
CROWDER'S
mountain state park

CROWDER'S MOUNTAIN STATE PARK MASTER PLAN
prepared by:

The Master Planning Unit
Division of Parks and Recreation
Department of Natural and Economic Resources
State of North Carolina
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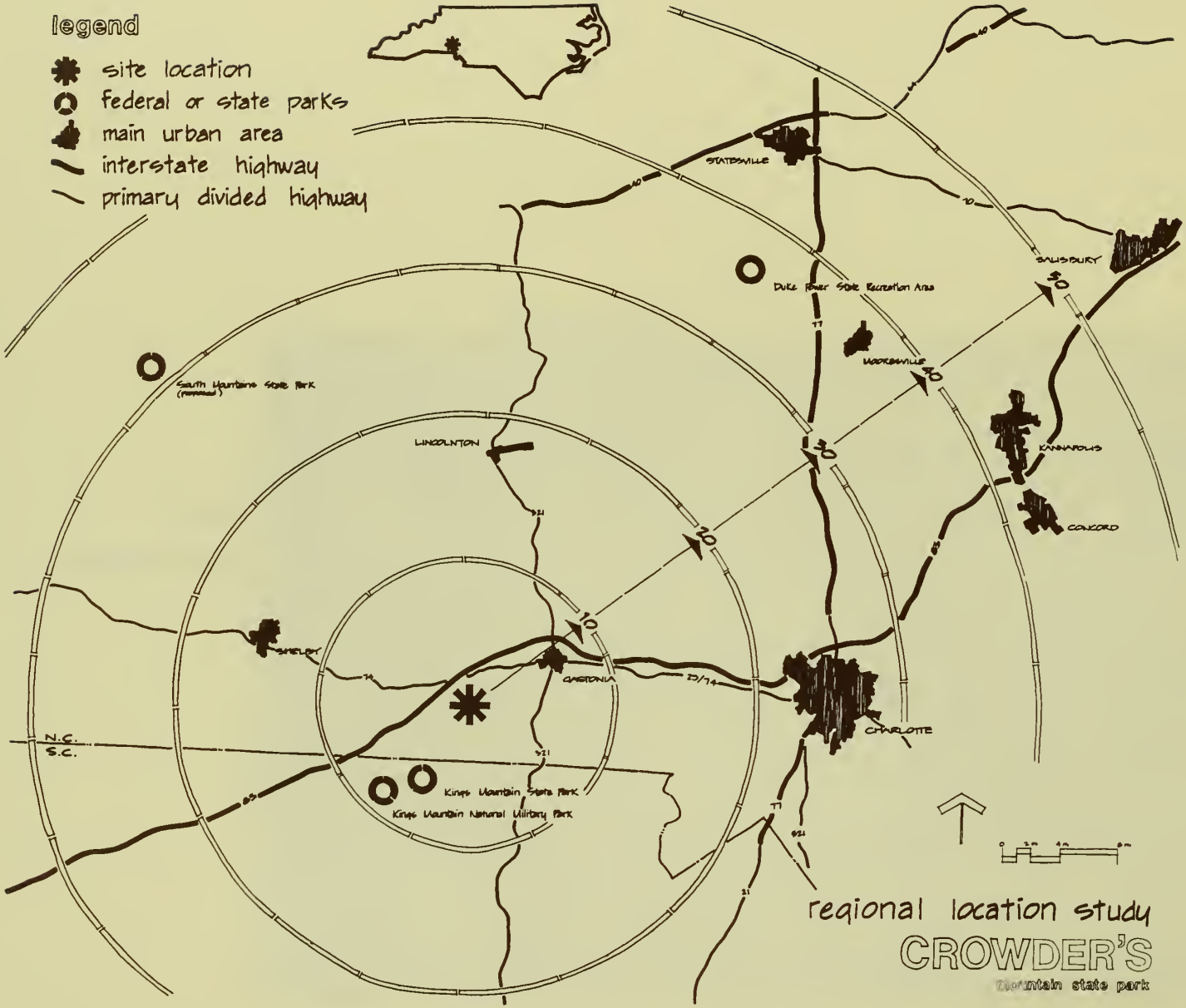
Foreword

The primary objective in preparing a master plan for Crowder's Mountain State Park is to provide a development plan and program compatible with the nature of the site. It is essential that the plan be unified physically and in such a way that administrative services and operations can be provided efficiently.

In addition, the master plan speaks to the optimum carrying capacity of the site for all of its proposed activities and facilities with respect to the maintenance of the desired park character. It remains a flexible plan inasmuch as development need not reach its final phase if follow-up analysis indicates expansion is undesirable. Development is contingent upon the availability of funding and the establishment of biennial statewide priorities. A review of the impact of site development and visitor use should be conducted after each development phase, insuring long-range protection of the natural resource.

As a matter of policy, the same principles which were used as a basis for the development of this plan — for governing the establishment, extension, and development of the State Park System — should be used in making decisions which affect the welfare of Crowder's Mountain State Park.

Contents


legend
site location
federal or state parks
main urban area
interstate highway
primary divided highway
STATESVILLE
SALISBURY
Duke Power State Recreation Area
MOORESVILLE
South Mountains State Park
LINCOLNTON
KANNAPOLIS
CONCORD
SHELBY
GASTONIA
CHARLOTTE
N.C.
S.C.
Kings Mountain State Park
Kings Mountain National Military Park
regional location study
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Cultural Resources

Location, Population, and Access

Terminating the northeastward trend of the Kings Mountain range, Crowder's Mountain State Park is situated in the southwest part of the State in Gaston County. It is located six miles west of the city of Gastonia and eight miles north of the South Carolina line. Being only twenty-five miles away from Charlotte, the Park lies in the most densely populated region of North Carolina. Within a fifty mile radius, over a million people reside — nearly one fifth of the State. Furthermore, it is projected that by 1980 there will be a population increase of eighteen percent reaching a total of 1,368,500 people. Compared to other state parks, Crowder's Mountain is in closer proximity to a greater number of people than any other park in the State. As the crow flies, there are two state parks and one federal park located within fifty miles. Duke Power State Recreation Area lies west of Interstate 77 about thirty-five miles northwest of Crowder's Mountain. In South Carolina, Kings Mountain State Park and Kings Mountain National Military Park lie adjacent to each other and both are within ten miles of Crowder's. The proposed South Mountains State Park will be situated to the northwest, about thirty miles away.

Interstate 85 passes a few miles north of Crowder's Mountain as it runs from Charlotte into South Carolina and serves as the main regional access to the Park. In this area, I-85 carries a daily volume of traffic exceeding 21,000 cars per day. Highways 29 - 74, 321, and 161 surround the site to the north, east, and west, respectively, and provide the local vehicular access.

Based on traffic volumes and ease of access into the area, the main vehicular access points were given priority ratings. Three of the access points emanated from Highway 29 -74 and a fourth from 321. The main entrance, priority 1, is located in close proximity to the Kings Mountain/29 - 74 exit from I-85 on S.R. 1125, Freedom Mill Road, and enters the site about 2 1/2 miles south of U.S. 29 - 74.

History

Prior to settlement by the white man during the mid-eighteenth century, Crowder's Mountain served as a boundary between the hunting lands of the Cherokee and the Catawba Indians. At this time, much of this area was a vast upland savannah covered in canebrakes, pea-vine grass, and grazed by herds of woodland buffalo. A Cherokee trading path from New Echota, Georgia, passed over the northeast slope of Crowder's on the way to Sapona, N.C., the trading ford on the Yadkin River.

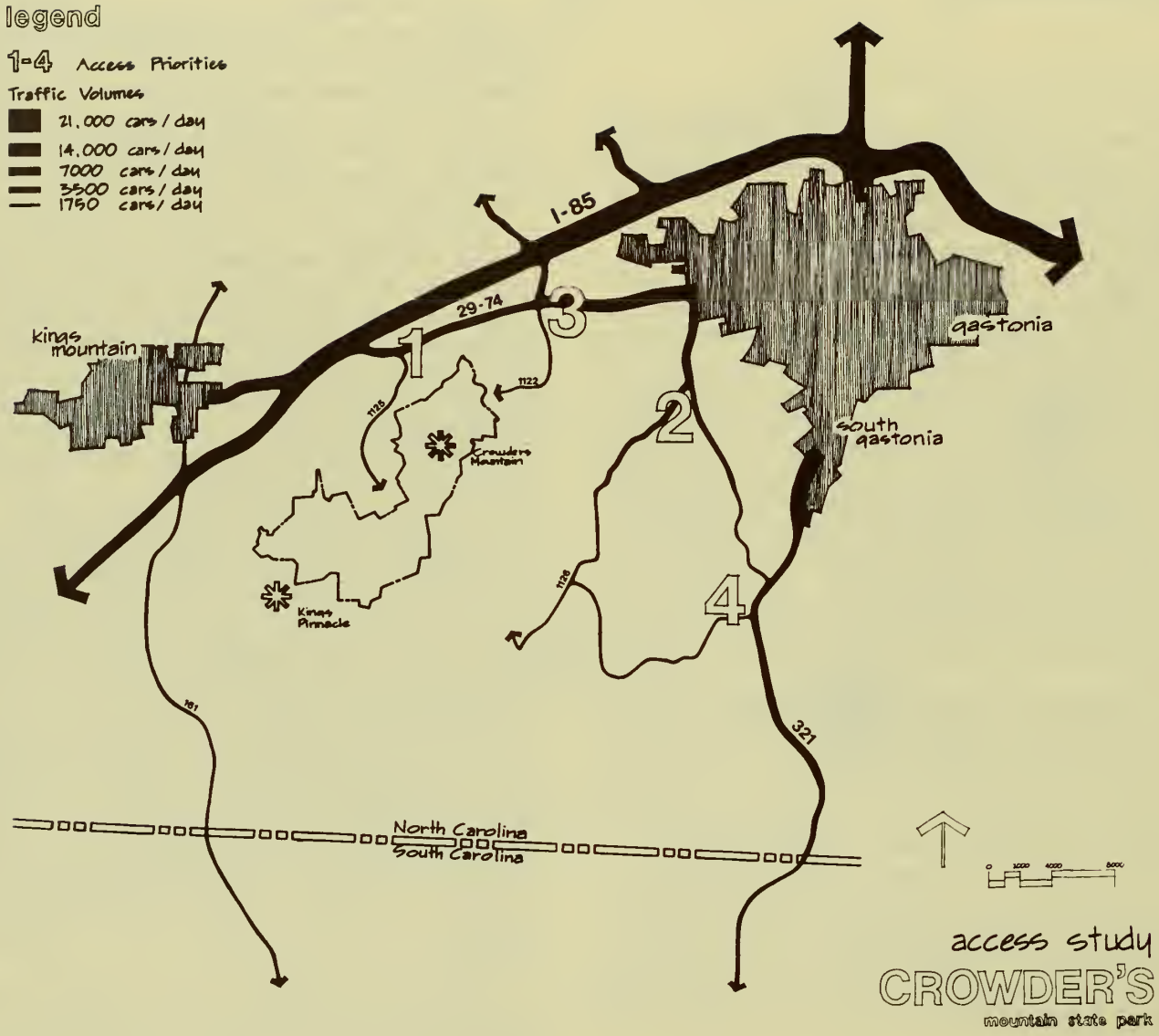
The first settlers in the region moved into the South Point section, between the Catawba and South Fork Rivers prior to 1750. Most of the early settlers came overland from Pennsylvania and other colonies north of the Carolinas. By 1775, 65,000 Scotch-Irish and 25,000 Germans had settled in the area and by treaty with the Cherokee in 1777, all the land east of the Blue Ridge was turned over to the white man. With the Kings Mountain range protecting them to the west, a fort and stockade was built at South Point. The Catawba tribe drifted peacefully into South Carolina, but skirmishes on and nearby Crowder's and Kings with the Cherokee were quite common.

Several miles south of Gaston County on the Kings Mountain ridge, the Battle of Kings Mountain was fought in 1780 — a significant victory for the Patriots during the Revolution.

Two years later, an iron foundry was established by a German immigrant, by the name of Fulenwider, at High Shoals in the north central part of Gaston County. As a result, many German immigrants began settling in the area just north of Crowder's.

One enterprising German merchant, Ulrick Crowder, was granted land on the north slopes of the mountain and continued to buy property until he owned not only the bottomlands but the mountain as well. The mountain was named for Ulrick Crowder who envisioned the development a new town in the vicinity also named for himself. In 1789, the settlement of Ulricksburg was founded. The tract of land was divided into four quadrants and thirty-six lots, twenty of which were sold according to deed records.

During World War I, a training camp for heavy artillery units was stationed at the northern base of the mountain. Evidence of the use of the mountainside for target practice remains today.


legend
1-4 Access Priorities
Traffic Volumes
21,000 cars / day
14,000 cars / day
7000 cars / day
3500 cars / day
1750 cars / day
I-85
29-74
kings mountain
gastonia
south gastonia
1
2
3
4
1123
1122
1128
Crowders Mountain
Kings Pinnacle
1128
181
321
North Carolina
South Carolina
0
1000
4000
8000
access study
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With these exceptions, the past history of the Crowder's Mountain area has been a quiet one in which the land and people formed a large, though not affluent, farming community. Many acres of abandoned fields presently exist in various stages of succession, evidence that all but the top and very steep slopes of the mountain have been cut over at least once. During the 1860's, a better class farm home would have been built of massive logs, squared and dovetailed, chinked with clay. The outside walls would have been covered in weatherboard with wood panelwork inside. On the first floor of the house there would have been a spacious living room and perhaps a bedroom. The second floor would have been a half story with a second bedroom and storage chamber. Frequently other rooms were added in shed fashion and kitchens on such farms were usually built separate from the main house.

Beginning in the late 1700's and continuing through the nineteenth century, gold mining was carried on rather vigorously in the southwest part of the State. The Catawba mine is located one and a half miles south of Kings Mountain station. The mine was discovered in 1834, and worked in a small way for about forty years. At one time, forty stamps were in operation, and it is reported that during its history the mine produced $750,000 in gold.

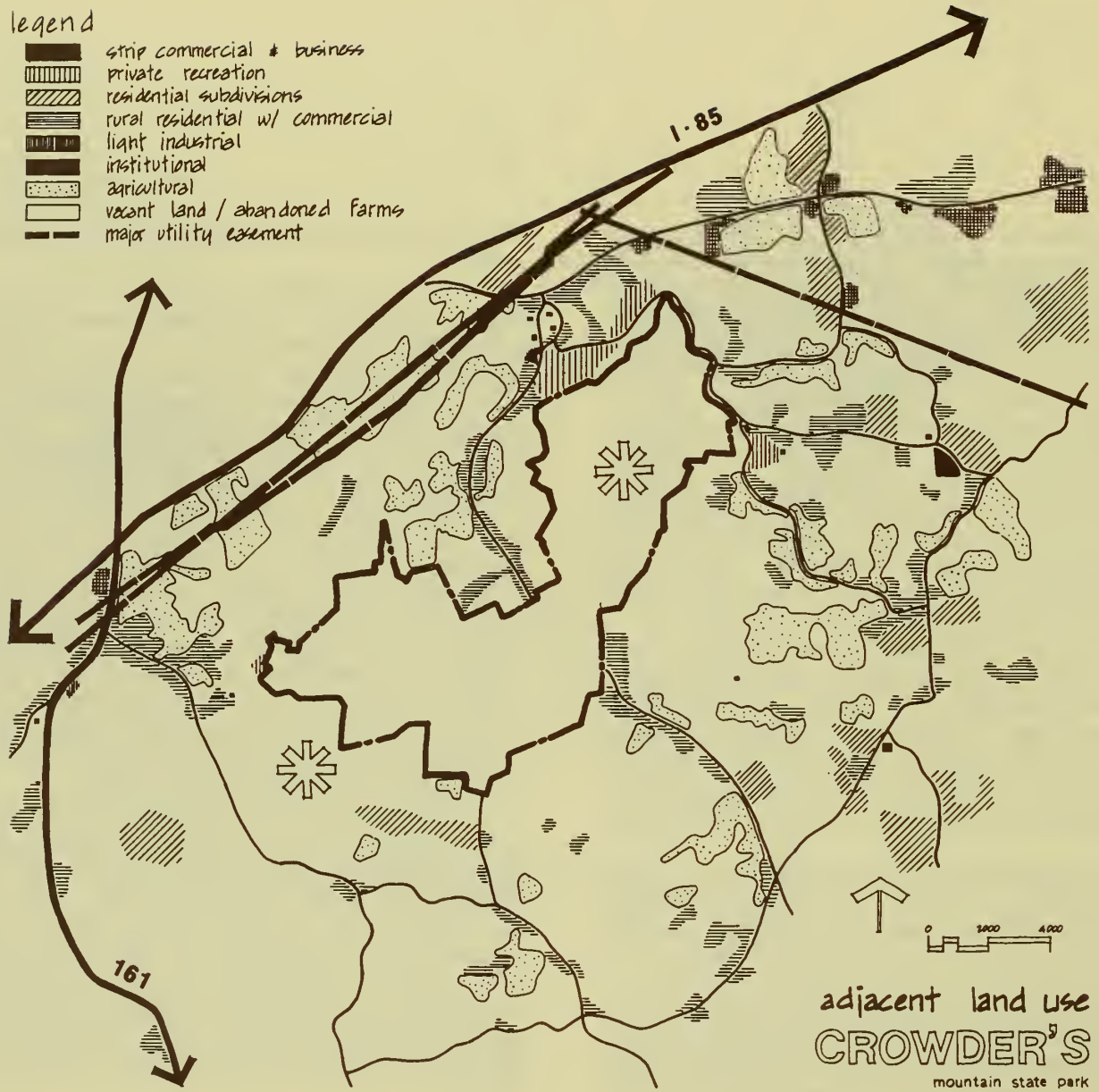
The Crowder's Mountain mine is located about four miles east of the Catawba mine, on the east side of Kings Mountain. Occasionally the width of the ore-bearing zone reaches a width of eight to ten feet although, for the most part, they are lower grade ores and less productive than the Catawba mine.

