A Management Plan for
Camden
State Park

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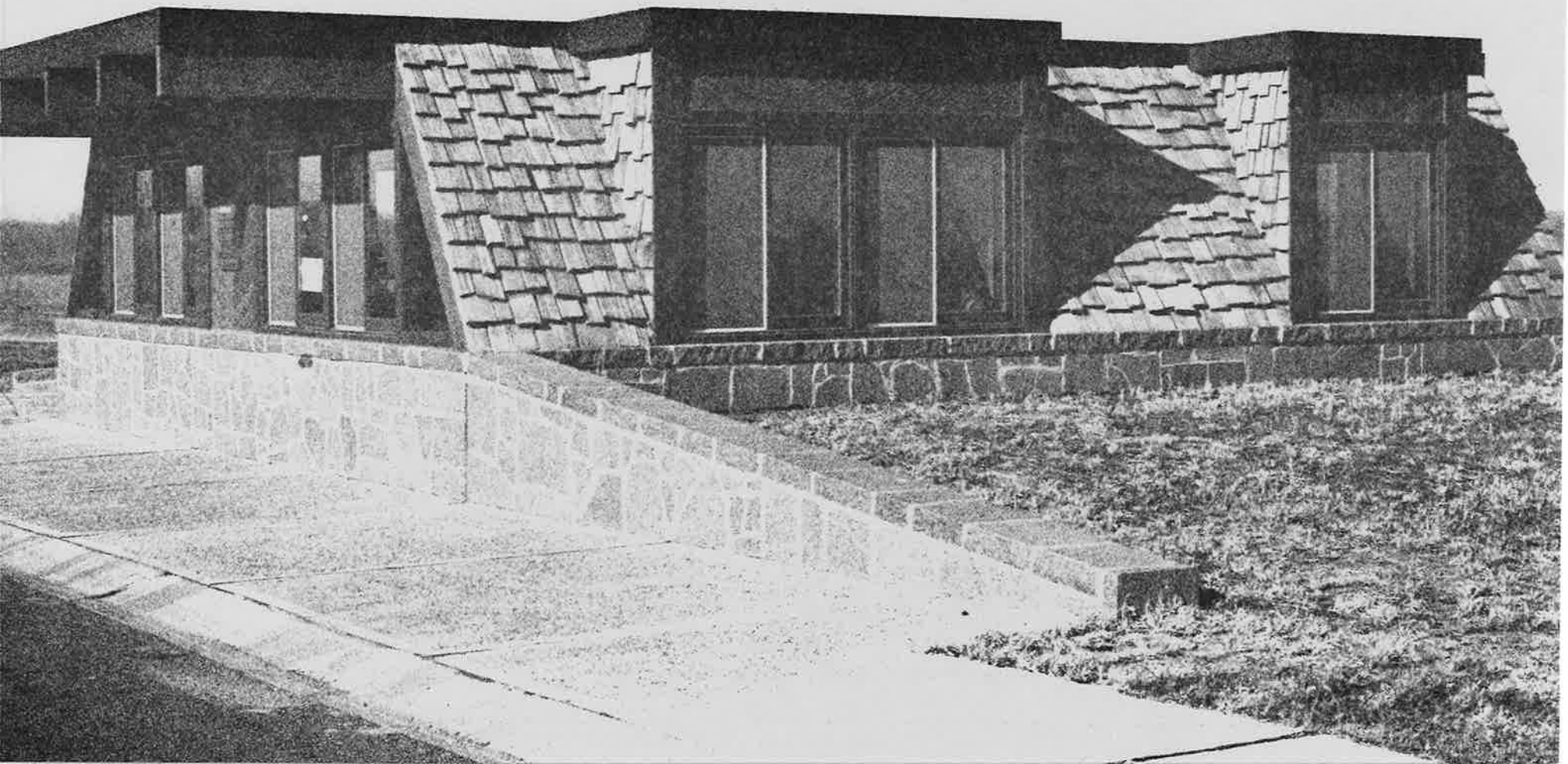
Prepared by the
Minnesota Department of Natural Resources



Credits

This plan was prepared for the citizens of Minnesota by a multi-disciplinary team of Department of Natural Resources employees as mandated by the Outdoor Recreation Act of 1975.

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The planning team also wishes to thank the many elected officials and private citizens who attended meetings and provided their thoughts and ideas.

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All cost estimates in this plan are based on 1976 dollars.

Purpose of Plan

MANAGEMENT AND DEVELOPMENT PHILOSOPHY

Minnesota is blessed with an abundance of high quality resources and, even more importantly, with leaders who have the wisdom and foresight to protect these resources. As a result, Minnesota today has one of the finest state recreation systems in the country. The Department of Natural Resources, with the assistance of concerned lawmakers, conservation and recreation groups, and private citizens, intends to do its utmost to provide planning that will be responsive to the needs of this generation while protecting the birthright of the next.

The management and development philosophy for the Minnesota state park system consists of two major objectives. The first is the protection of the natural resources within the recreation system. Without this protection, a resource can be destroyed in an alarmingly short period of time. Thus, protection benefits not only future generations, but present-day users as well. The second objective is maximizing the recreation opportunities available to the user, both in terms of quality and variety. It is the DNR's position that every citizen should share in the beauty and recreational opportunities of Minnesota's natural resources as well as the responsibility for maintaining and preserving them.

Obviously, there are going to be situations where use and preservation conflict. Every attempt will be made to reconcile these conflicts by the use of responsible management and development techniques. When this is not possible, however, the primary concern must be preservation of the resource. Allowing our resources to deteriorate would not only jeopardize high quality recreation for this generation but for future generations as well. To maintain a high quality recreational experience, it may be necessary to limit the number of people using a unit at a given time or to restrict certain activities within that unit. When this occurs, an attempt will be made to provide these activities at a nearby unit that has a higher tolerance to use.

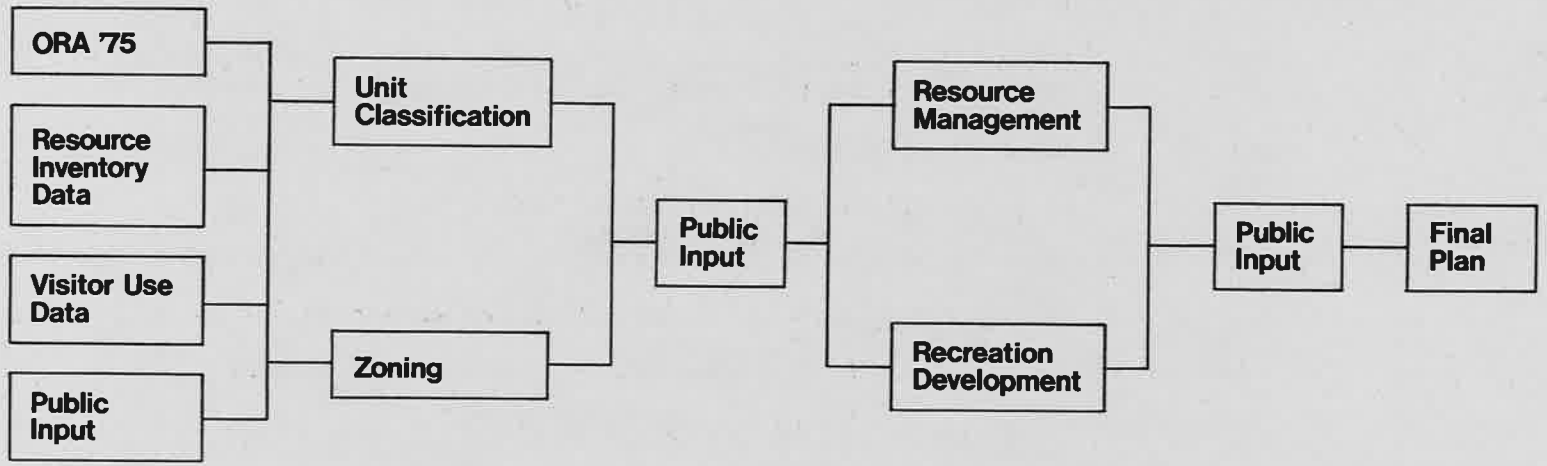
In planning management and development of the various units, the DNR will consider probable future impacts which would affect each unit. In spite of this, unforeseen circumstances are bound to occur. Therefore, each plan should be reviewed periodically to see that it is still relevant in light of current conditions. While a plan can and should be modified if conditions change, nothing should be done that would be detrimental to the objectives set forth in this philosophy.

OUTDOOR RECREATION ACT REVIEW

The Outdoor Recreation Act of 1975 (ORA '75) was enacted by the Minnesota Legislature to "preserve an accurate representation of Minnesota's natural and historical heritage" and to "provide an adequate supply of scenic, accessible, and usable lands and waters to accommodate the outdoor recreation needs of Minnesota's citizens." In an effort to improve long-range planning for the state recreation system, the legislature has directed that management and development plans be prepared for each unit in the system.

ORA '75 also redefined certain recreation unit classifications. For example, the state park classification was divided into recreational state parks and natural state parks. As a part of the overall planning process, the classification of each unit will be reviewed to insure that it is consistent with the resources in that unit. These plans will be used as a guide for developing management policies and planning recreation facilities in each unit. The ORA '75 also states that after August 1, 1977, no development funding will be permitted for any unit until a management and development plan has been completed and reviewed for that unit. By authorizing this planning program, the legislature has taken a significant step toward building a state recreation system in which every Minnesotan can take great pride.

Planning Process Diagram



Summary of Plan

INTRODUCTION TO REGION

Camden State Park is in the Coteau des Prairie Landscape Region. The Coteau des Prairie is a high prairie ridge that extends diagonally across the southwestern corner of Minnesota from the northwest to the southeast. The core of the ridge is composed of very old bedrock which has been capped by a glacially deposited clay moraine.

The region was orginally covered by prairie vegetation, interspersed with wooded stream valleys. Most of this original prairie has been converted to cropland.

Camden State Park was authorized in 1935. The statutory boundary encompasses 1,995 acres and includes tracts of native prairie. A section of the Redwood River with steep, wooded valley walls is an oasis in the surrounding farmland.

In 1976, 134,211 people, a large proportion of whom live within 50 miles, visited this park.

CLASSIFICATION

Because Camden fulfilled all three qualifications stipulated by the Outdoor Recreation Act of 1975 (ORA '75), namely (1) typifying the landscape region, (2) having the potential to attract users from throughout the state, and (3) being able to carry the use associated with the classification, it is recommended that the park be classified as a natural state park.

GOAL

The primary management goal of this park is to provide a broad selection of outdoor recreational opportunities in a natural setting to be used by large numbers of people.

GENERAL OBJECTIVES

To provide high quality drinking water for park users

To maintain high water quality in the Redwood River and Brawner Lake for recreational purposes

To maintain both impoundments in a structurally sound and safe condition

To maintain the Redwood River as a productive brown trout stream

To maintain a good, fishable population in Brawner Lake

To maintain the Brawner Lake dam

To locate development on soils that can withstand the intended use

To locate and/or rehabilitate trails to minimize erosion

To return disturbed portions of the park to a natural-appearing state

To retain or reestablish the vegetative cover of the majority of the park as it was before European settlement

To manage vegetation for spatial diversity

To manage vegetation for wildlife diversity

To manage vegetation in development areas to allow intensive use without resource deterioration

To manage vegetation to minimize erosion

To maintain a diverse native wildlife population

To reintroduce wildlife species that were present in the general area of the park prior to European settlement

To provide opportunities for park visitors to observe wildlife, their habits and habitat

RESOURCE INVENTORY AND MANAGEMENT

Ground Water

Inventory - There is an abundant water supply in the Cretaceous sandstone aquifer, but the quality is poor. Water of higher quality is obtained from shallow outwash and drift deposits. This water is softer and lower in calcium, magnesium, and chloride than water from the deeper drift deposits or the Cretaceous sandstone aquifers. There are many artesian wells in the area. The existence of some of them are the result of sloping layers of sand, gravel, and clay in the glacial drift.

Management - Location and design of sewage disposal facilities must be carefully analyzed and field checked prior to implementation to avoid pollution of the groundwater.

Surface Water

Inventory - The Redwood River was the natural driving force that carved this deep valley with floodplains of varying widths and bluffs which rise 200 feet above the river. A number of ravines were carved by drainage into the Redwood River from the adjacent high prairie land. Many of these ravines contain springs originating from bedrock which was exposed as the river gouged its present channel. The swimming pool was made by damming a small intermittent stream before it flowed into the Redwood River. The pool is approximately 300 feet long, 100 feet wide and 10 feet deep. Brawner Lake, located near the southern end of the park, was formed by the construction of a dike with an outlet control structure which blocked an intermittent stream, creating a small (32 acres), deep (19 feet), impoundment. The bottom is very irregular with many drop-offs.

Management - Bank erosion along the Redwood River should be minimized in order to maintain the water and river bottom quality preferred by trout and to maintain the river's scenic quality. Bank erosion will be reduced by re-routing the horseback riding trails to the blufftop rather than on the steep slopes along the river, realigning and structuring the hiking trails, and reestablishing the ground cover where necessary.

Fisheries

Redwood River

Inventory - The Redwood River within the park boundaries is presently being managed for brown trout on a "put and take" basis. This method has been successful as indicated by the large catch of medium-sized fish, as well as a few trophy-sized fish. Because it is the only trout stream in southwestern Minnesota, fishing pressure is extremely high.

Management - An updated stream survey is planned. When this is completed, a detailed fisheries management plan will be developed. Until then, the present annual stocking of 3,000 brown trout will continue.

Brawner Lake

Inventory - Brawner Lake never had a winterkill problem until the winter of 1977 when a dry summer and some dike leakage left the lake quite shallow. Local residents tend to fish Brawner Lake to a greater degree than surrounding shallow lakes.

Management - Maintain the dike in good condition and continue fish stocking.

Soils

Inventory - The Soil Conservation Service has identified 14 different series of soils and one complex within Camden. The Lamoure series, which consists of deep, poorly drained, nearly level soils, is found along the Redwood River bottom. In the northern half of the park, the valley walls are predominantly from the Buse series. These are well-drained soils formed from glacial till. The relatively flat eastern edge of the park consists predominantly of the Arvilla series. Formed from glacial outwash, they consist of excessively drained shallow sand and gravel. The southwestern portion of the park is composed mostly of soils found in the Clarion complex. Dominant soils in the complex have loam surface layers, except Esterville, which has a sandy loam surface.

Management - There is a need for two different types of soil management within the park: erosion control and gravel pit reclamation. The steep valley walls within the park are easily eroded. The most effective management technique will be to limit trail usage on these slopes to gradients and alignments that can withstand use without creating undue erosion.

There are several gravel pits within the park. These must be graded to smooth out their abrupt changes in slope and to visually integrate them with the natural character of the park. This should be done as soon as the land has been acquired.

Vegetation

Inventory - In general, Camden State Park is vegetated with prairie and old field species on the upland, with northern hardwood on the valley walls, and bottomland hardwoods on the valley floor.

Management - Prairie vegetation will be maintained on the uplands by a combination of planting and burning. The northern hardwoods will be allowed to succeed naturally. Selective cutting will be done in the bottomland hardwoods to remove dead or dying trees near trails or other use areas. Small areas will be planted with trees and shrubs native to the site for shade and screening purposes.

Wildlife

Inventory - At present, beaver is the only species that could be considered overpopulated. The entire length of the Redwood River within the park shows beaver activity. It is desirable to have beaver in the park, but the population should be reduced.

Management - By maintaining prairie/hardwood forest edge conditions, as detailed in the vegetation management section, a desirable habitat for a variety of wildlife species will be provided. Also, by developing and maintaining large tracts of prairie vegetation, some of the native prairie animal species will be maintained.

RECREATION MANAGEMENT

This park currently receives less than statewide utilization. The Minnesota 1974 State Park Users Survey indicates that approximately 80% of the park's clientele lives within 50 miles of the park. However, the park's use pattern could have a much broader base if there were changes in the park's development. A small change such as relocating of the road might also have a major impact on use. Park access in the future will be directly off County State Aid Highway (CSAH) 23 to provide a more accessible entrance to the park.

It is proposed that the southern portion of the park (south of the township road) be classified as a wildlife management area. This classification will insure adequate management of the deer in the park. Fishing opportunities should not be affected by the classification change. An access should be retained through the area for a snowmobiling trail.

Source:

Minnesota Department of Natural Resources. 1976. Minnesota 1976 state park users survey. Bureau of Environmental Planning and Protection. St. Paul.

Proposed Development

Proposed new development and changes in existing development in Camden State Park, as detailed in later discussions, are based on the following general objectives.

Objectives:

To restrict the amount and type of development according to the final zoning map (Zoning Section, page **25**) in order to preserve the park's resources

To organize the park so that park visitors enter and leave the park through a controlled entrance.

To separate incompatible recreational activities

To provide a suitable atmosphere for park visitors to relax, enjoy, and learn about the natural resources within the park

To limit development to facilities necessary for management and appropriate park use and enjoyment

To provide access for the handicapped to the major facilities within the park

To preserve the historic and prehistoric resources of the park

To utilize already disturbed areas for proposed development

To decentralize the recreational development within the park, thus reducing user crowding and the impact on the resources

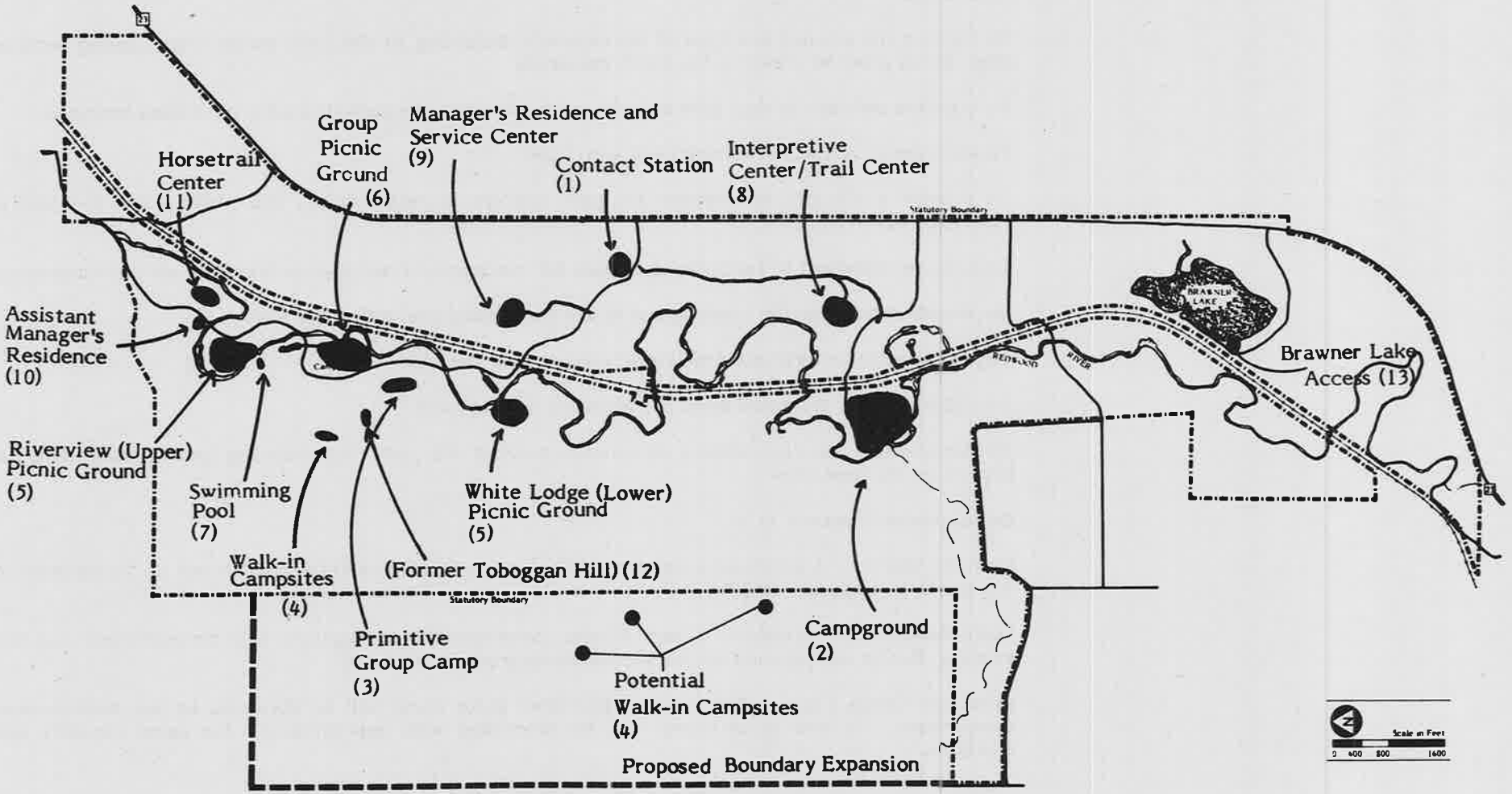
Development Program:

Contact Station - A permanent contact station and park office will be constructed at the location of the existing temporary station.

Semi-Modern Campground - A new 70-site, semi-modern campground will be developed and the existing 36-site campground will be turned into a group picnic area.

Primitive Group Camp - The existing primitive group camp will be displaced by the semi-modern campground. A new group camp will be developed with approximately the same capacity and facilities.

PROPOSED DEVELOPMENT MAP



Numbers on map refer to text (pages 1 to 3).

Walk-In Campsites - Currently, walk-in campsites are not being provided within Camden. However, an area on the bluff edge that is accessible by foot and would be a good location for them. Fire rings, picnic tables, and tent pads will be provided at each site, as well as pit toilets within 400 feet of each site.

Picnic Grounds - The two existing picnic areas will remain essentially unchanged except for building rehabilitation and vegetation management.

Group Picnic Ground - The existing campground will be removed and the area used as a group picnic ground. The existing sanitation building will be retained and fire rings, picnic tables, and a 60-car parking lot will be provided.

Swimming Pool - The pool will remain as it is, but the refectory and sanitation building will be rehabilitated.

Interpretive/Trail Center - This structure will be used as a base for the summer interpretive program and for winter trail users. A meeting room, sanitation facilities, naturalist's office, display cases,and a 60-car parking lot will be provided.

Manager's Residence/Service Center - The new manager's residence/service center will be located near the new entrance road on the edge of the east bluff. A house, a 30' x 60' heated building for equipment maintenance, and a 30' x 50' unheated building for storage will be constructed. Also, a small oil and gas storage building, a parking lot, a loading ramp, and a visually screened outside storage area will be developed.

Assistant Manager's Residence - When the new manager's residence is completed, the existing manager's residence will be assigned to the assistant manager.

Horseback Riding Trail Center - A 20-car and trailer parking lot, drinking water, picnic tables, fire rings, tie rails, pit toilets, and a loading ramp will be provided. Overnight camping in the vicinity of the parking lot will be allowed.

Toboggan Hill - Use of the toboggan hill will be curtailed due to difficulty in supervision. and the area's inaccessability by car during the winter.

Brawner Lake - The access road will be upgraded and off-road vehicle use controlled. A parking lot near the lake will be provided.

Interpretive Program

The current program consists of films, hikes, outdoor learning activities, school-use programs, displays and exhibits. Internships are available for gaining knowledge of the state park program.

BOUNDARY MODIFICATION

Objectives:

To include sufficient acreage within the statutory boundary to preserve the Redwood River Valley

To have sufficient acreage within the park to restore portions of the tall grass prairie

To exclude from the statutory boundary any area which is not necessary for the protection and perpetuation of natural resources and which cannot be used for recreational facilities.

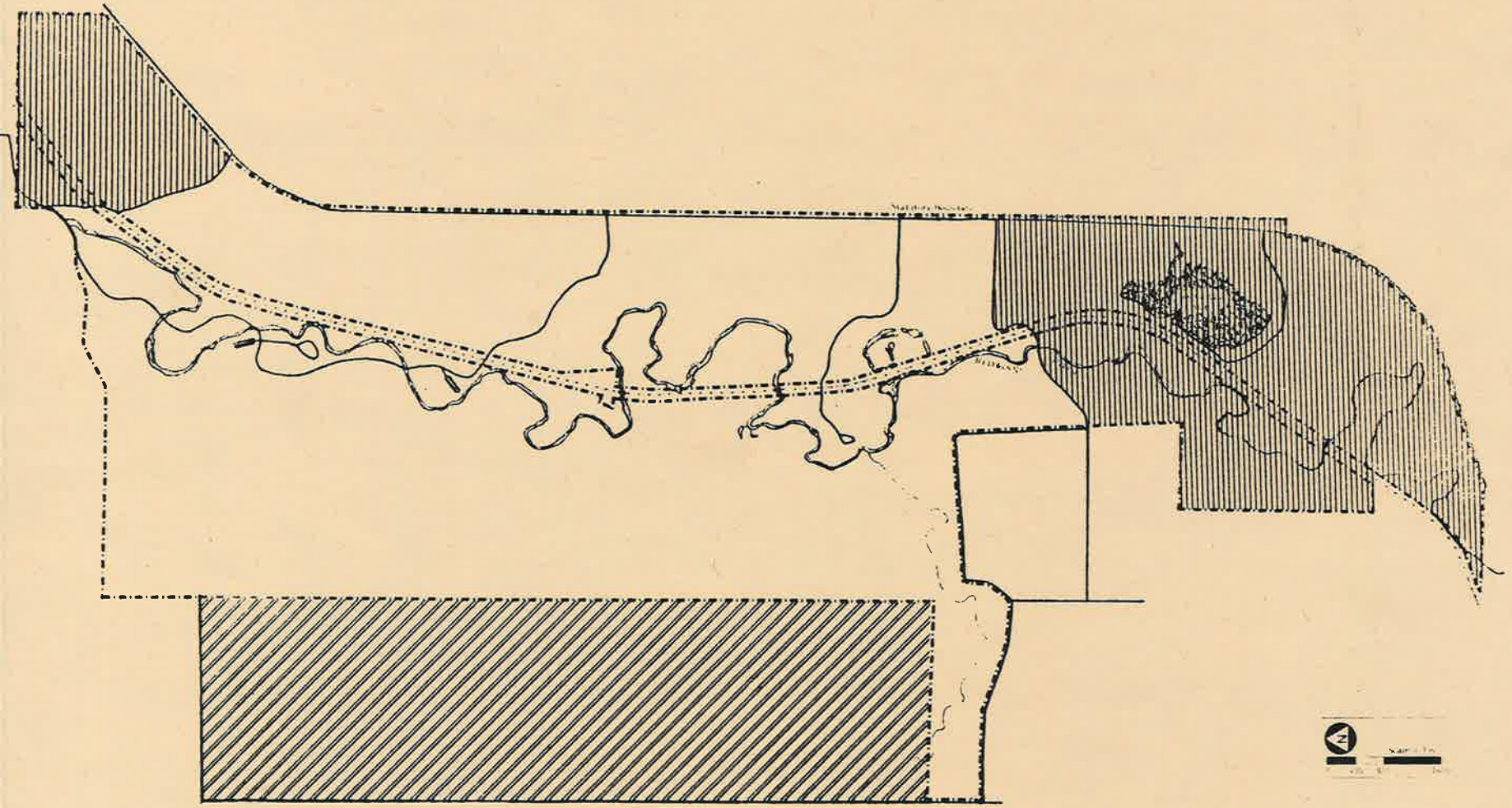
To control, by fee title or easement, all land within the statutory boundary

Deletion

A portion in the northeast corner which is separated from the remainder of the park by a township road and a portion near Brawner Lake, south of the township road will be deleted.

Expansion

Six hundred and forty acres of native prairie between the western boundary and the township road will be added to the park.



