JUDGE C. R. MAGNEY
STATE PARK MANAGEMENT PLAN

JUDGE MAGNEY

TABLE OF CONTENTS

INTRODUCTION

Planning Process..... 5

REGIONAL ANALYSIS

The Surrounding Area..... 9

Recreational Facility Supply and Demand..... 11

THE PARK USER

Day Users..... 19

Overnight Users..... 20

CLASSIFICATION

The State Recreation System..... 25

The Landscape Region System..... 25

Classification Recommendation..... 27

Classification Justification..... 28

PARK RESOURCES

Climate..... 33

Geology..... 33

Soils..... 34

Vegetation..... 41

Wildlife..... 46

Ground Waters..... 55

Surface Waters..... 55

Fisheries..... 56

Archaeology/History..... 57

PHYSICAL DEVELOPMENT AND RECREATION MANAGEMENT

Existing Development..... 65

Recreation Management Objectives..... 65

Proposed Development..... 66

Camping..... 66

Trails..... 68

Picnic Area..... 80

Administrative/Support Facilities..... 81

Interpretive Services..... 85

PARK BOUNDARY..... 89
COST AND PHASING SUMMARY..... 95
BIBLIOGRAPHY.....

LIST OF MAPS

Landscape Regions..... 26
Soils..... 39
Existing Vegetation..... 45
Existing Development/Ownership..... 63
Proposed Trails..... 77
Proposed Development..... 88

This comprehensive management plan for Judge Magney State Park was completed by the Minnesota Department of Natural Resources, Office of Planning, Park Planning Section, 1985. Funding for the planning process was provided by the Legislative Commission on Minnesota Resources.

Park Planner: Dennis Thompson
Mike Miller
Document: Magney/Comp

INTRODUCTION

THE PLANNING PROCESS

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." The intent of this legislation is to ensure, through long-range planning, the protection and perpetuation of Minnesota's outstanding resources.

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, each park will be reviewed to see that it is consistent with one of the two park classifications. Upon completion, the plans will provide long-range management policies and recreation and resource development recommendations which will reflect the classification designation for each park. The ORA '75 also states that after August 1, 1977, no development funding will be permitted for any park until a management and development plan has been completed. By authorizing this planning program, the legislature has taken a significant step toward building a state recreation system which reflects an accurate representation of "Minnesota's natural and historical heritage" that can be enjoyed both now and by future generations.

The Park Planning Section of the DNR, Office of Planning was established to formulate long-range resource management and recreation development plans for 82 state parks, recreation areas, and waysides.

The park planning process consists of seven steps:

1. An inventory of natural resources, visitor use, and existing facilities is compiled. Specialists from other DNR divisions and sections assist in collecting pertinent data.

2. Alternatives for park management and development are developed. A public workshop is held to review these alternatives and invite further public comment. These alternatives are then reviewed by the Park Planning staff and the DNR, Division of Parks and Recreation.

3. The recommendation for park classification is made, the park goal is developed, and the draft plan is written. This step culminates in the first interdepartmental review.

4. The draft plan is revised as the result of the interdepartmental review. The revised plan is made available to the public for a 30 day review period.

5. The draft plan is revised according to information received from the public review. The plan is then sent to the State Planning Agency for a 60 day review period.

6. The resource and development recommendations are implemented by the DNR, Division of Parks and Recreation.

7. The State Legislature will determine the classification of each state park, taking into account the classification recommendation made in the management plan.

In planning the management and development of the various units, the Department of Natural Resources will consider probable future impacts which may affect each unit. In spite of this, unforeseen circumstances can occur. Therefore, each plan should be reviewed periodically to see that it remains relevant in light of current conditions.

REGIONAL ANALYSIS

INTRODUCTION

In order to determine a park's potential role in perpetuating natural resources and fulfilling recreational needs, a regional analysis process is necessary. The analysis is designed to look at a given park's interrelationship with such factors as: accessibility, population distribution, economy and land use, and other nearby recreational facilities.

Recognition of a state park's interrelationship with these factors will help to ensure that the park will be planned to protect natural and historic resources, meet appropriate recreational demands, and avoid competition with other recreation providers.

THE SURROUNDING AREA

Accessibility

Judge Magney State Park is located in extreme northeastern Minnesota fourteen miles northeast of Grand Marais and 25 miles southwest of the U.S./Canadian border. The only hard-surfaced road access to the park is U.S. Highway #61. This road is the major access to all areas along the Lake Superior shore between Duluth and the border.

Visitors who are sightseeing along the North Shore make up the majority of the park's day use. They stop at Judge Magney to view the Brule River and hike the trail to the Upper and Lower Falls and the Devil's Kettle.

Judge Magney is only one of several state parks and waysides visited by sightseers on their trips up (or down) the North Shore. Visitation to the North Shore is quite diverse but the 7 county metro area, Duluth, and visitors from other midwestern states make up a large share of the visitation. Out-of-state visitors account for approximately 25% of the camping at Judge Magney (see The Park User, p. 23). Residents of the metro area account for another 50% of the camping occasions. The remainder of the campers come from throughout Minnesota.

An assessment of park accessibility to its users should also include an analysis of alternative forms of access. Obviously, the vast majority of any visitors to a state park arrive by automobile. This is certainly the case at Judge Magney, primarily due to its remoteness from population centers. However, the area is served by an inter-city bus line. One round trip is made

per day between Duluth and Thunder Bay. Scheduled stops are made in Grand Marais and 4 miles north of the park at Hovland. Bus riders can be dropped off at the park entrance if they ask the bus driver. Visitors can be picked up at the park entrance by the bus with advance notice.

Bicycling is another means of access to Judge Magney. Although large numbers of cyclists could not be expected to visit the park, Highway #61 is becoming a popular route for overnight cycling outings. During 1981-82, 2% of the camping occasions at Judge Magney were accounted for by cyclists. Cyclists needing overnight accommodations in the park are insured of a place to camp even if all the park campsites are occupied. It is the policy of the Division of Parks and Recreation to guarantee camping accommodations for cyclists because their mode of transportation makes it more difficult for them to find alternative accommodations.

The Minnesota Department of Transportation (Mn/DOT) has prepared a collection of "Minnesota Bikeways" maps which cover the entire state and are intended to help bicyclists select travel routes. Most paved state and county state-aid roads have been rated for their suitability for bicycling. Ratings are based on such things as the presence or absence of paved shoulders and the amount of automobile traffic using a road.

The portion of Highway 61 from Grand Marais to the U.S./Canadian border (a distance of 42 miles) has been rated good, with paved shoulders varying from seven to ten feet in width. This rating is based in part on estimated traffic figures using annual traffic estimates. During the summer when most cyclists would be using the highway, traffic would be significantly higher due to tourist traffic. Increased traffic would have an effect on bicyclist enjoyment and safety.

South of Grand Marais, ratings for Highway 61 vary between good and fair. These ratings would also be affected by the amount of summer traffic.

Population

People residing within 25 miles of a state park usually account for a majority of the park's visitors, particularly for such day use activities as swimming, picnicking, and hiking. However, at Judge Magney this is not the case. The 1980 U.S. Census shows that there are just over 4,000 people living in Cook

County. Only about 2,100 of these people live within 25 miles of the park. (About 1,300 of these live in Grand Marais). Obviously, the majority of the park's visitors, both day users and campers, come from beyond the local area.

Economy and Land Use

The majority of land in Cook County is publicly owned. The following are the approximate land ownership percentages:

	Percent
National Forest	40.6
Boundary Waters Canoe Area	26.1
Misc. Federal	4.6
DNR Parks	.6
DNR Forestry	12.3
Other State Lands	.6
County Tax Forfeit	.5
Private	14.7

As the ownership pattern suggests, both logging and tourism are important to the area's economy. In addition to the logging and tourism opportunities available on the forested inland areas, the Lake Superior Shore plays a key role in the area's tourism economy. Both private and publicly owned shoreline and near-shore areas offer visitors ample opportunities to view the lake, beachcomb, and camp or spend the night in a rental cabin.

RECREATIONAL FACILITY SUPPLY AND DEMAND

In the planning of Judge Magney State Park, it is important to analyze the interrelationship of the park with other area recreational facilities. This is necessary to assess the demand for particular activities and how Judge Magney might function to fill this demand.

It is important to note that recreational facilities near a state park may duplicate services. For example, camping is a recreational activity which most state parks accommodate. City and county parks in the vicinity of a state park may also have campsites. However, some people will consistently choose to use one of these camping areas over the others. It may be because of the facilities or opportunities provided. For example, a city run campground may offer complete support facilities such as electrical, sewer, and water hook-ups

and recreational facilities such as ballfields or a swimming pool. A state park, on the other hand, may provide camping in a natural setting augmented by recreation opportunities such as hiking, wildlife observation, and historical interpretation. While camping opportunities are provided by both the city park and state park, the total activity experience is quite different.

The distance Minnesotans are willing to travel to recreate varies for each activity. The following percentages on recreational participation by state residents at various travel distances from their homes came from information collected by the DNR in preparation of the State Comprehensive Outdoor Recreation Plan (SCORP '79 - updated in 1985). SCORP is a study which identifies recreation patterns and activity preferences on state and region levels.

In-State Activity Participation by Residents at Various Travel Distances from Home [a,b]

Activity	Percent of Participation Greater than 75 miles	Percent of Participation Between 26 & 75 Miles	Percent of Participation Less than or Equal to 25 Miles
Summer			
Camping	47.1	30.6	22.3
Backpacking	45.3	8.5	46.2
Canoeing	38.7	11.4	49.9
Fishing	33.0	18.9	48.1
Boating	31.3	14.1	54.6
Visiting Hist. sites	25.9	21.8	52.3
Hiking	12.5	8.0	79.5
Swimming	11.6	8.1	80.3
Picnicking	11.0	14.5	74.5
Horseback Riding	5.3	8.3	86.4
Golf	5.0	4.4	90.6
Bicycling	1.0	3.1	95.9
Winter			
X-Country Skiing	6.1	7.0	86.9
Snowmobiling	5.8	9.3	84.9

[a] Source: Minnesota Department of Natural Resources, Office of Planning, State Comprehensive Outdoor Recreation Plan.