On the northeast slope of Crowder's Mountain, a four year educational institution known as Linwood College opened in 1914. Although the school was shortlived, closing in 1921, it was during this period that health resorts, or spas, became popular with such a resort being located opposite the school for a short period.

During the 1960's a firm built a large kyanite processing plant on a hillside south of Kings Pinnacle. The mineral, kyanite, has been in considerable demand as a high-temperature insulator. The building is a large, multi-levelled complex of crushing, sorting, and loading equipment housed in a very substantial oak-framed building covered in aluminum siding. Although the company went bankrupt before any processing was done the building remains standing and in good condition.

In late 1970, core samples taken from Crowder's Mountain indicated that there were deposits of kyanite in the mountain. The owners, the L.P.T. Holding Company of Gastonia, gave an unidentified mining company an option to buy the mountain depending on in-depth investigations. With the beginning of test drilling, residents of the area began organizing conservation interests and generating an awareness of the potential strip-mining of Crowder's Mountain. On November 12, 1970, in a letter representing 'Citizens for the Preservation of Crowder's Mountain', the Division of State Parks was asked for information on the procedure for establishing state parks.

Meanwhile, conservation interests were gathering momentum with endorsements from the Centralina Council of Governments, Gastonia City Council, Gaston County Conservation Society, and Sierra Club. In January, 1971, members of the Conservation Society made a presentation to the State Parks Committee of the background to the Crowder's Mountain issue. In a resolution adopted by the Board of Conservation and Development at its meeting in Wrightsville Beach on July 29-31, 1971, it was recommended that the State acquire the Crowder's Mountain and Kings Pinnacle area for inclusion in the State Park System.


legend
strip commercial & business
private recreation
residential subdivisions
rural residential w/ commercial
light industrial
institutional
agricultural
vacant land / abandoned farms
major utility easement
I-85
161
0
2000
4000
adjacent land use
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Adjacent Land Use and Development Context

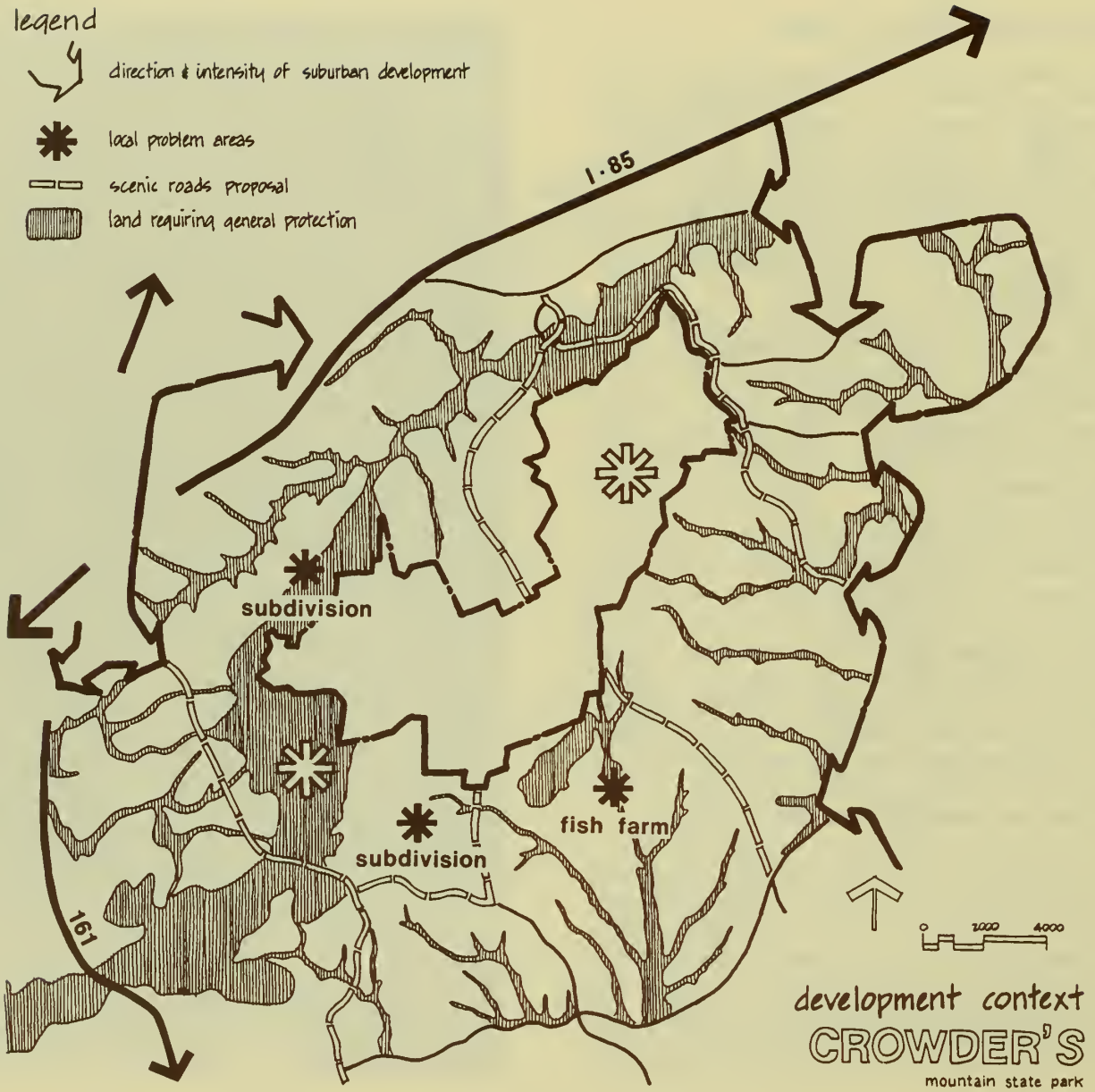
The majority of lands adjacent to the existing park boundary, excluding Kings Pinnacle, are either presently being farmed or, if vacant, show evidence of having been in agricultural use rather recently. As one would expect, the secondary roads leading into the study area have typically grown up with small farm dwellings scattered along the roadside. More recently, larger and more substantial homes have been built either among the older houses or in newly developed residential subdivisions primarily east of the site.

Within the past ten years, mobile homes have manifested themselves in the area in three different situations — as dwellings found in groups of three or four along a roadside on land leased or rented by the local property owner, in large mobile home parks covering several acres or more, or in supplementing the existing smaller dwellings, usually as business or storage space.

The small village of Mountain View, about a mile north of the park boundary on S. R. 1125, is a typical rural community complete with churches, small grocery and gas station. The mainstay of the community is the Cherryville Textile Mill. An eighteen hole public golf course is located at the base of Crowder's Mountain along the floodplain of Crowder's Creek.

North of the Park, along Interstate 85 and Highway 29-74, the land has become more highly developed. A variety of commercial uses and businesses are spreading west from Gastonia in addition to new residential subdivisions. Running northeast to southwest, roughly parallel to I-85, is a wide land corridor accommodating a power line easement and gas pipeline.

The problem of urban sprawl around Crowder's Mountain is not unique inasmuch as, particularly in heavily populated areas, State Parks are rapidly being surrounded by suburban development. As new residential and commerical uses spread west from Gastonia and southeast from Kings Mountain, the future of the surrounding landscape becomes increasingly apparent. The character of the Park depends largely on the character of the overall landscape so that if the rural nature of the Park is not to be compromised so must the lands adjacent to the Parks be


legend
direction & intensity of suburban development
local problem areas
scenic roads proposal
land requiring general protection
I-85
subdivision
subdivision
fish farm
161
2000
4000
development context
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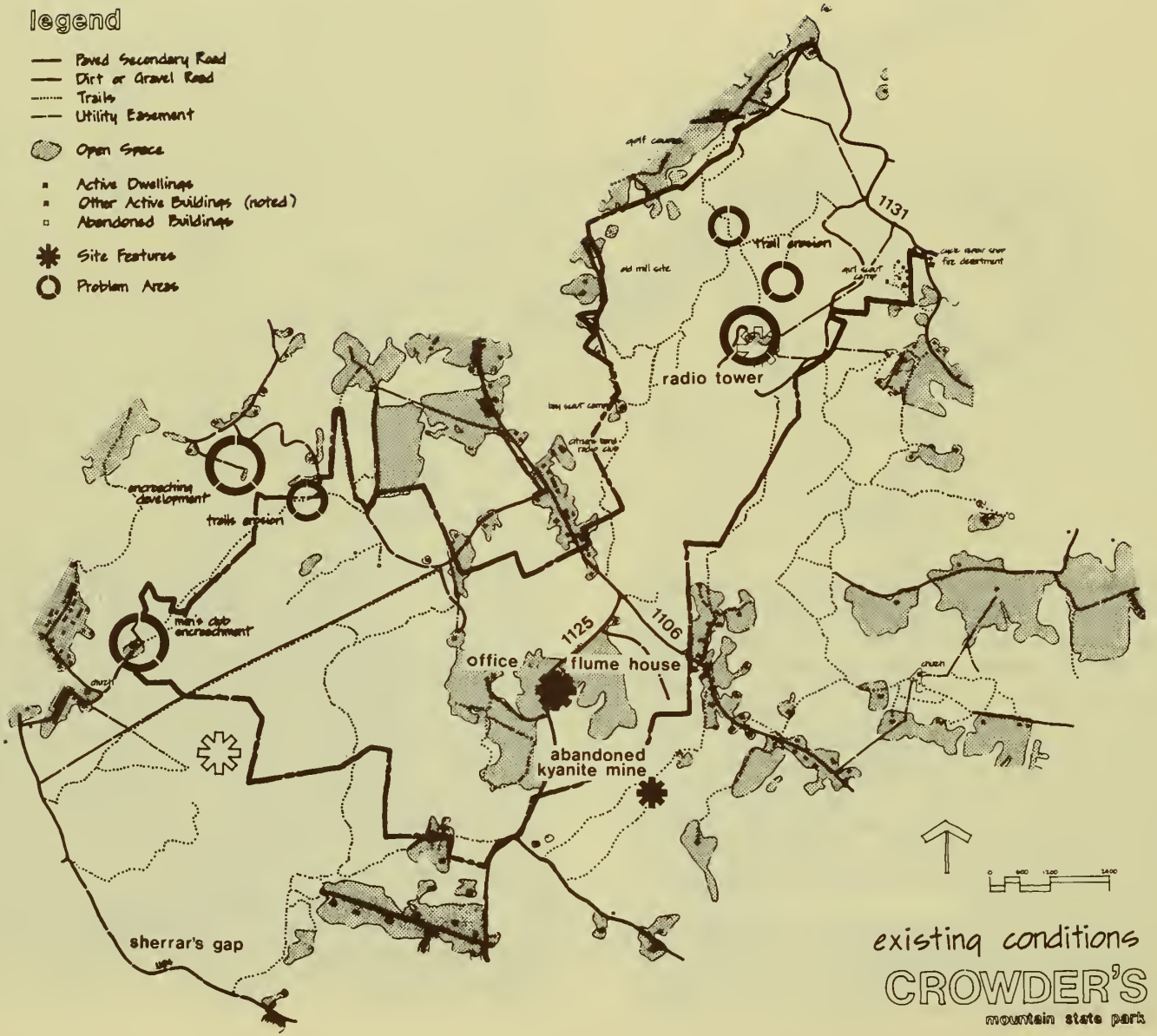
protected. To preserve the scenic beauty of an area, there are a variety of potentially useful techniques. At the State level, as an alternative to fee simple acquisition, scenic easements may be purchased to protect, for example, slopes closely related to but outside of the park boundary. In addition, while the Legislature has yet to endorse a scenic roads bill, it has been suggested by the Gaston County Planning Department that several of the secondary roads in the area be designated scenic highways. Cooperative efforts of state, regional, and local authorities to endorse these proposals could set the precedent needed to effect legislative action. Included in the bill's provisions should be limitations on road improvements and access, as well as billboard and architectural controls.

