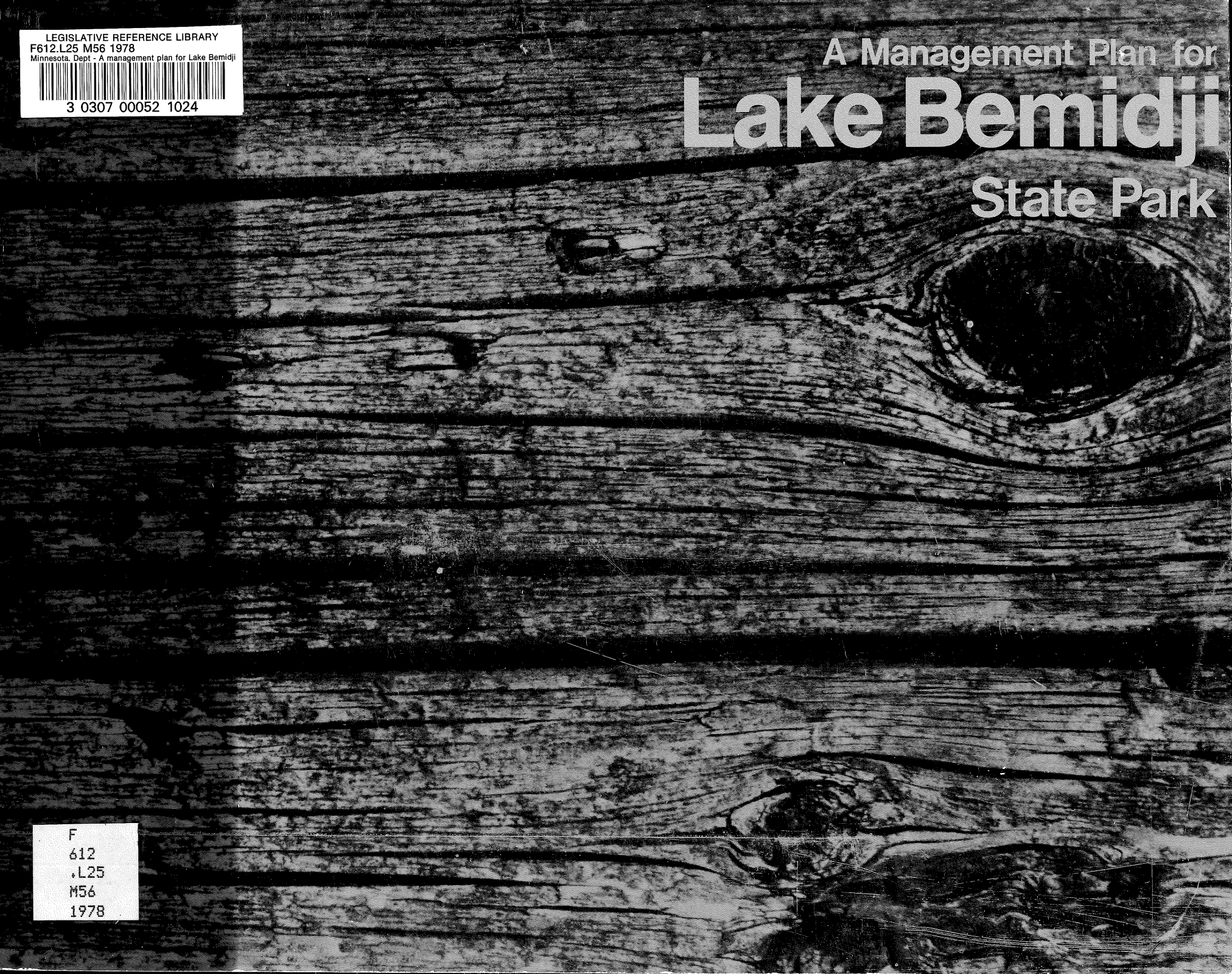
A Management Plan for Lake Bemidji State Park



A Management Plan for
Lake Bemidji
State Park

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Prepared by the
Minnesota Department of Natural Resources

Credits

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

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

The appendices to this management plan are available upon request from:

Park Planning
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St. Paul, Minnesota 55155

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.

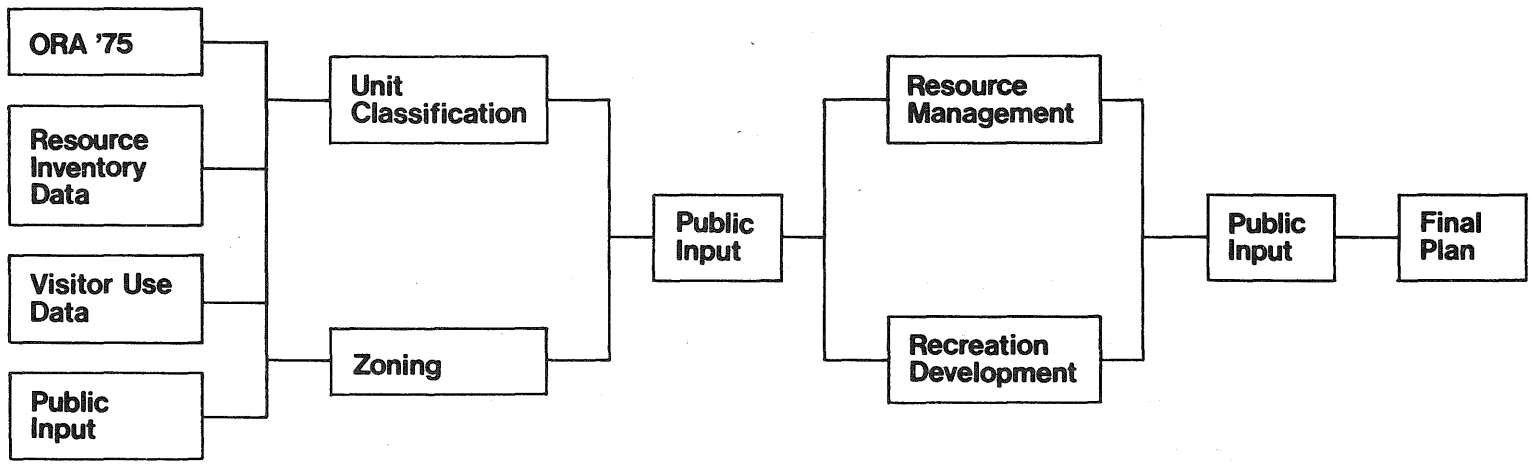
In the management and development process, the DNR will consider probable future impacts which would affect each park. In spite of this, unforeseen circumstances are bound to occur. Therefore, each plan should be reviewed periodically to see that it is still relevant in light of current conditions. While 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

SETTING

Lake Bemidji State Park is located in north central Minnesota, five miles northeast of the city of Bemidji, on the north shore of Lake Bemidji, in the Pine Moraine Landscape Region. The predominant vegetation in the region consists of second growth aspen, birch, and jack pine with a few remnant stands of virgin Norway and white pine. The park contains 19 diverse natural environments which provide many opportunities for natural resource based interpretation and recreation.

CLASSIFICATION

Lake Bemidji State Park has been recommended for classification as a recreational state park with a scientific and natural area sub–unit.

GOAL

The management goal for Lake Bemidji State Park is to provide a variety of recreational opportunities in a pleasing natural setting without jeopardizing the integrity of the diverse ecological communities within the park.

OBJECTIVES

To zone Lake Bemidji State Park in order to provide water and land based recreational opportunities which will not adversely affect sensitive resources

To ensure natural, unobstructed water flow and seepage in marshes and boggy areas

To ensure the continued protection of the northern pike spawning habitat in Bass Lake Creek and surrounding wetlands

To identify and stablize areas prone to soil erosion

To perpetuate existing ecological community diversity within the park

To maintain a high degree of wildlife population diversity, consistent with available habitats

To identify possible historical or archeological sites

To minimize the impact of development on natural resources

To improve access to the most significant resource areas of the park

To provide information to park users, facilitating their use of the park

To minimize conflicts between different recreational uses

To maximize use of existing facilities

To maintain the existing camping capacity

To move some campsites away from the lake

To modify campsites, providing desirable blend of community and privacy

To improve and increase facilities for picnicking

To develop a simplified, integrated, safe circulation system for pedestrians and vehicles

To provide a logical and efficient trail system between use areas

To provide loop trails to and through the variety of environments and special features of the park

To improve the existing entrance road

To eliminate nonessential roads

To reorganize and simplify circulation within service and residence areas and screen them from public use areas

RESOURCE MANAGEMENT

Water Resource Management

There is some interruption of the water flow and seepage along Beltrami County State Aid Highway 20 (CSAH 20) and CSAH 19 (Lavinia Road). A hydrological study should be undertaken to locate these areas.

Fisheries Management

There are sensitive northern pike spawning areas in and around Bass Lake Creek. Motor boats will be prohibited on Bass Lake Creek up to Osprey Pond during April and May, when the pike are spawning. No boats will be permitted on Osprey and Sundew ponds during these months.

Soils Management

Soils in the park range from moderate to severe in their development limitations. Trail erosion is the major soils problem in the park. Brush piles should be placed on steep slopes to encourage trail users to stay on the trails. Rocky Point will be stabilized and rehabilitated.

Vegetation Management

The park contains 19 diverse ecological communities, the most prominent of which are original pine remnants and conifer bogs. The original open character of the pine community should be restored and the conifer bog protected from excessive use.

Wildlife Management

Over 300 species of birds, mammals, reptiles, and amphibians reside within or adjacent to the park. Openings will be created to increase wildlife habitat and to increase the opportunities for park users to observe wildlife.

RECREATION MANAGEMENT

Lake Bemidji, although a relatively small park, has a great diversity of natural resources and excellent recreational potential.

Facility Inventory

	Present	Proposed
Camping		
Family Campground	103 sites	103 sites
Primitive Group Camp	50 capacity	50 capacity
Picnicking	26 tables	56 tables
Hike-in Picnicking	0 sites	5 sites
Trails		
Hiking/Skiing	3 mi.	7 1/4 mi.
Snowmobile/ Horseback Riding	1 mi.	3 mi.
Bicycle	0	1 mi.

Proposed Development

Develop a new visitor center near the existing contact station to include: a contact station, orientation displays, interpretive program areas, winter warming area, space for concessions, and a park office.

Develop additional parking to serve the picnic area, beach, and visitor center.

Develop a boat launch on the lagoon.

Replace the fill across Bass Lake Creek with a bridge.

Remove the campsites south of the asphalt road and convert the area to additional picnic and parking areas.

Expand the campground to the north.

Remove extraneous buildings from the public use areas.

Add screening between the campsites and selectively remove trees that are too closely spaced.

Build an observation deck on Rocky Point and marsh decks and portable wildlife viewing blinds at selected locations.

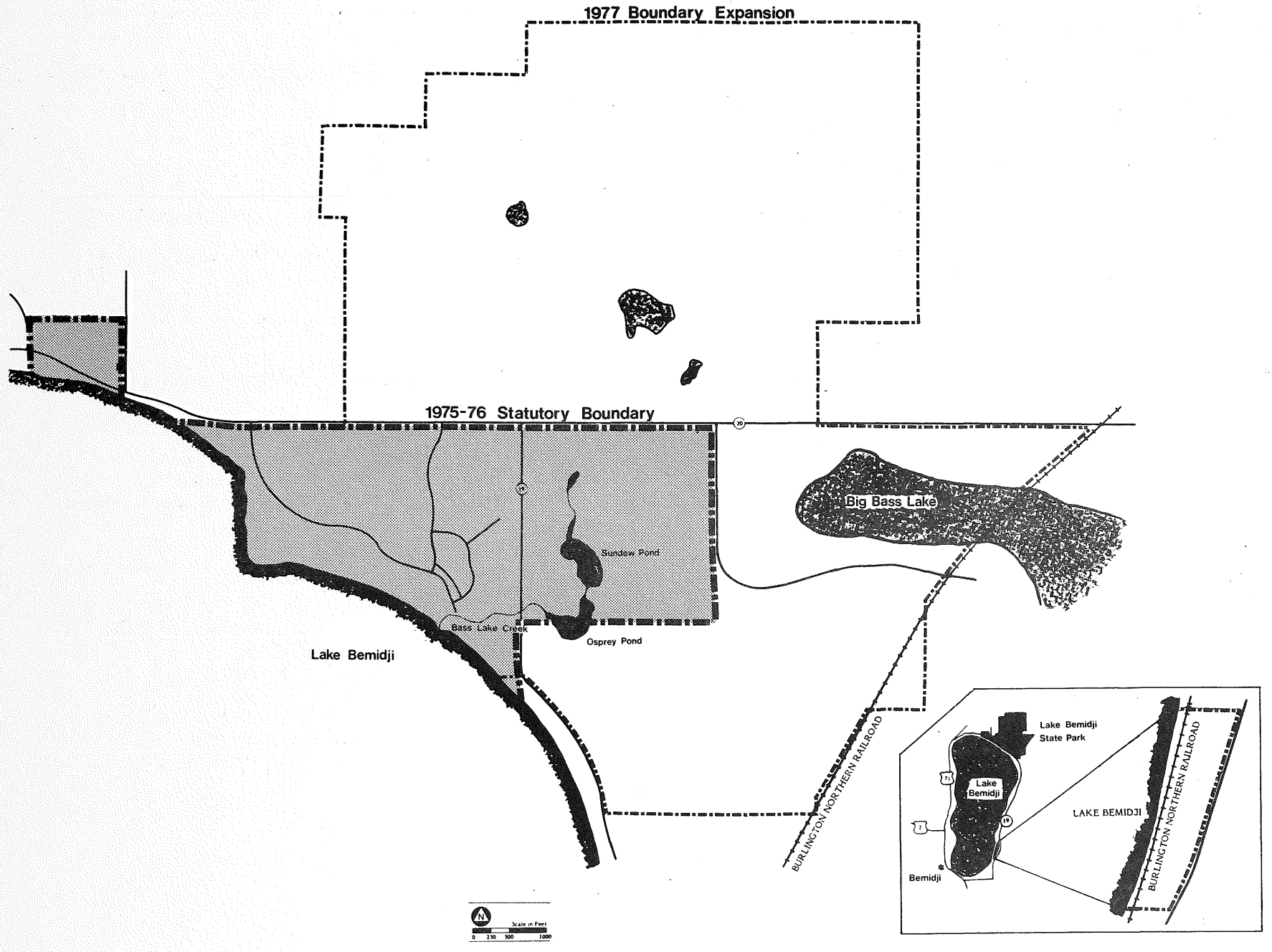
Develop additional trails, marsh boardwalks, viewing decks, and hike-in camping and picnicking sites, in the expansion areas of the park.

Develop canoe campsites in the detached portion of the park as part of the proposed Mississippi River canoe and boating route.

Acquisition and Boundary Changes

In 1977 the Minnesota State Legislature approved a 1,250 acre expansion of Lake Bemidji State Park. This expansion included 690 acres of state owned or tax forfeit land and 560 acres of land in private ownership.

This management plan includes inventories and management recommendations only for the 417 acres which comprised the park before the expansion.


1977 Boundary Expansion
1975-76 Statutory Boundary
Big Bass Lake
Sundew Pond
Bass Lake Creek
Osprey Pond
Lake Bemidji
BURLINGTON NORTHERN RAILROAD
Scale in Feet
0 250 500 1000
Lake Bemidji State Park
Lake Bemidji
LAKE BEMIDJI
Bemidji
BURLINGTON NORTHERN RAILROAD

Unit Character

GEOGRAPHIC PERSPECTIVE

Lake Bemidji State Park is located in Beltrami County, 5 miles northeast of Bemidji on the north shore of Lake Bemidji.

Major roadways serving the park area include Trunk Highways 2 and 71 (TH 2 and 71). CSAH 20 which bisects the park serves as the major access corridor. A detached portion of the park, located on the southeast shore of Lake Bemidji, approximately 4 miles from the main unit, is reached by CSAH 19 (Lavinia Road).

Legal Description

Township	Range	All or Part of Sections
146N	33W	11
147N	33W	15, 14, 13, 23, 24

Controlled By	Approximate Acres
State	987
Trust Fund Land	120
Private	560
Total	1,667

Sources:

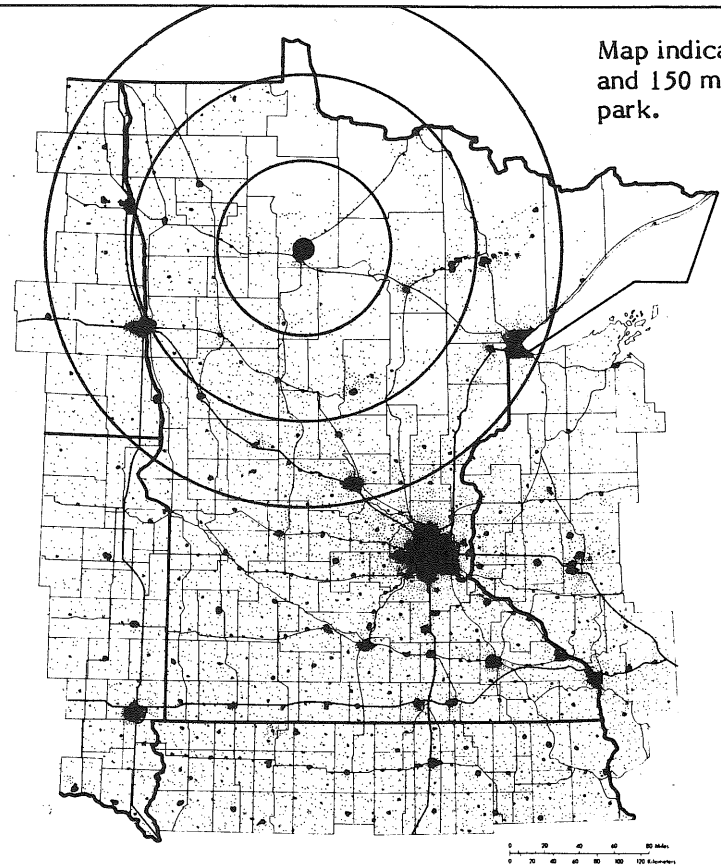
Minnesota Department of Natural Resources and State Planning Agency. 1971. Minnesota Resource Potentials in State Outdoor Recreation: Project 80 Staff Report No. 1. Bureau of Planning (DNR) and Environmental Planning Section (SPA). St. Paul.

Minnesota State Planning Agency. 1975. Minnesota Population Projections. Office of the State Demographer. St. Paul.

Minnesota State Planning Agency. 1974. 1974 Pocket Data Book. Development Planning Division. St. Paul.

Population Distribution, 1970, SPA/CURA Wall Map Series, February 1973.

Population Distribution

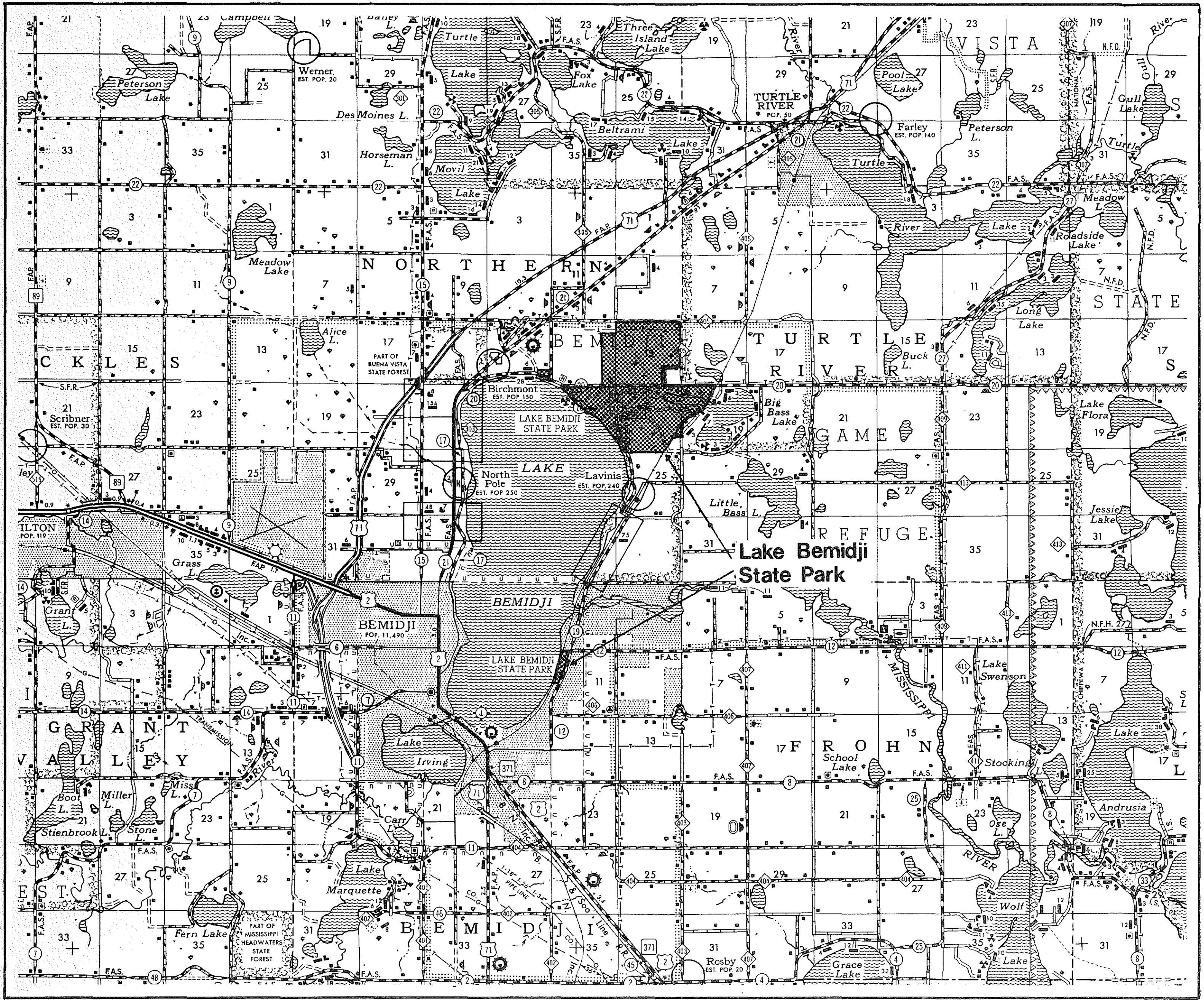


Map indicates 50, 100, and 150 mile radii from park.

PROXIMITY TO POPULATION CENTERS

Center	*Distance	Travel Time	Approximate Population
Bemidji	5 miles	15 minutes	12,000
Beltrami, Itasca, Cass, Hubbard, and Clearwater Counties	110 miles	1½ hours	108,000
Fargo-Moorhead	135 miles	2½ hours	75,000
Grand Forks	120 miles	2 hours	60,000
Twin Cities	225 miles	5 hours	1,905,000

*Approx. Road Mileage


Lake Bemidji
State Park
LAKE BEMIDJI
STATE PARK
LAKE
BEMIDJI
BEMIDJI
POP. 11,490
Birchmont
EST. POP. 150
North
Pole
EST. POP 250
Lavinia
EST. POP. 240
TURTLE
RIVER
POP. 50
Farley
EST. POP. 140
Werner
EST. POP. 20
Scribner
EST. POP. 30
Rosby
EST. POP 20
N O R T H E R N
T U R T L E
R I V E R
G A M E
R E F U G E
V I S T A
S T A T E
G R A N T
V A L L E Y
F R O H N
B E M I D J I
PART OF
BUENA VISTA
STATE FOREST
PART OF
MISSISSIPPI
HEADWATERS
STATE
FOREST
Turtle Lake
Three Island Lake
Fox Lake
Beltrami Lake
Turtle River Lake
Pool Lake
Peterson L.
Peterson Lake
Gull Lake
Meadow L.
Roadside Lake
Long Lake
Buck L.
Big Bass Lake
Lake Flora
Little Bass L.
Jessie Lake
Lake Swenson
School Lake
Ose L.
Andrusia
Wolf Lake
Grace Lake
Movil Lake
Horseman L.
Des Moines L.
Meadow Lake
Alice L.
Grass L.
Grant L.
Lake Irving
Carr L.
Lake Marquette
Fern Lake
Boot L.
Miller L.
Miss L.
Stone L.
Stienbrook L.
MISSISSIPPI
RIVER
Stocking L.