[b] Travel distances are point-to-point calculations from homes to actual recreation destinations found in a 1978 SCORP statewide sample of Minnesotans.

SCORP information was collected by economic development regions. There are 13 of these regions in the state. Region 3 in which Judge Magney State Park is located includes the counties of: Cook, Lake, St. Louis, Koochiching, Itasca, Aitkin and Carlton.

SCORP '79 ranked a number of summer and winter recreational activities according to the expressed desire by Minnesotans for more opportunities to do them. The activities ranked as follows:

SUMMER ACTIVITIES

All Minnesotans	Region 3 Residents
1. Bicycling	1. Fishing
2. Camping	2. Bicycling
3. Fishing	3. Camping
4. Tennis	4. Tennis
5. Swimming	5. Swimming
6. Hiking	6. Hiking
7. Picnicking	7. Picnicking
8. Boating	8. Canoeing
9. Golfing	9. Golfing
10. Park facilities	10. Boating
11. Canoeing	11. Backpacking
12. Horseback riding	12. Baseball/softball

WINTER ACTIVITIES

All Minnesotans	Region 3 Residents
1. Hunting	1. Hunting
2. Ski touring	2. Ski touring
3. Snowmobiling	3. Snowmobiling

The following is an inventory of recreational facilities in the area of the park. The facilities at Judge Magney are included in these inventory figures. The inventory was done on the basis of a 25 mile radius.[1]

[1] This facility inventory was done as a part of SCORP '79. Some of the information was gathered six or more years ago. Much of it, however, has been updated. Information on facilities provided by local, county, state, and federal government agencies is the most up to date.

Water Accesses

Within 25 miles of the park are a large number of water accesses of both the carry-in and launch ramp types. For the most part, these are earth or gravel surfaced accesses. Exceptions to this are a concrete plank ramp at the city park in Grand Marais and two concrete ramps provided by DNR, Trails and Waterways at Tom Lake and at Horseshoe Bay on Lake Superior. Also, Cook County provides a concrete slab ramp at Hovland for access onto Lake Superior.

The following chart shows the available water accesses within a 25 mile radius of Judge Magney:

Administering Agency	Ramp Launches	Carry-in Launches
U.S. Forest Service	7	11
DNR Forestry	3	2
DNR Trails & Waterways	8	3
Cook County	4	-
Grand Marais (city)	1	-
	23	16

All of these accesses are available free of charge. Three of them provide access to Lake Superior. Two provide access to the Swamp River. The remainder access inland lakes; some of them serving as put-in points for the Boundary Waters Canoe Area Wilderness (BWCAW).

Fishing

Within a 25 mile radius of Judge Magney are several state designated trout streams. In addition, a wide variety of fishing opportunities exist on inland lakes and there are three public accesses providing boating access to Lake Superior.

Camping

Following is a list of public camping facilities provided by federal and state agencies and the city of Grand Marais. All of these facilities are located within 25 miles of Judge Magney. In addition to the facilities listed, there are approximately a half dozen privately owned camping facilities which are open to the public. Generally these privately owned facilities provide camping services such as electrical, water, and sewer hook-ups which the state and federal facilities do not have. (Note that the Grand Marais City Campground does provide a large number of campsites with hook-ups.)

Administration	Number of Campgrounds	Number of Campsites
U.S. Forest Service	6	148
DNR State Parks	2	77
Grand Marais (city)	1	200

In addition to the above listed facilities, Ontario, Canada is in the process of planning a provincial park on the Pigeon River (the Minnesota/Ontario border).

The planning process for Laverendrye Provincial Park will not be completed until late 1986 but it is likely that it will be classified as a Waterway Park. This would permit the development of such facilities as semi-modern campgrounds and summer and winter trails (including snowmobiling).

Trails

This area of Minnesota is one of the best in the state for winter trail activities, primarily because of its long winters and substantial snow cover (see Climate, p. 33). In addition, there are vast areas of publicly owned land which have trails or unplowed roads available for winter recreation.

It is difficult to identify the trail mileage available within 25 miles of the park because so many of the trails connect into one another and extend beyond the 25 mile radius. Within Cook County nearly 600 miles of trail have been inventoried for all public jurisdictions, including about 370 miles of ski touring trails and nearly 200 miles of snowmobile trails. Most of these trails are groomed. In addition, many unplowed state and federal forest roads are available for winter recreation. Summer uses of trails in Cook County include hiking, interpretation and hunting. The following are four of the area's trail opportunities:

North Shore State Trail

This is a 153-mile trail running from Duluth to Grand Marais managed by DNR, Trails & Waterways. Its primary use is for snowmobiling. During the summer, the portions from Duluth to French River and from Finland to Grand Marais are used for hiking. Shelters and campsites are provided at numerous locations. The trail is groomed for winter use.

Grand Portage Lodge and Conference Center

This facility is owned and operated by the Grand Portage band of Chippewa Indians. The Grand Portage Ski Trail has over 40 miles of groomed ski trails. Lodging and food services are also provided. This trail system is maintained with grant-in-aid trail funding from the DNR. It is open to the public free of charge.

Cross Country Ski-Thru Program

Along a portion of the Gunflint Trail north of Grand Marais are several privately owned resorts which cooperate in a ski-thru program that allows visitors to ski between different resorts. These trails are located in the Boundary Waters Canoe Area Wilderness (BWCAW) and are about 120 miles long in total. These trails comprise the DNR grant-in-aid trails known as the Gunflint Lake Trail System, Central Gunflint Trail System, and Banada Artery Trail.

Border Route Trail

The Border Route Trail is located in the BWCAW and was constructed by the Minnesota Rovers, an outdoor recreation club. It traverses approximately 40 miles of rugged terrain and is used primarily for expert only skiing and overnight backpacking. The trail runs from Partridge Falls on the Pigeon River west to Loon Lake. The DNR also funds an additional 18 miles of this trail as a groomed grant-in-aid ski trail which connects the Border Route Trail with the trails in the cross country ski-thru system.

Interpretive Facilities

Within 25 miles of Judge Magney is a major interpretive facility operated by the National Park Service - Grand Portage National Monument. It was established as a fur trading post in 1731 and became the center of the North American fur trade. It also marked the start of the historic portage from Lake Superior to Fort Charlotte on the Pigeon River.

Several structures representative of the original settlement have been reconstructed and are open for public visitation. Interpretive information and demonstrations are provided.

THE PARK USER

INTRODUCTION

The following chart illustrates the number and type of visitors who used the park during the five-year period from 1980-1984. The numbers in these columns do not necessarily represent separate individuals. For example, in the Total Park Visitation column for 1984, 40,732 different people did not visit the park. A large percentage of these people used the park several times during the year. Thus, the actual number of separate individuals who visit the park in one year is much lower.

Year	Campground	Day Visitors	Total Park Visitors
1984	4,679	36,053	40,732
1983	5,110	35,739	40,849
1982	5,324	24,947	30,271
1981	5,556	24,396	29,952
1980	7,080	33,012	40,092

DAY USERS

Day User Profile

Information on day users in the park is more difficult to gather because day users are not registered as are campers. Day visitation is calculated using a traffic counter on the entrance road near the contact station and, during the winter, by manager estimates.

In almost all cases, day use in state parks is considerably higher than overnight use. During the 5 year period 1980-1984, day users at Judge Magney accounted for approximately 85 percent of the total park visitation. The actual number of day users varied from year to year. These fluctuations can be attributed in large part to weather conditions for each season.

The majority of day users visit the park during July, August, and September (in 1984, 26,160 visitors or 73 percent of the total day use population visited the park during these months.) These figures are not meant to suggest that no one uses the park during the winter months but it does show that the majority of the day visitors are most interested in hiking, picnicking, and viewing fall colors.

Summer season hiking is by far the largest single day use attractor in the park. The trail which provides access to the Lower and Upper Falls and the Devil's Kettle is the one which receives the majority of the use. The development proposals in this plan will provide a wider variety of trails for day use hikers.

OVERNIGHT USERS

During the 5 year period 1980-1984, overnight users of the campground accounted for about 15 percent of total park visitation. In 1983, 5,110 people camped at Judge Magney. This ranked the park 31st in total campers of the 60 state parks and recreation areas which provide camping.

Camper Profile

SCORP figures show that people living in Region 3 account for 9.2% of the total camping occasions which occur in the state. Region 3 receives 16.7% of all the camping which occurs in the state. Of the people who camp in Region 3, 37% come from Region 3, and 45% come from Region 11 (the seven county metro area). (NOTE: These figures are for Minnesota residents only. They do not include camping occasions by out-of-state visitors.)

A camper registration card is completed for each camping party at a state park. This card records camper name and address, number in party, length of stay, and dates the campsite was used. A random sample of these cards for the two year period 1981-1982 was taken. The following information on campers at Judge Magney State Park was drawn from this sample. This information does not necessarily provide data on individual campers. Information gathered is on each group of campers who register for a campsite. In some cases, groups may include an entire family; in others, it may be an individual.

Origin of Campers

Minnesota	74.8%
Out-of-state	25.2%

Largest out of state percentages (of total camper visitation)

Wisconsin	7.9%
Illinois	3.8%
Iowa	2.8%
Ontario	2.7%

Overnight visitors to Judge Magney come from all over Minnesota as well as out of state. Residents of the seven county metro area accounted for 50 percent of all the camping occasions by Minnesota residents.

Camping Seasons

This chart shows the percentage of camping occasions for each month of the season. The figures were averaged for a two-year period from 1981 to 1982.

Month	Percentage
May	6.6
June	12.0
July	28.8
August	34.8
September	17.1
October	.7
	100.0

August was the most popular month for camping at Judge Magney. For most of the state park system, July is the most popular month. For state parks on the North Shore, August is probably more popular because it is a cool and comfortable place to be during a usually warm month. Also, on the North Shore mosquitos are much less a nuisance in August than they are in the earlier part of the summer.