There are a variety of techniques of park protection at the local level. Probably the most popular land use control is zoning, which may be applied in a number of ways. In this instance, zoning regulations should be to the advantage of low density residential or recreational use and geared to the protection of slopes over 10%, forested areas, and drainage ways. Floodplain zoning can be applied to prevent building in low-lying areas affected by flood waters. Other regulations such as setback or buffer zoning, tree-cutting regulations, and architectural controls can be included in zoning regulations or building codes. The objective in zoning land adjacent to the Park would be not so much the limitation of types of land use but, in setting performance standards, the case by case evaluation and regulation of environmental impact. Such an approach would necessitate a more non-traditional zoning technique than is usually adopted by local authorities. A good example of this evaluation process has been established by the Landscape Review Board of Chapel Hill, N.C. Approval of plans is necessary from this board before a building permit is issued. This insures harmonious new development with the existing landscape.


legend
Paved Secondary Road
Dirt or Gravel Road
Trails
Utility Easement
Open Space
Active Dwellings
Other Active Buildings (noted)
Abandoned Buildings
Site Features
Problem Areas
1131
trail erosion
radio tower
encroaching development
trails erosion
man's camp encroachment
1125
1106
office
flume house
abandoned kyanite mine
sherrar's gap
existing conditions
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Existing Conditions

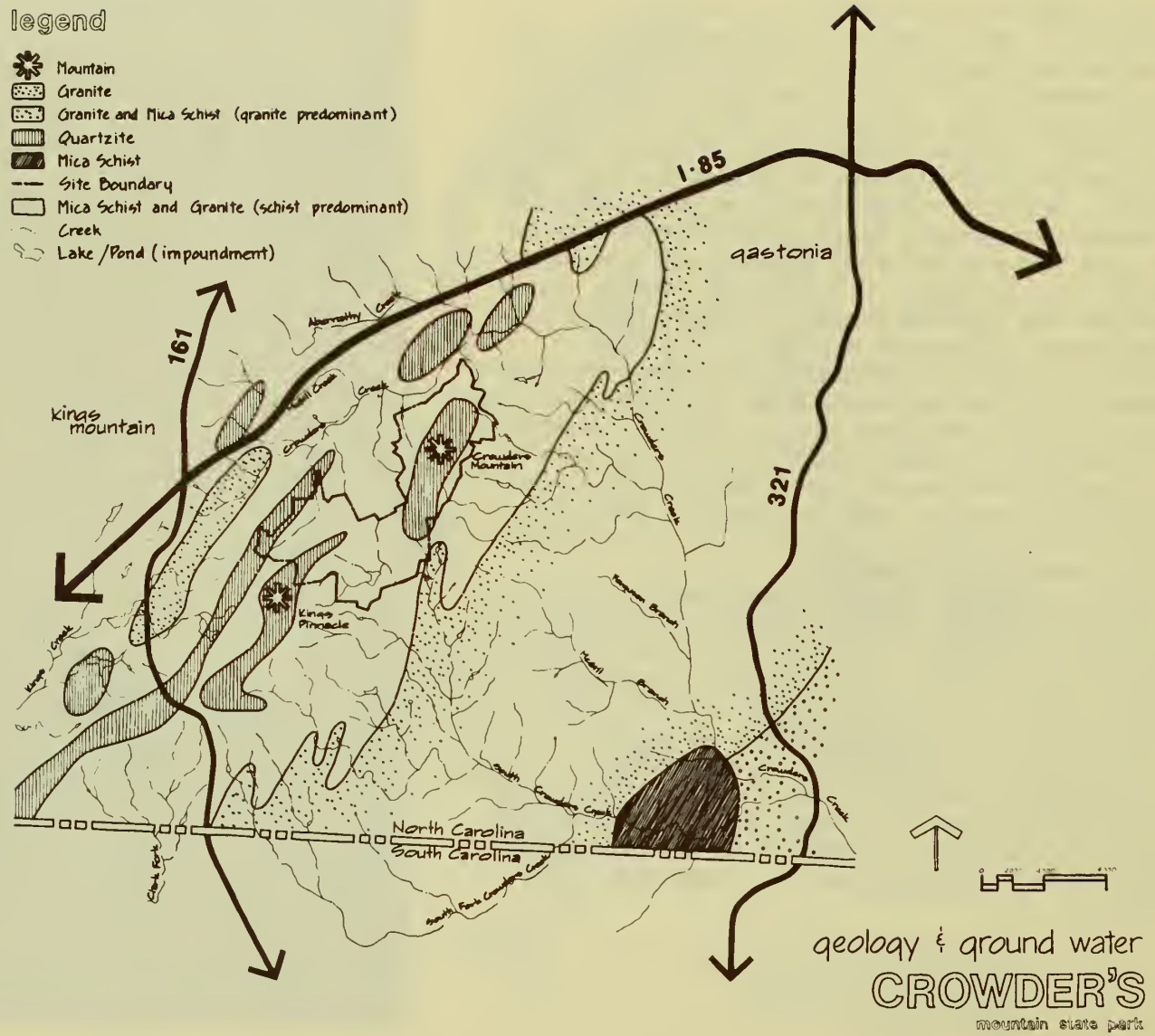
Most significant among existing cultural conditions is the proliferation of roads, trails, and utility easements running through the study area. The fact that the Park is divided by two state secondary roads, S.R. 1106 and S.R. 1125, as well as numerous gravel roads has important implications on the control of access into park property as well as general park administration. Motorbike riders are presently using the dirt tracks and trails — evidenced by heavy erosion, particularly on mountain slopes. Hikers are also leaving signs of their presence with fresh wood cuts and litter along the main trails following the ridges of both Crowder's and Kings Pinnacle. Soils are, in several locations, highly compacted — especially in the area of the radio tower on Crowder's Mountain.

Both the neighboring residential development on Yellow Ridge and Men's Club northwest of Kings Pinnacle are potential sources of encroachment which should be regularly monitored.

Twenty acres of private property southeast of the park office has recently been clearcut for the development of a fish farm and associated upstream water impoundment. Although this land is earmarked for park acquisition, it should also undergo frequent monitoring until acquired.

Of greatest interest for cultural interpretation is the area adjacent to the existing park office. Directly to the east, on S.R. 1125 is the Flume House — the original timber frame probably dating to the Civil War period. The abandoned farmland and outbuildings related to the Flume House and park office are representative of the more recent farming community.

Also illustrative of the relationship between past land uses and the indigenous landscape is the abandoned kyanite mine on South Crowder's Creek. The building and equipment are in good condition and will serve as a good example of the various processes involved in the mining operation once the rock had been extracted.


legend
Mountain
Granite
Granite and Mica Schist (granite predominant)
Quartzite
Mica Schist
Site Boundary
Mica Schist and Granite (schist predominant)
Creek
Lake / Pond (impoundment)
I-85
gastonia
161
kings mountain
321
Crowders Mountain
Kings Pinocle
North Carolina
South Carolina
geology & ground water
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Natural Resources

Geology

The Charlotte area is underlain by ancient igneous and metamorphic rocks in a complex pattern. The sequence of events that produced this pattern is not altogether clear, but it is known that very old sedimentary and igneous rocks were folded and faulted and were metamorphosed by pressure and heat into schists of various types. Then igneous rocks, especially granite, were intruded into the pre-existing rocks, and due to the high temperatures and directed pressures, the granitic material intimately penetrated the country rocks.

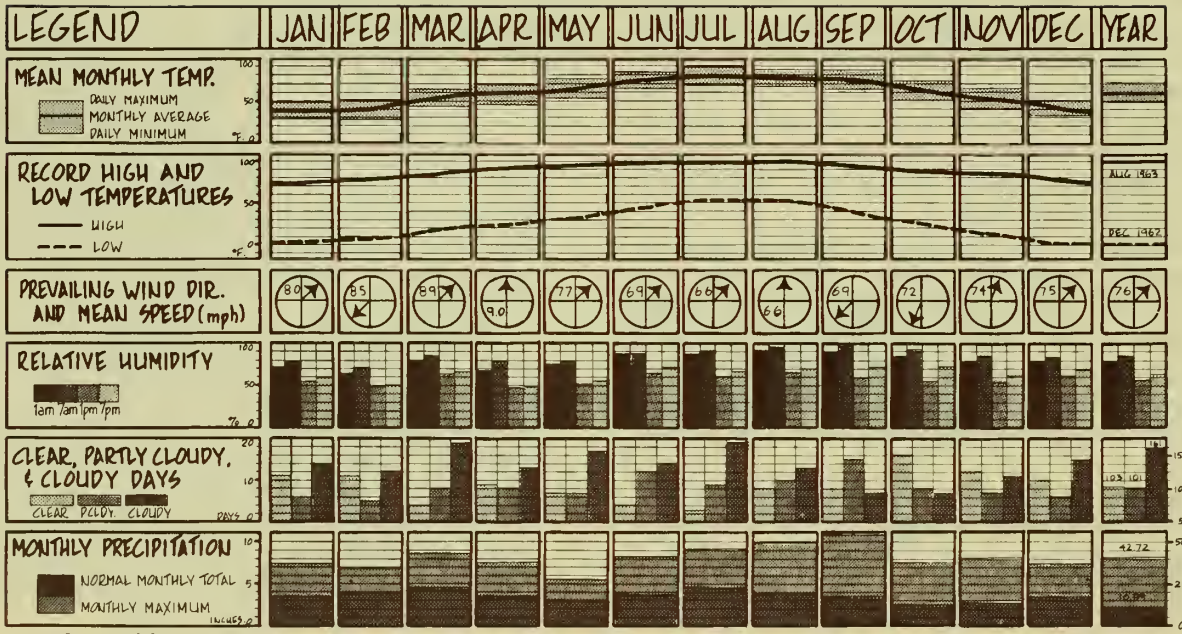
This process resulted in five identifiable geologic types in the Crowder's Mountain State Park area. These types are granite, granite and mica schist (granite predominant), mica schist, mica schist and granite (mica schist predominant), and quartzite. The first four of these classifications are subdivisions of the schist-granite complex occurring in Lincoln, Gaston, and Cleveland Counties, and are called collectively an injection complex.

This injection complex is composed of many types of mixed rocks that result from the injection of granitic material into the country rock. The dominant country rock involved in the injection complex is mica schist. Although much of the original physical character of the schist has been altered by metamorphism, it is generally regarded that the schist has been derived, in part, from sedimentary rocks — chiefly shale.

The granite varies considerably in texture and physical appearance, occuring as coarsely crystalline rock, or pegmatite, but more normally being constituted of quartz and several varieties of feldspar, and in some places either muscovite or biotite. Metamorphism resulting from the injection processes produced zones rich in kyanite, sillimanite, and garnet.

To some extent the schist is dominant in the injected area near the schist proper, and granite is dominant in injected areas near homogeneous granite. This gradation of dominant rock is not everywhere apparent, and the most conspicuous relations of the schist and granite are as alternating and discrete bands ranging from a fraction of an inch to many hundreds of feet in width.

Quartzite, the fifth classification type, is not a common rock in the Charlotte area, but its resistance to erosion makes its presence conspicuous as ridges and knobs. It is exposed in northeastward-trending belts chiefly in Cleveland and Gaston Counties. It forms such elevations as Kings Mountain Pinnacle, Crowder's Mountain, Spencer Mountain, and Jackson Knob. The quartzite near Kings Mountain has been divided into three divisions, one of which is kyanite quartzite. For the most part, the quartzite is in contact with mica schist, as is evident on the Geology and Ground Water study.


LEGEND
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
YEAR
MEAN MONTHLY TEMP.
DAILY MAXIMUM
MONTHLY AVERAGE
DAILY MINIMUM
°F.
RECORD HIGH AND LOW TEMPERATURES
HIGH
LOW
AUG 1963
DEC 1962
PREVAILING WIND DIR. AND MEAN SPEED (mph)
80
85
89
9.0
77
69
66
66
69
72
74
75
76
RELATIVE HUMIDITY
1am 7am 1pm 7pm
%
CLEAR, PARTLY CLOUDY, & CLOUDY DAYS
CLEAR PCLDY. CLOUDY
DAYS
103 101
MONTHLY PRECIPITATION
NORMAL MONTHLY TOTAL
MONTHLY MAXIMUM
INCHES
42.72
CHARLOTTE, N.C. 1973

Climate

Crowder's Mountain State Park is located in the southern Piedmont of North Carolina, about 28 miles west of Charlotte. There are two weather stations operated by the U.S. Department of Commerce in the immediate vicinity; one at Gastonia, North Carolina, and the other at Charlotte. The weather information available for the two stations is very similar, but the data from the Charlotte station are much more comprehensive. Therefore, the climatic data related here will be from the Charlotte location.

The mountains have a moderating effect on winter temperatures, causing appreciable warming of cold air coming in on west or northwest winds. The ocean is too far away to have any immediate effect on summer temperatures but in winter an occasional general and sustained flow of air from the warm ocean waters to the southeast results in considerable warming.

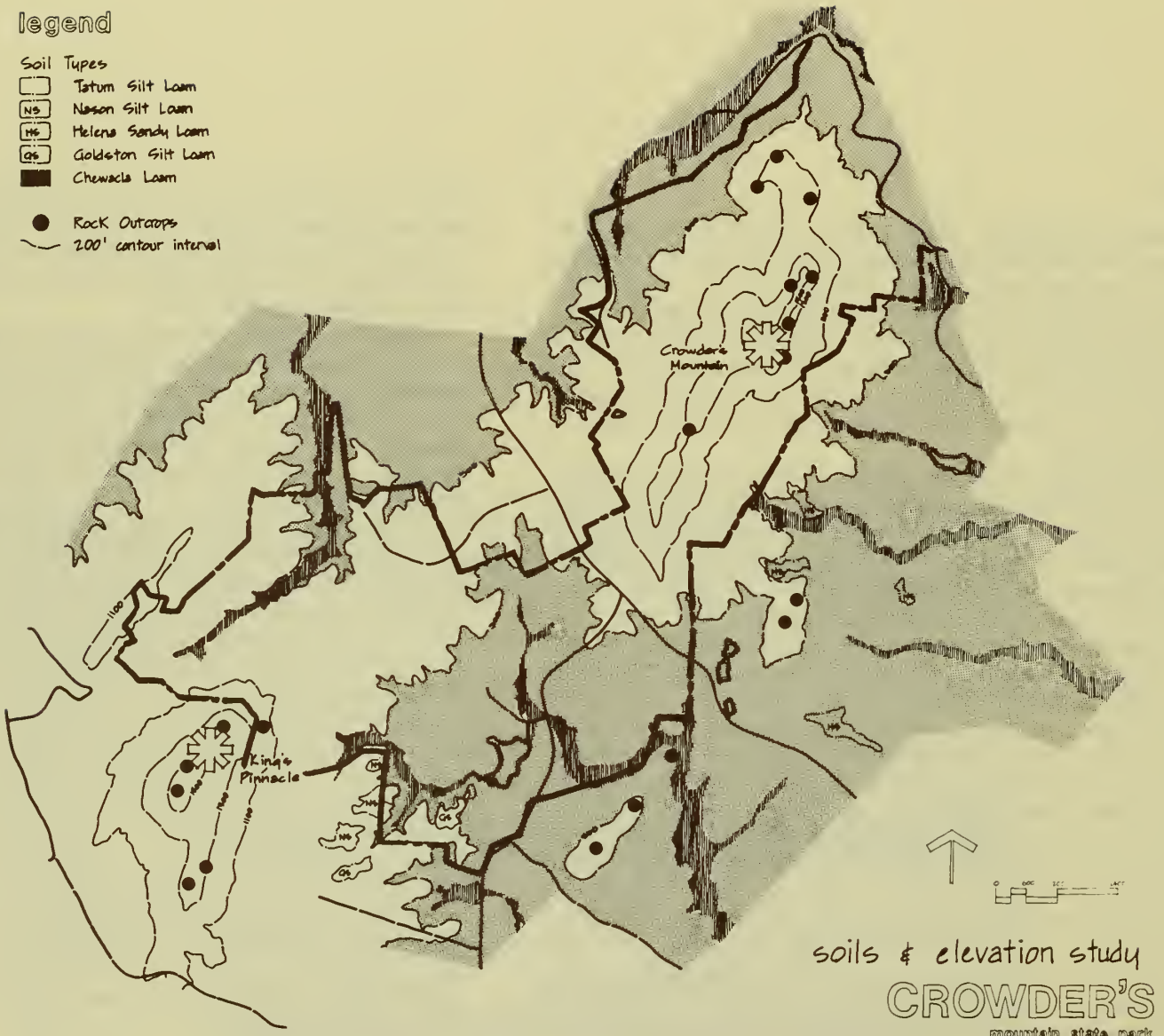
Charlotte enjoys a moderate climate, characterized by cool winters and quite warm summers. Temperatures fall as low as the freezing point on a little over one-half of the days in the winter months. Winter weather is changeable, alternating between mild and cool spells, with occasional cold periods. Extreme cold is rare, below zero temperatures having occurred only four times since 1878. Snow is infrequent, occurring on the average only once in each month, December through March. The first snowfall of the season usually comes in late November or December. Heavy snowfalls have occurred, but any appreciable accumulation of snow on the ground for more than a day or two is rare.

Summers are long and quite warm, with afternoon temperatures in the low nineties rather frequent. There is considerable cooling at night, however, as the temperature usually falls to the upper 60's or low 70's by morning in the warmest months. On the average, temperatures as high as 100 degrees are experienced about twice in three years. The growing season is also long, the average length of the annual freeze-free period being a little over 230 days.

Rainfall is generally rather evenly distributed throughout the year, the driest weather usually coming in the fall. Summer rainfall, which comes principally from thundershowers, is sometimes erratic, with occasional dry spells of one to three weeks duration. The longest dry period on record was in the fall of 1886, when there were 40 consecutive days with less than .01 of rain each day.

Hurricanes which have struck the coastal areas have not as a rule caused severe winds at Charlotte. However, a hurricane that moved northwestward across South Carolina, July 14, 1916 caused an hourly wind of 47 mph, a 5-minute wind of 50 mph and a fastest gust of 74 mph. The greatest rainfall with passage of a hurricane, 7.22 inches, occurred September 16-18, 1945.