REGIONAL PERSPECTIVE

Lake Bemidji State Park is located within the Pine Moraine Landscape Region, in the northern portion of the big moraine complex. This moraine was formed by deposition of glacial materials during the last glacial period. Soil materials range in size from clay particles to boulders and many lakes, ponds, and bogs dot the landscape.

The presettlement vegetation consisted largely of jack pine, aspen-birch, mixed hardwood, and pine. Scattered hardwoods occurred in the western portion with some spruce-fir in the eastern portion. Although some pine has regenerated in the cut-over areas, the predominant vegetation in the region today is aspen-birch and jack pine.

The two most common land uses in Beltrami, Hubbard, and Cass counties are forest (57.7%) and open water and marsh (26.9%). Population estimates for the 3 counties increased from 54,300 in 1970 to 58,900 in 1975. Bemidji is the principal urban center.

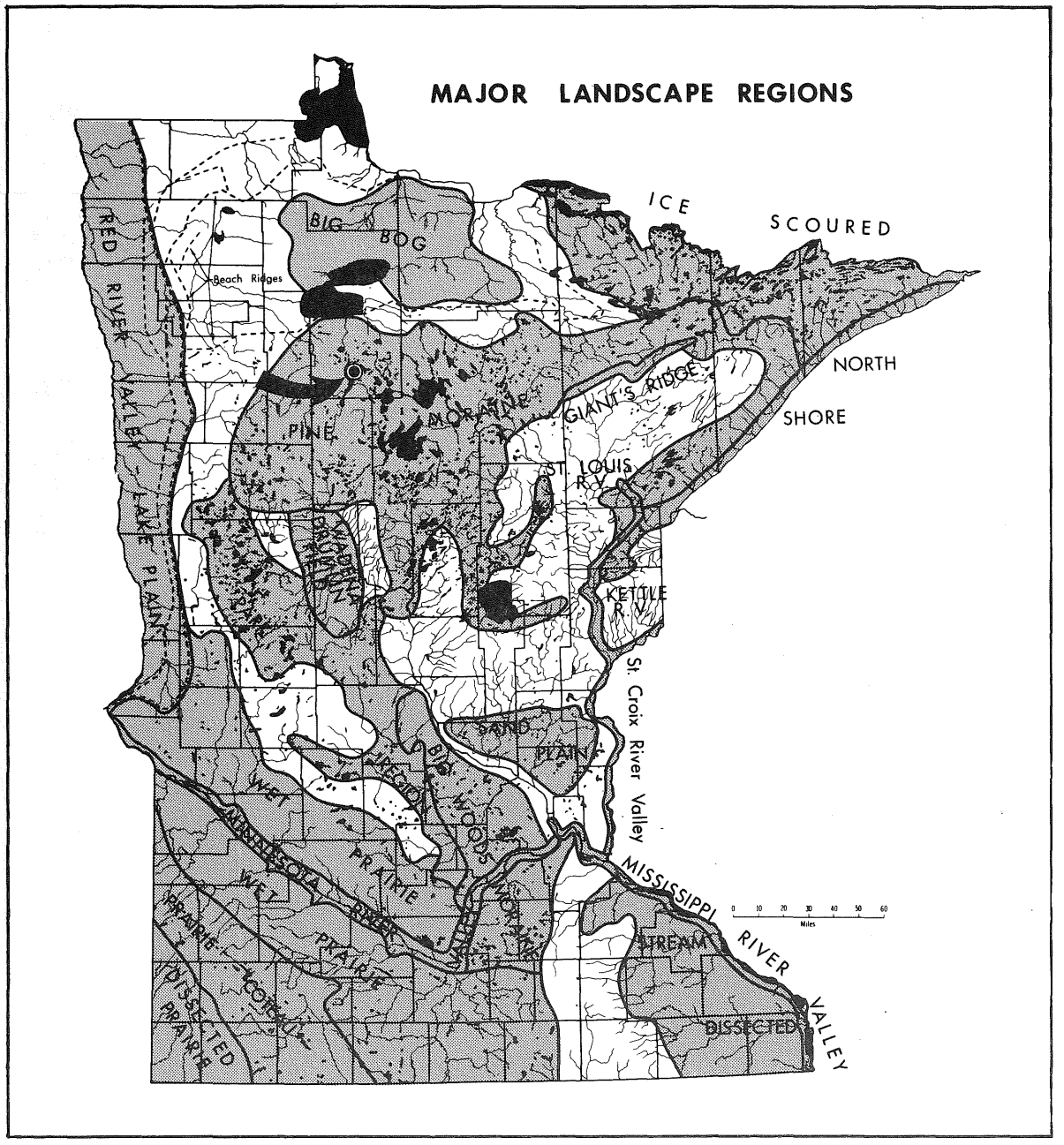
The Lake Bemidji area derives much of its income from tourism. Bemidji lays claim to the legendary Paul Bunyan as a major tourist attraction. Forest activities draw large numbers of people into the area. These visitors require public and private camping facilities. The public facilities include those in the Chippewa National Forest and the Paul Bunyan, Mississippi Headwaters, Buena Vista and Blackduck State forests.

The Department of Economic Development indicated that in 1974 Beltrami, Cass, and Hubbard counties derived $54,349,000 from tourism related sales. This is approximately 29% of the total gross sales within the counties.

Sources:

Project 80 Staff, 1971. Minnesota resource potentials in state outdoor recreation. Department of Natural Resources, Bureau of Planning. State Planning Agency, Env. Planning Section. 178 pp. Plus appendices.

Marschner, F. J. 1930. The original vegetation of Minnesota. North Central Forest Experiment Station Map.


MAJOR LANDSCAPE REGIONS
ICE SCOURED
NORTH SHORE
BIG BOG
Beach Ridges
RED RIVER VALLEY
LAKE PLAIN
PINE
MORAINE
GIANT'S RIDGE
ST. LOUIS R.
KETTLE R.
St. Croix River Valley
SAND PLAIN
OAK OPENING
WOODS
WET PRAIRIE
MINNESOTA RIVER
PRAIRIE
CORNICE
DISSECTED PRAIRIE
MISSISSIPPI RIVER
STREAM
DISSECTED VALLEY
0 10 20 30 40 50 60
Miles

CLIMATE

Lake Bemidji State Park is subject to the strong continental weather patterns that influence all of Minnesota. The area is influenced by cold Arctic air during the winter months and is frequently dominated by hot air masses from the Gulf of Mexico during summer months.

Temperature Variations

Mean January Maximum	15°F
Mean January Minimum	- 9°F
Mean July Maximum	81°F
Mean July Minimum	56°F

Mean Average Extremes/Frequency

0°F 56 days/year
90°F 8 days/year

Precipitation

Annual Total 22"
Annual Snowfall 45"

Prevailing Winds

Northwest (October-May)
South (June - September)

Source:

Kuehnast, Earl L. 1972. Climates of the states. U.S. Department of Commerce, Climatography of the United States No. 60-21.

GEOLOGY

The landforms in Lake Bemidji State Park are a result of the last stage of glaciation moving from Canada through Minnesota. Rock material abraded from land to the north was deposited as heterogeneous till in knob and kettle ground moraine topography as the glacier melted and receded. This till was overlaid with minor pockets of sorted outwash carried by meltwater running off the surface of the glacier. The outwash was deposited on a flat plain which is now the campground area. Fine outwash overlying the coarser till can be seen on Rocky Point. Boulders eroded from the boulder–clay till remain at the base of the cliff.

Both the marsh in the park and Lake Bemidji were formed when ice blocks which broke off the receding glacier melted, leaving depressions in the land which filled with water.

Buried beneath the glacial deposits are various granites formed by volcanic action during the earliest geologic time, the Precambrian Era. Between the glacial deposits and the granitic "basement rocks" are shales, deposited by seas which covered the area in the Cretaceous Period.

The area of Lake Bemidji State Park has a low potential for mineral occurrence.

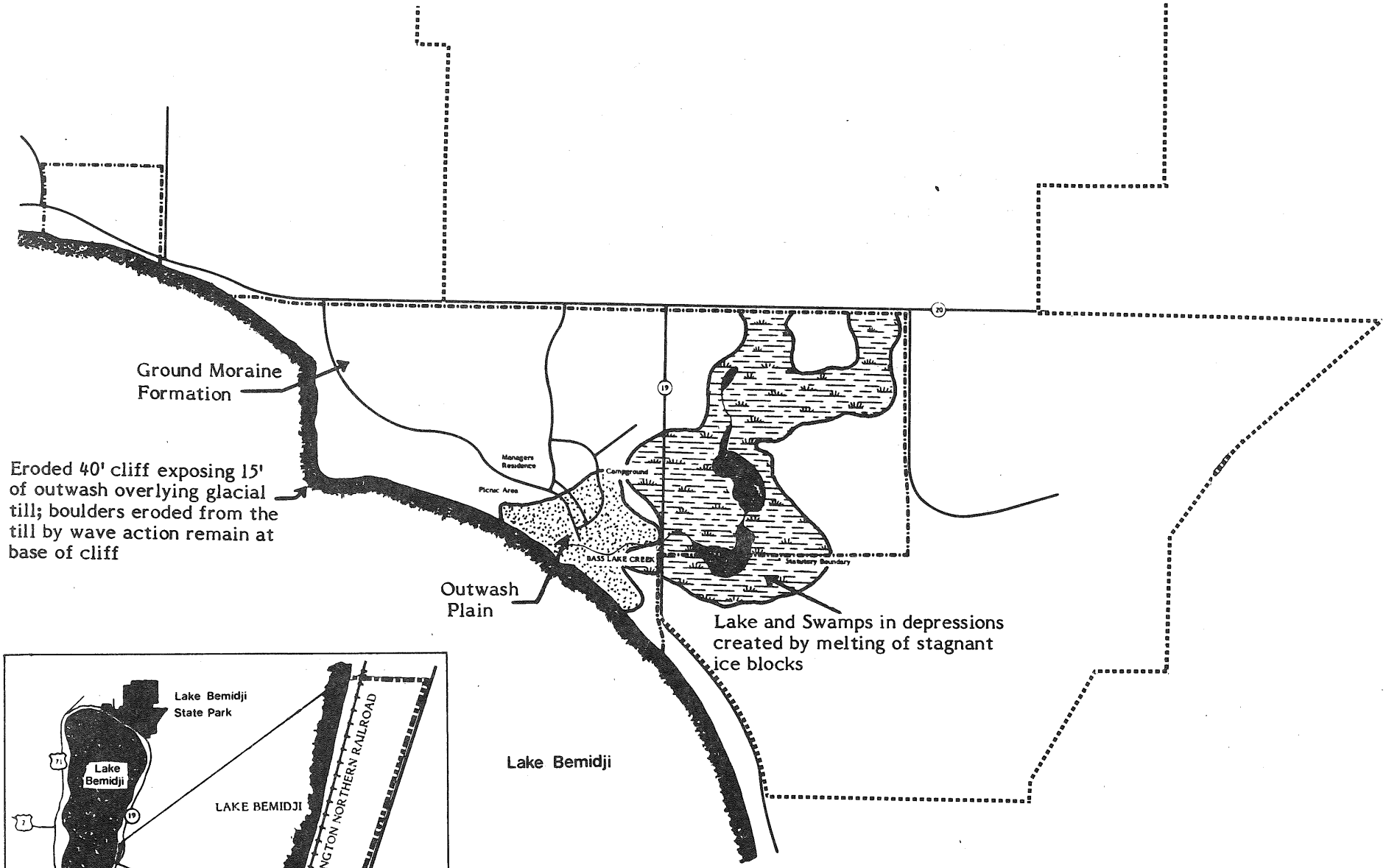
Geologic reliability: Fair
Possible minerals of economic value: Uranium, copper

Sources:

Minnesota Department of Natural Resources and State Planning Agency. 1971. Minnesota Resource Potentials in State Outdoor Recreation: Project 80 Staff Report No. 1. Bureau of Planning (DNR) and Environmental Section (SPA). St. Paul.

Zumberge, James H. 1948. "Geology of Lake Bemidji State Park," Conservation Volunteer, Volume 11, No. 67.

Memos from David Meineke, mineral exploration supervisor, Division of Minerals, Department of Natural Resources, January 27, 1978.


Ground Moraine Formation
Eroded 40' cliff exposing 15' of outwash overlying glacial till; boulders eroded from the till by wave action remain at base of cliff
Outwash Plain
Lake and Swamps in depressions created by melting of stagnant ice blocks
Lake Bemidji
Managers Residence
Picnic Area
Campground
BASS LAKE CREEK
Statutory Boundary
Lake Bemidji State Park
Lake Bemidji
LAKE BEMIDJI
BURLINGTON NORTHERN RAILROAD
Bemidji
Scale in Feet
0 250 500 1000

PARK HISTORY

Lake Bemidji State Park was established in 1923 to conserve a remnant of virgin pine forest and to provide public access to Lake Bemidji. Earl Barker, a local Bemidji businessman, was among those instrumental in the formation of the park. Land was acquired from 1923 to 1936 from lumberman T. B. Walker through condemnation proceedings. Initial legislation required maintenance by the county. Subsequently, this function was transferred to the state.

The facilities in the park have been used by Bemidji residents and statewide visitors for a wide range of activities, including nature study, camping, swimming, and fishing.

Sources:

Lake Bemidji State Park Profile prepared by the Division of Parks and Recreation, July 23, 1968.

Interview with John Martin, past assistant director of the Division of Parks and Recreation.

OFF–SITE RELATIONSHIPS

Except for CSAH 19 and 20 which bisect the park, Lake Bemidji State Park is fairly well insulated from the visual effects of adjacent development. Vegetation on the perimeter of the park generally screens views. The substantial amount of state owned lake shore, buffers the existing water use areas from adjacent private lake homes. The park however, is affected by noise from the highways and from power boats on the lake. Because of its small size, highway noise can be heard throughout most of the park.

Lake Bemidji State Park is a visual asset to the surrounding area. The unmarred perimeter of the park provides a scenic contrast to existing and continuing development.

ACCESS CORRIDOR

The park is accessed via CSAH 20 from TH 71. It is tree lined and scenic except at the Lake Bemidji Country Club, where there is a large gravel parking lot and an unkempt shoreline. The golf course however, is a visual asset. Beyond the country club, the road has been rebuilt to high speed standards. Its straight alignment, cleared right–of–way, and wide ditches detract from the scenic qualities one would expect in this landscape.

Classification

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

Lake Bemidji State Park has been recommended for classification as a recreational state park with a public use scientific and natural area sub–unit.

ALTERNATIVE CONSIDERED

Natural State Park – Lake Bemidji State Park does not exemplify the overall character of the Pine Moraine Landscape Region as well as Itasca State Park. The fact that the park is intersected by major highways precludes a truly natural park experience. Traffic noise is audible throughout the park.

CRITERIA

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

Recreational state park criteria:

"Contains natural or artificial resources which provide outstanding outdoor recreational opportunities that will attract visitors from beyond the local area."

"Contains resources which permit intensive recreational uses by large numbers of people."

"May be located in areas which have serious deficiencies in public outdoor recreational facilities, provided that recreational state parks should not be provided in lieu of municipal, county, or regional facilities."

Scientific and natural area criterion:

"Embraces natural features of exceptional scientific and educational values..."

DISCUSSION

In 1975, 89% of Lake Bemidji's 146,000 visitors came to the park from outside a 50 mile radius of the park and stayed at least three days.

Bemidji State Park accommodates this large number of visitors for camping, hiking, ski touring, fishing, or observing and photographing nature, without negatively impacting the resources. Even though SCORP (State Comprehensive Outdoor Recreation Plan) has found no deficiency in public outdoor recreational facilities in this region, it is projected that by 1990 there will be a deficiency in camping facilities.

Within its 417 acres, Lake Bemidji State Park has 19 distinctive ecological communities. Such diversity in a small area readily lends itself to effective and valuable interpretation. Associated with these ecological communities are 239 species of birds, 47 species of mammals, and 20 species of reptiles and amphibians. Several rare and interesting plants may be found in bog areas of the park, including the sundew, the pitcher plant, and the round–leafed orchis. The detached southern portion of the park has the only remaining stand of virgin timber on the eastern shore of Lake Bemidji. The presence of the tall, overtopping virgin pines is quite evident from almost anywhere on the lake. Proper management of this area would enhance the interpretive potential of the park.

The exceptional ecological diveristy of Lake Bemidji State Park in combination with high visitor use, suggests that a strong interpretive program would make it an outstanding outdoor classroom. The result of such programs is a better informed citizenry who will have a keener appreciation of Minnesota's outstanding natural resources.

PARK GOAL

The goal for Bemidji State Park is to provide the people of Minnesota with a broad selection of water and land recreational activities in a natural setting.

ZONING

Introduction

Before the specific management of Lake Bemidji 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 - Potential Ecological Protection Zone, p. **27** - Because of the high degree of ecological diversity found within Lake Bemidji State Park, much of the park has been zoned for environmental protection. Environmental features include several orchid bogs with such plants as the sundew, pitcher plant, and round leafed orchis as well as lady slippers, and moccasin flowers. A big woods community, generally not found this far north, also exists within the park. Several stands of Norway pine and white pine are present. There is jack pine savanna with big bluestem grass ground cover in the eastern portion of the park.

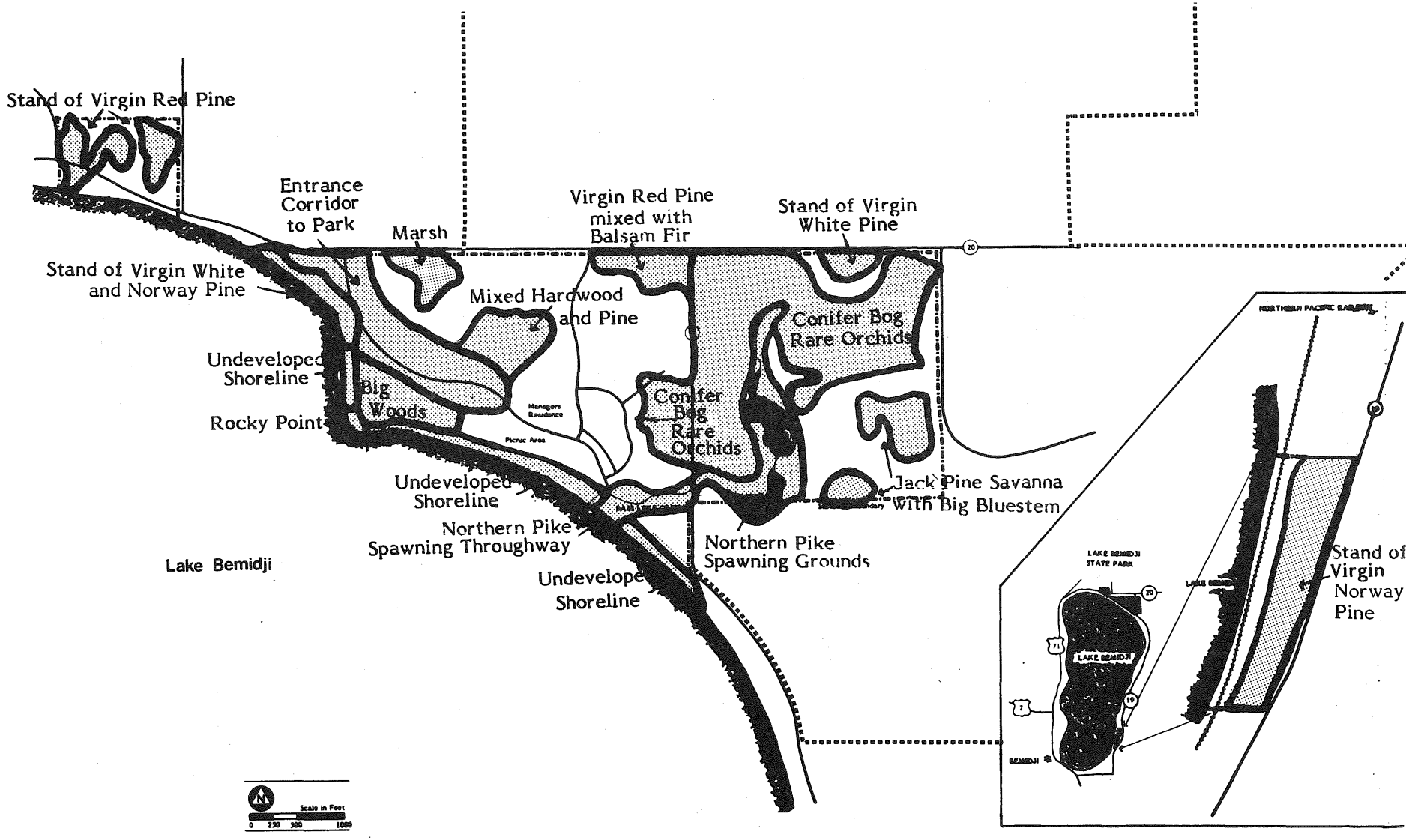
Zone 4 - General Environment Zone, p. **31** - The general environment zone in Lake Bemidji State Park includes those areas of the park which do not satisfactorily meet the criteria for the other zones. Recreational uses compatible with the overall management philosophy of the park are permitted in this zone. Snowmobile trails will be permitted in appropriate areas of this zone.

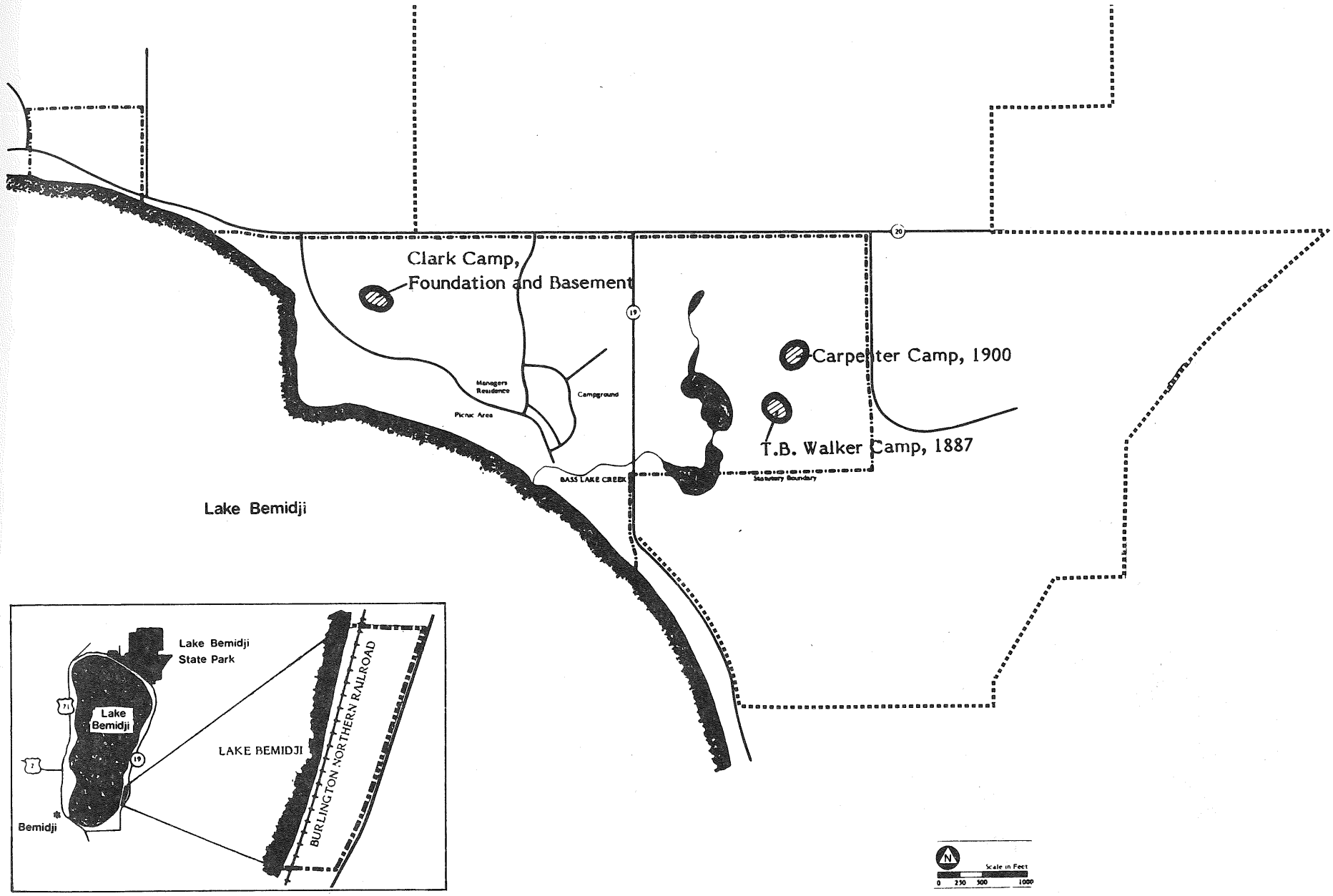
Zone 5 - Potential Cultural/Historical Zone, p. **28** - There is evidence of old cabins in the park Generally all that remains are the cabin cellars or other evidence of cabin foundations. All else has been lost or obliterated over the years.