Number in Party	Percent of Total Camper Parties
1	6.0
2	51.7
3	13.7
4	16.5
5	7.9
more than 5	4.2
	100.0

The above information shows that over half of all camping parties were made up of two people. Many state parks have a much higher percentage of larger camping groups. Larger groups can result in heavier impacts on camping areas, affecting ground cover, and surrounding vegetation. They can also create more noise which may disturb others in the campground.

Type of Camping Shelter

Type	Percent
Tent	65.7
Tent trailer	7.0
Camper trailer	4.1
Pickup camper	9.0
Motor home	5.0
Camper van	7.0
Bicycle (tent)	1.8
	100.0

The above percentages for type of camping shelter used are an average for the years 1981 (partial) and 1982. The large percentage of those using tents could probably be attributed to the fact that over half of all camping parties are made up of only one or two people. Also, owners of camping vehicles such as motor homes and camper trailers often prefer to camp in campgrounds which provide more convenience facilities including electrical hookups for their camping vehicles.

CLASSIFICATION

THE STATE RECREATION SYSTEM

Minnesotans are fortunate to live in a state with such a wide variety of natural, scenic, and historic resources. To ensure public access and to prevent inappropriate development, the state has set aside lands which exemplify outstanding resources. It is the management goal for all state recreational lands, including state parks, to protect and perpetuate resources for use by the citizens of Minnesota.

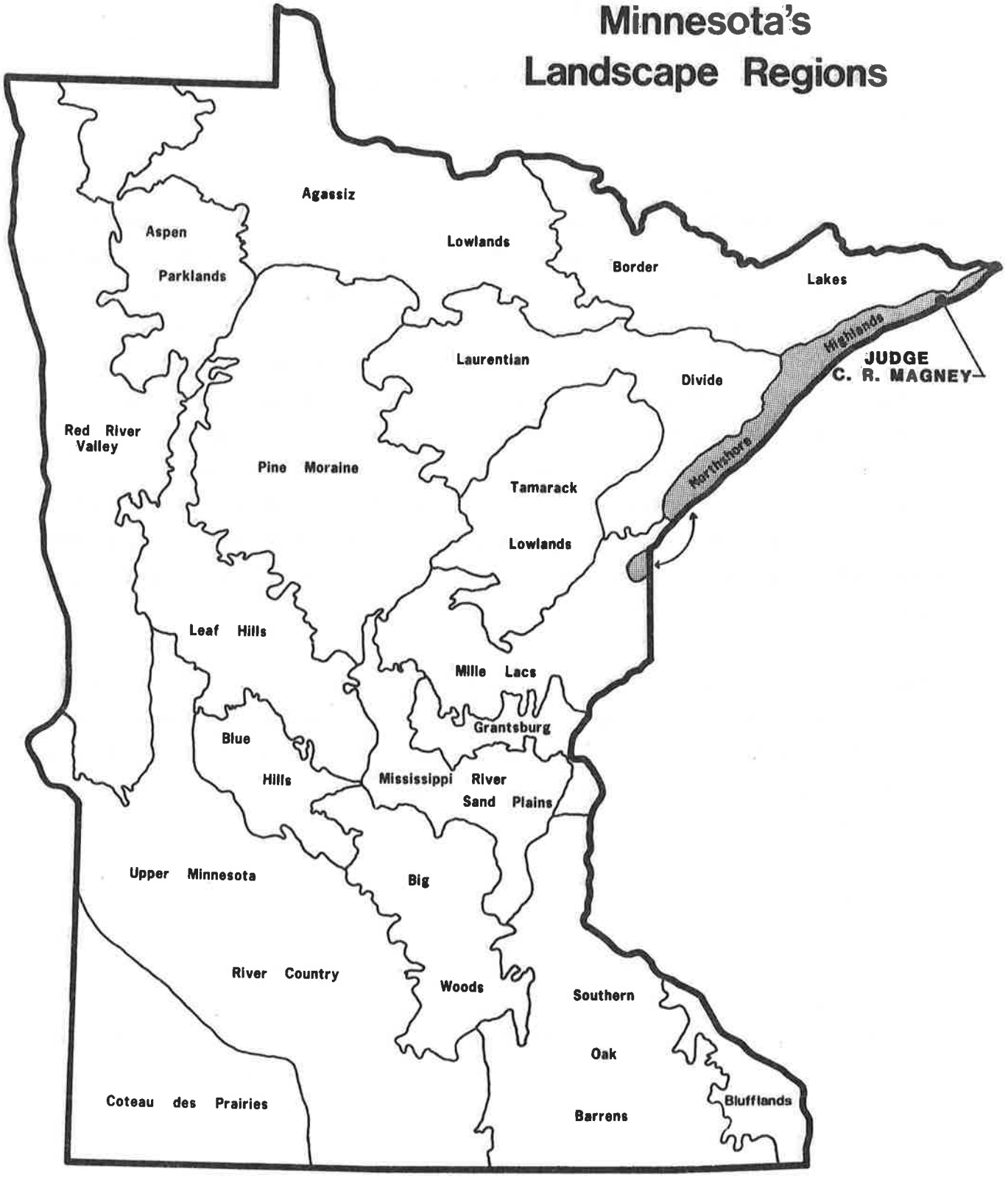
There is a delicate balance which must be maintained when recreational facilities are provided for large numbers of people in areas of outstanding and often sensitive resources. Inappropriate development can result in irreparable damage to the resource. To help ensure this recreation/resource balance, the Minnesota State Legislature established, through the Outdoor Recreation Act of 1975 (ORA '75), a classification process whereby the outdoor recreation system is comprised of classified units. Each unit shall be authorized, established, and administered to accomplish the purpose and objectives of its classification. These units are: natural state park; recreational state park; state trail; state scientific and natural area; state wilderness area; state forest and state forest sub-area; state wildlife management area; state water access site; state wild, scenic, and recreational rivers; state historic site; and state rest area.

Through this classification system, the role for each recreational unit in the state system is identified. The two primary classifications for state parks are natural and recreational. These two, along with other classifications, are considered during the planning process. The most appropriate is recommended for the park.

THE LANDSCAPE REGION SYSTEM

The landscape region system divides the state into 18 regions. These regions are differentiated according to the characteristic plant and animal life, landforms, and cultural patterns which existed before, during, and after European settlement. The landscape region system is a framework which provides information valuable in the planning of Minnesota's state parks.

Judge Magney State Park is located in the North Shore Highlands landscape region.


Minnesota's
Landscape Regions
Agassiz
Aspen
Parklands
Lowlands
Border
Lakes
Highlands
JUDGE
C. R. MAGNEY
Laurentian
Divide
Red River
Valley
Pine Moraine
Tamarack
Lowlands
Northshore
Leaf Hills
Mille Lacs
Grantsburg
Blue
Hills
Mississippi River
Sand Plains
Upper Minnesota
Big
River Country
Woods
Southern
Oak
Barrens
Blufflands
Coteau des Prairies

"This landscape region contains 1,600 square miles or 1.9% of Minnesota. It is a strip 6 to 12 miles broad extending along the North Shore of Lake Superior from the Canadian border to Duluth. The area is bounded on the west by the drainage divide between streams emptying directly into Lake Superior and the headwater streams of the St. Louis River. This divide is on the toe of the Highland Moraine.

"The climate of the area is influenced by Lake Superior and this may be reflected somewhat in the vegetation. Yellow birch and thimbleberry are species found in this region which are not common elsewhere in the state. Four of Marschner's vegetation types were found in this landscape region before white settlement. The Aspen-Birch (conifer) and White and Red Pine vegetation types were common. The Mixed Hardwood and Pine, and Conifer Bog and Swamp were less extensive, yet still common.

"The Northshore Highlands cultural influences were predominately from Lake Superior. For a great portion of the time, the lake was the only means to move efficiently from one location to another. This area includes two of the major entryways of fur traders into Minnesota: Grand Portage at the north end and the St. Louis River at the southern extreme. This area has been logged extensively for the pine, spruce and tamarack. Shipping, fishing and logging have influenced most of the European cultural features of the North Shore until just recently, when tourism and heavy industry became major influences."[2]

CLASSIFICATION RECOMMENDATION

Each state park is managed and developed according to the nature of its natural resources and their ability to tolerate visitor use. The classification alternatives considered for Judge Magney State Park were recreational state park or natural state park. Judge Magney is recommended for classification as a natural state park because it best fulfills the criteria for this designation. Judge Magney is not recommended for classification as a recreational state park because:

- Large portions of the park (particularly those near the river) contain sensitive natural resources which would not tolerate intensive recreational development and use.

---

[2] Quote taken from "The Biocultural System of Minnesota", an in-house document prepared by the Interpretive Services Section of the Division of Parks and Recreation (May, 1978).

- The quality of the natural resources in the park should not be compromised by the development of major recreation facilities (large campgrounds, swimming areas, etc). It should be the natural resources themselves and not the recreation facilities provided which are the prime attraction for visitors.

CLASSIFICATION JUSTIFICATION

The Outdoor Recreation Act of 1975 (Minnesota Statute 86A.01 to 86A.11) establishes an outdoor recreational system which will (1) preserve an accurate representation of Minnesota's natural and historical heritage for public understanding and enjoyment, and (2) provide an adequate supply of scenic, accessible, and usable lands and waters to accommodate the outdoor recreational needs of Minnesota's citizens. Natural state parks are established as one component of this outdoor recreation system.

In keeping with the legislative mandate of the Outdoor Recreation Act of 1975, the Department of Natural Resources has established a goal, objectives, and policies for natural state parks. It is the goal of the Department of Natural Resources in natural state parks to:

> "...protect and perpetuate extensive areas of the state possessing resources which illustrate and exemplify Minnesota's natural phenomena, and provide for the use, enjoyment, and understanding of such resources without impairment for the enjoyment and recreation of future generations."

To facilitate meeting this goal, objectives and policies have been described. It is the objective of the Department of Natural Resources to ensure that proposed natural state parks meet, or have the potential to meet the following criteria:

> "Depict most of the major components characteristic of the landscape region, or contain a natural component(s) of statewide significance representing a feature of the presettlement Minnesota."

