years old, and most are of a hobbyist quality. The saws are capable of handling stock only up to four inches thick. The Ford 3600 tractor and a bushhog are 13 years old and will soon need replacing. As this equipment ages and receives heavier use than it was designed for, down time increases. Equipment funding has been cut due to budget constraints during the past several years, further contributing to a deteriorating maintenance situation. Additional and consistent funding is needed to reach the desirable level of park maintenance.

#### REGIONAL TRAILS SYSTEM POTENTIAL

Two large outdoor recreation areas, Kings Mountain National Military Park and Kings Mountain State Park, are located in nearby York County, South Carolina. Potential for a regional trails system or greenway linking these two parks with Crowders Mountain State Park should be investigated and recommendations made during 1992-93.

#### MOUNTAIN BIKING

In recent years, the popularity of mountain biking has exploded. The demand for trails and areas on which to ride has been felt at Crowders Mountain State Park and across the state parks system. Because mountain biking can have negative effects in areas and on resources unsuited for such use, the Division is currently developing a systemwide policy that will guide mountain bike use. Suitable trails for mountain biking will need to be longer and wider than many hiking trails. They will also need to be limited in slope.

After a mountain biking policy is developed and adopted, the trails at Crowders Mountain will be evaluated to determine which trails, if any, are suitable for mountain biking.

## IX. LAND ACQUISITION NEEDS

### LAND ACQUISITION NEEDS

#### LAND ACQUISITION STATUS

Crowders Mountain State Park contains 2,591 acres. Crowders Mountain State Park was included in the 1985 appropriation for state park land acquisition, and 466 acres were acquired. Additional property was included in the legislation in the second year of funding, but funds were frozen and then reverted. A 223-acre tract, funded by the Recreation and Natural Heritage Trust Fund, has recently been acquired.

#### FUTURE LAND ACQUISITION NEEDS

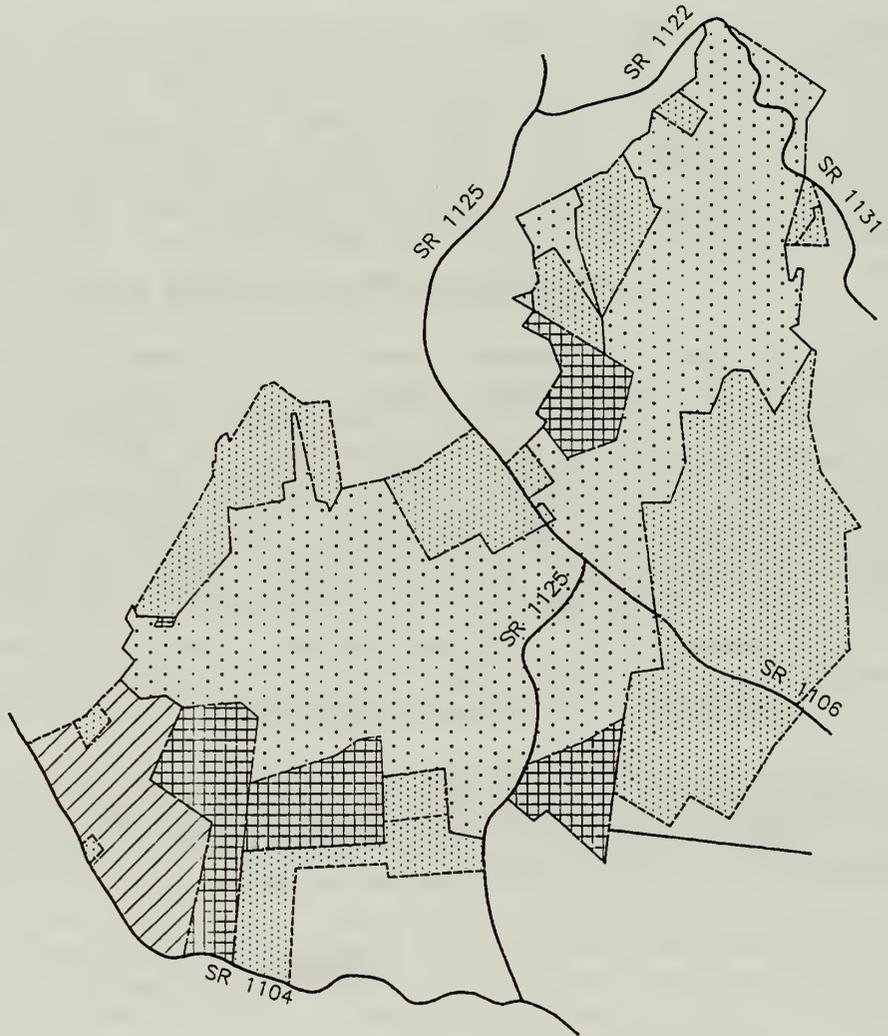
Completing the recommendations of the master plan for Crowders Mountain State Park would require the acquisition of 1,435 acres. Past land acquisition priorities have included: the completion of the natural areas surrounding the two primary features of the park, Crowders Mountain and King's Pinnacle; acquiring the necessary land base for development of facilities in the Crowders Unit, Kings Mountain Unit, Valley Unit and Central Activity Area; visual protection of Yellow Ridge; and the removal of access inholdings. Since the development of the master plan, residential development has occurred around the perimeters of the park. In certain areas, the acquisition of master-planned property will be very expensive because of many small lots and houses.