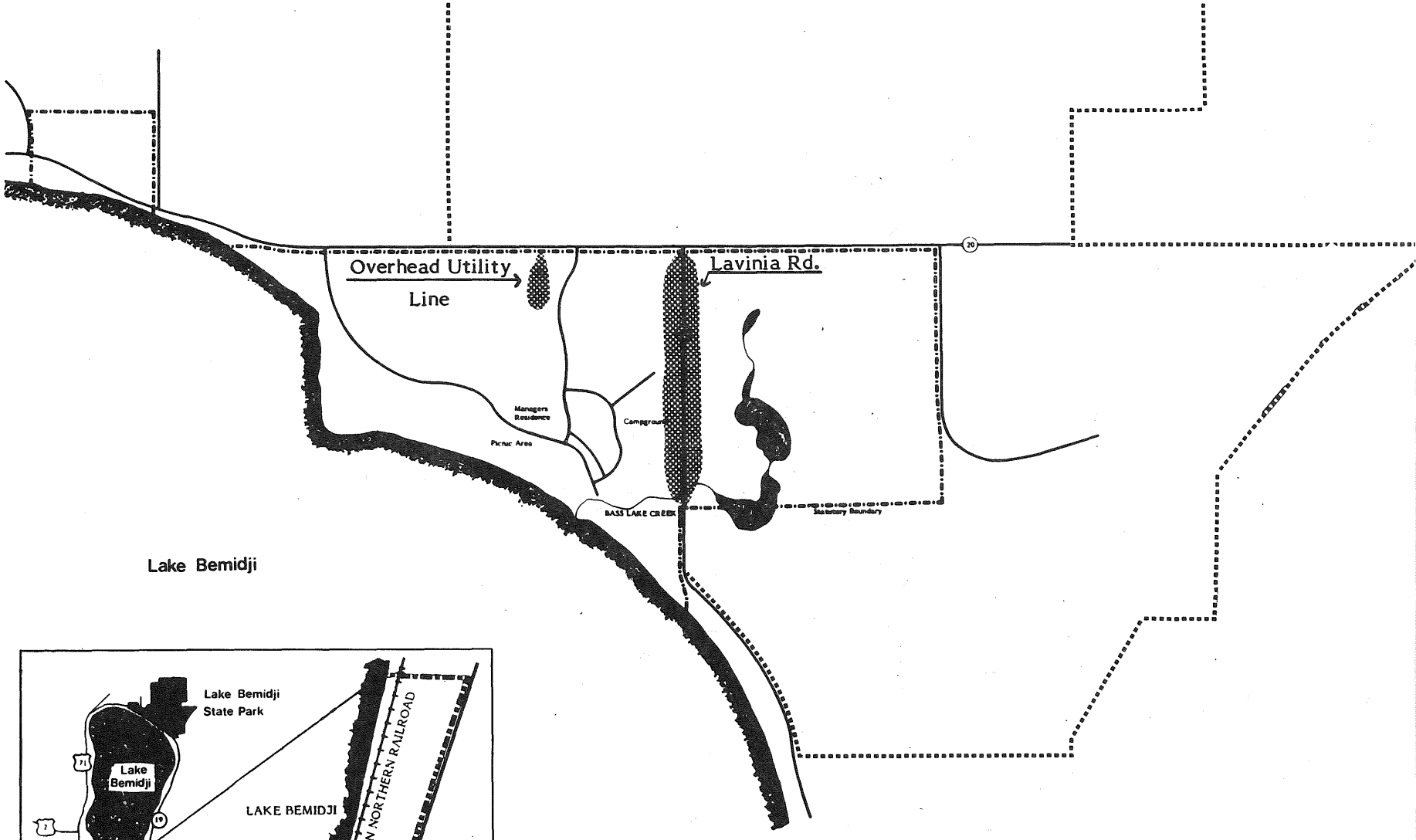
Zone 6 - Potential Development Zone, p. **30** - One area has been selected for development. This zone includes the area where park development has been concentrated to date and sufficient area to accommodate facility expansion needs. Generally, the upland, flat areas of the park are suitable for development. Development of the area indicated on the map will not adversely impact any ecologically sensitive areas or sites of historic significance.

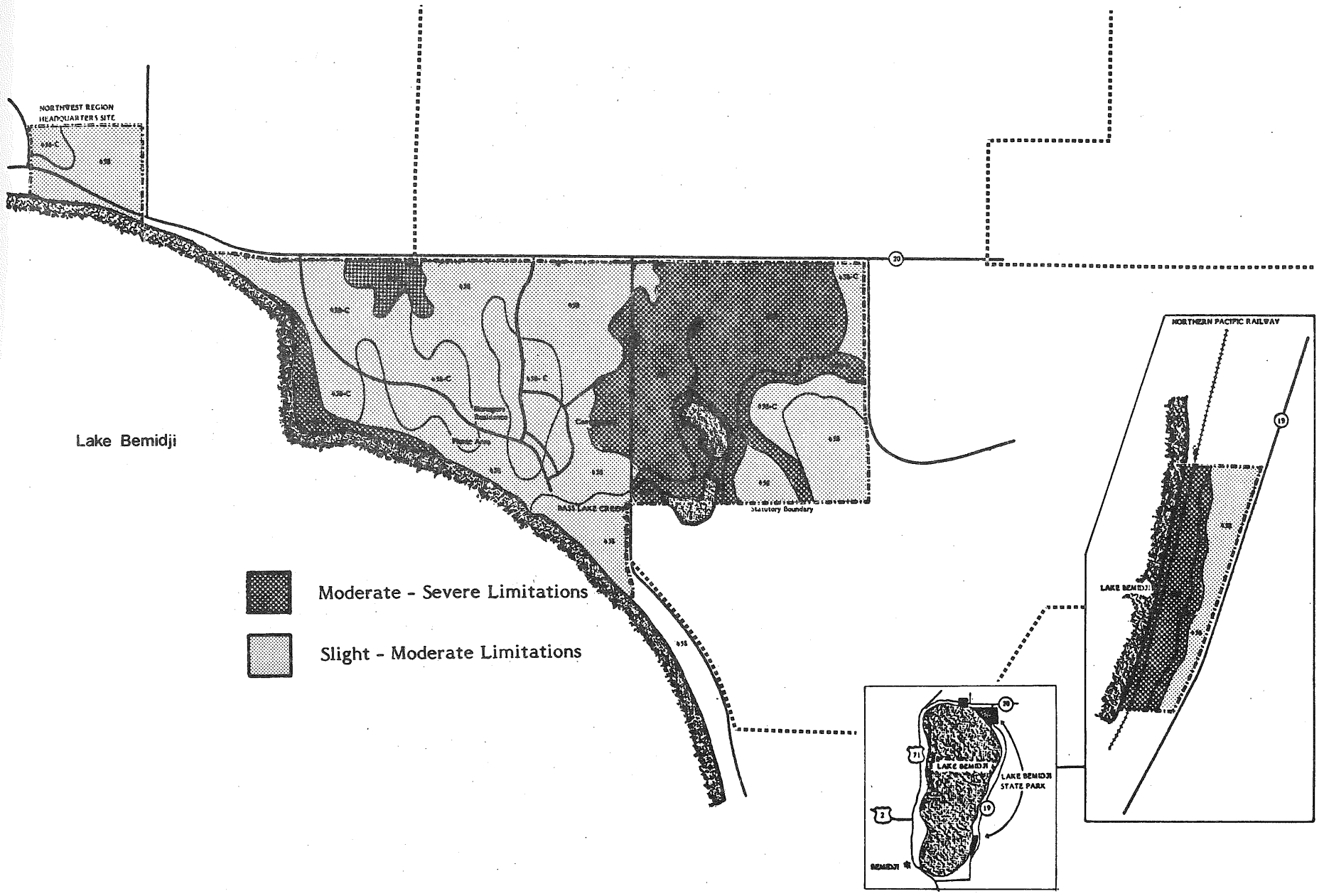
Final Zoning Map, p. **31**

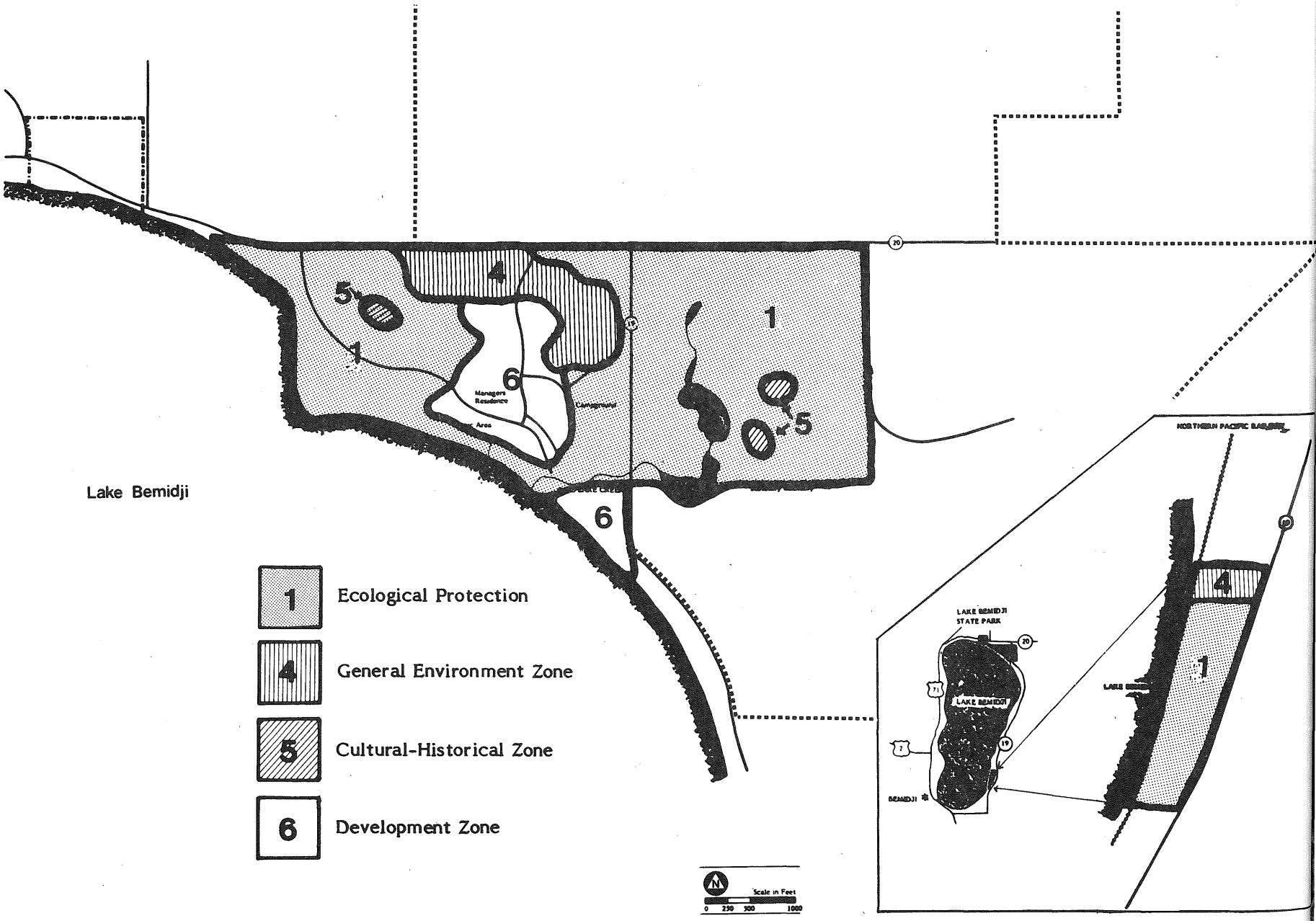
The final zoning map composite was developed utilizing an overlay process weighing one potential zone against the others and prioritizing them on the basis of resource sensitivity.


Stand of Virgin Red Pine
Entrance Corridor to Park
Marsh
Virgin Red Pine mixed with Balsam Fir
Stand of Virgin White Pine
Stand of Virgin White and Norway Pine
Mixed Hardwood and Pine
Conifer Bog Rare Orchids
Undeveloped Shoreline
Big Woods
Rocky Point
Manager's Residence
Picnic Area
Conifer Bog Rare Orchids
Undeveloped Shoreline
Jack Pine Savanna with Big Bluestem
Northern Pike Spawning Throughway
Northern Pike Spawning Grounds
Lake Bemidji
Undeveloped Shoreline
Scale in Feet
0 250 500 1000
NORTHERN PACIFIC RAILWAY
LAKE BEMIDJI STATE PARK
LAKE BEMIDJI
BEMIDJI
Stand of Virgin Norway Pine


Clark Camp,
Foundation and Basement
Carpenter Camp, 1900
T.B. Walker Camp, 1887
Managers Residence
Campground
Picnic Area
BASS LAKE CREEK
Statutory Boundary
Lake Bemidji
20
19
Lake Bemidji
State Park
Lake Bemidji
LAKE BEMIDJI
BURLINGTON NORTHERN RAILROAD
Bemidji
N
Scale in Feet
0 250 500 1000


Overhead Utility
Line
Lavinia Rd.
Managers
Residence
Campground
Picnic Area
BASS LAKE CREEK
Lake Bemidji
Lake Bemidji
State Park
Lake
Bemidji
LAKE BEMIDJI
BURLINGTON NORTHERN RAILROAD
Bemidji
N
Scale in Feet
0 250 500 1000


NORTHWEST REGION
HEADQUARTERS SITE
Lake Bemidji
Moderate - Severe Limitations
Slight - Moderate Limitations
NORTHERN PACIFIC RAILWAY
LAKE BEMIDJI
LAKE BEMIDJI
STATE PARK
BEMIDJI



See p. 24 for map code.

WATER RESOURCES

Introduction

No single element plays a more important role in the total environment and its component life support systems than water. Besides nourishing vegetation and wildlife, water provides aesthetic and recreational experiences for park users.

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

Surface Water Inventory

The small amount of Lake Bemidji's shoreline which fronts the park precludes management of the lake by the Department of Natural Resources.

The other surface water body in the park is Bass Lake Creek and the wetlands it drains. The creek is shallow (6"–18" deep) with a sluggish current and silty bottom. It widens to form Osprey and Sundew ponds in a 120 acre marsh which is classified as a Type III wetland.

- Lake Bemidji

Surface area:	6,420 acres
Maximum depth:	76'
Water level fluctuation:	NA
Shoreline character:	Sand or rock
Water quality	
Color:	Light green
Clarity:	5.0 Secchi disc (algae)
Alkalinity:	171.25 ppm
Dissolved oxygen:*	
Surface	9.7 ppm
18'	9.1 ppm
30'	3.8 ppm
50'	1.1 ppm
Total coliforms:	NA
Fecal coliforms:	NA

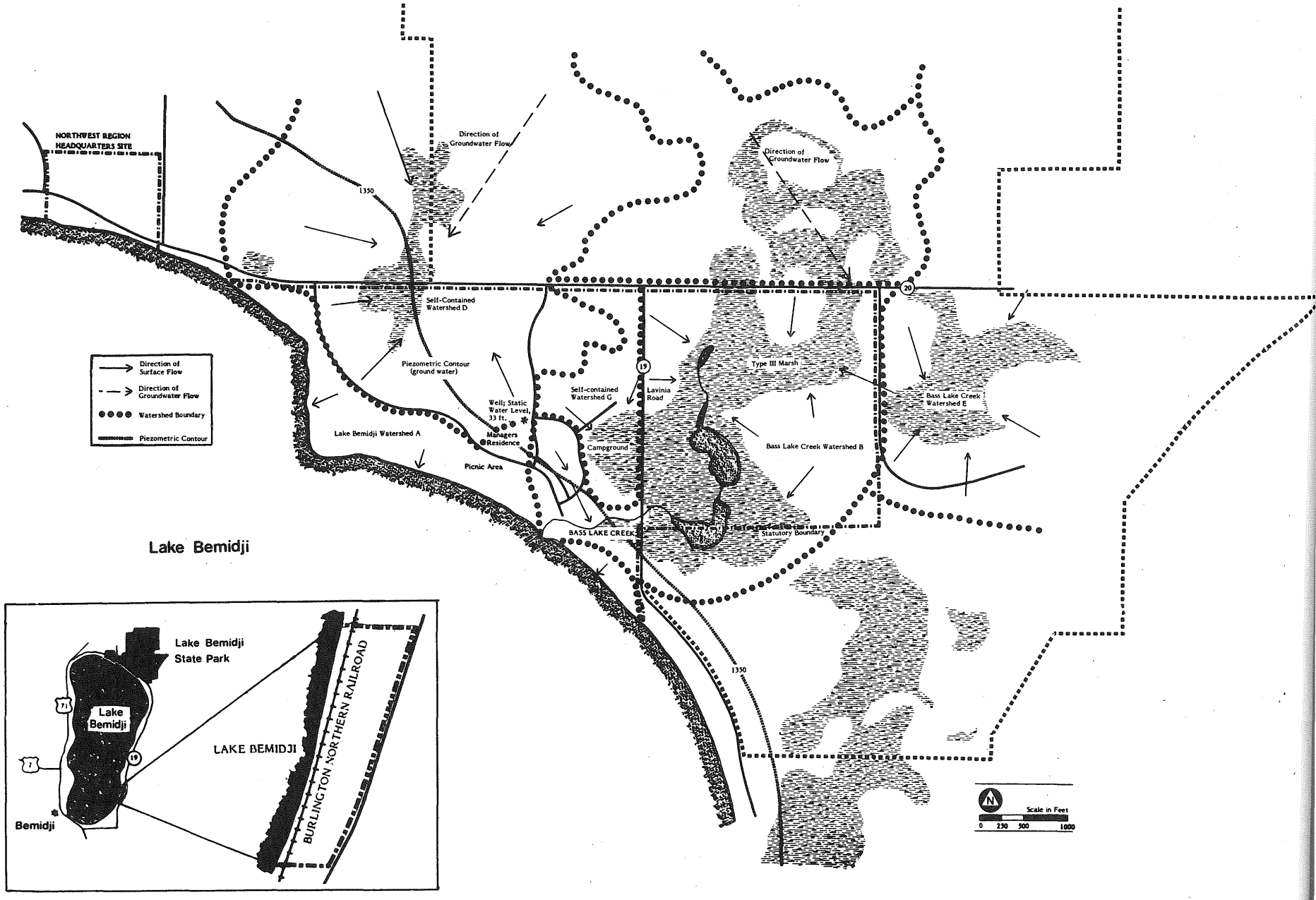
*Measured 9/9/73

Water temperature (when air temperature is 66°F)

Surface	71°F
20'	71°F
25'	68°F
28'	67°F
36'	66.5°F
48'	64.5°F

- Bass Lake Creek

Class:	General development stream (Beltrami County zoning)
Width:	3'–10'
Depth:	6"–18"
Gradient:	0.0012%
Bottom:	Silt
Flowage volume:	66 gpm from Big Bass Lake; peak discharge: Q_{25}=77 cfs; Q_{50}=88 cfs; Q_{100}=100 cfs modified by culvert under Lavinia Road
Water level fluctuation:	NA
Riffles:	None
Rapids:	None
Dams/obstructions:	Lavinia Road culvert
Pools:	Three
Water quality	
Color:	Slight bog stain
Alkalinity:	NA
Ph:	NA
Pollutants:	NA
Dissolved oxygen:	NA
Temperature profile:	NA
Coliforms:	NA
Fecal coliforms:	NA


NORTHWEST REGION HEADQUARTERS SITE
Direction of Groundwater Flow
Direction of Groundwater Flow
1350
Self-Contained Watershed D
Direction of Surface Flow
Direction of Groundwater Flow
Watershed Boundary
Piezometric Contour
Piezometric Contour (ground water)
Well; Static Water Level, 33 ft.
Managers Residence
Lake Bemidji Watershed A
Picnic Area
Self-contained Watershed G
Lavinia Road
Campground
Type III Marsh
Bass Lake Creek Watershed B
Bass Lake Creek Watershed E
BASS LAKE CREEK
Statutory Boundary
Lake Bemidji
1350
Lake Bemidji State Park
Lake Bemidji
LAKE BEMIDJI
BURLINGTON NORTHERN RAILROAD
Bemidji
Scale in Feet
0 250 500 1000

Surface Water Management

Objective:

To protect the sensitive northern pike spawning grounds in Bass Lake Creek and Osprey and Sundew ponds

Recommendations

In order to protect the northern pike spawning areas, the following boating restrictions will be enforced:

No motor boats in Bass Lake Creek during April and May.

No boats at all in Osprey and Sundew ponds during April and May.

Groundwater Inventory

Lake Bemidji State Park is a part of the bass Lake Creek watershed. Two small subwatersheds have no surface outlets and, due to soil conditions, function as groundwater recharge areas (map, p. 35.)

The water table is 10' or less near the lake, and 40' or more in the hilly interior. (See piezometric contours on the map, p.35.) The entire park, underlaid with outwash sand, provides a good to excellent source of groundwater.

Depth to water table:	10'–40'
Water purity:	
Nitrates:	NA
Coliform count:	NA
Hardness:	20 mg. $CaCO_3$/liter
pH:	7.3 to 8.4
Source:	Bemidji city wells
Water volume:	Movement to S.E. @ 2.25 cfs
Probable yield:	Up to 2,000 gpm

Groundwater Management

Objectives:

To ensure natural, unobstructed water flow and seepage in marshes and boggy areas

To provide a good quantity and quality of drinking water for park users.

• Recommendations

When the municipal sewerline is completed around Lake Bemidji, the park's sanitation facilities should be connected to it. The existing sewage leaching field should then be removed.

Both CSAH 19 and 20 form artificial watershed barriers. It is likely that water flow and seepage of marshy and boggy areas are interrupted by these roads, adversely impacting the associated plant communities, resulting in structural and species diversity changes. Culverts under the roadways help, but further investigation is needed to determine more suitable corrective methods.

Water Resources Management Budget

	Biennium					
Management Practice	78-79	80-81	82-83	84-85	86-87	Total
Hydrology Studies	$1,000		Subject to study results			$1,000
Total	$1,000					$1,000

FISHERIES

Introduction

Fishing is one of the most popular year–round recreational activities in Minnesota. Each year more than 1 1/2 million Minnesotans, as well as hundreds of thousands of tourists, fish the state's lakes and streams. With this fishing pressure, every effort should be made to maintain or improve fish populations.

The primary goal for any fisheries management program is to maintain the optimum 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 then determine the classification and site–specific management goals for a water body.