According to the 1973 information from the Charlotte Weather Station, the record high temperature reached there was 100°F. in August of 1963, and the record low temperature was 2°F., reached in December of 1962. The average yearly temperature is 59.8°F. The prevailing wind over the past 24 years has been from the southwest and at an average speed of 7.6 miles per hour. The relative humidity in the area averages around 80 percent at night and about 50 percent in the afternoon, although it is usually slightly higher during late summer and fall. The average yearly rainfall is 42.72 inches, with the greatest amount of rain occurring the summer months. The greatest rainfall in one month occurred in September of 1945 and was 10.89 inches.


legend
Soil Types
Tatum Silt Loam
NS
Nason Silt Loam
HS
Helena Sandy Loam
GS
Goldston Silt Loam
Chewacla Loam
Rock Outcrops
200' contour interval
Crowder's Mountain
King's Pinnacle
soils & elevation study
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Soils

The Soil Conservation Service of the U.S. Department of Agriculture has identified five basic soil types on the Crowder's Mountain State Park site. These series range from those soils present in the alluvial floodplains to the soils on the steepest mountainside slopes. The soils are, in the same order: Chewacla loam, Helena sandy loam, Nason silt loam, Tatum silt loam, and Goldston silt loam.

The Chewacla loam soils are somewhat poorly drained, nearly level, and run along the major stream beds and drains. The Helena sandy loam soils are moderately well drained, on nearly level to moderately steep slopes, and are present in minor drains and at the drain heads. Both the Nason silt loam and Tatum silt loams are deep, well drained soils present on the uplands, and were formed in material weathered from schist. The Goldston silt loam soil is well drained and gravelly, and is present on nearly level to very steep topography.

These soils were compared to determine their suitability for certain recreation uses, and then grouped according to their similar characteristics. The more useable, or developable soils were quickly determined by this method.

All of these soil types exhibited generally slight to moderate limitations for paths and trails, for example, with severe limitations only on the steepest slopes. The Tatum, Nason, and Helena soils showed generally moderate limitations for camping, and severe limitations only in the steepest areas. The Tatum, Nason, Helena and Goldston soils all exhibited only slight to moderate limitations for picnicking depending on the slopes. The Tatum silt loam was the most acceptable for septic systems and roads of all the soil series; the other four soils all were rated as having severe limitations.

Generally speaking, the Chewacla loam is the most unacceptable soil for any of the uses, because it exhibits severe limitations for all uses except paths and trails. This is, of course, due to its alluvial nature. The best overall soil, and the soil which covers the majority of the site, is the Tatum silt loam. It is the most useable soil because it possesses the least restrictions for the most possible uses, thereby, showing the most potential for park development.

Elevation

The surrounding Piedmont Plateau from which both Crowder's Mountain and the Kings Mountain Pinnacle project, averages an elevation of approximately 850 feet above sea level. Crowder's Mountain rises abruptly 775 feet above this plateau to the impressive elevation of 1,625 feet. To the southwest, the Kings Pinnacle continues rising to its highest elevation of 1,705 feet, 80 feet higher than Crowder's Mountain. These two peaks, and the saddle between them, are the northernmost portion of the Kings Mountain range, and the most dominant peaks in the range.

The width of the crest of Crowder's Mountain range from 100 feet or so at the south end to about 500 feet at the middle of the ridge, narrowing down again toward the north end. The north end of the mountain stands approximately 500 feet above its base at that point.


legend
site location
drainage pattern
SHELBY
GASTONIA
CHARLOTTE
I-85
South Fork Catawba River
Catawba Ck.
Crowder's Ck.
Allison Ck.
Paxton Ck.
King's Ck.
CATAWBA RIVER
BROAD RIVER
0 2mi 4mi
regional drainage
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Surface and Ground Water

Surface water includes all of the streams, creeks, and rivers, as well as all lakes and ponds, both man-made and natural. The Crowder's Mountain State Park is drained by numerous streams into both the Catawba and Broad River Basins. Kings Creek drains some of the runoff from the site into the Broad River, but the majority of the drainage is handled by Crowder's Creek and the South Fork Crowder's Creek, ultimately feeding the Catawba River in South Carolina. These tributaries are closely spaced, resulting in a fine-textured drainage pattern and the absence of extensive, flat interstream areas.

There are relatively large numbers of man-made lakes or ponds in the immediate vicinity of the park site. The majority of these bodies of water are used for irrigation, recreation on a small scale, or scenic viewing. There are a few small impoundments on the park property, and the water in these ponds is considered of good quality although they do undergo siltation periodically. A number of these small ponds are fed by sources outside of the park boundaries; an effort should be made to protect the quality of these waters so that the ponds remain as clear as possible.

Ground water in the Charlotte area is derived from precipitation as rain or snow. The average annual precipitation of the area is about 43 inches.

The surficial materials at many places are relatively impermeable clays; thus, recharge to the groundwater reservoir probably is between 10 and 15 inches per year. Seasonal fluctuations of the water table are considerable, and there may be considerable change in water level between dry and wet years. However, over a period of many years the net change in water level is small, indicating that the average annual discharge of ground water is about equal to the average annual recharge.

Ground water is discharged by springs and seeps, by evaporation and transpiration, and by wells. Most of the water discharged by springs and seeps enters the streams and maintains their flow during periods of fair weather. In a humid region such as the Charlotte area, recharge occurs in the interstream areas and the discharge is into streams, lakes, and swamps. Rain falling on the land surface percolates downward to the water table and then moves laterally toward the points of discharge. During the winter and spring, when the water table is higher, the head is greater; therefore the velocity is higher and the volume of ground water discharged is greater than in summer and autumn when the water table is lower.

The depth to the water table depends chiefly upon the climate, the topography, and the character of the rocks. In the Charlotte area the climate is fairly uniform and the various rocks are similar in regard to porosity and permeability, so that differences in depth to the water table depend largely upon topography. In valleys the water table generally is at or near the surface; on wide flat uplands the water table generally is not more than ten to thirty feet below the surface; and on sharp hills the water table may be more than 100 feet below the surface.

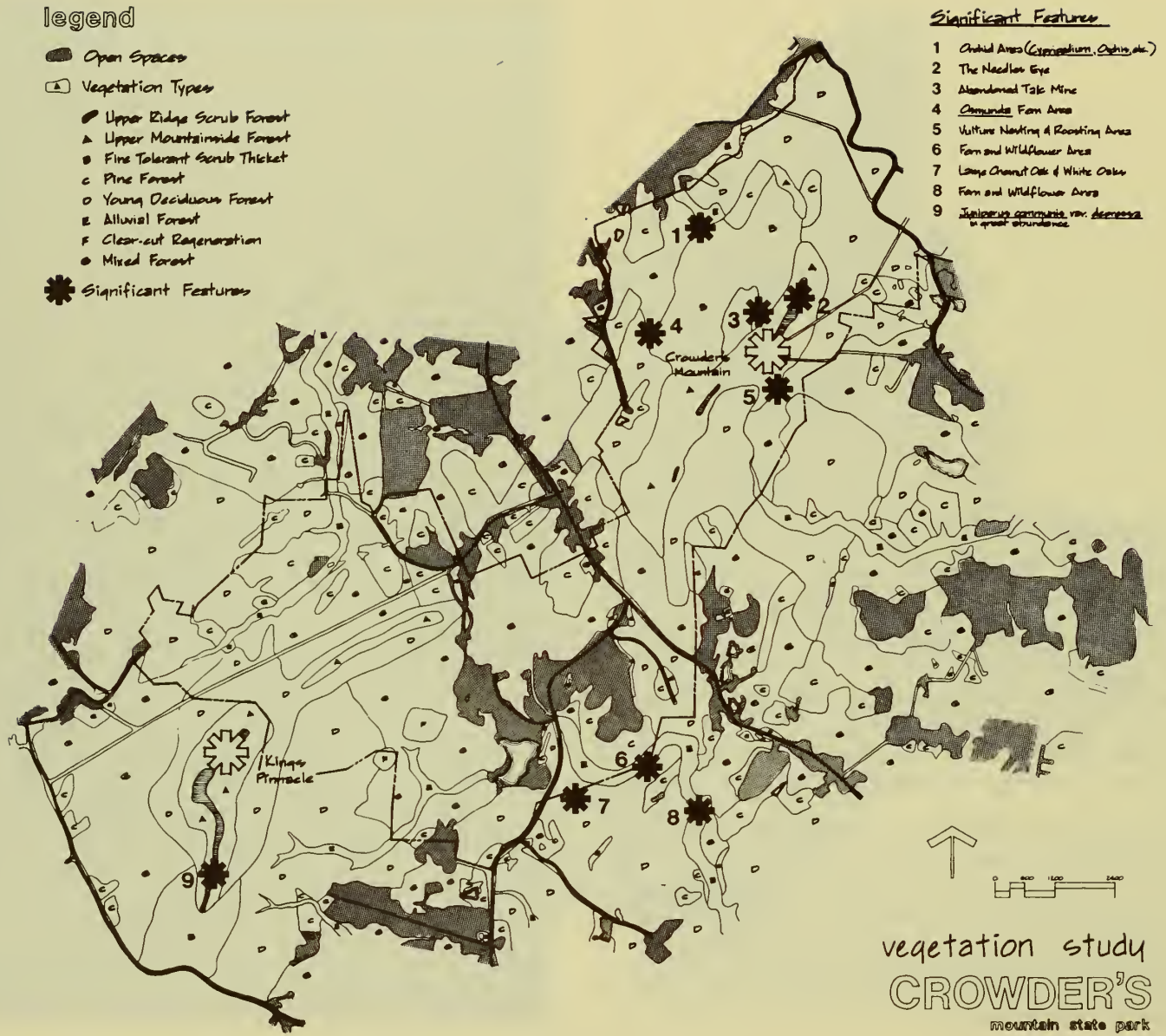
In the Charlotte area water levels begin to decline in April or May, owing to the increasing amount of evaporation and transpiration by plants. Generally this decline continues, interrupted only by minor rises due to heavy rainfall, through summer and early autumn. In late autumn, generally in November or December, when most of the vegetation is dormant and the evaporative capacity of the air is low, the water levels begin to rise.


legend
0 - 2 %
2% - 8%
8% - 12%
12% +
slope study
CROWDER'S
mountain state park

Topography and Slope

Ranging from little or no slope to slopes over 30%, the topography of the site offers a variety of experiences to the observer. The majority of the site exhibits the well-known characteristics of rolling Piedmont landscape, and is fairly typical in these respects. The hilly character of the landscape gives way periodically to the steep banks of the streambeds, but the most striking changes occur close to the mountainsides themselves. Approximately two-thirds of the site has slopes under 12 percent and therefore, is fairly easily negotiable by the casual hiker.

The remaining third of the site is an entirely different matter, however. The hillsides of Crowder's Mountain, Kings Pinnacle, Yellow Ridge, and another substantial ridge in the southeast portion of the site all have slopes over 12 percent, and in the case of rock outcrops, frequently have sheer drops of 100 feet or more. Development potential in the areas of steepest slopes is severely limited, leaving the more easily accessible and less steep areas more desirable for park activities.


legend
Open Spaces
Vegetation Types
Upper Ridge Scrub Forest
Upper Mountainside Forest
Fire Tolerant Scrub Thicket
Pine Forest
Young Deciduous Forest
Alluvial Forest
Clear-cut Regeneration
Mixed Forest
Significant Features
Significant Features
1 Orchid Area (Cypripedium, Ophrys, etc.)
2 The Needles Eye
3 Abandoned Talc Mine
4 Osmunda Fern Area
5 Vulture Nesting & Roosting Area
6 Fern and Wildflower Area
7 Large Chestnut Oak & White Oaks
8 Fern and Wildflower Area
9 Juniperus communis var. depressa in great abundance
Crowders Mountain
Kings Pinnacle
vegetation study
CROWDER'S
mountain state park

Vegetation and Wildlife

Eight different woodland communities have been identified in Crowder's Mountain State Park. Some are typical of the surrounding Piedmont, while others are much more unique and fragile. Of course, there are areas of specific interest within even the more typical forest types that also deserve a measure of protection.

The abandoned farmland, or old fields, on the site will quickly grass over, and if allowed to continue undisturbed, will gradually grow over into the first woodland community, the pine forest. The Virginia and shortleaf pines in these areas will give way to the hardwoods after a period of time. This process yields the second forest type, the mixed forest, which combines both the pines and the hardwoods. The third category, the hardwoods, or young deciduous forest, contains such species as the oaks, hickories, dogwoods and maples. The young deciduous forest contains some of the areas of specific interest mentioned earlier; these include quite a few places, such as hillsides and creek banks, where orchids and ferns grow in abundance. When these forests are cut over, the fourth community remains, the regeneration areas. Regeneration stands are more of a mix of various other ecotypes rather than a homogenous community.

The creek banks usually are part of a fifth forest type, the alluvial forest. The American beeches, sweet gums, sycamores, ironwoods, and river cane grow in abundance in this community, and provide cover for several large fern and wildflower sites.

The sixth woodland type would probably be either hardwood or pine forest if it were not for outside influences. This fire-tolerant shrub thicket has certain dominant species that would probably be sub-dominant if the area had not undergone considerable burning, drying or erosion. Blackjack and chestnut oaks, along with Virginia pines, catbriers, honeysuckle and yucca, share this area with what is probably prime wildflower habitat in the warmer parts of the year.

Were it not for the burning, this region would probably be part of the next forest type, the upper mountainside forest. This forest of chesnut oaks and mountain laurel, along with scarlet oaks and Virginia and shortleaf pines, provides good habitat for catbriers and blackberries, along with red maples.

The last of the major floral habitats in the area is perhaps the most fragile. The xeric ridge-top scrub forest contains dwarfed Virginia pines resembling the well-known Bonsai trees of Japan, along with a few specimens of the blighted American chestnut which are bearing fruit. Also evident are bear oaks and the rare ground juniper, *Juniperus communis* var. *depressa,* in relative abundance in a few scattered locations. It is important that as much of these habitats as possible be preserved and protected from disturbance.

This scrub forest should be protected for another reason — it is the roosting place for a population of black and turkey vultures, which use the isolated rock outcrops on the mountaintops. The wildlife on the rest of the site is fairly typical of that found in the Piedmont. A variety of woodpeckers, songbirds, hawks, and owls are present in the Park, along with the common small mammals such as squirrel, opossum, raccoon, and chipmunk. Rabbits and mice provide food for the grey and red foxes and perhaps a few bobcats. Although some evidence of browsing was detected in the Kings Mountain area, local sources say that whitetailed deer are very scarce in the region. and that wild turkey are no longer present.

Twenty-one species of warblers have been recorded for the immediate vicinity of the Park, indicating that the densely wooded hillsides of Crowder's and Kings Mountains probably serve as a migration stopover for small birds passing through the highly developed Gastonia area. This makes the area an asset to wildlife populations far larger than merely the resident fauna.


legend
Upper Ridge Scrub Forest
Land Unit
Mountain Slopes
Vistas
Slopes greater than 12%
Streambeds
Crowders
Little Mountain
Crowders Mountain
Crowders Creek
Natural Corridor
Park Office
Kings Mountain
Crowders Creek
Sherrar's Gap
site analysis
CROWDER'S
mountain state park

Site Analysis and Development Constraints

An analysis of factors controlling development in Crowder's Mountain State Park was based on a composite of natural limitations and the context imposed by existing cultural development.

The most restrictive physical elements on the site — the steep mountain slopes and bottomland soils — provide a structure within which are units of land generally more capable of absorbing development. The mountainous areas are restrictive due to the erodible nature of the soil and the high cost of providing access along the steep slopes. The alluvial soils of the bottomland limit all the development except trails due to their occasional flooding.

The development units are further refined by the more discrete natural situations including particular locations of unique flora and fauna, soils which are unsuitable for septic tanks, and isolated slopes greater that 12%. The steep slopes not associated with the mountains are characteristically found as ravines along a streambed. This limiting process results in the delineation of land units within the park which are most suitable for intensive park use.

The land unit areas which remain group themselves into three general locations. One large area is in close proximity to Crowder's Mountain, while a second is very close to the King's Pinnacle, between that peak and Yellow Ridge. The third area is in the saddle between the two mountains, in the valley of South Crowder's Creek.