The natural resources in the park are characteristic of the kind of resources found in the North Shore Highlands Landscape Region.

> "Contain natural resources sufficiently diverse and interesting to attract people from throughout the state."

Judge Magney contains a diversity of interesting natural resources including:

- The Brule River with its waterfalls, cascades, and other excellent scenic opportunities as well as its trout and salmon fishing potential.

- Dramatic changes in topography (an elevation change of about 1,000 ft. within the park) offering many scenic vistas.

- Interesting vegetation types including cedar near the river and some remnant white pine.

- Wildlife such as moose, wolf, and black bear.

These natural resources are the key to the park's significance. Such resources, particularly the dynamic features of the Brule River, attract visitors from throughout the state. The park is not alone in its visitor attraction. It is one of several parks and waysides whose scenic and recreational opportunities attract people to the North Shore from throughout the state.

> "Be sufficiently large to provide for the maintenance of ecosystems and the protection of other natural features which give an area its special qualities."

The park contains 4,500 acres. Most of this currently receives minimal use. Although this plan recommends improved hiking access to some areas of the park and an expanded hiking/skiing trail system, the kind of use the park will receive as a result of this development will be low impact. No motorized access into the interior of the park is recommended and overnight use will be limited to a few hike-in campsites. Those areas of the park containing sensitive resources can be avoided or, where access is necessary, can be developed in such a way as to minimize the impact of visitor use. For instance, the Gauthier Creek Trail development action on p. 74.

> "Be sufficiently large and durable so as to provide opportunities for enjoyment of their special natural qualities by significant numbers of people now and in the future".

For the majority of park visitors, the best way to enjoy the park is by using its hiking trails. Development recommendations in this plan will enhance the hiking potential of the park without detracting from its natural beauty.

The park is relatively large. Interesting natural resource elements can be found throughout. With such a situation, trail access can be provided to areas capable of supporting public use and sensitive resource areas can be avoided. Trail systems, if properly developed, have a low impact on the resources. With proper development, the park can provide recreation opportunities for future generations as well as current users.

Blank Page

PARK RESOURCES

CLIMATE

Although Judge Magney State Park is subject to the strong continental weather patterns that influence all of Minnesota, the local climate is moderated by Lake Superior. The park receives warming breezes off Lake Superior in the winter and cooling breezes in the summer. Generally, temperatures in Judge Magney are 6 to 8 degrees warmer in the winter and cooler in the summer than inland areas of northeastern Minnesota. The following temperatures recorded at Grand Marais, Minnesota should reflect the temperature variations to be expected near Lake Superior in the park. The inland portion of the park is slightly cooler than the shore area during the winter.

Temperature Variations

	Grand Marais
Mean January Maximum	20°F
Mean January Minimum	2°F
Mean July Maximum	72°F
Mean July Minimum	54°F

Average annual precipitation (rain and snow) in the Grand Marais area is approximately 27 inches.

Winter activities such as snowmobiling and ski touring are popular in Minnesota. In the Grand Marais area these activities are enhanced by the fact that adequate snow cover to participate in them is available an average of 117 days a year (average 3 in. or greater snowfall, 1959-1979). The Twin Cities, by comparison, had an average of 75 to 80 days of 3 in. or greater snow cover during the same time period. About 5 to 7 miles inland from the Lake Superior shore, the number of days with a 3 in. or greater snowfall increases significantly to between 150 and 170 days per year. With this kind of snow coverage, the inland portions of the park should provide an exceptional area for ski touring and snowshoeing.

GEOLOGY

Judge Magney State Park is underlain by basalt bedrock, as is most of the North Shore. It was deposited by volcanic activity approximately 1.1 billion years ago. Since that time, the area has been altered by erosive forces, primarily glacial activity. The last glacier started to recede 13,000 years ago. As it receded east into the Lake Superior basin, lakes developed around its margin

from melted ice and rain. About 10,500 years ago, Glacial Lake Duluth was formed. This large lake was about 500 feet higher than Lake Superior. While Glacial Lake Duluth existed, it deposited clay sediment on the lake bottom, deltas of sand and gravel were formed at the mouths of rivers and the waves removed loose materials from its shoreline. As the glacier retreated to the northeast, lower outlets were uncovered and the water level began dropping. Beaches and deltas were formed at many different levels as the water level dropped.

For park visitors, the most interesting geologic feature is the Brule River with its many steep cliffs, cascades, and waterfalls. The most significant of these waterfalls is the Devils' Kettle located about a mile and a half upstream from Lake Superior. It has a height of fifty feet and is unusual in that part of it is a large pothole or kettle into which water disappears. It is not known where the water re-enters the river.

SOILS

In general, the soils along the North Shore are poor for development. Most are shallow and often there are springs and seepages. When compared to other soils along the North Shore, some of the soils in Judge Magney are quite good, though they still pose some limitations for development.

The following soils map and soil type descriptions were adapted from "Soil Survey of North Shore of Lake Superior Coastal Zone Management Area, 1977." This document was written by the USDA Soil Conservation Service in cooperation with Minnesota Agricultural Experiment Station.

Hibbing Silt Loam (map code #254B)

This deep well-drained soil composed of clayey lake sediment is found on gently sloping areas. Most areas of this soil are in forest comprised primarily of aspen, Norway pine, eastern white pine, white spruce, paper birch, and balsam fir. This soil has a slow percolation rate which poses problems for septic tank absorption fields. Structures with either floating concrete slabs or basements need bases and backfill of gravel for good drainage. Hibbing silt loam is suitable for dispersed campsites and trail development although it compacts fairly readily in high use areas and becomes slippery and muddy when wet.

Map Code #305 Bergland Silty Clay

Bergland soil consists of nearly level, poorly drained soil formed in reddish brown clayey sediment. It occurs in nearly level areas and in depressions in the lake plain. Most areas of this soil are under forest. The main tree species supported by this soil type are quaking aspen, paper birch, white spruce, balsam fir, white cedar, and black ash. Building site developments are severely limited by wetness, flooding, and high clay content.

Map Code #512 BC Amasa Gravelly Fine Sandy Loam

Amasa soil consists of deep, gently sloping to sloping soils with 12 to 24 in. (31 to 61 cm) of loam over 5 to 10 ft (1.5 to 3.1 m) sand and gravel. These soils are found on beaches, terraces and deltas. The main tree species supported by this soil type are quaking aspen, paper birch, Norway pine, jack pine, eastern white pine, and balsam fir. These soils are suitable for the construction of most developments including roads, buildings, and major recreational facilities.

Suamico Muck (map code #550)

Suamico muck is a very poorly drained soil formed in 16-50 inches (40.6-127 cm) of organic material over clay. This soil is formed in depressions on lake plains. The main tree species found on this soil type are black spruce, white cedar, and tamarack. Water moves quite quickly through the organic material, but very slowly through the clay. Construction of any facilities on this soil type is very difficult. The problems are flooding, wetness, excess humus, and low bearing strength.

Barto-Mesaba Complex Gravelly Silt Loams (map code #890BD)

This mapping unit consists of Barto soil (8-20 in./20-51 cm to bedrock), Mesaba soil (21-40 in./53-102 cm to bedrock), and Quetico soil (4-18 in./10-46 cm to bedrock) in such a complex pattern that it is not practical to separate them in mapping. They are gently sloping to rolling areas and very well-drained, although seepage over solid bedrock is common. The main tree species growing on these soils are aspen, Norway pine, eastern white pine, jack pine, balsam fir, and paper birch. Depth to bedrock and slope are often major problems for construction of many structures. This soil complex is so variable in depth to bedrock that test holes may reveal isolated areas which are suitable for most structures. These soils have only moderate limitations for campground or picnic area development and are good for trail construction. Large openings in

the crown cover should be avoided, because tree root growth is restricted by bedrock and large rock fragments allowing more chance of wind throw.

Map Code #952 EF Quetico-Rock Outcrop

This mapping unit consists of very shallow Quetico soils and rock outcrops in such a complex pattern that it is impractical to separate them in mapping. The Quetico soils mainly occupy the concave more gentle segments of slopes. They make up about one-third of the area. Rock outcrops occupy the convex and steeper segments of the slopes. Quetico soil is a gravelly silt loam 8 to 24 in. (20 to 61 cm) thick. Surface runoff is rapid and seepage over bedrock is common. North facing slopes support upland timber and south facing slopes are bare to brushy. Main species are aspen, Norway pine, jack pine, eastern white pine, and paper birch. Construction of structures on this soil type is very difficult. Recreational uses, such as hiking trails and dispersed campsites are possible if the site is selected carefully. Erosion is a major problem on steep slopes and should be a major consideration in all facility designs.

Map Code #1020 Udorthents (18-45 percent slopes)

These steep soils are formed in clayey sediment. They are found in long, narrow, V-shaped valleys. In places where the river is undercutting the valley wall, there are landslides and slumping with little soil material or vegetation. Only those stream valleys with an average top width is 300 ft. (91 m) or more are mapped. This soil has severe limitations for most uses because of the steep slopes. Recreational uses such as trails are possible. Erosion control is a major consideration when selecting trail alignments.

Map Code #1002 Fluvaquents

These nearly level soils are adjacent to streams and rivers. They are wet and frequently flooded during spring thaw and following heavy rains. In most places, they consist of stratified layers of loam, sand, and gravel. Organic matter occurs also in variable layers. Included in mapping are small areas that are better drained and not frequently flooded. Also included are some organic soils.

Map Code #1823BC Mesaba Gravelly Silt Loam

Mesaba soil consists of well drained gently sloping to undulating soils greater than 40 inches to bedrock in loamy deposits. Most areas of this soil are in forest. The main tree species supported by this soil type are quaking aspen,

paper birch, red pine, eastern white pine, and balsam fir. The shallow depth to bedrock places some development restrictions on sewage disposal systems and structures without basements. This soil type has good potential for building developments without basements and for a wide variety of recreation facilities.

The development limitations identified for the soil types in the above text should be treated as guidelines rather than absolute criteria. Even where severe limitations are identified, appropriate site design and construction technology can overcome site limitations.