DELETE

EXPAND

Unit Character

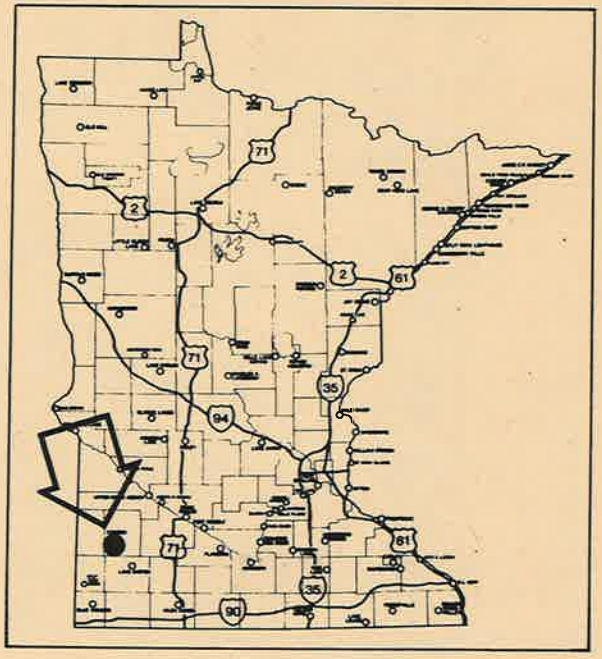
GEOGRAPHIC PERSPECTIVE

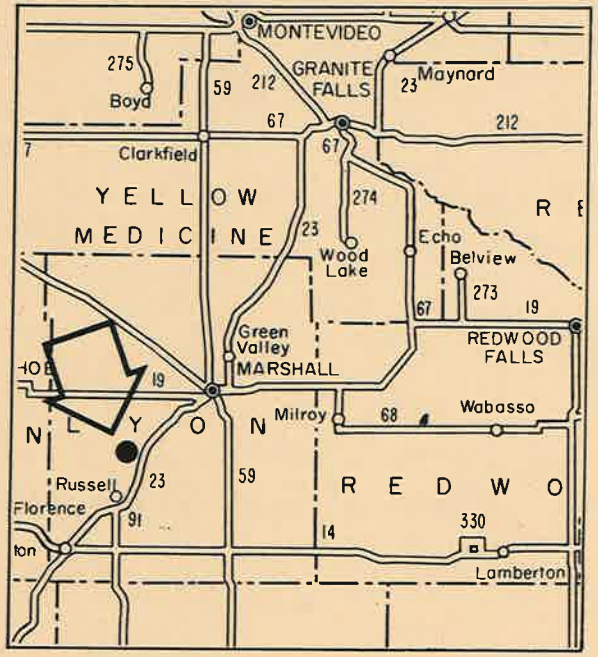
Camden State Park is located in southwestern Minnesota (Lyon County) approximately seven miles southwest of the city of Marshall on Trunk Highway (TH) 23. The Redwood River, which flows into the Minnesota River, bisects the park.

The area in which the park is located has been designated the Coteau des Prairie Landscape Region, meaning highland of the prairies. It consists of 85.7% cropland, 10.4% pasture or open land, and .6% forest.

The State Planning Agency (SPA) has estimated Lyon County's population to be 25,000, a slight increase over 1970 census data which recorded a population of 24,273. The principal urban center in the area is Marshall.

According to data generated by the Department of Economic Development, Lyon County derived $5,362,427 from tourism-travel expenditures in 1974. This is 3.7% of the total gross sales within the county. Lyon County ranked 28th out of 87 in income derived from tourism-travel expenditures.





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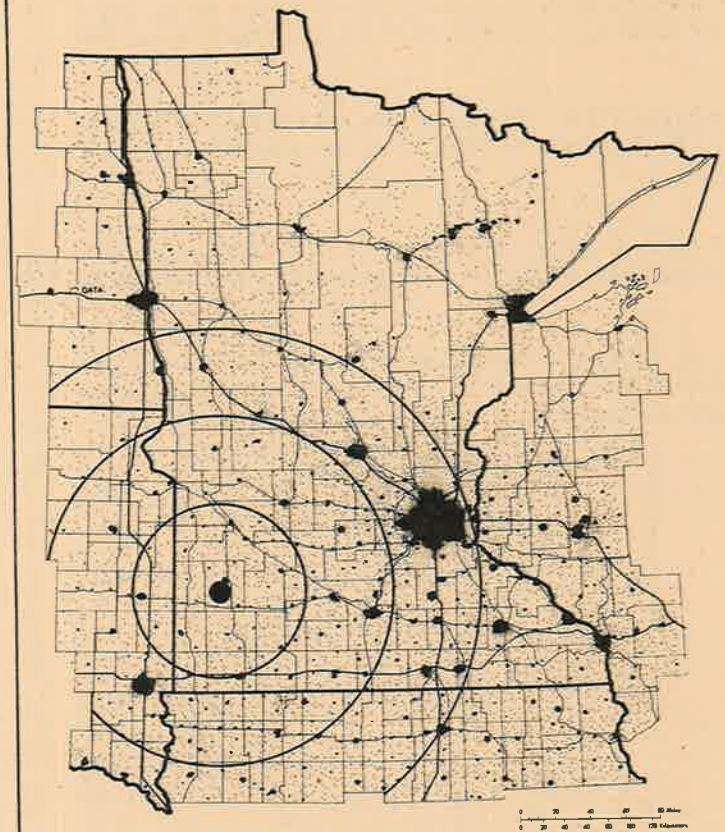
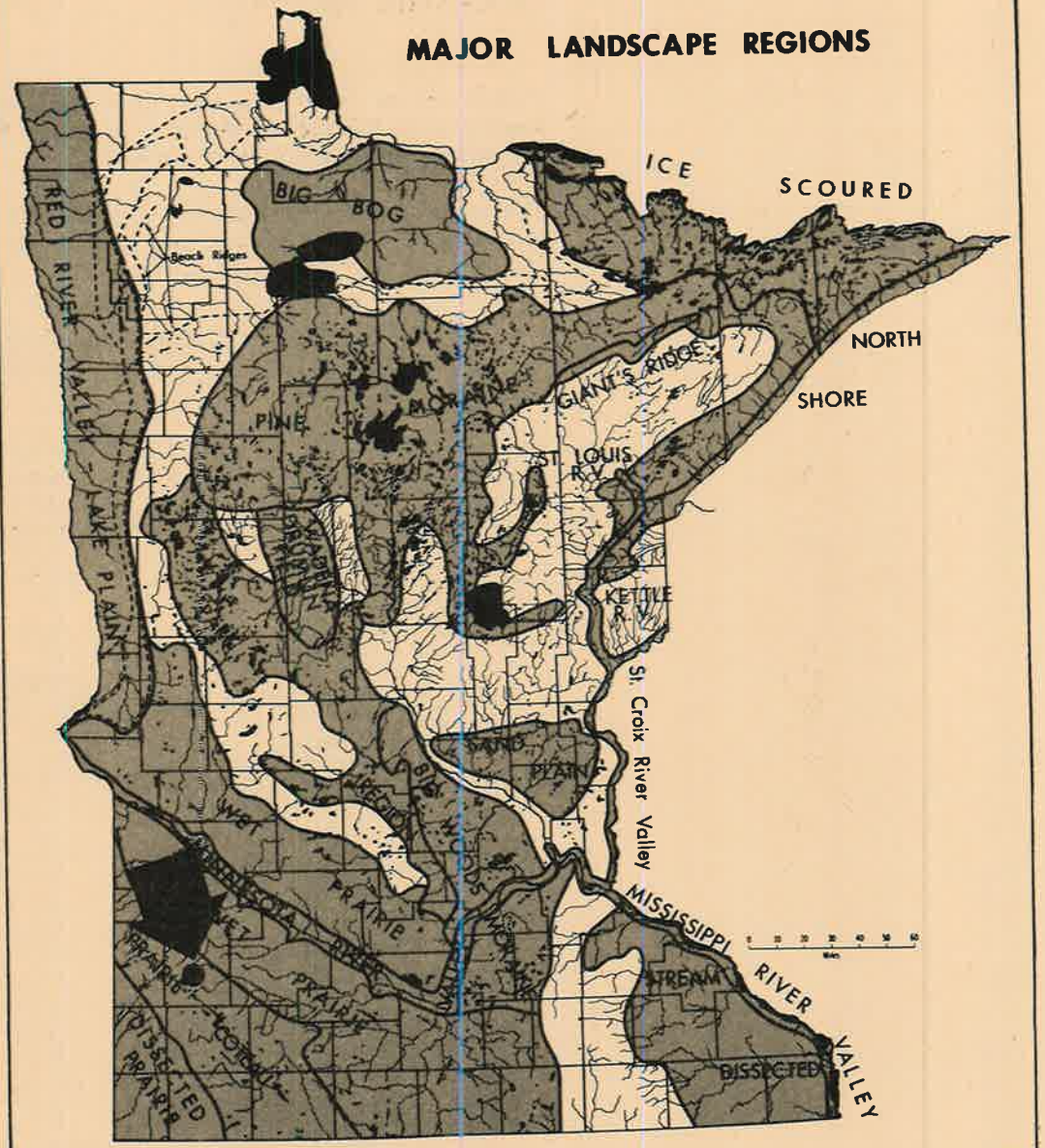
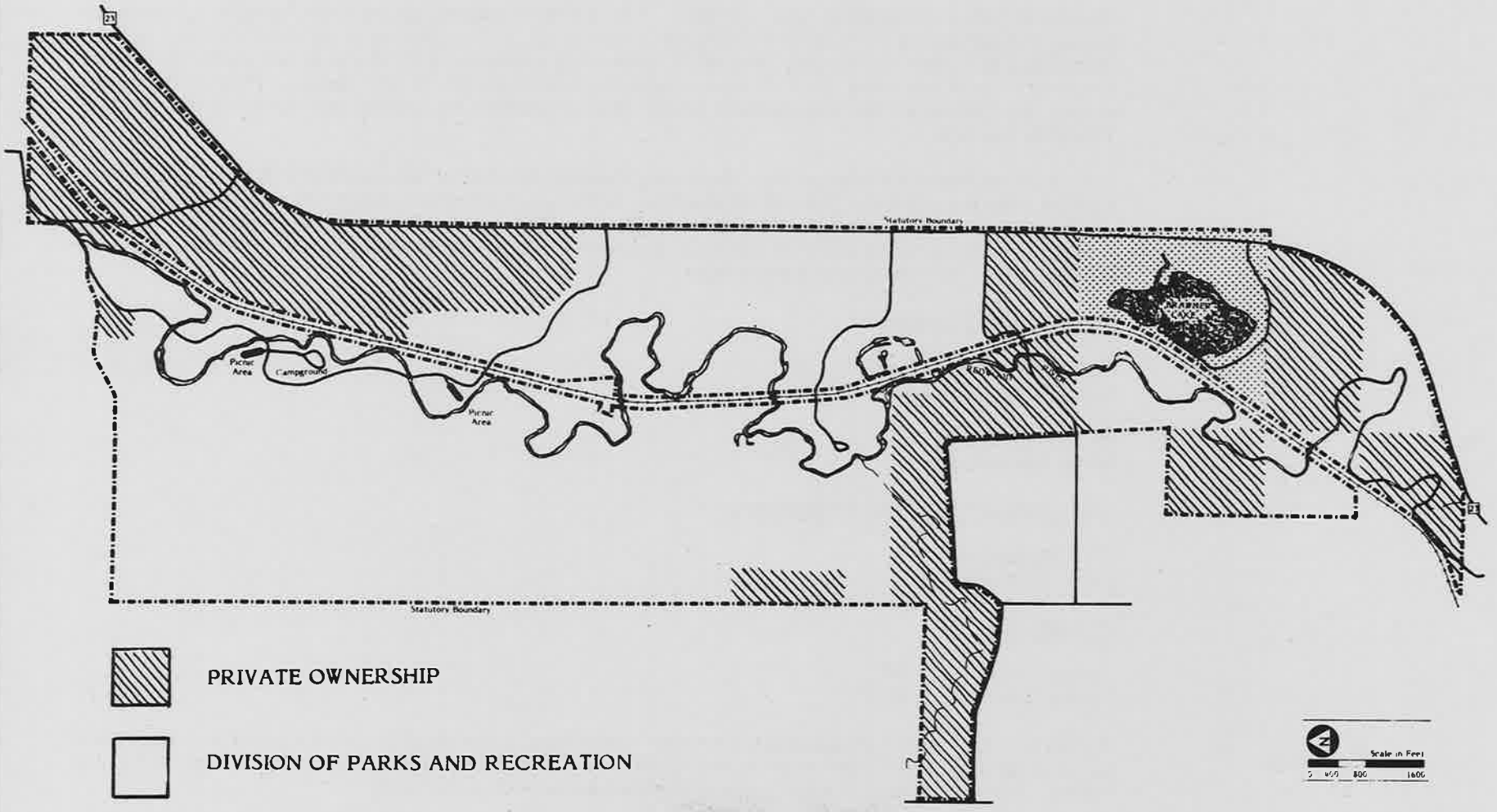


MINNESOTA POPULATION DISTRIBUTION MAP

Map indicates 50, 100, and 150 mile radii from park.




Statutory Boundary
Picnic Area
Campground
Picnic Area
Statutory Boundary
PRIVATE OWNERSHIP
DIVISION OF PARKS AND RECREATION
DIVISION OF FISH AND WILDLIFE
Scale in Feet
800
1600

CLIMATE

Minnesota has a continental type climate. The state is subject to frequent continental polar air masses throughout the year, with an occasional Arctic air mass affecting it during the winter season. Occasional periods of prolonged heat occur during the summer, particularly in the south when warm air pushes north from the Gulf of Mexico and the southwestern United States. Pacific Ocean air masses that move across the western United States produce comparatively mild and dry weather during all seasons.

Due to its southern location within the state, Camden has winter temperatures which average 10°F warmer than the northern third of Minnesota. Although it experiences periods of bitter cold during the winter, it is far less likely to have enough snow for recreational purposes. Strangely enough, summer temperatures do not vary as much. Except for the North Shore, only 3 or 4 degrees separate average temperatures throughout the state.

Temperature Variations

Mean January Maximum	23°F
Mean January Minimum	20°F
Mean July Maximum	86°F
Mean July Minimum	60°F

Mean Average Extremes/Frequency

0°F 35 days/year
90°F 20 days/year

Precipitation

Annual Total	24"
Annual Snowfall	39.5"

Within the park there are significant weather variations. Because of the wind chill factor, the prairie areas along the eastern and western boundaries are considerably colder in the winter than within the valley. Snowdrifts tend to accumulate along the prairie and forest edge.

Prevailing Winds

During the summer, lack of wind makes open areas in the valley quite uncomfortable, although they are generally cooler than the prairie areas above. The best place to be at this time of year is in the forested areas of the valley.

GEOLOGY

Camden lies on a prominent geographical ridge which rises gently to 700-800 feet above the surrounding plains. Its highest points in Minnesota rise to more than 1,900 feet above sea level in northeastern Pipestone County. The relatively high bedrock, which is now heavily overlaid with glacial drift, apparently split the last glacier that advanced from the northwest. A portion was deflected east as it moved southward as far as Des Moines, Iowa. The other portion was directed southward along the present valley of the James River in South Dakota. The margin of the Des Moines lobe rode up onto the edge of the rock base. Its broad terminal moraines form the crest of the ridge in many places. The ridge divides the watersheds of the Minnesota River to the northeast and the Missouri River to the southwest. The tributaries of the Minnesota River in this area are the Lac Qui Parle, Yellow Medicine, Redwood, and Cottonwood rivers. The Missouri tributaries are Flandrau Creek, Split Rock Creek, Rock River, and Little Rock River. Camden State Park is located on the Redwood River on the northeastern slope of the ridge.

In this area, where the older rocks occur just beneath the glacial drift, there were probably small land masses or islands when the Cretaceous Sea existed in this portion of the state. Sediments, eroded from these islands were deposited in gently sloping layers. They were later consolidated into Cretaceous sandstone and shales.

The surface till on the uplands surrounding the park is a silty, sediment that contains an abundance of Cretaceous shale fragments and Paleozoic limestone. The shale indicates the glacier that deposited it moved into the area from the northwest about 34,000 years ago.

At Camden there are two wells about a quarter of a mile apart. The older one, drilled in 1934 to a depth of 240 feet was completely cased and has required considerable maintenance in the past. In February, 1955, while the well was being cleaned, a quantity of clay containing a shell and a piece of wood was found. The University of Minnesota identified the shell as a fossil ammonite of the Cretaceous period which ended about 60 million years ago. It may have come from the Cretaceous rocks at the bottom of the well or it may have entered the perforated casing at some higher level from the glacial drift. The piece of wood, identified as American beech, a tree not found in Minnesota today, is almost certainly of Pleistocene (glacial) age.

AREA HISTORY

The park contains approximately one-third of a heavily wooded, fifteen-hundred-acre area along the Redwood River. It was usually referred to by the early settlers as Camden Woods.

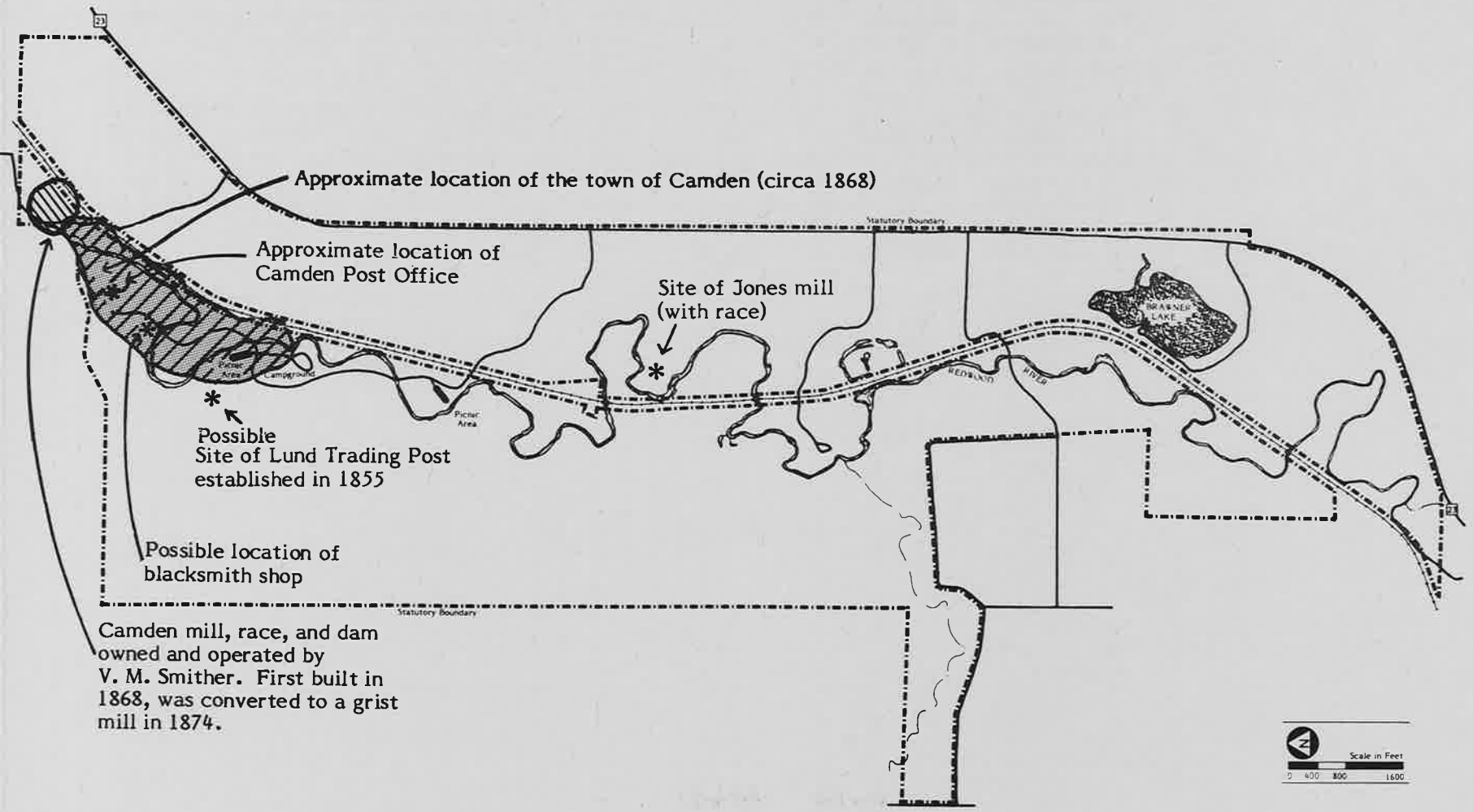
There was evidence of prehistoric and historic aboriginal activity in the area. The Dakota had permanent camps in the Redwood River valley. They roamed the neighboring prairies of Minnesota and the Dakotas during the buffalo hunt and tracked other game which was plentiful on the open range. Occasionally they went on raiding parties against other tribes, but always returned to the Camden Woods. Here, high surrounding hills gave them ample protection from the severities of winter. A constant supply of fuel and spring water made this an ideal home. Antelope and other wild game were plentiful in this wooded, hilly section of the country. The Redwood River, once higher than at present, supplied plenty of fish.

In 1934, a ceramic vessel was discovered within the park. It is impossible to determine the name of the tribe that made the bowl, but it's characteristics are those of pottery made by a people in the Middle Mississippi cultural stage. It was classified by Dr. A. E. Jenks, who estimates the bowl to be somewhere between 500 and 1,000 years old.

This region was placed under the jurisdiction of the United States in 1803 with the Louisiana Purchase. In 1817, the American Fur Company began operations in the territory and French trading was gradually eliminated. Fort Snelling was established to extend government control and protect United States citizens in this area.

The Dakotas did not relinquish their territorial rights at this time. When this region became Minnesota Territory in 1849, Alexander Ramsey was governor and Henry H. Sibley was a congressional delegate.

Routes of travel were necessary for military surveillance of the large Northwest Territory. The "Nobles Military Wagon Road" was constructed about 1856, running west from Fort Ridgely into the Missouri Valley. Although its exact alignment is unknown, this road crossed the Minnesota River near the site of historic Fort Ridgely and then crossed the Redwood River, probably at a point within the park boundary. An American Fur Company trading post, operated by Joseph LaFramboise, existed from approximately 1835 to 1838 near Camden State Park. In the mid-1850's James W. Lynd was reportedly trading here.


Approximate location of the town of Camden (circa 1868)
Statutory Boundary
Approximate location of
Camden Post Office
Site of Jones mill
(with race)
BRAGNER LAKE
REDBUD RIVER
Picnic Area
Campground
Picnic Area
Possible
Site of Lund Trading Post
established in 1855
Possible location of
blacksmith shop
Statutory Boundary
Camden mill, race, and dam
owned and operated by
V. M. Smither. First built in
1868, was converted to a grist
mill in 1874.
Scale in Feet
0 400 800 1600

The treaties opened the gate for settlement in this area. Migration began slowly and increased steadily to the time when the State of Minnesota was organized and admitted to the Union in 1858. The trading post stimulated and increased the volume of new settlements. Government land surveys began. Two events, the Civil War and the Sioux Uprising of 1862, halted the settlement activity for a short period. John Lynd was killed in the Sioux Uprising near Redwood Falls.

Settlement activities were resumed in 1863 and the trading post was abandoned. A new townsite named after John Lynd was located about 2½ miles to the north. One of the settlers built a gristmill on the river about a half-mile north of the old trading post. He was attempting to develop a townsite and successfully applied for a post office station. He named the station Camden since he was a former resident of Camden, New Jersey. The mill and townsite were of short duration. When the railroad era began, Camden was by-passed. However, because the railroad went through Lynd, Lynd benefited while Camden faded into history.

In the summer of 1977, an intensive archaeological study of the park was initiated. Non-destructive methods are being used as much as possible. Information collected by this study will help guide future development and will be used in the interpretive program.

PARK HISTORY

Camden Woods has been a popular recreation spot for local residents for years. The area was known for its picnicking, swimming, and fishing in the summer, and skiing in the winter long before the park's establishment.

The forest along the valley provided fuel as well as construction materials for residents. Farmers in the bottomlands planted hay crops and used the area for pasturing livestock. A great drought in the early 1930's, coupled with the depression, precipitated the park's authorization.

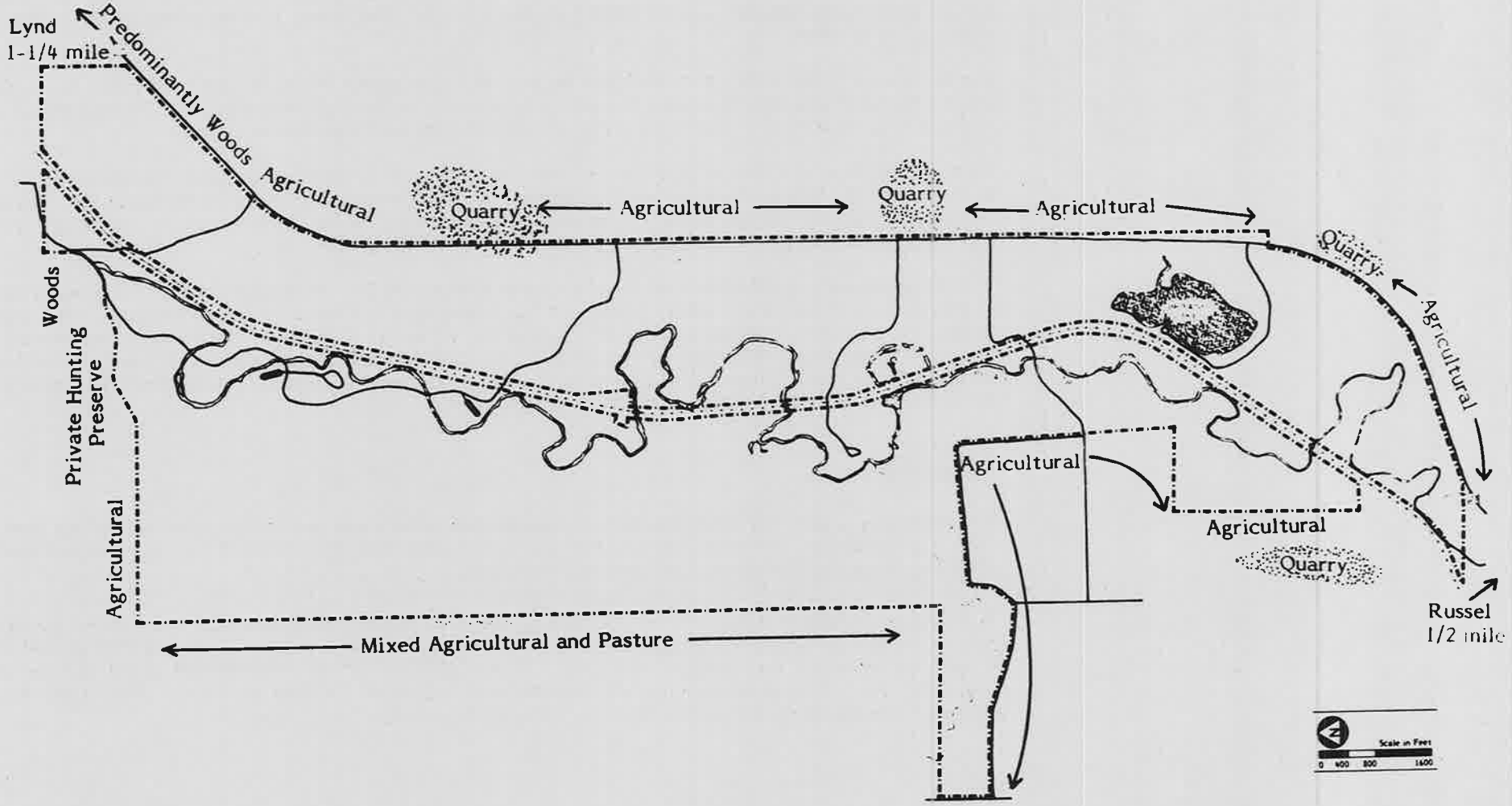
At this time, a local Camden Park Committee was organized to promote the park's establishment. E. V. Willard, conservation commissioner, forwarded the recommendations to the National Park Service (NPS), who then visited the site. An agreement was worked out between the state and local citizens for the purchase of all lands within the proposed park (469.96 acres).

In July of 1934, an application was made by state authorities for the establishment of a drought camp at Camden. This camp was authorized under the Emergency Conservation Work Program. The camp, designated as DSP3, was established on August 10, 1934. A company of WWI veterans carried on proposed work under direction of the NPS. The 1935 Minnesota Legislature formally established Camden State Park (Chapter 320, Laws of 1935). This same legislature established the Division of State Parks within the Conservation Department.

ADJACENT LAND

For many years, only the valley portion of Camden State Park was protected from conflicting land use. Consequently, for many years, gravel was excavated along the CSAH 23 right-of-way without objection from the Department of Natural Resources.

The narrow southern boundary of the park, with its small valley and gradual slopes, receives infrequent use by organized group campers. Looking southward from the park, one sees gravel pits similar to those on the eastern boundary. There is little or no development along the western boundary. Except for scattered farmsteads, the land is used for pasture or crops. Since these areas have never been tilled, they could be restored as native prairie.