The primary problem in developing the master plan is in regulating visitor use of the site's primary features — Crowder's Mountain, King's Pinnacle, and the lowlands along South Crowder's Creek. Because they are the features, they could be expected to receive the greatest impact.

There are three methods of establishing physical control over the use of the Park — the limitation of pedestrian and vehicular access, the enforcement of the legal authority vested in park personnel for the purposes of protecting park property, and the cultivation of public awareness to environmental principles through an environmental education program.

The division of the site by state maintained roads is the greatest constraint imposed by existing land use. The plan must allow continued access to privately owned land yet, at the same time, it is highly desirable that the Park be serviced by a non-public, terminal road. In addition, a number of other small roads and trails penetrate the site which complicate a control problem.

In general, the residential uses occuring along the roadside within the park area do not present a problem to the Park as long as they do not conflict with control procedures and do not otherwise encroach upon park property. As a matter of policy, however, this land should be acquired in order that complete control over internal lands may be established.

Development Proposals

Program

The program governing the use of Crowder's Mountain State Park is based on the principles of the State Park System. The essence of these principles is the protection of unique natural features and the establishment of a program which will otherwise provide for interpretation of the resource, complementary recreation facilities, and scientific study.

Those areas in need of protection at Crowder's Mountain are also the features which are the "drawing cards" of the Park. The impact on the Park and particularly on the more sensitive areas along steep slopes and ridgetops would be great if the Park were to provide open and convenient access to these areas. The need to adopt a low-profile approach — the development of a wilderness-oriented theme — is most appropriate to the character of the site. The opportunities of such a program are great. Interpretation of the Park's natural features will be fundamentally the most important recreation activity that the park offers. Secondary activities such as hiking, climbing, camping, boating, and picnicking will necessarily be limited in scope and closely related to the interpretive program.

The opportunities available at Crowder's Mountain State Park will serve as an alternative to the more highly developed parks in the region. The intensive day use and overnight facilities existing at Kings Mountain State Park in South Carolina and those proposed for Duke Power Recreation Area will, with Crowder's, move toward a well-rounded regional park program.

Concept

The concept for the Park's development recognizes that, over the long-term, public education of State Park principles and natural conditions in the Park will have the most positive effect in generating overall protection. The nucleus of the Park should be its Interpretive Center from which the environmental education program emanates. Satellite areas linked to the Interpretative Center will provide a limited access to the Park's features and contain secondary interpretative facilities and designated areas for wilderness camping. As the Park develops, more intensive use areas will be located on the plateau surrounding the park office.

Park control, which incorporates the administrative and management functions in the Park, will be decentralized and contained among the park office, maintenance area, and Interpretive Center — all located in the central activity area.

Vehicular access will be directed to the Interpretive Center which will incorporate facilities for visitor orientation. The park access road will terminate in the central activity area allowing visitors to reach other parts of the Park by trail only.

Site Carrying Capacity

Standards used in arriving at carrying capacities for specific use areas have been adopted from several sources including those developed by the Bureau of Outdoor Recreation and by Charles T. Main Inc. in the master plan for Duke Power Recreation Area.

The carrying capacities for wilderness camping areas, in particular, and picnicking were re-evaluated with respect to the proposed wilderness theme. A breakdown of their capacities follows:

Group Wilderness Camping

6 areas (1 Kings, 1 Crowders, 3 Valley) — 15 acres
3 tent camping
27 sites
162 people maximum
9 acres

2 adirondack camping
18 shelters
72 people maximum
6 acres

Carrying Capacity — single group tent area
9 shelters
4 people/shelter
3 acres total
36 people maximum
3 sites/acre
(min. 100' radius/site)

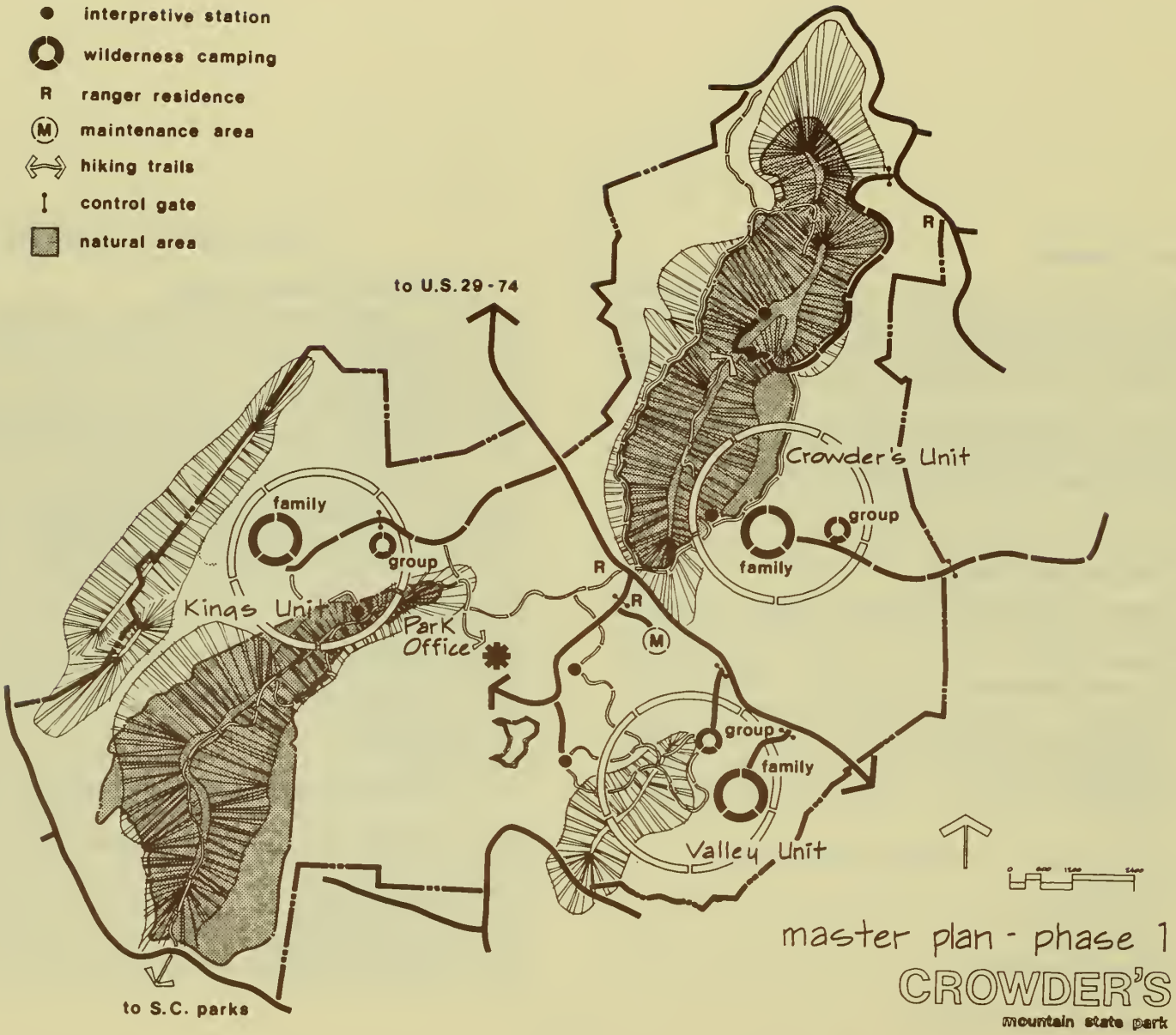
Family Wilderness Camping

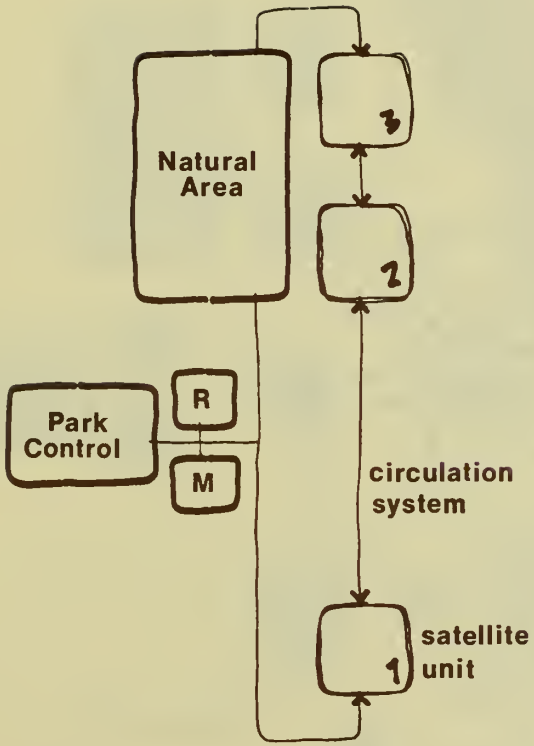
3 areas (1 Kings, 1 Crowders, 1 Valley)
45 sites
60 acres
252 people

Carrying Capacity — family wilderness camping
15 sites
1 to 4 tents/site, 2 to 8 people/site
6 sites - 2 tents - 4 people/site (24)
6 sites - 3 tents - 6 people/site (36)
3 sites - 4 tents - 8 people/site (24)
15 sites 84
20 acres
84 people maximum
1.33 sites/acre
(min. 200' radius/site)

Picnicking

group
576 people maximum, 144 tables @ 12 tables/acre — 12 acres
864 people maximum, 216 tables @ 6 tables/acre — 36 acres
1,440 people
2 turnovers
2,880 people/day


legend
interpretive station
wilderness camping
R ranger residence
M maintenance area
hiking trails
control gate
natural area
to U.S. 29 - 74
Crowder's Unit
family
group
family
group
R
R
R
Kings Unit
Park Office
M
group
family
Valley Unit
to S.C. parks
master plan - phase 1
CROWDER'S
mountain state park



R – personnel residences

M – maintenance area

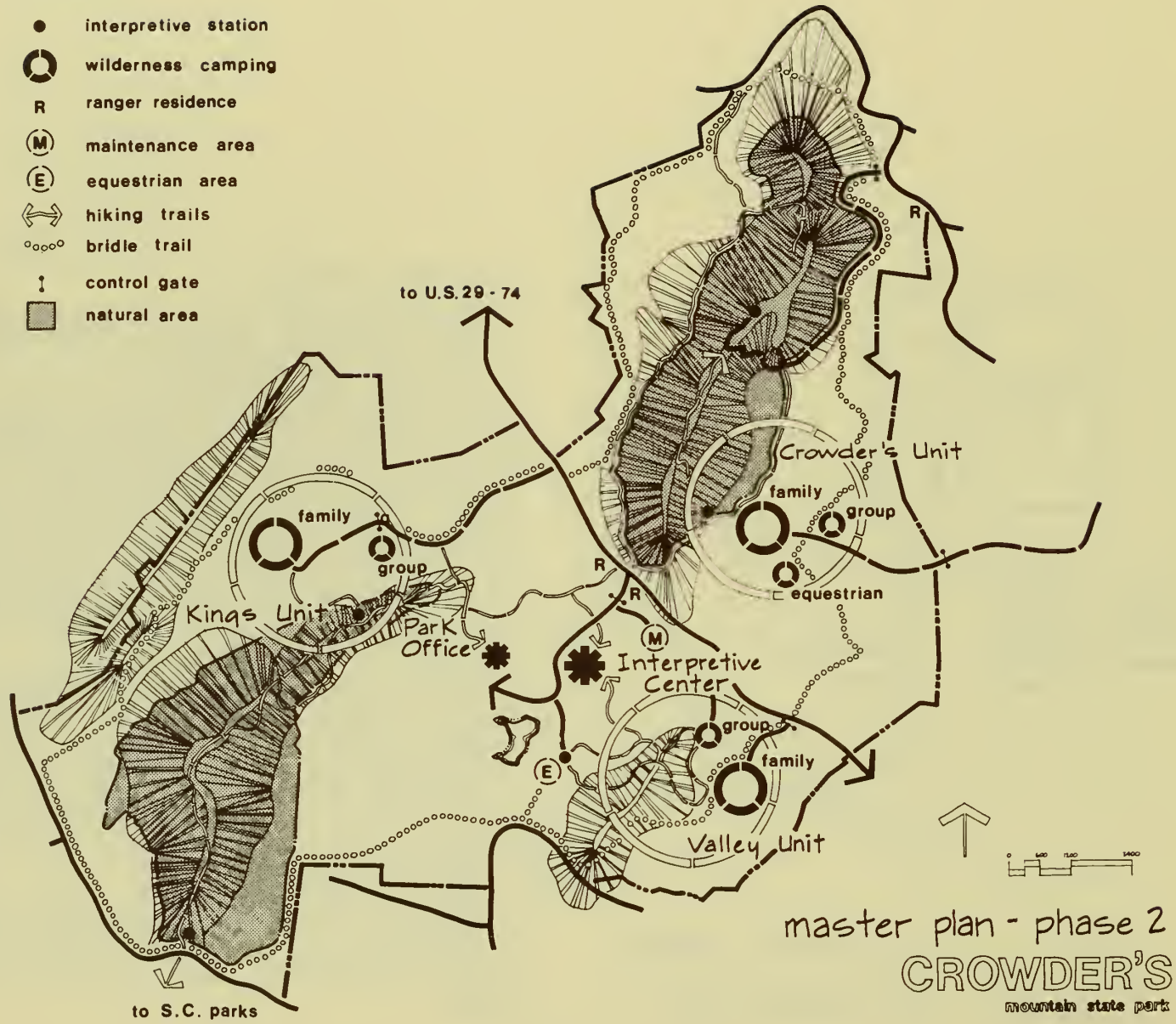
Master Plan — Phase 1

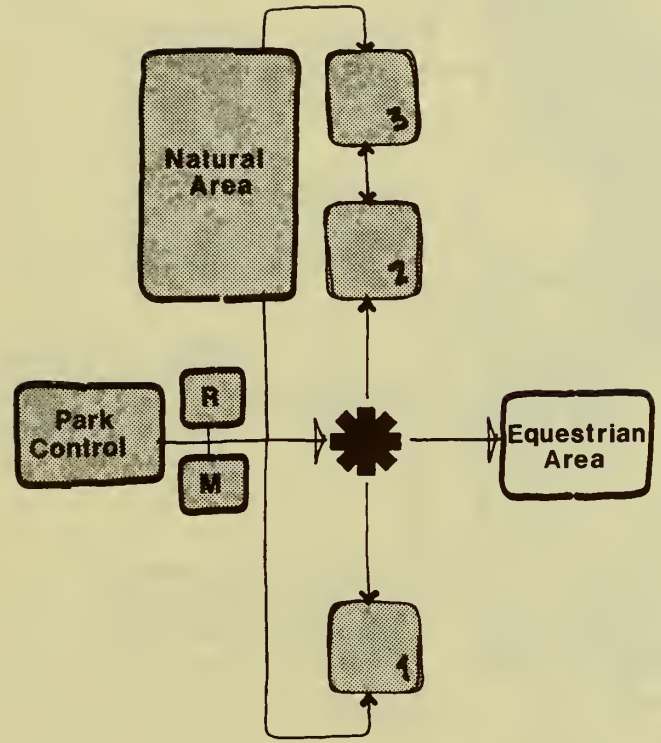
Early development of the park will be geared to providing essential services and facilities and establishing the basic physical organization of the plan.

Vehicular access will terminate at the park office via Sparrow Springs Road which should be acquired, closed to through traffic, and maintained as a park road. The existing park office should be renovated in the first phase in order to accommodate permanent administrative activities and temporary visitor's center. The Park's maintenance area will be located on an existing gravel road near the park entrance and central to service traffic. Day use activities in the first phase will consist chiefly of hiking, climbing, fishing, and nature interpretation. Access to the Park's features will be limited to walk-in from the park office and Information Center.

Family and group wilderness camping facilities will be provided in the three satellite units. Service vehicles will have access into these areas from existing minor roads. Located at the entrances to the satellite units and at other critical points on the site will be interpretive stations. These small shelters will provide information on the area's important features, local ecology, and conservation principles as well as storage for first-aid and fire fighting equipment.