SOILS KEY

254B	Hibbing silt loam, 2-6% slopes
305	Bergland silty clay loam
512BC	Amasa gravelly fine sandy loam, 2-12% slopes
550	Suamico muck
890BD	Barto-Mesaba gravelly silt loams, 2-18% slopes
952EF	Quetico-Rock outcrop complex 18-60% slopes
1002	Fluvaquents
1020	Udorthents
1823BC	Mesaba gravelly silt loam, deep variant, 2-12% slopes
G.P.	Gravel pits

62 N

THIS AREA NOT SURVEYED

THIS AREA NOT SURVEYED

THIS AREA NOT SURVEYED

Mons Creek

Brule River

Gauthier Creek

305 1020 254B 550 1002 890BD 952EF 512BC 1823BC

NORTH

0 500 1000 2000 3000

SOILS

JUDGE C R MAGNEY STATE PARK

39-40

VEGETATION

History

Prior to the arrival of the first white settlers, the Brule River Valley probably contained extensive stands of white pine. Marchner's map of "The Original Vegetation of Minnesota" shows a band of white pine about 5 miles wide and extending 20 miles inland along the river. Today, the pines have largely been replaced by a mixture of aspen and birch which grew after the extensive logging and destructive fires of the early 1900s; however, remnant pine stands can still be found in the park.

The Indian name for the Brule River was Wiskode-zibi or "Half-burned Wood River", probably from the results of an early forest fire. Fires have played an important part in shaping the vegetation of the Brule River Valley. After the destructive fires of 1892-1894 occurred on the Wisconsin side of Lake Superior, lumbermen were forced to concentrate on the relatively poorer quality North Shore timber. Much of their activity centered on the Grand Marais, Hovland and Pigeon River areas and probably much of what is now Judge Magney State Park. The Red Cliff Lumber Company, originally from Wisconsin, had its headquarters a few miles west of the Brule River. These early logging efforts moved the logs to sawmills in Wisconsin and later to Duluth by log rafts on Lake Superior. The rafts were enclosed in a bag-type boom, contained up to 5,000,000 feet of logs, and were towed by steam barges. The first lumber mill in the area was started by C.J. Johnson in Grand Marais. It employed 10 people and operated for 5 years, starting in 1903. By 1908 the stage had been set for an event that shortened the logging era considerably. Dry conditions the previous years and indiscriminate disposal of logging slash had created explosive conditions in the woods. The fires that resulted left much of the North Shore burned and the Grand Marais area was particularly hard hit. The Red Cliff Lumber Company survived another three years mostly by salvaging burned timber, but went out of business in 1911. The logging era was over almost as soon as it had begun.

The next 30 years brought long periods of draught and fires which raged out of control over much of the North Shore. A small pulp industry that operated out of Grand Marais created some logging activity shortly after World War I. The last major logging effort occurred from 1928-1931 when the General Logging Company worked on 45 sections of land in the Cascade River and Brule River drainages. Another disastrous fire in 1931 burned 25,000 acres of these two

watersheds. The little logging that took place after that was completely eliminated by the economic depression of 1934 which brought the industry to a virtual standstill.

By the 1950's most of the area was covered with aspen or birch in various stages of regrowth. This began to interest paper companies who needed these species to produce paper. Today much of the land surrounding the park is owned by Consolidated Paper Co. of Wisconsin Rapids, Wisconsin, and is managed for pulp production. White spruce also grew well after the fires and it has reseeded naturally and has been extensively planted in the area. Several white spruce plantations in the park provide good winter cover for moose and deer.

Existing Vegetation

Obviously, previous land-use such as logging and fire history has had a tremendous impact on the current vegetation. Human development has changed the vegetation in much of the park, but some communities such as those on the high rock knobs are relatively undisturbed because of inaccessibility. The rise and fall of deer populations has also been a factor that has exerted pressure on some species but allowed survival of others. Tree species found in the park that have special management needs include:

Aspen - Some very old (70+ year) stands occur in the park and these may be the result of the 1908 fire. Some stands seem to have younger aspen in the understory which usually occurs after a disturbance such as logging or fire. Others have a dense understory of sugar maple and no aspen, indicating that they are eventually going to be replaced by hardwoods. In general those stands that have the best regrowth in the understory should be left alone as the old growth aspen provide habitat for many wildlife species, particularly cavity nesters. Those stands that have nothing but brush in their understory could probably be cut, which would help wildlife habitat and regenerate the stand. Recommendations for the aspen/birch/balsam fir stands closest to Highway 61 are dealt with in the Wildlife Action Section.

Birch - This species appears to be declining on much of the North Shore. A combination of draught, insect damage, old age and perhaps even acid rain have left many areas with dead tops and dying trees. Termed "birch decline", its causes are currently unknown, but the best guess is that a combination of factors may be involved. The Forest Pest Section of the Division of Forestry

plans to issue guidelines to manage birch under these conditions, which include harvest of older individuals and pruning of the sucker regrowth. These guidelines may have to be implemented in all parks on the North Shore.

Sugar Maple/Basswood - These species are usually found on the better soils and are often mixed with aspen. Some "pure" stands are located in the NW 1/4 of Section 9. Some of the aspen stands will eventually convert to sugar maple if left undisturbed. Some ecologists believe that these species would maintain themselves for long periods if no logging or fires occurred. It seems reasonable to protect at least some of these stands from disturbance as outlined in Action 4.

Cedar - Several excellent stands are found in the park, particularly along the Brule River. Because white-tailed deer feed extensively on young cedar, there is danger that once the older individuals die, cedar will be unable to reestablish itself. Some nice patches of cedar regeneration are growing at the higher elevations in the park away from Highway 61. Apparently, most deer don't overwinter very far from the shores of Lake Superior and the cedar have a better chance to survive. Any attempts to plant cedar should use this to good advantage.

White Pine - A few stands have escaped fires, logging, and white pine blister rust, particularly on hilltops or sheltered ravines along the Brule. A nice example is found along Gauthier Creek, a tributory of the Brule. It probably was not logged because the trees were too small during the period of active logging. Recommendations to restore white pine are made in Action 3, Vegetation Management section.

White Spruce - This can be found scattered throughout the park where it has naturally seeded after fires. Older white spruce are often found associated with white pine and some of the stands are quite impressive. Spruce has been planted in plantations in scattered locations throughout the park (this was done while the land was still in private ownership) where it is utilized by some deer as winter cover. Although these plantations are further inland than most deer winter, some of these plantations are very densely stocked to the point where the intense shading is interfering with growth. Since it is relatively unpalatable to deer, white spruce survives well and is probably the easiest tree to plant for cover.

Vegetation Management

A large portion of the management responsibility in Judge C.R. Magney State Park is centered on land maintenance. Park ownership is scattered over 12 sections of land, much of which is inaccessible or remote from developed areas. A major theme should be to maintain this remoteness, as this is one of the attractions of the park. Some actions, such as shearing, are dealt with in the section of Wildlife (see p. 54).

Objectives:

To return disturbed areas to natural conditions

To ensure that any future development is compatible with park vegetation management goals

To have a method by which resource problems can be dealt with systematically and promptly

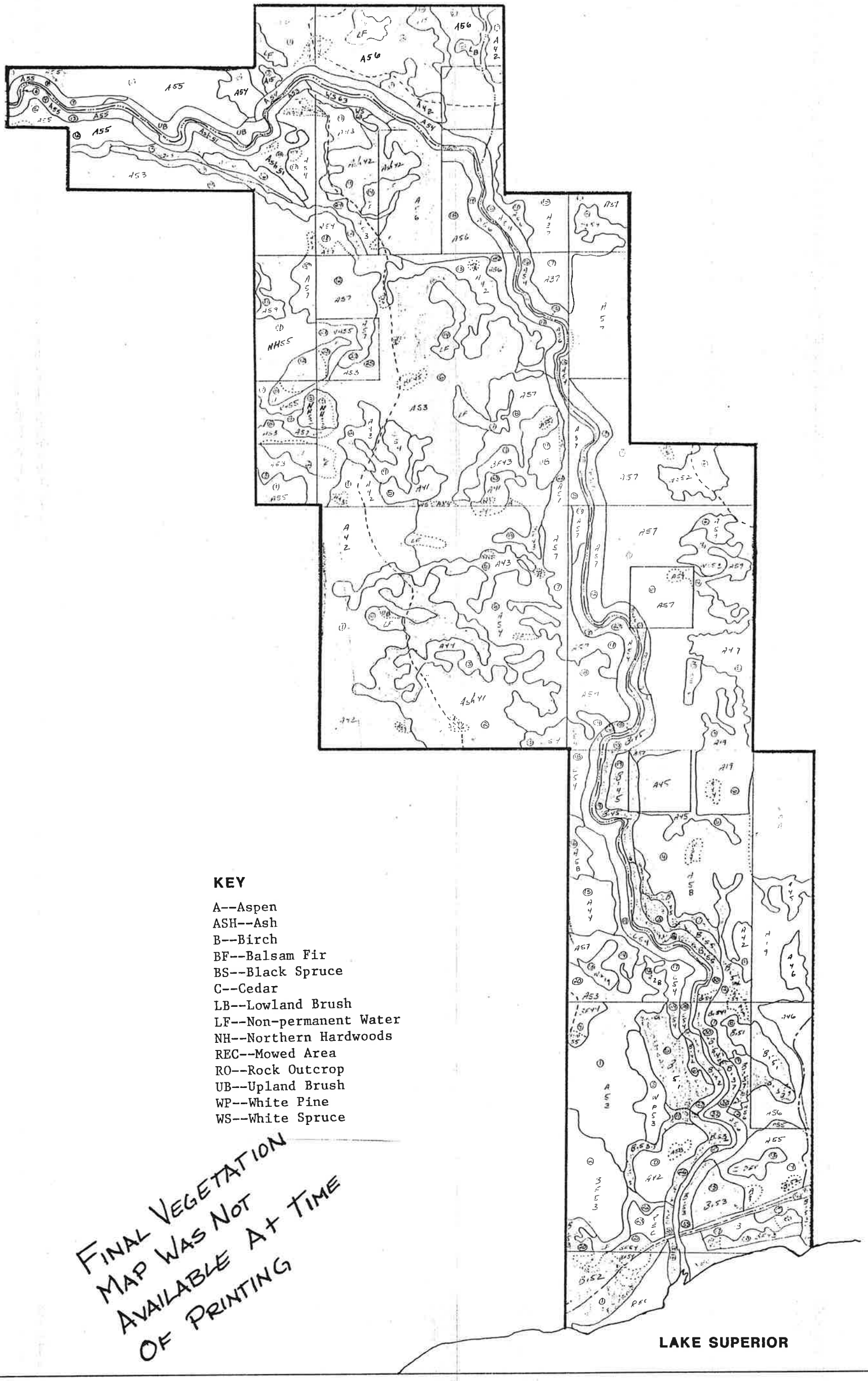
Action #1. Create a vegetation filing system.