Lynd
1-1/4 mile
Predominantly Woods
Agricultural
Quarry
Agricultural
Quarry
Agricultural
Quarry
Agricultural
Woods
Private Hunting Preserve
Agricultural
Agricultural
Agricultural
Quarry
Mixed Agricultural and Pasture
Russel
1/2 mile
N
Scale in Feet
0 400 800 1600

THROUGH-SITE DEVELOPMENTS

Two township roads and a railroad cut through the park. The William Brothers Pipeline Company has an underground pipeline which crosses the northwest corner of the park (T. 111 N., R. 42 W., Sec. 32), but it has no impact on the park.

A township road crosses the northeastern tip of the park. At one time it provided an alternate entrance into the park. Now it provides access to farms on the other side of the park boundary.

Another township road runs east-west across the park about a half-mile north of Brawner Lake. Though lightly used, it is important to its clientele. If the park's current statutory boundary is retained, this township road could become an administrative problem for safety and control reasons, as well as being visually obstructive.

The Burlington Northern Railroad is the park's most disruptive through-site development. Because Camden is long and narrow, the east-west disection (as in the case of the township road) is not as crucial as the one which runs the entire north-south length of the park. Not only are the trains noisy, they are visually conflicting with the park's natural character and threaten the safety of park users. The corridor seriously impacts the recreational value of this of the park. This is one portion track of Burlington Northern's secondary main lines, carrying 6-7 trains a day. The future plans of the railroad are to upgrade the track and to run more trains per day. The maximum train speed limit for good track is 49 mph, and these tracks will be maintained at a level allowing this speed.

AMTRAK has no current proposals to expand passenger service in this direction and probably won't expand for several years. Therefore, providing train access to the park for users will not be possible in the near future.

Burlington Northern will not voluntarily slow the trains through the park, and the DNR has no authority to demand a slower speed limit. If the speed of the train becomes critical to the safety of park users, however, the local township could legally demand a slower train speed limit. If necessary, DNR should petition the township to request a lower speed limit.

INTRODUCTION

In accordance with the Outdoor Recreation Act of 1975, the park planning staff has reviewed the classification of each park under study this biennium. After the park resource inventory was completed for each unit, the planning staff determined:

A. Which of the eleven classifications from ORA '75 was most appropriate for the unit
B. Whether sub-units should be considered to deal with special areas within the unit (scientific and natural areas or other sub-units authorized in ORA '75)
C. Whether administration of the unit should be reassigned to other governmental bodies (other state agencies, county or local governments)

Each park has been recommended for classification according to its resources and as such will be managed and developed according to the nature of those resources and their ability to tolerate visitor use.

Objective:

To establish a statewide recreation system that will meet the recreational needs of our society

To determine the most suitable management for a given park based on its natural resources and recreational potential

RECOMMENDED CLASSIFICATION

Camden has been recommended for classification as a natural state park.

The area around Brawner Lake, when deleted from the statutory boundary,will be designated as a wildlife management area. One parcel of prairie is recommended as a scientific and natural area.

ALTERNATIVE CONSIDERED

Recreational State Park - Camden State Park's resources do not have the capacity to allow intensive recreational use by large numbers of people, nor is it located in an area of the state which has serious deficiencies in outdoor recreational facilities.

It should be noted that the natural state park classification does not necessarily exclude recreational activities from a unit. This classification places management and development emphasis on the preservation and interpretation of the natural resources within the unit. By the same token, recreational state park classification emphasizes a wide range of recreational activities, but not to the exclusion of interpretive activities or to the point where the natural resources within the unit are damaged. The following paragraphs outline the factors involved in the classification of this unit.

CRITERIA

The Outdoor Recreation Act of 1975 requires that a unit substantially satisfy all of the following criteria to qualify as a natural state park:

> "Exemplifies the natural characteristics of the major landscape regions of the state, as shown by accepted classifications, in an essentially unspoiled or restored condition or in a condition that will permit restoration in the foreseeable future; or contains essentially unspoiled natural resources of sufficient extent and importance to meaningfully contribute to the broad illustrations of the state's natural phenomena."
>
> "Contains natural resources, sufficiently diverse and interesting to attract people from throughout the state."
>
> "Is sufficiently large to permit protection of the plant and animal life and other natural resources which give the park its qualities and provide for a broad range of opportunities for human enjoyment of these qualities."

DISCUSSION

Camden is a good example of the Coteau des Prairie Landscape Region. It has some excellent, but small prairie tracts within the park at present. Expansion of the park to the west would include more existing prairie and land with good prairie restoration potential. One 40 acre parcel in the potential expansion area is recommended for designation as a scientific and natural area. The rushing Redwood River with its big woods vegetation is an oasis within a vast flat plain. Although the park has a small percentage of park users from beyond 50 miles, there is reason to believe that changes in park development such as park access directly from CSAH 23 will increase statewide use.

With expansion the park will be adequate to ensure protection of sensitive natural resources.

Because the park fulfills the three qualifications mandated by the Outdoor Recreation Act of 1975, i.e., is representative of its landscape region, has unique resources capable of attracting visitors from throughout the entire state, and is large enough to do so without significant detriment to the resources, Camden should be classified as a natural state park.

The part of the park south of the township road, including Brawner Lake offers good hunting and fishing and should be managed as a wildlife management area.

PARK GOAL

The goal for Camden State Park is to provide opportunities for people of the state to enjoy and learn about natural resources through a variety of recreational activities including camping, picnicking, hiking, ski-touring, and snowmobiling, while protecting and perpetuating the park's natural, historic, and prehistoric resources.

ZONING

Introduction

Before the specific management of Camden State Park can be considered, a zoning concept must be established to evaluate the various management alternatives. General management strategies can then be determined and expressed by zoning the park for its prime management objectives.

Objectives:

To establish a zoning system which formally recognizes the various features of a park

To identify those areas suitable for specific uses and establish management requirements necessary to provide for recreational needs while protecting the park's resources

Management Zoning

A land classification system utilizing six major management zones was adopted which will permit effective, economical management of the park's resources, centralize legitimate park development and use, and protect delicate resources within the park.

Land Classification Zones

To aid in understanding the final zoning concept map, each of the six potential zones have been defined with a description of their prime management objectives.

Ecological Protection Zone - The ecological protection zone includes areas having ecological communities which are either sensitive to certain uses, require special management or protection and/or have significant value for research. Areas having unique or endangered wildlife habitat or vegetative communities are included in this zone. Management will be directed toward perpetuating these ecological values. Development will be restricted to interpretive facilities or trails which do not disturb these values. All forms of access may be prohibited when necessary. In certain instances, small structures may be necessary to orient use and protect habitat.

Outstanding Natural Feature Zone - The outstanding natural feature zone includes areas which are geologically or biologically of statewide significance. These features are often the park's principal resource attractions and will be managed to provide visitor enjoyment without impairing resource quality. Development of restricted forms of recreational facilities may be necessary to allow for enjoyment and interpretation. All development must be compatible with the features of the site to protect its natural character. Resource management will be restricted to restoring the resources and perpetuating their natural characteristics.

Primitive Zone - The primitive zone includes extensive areas of land and water remote from high-density use areas and major developments within the park. Development will be restricted to hiking/skiing trails, primitive walk-in campsites, and appropriate interpretive facilities. Resource management will be directed toward restoring and perpetuating the natural environment and the aesthetic character of that environment.

General Environment Zone - This zone includes areas which, while they may be very scenic, contain no identified outstanding natural, historical, or cultural features. In addition, the resources in this zone must be able to tolerate moderate use. Properly managed, this zone will serve to unite the other zones into a cohesive unit.

Historical and Cultural Zone - The historical and cultural zone includes those sites which help to illustrate the historical and archeological heritage of the area that would be preserved or restored. Activities should emphasize the interpretive values of the site. Recreational development will be restricted to activities hiking/skiing trails, small picnic areas, interpretive facilities, and parking. Activities and improvements should be limited to those which will not detrimentally affect the preservation and restoration of these sites and should be reviewed with the Minnesota Historical Society. All historical or cultural sites should be surrounded by sufficient natural buffers to minimize encroachment from other activities. Natural resource management activities should maintain and perpetuate historical and cultural values while insuring regeneration of native or historically compatible plant and animal species.

Development Zone - The development zone includes lands and waters where major park development and intensive use, both existing and proposed, has or will substantially alter the environment. This zone will be managed to provide and maintain the level of development necessary to serve the needs of relatively large numbers of visitors and park administration. Park roads extending beyond this zone may be included in appropriate natural or historic zones through which they pass. Resource management will be directed toward improving the recreation capabilities and characteristics of the environment. However, native vegetation should not be extensively replaced solely for aesthetic reasons.

Potential Zones

Zone 1 - Ecological Protection Zone - (map, page 29) Three types of areas are sensitive and valuable enough to justify their inclusion in this zone: the steep slopes, the Redwood River, and the prairie remnants.

Zone 2 - Outstanding Natural Feature Zone - No area was found within the park boundary that qualifies for this zone

Zone 3 - Primitive Zone - No area within the park is remote enough or large enough to qualify for this zone.

Zone 4 - General Environment Zone - (map, page 32) All land not located in other zones is designated a general environment zone.

Zone 5 - Historical and Cultural Zone - (map, page 30) Two different areas within the park have been identified as potential historical and cultural zones. They are the Lynd Trading Post site, established in 1855, and the site of the Camden Mill, millrace, and dam, which was first built in 1863.

Zone 6 - Development Zone - (map, page 31) The potential development zone areas depicted on the map are based the suitability of the soils and topography for development. These areas are further divided into those lands which are subject to periodic flooding and those which are not. The areas which are periodically flooded may be used for picnicking, but not for overnight facilities.

Established Zones

The final zoning map is a composite of all potential zones showing where management decisions have been made to eliminate conflicts between individual zones. This final zoning map will guide the recreation and resources management decision-making process.

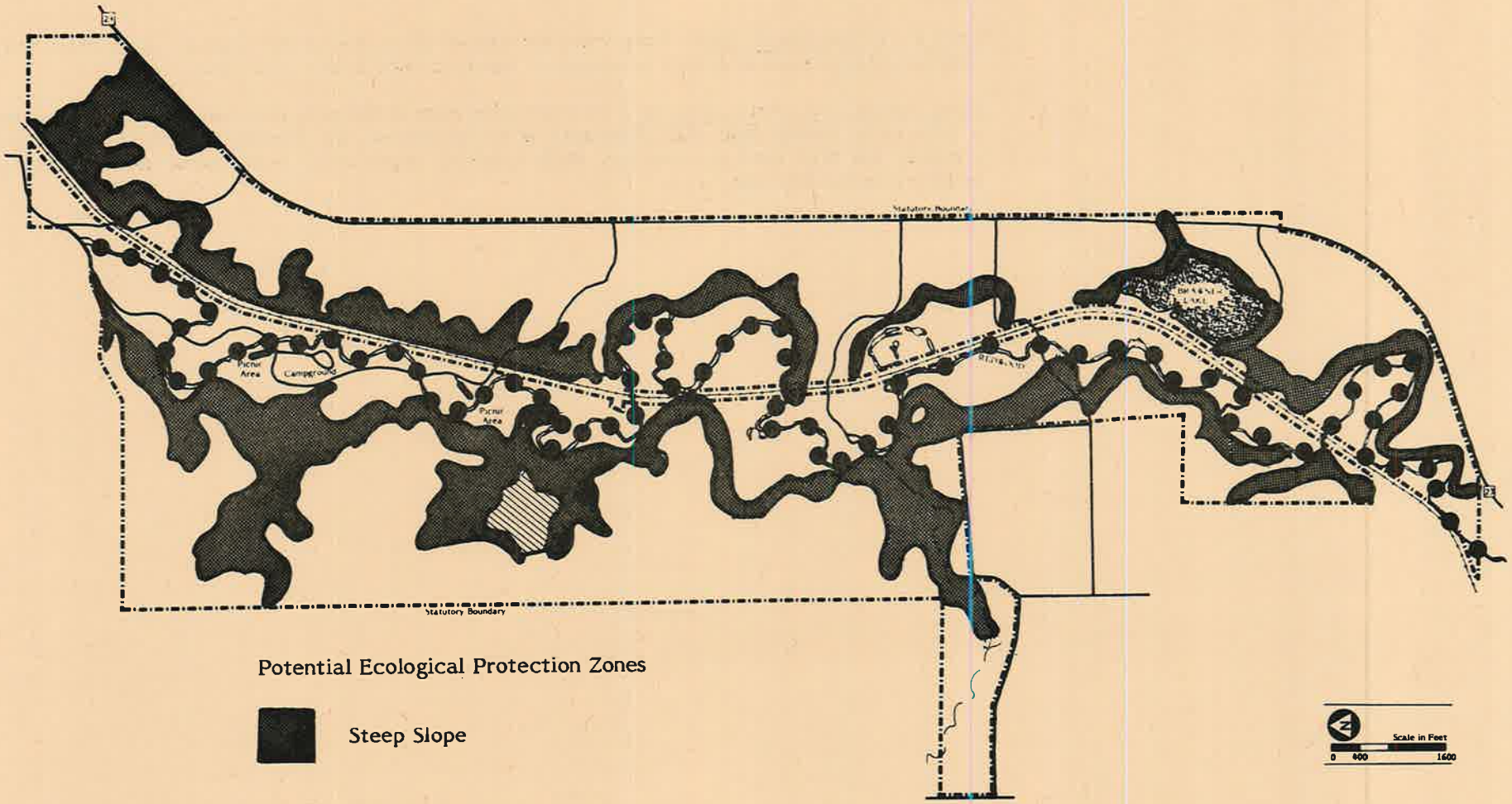
Zone 1 - Ecological Protection Zone - All of the potential areas were included in this final zone, except for two small portions of steep slopes. One small area was deleted to allow for the valley access road. Special construction techniques including extensive grading and a bridge were used in order to develop this access and prevent erosion. Another small section of the northern edge of the park was deleted to allow for a snowmobiling and horseback riding trail access out of the valley. This trail will be developed to keep erosion to a minimum.

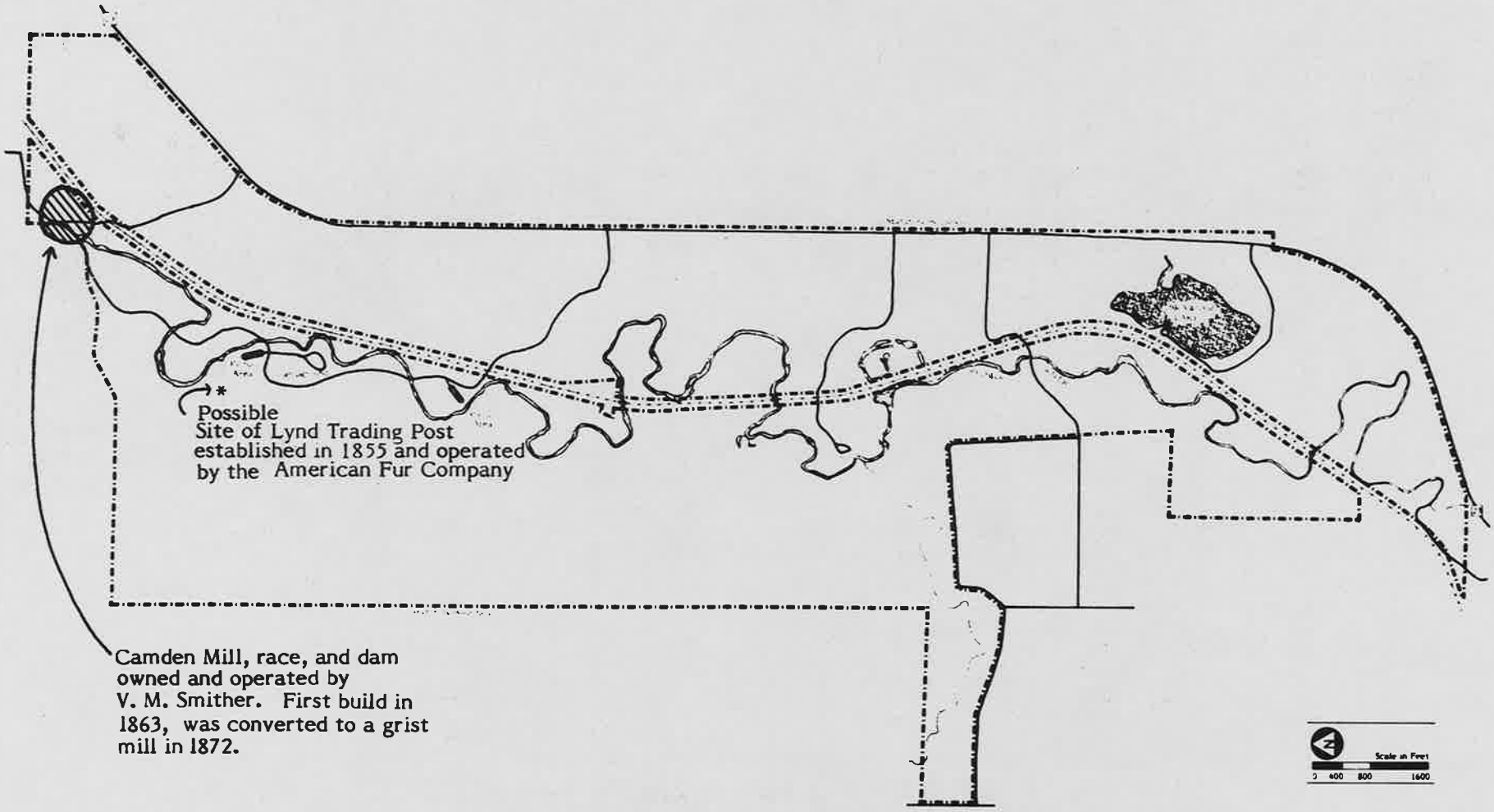
Zone 4 - General Environment Zone - All land not located in other zones is designated a general environment zone.

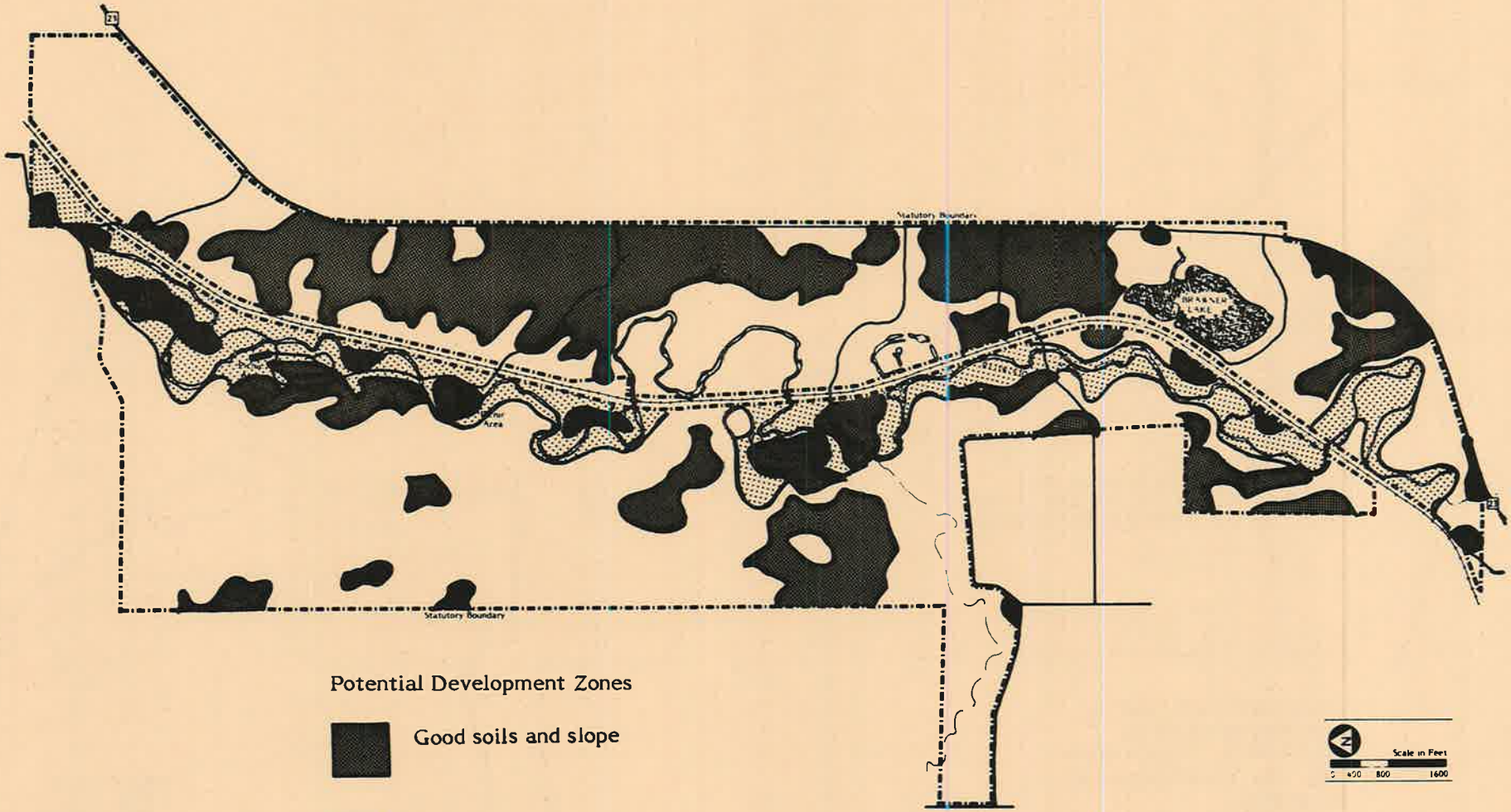
Zone 5 - Historical and Cultural Zone - Both proposed areas were included in the final zoning map.

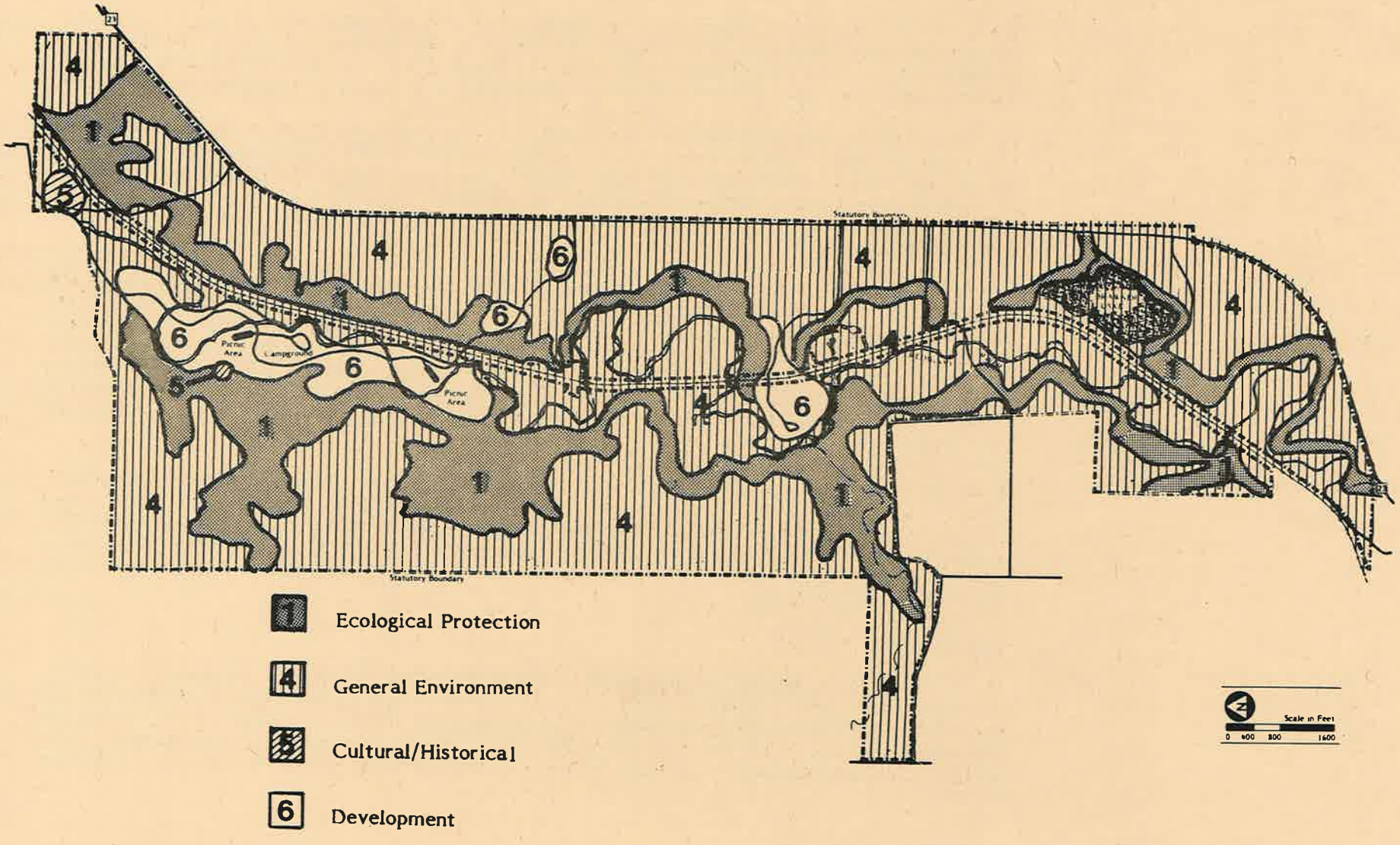
Zone 6 - Development Zone - Only those portions of the potential development zone which were necessary for present or future development were included in this final zone.

Final Zoning Map - (map, page 32) By overlaying each of the potential zones on a common base, a composite zoning map was developed which permitted the development of a plan which protects the high quality resources while allowing appropriate recreational development to accommodate public use.


Statutory Boundary
Picnic Area
Campground
Picnic Area
Statutory Boundary
Potential Ecological Protection Zones
Steep Slope
Redwood River
Prairie
Scale in Feet
0
400
1600


Possible
Site of Lynd Trading Post
established in 1855 and operated
by the American Fur Company
Camden Mill, race, and dam
owned and operated by
V. M. Smither. First build in
1863, was converted to a grist
mill in 1872.
N
Scale in Feet
0 400 800 1600


Statutory Boundary
Statutory Boundary
Potential Development Zones
Good soils and slope
Some potential but subject to occasional flooding
Scale in Feet
0 400 800 1600


Statutory Boundary
Picnic Area
Campground
Picnic Area
Statutory Boundary
Ecological Protection
General Environment
Cultural/Historical
Development
N
Scale in Feet
0 400 800 1600

WATER RESOURCES

Introduction

There are two aspects to water resource management -- underground and surface. In general, underground water resources are managed to maintain a high quality and supply. Surface water management programs ideally should include total watersheds, not just an individual lake or stream. Unfortunately, few parks encompass total watersheds, therefore effective management is minimized.

By statute, the Division of Parks and Recreation can control surface as well as shoreline use of any lake or stream which is totally within a park's statutory boundary and in state ownership. However, if any parcels along a shoreline are in private ownership, a common agreement must be reached before any effective management techniques may be employed on the water body.

Groundwater Inventory

An abundant water supply is available from the Cretaceous sandstone, however, the quality of the water is poor. Water from this formation is very corrosive and highly mineralized, with a high sodium sulphate and chlorine content. Two wells in the park have been drilled into this formation. Some trouble has been experienced in controlling them due to high hydrostatic pressure. This artesian zone was struck at about 160-200 feet below the valley surface (approximately 100 feet more if drilled from the upland). There are many artesian wells in the area, some of which may be explained in terms of sloping layers of sand, gravel, and clay in the glacial drift. Most of the deeper wells derive their pressure from the inclined layers of Cretaceous sediments.

Water of higher quality is usually obtained from shallow outwash and drift deposits. This water is generally softer and lower in calcium, magnesium, and chloride than water from the deeper drift deposits or the Cretaceous sandstone aquifers. An outwash deposit leads into the southern boundary of the park. It is unknown if it has sufficient thickness or a large enough area for developing a water supply in the park area. If it extends into or is mixed with the till at a sufficient depth, water may be obtained from this source.