Both Crowder's Mountain and Kings Pinnacle will be designated park natural areas. This will insure permanent protection of the primary ridges and slopes related to the two peaks and will add to the list of natural landmarks in the State Park System.


legend
interpretive station
wilderness camping
R ranger residence
M maintenance area
E equestrian area
hiking trails
bridle trail
control gate
natural area
to U.S. 29 - 74
Crowder's Unit
family
group
equestrian
R
Kings Unit
family
group
Park Office
Interpretive Center
M
E
group
family
Valley Unit
to S.C. parks
master plan - phase 2
CROWDER'S
mountain state park



✱ interpretive center

R – personnel residences

M – maintenance area

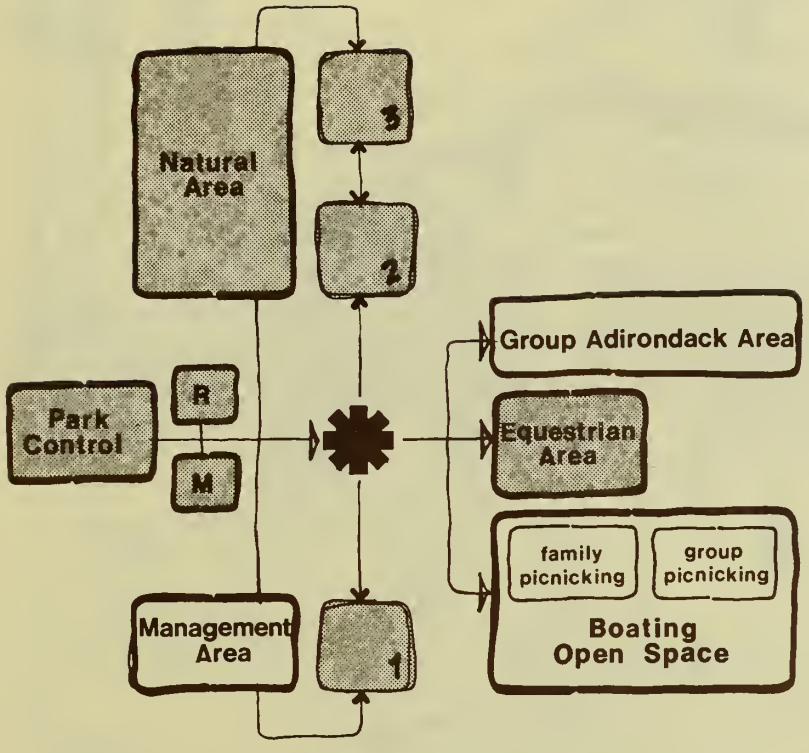
Master Plan — Phase 2

The Interpretive Center will be developed in the second phase of the master plan and will round out the Park's interpretive program. Visitor orientation will be incorporated into the center so that visitors entering the Park may become acquainted with park policy, recreation program and services. After their initial introduction, visitors would be encouraged to take part in the interpretive program — beginning at the Center for general information and an overall understanding of the natural and cultural forces at work in shaping the site's history. The visitor will be encouraged to hike to the interpretation stations at any one of the satellite units for more detailed, local interpretation and a first-hand look at the features.

An equestrian area and twelve miles of bridle trail, circumscribing the base of the mountains, would also be provided in the second phase. The equestrian area is intended as a distribution point for horseback riders, providing for only short-term use. A small camping and picnicking facility oriented to equestrian use will be provided in the Crowder's satellite unit near the bridle trail.

The potential of linking Crowder's Mountain State Park to the Kings Mountain National Military Park and State Park in South Carolina should be realized in the second phase. An easement acquired for the length of the Kings Mountain ridge — about eight miles — would tie the three parks together and provide nearly forty miles of continous hiking and bridle trails.


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
to U.S. 29-74
Crowder's Unit
family
group
equestrian
R
Kings Unit
Park Office
Interpretive Center
Picnicking
Valley Unit
to S.C. parks
master plan - phase 3
CROWDER'S
mountain state park

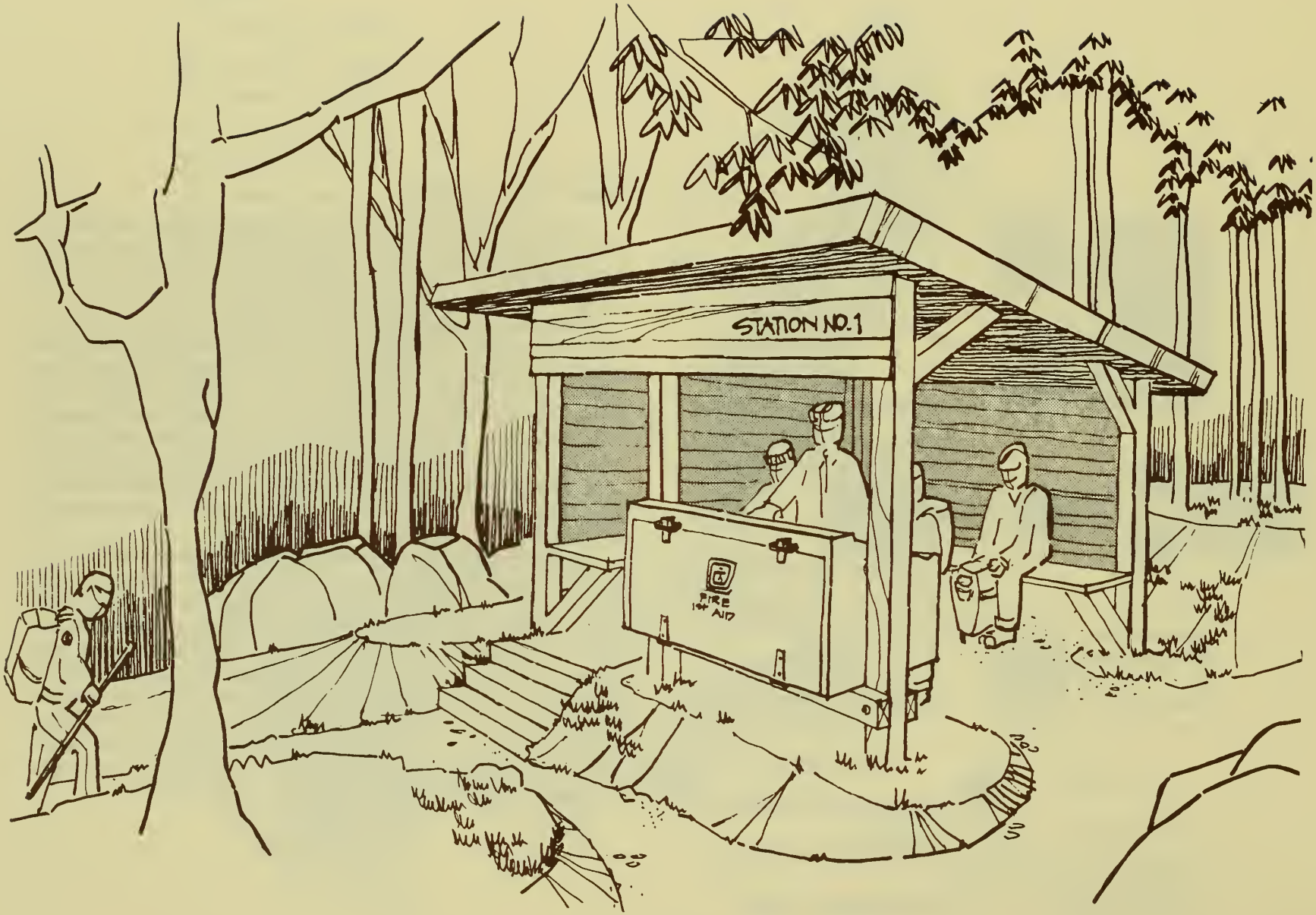


Master Plan — Phase 3

The third and final phase of development fills out the central activity area providing for day use activities including boating and picnicking, overnight adirondack type camping, and enlargement of the existing ten acre pond.

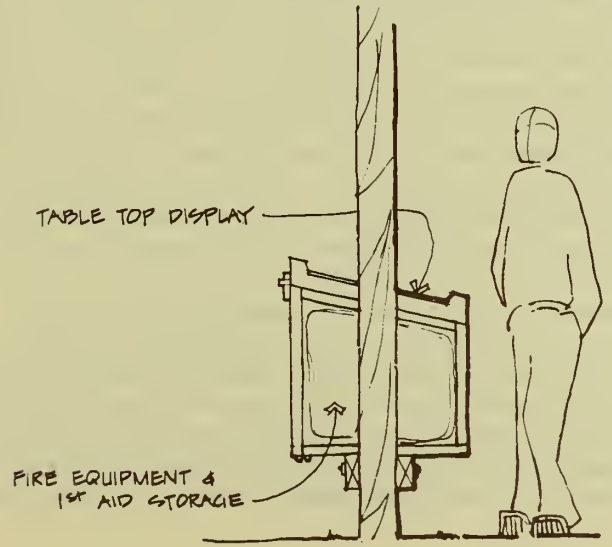
Related to the Interpretive Center will be a Forest Management Area which will encompass and display most of the typical piedmont associated forest types within about 12 acres. The purpose of this area is to provide, within a single isolated area, an interpretation of the interrelationships of each forest type and related ecology. Several acres of open field which will be included in this area will be managed to display the grasses and scrub vegetation associated with recently abandoned fields and, in an adjacent area, pine invasion characteristic of fields vacant for a period of several years.

During the third phase an evaluation of the impact on the Park by earlier development and use should take place. At this time a judgment should be made as to the ability of the Crowder's Mountain to absorb more use and the demand for a more convenient means of access. Given that both of these factors are seen to be compatible, it is feasible that the Park could initiate a bus transit system which would take visitors directly to the top of the mountain. The bus should have a capacity of no more than twenty-five people and scheduled trips to the peak should probably occur once every hour on busy days. This shuttle system would originate at the Interpretive Center.


STATION NO. 1
FIRE AID

Interpretive Stations

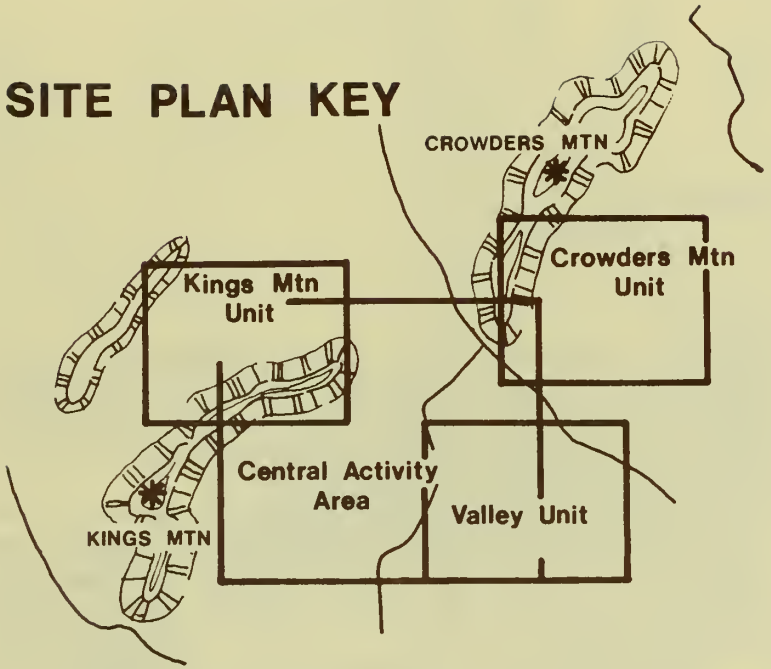
As a means of facilitating an understanding and further appreciation of local environmental conditions, interpretive stations will be provided at six points in the Park. The interpretive stations will contain display information regarding flora, fauna, and geologic or climatic information related to the local ecology. The stations will also provide seating for resting hikers and storage for fire fighting and first aid equipment, with instructions on their use, in case of emergency.



The structure should be built of heavy timber with a shed roof and open on two sides. Seating should be located on the sheltered side. The design of the display and storage area should be as a unit in order to allow off-site construction and simplify the facility.

The stations will be located at the entrances to each of the satellite areas along the main hiking trail, and marking the location of loop trails which may range from 1/2 to 1 1/2 miles in length. In addition, stations will be located to the south of King's Pinnacle, at the base of the mountain, where the main hiking trail enters the Park from Sherrar's gap; to the east of the pinnacle between the mountain and the picnic area; and at the top of Crowder's Mountain where the radio tower and building presently stand.

Interpretive stations will serve as extensions of the Interpretive Center. Their provision and upkeep is important to the master plan's concept of public education and control.



Central Activity Area

Vehicular access to the park and the major activity area will be off Freedom Mill road onto Sparrow Springs Road. Sparrow Springs Road will have an access control gate close to the intersection, and nearby will be a ranger's residence. The ranger living in this house will have ready access both to the interior of the park and to the public Freedom Mill Road. From this gate to its terminal point, Sparrow Springs Road will be a park road, not open to through traffic.

The first major activity area along Sparrow Springs Road will be the Interpretive Center complex. In line with the overall concept of the park, the Interpretive Center will be the single most important facility provided. It will serve several purposes, including acting as a visitor's center. Office space, a laboratory, museum and workshops will be available for use, and the center will serve as the starting point for an interpretive trail which will include the Flume House, a series of vegetation communities, and a forest management area which will be utilized for showing the various stages of old-field succession. In conjunction with the Interpretive Center, an amphitheatre seating approximately 200 persons will be provided for nature talks, visual presentations and lectures. Parking for the complex will provide spaces for 130 cars, 7 buses, and 5 staff vehicles.

Beyond the Interpretive Center, Sparrow Springs Road will be realigned and elevated to allow construction of a new dam across South Crowders Creek. The dam at the existing pond will be removed and the new dam will expand the lake to 28 acres, allowing adequate space for fishing and boating. The new road will be on the top of the dam and will continue across the lake to the park office. About mid-way around the dam, a road will turn off toward the Equestrian Area. The old Sparrow Springs Road roadbed will be regraded and raised to meet the elevation of the dam and this new turnoff. The access to the equestrian area will then be back on the old roadway.

Sparrow Springs Road will be closed to all traffic roughly 1,750 feet from the intersection, and a turnaround and parking lot will be provided at this point. This area will be the beginning point for the equestrian trail system and will contain such facilities as hitching posts for 36 horses and parking for 24 car-trailer combinations. In close proximity to the gathering area will be a shelter and interpretive station for the valley interpretative trail system.

Continuing across the dam, the new park road will provide access to the park office, boat house, and parking. The park office will be responsible for providing more specialized activity information than is available at the Interpretive Center, as well as dispensing the various fishing, climbing, camping and boating permits. It will be the administrative office for the park, leaving the Interpretive Center available for the more public operations.

The boat house on the new 28 acre lake will be for storage and protection of the 22 boats to be rented for public use. The boat house will be enclosed for protection as will dock facilities for launching and retrieving the rental boats. Rental fees will be collected at the park office. The northern end of the lake and its edge may be designed and managed for shallow water ecology, encouraging more varied wildlife in the area. An interpretive station should be located at the waters edge, off the main trail.