Expand the existing Phase II inventory results into a workable system that can reflect past land-use history and be used to make future management decisions. The regional resource specialist working with the park manager should design a filing system on a section-by-section basis that includes all past management practices and all known inventory results for each forest type within a section. This file should be kept in the park and used as a baseline system and a method by which problem areas can be identified when requesting funding.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST	No Development Cost					

Action #2. Monitor vegetation problems and request appropriate funding to correct them.

Known vegetation problems in the park include white pine blister rust, lack of deer browse, lack of cedar regeneration, spruce bodworm, lack of quality openings for wildlife, hypoxylon canker on aspen and mountain ash sawfly epidemics. These must be dealt with on an individual basis. As this is a



KEY

A--Aspen
ASH--Ash
B--Birch
BF--Balsam Fir
BS--Black Spruce
C--Cedar
LB--Lowland Brush
LF--Non-permanent Water
NH--Northern Hardwoods
REC--Mowed Area
RO--Rock Outcrop
UB--Upland Brush
WP--White Pine
WS--White Spruce

FINAL VEGETATION MAP WAS NOT AVAILABLE AT TIME OF PRINTING

VEGETATION

JUDGE C R MAGNEY STATE PARK

maintenance activity, costs should come out of maintenance budgets to correct identified problems.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST	No Development Cost					

Action #3. Tree planting and transplanting.

An effort to reintroduce certain tree species, particularly white pine and white cedar should be made. Seedlings of local genetic stock should be emphasized and the plantings made in areas that show evidence of previous natural stands of the species (old stumps or the presence of large individuals that escaped fire and logging are good indicators). Planting of either of these species is complicated by the fact that they are readily browsed by deer, and management activities that increase deer herds are generally conducted at the expense of conifer planting success. Deer usually seem to overwinter in lower elevations of the park (near Lake Superior). Plantings should therefore be made away from Lake Superior in the more remote sections of the park. White spruce plantings will generally succeed better because of their unpalatability to deer, so any plantings for deer cover should be of white spruce. Some transplanting of trees from one area of the park to another is also needed, particularly in areas where the trees are to be impacted by future development. This can usually be completed by work program crews.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST	$1,000	1,000	1,000	1,000	1,000	$5,000

Action #4. Timber Stand Protection. The regional resource specialist working with the park manager should identify any tree stands that merit special protection to ensure that no new development takes place or that wildlife management actions do not injure a valuable resource. In general, no cedar or white pine stands should be cut unless it is necessary to prevent the spread of disease. Most of the rock knobs, the white pine stand along Gauthier Creek and the old-age aspen stands reverting to northern hardwoods may merit special management.

Some form of fire plan or access agreement should be made with the Division of Forestry to ensure they will have rapid access to the park, particularly on the west side of the Brule River. This may include upgrading the road through Sections 4, 9, 16, 22 and 27 to be passable by four-wheel drive.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST	No Development Cost					

WILDLIFE

The variety of plant communities in the park vegetation study area provides habitat for a diversity of wildlife species. No formal records of wildlife abundance or occurrence have been kept for the park. The DNR Non-game Program, the DNR Forest Wildlife Research program, and inventories conducted by Superior National Forest personnel were used in compiling wildlife information for the Judge Magney area. The management plan details (MPD) will contain comprehensive 1981 wildlife species lists that were compiled for the Superior National Forest (includes birds, mammals, amphibians, and reptiles).

Game Species

An overview of some of the larger, more common mammalian game species found along the North Shore is outlined below. In addition to an estimation of the population dynamics for each species, special management considerations are discussed. Much of the following information has been provided by the DNR, Forest Wildlife Populations and Research Group.

Beaver. Beaver census routes on the North Shore streams indicate an average population of one beaver colony per two miles of stream. These populations fluctuate between .4 and 1.5 colonies/mile of stream from year to year. In general, beaver populations have been at a relatively high level in recent years.

Moose. Moose populations immediately adjacent to the shore are generally low, considering the quality of available habitat. The average density for this area is 0.3 moose per sq. mile. However, the area just over the North Shore ridge (inland) is relatively good moose habitat and has moose densities of 1-2 moose per sq. mile. The DNR, Section of Wildlife is currently developing a moose management policy and moose management zones along the North Shore.

White-tailed deer. The North Shore of Lake Superior has been a traditional yarding (wintering) area for white-tailed deer since about the turn of the century. Deer were not endemic in northern Minnesota; they migrated north when the area began to be logged. Population densities during peak white-tailed populations through this area in the 1940's and 50's exceeded 300 deer per sq. mile. As the vegetation in the area has matured its suitability as deer habitat has decreased. Current wintering densities of whitetails may reach 100 deer per sq. mile in some specific areas along the North Shore. Summer densities of whitetails through this area range from 10-20 deer per sq. mile.

One of the problems with deer population along the shore is highway roadkills along Highway 61. Several previous North Shore park plans (Tettegouche and Cascade State parks) have called for actions relating to this problem. If these actions are successful, they should also be implemented at Judge Magney.

Black bear. Bear density ranges from .5 to 1 bear per sq. mile. Seasonal concentrations can be higher around desirable areas such as blueberry patches, dumps, and campsites. These seasonal concentrations will also vary according to the amount and availability of foods over a wide area. It is not unusual for bears to move from 50-75 miles (80-125 km) to find food during years when it is in short supply.

In the Superior National Forest, bear problems occur most frequently in years when wild fruit and nut crops fail due to drought or frost. Despite frequent nuisance problems (such as bears marauding around campsites or scattering garbage) in years of scarce food, injuries to human have been rare. Nuisance bears are best managed on an individual basis. Keeping park areas free of garbage and informing campers as to the food habits of the black bear should help to reduce nuisance bear problems in the future.

Non-Game Mammals

The DNR, Non-game Program has developed a preliminary guide to the non-game mammals of northeastern Minnesota. This guide covers DNR Region 2, which includes Carlton, Aitkin, St. Louis, Lake, Cook, Itasca, and Koochiching counties. The following list is adopted from the guide, and includes species from Lake and Cook counties only.

Species List of Non-Game Mammals from Lake and Cook counties

Insectivores
- Masked shrew
- Arctic shrew
- Northern water shrew
- Pygmy shrew
- Short-tailed shrew
- Star-nosed mole

Bats
- Little brown bat
- Keen's little brown bat*
- Silver-haired bat
- Big brown bat*
- Red bat
- Hoary bat

Other Rodents
- Deer mouse
- Southern bog lemming
- Gapper's red-backed vole
- Heather vole**
- Meadow vole
- Rock vole**
- Meadow jumping mouse
- Woodland jumping mouse
- Porcupine
- Norway rat - (E)
- House mouse - (E)

Carnivores
- Marten*
- Short-tailed weasel
- Least weasel*
- Long-tailed weasel*
- Striped skunk
- Wolverine (?)*
- Cougar (?)*
- Gray wolf*
- Coyote

Squirrels
- Woochuck
- Thirteen-lined ground squirrel
- Franklin's ground squirrel
- Eastern chipmunk
- Least chipmunk
- Red squirrel
- Northern flying squirrel*

Ungulates
- Caribou (P)*

Key

* - Priority species-reports needed
** - Priority species-known only in Region #2
E - Exotic species (not native)
? - Hypothetical species (reports not confirmed)
P - Peripheral (edge of range-one siting during winter of 81-82)

Reports of the rock vole and heather vole in Minnesota are limited to the St. Louis-Lake-Cook county area. The rock vole, heather vole, and Kee's Little B... bat are considered species of special concern in the state classification system. Any sighting of these or any of the other species listed as "priority species" should be reported to the DNR, Non-game Program.

The timber or gray wolf is officially listed by the U.S. Fish and Wildlife Service as threatened. Since the early 1940's, Minnesota has had the largest population of timber wolves in the contiguous United States. The Judge Magney area is in the primary Minnesota range of the timber wolf, which includes the Arrowhead Region northeast of a line from Lake of the Woods to Two Harbors. A 1979 survey estimated the total population of timber wolves in Minnesota at about 1200. The DNR, Section of Wildlife developed a management plan for the timber wolf (1980). In the plan, estimates of timber wolves in the Superior Management Unit (includes Cook, Lake, and northern St. Louis counties) were approximately 1 wolf per 17 sq. miles. The Superior Management unit contains some of the best timber wolf habitat in the state. Wolves in Minnesota prey primarily on white-tailed deer, with secondary prey species including moose and beaver.

Reptiles and Amphibians. The following list is adapted from a preliminary guide to the reptiles and amphibians of Region 2 by the DNR, Non-game Program.

Species List of Reptiles and Amphibians from Lake and Cook counties

Turtles
- Common snapping turtle
- Western painted turtle

Lizards
- None

Snakes
- Red-bellied snake
- Eastern garter snake
- Northern ringneck snake

Key

(?) - hypothetical species (reports needed)
* - special interest species (reports needed)

Salamanders
- Central (common) newt*
- Blue-spotted salamander
- Eastern tiger salamander
- Red-backed salamander*
- Mudpuppy (?)