There are five basic classification categories for lakes and streams in the state: walleye, northern pike, centrachid (bass and other panfish), muskellunge, and trout and salmon. A lake or stream may be classified in more than one category, e.g., walleye/centrarchid lake. Dual classification allows the use of more than one management alternative. Unless otherwise specificed, a species classification does not imply that only those species are found in the lake or stream. Thus, specific management may differ slightly for lakes with similar classifications. Management alternatives include, passive management, population monitoring, stocking programs, rehabilitation, water level modification, habitat improvement, and rough fish control.

Inventory

Lake Bemidji contains above average populations of yellow perch and walleye throughout the lake, on sand bars, rock bottoms, and weed beds. Tullibee and burbot are found in large numbers in deep water.

From April 1 to May 30, the grassy marsh and Bass Lake Creek provide one of the most important spawning areas around Lake Bemidji for northern pike. Arrowhead, cattail, and fringe grasses are the major emergent vegetation types which, when matted down, create this spawning habitat.

During the month of April, adult northern pike swim up Bass Lake Creek to spawn in the marsh. In May, the fingerlings swim back through the creek to the lake. They swim on the surface of the water and can be greatly disturbed by human activity and pollution such as oil slicks and the turbulence from boat motors. The marsh cannot tolerate use in April and May. At other times, it has only a low use tolerance. Bass Lake Creek has low tolerance in April and May; at other times it has a moderate use tolerance.

Management

Objective:

To ensure the continued protection of the northern pike spawning habitat in Bass Lake Creek

• Recommendations

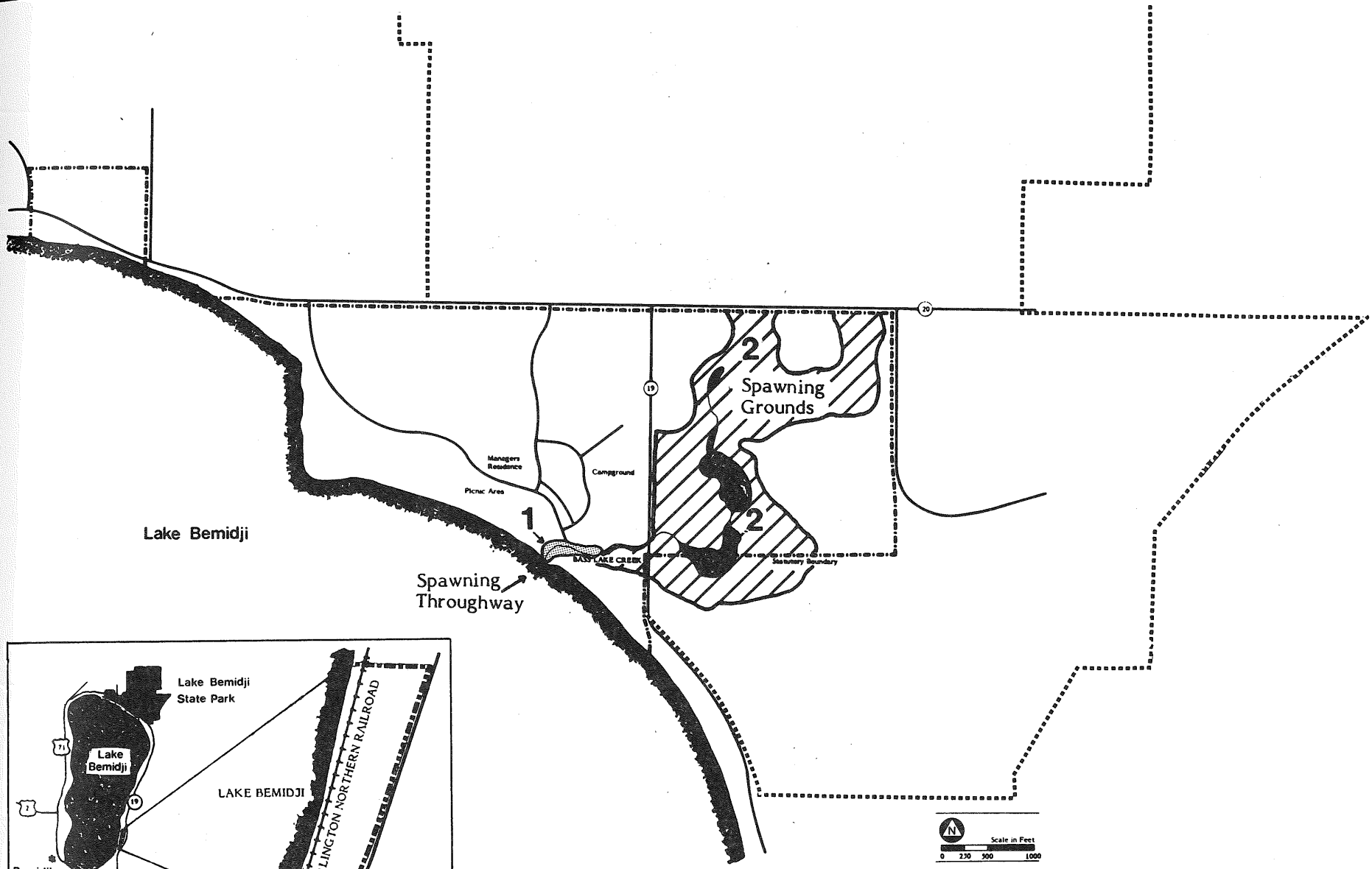
Use of the Bass Lake Creek watershed will be subject to seasonal restrictions, to protect the water quality and the established plant cover. (See Surface Water Management, p. 36.) This will help to maintain suitable habitat and spawning conditions for northern pike. Spawning grounds for pike are limited around Lake Bemidji and annual stocking of the species is needed to maintain adequate populations. Loss of this spawning ground could further reduce the northern pike population.

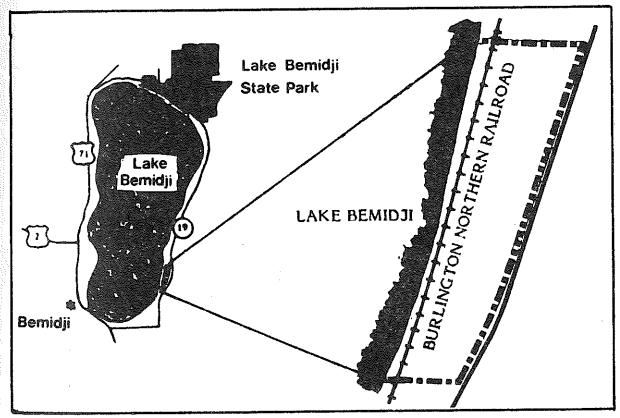
Lake Bemidji State Park does not totally enclose any lakes which have a fisheries potential. The park does, however, provide access to Lake Bemidji. The northern pike stocking program for the lake, good walleye pike reproduction, and the ingress from the Mississippi River, are adequate, at this time, to maintain a quality recreational fishing population.

Sources:

Memos from Howard Latvala, DNR Area Fisheries Manager, March, 1976.

Map Code (See map, p. 40)	Management Practice	Specific Recommendations
1	Boating Restrictions	Use of Bass Lake Creek, from the bay at the mouth, should be restricted to non-motorized boats during the months of April and May to protect migrating pike fingerlings.
2	Boating Restrictions	Boating or any other use which would pollute the water or create a disturbance will not be permitted. Site will be monitored to ensure continued existence of the spawning ground.





For map code, see p. 39 .

	Fisheries Management Budget					
Management Practice	78-79	80-81	82-83	84-85	86-87	Total
Monitor Northern Pike Spawning Habitat	$100	$100	$100	$100	$100	$500
Total	$100	$100	$100	$100	$100	$500

SOILS

Introduction

Soils and their underlying geological foundations greatly influence the vegetative cover. Several areas within the park system have become seriously compacted and eroded as a result of not considering soil limitations in management and development.

Soils are managed primarily to prevent and correct compaction, erosion, or pollution which are the result of natural forces or human use. There are three major policies related to soils management:

1. Maintenance of adequate ground cover.

2. Correction of erosion, compaction, and pollution.

3. Restriction of all future uses and developments to suitable soil situations.

Inventory

The soils of Lake Bemidji State Park are primarily of the Manahga series. They are somewhat excessively drained and originated under the influence of forest cover. The basic limitation to development for recreational buildings and septic tanks is the degree of slope. Otherwise, park soils are generally suitable for recreation.

Management

Objectives:

To identify areas which have a potential erosion hazard

To control existing erosion

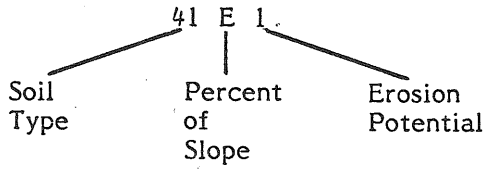
• Recommendations

Some serious problems exist along Rocky Point Trail and on Rocky Point, where park visitors leave the trail to climb down to the Lake Bemidji shoreline. This activity has disturbed the highly unstable sand and has resulted in erosion problems. Other potentially erodible areas are identified on the map, p.46 and discussed in the table, p.43.

Soil Type	Map Code	Slope	* Permeability	Erosion Hazard	Potential Frost Action	Intensive		Paths and Trails	** Recreation Buildings	Sewage Lagoons	Septic Tank Filter Field
						Picnic Areas	Camp Areas				
Menahga	458	0-12	6.0-20.0	Slight-Sev.[1]	Low	Moderate[2]	Moderate[2]	Moderate[2]	Slight-Mod.[1]	Severe[5,6]	Slight-Mod
Seelyeville	540	0	0.2-6.0	Slight	High	Severe[4,7]	Severe[4,7]	Severe[4,7]	Severe[4,7,9]	Severe[4,7,9]	Severe[4,7]
Markey	543	0	0.2-20.0	Slight	High	Severe[4,7]	Severe[4,7]	Severe[4,7]	Severe[4,7,8,9]	Severe[4,7,9]	Severe[4,7]
Marsh	1053	0	No Data	No Data	High	Severe[4,7]	Severe[4,7]	Severe[4,7]	Severe[4,7,8,9]	Severe[4,7,9]	Severe[5,7]

*Permeability measured in inches per hour
**Based on buildings with a basement or foundation

Soils Map Key



Soil Type

See Soils Characteristics/Suitability Chart, p. **43** for identification of soil type.

Percent of Slope

A - 0-2
B - 2-6
C - 6-12
D - 12-18
E - 18-25
F - 25-35

Erosion Potential

1 - None
2 - Slight
3 - Severe

Chart Legend-Soils Suitability/Characteristics

Slight - Limitations for a stated use are minor and can be overcome easily.

Moderate - Limitations for a stated use can be overcome by special planning, design, or maintenance.

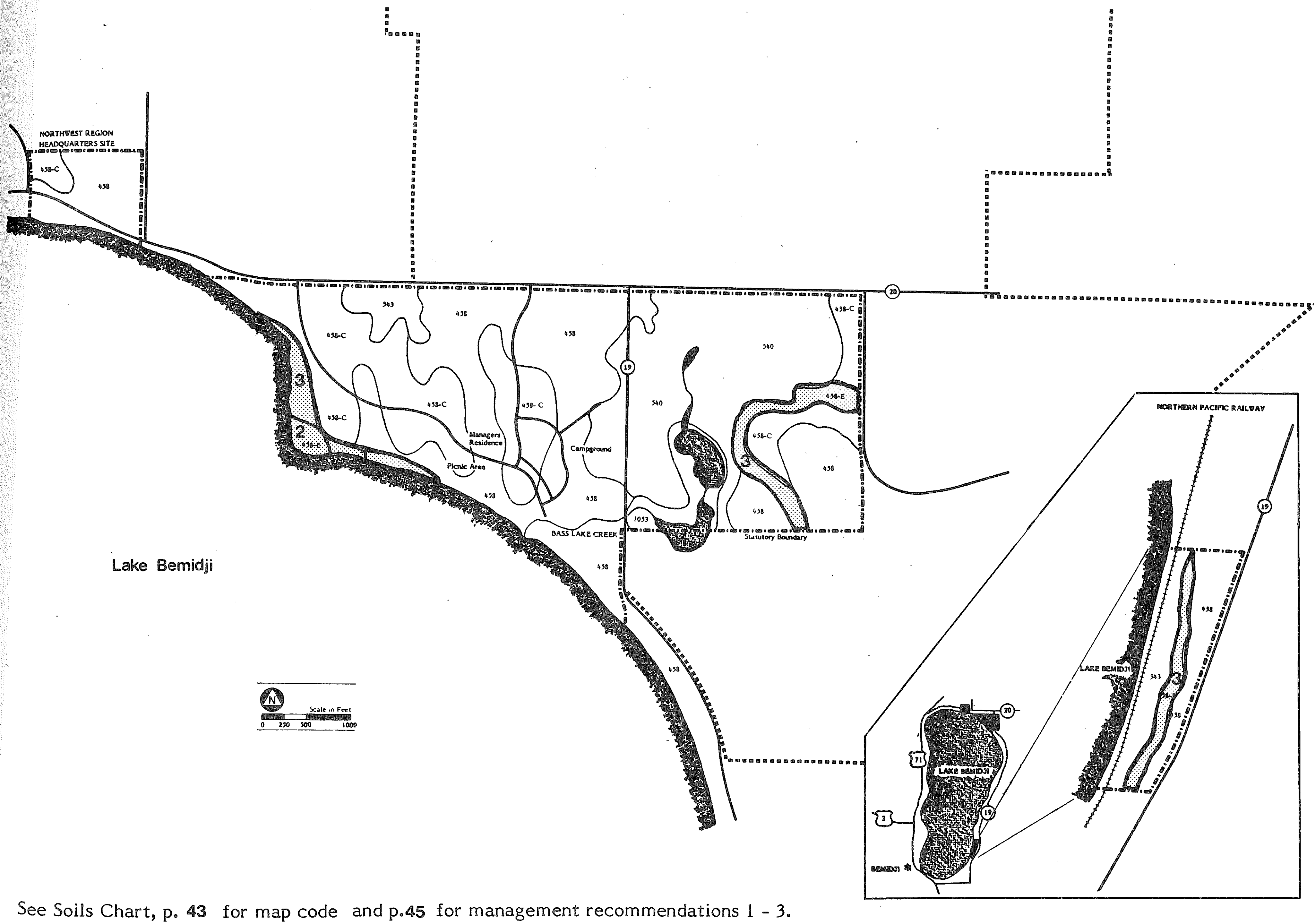
Severe - Limitations for a stated use generally require a major soil reclamation, special design, or intensive maintenance.

LIMITATIONS

[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

The Potential Development Zone Map, p. 30 shows those areas of the park which have slight to moderate limitations to development. New recreational facilities will be sited on soils capable of accommodating the proposed use. Limitations imposed on a development by a particular soil type will be recognized during the site specific design phase and appropriate measures to overcome those limitations will be implemented.

Map Code (See map, p. 46)	Management Practice	Specific Recommendations	Estimated Cost
1	Erosion control	Continue the placement of brush piles to discourage hikers from straying off the trail and going down to the lakeshore. This has been successful in the past and natural revegetation is now beginning to take place.	1978-79 $1,000 1980-81 1,000 1982-83 1,000 1984-85 500 1986-87 500
2	Erosion Control	Wave action and human activity are causing erosion on Rocky Point. Even though erosion caused by wave action is natural, vegetation should be planted to slow the process. The construction of an observation deck is also recommended. (See Trails, p. 93.)	Covered in the Recreation Manageme Section
3	Maintain Vegetative Cover	Prohibit all visitor use of sensitive slopes by planting thick vegetative screening.	Covered in the Recreation Manageme Section
	General	Discourage heavy visitor use of low-lying boggy areas, except where boardwalk trails have been provided.	



See Soils Chart, p. **43** for map code and p.**45** for management recommendations 1 - 3.

Soils Management Budget

	Biennium					
	78-79	80-81	82-83	84-85	86-87	Total
Erosion control	$ 1,000	$ 1,000	$ 1,000	$500	$500	$ 4,000
Total	$ 1,000	$ 1,000	$ 1,000	$500	$500	$ 4,000

VEGETATION

Introduction

To rapidly inventory the vegetation component of a park, a system was devised which would not only categorize vegetation but would also recognize those species of wildlife normally associated with these plant communities. The system used to describe vegetation/wildlife associations is called the "Ecological Community System." In designing the system, several factors were considered. These factors included existing land use patterns, soil wetness, plant species composition, physical appearance (i.e., grassy, brushy, forested, or bare), and the habitat choices of the various species of wildlife commonly found in Minnesota. The various ecological communities identified in the inventory process are described in Appendix A.*

Inventory

The original vegetation of the area was primarily pine. It was logged off and today the park is characterized by the following ecological communities: northern hardwoods, conifer bogs and swamps, pioneer hardwoods, pine groves, mixed hardwoods, and conifers. Also present are bottomland hardwoods, old fields, alder–willow, muskeg, big woods, marshes, spruce–fir, open conifers, streams, rivers, lakes, banks, rock outcrops, sand beachs, and dunes. See map, p. **50.**

Major Ecological Communities

Northern hardwoods – Northern hardwood communities are generally scattered through the park. Quite likely these are second growth communities which replaced the pine logged off during the early 1900's. Left without any management and excluding fire, these communities may be replaced by the more shade tolerant maple–basswood community. Scattered pines occur throughout this community.

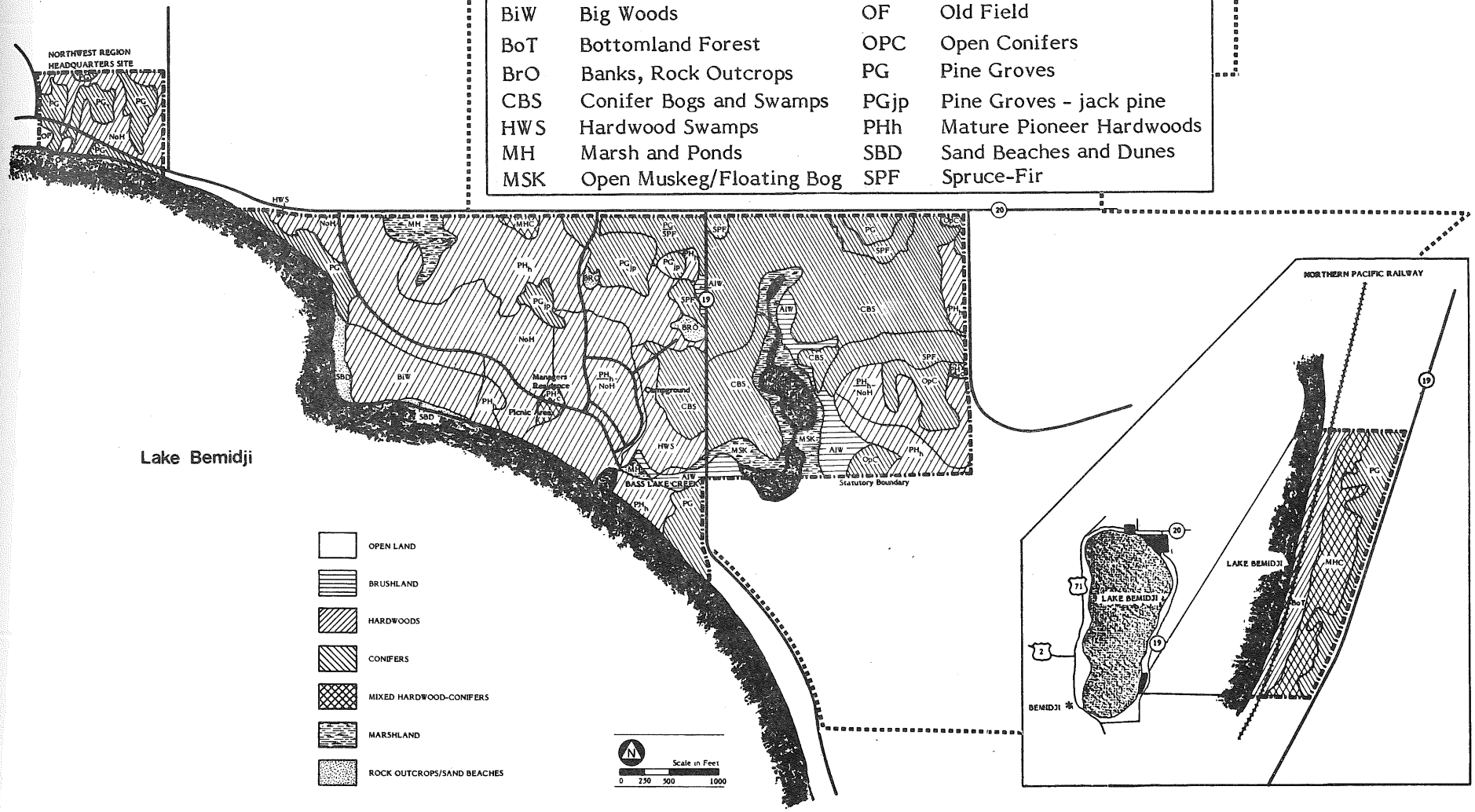
Dominant Tree Species

- Red maple
- Red oak
- Aspen
- Paper birch

*See note on page ii for information on the availability of the appendices.

ECOLOGICAL COMMUNITY ABBREVIATIONS

Code	Cover Type	Code	Cover Type
AlW	Alder-Willow	NoH	Northern Hardwoods
BiW	Big Woods	OF	Old Field
BoT	Bottomland Forest	OPC	Open Conifers
BrO	Banks, Rock Outcrops	PG	Pine Groves
CBS	Conifer Bogs and Swamps	PGjp	Pine Groves - jack pine
HWS	Hardwood Swamps	PHh	Mature Pioneer Hardwoods
MH	Marsh and Ponds	SBD	Sand Beaches and Dunes
MSK	Open Muskeg/Floating Bog	SPF	Spruce-Fir



Dominant Shrub Species

Hazel
Mountain maple
Downy arrowwood
Round–leaved dogwood

Conifer bogs and swamps – The conifer bogs and swamps occupy the low lying areas in the park. These areas have relatively dense stands of black spruce and tamarack. These communities are probably unchanged from presettlement times. Any significant changes in the ecological community are unlikely unless water levels are changed by drainage or an impeding of the water flow.

Dominant Tree Species

Black spruce
Tamarack

Dominant Shrub Species

Red osier dogwood
Alder

Pioneer hardwoods – Pioneer hardwood communities invade cut over areas or abandoned fields. They are shade intolerant and do well only in situations where full sunlight warms the soil surface. Pioneer hardwood species are relatively short lived and are replaced by species which do well in shaded situations. The pioneer hardwood communities in the park are probably the result of early clear cutting operations. Pioneer hardwood communities in the park could eventually convert to pine groves or spruce–fir. Also possible is a conversion to the shade tolerant maple–basswood community.

Dominant Tree Species

Aspen
Paper birch

Dominant Shrub Species

Hazel

Pine groves – Present stands of pine in the park occur in pockets on upland soils. Both jack and Norway pine stands are found in these areas. The Norway pine are remnants of the original virgin timber which were not cleared in the early logging operations. The jack pine stands probably originated from a post logging fire. The Norway pine is close to overmaturity and will die off, perhaps in less than 50 years. Jack pine is also a short–lived species and may be lost within 50 years. Both species will be replaced by either shade tolerant spruce–fir or, if the area is opened by wind or fire, jack or Norway pine will re–seed in the openings.

Dominant Tree Species

Norway pine
Jack pine

Dominant Shrub Species

Hazel

Mixed hardwoods and conifers – The mixed hardwood/conifer type is predominant in the detached portion of the park on the east shore of Lake Bemidji. The aspen–birch in this stand probably originated after the last major fire burned through the area removing the carpeting of underbrush. Without any openings in the canopy, shade tolerant spruce–fir may eventually replace the present conifers. As small openings develop from wind or other natural loss, these openings may be revegetated by either aspen, birch, Norway, or jack pine depending on season and seed production.