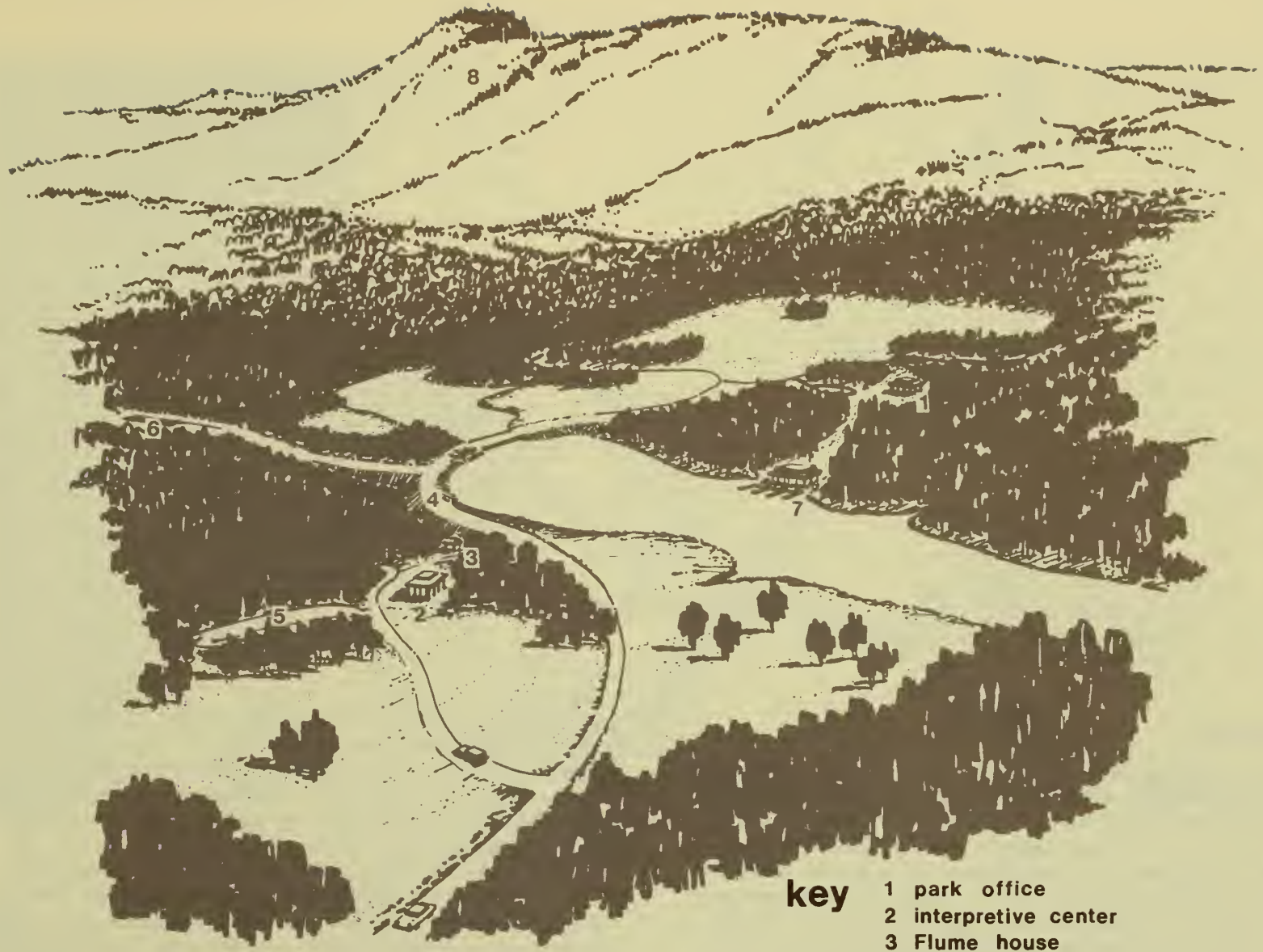
One of the major services provided by the park office will be the directing and controlling of the various camping types and sites. Campers will be directed to the appropriate camp sites according to their needs. Family and group wilderness camping will be further removed from the park office than the group adirondack camping sites, which will be fairly close allowing for better control and service. Parking for the campers will be provided at the park office, 122 spaces being available, and the campers will then be required to hike into their sites in keeping with the wilderness theme of the park. The parking area will also provide 15 visitor spaces, 4 staff and 6 bus spaces.

Continuing down the park road will bring the visitor to the areas which have been set aside for both family and group picnicking. Located on a long, wide ridge extending southeast from the base of Kings Pinnacle, the picnic area will provide 36 acres of family picnicking and 12 acres for groups. The access road will follow the center of the ridge serving a dispersed parking arrangement of seven parking lots, providing a total of 300 visitor spaces. Six comfort stations will be provided, closely related to the parking areas, and serviced by a single gravity-flow sewer.

Leisure sports and other open space activities will occur in the fields between the picnic area and office. About six acres of this open space should be grassed and undergo regular maintenance.

Construction work involved in the development of the central activity area should be carefully monitored as this work will involve several projects having potentially high impact on the immediate surroundings. Most important is the construciton of the new dam, realignment of Sparrow Springs Road, and the new access road serving the picnic area. Erosion control measures during and after construction will be required parts of the project work.


legend
interpretive trails
hiking trails
service road
shelter
interpretive station
to family and group camping
Group Adirondack Camping
residence
to Crowders Mountain
to Crowders unit
gate
residence
maintenance
Interpretive Center
Park Office
boat house
amphitheatre
flume house
dam
management area
Family Picnicking
to Kings Mountain pinnacle
to group camping
ferns and wildflowers
large oaks
Group Picnicking
Equestrian Area
to family camping
large oaks
kyanite mine
Group Adirondack Camping
equestrian trail
equestrian trail
0 250 500 1000 FEET
site plan - Central Activity Area
CROWDER'S
mountain state park



key

1 park office
2 interpretive center
3 Flume house
4 new dam
5 parking for interpretive center
6 equestrian area
7 boat house and dock
8 King's Mountain Pinnacle

view west

CENTRAL ACTIVITY AREA

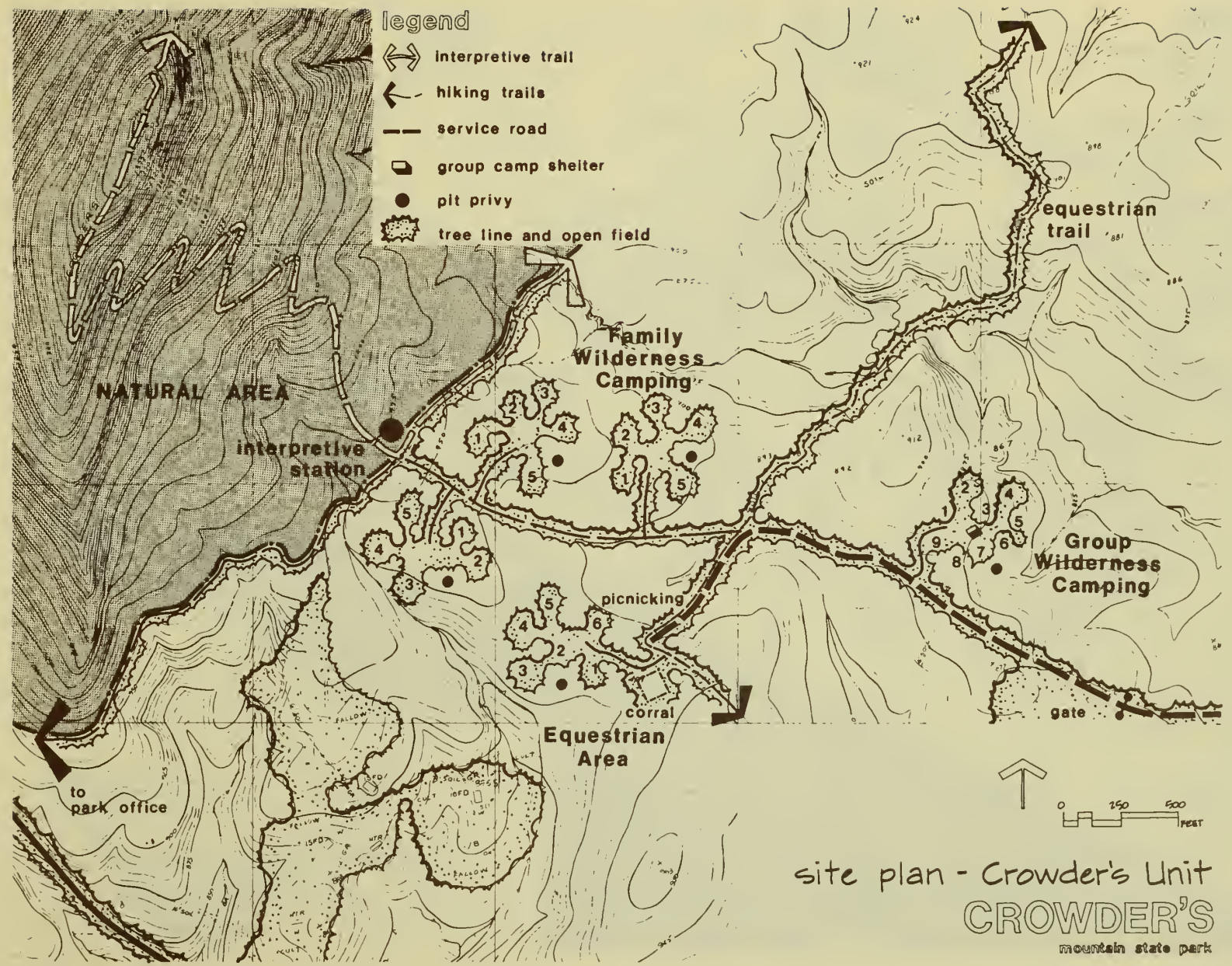
Satellite Units

Each satellite unit — Crowder's, Kings and the Valley — will contain one or more interpretive stations with related loop trail, and wilderness type camping facilities for families and groups.

The group camping areas will be designed to accommodate a maximum of 54 people on nine campsites. Each site will be able to handle two tents. The areas will be arranged with the campsites clustered around a small shelter which will have a pit and grill for cooking, storage facility, and a pump for drinking water. Group camps will occupy about five acres which will include the nine campsites at a distance of at least 100 feet apart, small open space, shelter, and pit privy.

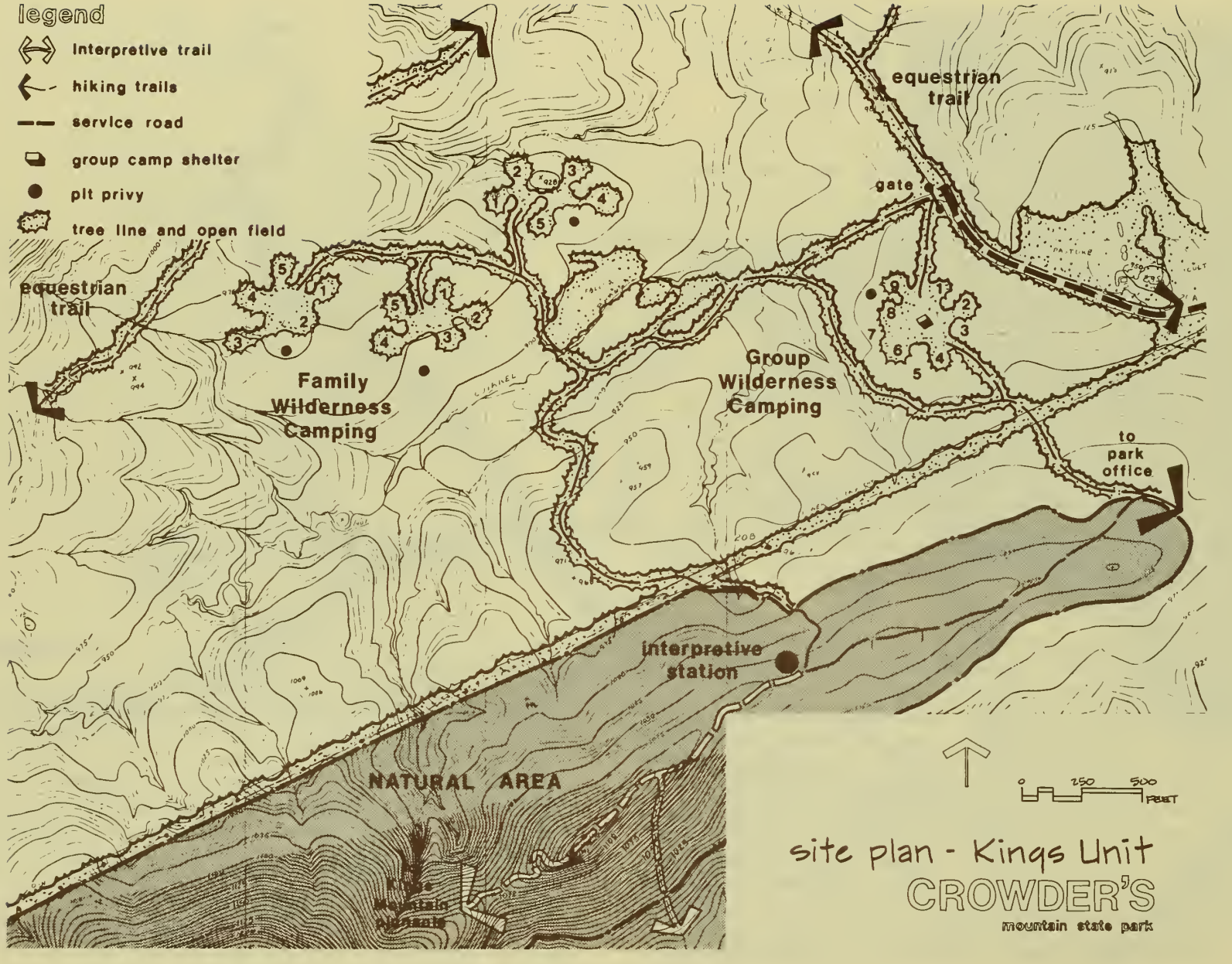
Family camping areas will contain 15 camp sites which will be organized in clusters of five, each related to a common pit privy. The areas will allow a maximum of 84 people and will cover a total of twelve acres, campsites located a minimum of 200 feet apart. Six sites will be designed to accommodate two tents or four people, six sites for three tents or six people, and three sites will allow four tents or eight people per site.

The Crowder's unit, in addition to family and group camping areas, will provide a stopover for horseback riders. A small corral or run area for as many as twelve horses will be provided so that horseback riders may stop on the trail for lunch or to camp overnight. Six campsites and four picnic tables should be provided adjacent to the corral. It is desirable to provide this facility in order to reduce the probability of picnicking and camping taking place at other, more sensitive areas, along the trail.



site plan - Crowder's Unit

CROWDER'S
mountain state park



site plan - Kings Unit

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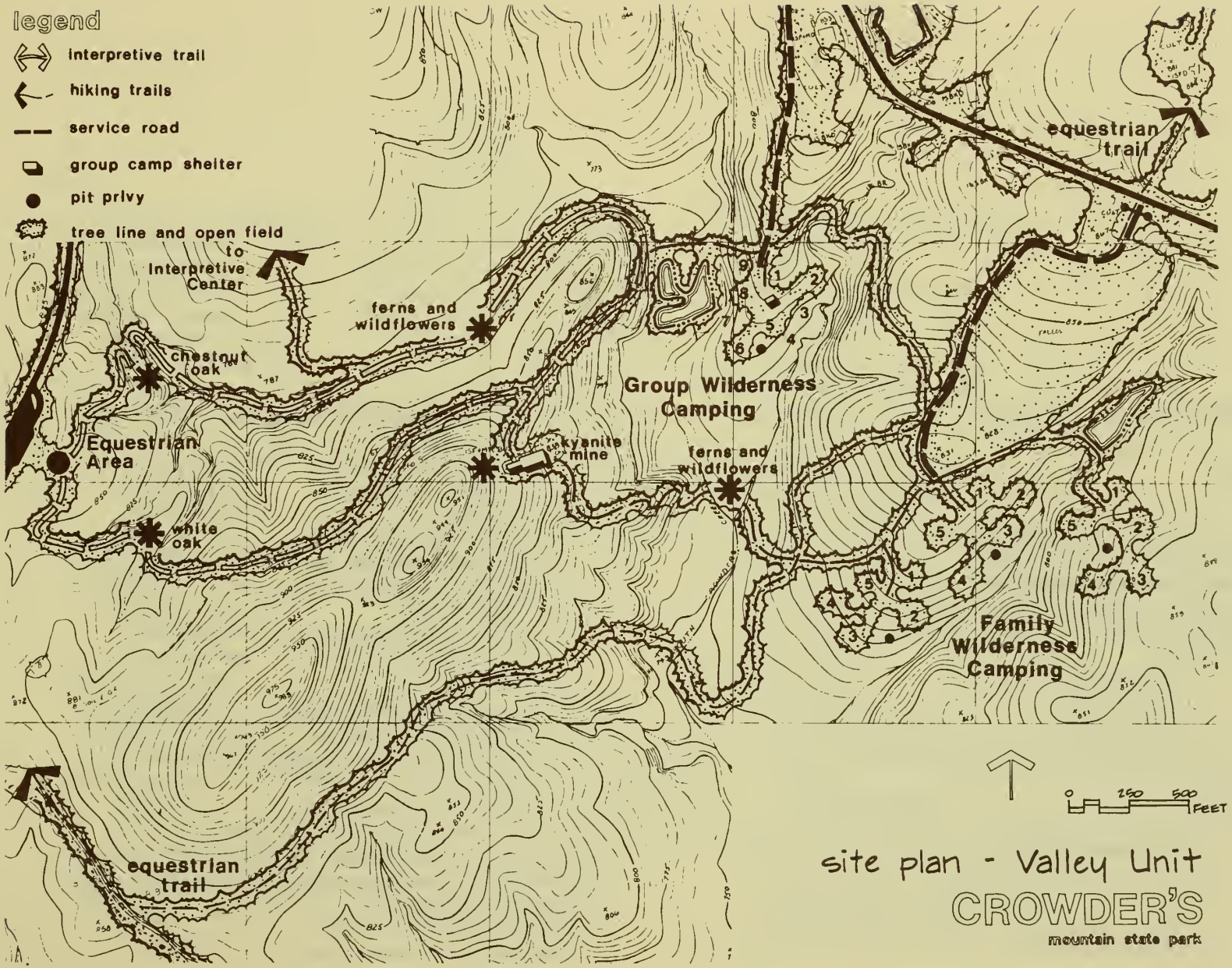

legend
interpretive trail
hiking trails
service road
group camp shelter
pit privy
tree line and open field
to Interpretive Center
ferns and wildflowers
chestnut oak
Equestrian Area
white oak
kyanite mine
Group Wilderness Camping
ferns and wildflowers
equestrian trail
Family Wilderness Camping
equestrian trail
0 250 500 FEET
site plan - Valley Unit
CROWDER'S
mountain state park