Toads
- American toad

Frogs
- Northern spring peeper
- Common (gray) treefrog
- Boreal chorus frog
- Mink frog
- Northern leopard frog
- Green frog
- Wood frog

The common snapping turtle is classified a species of special concern in the state classification system. Any sightings of the species listed as "special interest species" should be reported to the DNR, Non-game Program.

Birds. An excellent guide to the birds of the area and their respective habitat types is available from the Forest Service. The booklet is entitled the "Birds of the Superior National Forest" by Janet C. Green, Gerald J. Niemi, and Karl P. Siderits (U.S. Government Printing Office: 1978-753.965). This comprehensive guide covers many habitat types including mature deciduous, black spruce-tamarack, and mixed deciduous-coniferous communities.

Breeding bird surveys conducted by the U.S. Fish and Wildlife Service between 1975 and 1979 suggested that 33 Minnesota species reach their highest relative abundance in Region 2E (which is comprised of Lake and Cook counties). This survey only effectively surveys song birds. Not other birds such as raptors or song birds. These 33 bird species are listed below:

Common loon
Herring gull
Downy woodpecker
*Gray jay
Red-breasted nuthatch
Hermit thrush
*Golden-crowned kinglet
Solitary vireo
Philadelphia vireo
Nashville warbler
*Magnolia warbler
Yellow-rumped warbler
Chustnut-sided warbler
Connecticut warbler
Canada warbler
*Pine siskin
White-throated sparrow
*Red-breasted merganser
Yellow-bellied sapsucker
Yellow-bellied flycatcher
Common raven
Winter wren
Swainson's thrush
Ruby-crowned kinglet
Red-eyed vireo
Black-and-white warbler
Northern parula
*Black-throated blue warbler
Black-throated green warbler
Northern waterthrush
Mourning warbler
American redstart
*Dark-eyed junco

*Considered uncommon and/or of limited distribution in Minnesota (DNR, Non-game Program).

There are four bird species in this region which are classified as being endangered, threatened, or of special concern in Minnesota. These species are as follows:

Common Name	Status
Peregrine falcon (migrant)	endangered
Bald eagle	threatened
Osprey	special concern
American bittern	special concern

The North Shore of Minnesota is a corridor route of one of the largest raptor (birds of prey) migrations in North America. During September of each year, hundreds of people gather at Duluth's Hawk Ridge to observe thousands of migrating broad-winged and sharp-shinned hawks. Almost every raptor species known to inhabit or visit Minnesota can be seen during this fall migration. Many of these raptor species pass through the park, however, the most common residents in the Judge Magney area are probably broad-winged hawks, barred owls, and great-horned owls.

WILDLIFE MANAGEMENT

Judge Magney State Park contains approximately 4,500 acres, making it a relatively large management unit. Much of this is quite remote because of the rugged terrain and lack of roads, and represents an excellent opportunity for management of wildlife species. Most of the adjacent ownership has been logged and is in various stages of aspen regrowth or has been planted to white spruce. Some of the older uncut cedar, white pine and aspen stands in the park are quite important since they represent the only habitat of this type for a considerable distance. The first two actions deal with traditional management for deer or moose, the game species. The third action deals with the myriad of wildlife species that are not normally managed for, the nongame wildlife.

Very little is known of the exact distribution and numbers of many of the nongame wildlife species in the park. A relatively rare species of rock vole has been found about 20 miles from the park in its preferred habitat of talus slopes on the sides of cliffs. Magney park may contain similar habitat, but so far no rare species have been found. The situation is similar for the distribution of many animals. In 1981, a woodland caribou was photographed less than a mile from the park and although the park does contain good caribou habitat, no sightings have been made in the park. Peregrine falcons which have been extirpated from Minnesota may have found some of the cliffs in the park suitable nesting habitat. There is a possibility of reintroducing this native falcon into the park.

Objectives: To provide a diversity of vegetation that will support many wildlife species in order to enhance the natural experience desired by many park visitors.

To make any management that is undertaken compatible with the needs of both the game species and the lesser known but still important nongame species.

Action #1. Shearing of openings.

Judge Magney State Park has had an extensive history of logging and this is reflected in the many logging trails that are beginning to be overgrown with brush and white spruce seedlings. Most of this growth is now too tall to be browsed by deer or moose.

The simplest and cheapest way to create new browse is to cut it off at ground level in winter, using a bulldozer equipped with a special shearing blade. The resprouting then provides excellent browse and a temporary opening is created, which is also beneficial to other wildlife species.

As the park trail system is constructed, several small (1/20 - 1/5 acre) openings should be winter sheared adjacent to the trails. The opening on south facing slopes and elevated knobs should be maintained in an open grass condition.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		1,000		1,000		2,000

Action #2. Manage for winter deer browse.

The area of highest winter deer population is in Section 27, on the west side of the Brule River and north of Highway 61. There are two main reasons for this concentration: less snow and milder temperatures near Lake Superior, good cover from nearby conifer stands. The overstory is mature aspen, birch, and balsam fir with only a small amount of understory suitable for browse. Management actions should be selected which will foster enhanced deer browse without adversely effecting the recreation use areas.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	Dependent on technique used. Cost sharing with the Division of Fish & Wildlife should be pursued.					

Action #3. Management for nongame wildlife.

Probably the most significant action will be to ensure that the critical old-growth forest is perpetuated so that a variety of habitats are present in the park and surrounding area.

Cooperative studies on nongame wildlife within the park by interested researchers should be encouraged as much as possible. Park personnel should be trained to recognize significant wildlife sightings and records kept of locations and times of sightings.

Two cliffs (SE ¼ Sec. 9 and SW ¼ Sec. 4) seem to be suitable for peregrine falcon nesting sites. The U.S. Forest Service peregrine falcon release program should be contacted so the cliffs can be evaluated.

Nest boxes for cavity nesters such as goldeneyes and barred owls should be placed along the Brule River or on ponds in the park.

Cost: No Development Cost

WATER RESOURCES

Ground Water

Ground water in the Lake Superior watershed is highly variable, ranging from good to saline in the bedrock aquifers. The many irregularities and breaks in the bedrock and the different rates at which the various types of bedrock allow water movement, create a large number of independent artesian flow systems. In places, water moves through the aquifers so slowly that large amounts of dissolved materials get concentrated in the water. This is the situation in the vicinity of Judge Magney State Park. The well which provides water for the manager's residence is salty and has gotten progressively worse. This well will be abandoned and the manager's residence and service court will be served by a deep buried (to avoid ground frost in winter) waterline from the spring north of the campground (see Administrative/Support Services, Action #6, p. 84). The spring is a natural seep which, with an adequate holding tank, can supply enough water to fulfill the needs of the park on a year round basis.

Surface Water

Judge Magney State Park is bisected by the Brule River and bounded on the south by Lake Superior. The rushing river with its waterfalls and steep rocky cliffs are natural features which attract many of the park's visitors.

The Brule River drains an area of approximately 248 square miles. This is the largest drainage area of all the rivers on the North Shore with the exception of the Pigeon River on the Minnesota/Ontario border. The Temperance River, its mouth located about 45 miles to the southwest, is the second largest river in total drainage area on the North Shore. It is interesting to note that both the Temperance and Brule rivers have their source at Brule Lake. Brule Lake is approximately 1,850 ft. above sea level and Lake Superior is about 600 ft. above sea level. The Brule River experiences a drop of 1,250 ft. from source to mouth. Eight hundred feet of this drop occurs after the river enters the park. (The last 8 miles of the river are in the park).

Other surface waters in the park include Gauthier Creek and Mons Creek, an intermittent stream which drains a small marsh. There is a small body of open water in the marsh, created by a beaver dam. Gauthier Creek has two branches which begin one to two miles west of the park. The lower portion of the creek is managed by DNR Fisheries for stream trout.

Water Resource Management

The salinity of the well serving the manager's residence is the major water related problem in the park. This will be corrected when a water line is extended from a fresh water spring to the house (See Administrative/Support Services, Action #6, p. 84). When this well is no longer needed, it should either be legally abandoned or used as an observation well for the Division of Waters.

Any development actions which will change the course, current, or cross section of the streams in the park will probably require a permit from the Division of Waters.

Fisheries

The portion of the Brule River which flows through the park and much of the river above the park is a state designated trout stream. DNR Fisheries staff have conducted several stream improvement projects (on Gauthier Creek which flows into the Brule) and have a fish stocking program which goes back almost 60 years. Brook trout were first stocked in 1927 followed by brown trout in 1928 and rainbow trout in 1930. For the last several years, stocking has been exclusive to two varieties of rainbow trout (steelhead and kamloops) with the exception of a 1982 stocking of chinook salmon.

The Brule River is a popular fishing spot. Most fishing occurs in the pool below the park's pedestrian bridge and along the stream bank between the Highway 61 bridge and the lake. Fishing also occurs at several other locations along the river between the lake and the Devil's Kettle.

The steelhead and kamloops rainbow trout are most frequently caught in the spring. The chinook salmon are fished in the fall. The pink salmon (smaller than the chinook) can also be caught in the fall (this is a species that was accidentally introduced to Lake Superior by Canada). In addition, warm water species such as smallmouth bass and northern pike are occasionally caught. These species enter the river from the lakes which feed it further inland.

The management and development recommendations in this plan will have little or no effect on the Brule River fishery. DNR Fisheries staff plan to continue their stocking efforts in Gauthier Creek and the Brule River. From the park's standpoint, this stocking is encouraged because an improved fishery provides better recreation opportunities for park visitors. In the past, the park provided very little bank fishing because the park-owned riverbank between the Highway 61 bridge and the lake was covered with alder brush. Recently, the park staff cleared away the brush in some spots and developed a foot path along the bank. This area should be usable for bank fishing. The pedestrian access to it will be improved if a trail alignment can be constructed under the Highway 61 Bridge (see Trails, Action #6, p. 77). This would allow hiking between the day use parking lot and the river south of the highway without the need for pedestrians to cross the highway.

History/Archaeology

The following historical information on the Lake Superior region is taken from State Parks of the North Shore by R. Newell Searle.