Dominant Tree Species

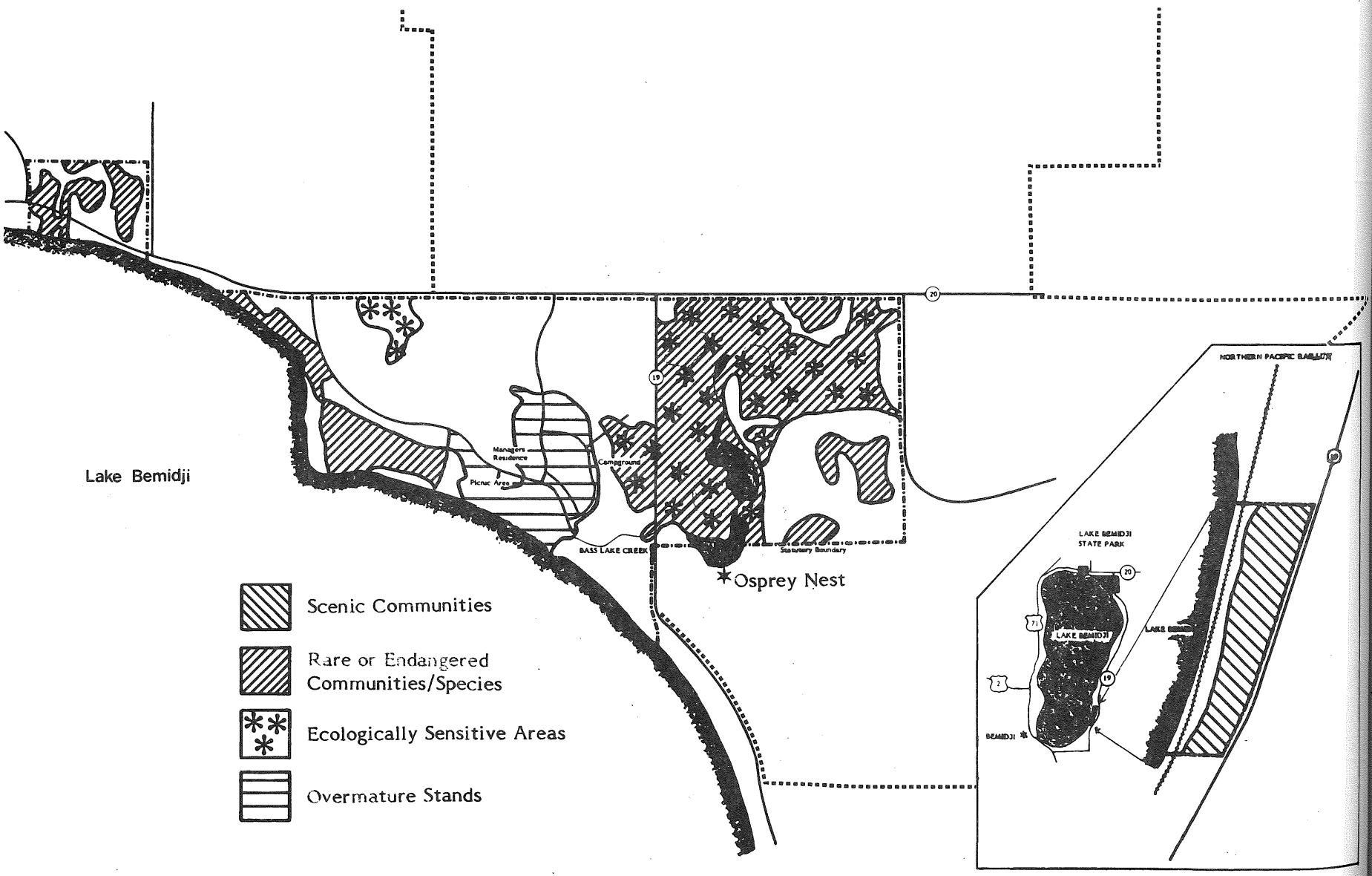
Jack pine
Norway pine
Aspen
Paper birch

Dominant Shrub Species

Hazel

Toxic Plant Species

Poison ivy is common throughout the park.


Lake Bemidji
Managers Residence
Picnic Area
Campground
BASS LAKE CREEK
Osprey Nest
Scenic Communities
Rare or Endangered Communities/Species
Ecologically Sensitive Areas
Overmature Stands
LAKE BEMIDJI STATE PARK
LAKE BEMIDJI
BEMIDJI

Scenic Communities

A scenic community worthy of note is the mixed hardwood/conifer–pine grove community in the detached portion of the park. The contrast between this area which was not logged and the adjacent forest is very evident. A layering effect caused by the older Norway pine overlapping the second growth jack pine is the most noticable feature. These tall pines occur only on park lands. The adjacent private lands which have been logged have only the second growth jack pines. Also in this tract, is a relatively high bluff paralleling the shore of Lake Bemidji. Openings in the vegetation at scattered points allow impressive vistas of Lake Bemidji.

Rare or Endangered Species or Communities

Lady slippers and moccasin flowers occur in the park in the low lying bog areas. Other rare bog plants include the sundew, pitcher plant, and round–leafed orchis.

John Moyle lists three communities in the park as being in need of special consideration. These include the Great Lakes pine forest; wooded or open bogs, muskegs, and swamps; and upland hard maple–basswood forest. A fourth community is a pine savanna in which pine is associated with big bluestem, little bluestem, and porcupine grasses. (See map, p. 53.)

Diseased, Mature, or Overmature Stands

The trees in the area of the campground and picnic area are mature and overmature. They are also being adversely affected by the intensive activity. Replacement of these trees will be necessary to retain the character of the area. (See map, p. 53.)

Sensitivity to Intensive Use

The low lying areas such as bogs and marshes are not capable of sustaining intensive use without protection measures. Also those areas indicated as rare, endangered, or unique communities are also intolerant to intensive use. (See map, p. 53.)

Source:

Moyle, John B. Oct. 1975. ... The Uncommon Ones.

Management

Objectives:

To perpetuate the existing plant community diversity

To foster the continued reproduction of Norway pine

To protect and perpetuate rare and sensitive plant communities

To enhance plant community diversity

To improve wildlife habitat

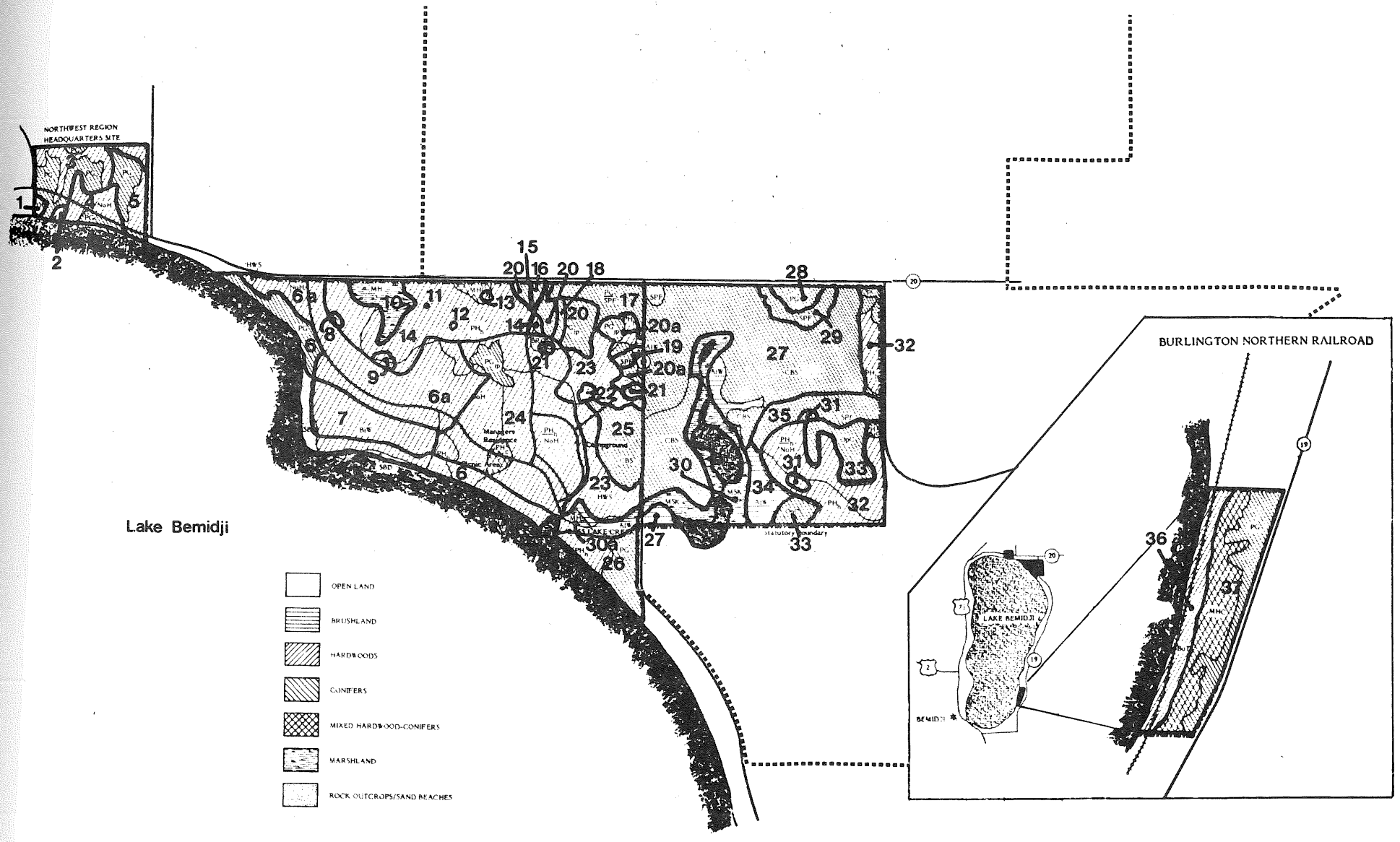
•Recommendations

The concept of ecological community management allows for the protection and perpetuation of the existing plant community complex at Lake Bemidji State Park. Community management also allows flexibility in selecting the appropriate techniques necessary to regenerate a given plant grouping. It also provides for age and species diversity and promotes structural diversity.

Passive management has been practiced in the past. This has proven to be unsuccessful in perpetuating the plant resources of the park. Standard fire suppression practices have eliminated a critical ecological component resulting in changes in plant communities. Pine groves have been invaded and congested by underbrush and seedling survival has been virtually eliminated. Other communities such as northern hardwoods, historically subdominant have become dominant because of past land clearing and fire suppression.

Management of the pine groves will be directed toward the reestablishment of the original pine community appearance by removal of the brush understory with fire. Natural pine community management by fire can be historically documented and interpreted by the presence of fire scars at the bases of mature pine.

Controlled management burns should be conducted by the Division of Forestry staff and coordinated with the park manager, wildlife manager, and park naturalist. Attainment of the objective by burning or other recommended procedures should be determined as necessary by the forester and wildlife manager. If the objective is not being achieved, appropriate changes in management techniques should be made.



For map code, see Vegetation Management Recommendations, pp.57 -60.

Map Code (See map, p.56)	Ecological Community	Management Practice	Specific Recommendations	Implement	Estimated Cost
6	Pine Grove (PG)	Prescribed Burn	Periodic burning for pine community restoration and brush removal.	1978-1979 1980-1981 1986-1987	$250 250 250
6a	Northern Hardwoods (NoH)	Passive Management	Monitor community successional pattern and manage to perpetuate northern hardwoods.		
7	Big Woods (BiW)	Passive Management	Manage to perpetuate big woods community.		
8	Northern Hardwoods (NoH)	Timber Removal, Opening Maintenance	Clearcut 2 acre randomly shaped opening leaving large (+18" dbh) trees standing. Leave 20 large (12-18" dbh) trees lying on ground in random fashion for wildlife habitat. Maintain as brush and grass opening.	1978-1979 1980-1981 1982-1983 1984-1985	$500 100 100 100
9	Historic Site	Maintain	Monitor site to make sure it is not disturbed.		
10	Marsh (MH)	Maintain	Maintain and protect as marsh excluding active types of recreation.		
11	Pioneer Hardwoods/ Hardwoods (PH_h)	Timber Removal	Clearcut 1 acre area. Permit aspen to regenerate, leave 10-12" dbh logs randomly distributed lying on ground to provide wildlife habitat.	1978-79	$250
12	Pioneer Hardwoods/ Hardwoods (PH_h)	Timber Removal, Shrub Management	Clearcut 1,500 sq. ft. irregular opening. Maintain as brushy food plot for wildlife.	1982-1983 1986-1987	$100 100

Map Code	Ecological Community	Management Practice	Specific Recommendations	Implement	Estimated Cost
13	Mixed Hardwoods/ Conifer (MHC)	Timber Removal, Opening Maintenance	Clearcut randomly shaped 1/2 acre opening. Maintain.	1984-1985 1986-1987	$125 125
14	Pionner Hardwoods/ Hardwoods (PH_h)	Passive Management	No directed management except fire suppression for the next 10 years.		
15	Power Line Right-of-way	Shrub Management	Plant tall brush species adjacent to the highway for screening. Introduce and maintain brush species of value to wildlife along rest of corridor. Eventually replace overhead line with underground line in same corridor. Meander forest edge line. Retain access corridor for maintenance.	1978-1979 1982-1983 1986-1987	$500 500 500
16	Pine Grove/ jack pine (PG_{jp})	Timber Removal	Clearcut in pattern diagonal to road with meandered edges. Burn to regenerate Norway pine.	1978-1979	$300
17	Spruce-Fir (SPF)	Passive Management	No directed management except fire suppression for the next 15 years.		
18	Pine Groves/ jack pine (PG_{jp})	Timber Removal	Clearcut mature trees, burn, regenerate red pine, cut in pattern diagonal to road with meandered edges.	1982-1983 1986-1987	$1,000 1,000
19	Pioneer Hardwood/ hardwoods (PG_{jp})	Timber Removal	Clearcut in pattern diagonal to road with meandered edges. Leave 10 large (10-12" dbh) trees @ acre lying on ground for ruffed grouse drumming logs.	1982-1983	$750
20	Pine Groves/ jack pine (PG_{jp})	Passive Management	No directed management except fire suppression for the next 10 years.		

Map Code	Ecological Community	Management Practice	Specific Recommendations	Implement	Estimated Cost
21	Old Gravel Pit	Opening Maintenance	Stabilize, rehabilitate, blend edges with existing contours and surrounding vegetation, and maintain as permanent opening.	1980-1981 1982-1983 1984-1985	$500 initially 200 200
22	Pioneer Hardwood/ hardwood (PH_h)	Timber Removal, Opening Maintenance	Clearcut 2 acres. Plant clover and other food species attractive to deer and manage as a permanent opening.	1978-1979 1980-1981 1982-1983 1984-1985 1986-1987	$500 200 200 200 200
23	Pioneer Hardwood/ hardwoods (PH_h)	Passive Management	No directed management except fire suppression for the next 10 years.		
24	Development Zone		Plant species capable of sustaining intensive recreational use.	See Recreation Development Budget	
25	Conifer Bogs and Swamp (CBS)	Passive Management	Manage unit to be complimentary to adjacent scientific and natural area.		
26	Pine Groves (PG)	Prescribed Burn	Burn annually until brush is suppressed The burn as needed to maintain.	1980-1981 1986-1987	$500 500
27	Conifer Bogs and Swamps (CBS)	Passive Management	Protect recreational activities.		
28	Pine Grove (PG)	Passive Management	No directed management except fire suppression for the next 10 years.		
29	Spruce-Fir (SPF)	Timber Removal	Clearcut and regenerate spruce-fir.	1986-1987	$600
30	Muskeg (MSK)	Passive Management	Protect from excessive use. Manage orchid areas according to latest available information.		
30a	Bass Lake Creek	Maintain	Restrict spring boating activity to protect migrating northern pike fingerlings.		

Map Code	Ecological Community	Management Practice	Specific Recommendations	Implement	Estimated Cost
31	Historic Site	Maintain	Monitor site to make sure it is not disturbed.		
32	Pioneer Hardwood/ hardwoods (PH_h)	Prescribed Burn	Burn to sanitize stand and release nutrients bound up in litter.	1978-1979 1980-1981 1986-1987	$1,000 1,000 1,000
33	Open Conifers (OpC)	Prescribed Burn	Burn at the same time as #32 to encourage growth of big bluestem and associated prairie species.	1978-1979 1980-1981 1986-1987	$500 500 500
34	Alder-Willow (AlW)	Passive Management	No directed management except fire suppression for the next 10 years.		
35	Spruce-Fir (SPF)	Passive Management	No directed management except fire suppression for the next 10 years.		
36	Hardwood Swamp (HWS)	Passive Management	No directed management except fire suppression for the next 10 years.		
37	Pine Groves (PG)	Prescribed Burn	Burn annually until brush is suppressed. Then burn as needed to maintain.	1978-1979 1980-1981 1986-1987	$600 600 600
	General	Inventory	Complete inventory of existing park and recently approved expansion to include understory and ground cover densities.	1980-1981	$2,000

Vegetation Management Budget

Management Practice	78-79	80-81	82-83	84-85	86-87	Total
Timber Removal	$1,550	$	$1,750	$125	$1,600	$ 5,025
Prescribed Burning	2,350	2,850			2,850	8,050
Opening Maintenance		800	500	500	200	2,000
Shrub Management	500		600		600	1,700
Inventory of Expansion		2,000				2,000
Total	$4,400	$5,650	$2,850	$625	$5,250	$18,775

WILDLIFE

Introduction

Many wildlife 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 an exhilerating experience.

In order to provide such an experience for park users, detailed inventories of park wildlife are needed so that park personnel are better able to manage a park to attract and protect certain species of wildlife. The 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 are reported. Therefore, additional detailed studies and field observation must be continued in those areas where management needs for wildlife have been identified.

Inventory

There are 239 species of birds which either reside in, adjacent to, or migrate through Lake Bemidji State Park. Forty-seven different species of mammals and 20 species of reptiles and amphibians also inhabit the park.

Certain of these species are especially noteworthy because special precautions are required in their management or protection, or because they have the potential of damaging vegetation and property or harming park visitors.

Endangered, Threatened, or Rare Species

Species within this group are those which are presently in danger of extinction in Minnesota in the immediate future; species which could become endangered in Minnesota in the foreseeable future, but not necessarily throughout their entire range; or species that once resided in Minnesota but have all but disappeared because of changes in land and water use patterns.

Birds

- Peregrine falcon
- Sandhill crane

Mammals

- Timber wolf

Species of Special Interest

Species within this group include those which are uncommon or locally distributed in Minnesota and are not presently threatened or endangered but which might become so. Also included are those species which presently are not in any particular difficulty but 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 for these species.

Birds

Seasonal Residents	Migrants
Common loon	White pelican
Double-crested cormorant	Great egret
Great blue heron	Osprey
Bald eagle	Franklin's gull
Marsh hawk	
Cooper's hawk	
Common tern	
Pileated woodpecker	

Mammals

Bobcat

Reptiles and Amphibians

Common snapping turtle
Central newt

Troublesome Species

Troublesome species include those species of wildlife which as individuals or populations might become nuisances to either the natural resources of a park, park property, or park visitors.

Mammals

Species	Potential Problems
White-tailed deer	Overbrowsing vegetation
Bats	Disturbing to park visitors

Beaver	Overutilization of vegetation
Porcupine	Destruction of property
Black bear	Raiding garbage cans, disturbing campers
Raccoon	Raiding garbage cans

Reptiles and Amphibians

Because of learned prejudicial fears by the general public most reptiles and amphibians are usually not favorably accepted.

Sensitivity to Humans

Species listed within this group are those which are usually sensitive to disturbance by human activity. Disturbance during one season or another may result in nest or den abandonment, decrease 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.

Birds

Osprey
Loon

Mammals

Red fox
Gray fox
Coyotes
Timber wolf
Bobcat

Wildlife/Vegetation Relationships

A matrix indicating which given ecological communities each species of wildlife is normally associated with may be found in Appendix B.*

*See page ii for information on the availability of the appendices.

Definitions

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

Common - Trained observer may see 1 or more individuals in one day.

Uncommon - Trained observer may see 1 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-round 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.

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

FOUND IN PARK	SPECIES	RELATIVE ABUNDANCE: ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	SUMMER RESIDENT	SEASONAL OCCURRENCE: 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	PERMANENT RESIDENT	SUMMER RESIDENT	SEASONAL OCCURRENCE: 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						○			○			
●	Sanderling						○			○			

FOUND IN PARK	SPECIES	RELATIVE ABUNDANCE: ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	SUMMER RESIDENT	MIGRANT	SEASONAL OCCURRENCE: 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: ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	SUMMER RESIDENT	MIGRANT	SEASONAL OCCURRENCE: 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						●	●					
	Bell's Vireo												

FOUND IN PARK	SPECIES	RELATIVE ABUNDANCE: ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	SUMMER RESIDENT	SEASONAL OCCURRENCE: 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: ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	SUMMER RESIDENT	SEASONAL OCCURRENCE: 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						●			●			
●	Barn Owl						●		●				
●	Mountain Bluebird				●					●			

MAMMALS CHECKLIST

FOUND IN PARK	SPECIES	RELATIVE ABUNDANCE							SEASONAL 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							SEASONAL OCCURRENCE					
		ABUNDANT	COMMON	UNCOMMON	RARE	ENDANGERED	UNKNOWN	PERMANENT RESIDENT	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	PERMANENT RESIDENT	SUMMER RESIDENT	SEASONAL OCCURRENCE: 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 wildlife population, consistent with available habitat

To increase wildlife viewing opportunities for park visitors

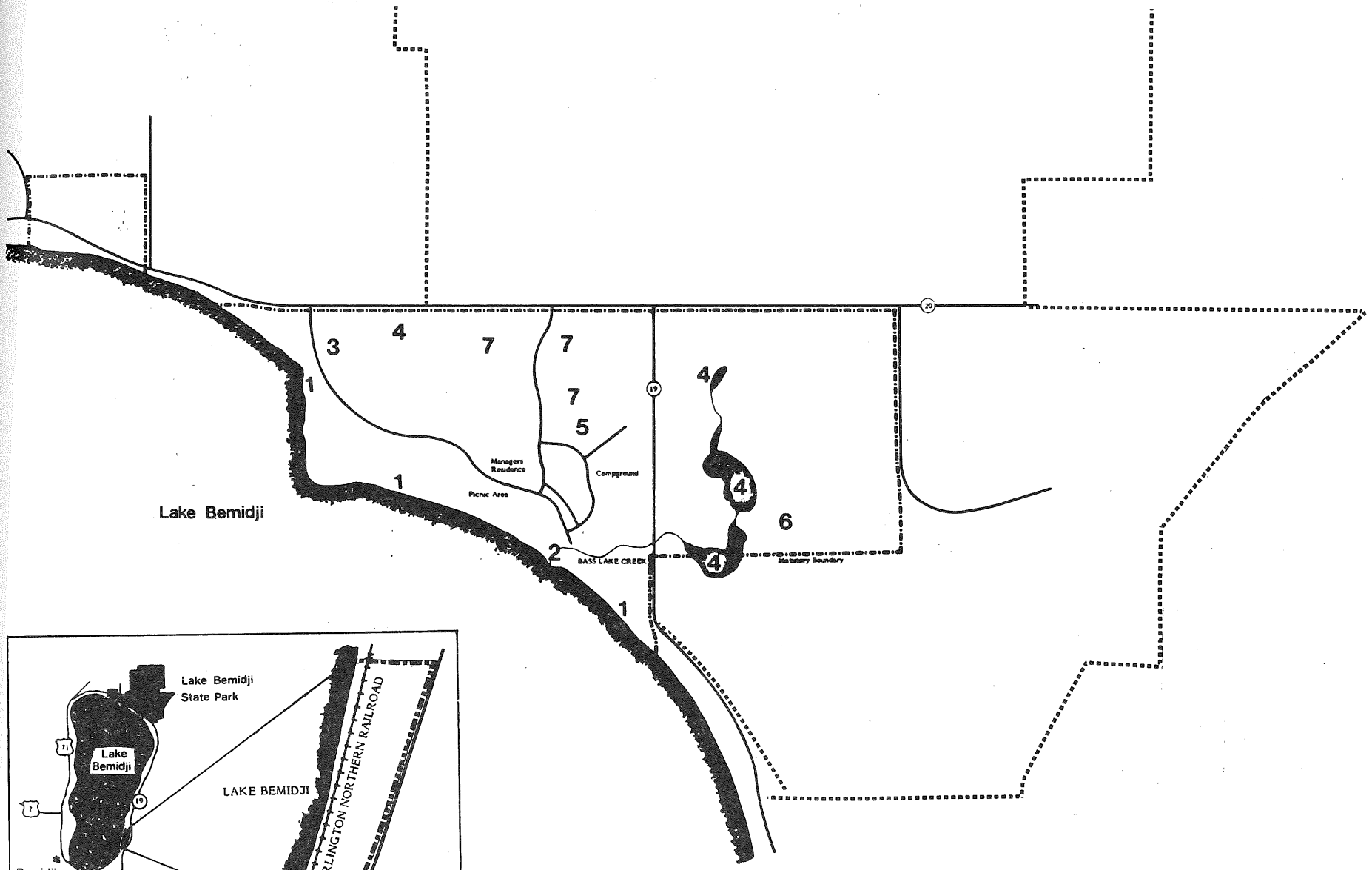
• Recommendations

Various vegetation management practices will be implemented (see Ecological Community Management Recommendations, pp. **57 - 60**) which will provide both plant community and wildlife population diversity. As suitable wildlife habitats develop, wildlife species will respond and reach population levels in balance with the supportive capabilities of the habitat.