General Development Program

Phase 1

Land Acquisition - 1,614.55 acres

1. Park Control (existing office)
   - temporary visitors center
   - permits: fishing/climbing/camping
   - administration
   - parking:
     - 4 staff spaces
     - 6 bus spaces
     - 15 visitor spaces
     - 122 visitor spaces (camping)
2. Satellite Units
   a. Valley
      - (2) one mile loop trails
      - (1) interpretive station
      - group wilderness camping area
        - 5 acres
        - 9 sites, 1 pit privy
        - 54 people maximum
      - family wilderness camping area
        - 15 acres
        - 15 sites, 3 pit privies
        - 84 people maximum

   b. Crowder's
      - (1) two mile loop trail
      - (2) interpretive stations
      - group wilderness camping
        - (as above)
      - family wilderness camping
        - (as above)

   c. Kings
      - (1) 1 1/2 mile loop trail, (1) 1 mile loop trail
      - (2) interpretive stations
      - group wilderness camping
        - (as above)
      - family wilderness camping
        - (as above)
3. Secondary Hiking Trails - 6.36 miles
4. (3) Ranger Residences (existing dwellings)
5. Maintenance Area
6. Close State Road 1125
7. Designate Park Natural Area

Phase 2

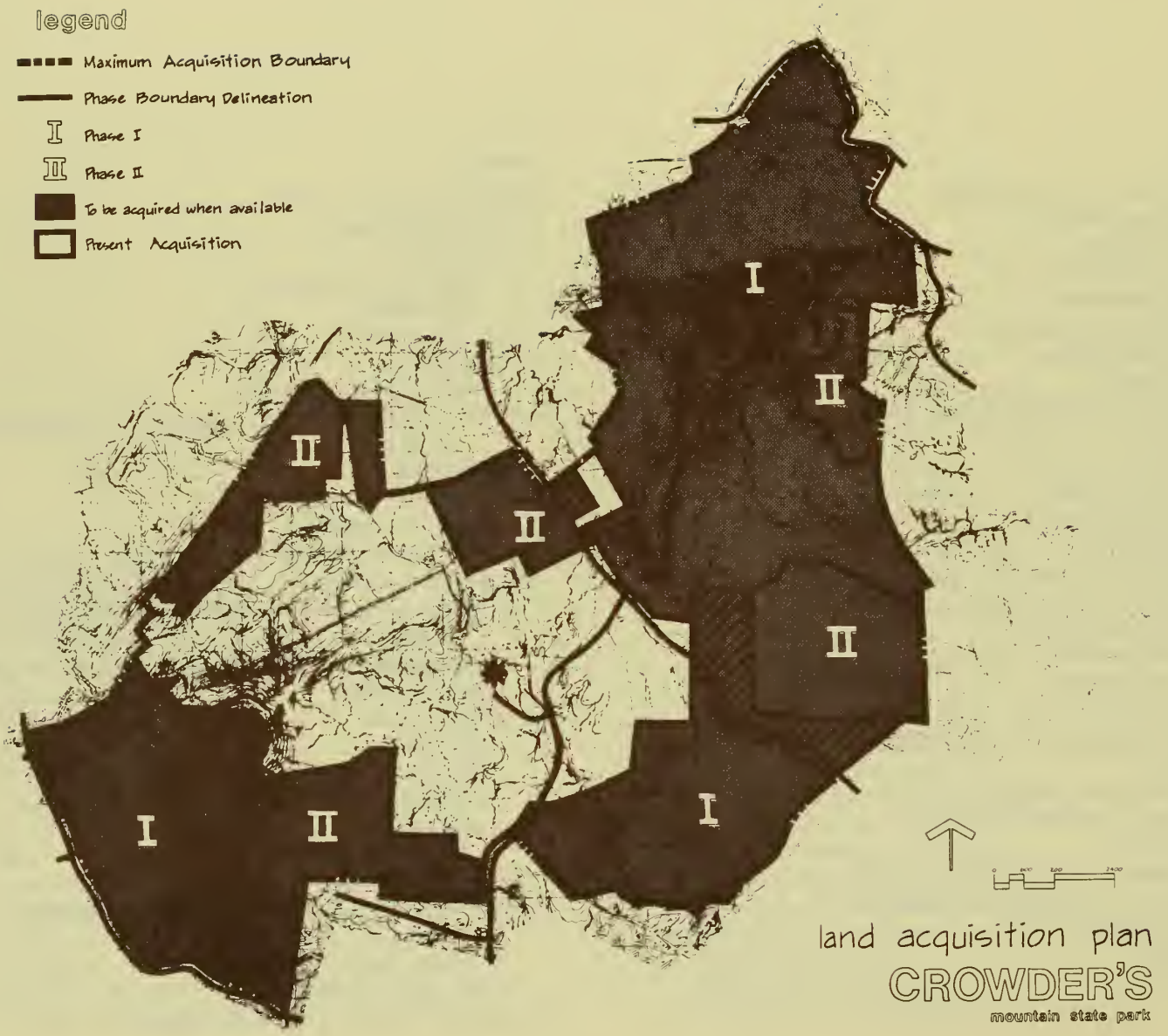
Land acquisition - 895.18 acres

1. Interpretive Center
   - visitors center
   - office laboratory
   - display/museum
     - 100 person capacity
     - 900 people/day
   - workshops
     - 2 classes/65 person capacity
   - parking
     - 60 visitor spaces
     - 3 bus spaces
     - 3 staff spaces
   - amphitheatre
     - 200 person capacity
   - parking
     - 70 visitor spaces
     - 2 staff spaces
     - 4 bus spaces
2. Equestrian Area
   - hitching posts accommodating 36 horses
   - parking
     - 24 car/trailer spaces
3. Equestrian Camping/Picnic Area
   - 2 acres
   - 6 camping sites, 4 picnic tables
   - corral/run area for 12 horses
4. Bridle Trails
   - 12 miles

Phase 3

Land Acquisition - 122.38 acres

1. Picnicking Area
   a. family
      - 864 people maximum
      - 216 tables
      - 36 acres
   b. group
      - 576 people maximum
      - 144 tables
      - 12 acres
   c. parking
      - 4 staff spaces
      - 2 bus spaces
      - 300 visitor spaces
2. Lake Improvement
   - realignment of park office access road, construction of new dam
   - expansion of existing 10 acre pond to 28 acre lake
   - fish stocking
3. Boating Area
   - 22 boats
   - 80 person capacity
   - boathouse and shelter
   - parking:
     - 22 visitor spaces
     - 2 staff spaces
4. (2) Group Adirondack Camping (Valley Unit)
   - 3 acres each
   - 9 sites each, 1 pit privy each
   - 36 people maximum
5. Ranger Residence (new dwelling)



land acquisition plan

CROWDER'S

mountain state park

Policy for Land Acquisition, Site Management, and Park Character

Land Acquisition

The land currently owned by the State, about 1,100 acres, lies in the saddle between the two mountain peaks which are presently in private ownership. Little can be done in the implementation of the master plan's first phase — with the exception of the development of the King's Unit— until additional land is acquired. Priorities for new land acquisition are based on, first, the need to gain control of the Park's features and, secondly, the need to acquire land which is earmarked for park development.

The order of priorities for phase I acquisition, which totals nearly 1,700 acres, is as follows:

1 — 620 acres of land including the ridge, peak, and primary slopes of Crowder's Mountain. Included in this area is the land needed for the development of the Crowder's Unit.

2 — 280 acres southeast of the park office related to the valley of South Crowder's Creek. This land is urgently required due to the increased activity of private developers in the area. Acquisition of this land will enable the development of the facilities and trails composing the Valley unit.

3 — 425 acres including King's Pinnacle, ridge, and slopes. This acquisition will enable control over the most important parts of the mountain and allow the construction of the main hiking trail along its ridge.

4 — Several isolated parcels remaining in the three phase I acquisition areas need to be acquired in order to establish complete control over these areas. These parcels total about 325 acres.

5 — A trail easement extending along the main ridge of the Kings Mountain range from the park boundary to the Kings Mountain National Military Park, about 4.16 miles in length, should be acquired preferably before phase 2 development. The State should seek agreements with landowners which will provide scenic protection in addition to access.

Phase II land acquisition is geared to insuring control over the streams and narrow valleys which enter the Park, to protect closely related visual horizons such as Yellow Ridge, and to provide adequate buffer to protect the Park from incompatible private development. About 895 acres is proposed for acquisition in phase II.

Phase III acquisition, about 122 acres, includes that land which is presently occupied by active dwellings, many of which are in fine condition. It will be ultimately desirable for this land to become part of the Park. The policy for its acquisition, however, should be to allow it to remain in private ownership until such time as it becomes available or certainly before owners make improvements on the land which would significantly affect the condition of the property. Access easements will need to be acquired during phase 1 development on several private roads within this property in order that service vehicles will have access to camping areas.

When land acquisition is completed, Crowder's Mountain State Park will contain about 3,750 acres within its boundaries, excluding areas covered by access or trail easements.

Site Management

Management programs should be developed in the future where problems such as soil erosion, compaction, and loss of above-ground vegetation is evident. Reclamation can begin with techniques such as discing, bedding, etc. and programs of site rotation should be introduced. All extraneous paths should be closed and marked, and chosen trails should be designated in a clear and consistent fashion. This work should be done as soon as the property is secured.

Plant succession should be allowed to proceed naturally on all of the Park's open fields, except those which will be maintained as active open space or designated management area.

The pond near the park office should be analyzed for its present fish popualtion at an early date. If restocking is desirable, it will take a minimum of three years to develop a harvestable population of fish. Planting which will provide forage areas and shelter for both permanent and transient water-related wildlife should be carried out along the northern edge of the proposed lake. This work should be performed during phase 2 in order that woody plant material become established early.

Park character

The rugged, wilderness quality of the landscape of Crowder's Mountain and Kings Pinnacle should pervade the whole of the State Park and remain as the dominating influence in the Park's development.

Abandoned fields which come into the Park's ownership should be allowed to return to their natural condition unless earmarked for another use in the master plan. Parking areas which are developed should be heavily planted with native vegetation as should other areas which are exposed during construction.

The design of all new structures in the Park should utilize materials native to the area and should reflect an architectural simplicity in keeping with the wilderness theme.

Utilities

Service to the satellite units for both water and sewer will necessarily be decentralized due to the local topography and their proximity to the central activity area. Water supply to the units can be provided by a hand pump type system utilizing ground water supplies within each area. Sewage disposal, on the other hand, will have to take the form of individual pit privies for the camping areas. No electrical service will be required in the satellite units.

During the early phases of development, utility services to facilities in the central activity area will be individually provided. The Interpretive Center, park office, and maintenance area will require separate subsurface disposal systems. The comfort stations in the picnic area can be linked by a single sewer to a common leach field. Water supply to the picnic areas can be from a single well and gravity type distribution system while the maintenance area and Interpretive Center can also share a common water supply. In the future, local water supply and sewage systems may become available by virtue of service to neighboring development. The advantages and disadvantages of connecting into a system outside of the Park should be determined at an early date.

It is recommended that the electrical distribution system for the central activity area be a complete underground installation. All transformers and switching facilities should be contained in low-profile enclosures, mounted above ground for easy access and maintenance. Underground cable connections, terminations or taps should be done in manholes. It is expected that the system will be made as permanent and free of maintenance as possible.

Administration

Services to Park Users

Programs which have been established and are currently practiced in other state parks, particularly those for visitor protection and law enforcement must be emphasized at Crowder's Mountain State Park. The legal authority vested in park personnel stands as another effective means of controlling misuse of the park and encroachment upon its land.

The patrol of the park by personnel should be conducted systematically to include not only designated use areas and roads but, in particular, the mountain trails. Citations should be issued to all unauthorized vehicles illegally parked, especially along Freedom Mill Road and Sparrow Springs Road. Also, park boundaries should be kept well marked and patrolled regularly to guard against encroachment, the development of new trails, and so forth. All mobile units should have radio contact with each other as well as staff at park control.

A fire control plan should be developed with the assistance of the State Forestry Division. This plan should utilize existing roads, paths, and easements which might be available to establish a unified fire trail system. It is suggested that storage units for fire-fighting tools be provided in each interpretive station so that they may be readily accessible to park staff and visitors at critical points in the park.

A well-designed and up-to-date information service to park visitors is essential. Visitors should be well-oriented to the location of park facilities, trails, and features, and different programs available to them. In addition, through the design and location of information facilities, visitors should be acquainted with park regulations and philosophy.

Highway directional signs should be placed along Interstate 85, Highway 29 - 74, 161, and 321, and along Freedom Mill Road north and south of the Park.

Facilities providing the visitor with an orientation to the park plan and information services will be provided in the Interpretive Center. This area should be designed as an educational tool which not only locates facilities in the park for the visitor but also explains their purpose and value to the park. This type of information can be effectively introduced through slide shows or wall-size, still graphics. Trail booklets should be produced for the Valley, Crowder's, and Kings units. These booklets should provide information on flora of the summit areas or floodplain and should stress the rarity of the delicate plants found there. It should also point out that collecting and molesting of the wildlife is strictly prohibited.

Staffing

Phase 1	Permanent	Park Superintendent
		Park Ranger II (existing)
		Park Ranger I
		Ranger-Naturalist
	Seasonal	Park Attendant (six months)
		Park Attendant (three months-existing)
		Park Naturalist
	Labor Support	(Hourly — as needed)
Phase 2	Permanent	Museum Curator I
		General Utility Man
	Seasonal	Typist Clerk I
	Labor Support	(Hourly — as needed)
Phase 3	Permanent	Park Ranger II
		Typist Clerk I (Half-time full-time)
	Seasonal	Park Naturalist
		Park Attendant (six months)
		Boathouse Attendants (2)
		Recreator
	Labor Support	(Hourly — as needed)

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Interviews

During the course of the master plan study, it was the pleasure of the planning team to conduct interviews with the following people, all of whom were quite helpful in the assimilation of background information:

Mr. Richard R. Cone
Gaston County Conservation Society

Mr. Dave Cone
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Mr. Edward Easton III
Director of Program Development
Centralina Council of Governments

Mr. Ben F. Moomaw
Superintendent
Kings Mountain National Military Park

Mr. Ray Sisk
Director
Division of Parks and Recreation, South Carolina

Mr. Richard Alan Stout
Director
Shiele Museum of Natural History

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