Surface Water Inventory

The Redwood River formed and shaped the valley's interesting character. Its source is a prairie marshland basin approximately 30 miles south of the park near the divide between the Missouri and Mississippi watersheds. The deep valley carved by the river has floodplains of varying widths and adjoining bluffs which rise 200 feet above the river. There are a number of ravines which have springs which originate from substrata which was exposed when the river gouged its present channel.

The stream flow is rapid due to a relatively steep gradient. The Redwood River often overflows its banks during the spring thaw. Park structures other than bridges are seldom affected. The largest discharge on record was recorded in April, 1969, when it was measured as 559 cubic feet per second (cfs). This compares with an average discharge of 43.78 cfs.

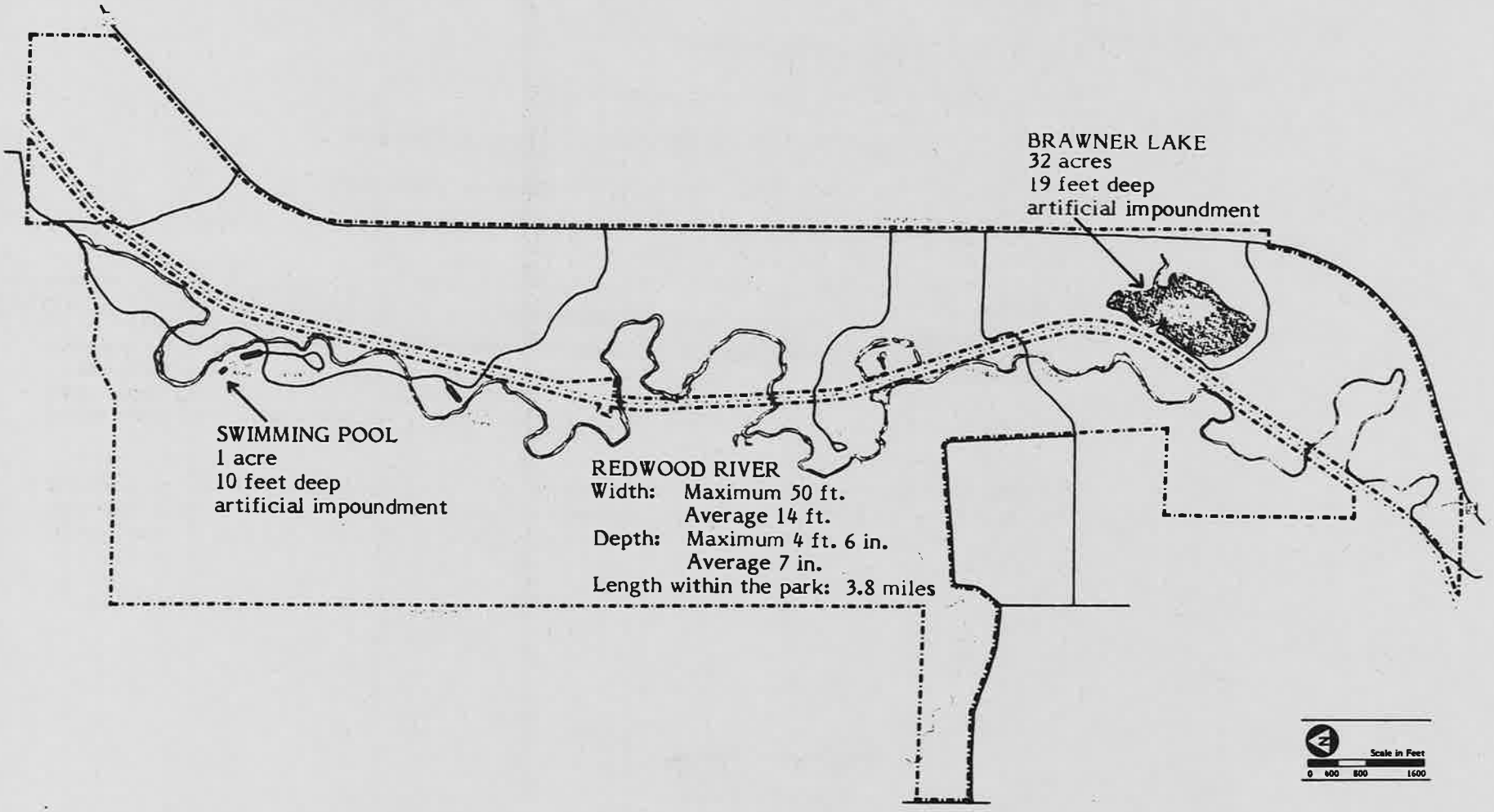
The water is relatively clear and colorless except in some pools which are bluish-green because of the springs. During runoffs and spring floods, the waters become turbid with suspended silt and sand.

A swimming pool was formed by damming a small intermittent stream before it flows into the Redwood River. The pool is approximately 300 feet long, 100 feet wide, and 1 to 10 feet deep. A diversion structure and culvert system was constructed 360 feet upstream from the dam which directs water into the swimming pool. The culvert reroutes the water around the pool into the river. This culvert is 320 feet long, 48 inches in diamater, and has a drop in elevation of about 8 feet. Water from the swimming pool must pass through an 18 inch slide gate before entering the Redwood River.

Brawner Lake is a 32 acre, 19 foot deep impoundment, which is located near the southern end of the park. It was formed by the construction of a dike with an outlet control structure blocking an intermittent stream. The bottom varies from gentle slopes to steep drop-offs, making it undesirable for swimming or wading.

The intermittent inlet stream has a wooded drainage basin of approximately six square miles.

The water level of the lake is controlled by an 84" culvert through the dike. Drainage from the culvert goes under the Burlington Northern Railway tracks, enters a natural drainage way, and flows into the Redwood River .


BRAWNER LAKE
32 acres
19 feet deep
artificial impoundment
SWIMMING POOL
1 acre
10 feet deep
artificial impoundment
REDWOOD RIVER
Width: Maximum 50 ft.
Average 14 ft.
Depth: Maximum 4 ft. 6 in.
Average 7 in.
Length within the park: 3.8 miles
N
Scale in Feet
0 400 800 1600

Management

Objectives:

To maintain high quality groundwater

To provide high quality potable water for park users

To maintain high water quality in the Redwood River for recreational purposes

To maintain both impoundments in structurally sound and safe condition

- Specific Management

The location and design of sewage disposal facilities will be carefully analyzed and field checked prior to development.

Bank erosion along the Redwood River should be minimized to maintain both the water and river bottom quality preferred by trout and to maintain the river's scenic quality. Bank erosion will be reduced by rerouting the horseback riding trails to the blufftop rather than on the steep slopes along the river, by realigning and structuring the hiking trails, and by reestablishing ground cover where necessary.

The dike which formes Brawner Lake is deteriorating. An engineering assessment is needed to determine the extent of the repairs and maintenance needed to keep the dike in good condition. During the course of repairs, the hard angular lines of the dike should be modified to naturalize its appearance.

FISHERIES

Introduction

The primary goal of Camden's fisheries management program is to maintain the optimal natural fish population that a water body can support. This optimum is determined by such factors as water fertility, oxygen supply, food supply, and water temperature. Periodic fishery surveys are conducted to determine species diversity, size, and condition of fish populations. The results of these surveys are used to determine the classification and site-specific management goals for a water body.

Redwood River

Inventory

The Redwood River within the park boundary is managed on a "put and take" basis for brown trout. Based on good fishing success of medium-sized fish and a few trophy-sized fish, this management technique seems to be successful.

Fish habitat surveys indicate much improvement is needed to increase the carrying capacity for brown trout. Riffle areas and pool areas are limited. Stream flow is spread out over vast flat areas which promotes summer heating.

The following fish species are known to be present in this section of the Redwood River:

Brown trout
Common sucker
Hornyhead chub
Western blacknose dace
Common shiner
Brassy minnow
Carp
Central stoneroller
Yellow perch
Central johnny darter
Striped fantail darter
Orange spotted sunfish
Northern creek chub

Northern creek chubs, which were observed throughout the survey area, appear to be the most abundant species. Brown trout were noted in many of the pool areas, but were most abundant below major springs. Spawning sites for brown trout are limited because much of the stream bottom is sand and/or silt. Riffle areas are lacking and the river is subject to extreme flooding and siltation. The beaver are slowing the river flow with dams and reducing shade by cutting trees. This results in a higher water temperature which negatively affects trout habitat.

Management

Objective:

To maintain the Redwood River as a brown trout stream

- Specific Management

Present management consists of stocking 3,000 brown trout annually (1,500 in the spring and 1,500 in the fall) and reducing the beaver population. When an updated stream survey is completed, a more detailed management plan will be developed. The present stocking program will be continued in the interim.

Brawner Lake

Inventory

Brawner Lake is not usually subject to winterkill. However, in the winter of 1977, low temperatures combined with a low water level, caused by dike leakage and drought, resulted in some winterkill.

Local residents tend to fish Brawner Lake to a greater degree than surrounding shallow lakes.

The following fish species are found in Brawner Lake:

Northern pike	Bluegill
Largemouth bass	Sunfish
Black crappie	Walleye
White crappie	Black bullhead

Management

Objective:

To maintain a healthy, fishable population in Brawner Lake

To ensure the structural stability of the Brawner Lake dam

- Specific Management

Brawner Lake should continue to be managed as a deposit lake for fish rescued from nearby shallower lakes. The dike must be maintained in good condition to retain a sufficient water level which will prevent winterkill.

SOILS

Introduction

Soil structure, type, and fertility play an important role in dictating what types of vegetation are presently found in the park or what types of plant communities might logically be reintroduced to replicate plant communities which exerted a dominant influence in the formation of that soil type.

In developing a park management plan, detailed soil surveys of the park are a necessity. Soils data must be considered when locating park roads, recreation buildings, campgrounds, picnic areas, sewage lagoons, and septic tank filter fields.

Inventory

The Soil Conservation Service has identified 14 different series of soils and one soil complex (see Soils Characteristics/Suitability Charts, pages **45** & **46**) in Camden.

The Lamoure series, which consists of deep, poorly drained, level soils, is found along the Redwood River bottom. In the northern half of the park, the valley walls are predominantly from the Buse series, which are well-drained soils formed from glacial till. The flat eastern edge of the park consists predominantly of the Arvilla series. They consist of shallow sand and gravel, formed from glacial outwash, and tend to be excessively-drained. Finally, the southwestern portion of the park is composed mostly of soils found in the Clarion complex. The dominant soils in the complex have loam surface layers, except Estherville, which has a sandy loam surface.

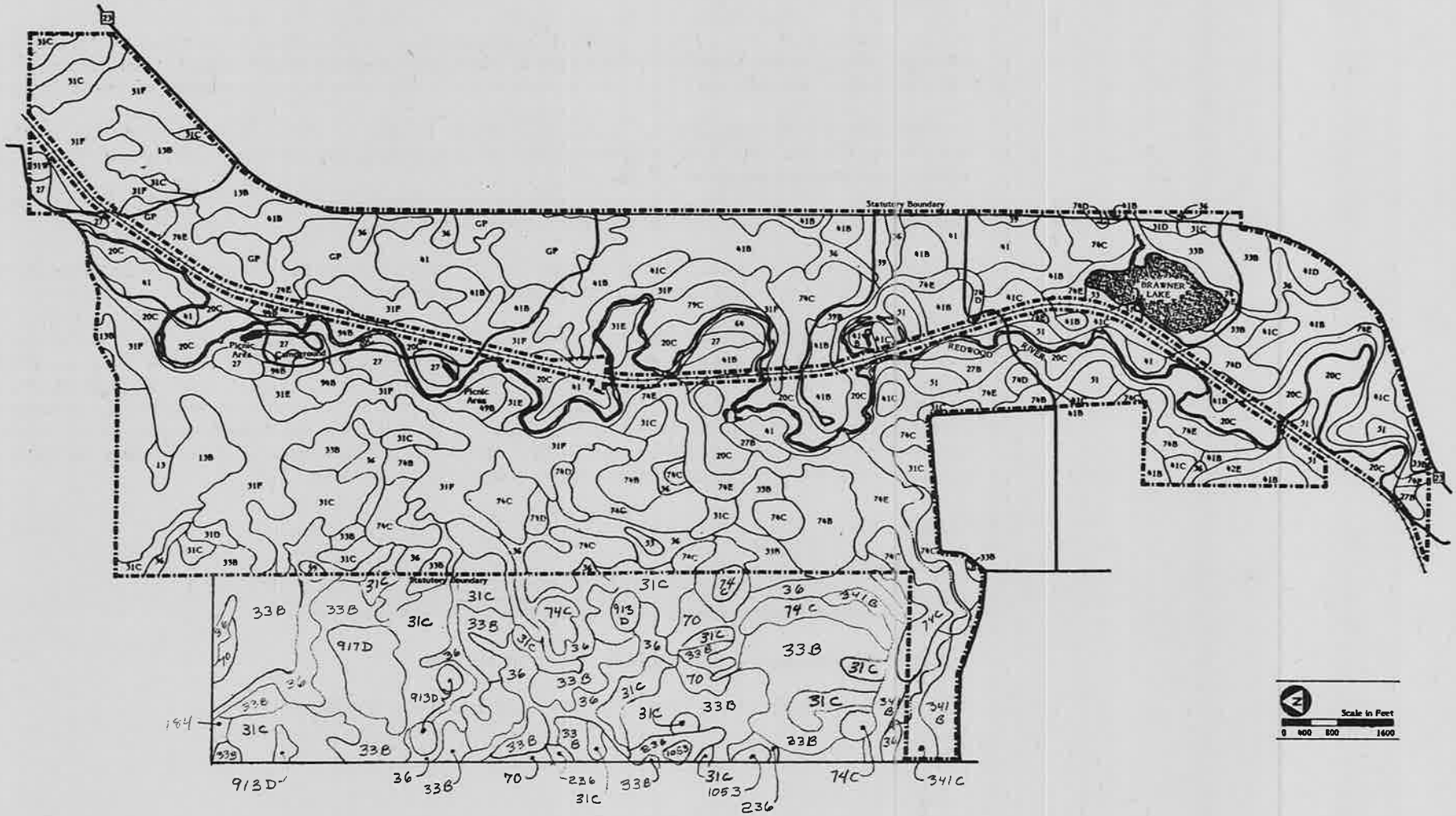
Management

Objectives:

To locate development on soils that can withstand the intended use

To locate and/or rehabilitate trails to minimize erosion

To return disturbed portions of the park to a natural-appearing state



NOTE: See following page for map codes.

Soil Type	Map Code	Slope	Permeability*	Erosion Hazard	Potential Frost Action	Intensive		Paths and Trails	Recreation Buildings**	Sewage Lagoons	Septic Tank Filter Fields
						Picnic Areas	Camp Areas				
Aaslad	17		.2-.6		Moderate	Slight	Moderate[2]	Moderate[2]	Severe[8,10]	Slight	Moderate[6]
Arvilla	41B	2-6%	.6-2.	Slight	Low	Slight	Slight	Slight	Moderate[8,10]	Moderate[6]	Moderate[6]
	41C	6-12	.6-2.	Slight	Low	Moderate[1]	Moderate[1]	Moderate[1]	Moderate[8,10]	Severe[1,6]	Moderate[6]
	41D	12-18	.6-2.	Moderate	Low	Severe[1]	Severe[1]	Severe[1]	Severe[1,8,10]	Severe[1,6]	Severe[1,6]
Barnes	33B										
Busse	31C	6-12	.6-2.	Slight	Low	Moderate[1]	Moderate[1]	Slight	Mod.[1,8,10]	Severe[1]	
	31D	12-18	.6-2.	Moderate	Low	Severe[1]	Severe[1]	Moderate[1]	Severe[1,8,10]	Severe[1]	
	31E	18-25	.6-2.	Severe	Low	Severe[1]	Severe[1]	Severe[1]	Severe[1,8,10]	Severe[1]	
	31F	+25	.6-2.	Severe	Low	Severe[1]	Severe[1]	Severe[1]	Severe[1,8,10]	Severe[1]	
Clarion Complex	74B	2-6	Variable	Variable		Slight	Slight	Slight		Mod-Sev[1,6]	Moderate
	74C	6-12	Variable	Variable		Moderate[1]	Moderate[1]	Slight		Severe[1,6]	Moderate[A]
	74D	12-18	Variable	Variable		Severe[1]	Severe[1]	Moderate[1]		Severe[1,6]	Severe[A,F]
	74E	18-25	Variable	Variable		Severe[1]	Severe[1]	Moderate[1]		Severe[1,6]	Severe[A,F]
Darmen	94B										
Flom	36	0-2	.2-.6		Moderate	Severe[9]	Severe[9]	Severe[9]	Severe[9]	Severe[7]	Severe[6,7]
Fordville	39B	2-6	.6-6.		Moderate	Slight	Slight	Slight	Slight	Severe[5,6]	Slight
Forman	13B	2-6	.63-2.			Moderate[1,2]	Moderate[1,2]	Moderate[1,2]		Moderate[1,6]	Moderate[1,6]
Lamoure	20C	6-12	.2-.6		Moderate	Slight[1]	Moderate[1,2]	Moderate[2]	Severe[4]	Slight	Moderate[6]
Rauville	51		.06-2.			Severe[4,9]	Severe[4,9]	Severe[4,9]	Severe[4,7,9]	Severe[4,5,7,9]	Severe[4,5,7,9]
Sioux	42E	18-25	6.+		Low	Severe[1,2]	Severe[1,2]	Moderate[1,2]	Severe[1]	Severe[1]	Severe[1]

Soil Type	Map Code	Slope	Permeability*	Erosion Hazard	Potential Frost Action	Intensive		Paths and Trails	Recreation Buildings**	Sewage Lagoons	Septic Tank Filter Fields
						Picnic Areas	Camp Areas				
Sverdrup	27B	2-6 %	.2-.6	Slt-Mod	Low	Slight	Slight	Slight	Slight	Severe[6]	Slight[6]
Quam			.2-.6	Slight	High	Severe[2,6,9]	Severe[2,6,9]	Severe[2,6,9]	Severe[7,8,9]	Severe	Severe

LEGEND

*Permeability measured in inches per hour

**Based on buildings without basements

Soils data in the expansion area are incomplete.

[1]SLOPE

[2]SURFACE TEXTURE

[3]DEPTH TO BEDROCK

[4]FLOODING (DURATION & FREQUENCY)

[5]POLLUTION POTENTIAL

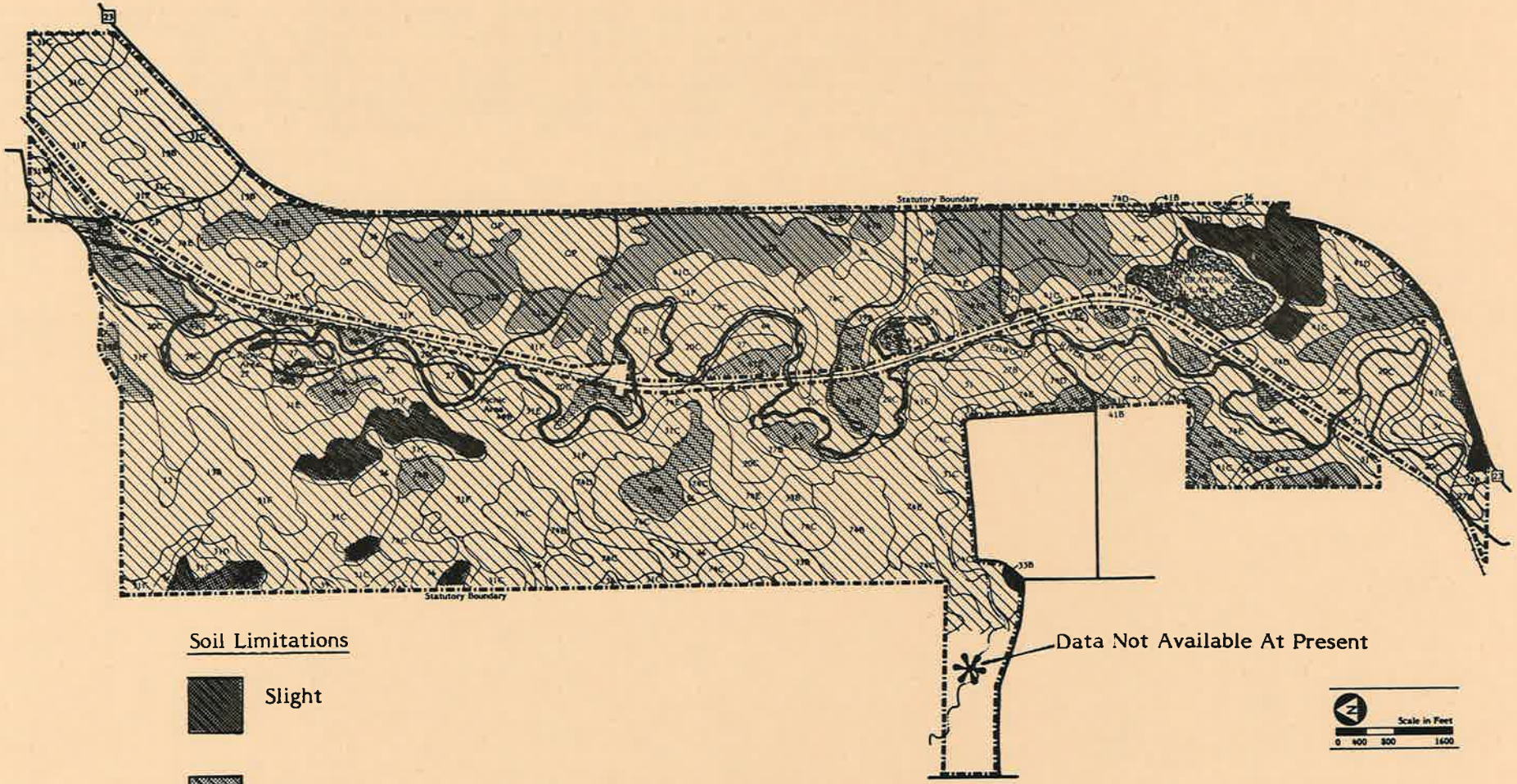
[6]PERMEABILITY

[7]WATER TABLE

[8]FROST ACTION

[9]DRAINAGE

[10]SHRINK-SWELL


Statutory Boundary
Statutory Boundary
Soil Limitations
Slight
Moderate
Severe
Data Not Available At Present
Scale in Feet
0 400 800 1600

- Specific Management

There is a need for two different types of soil management within the park: erosion control and gravel pit reclamation. The steep valley walls within the park are easily eroded. The most effective management technique will be to direct trail usage on these slopes to gradients and alignments which can withstand use without causing erosion. Other management techniques include: surfacing, construction of steps and retaining walls, blocking off eroded trails, and revegetation. Use of trails can be stopped by signing, providing better alternate alignments, or by staking brush down over trail alignments.

There are several gravel pits within the park which must be graded in order to visually blend them into the natural character of the park. This should be done as soon as the land has been acquired to ensure revegetation as quickly as possible.

VEGETATION

Inventory

Original Vegetation

Originally this whole area was covered with tall grass prairie except for the wooded river valleys.

Existing Vegetation

The hardwood vegetation within the Redwood River Valley offers a distinct and refreshing change from the farmland and prairie that surrounds it. The ecological communities identified within the park are:

Agricultural land
Bottomland hardwoods
Upland brush
Northern hardwoods
Old fields
Open woods
Dry prairie
Marsh
Big woods

Agricultural Land (AG)

These lands are seasonally tilled for raising cereal grains or row crops. Most of this land is still privately owned and is on the plateau near the border of the park.

Bottomland Hardwoods (BoT)

Much of the vegetation of the valley floor is bottomland hardwoods. This is a vegetational type composed primarily of American elm, green ash, cottonwood, silver maple, and willow. Most of the trees within this type are approaching maturity, although some younger stands can be found near Brawner Lake.

Upland Brush (BR)

Areas of this type are primarily vegetated with hazel, wolfberry, wild plum, and sumac. The largest area of this type is near Brawner Lake.

Northern Hardwoods (NoH)

These stands are characterized by sugar maple, red oak, basswood, green ash, and oak. Most of the terraces and steep slopes within the park are cloaked with this type of vegetation. Most of these stands are young, (three to nine inches in diameter), with scattered mature trees. In a few areas, the majority of trees are close to maturity.

Old Fields (OF)

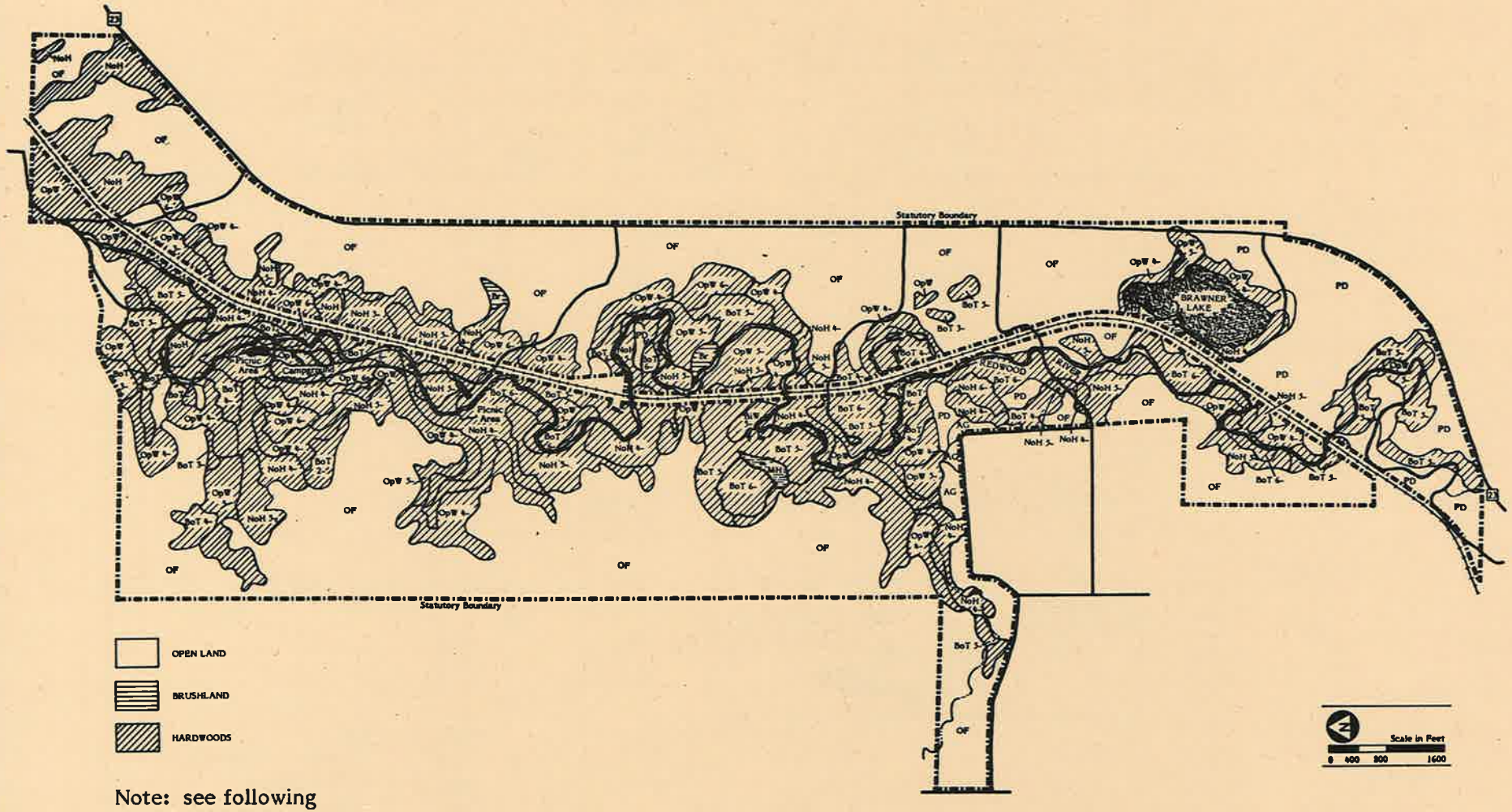
This land was formerly cultivated fields or was otherwise disturbed (e.g. gravel pits). Characteristic plant species include bluegrass, bromegrass, Russian thistle, alfalfa, and scattered, cottonwood and willow seedlings. Areas of this type can be found on the uplands bordering most of the park.

Open Woods (OpW)

The open woods areas are composed primarily of bur oaks, with a variety of other species intermixed. The oak are most often found on the dry soils near the crest of the valley.