Cavities will be drilled into large trees for temporary nesting habitat for wood ducks and other cavity nesters. Eventually, perhaps in 30 years or more, as the forest ages and matures, natural cavities will become available. Also, naturalized wildlife openings and foot plots have been designed to increase wildlife visibility. Observation towers and blinds are recommended for use by park visitors to view wildlife.

A non-disturbance zone may be required around the osprey nest south of Osprey Pond.

Map Code (See map, p. **72**)	Description	Specific Recommendations	Estimated Cost
1	Tree Cavities	Drill 15 holes 3" in diameter in trees to provide nesting cavities for wood ducks.	$1,500
2	Muskrat Activity	Place benches or rest points at selected spots for observing muskrats.	Recreation Development Budget
3	Wildlife Natural Food Plot	Maintain pockets ($\pm$30' in diameter) of brush which will attract birds and other wildlife. Allow remainder of area to succeed naturally.	$400/biennium



See pp. 71–73 for map code explanation.

Map Code	Description	Specific Recommendations	Estimated Cost
4	Naturalized Loafing Areas	Strategically place logs, rafts, and dirt mounds for use as resting areas by turtles and waterfowl. Anchor well in open water.	$1,300
5	Wildlife Natural Food Plot	Place salt licks to attract deer. Plant clumps of brush which will attract birds. Maintain rest of area as grassy opening.	$600/biennium
6	Wildlife Observation Tower	Construct observation platform compatible with surrounding landscape character.	Recreation Development Budget
7	Wildlife Observation Blinds	Construct blinds for wildlife observation and photography.	Recreation Development Budget

Wildlife Management Budget

Management Practice	Biennium 78-79	80-81	82-83	84-85	86-87	Total
Nesting Cavities	$ 1,500					$ 1,500
Natural Food Plots	$ 1,000	$1,000	$ 1,000	$ 1,000	$ 1,000	$ 5,000
Loafing Areas	$ 1,300					$ 1,300
Total	$ 3,800	$1,000	$ 1,000	$ 1,000	$ 1,000	$ 7,800

CULTURAL/HISTORICAL SITES

Introduction

The land that is now Lake Bemidji State Park became a part of the "Paul Bunyan" lumbering scene in the county when,in 1883, Ohio lumber baron T. B. Walker acquired from the U.S. Government Section 23, which is now bisected by the park entrance road. He received it in return for some land surveying services and one dollar.

Walker subsequently logged extensive areas along the lakeshore, undoubtedly contributing to the massive log jams which, according to some accounts, made it possible to cross the south end of Lake Bemidji on foot. During this time, Lake Bemidji, with its lumber mill, was the center of the last big white pine logging surge in the north central United States.

Some areas of virgin pine remained on the hills away from the lakeshore when the state of Minnesota bought the land from Walker for $44,444 through condemnation proceedings which began in 1924 and lasted for 12 years.

Inventory

A building foundation presently in existence in the park (N.E. 1/4 of N.W. 14 of Sec. 23) is thought to have been used by lumbermen. Its basement is large enough to have stored an abundance of food and supplies. According to Ms. Kempe, the high quality of the cement footings indicates that the builder had some wealth. Two other building sites (S.E. 1/4 of N.W. 1/4 of Sec. 24) are of unknown origin.

Sources:

Kempe, Betty, July 1, 1973, "House Site, Bemidji State Park," for Outdoor Education/Mr. Christie (DNR Parks and Recreation.)

Hawkins, Tex, March 1, 1976, DNR Region 1 Naturalist, memo: "Supplementary Historical Input for Lake Bemidji."

Management

Objectives:

To locate and identify potential or existing historical or archeological sites

To interpret all sites for the benefit of park visitors

• Recommendation

A phase I historical survey is recommended for the existing park and the recently approved expansion area. Identified sites will be marked, protected, and interpreted as necessary to contribute to the overall recreational value of the park.

Cultural/Historical Resources Management Budget

	Biennium					
Management Practice	78-79	80-81	82-83	84-85	86-87	Total
Phase I Survey	$2,000					$2,000
Total	$2,000					$2,000

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 within Minnesota is currently available. Trends in travel patterns are now discernible, but estimates of the time period over which this demand develops 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 Lake Bemidji's past use and future anticipated use as well as make appropriate recommendations concerning the park's recreational facilities.

DEVELOPMENT PHILOSOPHY

Lake Bemidji State Park is located in a region of high tourist activity which, aside from the effects of gasoline shortages, can be expected to continue as long as the area's abundant lakes and forests remain available for public use.

Lake Bemidji's role in accommodating the tourist, is defined by the existing facilities and the heavy use they receive. With the exception of increasing the capacity of day use areas and trails, maintaining the current level of facility development is called for, in view of the fact that SCORP identifies recreational facility surpluses in the region. There are, however, two areas in which there are opportunities for changes and continued expansion, namely: increasing the availability of recreational opportunities for special populations and providing a wider range of interpretive programs.

It is DNR policy to provide recreational opportunities for all people in the state. The North Central Sheltered Workshop, one of the Bemidji area institutions serving the handicapped, is currently making regular use of park interpretive services. Although it is difficult to predict the level of interest in utilizing other park facilities and services, latent demand cannot be actualized without the existence of opportunities in the form of accessible facilities.

There has been a great deal of interest in nature interpretive programs of various types in this area. A high percentage of Canadian, out-of-state, state-wide, and local visitors who come to Lake Bemidji State Park each year to camp are characterized by a desire to stay in the park for a long time and to participate repeatedly in nature-oriented interpretive programs. Many of the park's long-term campers are professional educators enrolled in summer workshop programs at Bemidji State University. Interpretive programs also draw from the nearly 15,000 local people who reside or vacation in the Bemidji area. Many day-users hike, bike, or ski to the park from homes, nearby resorts, or the University and Vocational Institute. Virtually all public and private schools in the Bemidji area are now using the park and its interpretive services in environmental education programming. Continued development of this service will be pursued.

Therefore, the following objectives for recreational development in Bemidji State Park have been formulated:

To maintain the current levels of facility development with the exception of day-use areas

To upgrade all existing and construct all future park facilities to ensure accessibility for special populations in accordance with the Minnesota State Building Code, Chapter 55*

To continue the development of interpretive services in the park

*For further information see Handicapped Accessibility Policy in the "Parks Policy Manual. "

EXISTING DEVELOPMENT

Approximately one fifth of the land in Lake Bemidji State Park is developed with a high capacity campground, picnic area, swimming beach, and related facilities. Included in this development are 29 buildings and electric service to 27 campsites. Campsite spacing varies from 25 to 60 feet.

Internal Roads

Access road - .7 miles black top
Service road - .5 miles black top .8 miles gravel

Campgrounds

Primitive pioneer campground - 4 fire rings, 8 tables (50 capacity)
Family campground - 103 sites (27 with electric hookups)
Group camp - barracks (capacity 50), to be removed

Picnic Grounds

Twenty-six tables
Parking lot (capacity 45 cars)

Trails

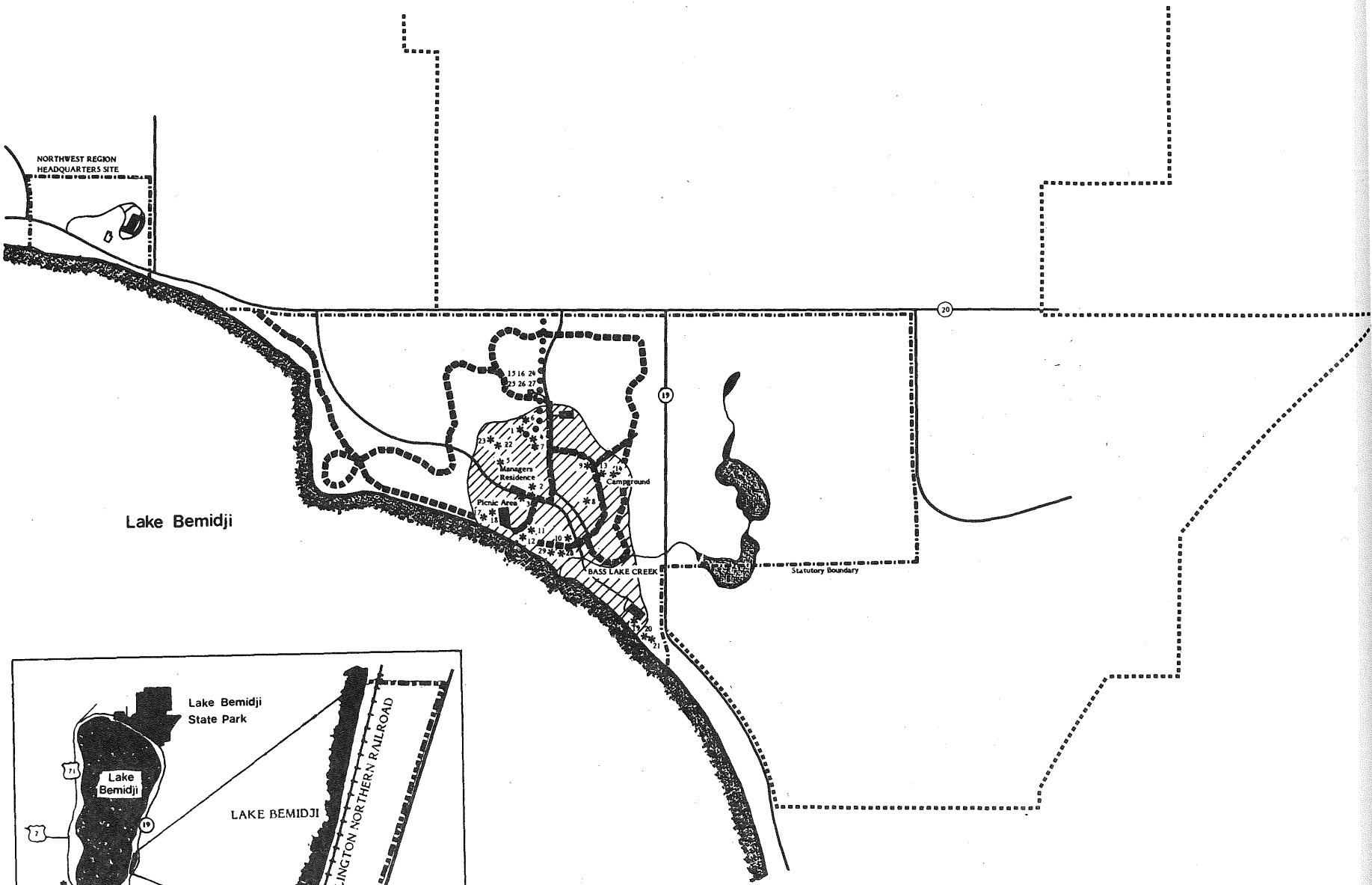
Interpretive - no self-guided trails
Hiking/Skiing - 3 mi.
Snowmobile/Horseback - 1 mi.

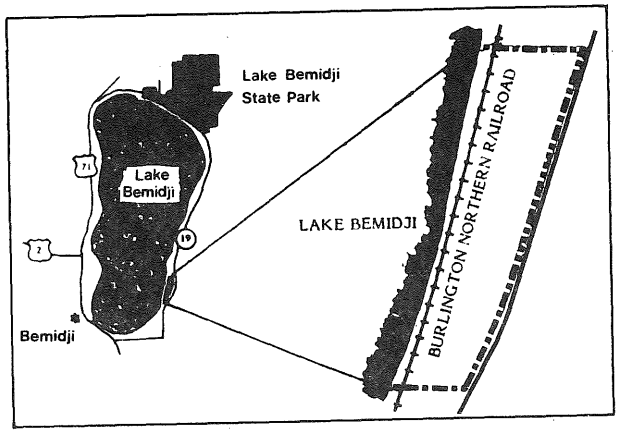
Water Activities

Boat ramp (metal mesh boat landing)
Boat landing
Swimming beach - 300 ft.

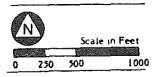
Utility Lines

Power lines - 3,000 ft. overhead 2,430 ft. underground
Telephone lines - 2,260 ft. underground
Water lines - 5,800 ft.
Sewer lines - 1,700 ft.





See p. 82 for map code explanation.



Buildings

Maintenance

Shop building, 30 x 50 ft., frame on concrete slab, good condition (1)*
Office and storage building, 20 x 24 ft., frame with basement, good condition (2)
Contact station, 10 x 12 ft., frame on concrete slab, good condition (3)
Storage building, 20 x 40 ft., frame on concrete slab, good condition (4)
Storage building, 20 x 24 ft., frame on concrete slab, fair condition (5)
Lumber storage shed, 18 x 40 ft., open front, fair condition (6)

Utility

Well and pump house, 10 x 10 ft., fair condition (7)
Sewer lift station, 8 x 10 ft., fair condition (8)

Sanitation

Campground sanitation building, 3 stalls, 1 shower each side, fair condition (9)
Campground sanitation building, 4 stalls, 1 shower each side, fair condition (10)
Picnic ground sanitation building with cabanas, new (11)
Picnic ground log structure, to be removed (12)
Six double pit toilets (13-18)
Three single pit toilets (19-21)

Residence

Split level house, 24 x 40 ft., good condition (22)
Double garage, good condition (22)
Mobile home (23)

Group Camp to be removed

Dining hall vertical log, 20 x 60 ft. with 20 x 20 ft. kitchen with fireplace, good condition (24)
Two barracks vertical log, 20 x 30 ft., total 36 bunks, good condition (25-26)
Counselor's building, 22 x 26 ft. with basement, fair condition (27)

Other

Fish House (28)
Log concessions building with fireplace, adequate (29)

*Map , p.81 .

PARK ORGANIZATION

The continuing development of Lake Bemidji State Park is based on the following general objectives, actions, and rationales.

Objective: To minimize adverse impact of development on natural resources

Action: Restrict all development according to zoning map.

Rationale: Ensures the protection and perpetuation of the park's resources.

Objective: To maximize shared access to the most significant resource areas of the park

Action: Locate trails along the lakeshore, around the marshes, and through high quality stands of trees, such as Norway pine and maple-basswood. Concentrate day-use development along the lakeshore. Locate all camping facilities away from the lakeshore, in areas of pioneer hardwoods and jack pine.

Rationale: The highest quality sites in the park will be enjoyed by the greatest number of visitors.

Objective: To provide information to park users, facilitating and enriching their use of park

Action: Organize park development around a visitor center accessed by primary trails and roads.

Rationale: Centralizing visitor services in one convenient location near the park entrance will ensure that all park users using all modes of transportation are immediately aware of park services and facilities upon entering the park.

Objective: To minimize conflicts among users

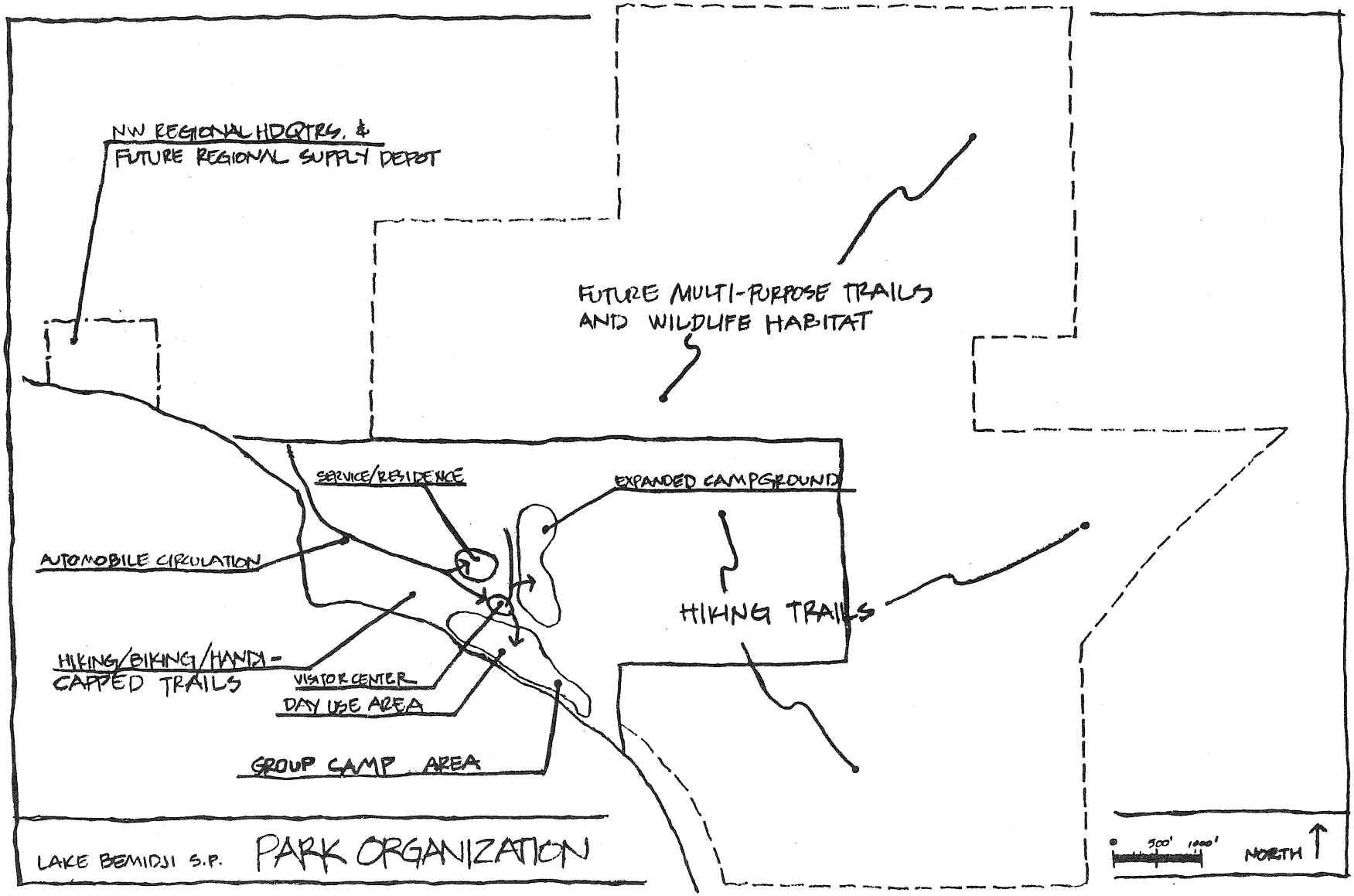
Action: Clearly separate major use areas which are not interrelated.

Rationale: Minimizes potential for conflicts between areas which, by their nature, allow users different levels of privacy and territoriality. For example, an occupied campsite becomes somewhat private--the territory of the occupants--whereas a trail is a common facility for the use of any person at any time. Mixing the two would negate the social function of each.

Objective: To maximize use of existing facilities

Action: Utilize and expand upon existing development and the centralization of visitor services.

Rationale: Utilizing existing facilities, wherever they essentially conform to the four preceding objectives, minimizes both costs and site disturbance. Fortunately, most existing development areas in Lake Bemidji generally satisfy these objectives.


NW REGIONAL HDQTRS. &
FUTURE REGIONAL SUPPLY DEPOT
FUTURE MULTI-PURPOSE TRAILS
AND WILDLIFE HABITAT
SERVICE/RESIDENCE
EXPANDED CAMPGROUND
AUTOMOBILE CIRCULATION
HIKING TRAILS
HIKING/BIKING/HANDI-
CAPPED TRAILS
VISITOR CENTER
DAY USE AREA
GROUP CAMP AREA
LAKE BEMIDJI S.P. PARK ORGANIZATION
500'
1000'
NORTH

PROPOSED DEVELOPMENT

- Contact Station Area/Visitor Center

Objective: To provide information to park visitors which will facilitate orientation and enrich their use of the park

1. Action: Move the old frame storage building from the park entrance to the wood cutting area.

   Rationale: Maximizes the natural environment along the entrance to the park.

   Cost: $500

2. Action: Develop a visitor center in the area of the intersection of the entrance road and the road to the picnic area parking lot. This complex will serve the following functions: initial contact, orientation/interpretation, commissary, office, and winter warming area. The complex may be laid out on two levels in a way that one person could supervise the whole building. A ticket booth for selling park stickers and camping permits should be included on the driver's side of the incoming traffic lanes.

   Rationale: Consolidates functions for increased management efficiency and informs as many visitors as possible of facilities and natural features in the park, by placing orientation materials in high traffic areas.

   Cost: $120,000

3. Action: Remove the office building, contact station, and associated parking areas from the park entrance area, and restore the sites.

   Rationale: Consolidates functions for management efficiency and maximizes the natural environment at the park entrance.

   Cost: $2,000

4. Action: Construct a loop turn-around as part of the entrance road at the visitor center.

   Rationale: Provides an efficient exit opportunity for those who come into the park and cannot be accommodated or decide not to stay. This is especially important in a park that is often full to capacity.

   Cost: $1,500

5. Action: Reorganize vehicular circulation beyond the visitor center so that the major traffic flow is clearly directed to the day use area and the lake.

   Rationale: Aids visitor orientation and minimizes confusion and use conflicts.

   Cost: $1,500

• Campground

Objectives: To maintain the existing camping capacity

To make lakeshore more available for day use

To provide a desirable blend of community and privacy within the major use areas

1. Action: Eliminate all the campsites south of the asphalt road, as well as those between first campground loop road and the road. Rehabilitate soil and vegetation. (See Picnicking, Action 2, p.88 regarding revegetation.).

   Rationale: Makes more prime lakeshore area available for greater numbers of people.

   Eliminates conflicts between day users and campers by separating use areas.

   Cost: $3,000

2. Action: Redesign the remaining part of the campground by removing some of the sites to create more desirable spacing and screen campsites from each other.

   Rationale: Provides a reasonable amount of privacy for campers.

   Makes cars, tents, and trailers less obtrusive within the campground.

   Cost: $15,000

3. Action: Develop approximately 30 campsites north of the existing campground. Construct modern sanitation building to serve this expansion.

   Rationale: Replaces campsites removed from south end of campground in order to continue to meet the camping demand in the park.

   Cost: $110,000

4. Action: Pave campground loop roads.

Rationale: Eliminates dust, lessens traffic noise, and reduces maintenance.