The Crowders Mountain master plan calls for a trail connector to Kings Mountain Military Park. Any land acquisition for this trail connector should be funded separately from land acquisition to complete the park master plan.

#### SUMMARY

1985 size of the park	1,902 acres
1985 land program additions	<u>466 acres</u>
Current size of the park	2,591 acres
Master-planned needs	<u>1,419 acres</u>
Master-planned size of park	4,010 acres

# CROWDERS MOUNTAIN STATE PARK



### LEGEND

-  PARK-1985
-  ACQUIRED IN 1985 PROGRAM
-  R&NHT FUND GRANT
-  FUTURE NEEDS

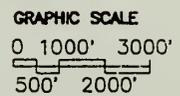


Figure IX-1. Crowders Mountain Land Acquisition

**APPENDIX A**

**PARK PROFILE**



## PARK PROFILE

**Location:** Gaston County

**Size:** 2,591 acres

**Reason for Establishment:**

This park is known for its rocky outcrops and the twin peaks of Crowders Mountain at 1,625 feet and Kings Pinnacle at 1,705 feet. The park was established to protect the peaks from destruction by mining.

**Facilities:**

- Camping (primitive)
- Group camp area (primitive)
- Maintenance area
- Office
- Picnic area (28 tables, 2 shelters)
- Residence (3 houses)
- Trails (15 miles, hiking)

**Existing Staff:**

Permanent:

- Park Superintendent I
- Park Ranger I
- Park Ranger II
- General Utility Worker

Seasonal:

- Park Attendant
- General Utility Worker

**Statistics:**

FY 1990-91

Visitation (calendar 1991)	163,432
Operating Budget	\$119,874
Revenue	\$ 3,991



**APPENDIX B**

**CAPITAL IMPROVEMENT REQUESTS**

APPENDIX B

CAPITAL IMPROVEMENT REQUESTS

North Carolina's Division of Parks and Recreation

APR 16, 93

Page 1

Projects By Park In Priority Order

Description	Job Codes	Dst Cde	Locations	Mean Score	Total Costs
visitor center complex	124N23 1	WES	Crowders Mtn	553	\$ 1,470,600
wood road access	410N23 1	WES	Crowders Mtn	552	\$ 231,100
ails improvements	40R23 1	WES	Crowders Mtn	550	\$ 300,500
ilding demolition and repair	510R23 1	WES	Crowders Mtn	513	\$ 122,900
ility system improvements	610R23 1	WES	Crowders Mtn	493	\$ 35,100
mpground, lake, road, bridge	410N23 2	WES	Crowders Mtn	452	\$ 1,938,200
and picnic area, road, parking	250N23 1	WES	Crowders Mtn	437	\$ 523,700
nger residences (2)	300R23 1	WES	Crowders Mtn	348	\$ 277,100
					\$ 4,899,200
					\$ 4,899,200

total number of jobs reported = 8





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