Dry Prairie (PD)

Characteristic grasses in this species are big blue stem, side oats gramma, needle and thread, and blue gramma grasses. Originally, much of the land above the bluffs was vegetated with dry prairie grasses, but all of this area which was flat enough and had sufficient top soil was plowed for agricultural purposes. Those areas not used in this way were heavily grazed, yet some prairie plants survived. With time and management, prairie plants will be reestablished in these areas.



Note: see following page for map codes

Overstory Size and Density Code

	Size				
	1	2	3	4	5
Density	Seedlings (0-1"dbh) Trees/Acres	Saplings (1"-5" dbh) Trees/Acres	Poles (5"-9" dbh) Trees/Acres	Small Saw Timber (9"-15" dbh) Trees/Acres	Large Saw Timber (15"+ dbh) Trees/Acres
0	**	**	0-30	0-19	9-5
1	0-500	0-250	31-90	11-40	6-20
2	500-1,000	251-500	91-150	41-60	21-30
3	1,001-2,000	501-1,000	151-210	61-80	31-45
4	2,001-5,000	1,001-2,500	211-270	81-100	46-60
5	5,001-10,000	2,501-5,000	271-330	101-130	61-75
6	10,000-20,000	5,001-10,000	331-390	131-150	76-90
7	20,001-30,000	10,001-15,000	391-450	151-180	91-105
8	**	**	451-510	181-200	**
9	**	**	511+	201+	**

dbh - diameter/breast height
**Not a valid density code for these size classes

Ecological Community	
Map Code	
Ag	Agricultural Land
BiW	Big Woods
BoT	Bottomland Hardwoods
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MH	Marsh
NoH	Northern Hardwoods
OF	Old Fields
OpW	Open Woods
PD	Dry Prairie

Management

Objectives:

To retain or reestablish the vegetative cover of the majority of the park consistent with pre-European settlement vegetation patterns

To manage vegetation for spatial diversity

To manage vegetation for wildlife diversity

To manage vegetation in development areas to allow intensive use without resource deterioration

To manage vegetation to minimize erosion

• Specific Management

Map Code
(page 55)

1 Existing Vegetation: Upland Prairie

Proposed Management: Maintain

For miles around the Redwood River Valley, early settlers were confronted with seemingly endless prairie. Today, the only unplowed native prairie is on very steep slopes or the tops of rocky knolls. Fire, an important aspect of the prairie maintenance, has been suppressed. Fire must be reintroduced on these prairie remnants to allow the native prairie plant species to compete successfully with exotic and woody plant species. Spring burns every three to four years should be carried out on prairie remnants. Areas that have encroaching woody species should be burned every year if there is enough thatch to carry a hot fire. If undesirable suckering persists after several years, the use of a systemic herbicide should be considered.

2 Existing Vegetation: Old Field

Proposed Management: Establish Upland Prairie

These areas were originally upland prairie vegetation which should be reestablished. There are several alternative methods of reestablishing these plants in an old field area:

a. The most preferred, from a botanist's view, would be to allow the seed from the prairie remnants to naturally disperse in the old fields and eventually reestablish dominance. This method would take a long time and would allow noxious weeds to remain in the old field environments for an extended period of time.

b. Another alternative is to harvest seed from the existing remnant by hand, or mechanically, and seed the old field area. While maintaining the integrity of the local gene pool, this technique requires many man-hours. This will also require the old field area to remain unchanged for some time.

c. The third alternative is to buy seed from commercial distributors and seed all of the old field areas at one time. This technique will quickly reestablish the prairie grasses but will introduce a different gene pool into the area, eventually causing a change in the existing prairie plants. Although this change may be unnoticeable to the untrained eye, it is very important to the botanist.

d. Spread and disc prairie hay.

Alternative b appears to be the best answer for the requirements of this park. Because of the quality of existing prairies, it would be undesirable to introduce a new gene pool into the area or wait for years for natural prairie invasion after the seedlings have been established.

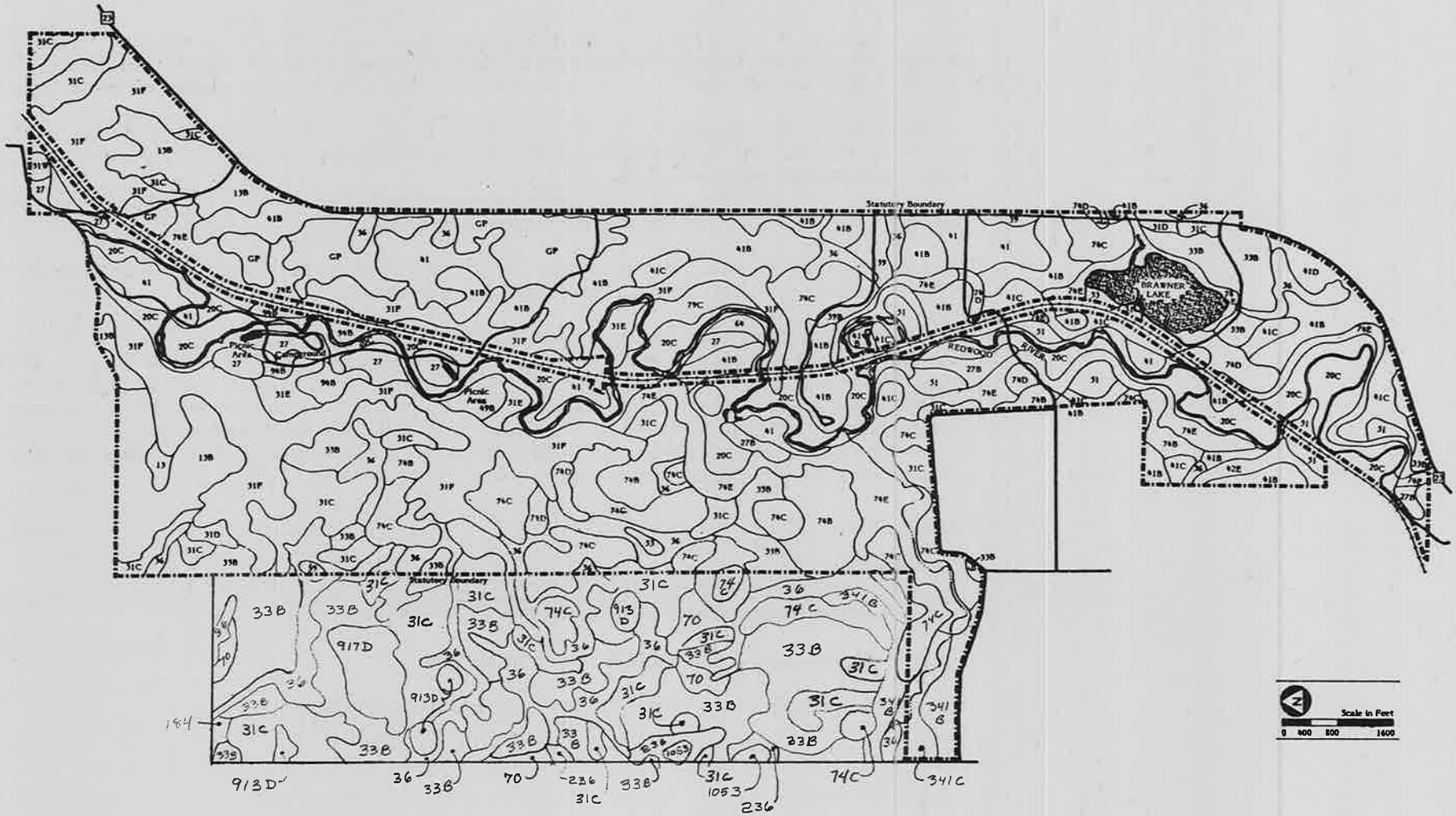
There are many difficulties in trying to mechanically harvest prairie seed from a native prairie. Most prairies are difficult to manage because they are too steep or rocky for machinery, the seeds are very fine and hard to separate with conventional equipment, and the prairie species seeds ripen at different times during the summer.

In Camden there are some prairie areas which are level enough and rock-free enough to allow the use of mechnical equipment. By cutting and distributing both the seed and the straw, the seed does not have to be separated. By harvesting several areas at different times during the year, the different species can be collected when the seeds are ripe.

The seed collection and planting process should proceed as follows:

a. Select level areas of well-established native prairie.

b. Select three to four dominant species to seed into a new area.



NOTE: See following page for map codes.

Soil Type	Map Code	Slope	Permeability*	Erosion Hazard	Potential Frost Action	Intensive		Paths and Trails	Recreation Buildings**	Sewage Lagoons	Septic Tank Filter Fields
						Picnic Areas	Camp Areas				
Sverdrup	27B	2-6 %	.2-.6	Slt-Mod	Low	Slight	Slight	Slight	Slight	Severe[6]	Slight[6]
Quam			.2-.6	Slight	High	Severe[2,6,9]	Severe[2,6,9]	Severe[2,6,9]	Severe[7,8,9]	Severe	Severe

LEGEND

*Permeability measured in inches per hour

**Based on buildings without basements

Soils data in the expansion area are incomplete.

[1]SLOPE

[2]SURFACE TEXTURE

[3]DEPTH TO BEDROCK

[4]FLOODING (DURATION & FREQUENCY)

[5]POLLUTION POTENTIAL

[6]PERMEABILITY

[7]WATER TABLE

[8]FROST ACTION

[9]DRAINAGE

[10]SHRINK-SWELL

- Specific Management

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The seed collection and planting process should proceed as follows:

a. Select level areas of well-established native prairie.

b. Select three to four dominant species to seed into a new area.

c. When the first of these species' seeds ripen, a strip of prairie vegetation should be harvested with a direct cut haylage chopper and deposited in a wagon.

d. Transfer the seed and straw to a blower mulcher (borrowed from the Department of Transportation) which will distribute the seed and straw across the old field area.

e. Continue cutting strips of the native prairie area as other species' seeds ripen and and distribute them across the area to be planted.

f. Early the next spring (April 15 - May 15), this area should be burned to establish the seed bed and to reduce competition from alien species.

If, after 4-5 years, this technique has not established a significant amount of prairie plant seedlings, a direct technique with purchased seed (preferably Minnesota grown) should be implemented. Once reestablished, the areas should be managed as Management Area No. 1.

3 Existing Vegetation Old Field (Abandoned Gravel Pits)

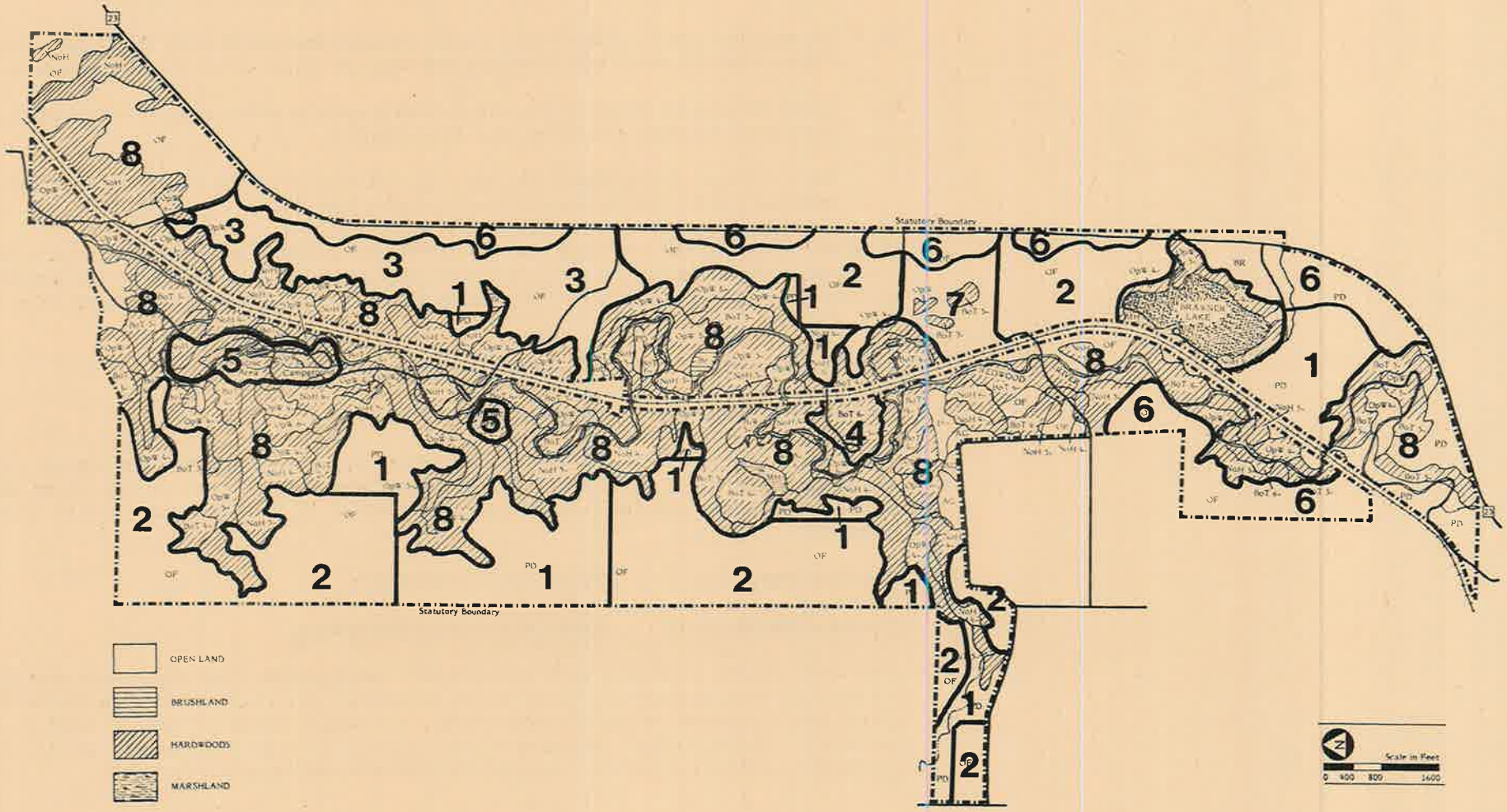
Proposed Management: Establish Upland Prairie

These areas need some ground form manipulation before managing the vegetation. After the sharp unnatural lines of the gravel pit have been molded and rounded, these areas should be managed as in 2 above. Potholes should be retained for wildlife habitat diversity.

4 Existing Vegetation: Bottomland Hardwoods

Proposed Management: Establish Northern Hardwoods

This area will be developed as a semi-modern campground. The vegetation should be managed to provide shade and between-site screening. A mixture of tree species such as green ash, basswood, walnut, black cherry, and silver maple should be used in the overstory. Between-site screening should consist of ironwood, sumac, prickly ash, gooseberry, and gray dogwood. Large plants should be used whenever possible.


Statutory Boundary
Statutory Boundary
OPEN LAND
BRUSHLAND
HARDWOODS
MARSHLAND
Scale in Feet
0 400 800 1600

5 Existing Vegetation: Bottomland Hardwoods

Proposed Management: Diseased and Hazardous Tree Removal

In these high-use areas, dead or dying elm trees can be a safety hazard and should be removed. Tree species appropriate for bottomland forest communities other than elm should be underplanted near concentrations of elm trees. Tree species planted could include: silver maple, green ash, cottonwood, basswood, and willows. Some islands of unmowed vegetation visually break up the picnic areas now, but some additional areas should be planted which further screen the parking lots and sections of the road.

6 Existing Vegetation: Old Field

Proposed Management: Prairie Edge

In order to maintain some visual privacy and reduce noise levels on the future prairie areas along CSAH 23, vegetative screens should be planted along the highway at points where the rolling hills do not screen the view. Prairie edge species such as sumac, hawthorn, aspen, American plum, bur oak, and red cedar should be used. Clumps of these species should be planted and the rest allowed to seed in naturally. Adjacent prairie management fires will be used to contain this area.

7 Existing Vegetation: Old Field, Bottomland Hardwoods, and Open Woods

Proposed Management: Passive

This area should be allowed to succeed, with minimal management, to an expected mixture of bottomland hardwoods, open brush, pioneer hardwoods, and northern hardwoods.

8 Existing Vegetation: Variable

Proposed Management: Passive

This area includes most of the hardwoods vegetation. Little direct management is proposed for this area except for the control of wildfire. Isolated areas will need ground cover revegetation to control erosion. This may necessitate occasional tree removal or trimming to allow sunlight to reach the forest floor.

WILDLIFE

Introduction

One of the most intriguing assets of any park is its resident wildlife. Many species are commonplace but unnoticeable because of their elusive or secretive behavior. For many visitors the mere awareness of the presence of wildlife is all that is needed to change a dull, uneventful walk through the brush into a challenging, refreshing stroll through nature's handiwork.

In order to provide such an experience for park users, detailed inventories of park wildlife are needed so that managers are better able to manage habitat to attract certain species or protect habitat which will ensure the continued presence of existing species.

The following wildlife inventory was based on checklists and reports submitted by local residents, birders, naturalists, area game managers, and park managers. The list is not all inclusive and will continue to be revised and updated as new data is reported. Therefore, additional detailed studies must be continued in those areas where management needs for wildlife have been identified.

Endangered, Threatened or Rare Species

Species within this group include those presently in danger of extinction in Minnesota within the immediate future; those which could become endangered in the foreseeable future in Minnesota, but not necessarily throughout their entire range; or those that once resided in Minnesota, but have been extirpated (driven out), or nearly so, because of changes in land and water use patterns.

There are no known species in the park which are endangered, threatened, or rare.

Species of Special Interest

Species within this group are uncommon or locally distributed in Minnesota and are not presently threatened or endangered, but might become so. Also included are those species which presently are not in any particular difficulty, but which should be closely watched because they have unusual or special values, are of special public interest, or because their habitat is especially vulnerable. Special management may be required.

There are no known species in the park which are of special interest.

Troublesome Species

Troublesome species include wildlife which, as individuals or populations, might be detrimental to the natural resources of a park, park property, or park visitors.

Species	Potential Problems
White-tailed deer	Overbrowsing vegetation
Beaver	Overutilization of vegetation and trout stream damming
Raccoon	Raiding garbage cans

Most reptiles and amphibians, because of their appearance and because of the learned prejudicial fears of the general public, are usually not favorably accepted.

Sensitivity to Humans

These species are those which are unusually sensitive to disturbance by human activity. Disturbance during one season or another may result in nest or den abandonment, change in territorial size, or shift in territorial movement. Such disturbance might be detrimental to the survival of the species in a given area or may have effects over a much larger area.

Red fox is the only species in the park which is unusually sensitive to humans.

DEFINITIONS

Abundant - Trained observer may see several individuals in one day during the residency period of the species.

Common - Trained observer may see one or more individuals in one day.

Uncommon - Trained observer may see one individual in the course of one summer.

Rare - Species normally not observed by the trained observer.

Endangered - Listed in the Federal Register as a threatened or endangered species.

Unknown - Abundance of an individual species in a given park has not been determined.

Permanent Resident - Resident in the park area on a year-around basis.

Summer Resident - Only found in the park area during the summer months, presence may or may not indicate breeding activity.

Migrant - Normally found in the park area only during the spring or fall migratory season.

Winter Visitant - Normally found in the park area only during the winter months.

Uncertain - Seasonal occurrence status is not known for the species in the park area.

Seasonal Inactive - Species is seasonally inactive in the park area and may enter dormancy, hibernation,or aestivation.

FOUND IN PARK	SPECIES	ABUNDANCE: ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	SUMMER RESIDENT	MIGRANT	WINTER VISITANT	SEASONALLY INACTIVE	UNCERTAIN
	Common Loon												
	Red-throated Loon												
	Red-necked Grebe												
	Horned Grebe												
●	Eared Grebe						●						●
	Western Grebe												
●	Pied-billed Grebe						●						●
	White Pelican												
	Double-crested Cormorant												
●	Great Blue Heron						●						●
●	Green Heron						●						●
	Cattle Egret												
●	Great Egret						●						●
●	Black-crowned Night Heron						●						●
	Yellow-crowned Night Heron												
	Least Bittern												
●	American Bittern						●						●
	Whistling Swan												
	Canada Goose												
	White-fronted Goose												
	Snow Goose												
●	Mallard						●						●
	Black Duck												
●	Gadwall						●						●
●	Pintail						●						●
	Green-winged Teal												
●	Blue-winged Teal						●						●
	American Wigeon												
●	Northern Shoveler						●						●
●	Wood Duck						●						●
●	Redhead						●						●
	Ring-necked Duck												
●	Canvasback						●						●
	Greater Scaup												
	Lesser Scaup												
	Common Goldeneye												
	Bufflehead												
	Oldsquaw												
	Harlequin Duck												
	White-winged Scoter												
	Surf Scoter												
	Black Scoter												
●	Ruddy Duck						●						●
	Hooded Merganser												
	Common Merganser												
	Red-breasted Merganser												
	Turkey Vulture												
	Goshawk												
	Sharp-shinned Hawk												
	Cooper's Hawk												
●	Red-tailed Hawk						●						●

FOUND IN PARK	SPECIES	RELATIVE ABUNDANCE: ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	SEASONAL OCCURRENCE: PERMANENT RESIDENT	SUMMER RESIDENT	MIGRANT	WINTER VISITANT	SEASONALLY INACTIVE	UNCERTAIN
	Red-shouldered Hawk												
	Broad-winged Hawk												
	Swainson's Hawk												
	Rough-legged Hawk												
	Ferruginous Hawk												
	Golden Eagle												
	Bald Eagle												
	Marsh Hawk												
	Osprey												
	Peregrine Falcon												
	Merlin												
●	American Kestrel						●						●
	Spruce Grouse												
	Ruffed Grouse												
	Greater Prairie Chicken												
	Sharp-tailed Grouse												
	Bobwhite												
●	Ring-necked Pheasant						●						●
	Chukar												
●	Gray Partridge						●						●
	Sandhill Crane												
	King Rail												
	Virginia Rail												
	Sora												
	Yellow Rail												
	Common Gallinule												
●	American Coot						●						●
	Semipalmated Plover												
	Piping Plover												
●	Killdeer						●						●
	American Golden Plover												
	Black-bellied Plover												
	Ruddy Turnstone												
	American Woodcock												
	Common Snipe												
	Whimbrel												
●	Upland Sandpiper						●						●
	Spotted Sandpiper												
	Solitary Sandpiper												
	Greater Yellowlegs												
	Lesser Yellowlegs												
	Willet												
	Red Knot												
	Pectoral Sandpiper												
	White-rumped Sandpiper												
	Baird's Sandpiper												
	Least Sandpiper												
	Dunlin												
	Semipalmated Sandpiper												
	Western Sandpiper												

FOUND IN PARK	SPECIES	ABUNDANCE						OCCURRENCE						
		ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	SUMMER RESIDENT	MIGRANT	WINTER VISITANT	SEASONALLY INACTIVE	UNCERTAIN	
	Short-billed Dowitcher													
	Long-billed Dowitcher													
	Stilt Sandpiper													
	Buff-breasted Sandpiper													
	Marbled Godwit													
	Hudsonian Godwit													
	American Avocet													
	Wilson's Phalarope													
	Northern Phalarope													
	Parasitic Jaeger													
	GlaucousGull													
◐	Herring Gull						●					●		
◐	Ring-billed Gull		●									●		
◐	Franklin's Gull		●									●		
	Bonaparte's Gull													
	Forster's Tern													
	Common Tern													
	Caspian Tern													
	Black Tern													
◐	Rock Dove		●									●		
◐	Mourning Dove	●										●		
	Yellow-billed Cuckoo													
	Black-billed Cuckoo													
	Screech Owl													
	Great Horned Owl													
	Snowy Owl													
	Hawk-Owl													
	Burrowing Owl													
◐	Barred Owl						●					●		
	Great Gray Owl													
	Long-eared Owl													
	Short-eared Owl													
	Saw-whet Owl													
	Whip-poor-will						●					●		
◐	Common Nighthawk													
	Chimney Swift													
	Ruby-throated Hummingbird													
	Belted Kingfisher													
◐	Common Flicker						●					●		
	Pileated Woodpecker													
	Red-bellied Woodpecker													
◐	Red-headed Woodpecker						●					●		
	Yellow-bellied Sapsucker													
	Hairy Woodpecker													
	Downy Woodpecker													
	Black-backed 3-toed Woodpecker													
	Northern 3-toed Woodpecker													
	Eastern Kingbird													
◐	Western Kingbird						●					●		
	Great Crested Flycatcher													
	Eastern Phoebe													

FOUND IN PARK	SPECIES	RELATIVE ABUNDANCE							SEASONAL OCCURRENCE				
		ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	SUMMER RESIDENT	MIGRANT	WINTER VISITANT	SEASONALLY INACTIVE	UNCERTAIN
	Yellow-bellied Flycatcher												
	Acadian Flycatcher												
	Willow Flycatcher												
	Alder Flycatcher												
	Least Flycatcher												
	Eastern Wood Pewee												
	Olive-sided Flycatcher												
●	Horned Lark						●					●	
	Tree Swallow												
	Bank Swallow												
	Rough-winged Swallow												
●	Barn Swallow						●					●	
	Cliff Swallow												
●	Purple Martin						●					●	
	Gray Jay												
●	Blue Jay						●					●	
	Black-billed Magpie												
	Common Raven												
●	Common Crow						●					●	
●	Black-capped Chickadee						●					●	
	Boreal Chickadee												
	Tufted Titmouse												
	White-breasted Nuthatch												
	Red-breasted Nuthatch												
	Brown Creeper												
	House Wren												
	Winter Wren												
	Long-billed Marsh Wren												
	Short-billed Marsh Wren												
	Mockingbird												
●	Gray Catbird						●					●	
	Brown Thrasher												
●	American Robin						●					●	
	Varied Thrush												
	Wood Thrush												
	Hermit Thrush												
	Swainson's Thrush												
	Gray-cheeked Thrush												
	Veery												
	Eastern Bluebird												
	Blue-gray Gnatcatcher												
	Golden-crowned Kinglet												
	Ruby-crowned Kinglet												
	Water Pipit												
	Sprague's Pipit												
	Bohemian Waxwing												
	Cedar Waxwing												
	Northern Shrike												
●	Loggerhead Shrike						●					●	
	Starling												

FOUND IN PARK	SPECIES	ABUNDANCE						OCCURRENCE					
		ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	SUMMER RESIDENT	MIGRANT	WINTER VISITANT	SEASONALLY INACTIVE	UNCERTAIN
	Yellow-throated Vireo												
	Solitary Vireo												
	Red-eyed Vireo												
	Philadelphia Vireo												
	Warbling Vireo												
	Black-and-white Warbler												
	Prothonotary Warbler												
	Golden-winged Warbler												
	Blue-winged Warbler												
	Tennessee Warbler												
	Orange-crowned Warbler												
	Nashville Warbler												
	Northern Parula												
	Yellow Warbler												
	Magnolia Warbler												
	Cape May Warbler												
	Black-throated Blue Warbler												
	Yellow-rumped Warbler												
	Black-throated Green Warbler												
	Cerulean Warbler												
	Blackburnian Warbler												
	Chestnut-sided Warbler												
	Bay-brested Warbler												
	Blackpoll Warbler												
	Pine Warbler												
	Palm Warbler												
	Ovenbird												
	Northern Waterthrush												
	Louisiana Waterthrush												
	Connecticut Warbler												
	Mourning Warbler												
	Common Yellowthroat												
	Wilson's Warbler												
	Canada Warbler												
	American Redstart												
	House Sparrow												
●	Bobolink						●					●	
	Eastern Meadowlark												
●	Western Meadowlark						●					●	
	Yellow-headed Blackbird												
●	Red-winged Blackbird						●					●	
	Orchard Oriole												
●	Northern Oriole						●					●	
●	Rusty Blackbird						●					●	
●	Brewer's Blackbird						●					●	
●	Common Grackle						●					●	
●	Brown-headed Cowbird						●					●	
	Scarlet Tanager												
	Cardinal												
	Rose-breasted Grosbeak												
	Blue Grosbeak												