Cost: $70,000

NOTE: The detached portion of the park on the southeast shore of Lake Bemidji will be evaluated for use as a canoe campground if and when the existing railroad is abandoned. One major reason that this plan does not propose increasing the total number of campsites in the park was the interest expressed by private resort and campground owners in providing for the expanding camping market in the Bemidji area. At the end of five years this position will be re-evaluated, based on a determination of the success of the private sector in meeting the needs of campers. If at that time there appears to be a significant unmet demand, consideration will be given to expanding camping facilities within the park. Future campground development will also be evaluated based on relative needs for additional day use.

• Picnic Area

Objectives: To provide improved and increased opportunities for picnicking

To develop a simplified, integrated automobile and pedestrian circulation system

1. Action: Develop centralized day use parking facilities for 100-120 cars away from the lake to serve the day use areas and the visitor complex. A series of parking bays should be developed among the trees along a loop road, utilizing existing asphalt road as the northernmost portion of the loop. If detail site design shows the parking of approximately 100 cars in this area is reasonable, the existing picnic area parking lot will be removed. If not, it will be retained to accommodate overflow parking, reworking the access road to integrate it into the new parking area.

Rationale: Facilitates park visitor orientation.

Decreases the length of necessary roads, resulting in lowered capital improvement and maintenance costs.

Makes more lakeshore available for recreational use.

Increases the capacity of the picnic area/beach which is now limited by its small, 45 car, parking lot.

Cost: $35,000

2. Action: Selectively thin the row of conifers in the parking lot east of the picnic area road. Plant additional conifers throughout the area. (Pending disposition of parking lot.)

   Rationale: Removes unnatural straight lines which are evidence of past development.

   Removes barriers which unreasonably divide homogeneous use and obscures portions of the picnic area from view.

   Cost: $300

3. Action: Dismantle and remove concessions building.

   Rationale: Removes an unsightly building which has deteriorated beyond repair from the lakeshore area.

   Cost: $500

4. Action: Develop major day use area with approximately 30 picnic sites which will provide privacy and autonomy for small groups and individuals, by the judicious spacing of picnic tables and vegetative screening. Picnic sites could be spaced closer together near the parking lot and lake and further apart in areas away from these high demand areas.

   Rationale: Provide privacy for those who seek it, while meeting the quantitative needs of the high–use area.

   Cost: $3,000

5. Action: Convert interpretive building to picnic shelter and increase the numbers of and/or sizes of doors and windows. Make doors and windows removable.

   Rationale: A shelter allows the scheduling of picnics in advance without worry about weather.

   Returns structure to its original prupose.

   Opening up the walls of the structure makes it more accessible and inviting and makes its intended use more obvious.

   Cost: $6,000

• Water Activities

Objective: To consolidate water activities in the day use areas

To upgrade existing facilities

1. Action: Develop a boat launch area on the lagoon on the same side of the river as the fish cleaning house, with trailer parking off the asphalt road. (An alternative to this site would be the area east of Bass Lake Creek.)

   Rationale: Concentrates all boating and fishing related activities in one area.

   Allows removal of fill across Bass Lake Creek.

   Cost: $4,000

2. Action: Remove fill across Bass Creek.

   Rationale: Corrects an unsightly interruption and natural drainage of the creek.

   Cost: $300

3. Action: Screen beach cabana with vegetation, obscuring it from the lake.

   Rationale: Creates the appearance of a structure-free shoreline which is a valuable asset to the lake's scenic character.

   Cost: $300

4. Action: Landscape the jetties at the mouth of Bass Lake Creek. Paving the fishing decks in heavily used areas may be necessary.

   Rationale: Repairs unsightly bare spots and minimizes erosion potential caused by the heavy use of this small area and makes the area wheelchair accessible.

   Cost: $750

5. Action: Construct a hard-surfaced ramp or boardwalk across the beach and into the water to allow accessibility by the handicapped for swimming.

   Rationale: Provides accessibility to beach for the handicapped.

   Cost: $500

NOTE: The detached portion of the park on the southeast shore of Lake Bemidji will be evaluated for a boat launch if and when the railroad is abandoned.

• Trails

The major proposed trail systems of Lake Bemidji State Park are of three types; entrance or corridor trails, facility access trails, and loop trails. Although not totally mutually exclusive in function, these trails do serve three different pruposes. The entrance trail provides access and an introductory experience to the park and the visitor center for pedestrians and non-motorized vehicles. It functions much like the park entrance road for motor vehicles. The trail would, in the future, be connected to any state or regional corridor trail that is developed in the area. Facility access trails are those that link the major use areas in the park for pedestrian and non-motorized vehicular circulation. Loop trails are "trails for the sake of trails" which allow visitors to tour and experience the natural environments and special features of the park. Like all development, loop trails must be consistent with the zones in which they are located. Some of the shorter loop trails will be hard surfaced, but the majority will be primitive in character.

Objective: To provide multi-use trail access to the park; access trails between use areas within the park; and trail loops through the natural environments and special features of the park

Entrance/Corridor Trails

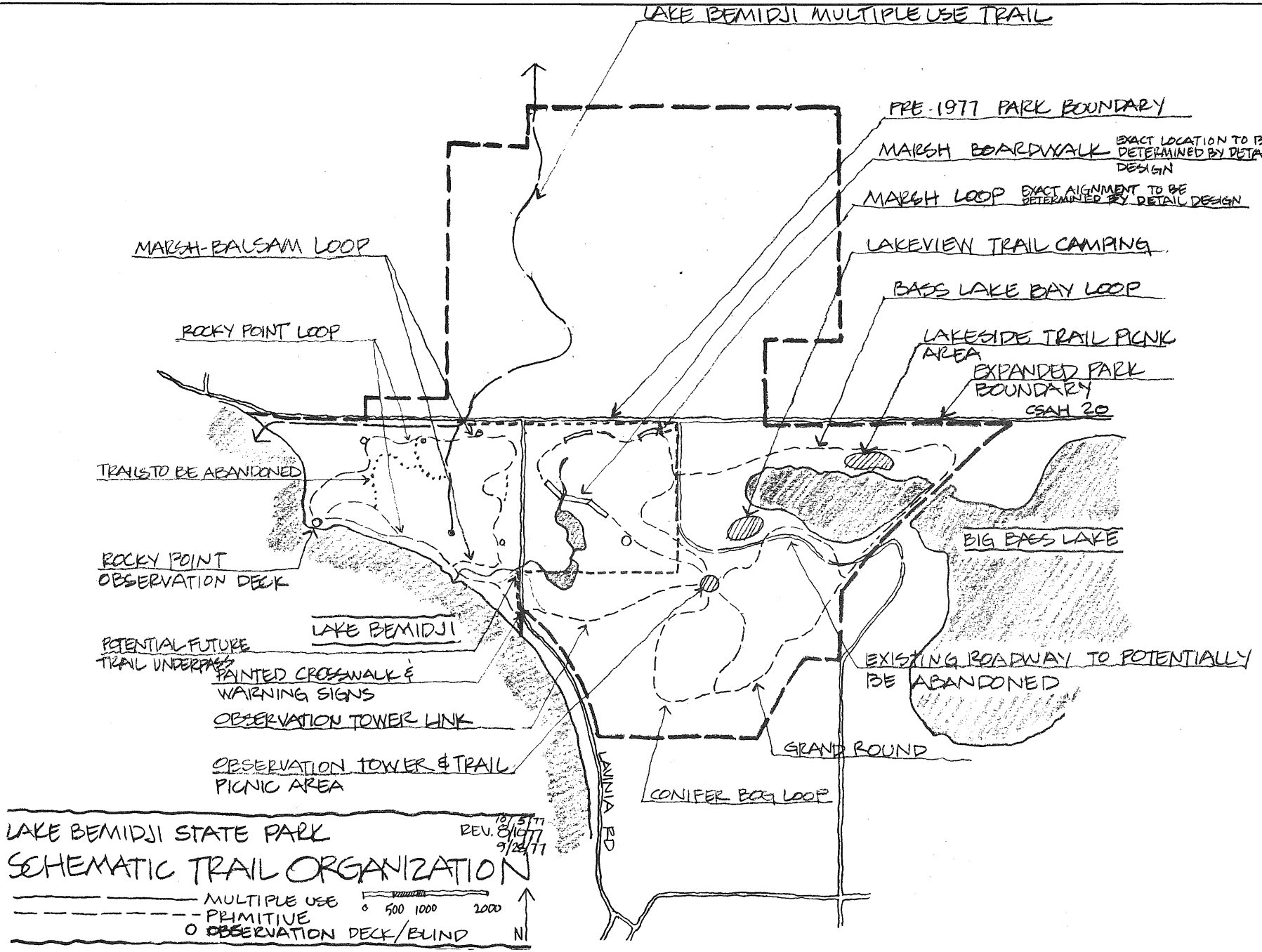
1. Action: Develop a paved bike and pedestrian access trail from CSAH 20 to the proposed visitor center. Consider asphalt paving.

   Rationale: Accommodates the current level of bicycle traffic into the park.

   Separates bicycle and automobile traffic which increases safety and enhances the quality of the biking experience.

   Cost: $18,000

   NOTE: Because some trail users may arrive from the east, a trail entrance from CSAH 19 may be desirable. However, facilities developed within this park preclude a properly sequenced entrance from two sides. There will be a loop trail crossing CSAH 19 which will provide access, but visitors should be encouraged to enter from the west. Bicyclists using this entrance can travel on the paved shoulder of TH 71 and on parallel residential roads from Bemidji to CSAH 20 which is a low speed highway. A paved shoulder or parallel trail along CSAH 20 might be warranted in the future as demand and local traffic conditions dictate.


LAKE BEMIDJI MULTIPLE USE TRAIL
PRE-1977 PARK BOUNDARY
MARSH BOARDWALK
EXACT LOCATION TO BE DETERMINED BY DETAIL DESIGN
MARSH LOOP
EXACT ALIGNMENT TO BE DETERMINED BY DETAIL DESIGN
MARSH-BALSAM LOOP
LAKEVIEW TRAIL CAMPING
BASS LAKE BAY LOOP
ROCKY POINT LOOP
LAKESIDE TRAIL PICNIC AREA
EXPANDED PARK BOUNDARY
CSAH 20
TRAILS TO BE ABANDONED
BIG BASS LAKE
ROCKY POINT OBSERVATION DECK
LAKE BEMIDJI
POTENTIAL FUTURE TRAIL UNDERPASS
PAINTED CROSSWALK & WARNING SIGNS
EXISTING ROADWAY TO POTENTIALLY BE ABANDONED
OBSERVATION TOWER LINK
GRAND ROUND
OBSERVATION TOWER & TRAIL PICNIC AREA
LAVINIA RD
CONIFER BOG LOOP
LAKE BEMIDJI STATE PARK
REV. 10/5/77 8/16/77 9/28/77
SCHEMATIC TRAIL ORGANIZATION
MULTIPLE USE
PRIMITIVE
OBSERVATION DECK/BLIND
0 500 1000 2000
N

Facility Access Trails

Because of the concentration of development in the day use area, few trails of this type will be required. The campground will be developed in such a way that pedestrians will be able to use the roads, eliminating the need for special trails.

1. Action: Develop a major paved trail connecting the campground access road, the visitor center, and the beach cabana.

   Rationale: Accommodates anticipated high level of pedestrian traffic.

   Cost: $5,000

2. Action: Develop a major paved trail connecting the day use parking lot, beach cabana, boat dock area, pedestrian bridge, and visitor center.

   Rationale: Provides pedestrian access to all major day use facilities.

   Cost: $3,000

Loop Trails

Marsh/Balsam Loop (3/4 miles)

1. Action: Develop a paved, handicapped accessible trail along the existing alignment except in the area of the proposed wildlife viewing blinds (see Action 2, below) where the trail will be rerouted to the west.

   Rationale: Provides an opportunity for all park visitors, including special populations to use trails to observe wildlife without disturbing wildlife.

   Cost: $15,000

2. Action: Construct portable wildlife viewing blinds with space for interpretive displays near wildlife food plots. (See Wildlife Management Recommendations, p. 71.)

   Rationale: This will give more park users the opportunity to get close to wildlife without disturbing them.

   Cost: $1,000

Rocky Point Loop (1 1/4 miles)

3. Action: Realign the trail and revegetate abandoned alignments.

   Rationale: Simplifies trail alignment, facilitating the orientation of visitors by minimizing the number of intersections. Provides access to and through the marsh, virgin pine stands, Rocky Point, and the lakeside cliff.

   Cost: $800

4. Action: Construct wildlife viewing blind (see map, p. **91**).

   Rationale: See Balsam/Marsh Loop, p. **92.**

   Cost: $300

5. Action: Construct an elevated marsh viewing deck (see map, p. **91**).

   Rationale: Provides a way for users to get close to the marsh for viewing without disturbing the wildlife. Serves an interpretative node (see Interpretive Facilities, p.**110**).

   Cost: $400

6. Action: Develop an observation deck at Rocky Point, with railings, benches, and interpretive displays. Utilize dense thickets of thorny plant materials to serve as a barrier to keep park visitors off the eroding cliff.

   Rationale: Provides viewing opportunities without damaging sensitive resources.

   Cost: $2,500

Loop Trails (in expansion area)

The success of the following trail system is contingent upon closing an existing gravel road in the expansion area. If this is not possible, the trail system will be modified.

Observation Tower Link (3/4 miles)

1. Action: Develop hiking trail with warning signs and a painted crosswalk at CSAH 19.

   Rationale: Provides a safe access to the proposed park expansion area.

   Cost: $700

2. Action: After the road fill is removed, develop a pedestrian underpass in conjunction with the CSAH 19 bridge over Bass Lake Creek.

   Rationale: Enhances safety.

   Lends continuity to the park experience.

   Restores the natural flow of water.

   Cost: $3,000

3. Action: Construct an observation tower.

   Rationale: Provides a bird's eye view across the conifer bog to the Norway pine stands. Serves a good orientation/focal point.

   Cost: $3,000

Conifer Bog Loop (1/2 miles)

4. Action: Develop a primitive trail.

   Rationale: Provides the means to experience a conifer bog environment.

   Cost: $500

Bass Lake Bay Loop (2 1/4 miles)

5. Action: Develop a primitive trail.

   Rationale Provides the means to experience a lakeside environment.

   Cost: $1,500

6. Action: Develop 3 to 5 trail campsites (see map, p. **91**).

   Rationale: Provides a good introductory opportunity to backpacking and primitive camping.

   Cost: $2,500

7. Action: Develop 3 to 5 trail picnic sites.

   Rationale: Provides a rest stop or destination for hikers.

   Cost: $2,500

Marsh Loop (1 3/4 miles)

8. Action: Develop a primitive trail.
   Rationale: Provides access to the marsh and adjoining environments.
   Cost: $2,000

9. Action: Construct an observation deck.
   Rationale: Provides a bird's eye view of the marsh without disturbing the wildlife.
   Cost: $800

10. Action: Construct a marsh boardwalk.
    Rationale: Provides opportunity for close-up view of marsh communities without disturbing sensitive flora and fauna.
    Cost: $8,000

Multiple Use Trails

If and when the Burlington Northern Railroad, which runs along the eastern boundary of the park, is abandoned, the right-of-way should be developed into a multiple-use trail. This trail would serve as a link between the main portion of the park and the disconnected portion to the southeast.

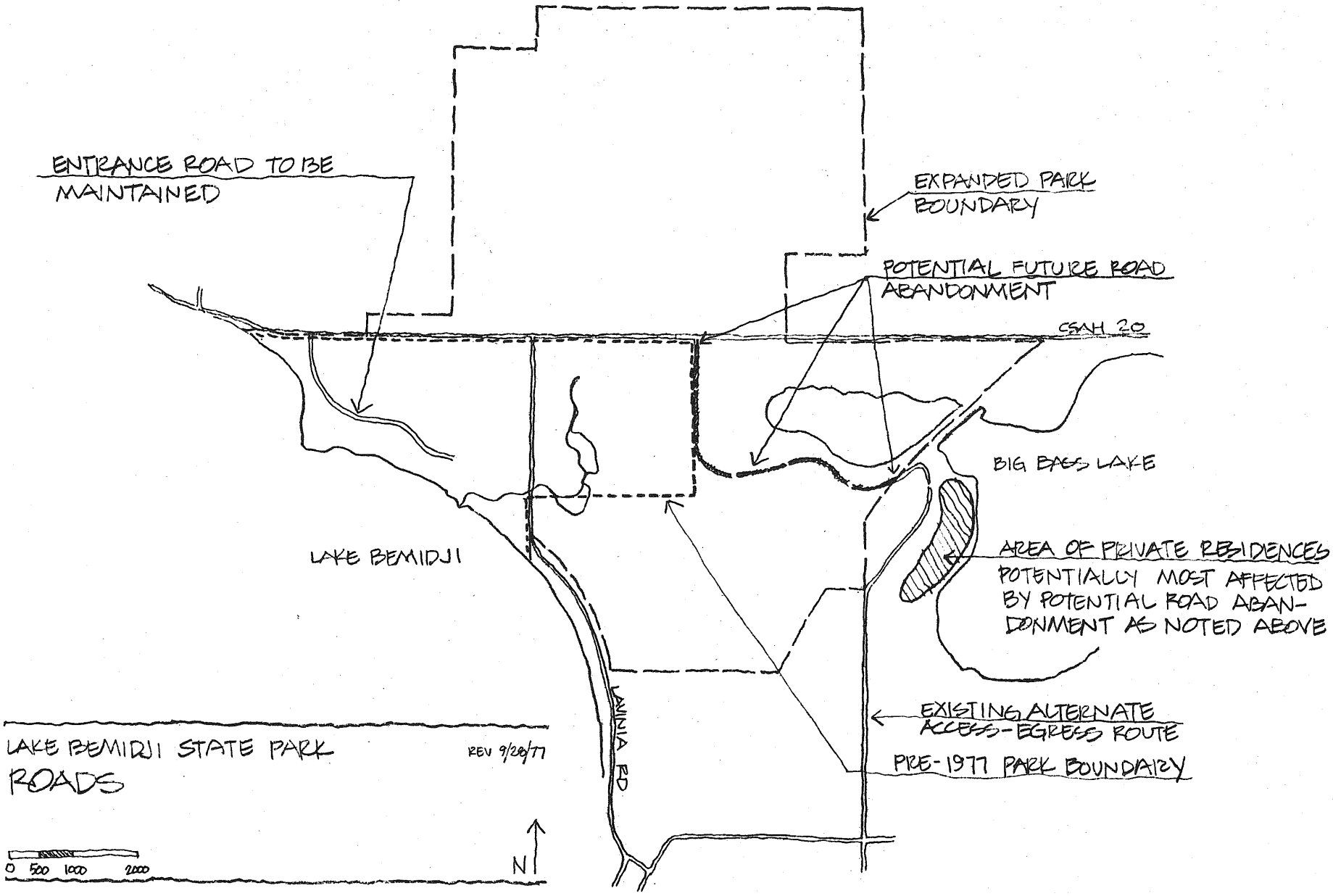
- Roads and Traffic Control

Objectives: To improve the quality of the existing entrance road and to eliminate nonessential roads wherever possible

To promote the park's aesthetic quality, visitor circulation, traffic safety, and maintenance

1. Action: The entrance road should be maintained as it is, with the exception of the brush management practices along the right-of-way. The amount of brush removed should vary through a transition zone to eliminate the hard line between brushed areas and non-brushed areas.

   Rationale: Provides an excellent introduction to the park, passing through mature Norway pine and maple-basswood stands with views of the lake. However, the straight lines between cut and uncut grass, brush, and trees look unnatural and constitute unnecessary and undue artificially.


ENTRANCE ROAD TO BE MAINTAINED
EXPANDED PARK BOUNDARY
POTENTIAL FUTURE ROAD ABANDONMENT
CSAH 20
BIG BASS LAKE
LAKE BEMIDJI
AREA OF PRIVATE RESIDENCES POTENTIALLY MOST AFFECTED BY POTENTIAL ROAD ABANDONMENT AS NOTED ABOVE
LAVINIA RD
EXISTING ALTERNATE ACCESS-EGRESS ROUTE
PRE-1977 PARK BOUNDARY
LAKE BEMIDJI STATE PARK
ROADS
REV 9/28/77
0 500 1000 2000
N

2. Action: Develop Lake Bemidji Multiple Use Trail (see map, p. 91) to provide a high quality trail experience by careful, curving alignment and exposure to good views. Surface with gravel.

   Rationale: Provides access to and through the park's northern expansion.

   Cost: $27,000 (maximum)

NOTE: The gravel road in the west expansion area of the park conflicts with proposed primitive trails and trail camping. If local residents are amenable to alternate routes, this section of road will be abandoned.

• Manager's Residence/Service Area

Objectives: To facilitate safe and efficient park management

To separate the service area from public use areas

To provide for the park manager and staff

1. Action: Utilize one road through the area as the only residence/service road. Make minor changes in the alignment and eliminate and revegetate all other roads.

   Rationale: Creates more efficient circulation patterns and separates service areas from public use areas.

   Cost: $500

2. Action: Plant an extensive buffer between the residence/service areas (including water tower) and public use areas.

   Rationale: Separates functions and obscures service buildings from public view.

   Cost: $2,000

3. Action: Plant buffers between the residences and the main service road and between the residences and service buildings.

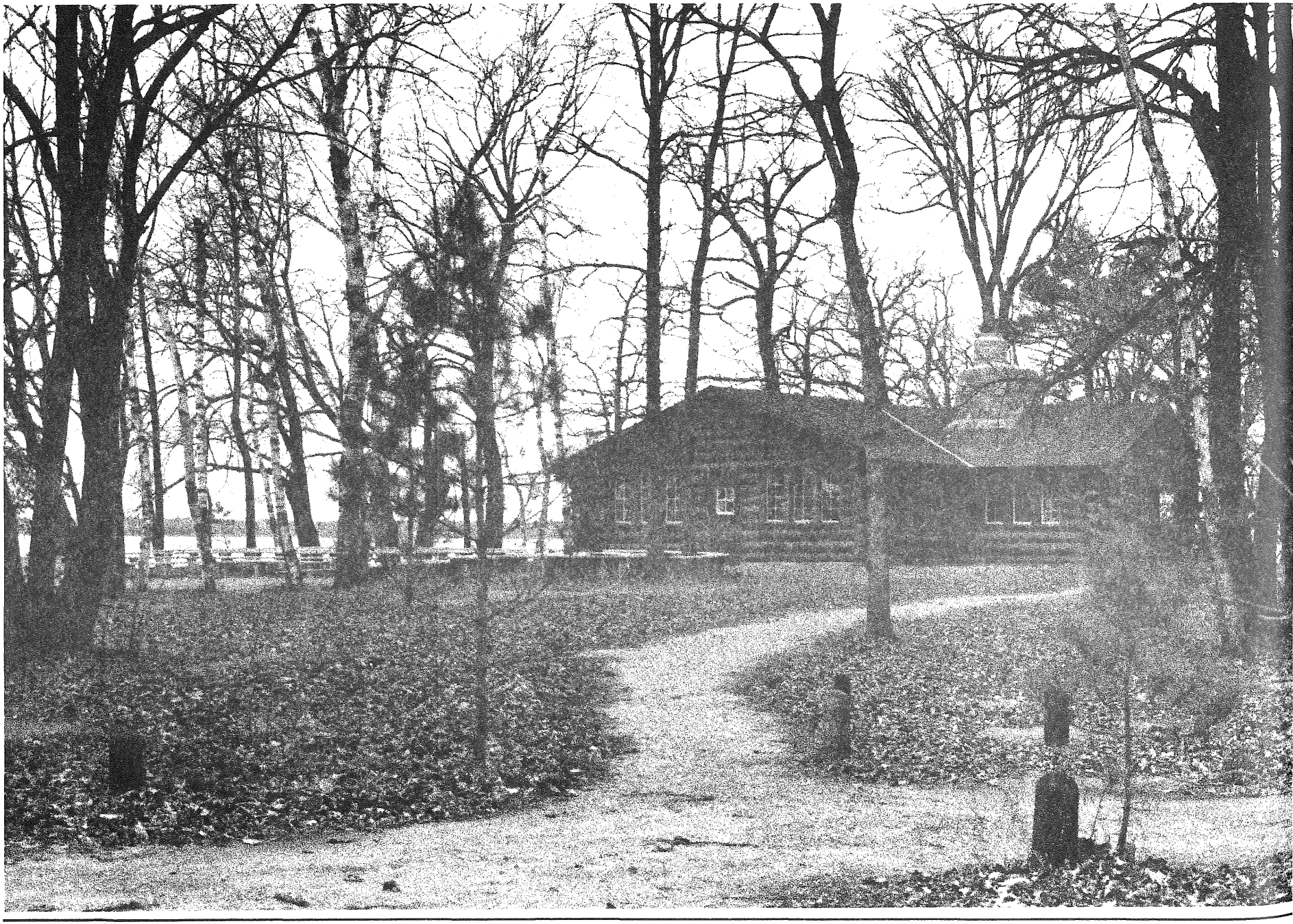
   Rationale: Increases the privacy and the antonomy for park personnel.