FOUND IN PARK	SPECIES	RELATIVE ABUNDANCE						SEASONAL OCCURRENCE					
		ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	SUMMER RESIDENT	MIGRANT	WINTER VISITANT	SEASONALLY INACTIVE	UNCERTAIN
	Indigo Bunting												
●	Dickcissel						●						●
	Evening Grosbeak												
	Purple Finch												
	Pine Grosbeak												
	Hoary Redpoll												
	Common Redpoll												
	Pine Siskin												
	American Goldfinch												
	Red Crossbill												
	White-winged Crossbill												
	Rufous-sided Towhee												
	Lark Bunting												
	Savannah Sparrow												
●	Grasshopper Sparrow						●						●
	Henslow's Sparrow												
	Le Conte's Sparrow												
	Sharp-tailed Sparrow												
	Vesper Sparrow												
	Lark Sparrow												
	Dark-eyed Junco												
	Tree Sparrow												
	Chipping Sparrow												
	Clay-colored Sparrow												
●	Field Sparrow						●						●
●	Harris' Sparrow						●						●
	White-crowned Sparrow												
	White-throated Sparrow												
	Fox Sparrow												
	Lincoln's Sparrow												
	Swamp Sparrow												
	Song Sparrow												
●	Lapland Longspur						●						●
	Smith's Longspur												
	Chestnut-collared Longspur												
	Snow Bunting												

FOUND IN PARK	SPECIES	ABUNDANCE					OCCURRENCE						
		ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	SUMMER RESIDENT	MIGRANT	WINTER VISITANT	SEASONALLY INACTIVE	UNCERTAIN
	Opossum												
	Eastern Mole												
	Star-nose Mole												
	Cinerous Shrew												
	Richardson Shrew												
	Water Shrew												
	Pygmy Shrew												
	Least Shrew												
	Short-tailed Shrew												
	Little Brown Bat												
	Keen Myotis												
	Big Brown Bat												
	Pipistrelle Bat												
	Silver-haired Bat												
	Red Bat												
	Hoary Bat												
●	White-tailed Jackrabbit						●	●					
	Snowshoe Hare												
●	Eastern Cottontail Rabbit						●	●					
●	Woodchuck						●	●					
	Richardson's Ground Squirrel												
●	Thirteen-lined Ground Squirrel						●	●					
	Franklin Ground Squirrel												
	Least Chipmunk												
	Eastern Chipmunk												
	Red Squirrel												
	Eastern Gray Squirrel												
	Fox Squirrel												
	Southern Flying Squirrel												
	Northern Flying Squirrel												
	Northern Pocket Gopher												
	Plains Pocket Gopher												
	Pocket Mouse												
●	Beaver	●						●					
	Western Harvest Mouse												
	Northern Grasshopper Mouse												
	Prairie Deer Mouse												
	Woodland Deer Mouse												
	White-footed Mouse												
	Bog Lemming												
	Northern Bog Lemming												
	Boreal Redback Vole												
	Meadow Vole												
	Rock Vole												
	Prairie Vole												
	Pine Vole												
●	Muskrat						●	●					
	Norway Rat												
●	House Mouse						●	●					
	Meadow Jumping Mouse												
	Woodland Jumping Mouse												

FOUND IN PARK	SPECIES	RELATIVE ABUNDANCE: ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	SEASONAL OCCURRENCE: SUMMER RESIDENT	MIGRANT	WINTER VISITANT	SEASONALLY INACTIVE	UNCERTAIN
	Porcupine												
	Black Bear												
●	Raccoon						●	●					
	Fisher												
	Marten												
	Short-tailed Weasel												
	Long-tailed Weasel												
	Least Weasel												
●	Mink						●	●					
	River Otter												
	Spotted Skunk												
●	Striped Skunk						●	●					
	Badger												
●	Red Fox						●	●					
	Gray Fox												
	Coyote												
	Timber Wolf												
	Canada Lynx												
	Bobcat												
●	White-tailed Deer		●					●					
	Moose												

FOUND IN PARK	SPECIES	RELATIVE ABUNDANCE: ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	SEASONAL OCCURRENCE: PERMANENT RESIDENT	SUMMER RESIDENT	MIGRANT	WINTER VISITANT	SEASONALLY INACTIVE	UNCERTAIN
●	Common Snapping Turtle						●				●		
	Wood Turtle												
	Map Turtle												
●	Western Painted Turtle						●				●		
	Blanding's Turtle												
	False Map Turtle												
	Western Spiny Softshell												
	Eastern Spiny Softshell												
	Northern Prairie Skink												
	Five-lined Skink												
	Six-lined Racerunner												
	Northern Red-bellied Snake												
	Texas Brown Snake												
	Northern Water Snake												
	Eastern Plains Garter Snake												
	Eastern Garter Snake												
	Red Sided Garter Snake												
	Plains Hognose Snake												
	Eastern Hognose Snake												
	Blue Racer												
	Eastern Smooth Green Snake												
	Western Smooth Green Snake												
	Bullsnake												
	Western Fox Snake												
	Black Rat Snake												
	Eastern Milk Snake												
	Eastern Massasauga												
	Timber Rattlesnake												
	Mudpuppy												
	Central Newt												
	Jefferson Salamander												
	Eastern Tiger Salamander												
	Gray Tiger Salamander												
	Red-backed Salamander												
	Dakota Toad												
	American Toad												
	Great Plains Toad												
	Northern Spring Peeper												
	Eastern Gray Treefrog												
	Blanchard's Cricket Frog												
	Boreal Chorus Frog												
	Western Chorus Frog												
	Pickerel Frog												
	Mink Frog												
●	Northern Leopard Frog						●					●	
	Green Frog												
	Wood Frog												

Management

Objectives:

To maintain a diverse native wildlife population

To reintroduce, where practicable, species that were present in the general area of the park before European settlement

To provide opportunities for park visitors to observe wildlife and learn more about their habits and habitat

To control the size of the deer herd in the park

To maintain beaver population according to the carrying capacity of the park

Specific Management

By maintaining a large area in a prairie/hardwood forest edge condition, (see recommendation 6, page 56), the desirable habitat for a variety of wildlife species will be provided. Reestablishing large tracts of prairie vegetation will provide habitat for wildlife species native to the prairie.

Beaver are the only overpopulated species at present. The entire length of the Redwood River within the park has signs of beaver activity. They have cut trees and built dams along the edge of the picnic grounds. Although some beaver activity within the park is desirable, the existing numbers must be reduced to protect the valley's tree cover and trout habitat. Reduction of the beaver population can be accomplished either by live trapping and moving them, or by allowing a private trapper to harvest a percentage of the population.

There is not a current deer overpopulation, but the park is a favorite wintering area for deer. The designation of the area around Brawner Lake as a wildlife management area should allow for the harvest of sufficient numbers of deer to stabilize the population growth. If this transfer does not occur, this portion of the park should be opened to hunting as necessary to control the deer population.

Source:

Moyle, John B. 1975. The uncommon ones. Minnesota Department of Natural Resources.

USER ANALYSIS

Introduction

Careful consideration must be given to future needs of the park user. Although a great deal of data exist concerning disparate elements of the subject, no comprehensive authoritative study on recreational tourism demand in Minnesota is currently available. Trends in travel patterns are discernible, but estimates of the time period over which this demand will develop and of its magnitude are only speculative at this time. Furthermore, published data largely document what people have done in the past. Only if it is assumed that these trends will continue can valid conclusions be drawn. Obviously, these data are not sensitive to any unpredictable technological changes or political events. For example, the oil embargo created an "energy crisis" overnight. This development and its implications have had a direct impact upon travel patterns.

There are two basic aspects of recreational demand. The first involves measurement of the amount and kind of recreational opportunities/facilities currently demanded by the public (e.g., the size of the park or the number of campsites). The second aspect involves an estimate of latent demand for recreational opportunities/facilities which would exist if citizens were given ample opportunity and adequate conditions to participate in an activity (e.g., the number of handicapped campers that would have utilized campsites if the architectural barriers to their use had been removed).

In the planning for the use and development of state parks, an attempt has been made to anticipate the recreational needs of the public by providing increased recreational opportunities while protecting the park's natural resources.

This section of the plan will evaluate Camden's past use and future anticipated use as well as make appropriate recommendations concerning the parks recreational facilities.

Statewide Analysis

Minnesota's population in 1970 was 3,805,000. The Population Distribution Map (page 12) indicates distribution of residents throughout the state in that year. The heaviest population concentration is in the Twin Cities metropolitan area. Other important urban centers include Duluth-Superior, Fargo-Moorhead, Rochester, St. Cloud, and Austin-Albert Lea.

Minnesota covers approximately 84,000 square miles, of which nearly 4,000 miles is water. More than 12,000 lakes of ten acres or more in size are scattered across the landscape, thousands of miles of rivers and streams wind through the state, and approximately 19 million acres of land are forested. These waters and forests, coupled with seasonal changes and abundant wildlife, form a unique resource base providing outstanding recreational opportunities.

Not all of Minnesota is appreciated the same way. For instance, one person might prefer a forest experience over a prairie experience or vice versa. One thing is clear: when a significant portion of the population identifies an area as a vacation destination, it is the result of a complex process of positive reinforcement between lodging facilities, natural resources, and other supporting businesses. It would appear that those areas offering the greatest diversity of opportunities receive the greatest use.

The Department of Economic Development (DED) has divided the state into six tourism regions- Arrowhead, Heartland, Metroland, Hiawathaland, Pioneerland, and Vikingland (See Tourism Regions Map, page 74). The number of lodges and motels within a given area are an important indicator of its attractiveness. The rank order of the regions based upon total overnight lodging capacity is as follows: Metroland (399,719), Arrowhead (192,842), Hiawathaland (136,519), Pioneerland (129,374), Heartland (88,018), and Vikingland (74,752). When this capacity is compared on a per capita basis, their rank order changes dramatically - Arrowhead (50%), Hiawathaland (34%), Heartland (29%), Vikingland (26%), Pioneerland (25%), and finally Metroland (21%).

Another measure of regional attractiveness is tourist travel expensitures. Using sales and use as data, the DED has estimated that $996,000,000 was spent within Minnesota in tourism-related activities in 1974. Although there are some exceptions (notably Olmsted and Mower counties), counties having in excess of $10,000,000 of tourist-travel expenditures were located in the northern two-thirds of the state. Generally, this trend was strengthened by data showing that northern counties had expenditures, as a percent of county gross sales, above the state average. (See Tourism Travel Map, page 74). Both measurements, lodging units per capita and tourist-travel expenditures, indicate heavy recreational use in the northern portion of the state.

A 1974 opinion survey of residents within the 10-county Twin City area conducted by the Minneapolis Star and Tribune showed that, for Twin City residents, the northern half of the Arrowhead region, which includes St. Louis, Itasca, Koochiching, Lake, and Cook counties, is the most popular vacation area in the state. Thirty-eight percent of those planning a vacation of a week or more and 39% of those planning a vacation of less than a week in the state said they planned to vacation in that area. Second in popularity was the southern Heartland region (Crow Wing, Mille Lacs, Sherburne, Benton, Stearns, Morrison, and Todd counties). Twenty-five percent of those planning both long and short vacations said they would vacation in southern Heartland.

Regional Considerations

Pioneerland is not a prime tourism destination area (see Vacation Destination Survey, page 73). Although there are 27 counties in this region, only four have significant tourism. Kandiyohi, Lyon, Nobles, and Nicollet counties had tourist-travel expenditures as a percent of county gross sales that was above the state average. Kandiyohi County in 1974 had tourist-travel expenditures over $10,000,000. Only Kandiyohi, Nobles, and Nicollet counties had tourist-travel expenditures per county resident above the state average.

Curiously enough, state park use is growing at a faster rate here than in other regions within Minnesota. In 1976, an estimated 1,065,586 visitor-days were registered in the parks within Pioneerland (see Minnesota State Park Attendance Summary, page 73).

The Minnesota 1974 State Park Users Survey indicates that parks which attract visitors from within 50 miles are primarily located in southern Minnesota.

The 1974 Statewide Comprehensive Outdoor Recreation Plan has identified significant deficiencies in outdoor recreational opportunities in Region 8, which includes Cottonwood, Jackson, Lincoln, Lyon, Murray, Nobles, Pipestone, Redwood, and Rock counties. Swimming, camping, picnicking, snowmobiling, and hiking opportunities are all judged to be deficient.

Although local emphasis may be given to park development, such improvements must be consistent with state park criteria.

SCORP Identified Facility and Land Deficiencies (-) or Surpluses (+) in Region 8*

	Swimming (Water Acres/Land Acres)	Camping (Sites/Acres)	Picnicking (Tables/Acres)	Trails (Miles/Acres)	
				Snowmobiling	Hiking
1975	-0.2/-2	-338/-84	-216/-22	-221/-884	-84/-336
1980	-1.6/-16	-571/-143	-308/-31	Not Projected	Not Projected
1990	-2.9/-29.0	-866/-216	-315/-32	Not Projected	Not Projected

*Each facility/land deficiency or surplus is described by two different criteria. For example, in 1975 Region 8 was deficient by either 0.2 acres of water or 2 acres of land (beach) in terms of swimming facilities.

Vacation Destination Survey

Planned Destination	One Week or Longer	Less than One Week
North Arrowhead	38%	39%
South Arrowhead	6%	7%
North Heartland	11%	9%
South Heartland	25%	25%
North Vikingland	6%	4%
South Vikingland	7%	9%
Pioneerland	4%	8%
Hiawathaland	3%	8%
Metroland	2%	3%
Don't know/undecided	6%	12%
	108%*	125%*

*Does not total 100% because some respondents named more than one area.

Because this survey was conducted within the Twin Cities, travel preference data for Metroland as a destination is distorted.

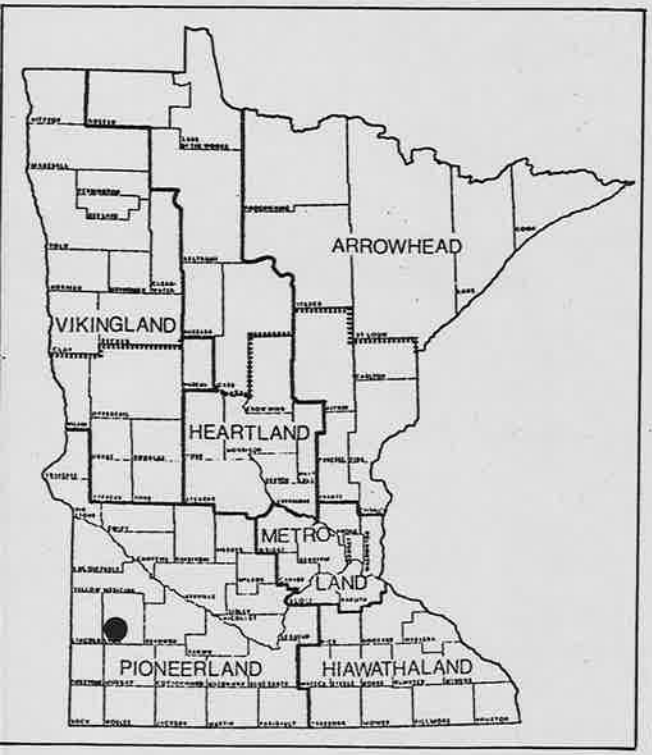
Minnesota State Park Attendance Summary

	1975	1976	Percent Change
Arrowhead*	2,350,055	2,052,799	-12.6%
Metroland	704,725	807,351	+14.6%
Pioneerland	931,706	1,065,586	+14.4%
Heartland*	333,440	331,178	-.7%
Hiawathaland**	476,608	585,536	+22.9%
Vikingland	960,239	936,311	-2.6%
Total	5,756,773	5,778,761	-1.3%

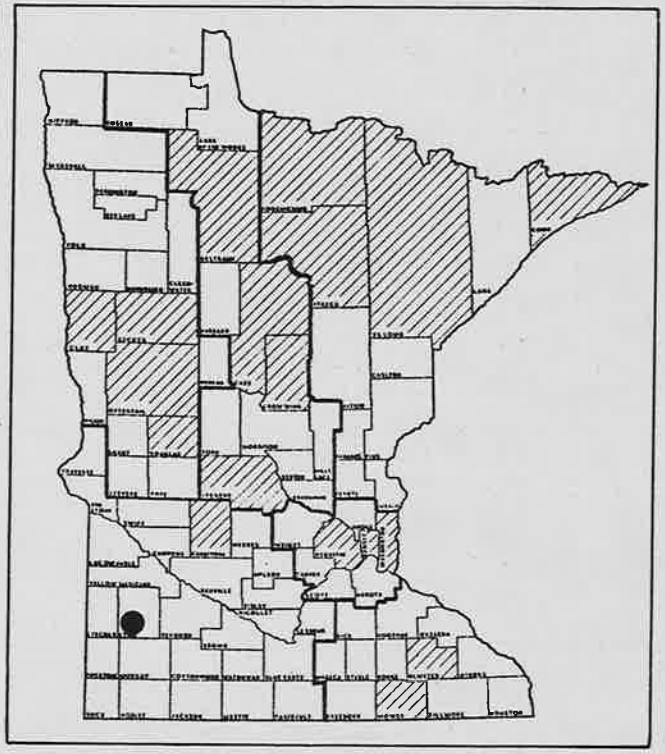
*Most parks close September 10 to October 22 because of a fire ban.

**Whitewater State Park experienced flooding during 1975 season resulting in a drop in attendance of approximately 100,000. This has affected the total regional picture.

TOURISM REGIONS MAP

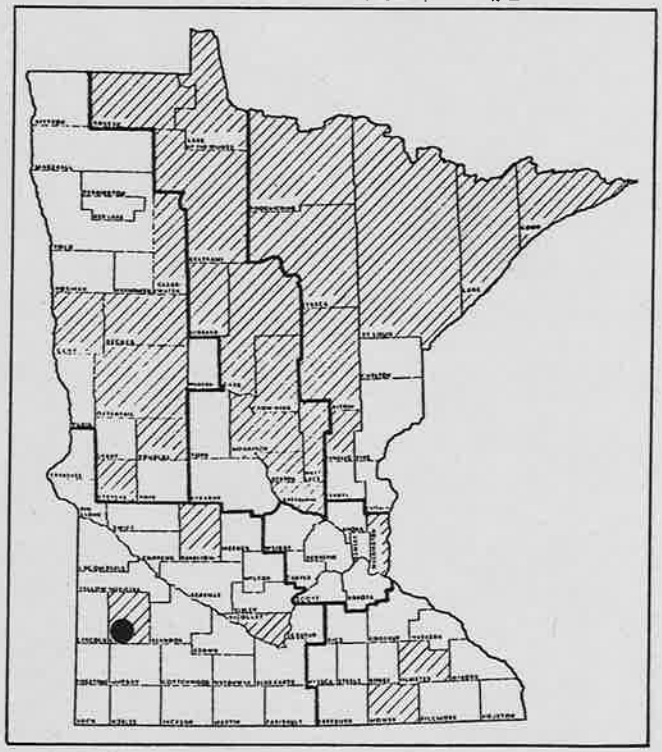


TOURISM-TRAVEL MAP #1



Minnesota Counties with Estimated Tourist-Travel Expenditures of $10,000 and Over in 1974

TOURISM-TRAVEL MAP #2



Minnesota Counties with Tourist-Travel Expenditures as Percent of County Gross Sales above State Average.

Origin Of Visitors Profiles For Minnesota State Parks Within Pioneerland

Park Name	50-Mile-Radius Visitors	% of Other Visitors	Out-of-State Residents
Blue Mounds	47%	21%	31%
Camden	81	11	8
Flandrau	52	35	14
Fort Ridgely	62	36	4
Lac Qui Parle	70	23	8
Lake Shetek	35	28	35
Minneopa	48	34	18
Sibley	58	31	11
Split Rock Creek	61	17	23

Note: figures may not total 100% because of rounding off of figures.

Sources:

Minnesota Department of Economic Development. 1975. Minnesota tourism news. Vol. 2 and 3. Tourism Division.

Minnesota Department of Economic Development. 1975. The economic distribution of tourist travel expenditures in Minnesota by regions and counties. St. Paul.

Minnesota Department of Natural Resources. 1974. Minnesota state comprehensive outdoor recreation plan. Bureau of Environmental Planning and Protection. St. Paul.

Minnesota Department of Natural Resources. State park attendance figures, unpublished figures. Division of Parks and Recreation. St. Paul.

United States Department of Interior. 1975. Assessing demand for outdoor recreation. Bureau of Outdoor Recreation.

University of Minnesota. 1976. Lodging industry data for Minnesota counties. Agricultural Extension Service. St. Paul.

DEVELOPMENT

Existing Development

The following is a list of existing developments within Camden State Park.

Semi-Modern Campground

- 36 Campsites (6 with electricity)
- Sanitation Building (with showers and flush toilets)
- Drinking water

Brawner Lake Access

- Informal parking lot

Primitive Group Camp

- 200-person capacity
- Pit toilets
- Drinking water

Riverview (lower) Picnic Ground

- Enclosed shelter
- 100 tables
- Modern sanitation facilities
- Drinking water

White Lodge (upper) Picnic Ground

- Enclosed shelter
- 80 tables
- 175 car parking lot
- Modern sanitation facilities
- Drinking water

Trails

Interpretive	1 mile
Hiking	9 miles
Horseback Riding	4 miles
Snowmobiling	6 miles
Ski Touring	3 miles

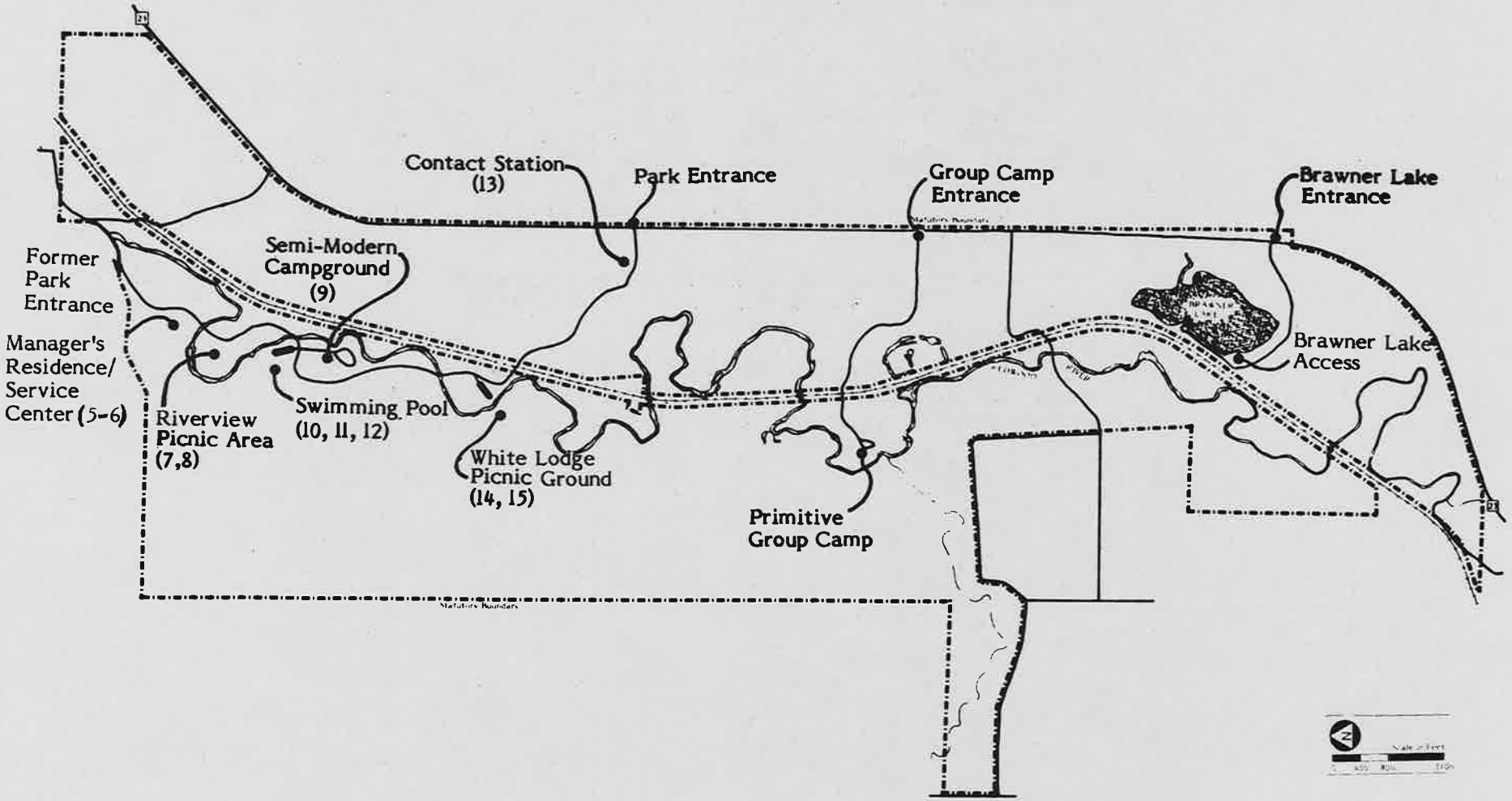
Swimming Pool

- Vault toilets
- Refreshment stand
- Changing rooms

Building Inventory

Map Key	Building Description	Outside Dimension	Construction	Date Built	Condition of Building*
1	Residence	18' x 32' - 20' x 23'	Stone and Frame	1935	Fair
2	Garage	27' x 38'	Stone and Frame	1935	Fair
3	Oil House	9' x 9'	Frame	1955	Good
4	Garage and Storage	22' x 40'	Stone and frame	1935	Poor
5	Lumber Shed	16' x 27'	Frame	1971	Fair-Poor
6	Storage Shed	16' x 22'	Frame	1935	Poor
7	Shelter	24' x 43'	Stone and Frame	--	Good
8	Sanitation Building	15' x 29'	Stone and Frame	1935	Good
9	Sanitation Building	12' x 26'	Frame	1965	Good
10	Refectory and Changing Rooms	15' x 52' - 23' x 56'	Stone and Frame	--	Fair-Poor
11	Sanitation Building	12' x 24'	Frame	1965	Good
12	Seasonal Residence	14' x 22'	Frame	1935	Poor
13	Temporary Contact Station	15' x 21'	Frame	1971	Fair
14	Shelter	24' x 60'	Frame	1967	Good
15	Sanitation Building	---	Frame	--	Good

*As rated by Orville Stensgard, Building Maintenance Supervisor, DNR, as of January 1975.



Numbers refer to Building Inventory, p.**78.**

PROPOSED DEVELOPMENT

Introduction

Development in Camden is limited by the terrain and vegetation. Most park users desire a cool, shaded environment for summer recreation. The east and west sides of this park are primarily open prairie. A prairie environment is good for hiking in early spring and fall. However, it is not particularly inviting for camping or picnicking in the summer because of its hot and windy character.

Since the valley walls are steep, erosion susceptibility precludes most uses except carefully located and constructed trails.

The valley floor provides a shaded, cool environment preferred by most park users, but because of the Burlington Northern Railway track, it is not possible to locate development within the valley away from the negative impacts of the trains.

The following proposed new development attempts to reduce the amount of impact the railroad has on park use. Grade-separated railroad crossings will be provided where possible. Where an on-grade vehicle crossing is necessary a semaphore (controlled crossing) is proposed.

Objectives:

To restrict development according to the final zoning map (see Zoning Section) in order to preserve the park's resources

To organize the park so that visitors enter and leave the park through a controlled entrance

To separate incompatible recreational activities

To provide a suitable atmosphere for park visitors to relax, enjoy, and learn about the natural resources within the park

To limit facility developments to those which are necessary for management, appropriate park use, and enjoyment

To provide access for the handicapped to the major facilities within the park

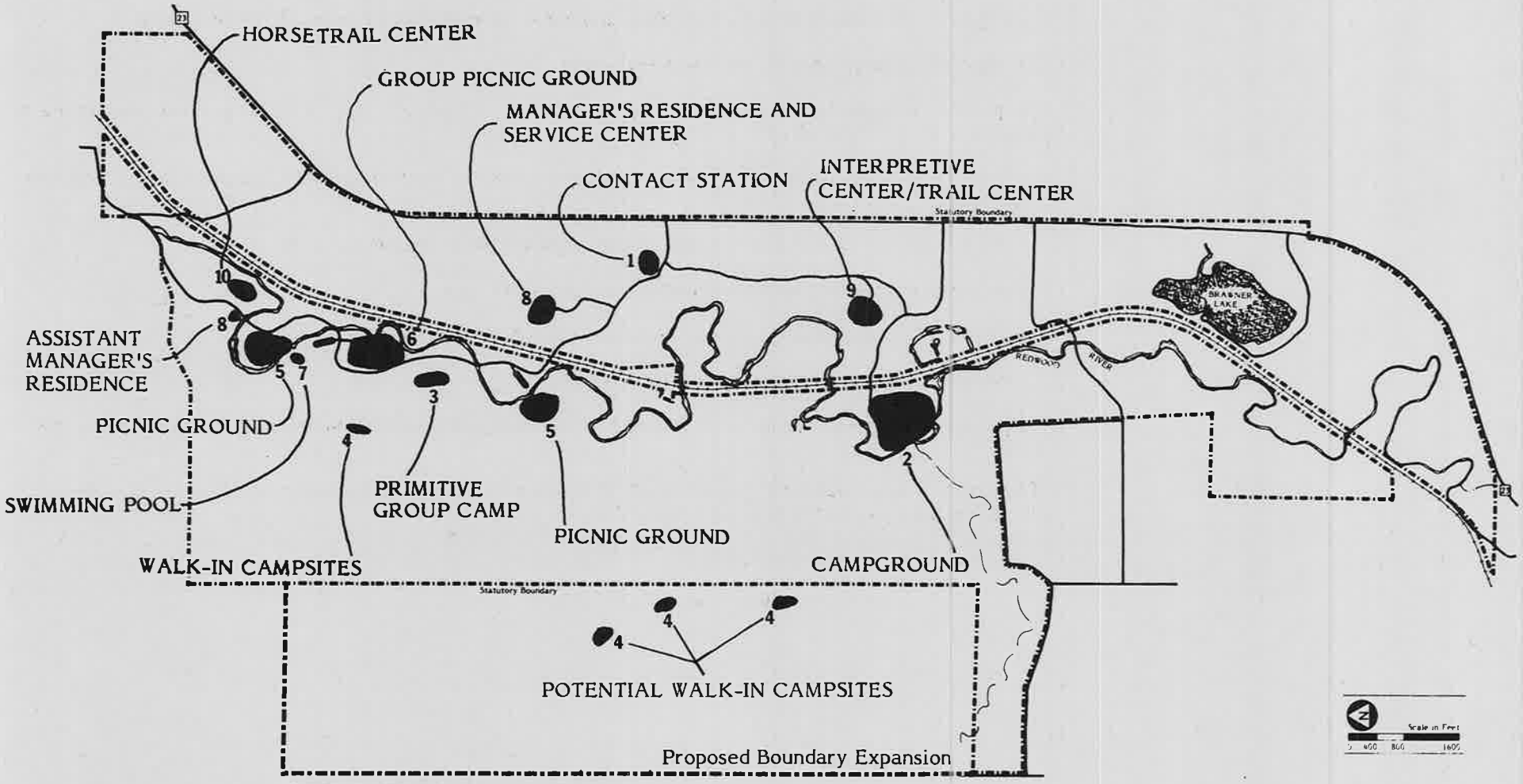
To preserve the historic and prehistoric resources of the park

To utilize where feasible, previously disturbed areas for proposed development

To decentralize the recreational development

To provide an opportunity for park visitors to experience the natural environment on a 24-hour-a-day basis

To provide a multi-use trail system which accesses scenic views and interesting study areas, connects use-areas, and minimizes park user conflicts



For map code, see text, pp. **83-89.**

Map Code
(page 82)

1 Park Entrance/Contact Station

Objective:

To provide a facility for orienting visitors, renting campsites, collecting user fees, and monitoring use

Action: Construct a contact station/park office.

During the process of completing this plan, the park entrance road was changed from the north end of the park to the east side off CSAH 23. The old road will be used for winter access, but will be signed "no entrance" during the remainder of the year.

A combination contact station/park office has been constructed near the new park entrance road. This new structure will be large enough to provide office space for the park manager. In addition, space will be provided for the receptionist, secretary, an orientation display, and modern sanitation facilities. This building is close to the entrance road and is designed so park stickers can be sold out of a window or across an interior counter. Facilities for firewood storage and sale and vending machines are also provided.

2 Semi-Modern Campground

Objectives:

To provide a campground with vehicle access into each site and centrally located modern sanitation facilities

To provide semi-private campsites, organized to provide interaction with the natural environment rather than between campsites

Action: Develop a semi-modern campground with a modern sanitation building and auxilary pit toilets on the site of the primitive group camp.

The existing campground is located along the Redwood River near the pool and the picnic ground. It has 36 campsites (six with electrical hookups) and a sanitation building with showers and flush toilets. There is little expansion potential at this location. This portion of the park, with its clustered high-use areas, has caused damage to the surrounding steep slopes. Therefore, the semi-modern campground should be moved to the site of the primitive group camp. This area is near the Redwood River, but it is not on the floodplain. It is on stable soils and there is sufficient space to eventually develop 70 sites. This location will disperse some of the park use, decrease the existing overuse problems, and provide for expanded use.

The campsites should be widely spaced with parking spurs, fire rings, picnic tables, and tent pads provided at each. Campsite hookups for electricity, sewer, or water will not be provided. Sites should be screened with trees and shrubs (see Vegetation Section).

The access road to this campground crosses the railroad tracks. Before the campground is open to public use, a safe railroad crossing must be provided. The type of crossing will be determined during the access road design study. The access road will be a county state aid highway and will, therefore, be designed with the coordination of the DNR Bureau of Engineering, the Lyon County Engineer, and the Burlington Northern Railway. A lighted semaphore crossing seems most feasible, but a bridge crossing should also be considered. A pedestrian underpass will be constructed under the railroad bridge across the Redwood River to provide a safe connection between the campground and the interpretive/trail center.

3 Primitive Group Camp

Objective:

To provide facilities where groups, especially children, can experience, study, and enjoy the natural environment on a 24-hour-a-day basis

Action: Develop a primitive group camp.

The new primitive group camp will include a 30-car parking lot, tent pads, pit toilets, fire rings, picnic tables, and drinking water.

The site is buffered from the road by hardwood vegetation and an elevation change. A cross section of the park's vegetation is readily accessible from this site, as is the swimming pool. Group camps are typically noise in the evening. The other facilities in the vicinity will not be used during the evening so potential conflict will be minimized.

4 Walk-In Campsites

Objective:

To provide secluded campsites easily accessible by foot,but removed from a parking lot

Action: Develop walk-in campsites.

This type of camping is not currently provided at Camden, but there is an area of the blufftop accessible by foot which would be a good location for walk-in campsites. This site is approximately a quarter of a mile from a parking lot and water supply. Fire rings, picnic tables, and tent pads will be provided at each site, and pit toilets will be provided within 400 feet of each site. The sites should be widely spaced and heavily screened to provide a maximum amount of privacy.

A few of these sites will be developed on a trial basis to determine their desirability to campers and the number of extra management problems created. If they prove popular and the proposed park expansion is approved by the legislature, several campsites should be developed in the expansion area.

5 Picnic Grounds

Objective:

To provide a scenic, shaded, natural environment where park visitors can prepare and enjoy meals

White Lodge Picnic Ground

Action: Resurface parking lot and plant vegetation to screen it from the picnic sites. Rehabilitate the sanitation building.

Riverview Picnic Ground

Action: Revegetate area with basswood, silver maple, green ash, and cottonwood to replace dead and dying elms. Surface parking lot.

6 Group Picnic Ground

Objective:

To provide a facility in which large groups can picnic without disrupting or monopolizing the regular picnic areas

Action: Develop a group picnic area on the site of the former semi-modern campground.

Picnic grounds are often monopolized by large groups. By providing this type of facility, which is available on a reservation basis, pressure on other picnic areas will be relieved. The existing modern sanitation building will be retained, although the shower facilities will be removed. A 60-car parking lot should be developed near the existing campground entrance.

7 Swimming Pool

Objectives:

To provide a safe, enjoyable swimming facility

To protect water quality

Action: Construct a building near the pool which includes a refreshment stand, changing rooms, and modern sanitation facilities. Surface the parking lot and rehabilitate the swimming pool.

8 Manager's Residence/Service Center and Assistant Manager's Residence

Objectives:

To provide a residence for the park manager which has good access to the service center, is accessible to park users for emergencies, is out of the active use areas of the park, and ensures the manager's privacy

To provide efficient storage and work space for the operation and maintenance of the park

Action: Construct a new manager's residence near the new park entrance road.

The new manager's residence and service center will be located near the new entrance road on the east bluff overlooking the river.

The complex will include: a manager's residence, a 30' x 60' heated building for equipment maintenance, a 30' x 50' unheated building for storage, a small oil and gas storage building, a parking lot, a loading ramp, and a screened outside storage area. The area should not be visible to park users, but the entrance road should be visible from the park office.

When the new manager's residence is completed, the assistant manager will be assigned to the manager's former residence in the north end of the park.

9 Interpretive/Trail Center

Objectives:

To provide a readily accessible facility for interpretive programs and displays and office space for the interpretive staff

To provide a facility which can be used year-round for dispensing trail information and for a winter warming area for snowmobilers and skiiers

Action: Construct an interpretive/trail center.

The recommended site for this facility is close to the new campground. It is, however, quite a distance from the three picnic areas and the swimming pool. Therefore, bulletin boards with interpretive program information will be installed in these areas for day-users. users.
The access road to this area can be kept open during the winter which facilitates its use as a trail center for ski-tourers and snowmobilers.

The building will include a meeting room, a display area, a naturalist's office, a work area, a storage area, toilet facilities, and a 60 car parking lot.

10 Horseback Riding Trail Center

Objective:

To provide a horse trail center with ready access to a blufftop horseback riding trail system and an unstructured camping area

Action: Develop an area for horseback riders with a 20 car/trailer parking lot, water supply, picnic tables, fire rings, tie rails, pit toilets, and a loading ramp. Overnight camping in the parking lot and adjacent area will be allowed.

Toboggan Hill

Objective:

To curtail activities which are dangerous and have a negative impact on the park's natural resources

Action: Revegetate the tobaggon hill.

Unless closely supervised, tobogganing can be a very dangerous activity. In the case of this site, several people have been injured when struck by speeding toboggans or when toboggans have hit trees. State parks do not have sufficient staff to supervise this kind of activity.

The park entrance road will not be open past the railroad track bridge during the winter. Slippery winter conditions make this crossing extremely hazardous for cars. As a result, toboganners would have to walk quite a distance to use the hill. Emergency vehicle access would be difficult to provide in case of an accident.

Brawner Lake Access

Objective:

To minimize vehicular impact on the area while providing ready access to the lake

Action: Upgrade the Brawner Lake access road and develop a parking lot near the south shore of the lake.

To control erosion and allow revegetation of the area. Driving in areas off the road or outside of the parking area will be discouraged through the use of grading and placement of large rocks and/or posts.

Hiking Trails

Objectives:

To provide an erosion-resistant hiking trail system that provides access to scenic views, study areas, and high-use areas

To provide handicapped-accessible hiking trails between the high-use areas

To increase use of the prairie areas by providing good trail access to and through them from the high-use areas

Action: Rehabilitate existing trails that are to be retained by flattening tread surface, constructing low retaining walls and steps where necessary, and clearly signing the trails. Close all existing trails which are not to be retained and stop erosion by reestablishing native ground cover, staking brush over tread surface, positioning water diversion bars, or realigning trails to provide users access to their desired goals.

A sound trail connecting the proposed semi-modern campground with the White Lodge picnic ground should be developed. Stream crossings, where necessary, should be provided with minimal development such as stepping stones, fords, or simple plank crossings.

A trail to the prairie tract west of the river should be provided from the proposed semi-modern campground.

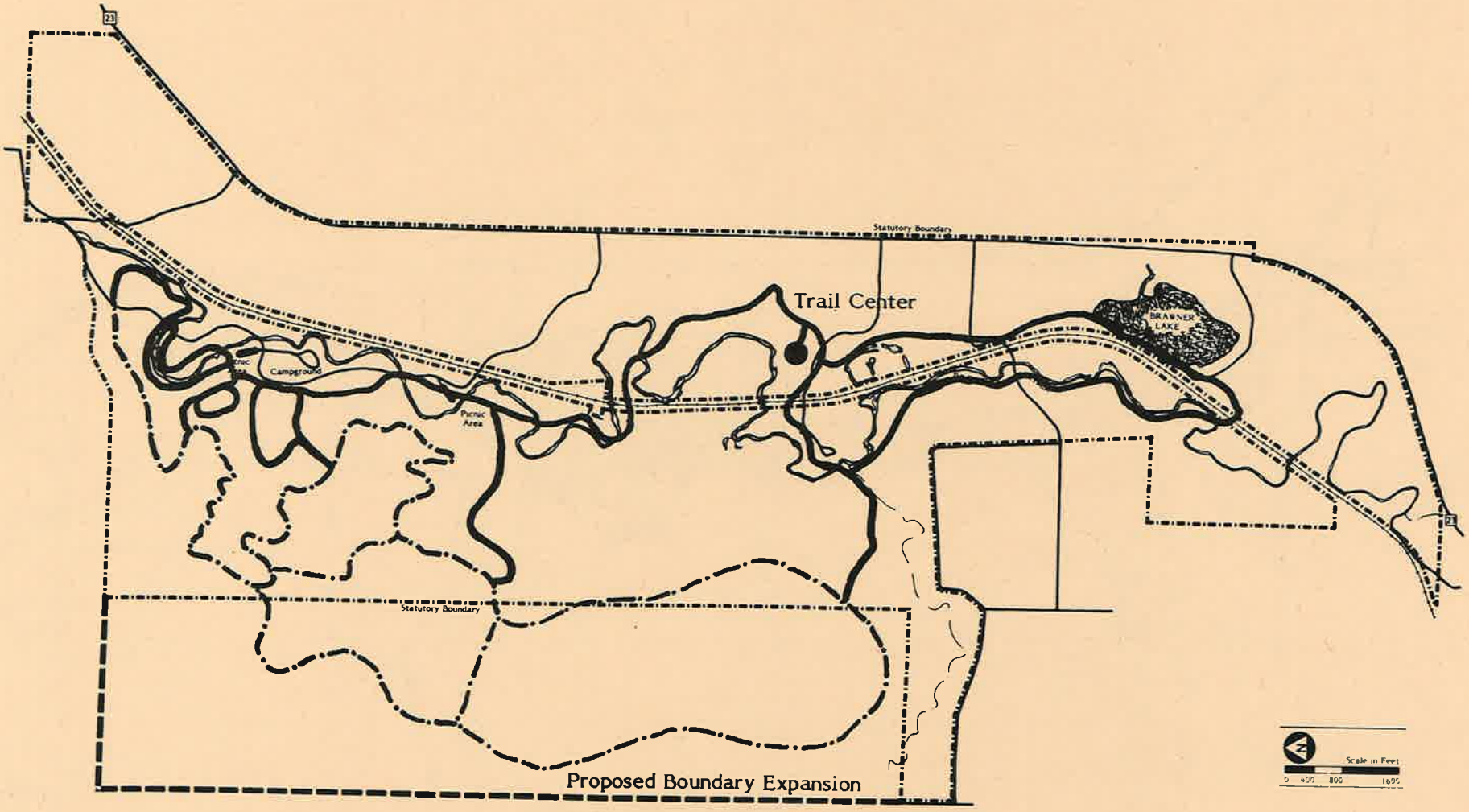
Handicapped-accessible trails which have been developed in both picnic areas will be retained. Another handicapped-accessible trail from the proposed semi-modern campground to the proposed interpretive trail center, passing under the railroad grade and a handicapped-accessible interpretive trail near the interpretive/trail center should be developed.

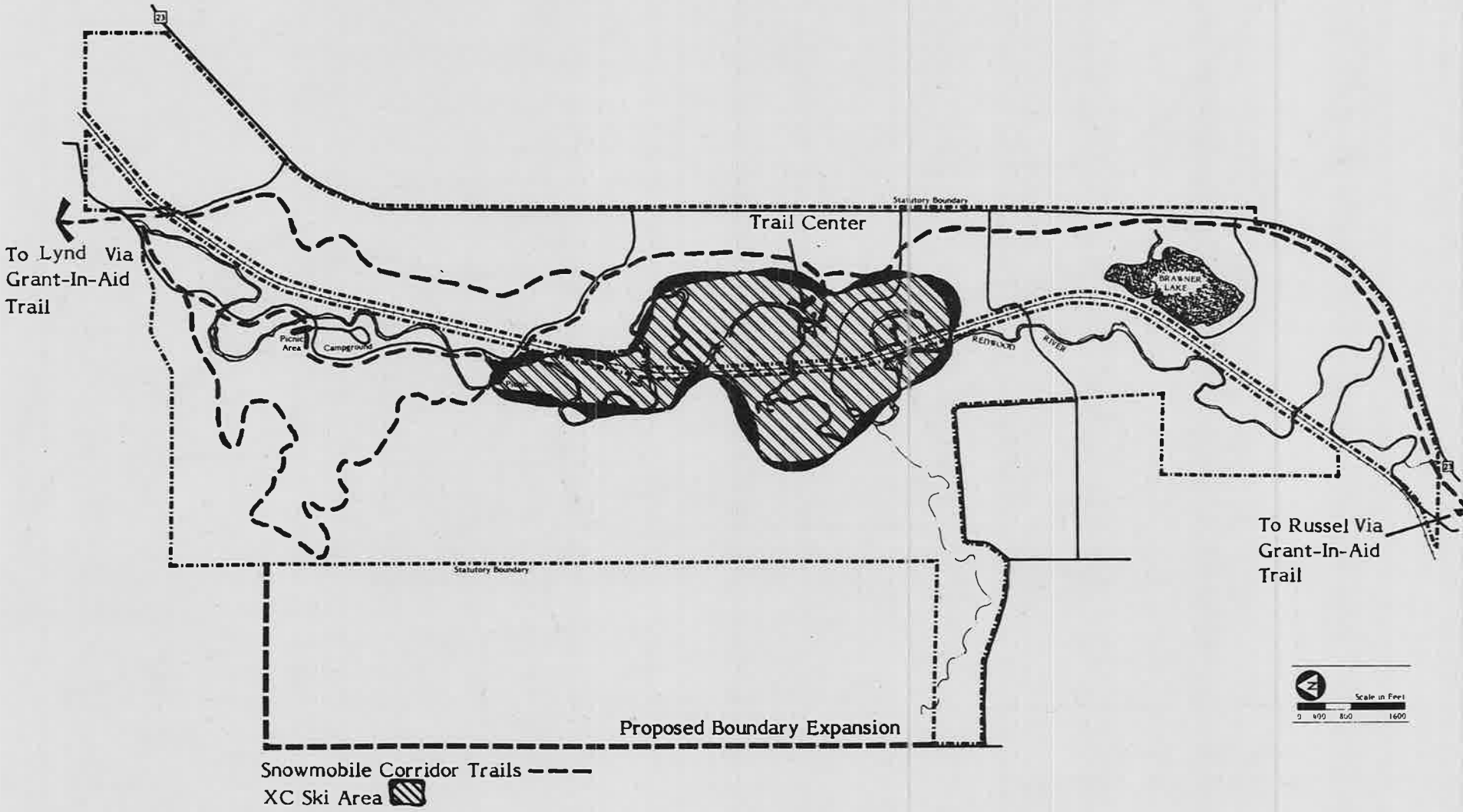
Horseback Riding Trails

Objectives:

To provide an equestrian trail system that is long, scenic, and interesting enough to be of statewide importance

To provide a trail system minimizing user conflicts and erosion


Statutory Boundary
Trail Center
BRAGNER LAKE
Campground
Picnic Area
Statutory Boundary
Proposed Boundary Expansion
Scale in Feet
0 400 800 1600
Hiking Trails
Horse and Hiking Trails


To Lynd Via
Grant-In-Aid
Trail
Trail Center
Statutory Boundary
Picnic Area
Campground
BRAGNER LAKE
REDWOOD RIVER
To Russel Via
Grant-In-Aid
Trail
Statutory Boundary
Proposed Boundary Expansion
Snowmobile Corridor Trails
XC Ski Area
Scale in Feet
0 400 800 1600

Action: Develop a horseback riding trail (see map, p.91).

Camden State Park has approximately four miles of horseback riding trails. Horseback riding use has been low in the past. The current equestrian trail is a loop trail that returns to the starting point via the park road. When the boundary expansion has been approved, the equestrian trail can be expanded into the prairie area as lands are purchased. By following this general alignment scheme, potential erosion problems and user conflicts will be minimized.

Ski Touring Trails

Objectives:

To provide a ski touring trail system separated from the snowmobiling trail system

To primarily utilize the protected valley area for the trail system

To provide a trail to meet the expected demand

To provide a winter warming house to serve as the trailhead for both cross-country skiers and snowmobilers

Action: Develop a cross-country ski trail.

The actual ski touring trail alignments have not been determined, but the winter trail map (p.92) designates a ski touring zone. It is anticipated that an excellent loop trail system which begins and ends at the interpretive/trail center can be developed in this area.

Snowmobiling Trails

Objectives:

To provide a snowmobiling trail system separated from the ski touring trail system

To provide north-south access through the park to connect with a potential county grant-in-aid snowmobiling trail system

To provide a winter warming house for both snowmobilers and cross-country skiers

To keep snowmobiling trails away from areas where the noise would heavily impact the ski touring area and the general deer yarding areas

Action: Realign the snowmobiling trail.

Camden State Park receives intensive snowmobile use when the snow conditions are adequate. The snowmobiling trail skirts the park boundary on part of the north and west boundaries with some internal loops. The proposed trail system will retain much of the existing trail system, while minimizing the number of trails that go up and down the valley walls. The valley portion of the existing park road system will be closed and left unplowed during the winter for use as a snowmobiling trail. As additional land is purchased, a snowmobiling trail along the east bluff edge will be developed which can be connected to a future county grant-in-aid trail outside the park. Car and snowmobile access will be provided to the interpretive trail center which will serve as a warming house and trailhead for both snowmobilers and cross-country skiers.

Due to erosion problems and hazards associated with the topography in Camden State Park, expansion of the trail system would not be appropriate now. If the boundary expansion is approved, the snowmobiling trail system can be expanded as lands are purchased.

Roads and Traffic Control

Objective:

To provide a vehicular circulation system which is safe and efficient

Action:

Rehabilitate the park entrance road.

This road is susceptible to erosion. It is important that it is maintained in order to ensure the safety of park visitors, minimize the negative visual impact of erosion gullies, and protect the natural resources.

Winter Plowing

Due to the difficulty of maintaining the newly constructed railroad track overpass during the winter, the only roads that will be kept plowed during the winter will be from the new entrance to the service center and the interpretive/trail center and from the old entrance to the proposed assistant manager's residence.

Introduction

Boundary adjustments and acquisition must be considered in the management of any state park. The amount of land necessary to manage a park correctly must be determined and acquired before management can be efficiently carried out. There are two objectives that should be strived for in every park.

Objectives:

To include sufficient acreage to protect and perpetuate the natural resources and still provide areas for the necessary recreational facilities and activities. Only acreage that is necessary and would be reasonable to purchase should be included.

To control all land within the statutory boundary by fee title (direct ownership).

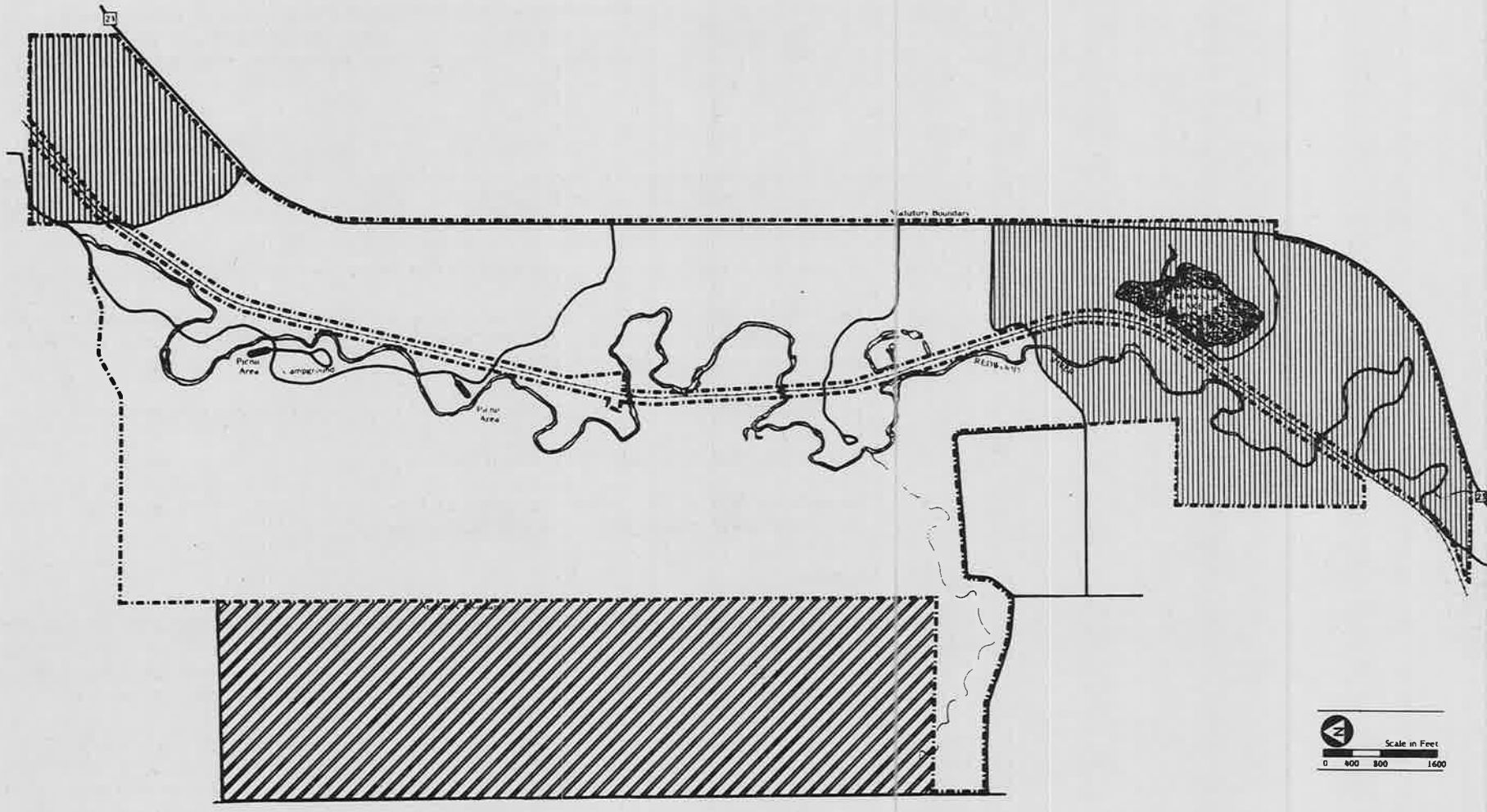
Because it would be fiscally and physically impossible to achieve these objectives overnight, this plan will establish priorities that will work toward them. The following framework will be used in developing adjustment and acquisition priorities:

1. Land needed for protection and perpetuation of park resources or values.
2. Land needed for development of facilities.
3. Unimproved buffer land needed to prevent threatened development or use which would be compatible with existing or potential park purposes.

Boundary Deletion

The portion of the park in the northeast corner that lies north of and is separated by the township road should be deleted from the statutory boundary. If Lyon County will consent to zone this area for residential development or compatible agricultural uses only, the Department of Natural Resources will request that the legislature delete it from the Camden State Park statutory boundary.

Land south of the township road, between the proposed semi-modern campground and Brawner Lake, is proposed for transfer from the Division of Parks and Recreation to the Division of Fish and Wildlife. For years there has been inter-divisional confusion over jurisdiction in this area, with little being done to restrict unauthorized use or maintain the area in first class condition (see Roads and Traffic Control, page 94). Although the land was donated to the Division of Fish and Wildlife by a local hunting club (Balaton Wildlife Workers League), the area was included within the park's statutory boundary by the state legislature. The Outdoor Recreation Act of 1975 has mandated that wildlife management areas and state parks will not "share" land within their boundaries.



DELETE

EXPAND

Managing this area as a wildlife management area will be beneficial to the public, because it will provide good hunting opportunities for local residents. It will also probably eliminate the need to issue special hunting permits to control the deer population in the park. In addition, it will no longer be necessary to press for closing of the township road, because it will become the southern boundary rather than bisect the park.

Snowmobiling trails are not usually provided in wildlife management areas. However, local residents have expressed the desire for such a trail to link the park/wildlife management area with the town of Russel. The transfer of this land from the Division of Parks to the Division of Wildlife should be contingent on the retention of this snowmobiling trail.