   Cost: $500

4. Action: Within six years, move the regional supply depot function out of the park to the Northwest Regional Headquarters site, (see Proposed Expansion Map, p. 7) retaining the warehouse for park use.

   Rationale: Eliminates activities not directly related to park operation.

   Cost: None



ARCHITECTURAL THEME

An architectural theme will be established for each state park in order to develop visual compatibility and continuity between the different structures within a park. Most of us relate the heavy log timber design of the buildings built by the Civilian Conservation Corps (CCC) to our present park system. These buildings have a rustic, wilderness character about them, but they are impossible to duplicate, given today's high building costs.

As these old CCC buildings deteriorate and become more and more expensive to maintain, they must be replaced. Also there are new types of recreational activities, which require new types of buildings. In order to continue the traditional continuity between the buildings and the resources of the park, which the old CCC buildings did so well, a new architectural theme must be developed.

This architectural theme will be followed in the design of all new facilities. The theme will have meaning in relation to the landscape or the cultural history of the area. For example, the architectural theme for Lake Bemidji State Park has been selected to represent the early logging days. The structures will be rustic in character with a low profile. At the present time, details of the architectural theme for Lake Bemidji State Park have not been completed. The Bureau of Engineering will be responsible for preparing the architectural theme and the Park Planning staff will review and approve it.

New buildings will be constructed within a span of a few years, so that changes in construction technology will not result in dischordant designs, due to differences in construction costs.

Recreational Development Budget

	Biennium					
	78-79	80-81	82-83	84-85	86-87	Total
Contact Station Area/Visitor Center						$152,500
1. Move storage building	$ 500					
2. Construct visitor center	120,000					
3. Move office/contact station	2,000					
4. Realign entrance road	15,000					
5. Reorganize park roads	15,000					
Campground						128,000
1. Eliminate campsites	3,000					
2. Redesign campground	15,000					
3. Develop new campsites	110,000					
Picnic Area						44,800
1. Develop new parking lot		$35,000				
2. Thin/plant conifers		300				
3. Remove concessions building		500				
4. Develop additional picnic sites		3,000				
5. Convert interpretive building to picnic shelter		6,000				
Water Activities						5,850
1. Develop boat launch	4,000					
2. Remove fill in Bass Lake Creek	300					
3. Screen beach cabana	300					
4. Landscape jetties on Bass Lake Creek	750					
5. Construct a boardwalk into water for use by the handicapped	500					

	78-79	80-81	82-83	84-85	86-87	Total
Trails						25,000
Entrance/Corridor Trails						
1. Develop a paved bike/pedestrian trail from CSAH 20 to the visitor center				$18,000		
Facility Access Trails						
1. Develop a paved trail from campground to beach via the visitor center		4,000				
2. Develop paved trail connecting parking lot, beach, and visitor center		3,000				
Loop Trails						20,000
Marsh/Balsam Loop						
1. Develop handicapped accessible trail					$15,000	
2. Develop wildlife observation blinds					1,000	
Rocky Point Loop						
3. Realign trail		800				
4. Construct wildlife viewing blinds		300				
5. Construct marsh viewing deck		400				
6. Construct Rocky Point observation deck	2,500					

	78-79	80-81	82-83	84-85	86-87	Total
Loop Trails (In expansion area)						24,500
Observation Tower Link						
1. Develop trail					700	
2. Construct bridge underpass at Bass Lake Creek					3,000	
3. Construct observation tower					3,000	
Confier Bog Loop						
4. Develop trail			$ 500			
Bass Lake Bay Loop						
5. Develop trail					1,500	
6. Develop trail campsites					2,500	
7. Develop trail picnic sites					2,500	
Marsh Loop						
8. Develop trail			2,000			
9. Construct an observation deck			800			
10. Construct a marsh boardwalk			8,000			
Manager's Residence/Service Area						3,500
1. Realign roads	500					
2. Plant vegetative buffer	2,500					
3. Plant vegetative buffer	500					
Total	$ 292,350	$ 53,300	$11,300	$ 18,000	$ 29,200	$ 404,150

Acquisition and Boundary Changes

Objectives:

To maintain the quality of the park's natural resources

To provide more recreational space for greater numbers of people

Bemidji State Park was a very small (417 acres), very heavily used park. A boundary expansion of 1,250 acres in T.147N R. 33W Secs. 13, 14, and 24 and T.147N R.32W Sec. 19 was proposed based on the following justifications:

1. Completion of the Bemidji sewer system will encourage residential growth and development in the area. This type of encroachment will adversely impact the park.

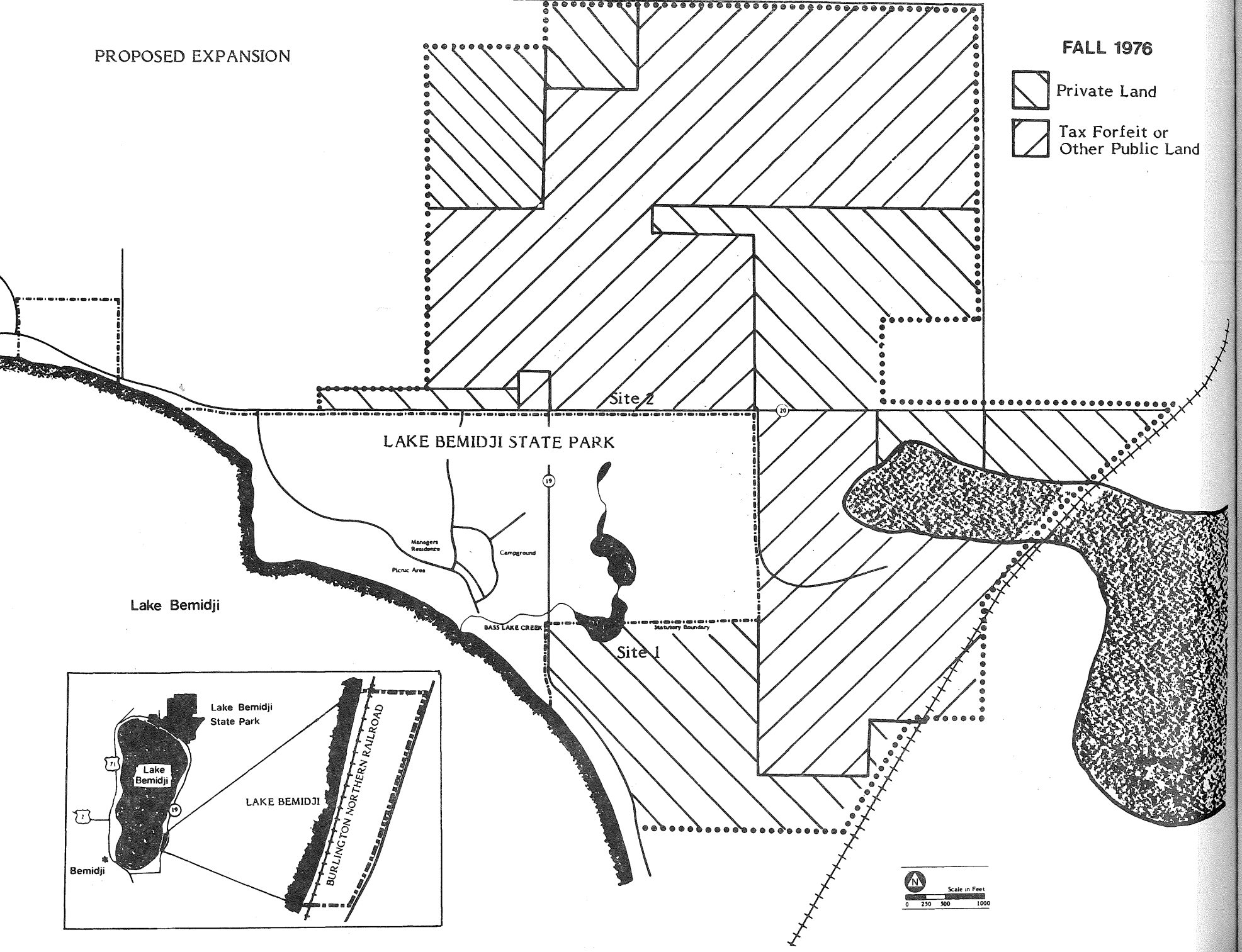
2. Large numbers of people are presently attracted to the park because of its setting and because of the quality of its natural resources. To adequately handle future demands and continue to provide a quality recreational experience for park users, the existing park must be protected by buffering it from external development.

3. A good share of the land (60%) included in the proposal expansion is tax forfeit. The remaining acreage, which is private, is generally undeveloped. Expansion of the park and an improvement in the quality of park facilities would lead to increased use of the park generating additional tourist dollar expenditures in the area.

4. Site 1 (map, p.105) must be acquired to provide access around the bog area for hikers and cross–country skiers.

5. Site 2 (map, p.105) the area north of CSAH 20 is a good wildlife area and winter deer yard, which must be protected from development to ensure that wildlife populations remain in the general area. Acquisition will ensure protection of the groundwater supply and natural water flow in the Bass Lake Creek watershed.

The 1977 Minnesota State Legislature authorized the proposed boundary expansion make the park 1,667 acres in size.


PROPOSED EXPANSION
FALL 1976
Private Land
Tax Forfeit or
Other Public Land
Site 2
LAKE BEMIDJI STATE PARK
Managers
Residence
Campground
Picnic Area
Lake Bemidji
BASS LAKE CREEK
Statutory Boundary
Site 1
Lake Bemidji
State Park
Lake
Bemidji
LAKE BEMIDJI
BURLINGTON NORTHERN RAILROAD
Bemidji
N
Scale in Feet
0 250 500 1000

Of the total 1,250 acres proposed for inclusion in the park, 690 acres (55%) are in either state ownership or are tax forfeit lands. The remaining 560 acres (45%) are in private ownership. Development on these private lands presently includes two cabins or cabin-associated garages and three permanent residences.

Data on vegetation, historical sites, fisheries, and soils must be updated so a comprehensive plan can be prepared for the new park area. This information will be added to the current plan.

The expansion proposal includes a lightly used gravel township road. The use of this road must be evaluated to determine its impact on area residents and the park.

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 agency.

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 the park, free to enjoy the environment 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 with increased 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 ties with the land and with our state's cultural heritage.

Interpretive Themes

Orientation, education, and recreation programs will focus on the following features:

The Lake

Lake Bemidji, a major recreational attraction of the park, has much potential for interpretive programs. With a bottom likened to a submerged mountain range containing scattered rocky reefs and weedbeds just under the surface, bordered by dropoffs plunging to depths in excess of 80 feet, it is one of the best walleye producing lakes in Minnesota.

Related areas include fish biology, fishing techniques, fish preparation and cookery, canoeing techniques, water safey, skin diving, beach seining, and water quality sampling.

Rocky Point

The park is situated on top of the terminus of the last galcial advance into Minnesota. The erosion of Rocky Point provides a good focal point for geological interpretation. Programs using rock formations in the park and the immediate vicinity as examples will be developed in consultation with the geology department at Bemidji State University.

Logging Camp

Logging activity, a prominent part of the area's history, provides a basis for historical interpretation. The remains of one of T. B. Walker's logging camps and the related cabin sites has excellent potential as a focal point for a historically oriented interpretive program. Each site must be identified and signed nearby, with information relating its history.

Additional investigation will be needed to locate any sites of archaeological value within the existing statutory boundaries as well as within the proposed expansion. These investigations should be carried out in cooperation with the state archaeologist and the Minnesota Historical Society.

Orchid Bog

One of the most fascinating of the park's 19 plant communities, the rare and fragile orchid bog east of CSAH 19 (see Vegetation Inventory, p. **49**) is a major component of the interpretive program. Carefully supervised hikes will be organized to guide visitors through this and other unique natural communities. Pristine Bass Lake Creek, flowing between the bog and Lake Bemidji, provides opportunities for interpretive comparison between the lake and stream environments. Stream studies are among the most popular current interpretive programs at Lake Bemidji.

Interpretive Facilities

Objective:

To use audio-visual presentations, along with on-site observations, in making park visitors aware of the natural and historic resources of the park

1. Action: Include audio-visual displays in the multi-purpose visitor center (see Proposed Development, p.85) which will orient the visitor to the recreational facilities and the natural and historic resources of the park. The displays will include the following:

1.	Descriptive topographic park model to represent landform, vegetation types, points of interest, and all developments including trails and individual campsites.	$ 8,000
2.	Large aerial view perspective map of park graphically describing landform, vegetation types, points of interest, and all developments including trails and individual campsites.	2,500
3.	Brochure with reduction of the aerial view perspective map with text and charts describing wildlife associated with vegetation types and other descriptive material and photographs. To be used for self-guided nature hikes.	3,000
4.	Photographs keyed to map, illustrating highlights of park facilities and features (material may be rotated seasonally).	300
5.	Automatic slide show 3-4 minutes in length illustrating park facilities and features. (Material may be rotated seasonally).	1,000
		$14,800

Rationale: Maximizes staffing and heating efficiency and provides an accessible, easily understandable vehicle for orienting and sensitizing users to the facilities, resources, and special features of the park at a reasonable cost.

2. Action: Develop park-specific interpretive displays for the visitor center.

Rationale: Familiarizes park visitors with the natural and historical highlights of the park.

Cost: $8,000

3. Action: Develop interpretive modes along trails (in locations to be determined by the Interpretive Prospectus). These nodes will consist of a widened area along the trail (or in some cases an observation deck) with a sign which discusses points of interest.

   Rationale: Information is conveyed more effectively when it is accompanied by the opportunity for on-the-spot observation.

   Cost: $5,000

Interpretive Prospectus

Detailed procedures for interpretive program implementation with specifics on presentations, displays, costs, and phasing will be prepared by the regional naturalists in consultation with the DNR Park Planning staff during the next biennium. The process may also include recommendations on further research into park ecology, oral history, and visitor use, as well as details on extended interpretive tours beyond the park boundaries, such as the current car caravan to or from the park to the eagle and osprey nesting sites in the nearby Chippewa National Forest. Upon completion, the Interpretive Prospectus will be added to this plan.

Interpretive Program Budget

	Biennium					
	78-79	80-81	82-83	84-85	86-87	Total
Orientation Displays for Visitor Center		$14,800				$14,800
Interpretive Displays for Visitor Center			$8,000			8,000
Interpretive Nodes for Trails				$5,000		5,000
Total		$14,800	$8,000	$5,000		$27,800

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 work 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.

Park Management Duties and Responsibilities

The park manager and full time assistant at Lake Bemidji will administer the total park maintenance and operations programs and implement appropriate segments of the development program as funds are made available under the direct supervision of the park supervisor at DNR Regional Headquarters, Bemidji, Minnesota. This consists of supervising park employees, providing law enforcement consistent with DNR policies, conducting interpretive services when necessary, maintaining sound public relations, recruiting employees, soliciting volunteers, and assisting in all park operations whenever possible. In addition, the Lake Bemidji manager and assistant perform extensive services for the entire region. This includes handling seasonal supplies and performing special tasks such as constructing tables and toilets for distribution to other state parks in the region.

These responsibilities reduce the time available for actual participation in maintenance and operations, especially during the high visitor use season. Additional seasonal and part time personnel, as specified in the following pages, are necessary to provide adequate public services and fully implement this plan.

Contact station personnel provide initial public contact and information, vehicle permit sales, camper registration, and sale of firewood.

Concession personnel manage the sale of confections at the beach.

Interpretive services personnel conduct seasonal outdoor and indoor programs for visitor appreciation of the natural characteristics of the park. There is a great potential to expand this program to long term seasonal or full time appointment in conjunction with nearby Bemidji State University and other schools and park visitors.

Swimming beach activity is very high mid-June through August requiring two full time lifeguards seven days a week, with dual coverage on weekends.

Group camp operation, primarily on weekends, requires supervision, cleaning, and clerical time. Phasing out the sleeping cabins will eliminate much of this responsibility.

Campground operations comprise the major portion of park staff efforts during the busy season. Capacity use of the 103 sites is received about 90 days per season. Contact station operation is necessary 98 hours per week, from mid-May through September. Building and grounds maintenance consists of regular cleaning of the two modern toilet and shower buildings, pit toilets, and fire rings, trash and solid waste cleanups, hazardous tree removal mowing and enforcement. Night patrol and cleanup is necessary from 10:00 p.m. to 2:00 a.m. daily.

Maintenance personnel provide a broad range of duties. This includes maintaining service buildings, public buildings, grounds, trails, roads, parking areas, tables, signs and equipment, conducting night patrol, and providing semi-skilled labor for rehabilitation and development projects. CETA and other programs can be of valuable assistance when available, however, they require qualified park employees for supervision.

Operating Seasons

Summer - Memorial Day through Labor Day is the capacity use period, requiring full scale operations. Lake Bemidji is a long term camping park. Camping, swimming, hiking, and fishing are primary activities. The interpretive services program has heavy participation and is considered one of the best in the state.

Spring and Fall - As in all parks, these are the primary maintenance and construction seasons. Operations are part time during week days and full time on weekends. In the spring, many schools visit the park and use the interpretive services.

Winter - Ski trail use is currently quite heavy and growing fast. New facilities will be needed to accommodate future users. When the new interpretive center is constructed, it should include a warming area.

Maintenance and Operations Problems

1. Staffing - The staff consists of one full time manager and one full time assistant. Other seasonal employees are listed on the staffing chart. There is not adequate personnel to effectively and efficiently fulfill all the duties and responsibilities in the park.

   Recommendation: The following additional personnel should be added to the staff:

   a. Seasonal technicial (9 months) - will provide additional assistance and supervision for the 98 hour a week spring, summer, and fall operations, additional supervision for maintenance programs, and assistance with regional supplies. Funds currently allocated for one laborer position will be used to fund this seasonal technician position.

   b. Park worker (6 1/2 months) - will provide additional services spring, summer, and fall for visitor center concessions and cleanup operations. When concessions are moved to the visitor center, some of these funds released will be converted to labor for improved maintenance.

c. Lifeguard (2 1/2 months) - will protect swimmers seven days per week. Two lifeguards will be on duty on heavy use days.

d. Naturalist (extend to 4 months) - will provide spring and fall interpretive programs.

e. Solid waste disposal, currently done by park personnel, should be contracted out, if economically feasible.

f. The concessions operation should be moved to the visitor center where staffing can be consolidated for greater efficiency.

2. Resource damage from heavy use - Capacity use of the campground and intensive use of day use facilities causes extensive soil and vegetative damage to campsites and access points.

Recommendation: A detailed program of restoration and maintenance is needed, using fertilizer and grass and shrub planting.

Personnel Staffing Requirements

Based upon the workload analysis, which identifies present functions, the following conclusions were reached concerning the present and project personnel needs of Lake Bemidji State Park to meet existing and future demands for services and maintenance.

	Existing 1976-77		Projected Needs	
Administrative Personnel				
Park Manager	12 mo.	$ 13,250	12 mo.	$ 13,250
Assistant	12 mo.	10,500	12 mo.	10,500
Technician			9 mo.	7,600
Public Services Personnel				
1 Naturalist	5 mo.	4,450	9 mo.	8,000
2 Park Workers	5 mo.	3,214	5 mo.	3,214
	5 1/2 mo.	3,536	5 1/2 mo.	3,536
3 Park Workers	3 mo.	1,750	3 mo.	1,750
		1, 750		1,750
		1, 750		1,750
1 Park Worker	2 mo.	1,200	3 mo.	1,800
1 Park Worker			6 1/2 mo.	3,800
1 Lifeguard	2 1/2 mo.	1,500	3 mo.	1,500
1 Lifeguard			3 mo.	1,500
Maintenance Personnel				
2 Laborers	7 mo.	6,150	Remove 1	6,150
		6,150		
2 Laborers	3 mo.	2,650	3 mo.	2,650
		2,650		2,650
		$60,500 annual		$71,400 annual
		$121,000 biennial		$142,800 biennial

Equipment

The items of equipment listed below, when replaced on a regularly scheduled basis, are the 10 year projected needs for the overall operations of this park. Heavy equipment and specialized equipment not listed are obtained through the regional office. Equipment of the proper size and specifications must be selected on a park by park basis to match the conditions and job at hand. Proper up-to-date equipment will reduce personnel needs, the cost of repairs on old equipment, and the cost of maintenance and improvement projects.

1978-1987 Projected Equipment Replacement Schedule

Unit		Existing Units	1978-79	1980-81	1982-83	1984-85	1986-87	Total
Sedan								
1/2 Ton	(2)	1969	$ 8,800			$ 5,800	$ 6,400	$21,000
3/4 Ton		1974		$ 5,200			6,900	12,100
1 Ton		1968	5,100			6,700		11,800
1 1/2 Ton								
4 x 4								
Dump		1966		12,700				12,700
Tractor		1976					13,000	13,000
Groomer								
Snowmobile								
Small Equipment (mowers, etc.)			4,000	4,200	$4,400	4,600	4,800	22,000
Other			5,000					5,000
			$22,900	$22,100	$4,400	$17,100	$31,100	$97,600

Future replacement will be based upon the following general criteria:

Light 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 because of the continuous use they receive. Other motorized equipment will be purchased and replaced as needed.
Other equipment: Interpretive equipment, furniture, and fixtures will be purchased as needed.

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% 2-year salary inflation cost.

	Biennium				
	78-79	80-81	82-83	84-85	86-87
Personnel:					
Existing 76-77 $121,000					
Actual Needs (for current operations based on staffing chart)	$142,800				
Personnel Costs (from previous biennium)		$157,100	$172,800	$190,100	$209,100
10% Salary Increase	14,280	15,710	17,280	19,010	20,910
Total Biennial Personnel Costs (rounded off)	157,100	172,800	190,100	209,100	230,000
Supplies: Administrative Overhead and Expenses (20% of personnel costs - rounded off)	31,400	34,600	38,000	41,800	46,000
Equipment: (from equipment schedule - rounded off)	23,000	22,000	5,000	17,000	31,000
Total Projected Biennial Maintenance and Operations Costs:	$211,500	$229,400	$233,100	$267,900	$307,000
Total 10 Year Cost Breakdown:	$1,248,900				

Management Budget Summary

Management Practice	Biennium 78-79	80-81	82-83	84-85	86-87	Total
Waters	$ 1,000	Subject to study results				$ 1,000
Fisheries	100	$ 100	$ 100	$ 100	$ 100	500
Soils	1,000	1,000	1,000	500	500	4,000
Vegetation	4,400	5,650	2,850	625	5,250	18,775
Wildlife	3,800	1,000	1,000	1,000	1,000	7,800
Cultural/Historical Resources	2,000					2,000
Recreational Development	292,350	53,300	11,300	18,000	29,200	404,150
Interpretive Program		14,800	8,000	5,000		27,800
Maintenance/Operations	211,500	229,400	233,100	267,900	307,000	1,248,900
Contingency Fund	5,000	5,000	6,000	7,000	8,000	31,000
Total	$ 521,150	$ 310,250	$ 263,350	$ 300,125	$ 351,050	$1,745,925

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 detailed 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.

Director supervises and monitors the program.

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.

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.