It is recommended that land acquisition by the Division of Parks and Recreation continue until the transfer is final.

Boundary Expansion

West of the existing boundary and east of the township road, there are several major tracts of native prairie. This expansion (approximately 640 acres) will allow the state to reestablish and perpetuate a significant tract of prairie so that future generations can get a glimpse of the character of the vast prairies that once seemed to stretch endlessly across this portion of the state. Within the park, portions of prairie now preserve samples of the native prairie vegetation, but they are very linear and will never, even when completely restored, allow a visitor to really experience a prairie environment.

The proposed uses for this area are primarily for environmental study and trails. A system of hiking, horseback riding, and biking trails would be provided that will allow users to follow the bluff edge or pass through the upland prairie, scattered lowland prairies, and marshes.

INTRODUCTION

Interpretation is "an educational activity which aims to reveal meanings and relationships through the use of original objects, by first-hand experience and by illustrative media, rather than simply to communicate factual information" (Freeman Tilden). In this light, the interpretive services program fosters in the public an understanding of park resources and management by:

1. Revealing the kinship of park visitors to the park environment and, by association, their even broader involvement within ecosystems.

2. Illuminating the historic and ongoing impacts of natural forces within the park and upon the people who use them.

3. Assisting park visitors in the discovery of meaningful and satisfying ways in which to enjoy their visits without intruding on the experiences of others or impairing the quality of the park environment.

4. Explaining the mission of the Department of Natural Resources, interdisciplinary park management practices and the importance of public participation and support in the operation of this Department.

Interpretive services will be developed in recognition of the following:

1. All parks are fragile communities of life which can be perpetuated only through careful management.

2. People are a natural and necessary element in park environments, free to enjoy them in non-destructive ways.

3. All natural resource units, and the publics they serve, are tied to one another ecologically, economically, socially, and politically.

It is hoped that the people who recreate and learn in the parks will, by experiencing the parks and related interpretive services, derive a better quality of life and gradually increase their environmental awareness. As people are encouraged to think and to feel more about park environments, they can be expected to do more on behalf of these environments. They can also be expected to strengthen their own ties with the land and with our state's cultural heritage.

Objective:

To aid the park visitor in understanding the natural resources in Camden State Park

INTERPRETIVE PROGRAMS

Existing

The present interpretive program at Camden includes films, hikes, outdoor learning activities, school programs, displays, and exhibits. Internships are available for those who wish to gain a working knowledge of the state park program.

Proposed

A program to explain prairie management techniques should be developed.

EQUIPMENT

Existing

Equipment includes: a 16 mm sound, film projector, a screen, a slide projector, and a slide library.

Proposed

The program is in need of reference materials, including: botanical keys and field guides and a reference library for park visitors' use.

INTERPRETIVE PROSPECTUS

A specific implementation plan will be prepared by the regional naturalist in consultation with the DNR park planning staff and the park naturalist. This document will be continually updated, incorporating new research data as they become available. It may recommend major changes to the park interpretive plan in light of new and/or better information.

INTERPRETIVE THEMES

The interpretive themes for Camden will focus on the contrast between the valley's maple/basswood forest and the adjacent upland prairies and sites of historical interest, such as the Camden townsite, an early trading post site, Nobles Road, and Indian encampment sites.

Any archeologically significant sites which are uncovered in the field survey (see Park History, p.19) will be incorporated into the interpretive program.

INTERPRETIVE FACILITIES

Existing Buildings

Indian Creek Visitor Center - This 21' x 13' wooden building, which serves as the temporary visitor center and naturalist's office, was built by the CCC in 1934. The size and condition of the center are unsuitable for the needs of the interpretive program. The visitor center is large enough to comfortably accommodate ten people. Programs are held outside, with inadequate provision for inclement weather. This structure should be removed when the new interpretive/trail center is completed.

Council Ring - The council ring is well-situated in the area adjacent to the visitor center. It is not within the campground,but is within easy walking distance and seats 85 visitors.

Central Picnic Grounds Shelter - This building, with inadequate seating capacity, is used for evening programs during inclement weather.

Proposed Buildings

Interpretive/Trail Center - The multi-purpose interpretive/trail center should include an office, a meeting room, work and storage area, display space, and restrooms.

STAFFING AND EQUIPMENT

Introduction

Maintenance is an essential, little noticed, and difficult to finance responsibility of the Parks and Recreation Division of the Department of Natural Resources. The basic obligation of the state is to maintain the landscape resources and state park facilities in a safe, sanitary, environmentally sound, and aesthetically pleasing condition. These facilities must be operated in a manner that provides maximum use and enjoyment at the least possible cost, consistent with state law. There are four basic aspects to maintenance and operations:

1. Maintenance of the landscape resources for the use and enjoyment of future generations
2. Maintenance of the recreation facilities that provide access to those resources
3. Provision of services to the park visitors for maximum enjoyment of facilities and resources
4. Enforcement of rules and regulations to protect the resources from abuse and to ensure enjoyment of the facilities by park visitors

To maintain the park properly and minimize costs, a trained staff, sufficient supplies, and proper equipment are needed.

The task of providing services to the public and security for park facilities and resources 24 hours a day, 12 months of the year is monumental. During the busy season, full-time operations are necessary 98 hours per week (8:00 to 10:00 p.m., seven days a week). The remaining hours are covered by a night patrol and the resident manager. During other seasons, only part-time operations are provided 98 hours per week, however, maintenance, repair, and park security accounts for many extra man-hours. If these responsibilities are to be met, competent trained personnel are necessary.

A work load analysis of park operating functions has been initiated to ascertain the personnel needs of each park, based upon existing facilities and current operations. This study identifies the man-hours needed to perform each task required for adequate maintenance and operation. Initial results reveal:

1. an extreme shortage of adequate personnel,
2. that because of procedures necessary in hiring seasonal workers, high cost labor employees are used for jobs more appropriate for other job classifications, and
3. that a high percentage of work-hours are related to direct services to the public.

These factors limit the personnel available for proper maintenance. Because extensive development has occured since the Natural Resources Act of 1963 was passed, the gap between maintenance and development has widened. Standards based on the work load study can be established to determine work-hour operating requirements for future facilities as they are proposed for development so that sufficient personnel and supplies can be provided. Facilities must be properly designed to meet the needs of the public, while being operational with the minimum amount of personnel and cost.

Another contributing factor to the current park operations problem is the heavy reliance on federally funded work programs, such as the Comprehensive Employment and Training Act (CETA), the Neighborhood Youth Corps (NYC), and Green Thumb. The low cost personnel provided by these programs makes it possible for parks to offer programs and services which would otherwise be impossible. However, these employees are hired on a short-term basis, usually 8 to 10 weeks and often do not have the training and experience necessary to provide needed services without constant supervision in already understaffed parks. To avoid these problems, funding should be made available to hire trained personnel for major public service and maintenance programs. Temporary employees should only be hired for minor maintenance and special projects.

Enforcement of park rules and regulations is a vital element in the management of state parks. Currently, violations are referred to DNR enforcement officers for prosecution. Park personnel should have the technical training and tools needed to carry out this responsibility in a manner which will protect the resources from abuse, while educating the visitor about the importance of environmental protection.

One of the major maintenance problems of recreation areas is the extreme impact of large numbers of people concentrated in specific locations. These areas include: campsites, trails, lakeshores, river banks, areas around buildings, and scenic points of interest. This overuse affects the ground cover and frequently exposes tree roots to damage from foot traffic. The eventual result may be erosion, slides, disfigured sites, and even danger to the visitors. Regular maintenance programs with adequate personnel, supplies, and equipment would reduce the damage and consequently prevent major reconstruction expenditures. It will also preserve the aesthetic character of the park by preventing unsightly scars or exposed areas.

The purpose of a maintenance and operations plan is to identify specific problems of each park, develop a solution for these problems, and specify management techniques which decrease the costs of operation. The plan should make specific recommendations for facilities which will serve the needs of visitors with a minimum of regimentation and provide for ease of maintenance and enforcement. It should also identify basic management duties, establish adequate staffing requirements, and identify supply and equipment needs.

Objective:

To ensure that there is adequate staff and equipment to efficiently and effectively operate Camden State Park

Park Management Duties and Responsibilities

Park Manager

The park manager at Camden will administer the park maintenance and operations program and implement segments of the development program under the direct supervision of the park supervisor at DNR Regional Headquarters, New Ulm, Minnesota. This will consist of supervising park employees and services, providing law enforcement, providing and conducting interpretive activities, maintaining public relations, recruiting employees, soliciting volunteers, and assisting in park operation activities whenever possible. These administrative responsibilities limit the time available for actual participation in maintenance and operations activities. A full-time assistant, full-time laborer, and other seasonal and part-time personnel, as specified in the following pages, are necessary to provide adequate public service and to fully implement this plan.

Park Operations and Activities

Camden is predominantly a picnic and day-use park. On Saturday evening and Sundays the two picnic areas and parking lots (200 cars) receive capacity use on a regular basis in addition to heavy use throughout the week. Eighty percent of the visitors are from within 50 miles of the park. Park facilities are opened April 1st and closed during late October.

Contact Station

The contact station is currently operated full-time (8:00 a.m. to 10:00 p.m. daily) from May 20 through September, on weekends from mid-April through October, and intermittently other times. During the winter and other off-season times, permit sales and camper registrations are conducted by the staff making the rounds through the park. The contact station is operated by 4 park workers and the manager. The entrance from TH 23 into the lower park is closed in the winter because of steep slopes and ice hazards. The new contact station/office will be used year-around for administration, permit sales, and camper registration Access to a private residence and the lower park area is through the town of Lynd.

Interpretive Services

Interpretive services in the past have been conducted by one CETA naturalist during June, July, August, and part of Setember. One 4-month position, plus two CETA or volunteer assistants, will provide a good interpretive program during the summer. However, because of the high demand by special groups, schools, day-care centers, special education, and the university, a 5-month position would provide much more complete interpretive services, (as indicated on page 111, item 3, Future Personnel Needs).

Maintenance Personnel

Maintenance personnel (laborers, park workers, and student workers) perform a broad range of duties. They include maintenance of park facilities, conducting night patrol, and providing semi-skilled labor for park rehabilitation and development projects. CETA and other programs can provide valuable assistance, but require qualified park employees for supervision.

Campground

The campground (36 sites) is filled on the average of only one day a week during July and August, and is about 50% full the rest of the week. Camping begins about May 1st and ends in October. Building and grounds maintenance consists of: regular cleaning of the sanitation buildings, pit toilets, picnic shelters, and fire rings; trash and solid waste removal; hazardous tree removal; mowing; and enforcement. Night patrol and cleanup are necessary from 10:00 p.m. to 1:00 a.m. daily. Primitive group camping is provided in the old group camp area. Reservations are made through the park manager.

Special Management Considerations

Refectory (concessions) services are provided by park workers at the beach primarily from 1:00 p.m. to 8:00 p.m., seven days a week, Memorial Day to Labor Day. This building should be remodeled similar to the Lake Carlos State Park refectory with vending machines, modern toilets, and change stalls to reduce the personnel required for this operation.

Solid waste disposal is accomplished by park personnel who regularly transport waste three miles to the county landfill. Solid waste removal should be contracted with a private vendor as soon as possible.

Brawner Lake - For convenience and economic considerations the Camden park manager will be responsible for trash removal in the wildlife management area. If park trash removal is contracted out this area should be included in the contract.

Six miles of snowmobile trails and three miles of ski touring trails are groomed during the winter with a 1974 Cushman Trackster. These trails will connect with a future grants-in-aid trail between Lynd and Russell. With the development of new trails, seven miles of snowmobiling and nine miles of ski touring trails will be available in the park. Grooming equipment will be replaced as shown on the equipment chart and coordinated with the grants-in-aid trail program. Ski trails usually retain adequate snowcover in the protected valley. Snowmobiling trails require frequent snowfall to maintain adequate snowcover.

Operational Problems

1. Railroad safety hazard - Six trains or more run the length of the park each day. The grade crossing should be well-marked to warn park visitors of the danger.

2. Noxious weed control is necessary to comply with the regulations established by other agencies.

3. Staffing - In order to adequately implement the recommendations in this plan, the following additional staff is necessary.

    a. Full-time assistant for adequate employee supervision, enforcement, and public service all year.

    b. Park workers:

        1) Extend one from 6½ months to 7½ months to provide services in November

        2) Extend three from 3½ months to 5 months to provide full-time service through October

    c. Add one three-month seasonal naturalist to ensure the continuity of interpretive services.

    d. Add one full-time 12-month laborer position (by converting existing labor funds) for on-going maintenance and winter trail grooming.

        NOTE: CETA laborers have been the primary source of maintenance personnel

1978-1987 Projected Equipment Replacement Schedule

Unit	Existing	1978-79	1980-81	1982-83	1984-85	1986-87	Total
Sedan	1970	$ 4,100	$	$	$ 5,500	$	$ 9,600
1/2 Ton	1970	4,400			5,800		10,200
3/4 Ton	1970	4,750			6,300	$ 11,050	22,100
3/4 Ton 4-Wheel-Drive Dump	1966	*					
Tractor	1975	(Will not be replaced within the 1978-1987 planning period.)					
Groomer	1974		$ 5,000			6,000	11,000
Snowmobile	1971	1,300		$ 1,500		1,800	4,600
Small (mowers, etc.)		4,000	4,200	4,400	4,600	4,800	22,000
Other - Radios		5,000					5,000
TOTAL		$ 23,550	$ 9,200	$ 5,900	$ 22,200	$23,650	$84,500

*Replace from regional equipment.

Equipment

The items listed below, replaced regularly, are essential for the operations of this park. However, these needs may change throughout the 10-year projection. Heavy equipment and specialized equipment not listed should be obtained through the regional office. Equipment of the proper size and type must be selected on a park-by-park basis to match the conditions and jobs. Proper, up-to-date equipment will reduce personnel needs, the cost of repairs, and the cost of maintenance and improvement projects.

Future replacement will be based upon the following general criteria:

Light maintenance and administrative vehicles: 5 years or 70,000 miles.

Heavy maintenance equipment: With the limited use received, this equipment could last a long time and be replaced on an individual item basis when necessary, or be exchanged through the region for other improved vehicles.

Small equipment: Mowers and chainsaws need regular replacement.

Other motorized equipment will be purchased and replaced as needed.

Other equipment: Interpretive, furniture, and fixtures will be purchased as needed.

Staffing Chart

This chart shows existing and additional staff needed to properly meet current responsibilities. The needs are based upon a workload evaluation which identifies present tasks and the man-hours necessary to accomplish them.

	Existing - 1976		Projected Needs	
Administrative Personnel				
Park Manager	12 mo.	$ 12,100	12 mo.	$ 12,100
Assistant	-	---	12 mo.	9,700
Natural Resources Aide	9 mo.	7,500	9 mo.	7,500
Public Services Personnel				
1 Park Worker	6½ mo.	3,800	7½ mo.	4,400
3 Park Workers	3½ mo.	2,035	5 mo.	2,935
	3½ mo.	2,035	5 mo.	2,935
	3½ mo.	2,035	5 mo.	2,935
3 Lifeguards	3½ mo.	685	3½ mo.	685
	3½ mo.	685	3½ mo.	685
	3½ mo.	685	3½ mo.	685
Naturalist	3½ mo.	(CETA)	4 mo.	2,600
Naturalist Volunteer or CETA	-	---	3 mo.	0
Maintenance Personnel				
Laborer	12 mo. (hourly)*	**10,750	12 mo. (full-time)	10,750
Laborer (hourly)	10½ mo.	9,400	6½ mo.	5,700
Laborer	-	---	3 mo.	2,600
TOTAL		$51,710		$66,210

* Hourly means laborer can be laid off at any time, but a full-time laborer cannot.
** Create one full-time laborer position from existing labor funds.

In addition, the current staff includes four CETA workers and other laborers for improvement projects. CETA workers should be used to supplement the maintenance staff or for public service duties in emergency situations only.

Maintenance and Operations Summary

The figures for the period 1980 through 1987 are estimated projections intended to illustrate the scope of the potential maintenance and operations costs, including the operation of new facilities, plus an estimated 10% two-year salary inflation cost.

		Biennium			
	78-79	80-81	82-83	84-85	86-87
PERSONNEL:					
Existing 76-77 $103,000					
Actual Needs (for current operations based on staffing chart	$132,420				
Personnel Costs (from previous biennium)		$147,860	$162,650	$196,520	$235,970
*Additional Personnel Needs (to operate new facilities)	① 2,000		② 16,000	③ 18,000	④ 4,000
Sub Total	134,420	147,860	178,650	214,520	239,970
10% Salary Inflation**	13,440	14,790	17,870	21,450	24,000
TOTAL BIENNIAL PERSONNEL COSTS	147,860	162,650	196,520	235,970	263,970
SUPPLIES: Administrative Overhead and Expenses (20% of personnel costs**)	29,570	32,530	39,300	47,190	52,790
EQUIPMENT: (from equipment schedule)	28,700	9,200	5,900	22,200	12,400
TOTAL PROJECTED BIENNIAL MAINTENANCE AND OPERATIONS COSTS:	$206,130	$204,380	$241,720	$305,360	$329,160
ANNUAL COST BREAKDOWN:	$103,070	$102,190	$120,860	$152,680	$164,580
TOTAL 10 YEAR COST PROJECTION:	$1,286,750				

*See page 111
**Figure rounded off

Personnel Needs for Future Facilities

As new facilities are developed, visitation increases, and resource management programs are implemented additional staff will be required.

①	Implementing vegetation and prairie management estimated annual cost	1,000
②	New campground and sanitation building - estimated increase annual maintenance cost by 1982	$5,000
	Trail development - estimated increased winter maintenance cost by 1982	3,000
③	Interpretive center operating costs by 1984-	
	Two 5-month park workers	$6,000
	Extend naturalist position from 4 mos. to 6 mos.	2,000
	Labor - maintenance	1,000
④	New walk-in campsites by 1987 - estimated annual maintenance costs	2,000
	TOTAL	$20,000

Resource Management Costs and Phasing

	'78-'79	'80-'81	'82-'83	'84-'85	'86-'87	Total
Vegetation						
1. Maintain Upland Prairie (200 acres)	$ 3,000	$ 3,000	$ 1,500	$ 1,000	$ 1,000	$ 9,500
2. Establish Upland Prairie (600 acres)	7,000	7,000	1,500	1,000	1,000	17,5000
3. Establish Upland Prairie (200 acres)	20,000	7,000	7,000	1,000	1,000	36,000
4. Establish Northern Hardwoods	30,000					30,000
5. Tree Removal		3,000				3,000
6. Establish Prairie Edge Veg.		5,000	5,000			10,000
Water Resources						
Brawner Lake Dike		20,000*				20,000
Soils						
Erosion Control	4,000		4,000			8,000
TOTAL	$64,000	$45,000	$19,000	$3,000	$3,000	$134,000

*If land is not transferred to Division Fish and Wildlife by that time.

Development Cost and Phasing

	Biennium				
	78-79	80-81	82-83	84-85	86-87	Total
Contact Station*						
Semi-Modern Campground		$ 210,000				$ 210,000
Primitive Group Camp		15,000				15,000
Walk-In Campsites				$ 2,000	$ 20,000	22,000
White Lodge Picnic Ground		7,000	$ 15,000			22,000
River View Picnic Ground			20,000			20,000
Group Picnic Ground		6,000				6,000
Swimming Pool Area Rehabilitation		35,000	20,000			55,000
Manager's residence			60,000			60,000
Service Center		80,000		35,000		115,000
Interpretive/Trail Center				135,000		135,000
Brawner Lake Access**			16,000			16,000
Trails						
Development			30,000	30,000		60,000
Rehabilitation		30,000	33,000			63,000
		$ 383,000	$ 194,000	$ 202,000	$ 20,000	$ 799,000

*Built with funds allocated for the '76 '77 biennium.

**If land is not transferred to the Division of Fish and Wildlife by the '82-'83 biennium.

OVERALL AUTHORITIES

DIVISION OF PARKS AND RECREATION

General

Once the management plan has been completed and approved, it will become the responsibility of the director of Parks and Recreation (hereafter referred to as the director) to insure proper implementation of the concepts established in the plan. As such, the director will act as the coordinator and liaison between the planning staff, regional staff, local officials, and the general public to insure that the plan is kept current, remains on schedule, and becomes a reality.

In order to insure the accomplishment of this cooperative planning and implementation effort, the following responsibilities have been established and must be followed.

Specific Requirements

The director and staff will:

1. Coordinate and administer field operations as delegated by the assistant commissioner of operations
2. Develop and administer all programs necessary to accomplish plan goals and objectives. Programs include those necessary to implement management plans and to maintain and operate parks and other programs assigned to the division. Specific program responsibilities at this time are: acquisition, development, resource management, maintenance and service operations, interpretive services, and accessibility
3. Prepare policies, guidelines, procedures, and standards necessary to implement programs established in the plan (e.g., responsibilities relating to contracts and force account project,)
4. In coordination with DNR legislative liaison, prepare legislation necessary to provide program funding, boundary changes, and operational authorities
5. Review and approve all detailed plans, specifications, and project proposals prepared by the BOE or field staff. Coordinate on-site field staking and site layouts with BOE and regional staff
6. Coordinate divisional administrative functions with other DNR administrative offices
7. Work with DNR's federal grant specialists in order to obtain maximum federal funding (e.g., LAWCON) for all division programs

8. Recommend modifications and provide information necessary to update the management plan. All modifications to the concepts established in the approved plan will be processed through the Office of Planning and Research. The director will submit requests for modifications in writing, stating justification for change and what impact the change would have on the overall management plan. If comments and rationale for opposing a proposed change are not received within 25 working days, agreement is implied. In the event that significant change in the direction of the plan is proposed (e.g., altering goals and/or objectives of the plan) it will be necessary to follow the same procedures established in developing the original plan. If the director and the Office of Planning and Research cannot come to an agreement on the requested change, the director will then submit the request to the commissioner's Planning and Environmental Review Board (PERB) which will formulate the final recommendation to be submitted to the commissioner's Executive Council
9. Assign responsibilities and funding for implementation of the development program to BOE for contracts and to the regional staff for force account projects. In addition, the director shall coordinate the implementation of resource management programs
10. Make recommendations which will expedite the park planning process and evaluate progress toward the achievement of goals and objectives stated in the plan
11. Forward BOE requisitions and field project proposals to the Office of Planning and Research so that the progress of implementation can be monitored

REGIONAL OFFICE

General

The regional administrator and staff will supervise the physical implementation programs for the approved plans as established by the division.

Specific Requirements

1. The regional administrator will assign qualified staff to help implement this management plan. The district forester, wildlife managers, and other specialists should be consulted on specific aspects of the resource management of the plan.
2. The regional park supervisor will supervise and direct the park manager to insure that the management plan is implemented correctly.
3. The regional park supervisor will regularly field inspect all development in the park.
4. The regional park supervisor will submit written reports as necessary to keep the regional administrator and the director informed on the progress of development and any problems encountered.

5. The regional park supervisor will submit information to faciliate plan updates and changes. The regional park supervisor will submit his recommendations for change in writing to the regional administrator and the director. The recommendations should include rationale and an analysis of the impact the requested change will have on the management plan.
6. The regional park supervisor will submit project proposals to the regional administrator and the director for review and approval. The director and staff will review all project proposals verifying compliance with the intent of the plan and its schedule.

The region may implement approved project proposals once detailed specifications have been prepared and funding has been provided.

PARK MANAGER

General

It will be the responsibility of the park manager, under the direct supervision of the regional park supervisor, to coordinate the physical implementation of assigned sections of the management plan. The manager will inform the regional supervisor concerning the progress of the implementation through project proposals and written progress reports.

Specific Requirements

The park manager will:

1. Seek the assistance of the regional park supervisor in the resolution of any major implementation problems
2. Consult the regional park supervisor if there is uncertainity, concern, or opposition to recommended management of a specific item within the plan
3. Assist and give direction to field personnel assigned to the implementation of specific sections of this management plan
4. Maintain records on the development of specific items in this plan to insure continuity and reference for future updating and revision
5. Work with the regional park supervisor in initiating project proposals to be submitted to the director for review and approval
6. Submit to the regional park supervisor information to aid in the updating and revision of the plan

OFFICE OF PLANNING AND RESEARCH

General

The Office of Planning and Research will monitor and evaluate implementation of the management plan and make revisions to the plan as necessary.

Specific Requirements

The Office of Planning and Research will:

1. Review all BOE requisitions and project proposals to evaluate the proposed actions for consistency with the approved plan. Comments, suggestions, or corrections will be submitted to the director
2. Process all modifications to the approved management plan (see Parks and Recreation section)
3. Provide additional information and justification for specific recommendations within the plan when requested by the division
4. Maintain contact with the public, local officials, legislators, and DNR staff regarding the updating of the plan

PROCEDURES

DEVELOPMENT

The development procedure for the Division of Parks and Recreation can be broken down into two categories: (1) contract and (2) force account.

Contract

Director initiates project by preparing a program, which complies with the management plan.

Director distributes copies of preliminary program and drawings to the planning section and regional staff for review.

Director requests BOE to prepare detail drawings and specifications in accordance with approved program.

BOE prepares detailed drawings and specifications and submits them to the director.

Director approves drawings and specifications, insuring compliance with management plan objectives and goals, and re-submits them to the BOE.

BOE processes contract documents through the Department of Administration, Division of Procurement for bidding and contract award procedures.

Force Account

Director initiates project by preparing the program, complying with the management plan.

Director distributes copies of preliminary program and drawings to the planning section and regional staff for review.

Director assigns funds to regional administrator.

Regional administrator directs regional park supervisor and necessary staff to implement program.

Regional park supervisor may:

Request that the BOE prepare detailed drawings and specifications for review by the director

Assign the park manager to complete the project with field personnel

Assign park manager, in cooperation with the regional staff, to let bids to local contractors

BOE provides direction to the contractor and establishes site location and field staking.

BOE supervises construction and approves completed work according to contract documents.

Director and staff monitor the progress, funding, and necessary coordination between other state agencies and funding sources.

Supervision over the project will be the responsibility of regional, divisional, or BOE staff, depending on the complexity of the specific project.

Regional park supervisor will certify to the division that the project has been completed as planned.

Director and staff will monitor the progress of the development program.

RESOURCE MANAGEMENT

The resource management program for the Division of Parks and Recreation is also broken down into contract and force account categories.

Contract

Director initiates a project by preparing the program, in compliance with management plan.

Director distributes copies of preliminary program and drawings to the planning section and regional staff for review.

Director approves project and initiates bidding process through the Department of Administration.

Force Account

Director initiates project by preparing the program, in compliance with the management plan.

Director distributes copies of preliminary program and drawings to the planning section and regional staff for review.

Director assigns funds to regional administrator.

Regional administrator directs regional park supervisor and necessary resource management staff to implement program.

Director supervises and monitors the program.

Consultant or contractor, in coordination with divisional and regional staff, completes the project.

Director approves the completed project.

Regional park supervisor and resource staff prepare detailed resource implementation program.

Detailed resource management program is submitted to the director for approval.

Once approved, the regional park supervisor and resource managers may:

Assign the park manager and field personnel to implement program

Prepare contracts to be let to local contractors or consultants to implement program

Regional staff supervises project.

Director and staff monitor the progress of the resource management program.

Regional park supervisor certifies to the division that the project has been completed as planned.

MAINTENANCE AND OPERATIONS

The Division of Parks and Recreation will provide the regional staff with necessary direction to maintain and operate state parks as a statewide system. The director will establish rules and regulations pursuant to the ORA '75 for administering state parks. In addition, training courses and manuals will be prepared by the division on park operations, maintenance, enforcement, signing, and construction standards. If necessary, special operational orders will be prepared by the commissioner for specific problem areas. The following illustrates the general operation and maintenance procedures:

Director in cooperation with the assistant commissioner of operations, will establish policies, guidelines, and statewide procedures for maintenance and operations of all state park facilities.

The regional park supervisors, directed by the regional administrator, will follow policies, guidelines, and statewide procedures, of the Division of Parks and Recreation as well as commissioner's orders.

The regional park supervisor will provide the necessary supervision and direction to the park managers to insure that park maintenance and operation policies, guidelines, and procedures are followed.

It will be the responsibility of the park manager, under the supervision of the regional park supervisor, to maintain and operate all park facilities.

The director and staff will inspect and review operations of state parks on a regular basis to insure that statewide procedures are being implemented and followed correctly.