> Prehistoric settlement along the North Shore is not well documented because the rocky country and thin soils have not preserved many archaeological remains. None of the parks contain archaeological sites, and the evidence of prehistoric settlement is inferred from discoveries along the south shore of Lake Superior. At the time of European discovery, in the mid-1600s, Lake Superior was not well settled by Indians. The Sioux or Dakotah lived at the upper end near Duluth and the Ojibwa occupied the region near Sault Ste. Marie. As Europeans opened the fur trade, the Ojibwa obtained firearms and gradually forced the Dakotah to give up the forests and move to the plains.

Pierre Esprit Radisson and Medard Chouart, Sieur des Groseilliers, opened Lake Superior to European trade in 1659. They paddled west from Montreal, cruised along Superior's south shore, and wintered with the Ojibwa Indians near Chequamegon Bay (Wisconsin) in 1659-60.

Daniel Greysolon, Sieur duLuht, reached the head of Lake Superior in 1679. DuLuht secured French control of the region until 1763, when Britain defeated France in the Seven Years' War.

Britain controlled Lake Superior and the North Shore for forty years. Although the treaty of peace signed in 1783 gave the territory to the new United States, British agents maintained a fort at Grand Portage until 1803. Aside from seasonal fur posts and the stockade at Grand Portage, the North Shore remained unsettled and unexplored.

Missionaries established the first permanent settlements in the 1830s..... Ojibwa Indians controlled the North Shore until 1854 but this fact did not deter government geologists and private landlookers in search of copper and silver..... The copper rush began when the Indians ceded control of the North Shore on September 13, 1854..... People eagerly rushed to the North Shore spurred on by newspapers, pamphlets, and word of mouth reports.... For a few years miners set up tent towns near the mouths of streams and bays.

When copper prospects played out, men turned their attention to the timber along the North Shore. Cruisers hired by Michigan lumbermen estimated the North Shore timber during the late 1870s and 1880s. The lumbermen bought the pinelands but did not log them until the 1890s when logging railroads could be used to overcome the hazards and obstacles presented by the rugged hills, steep rivers, and tempestuous Lake Superior.

The Weiland Brothers of Beaver Bay were the first loggers. They established a sawmill in 1856 and cut lumber for trade in Duluth until 1884, when competition forced them to sell out. When the Michigan lumbermen moved their operations to Duluth in the late 1880s, North Shore lumbering entered its brief heyday. In a mere twenty years - between 1892 and 1912 - lumbermen and forest fires radically changed the character of the North Shore forests.

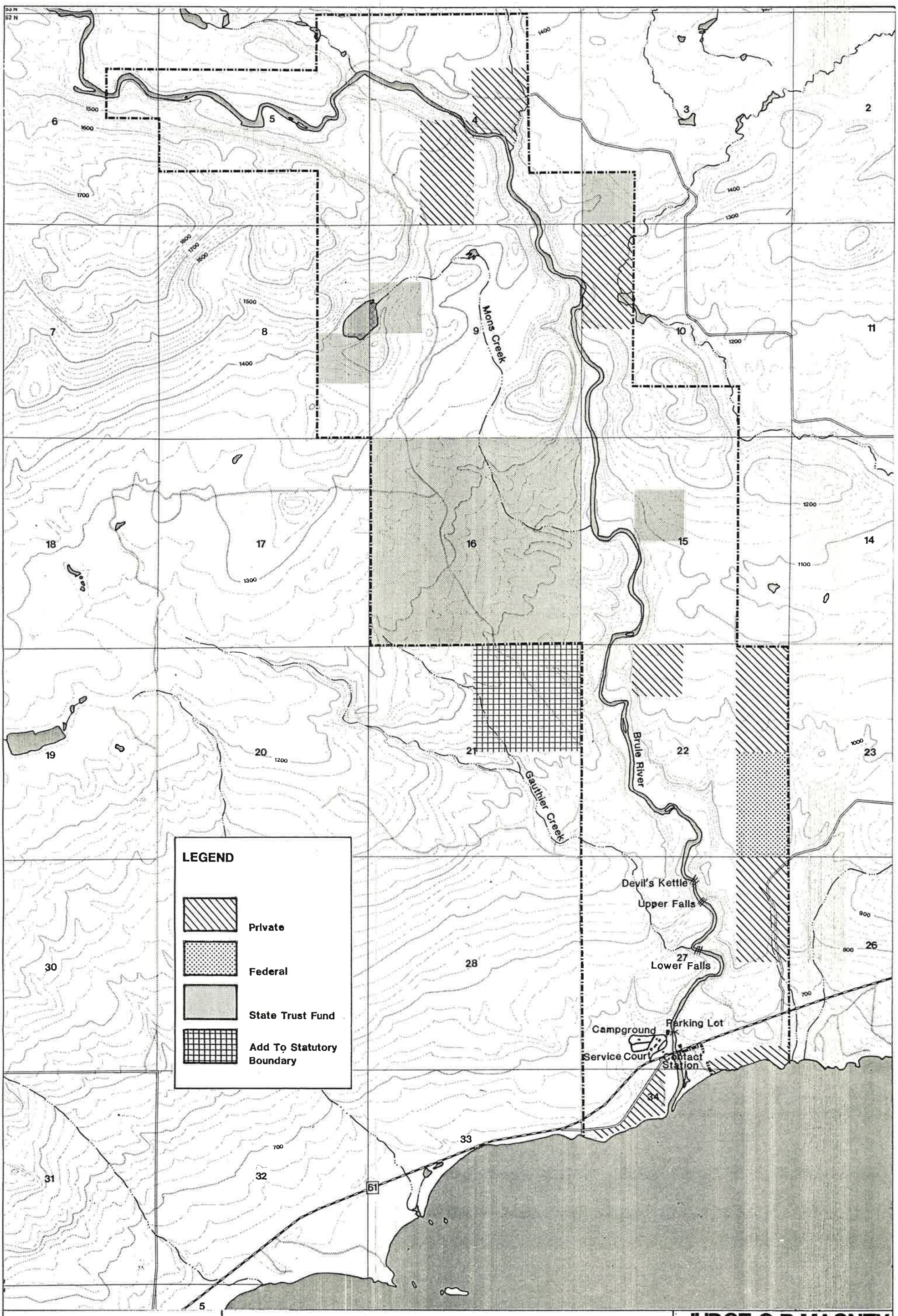
Park History

The following historical information on Judge Magney State Park was taken from a park trails brochure prepared by the DNR, Division of Parks & Recreation:

Visitors to the park will notice numerous concrete foundations in the campground and picnic areas. These are the remains of a transient workcamp built here in 1934 by the State of Minnesota. Named after the director of the Division of Forestry in Minnesota at that time, the Grover Conzet Camp provided work and lodging for men displaced during the Depression years. Work in the camp included farming to provide camp food, building fire trails, logging, and public service projects. When the great fire of 1936 burned some 10,000 acres north of Hovland, these men helped fight the fire; later they set up a sawmill at Irish Creek and began to salvage fire-damaged wood. Another camp project established a small tourist park next to the Brule River. The Grover Conzet Camp was phased out with the end of the Great Depression.

In 1957 a 940 acre parcel of forest along the Brule River was set aside as Bois Brule State Park. The Minnesota State Legislature chose this park as a memorial to the late Judge C. R. Magney. In special dedication services in September of 1964, Judge C.R. Magney State Park was established in honor of Clarence Magney (1883-1962). He was a lawyer, mayor of Duluth, justice of the Minnesota Supreme Court, and a strong advocate of Minnesota State Parks, especially those along the North Shore. With his background and influence, he was instrumental in establishing eleven state parks and waysides along Lake Superior.

PHYSICAL DEVELOPMENT AND RECREATION MANAGEMENT


52 N
1400
1500
1600
1700
1800
1300
1200
1100
1000
900
800
700
6
5
4
3
2
7
8
9
10
11
12
18
17
16
15
14
19
20
21
22
23
30
28
27
26
31
32
33
34
Mons Creek
Gauthier Creek
Brule River
Devil's Kettle
Upper Falls
Lower Falls
Campground
Parking Lot
Service Court
Contact Station
61
LEGEND
Private
Federal
State Trust Fund
Add To Statutory Boundary
NORTH
0 500 1000 2000 3000
EXISTING DEVELOPMENT/OWNERSHIP
JUDGE C R MAGNEY STATE PARK

63-64

EXISTING DEVELOPMENT

Campgrounds

- 40 rustic campsites (vault toilets; no showers)

Picnic Grounds/Day Use (Hiking)

- unisex vault toilet
- picnic tables
- fire rings
- 6 car capacity parking lot (gravel surface)

Trails

- 3 miles of improved hiking trails (includes several river overlooks)

Administrative/Support Facilities

- contact station
- manager's residence (small 2 bedroom, no basement)
- shop building (2 parking bays-heated)
- unheated storage building (1 bay)

RECREATION MANAGEMENT OBJECTIVES

To enhance the quality and diversity of recreational experiences available in the park

To coordinate park development with private and other public facilities and resources in the vicinity

To provide park development which is necessary for efficient management and for the public to experience and enjoy the natural resources and recreation opportunities

To locate park development where it will have the least impact on sensitive natural or historic resources, will not detract from the enjoyment of other users, and will allow easy access to areas of high scenic or study value

To ensure physical accessibility and program usability of new developments by special populations (i.e. persons with physical disabilities, the elderly, and the very young).

Camping

Objectives:

Provide camping facilities which serve to diversify the type of camping experiences that are now available in the park

Improve the camping facilities to enhance user satisfaction.

Action #1. Construct a modern sanitation building

There are frequent requests by campers for shower facilities. This is the case not only at Judge C.R. Magney but at most other state parks where modern sanitation facilities are not provided. Showers would be reasonable to provide because they allow for a more comfortable stay, would probably attract more campers to the park, and would entice campers to stay longer in the park. (At present, the majority of campers stay only one night.)

A good location for the sanitation building would be on the higher ground in the campground behind the service court. The site is reasonably located for campground use and adequate soils are available for locating a drain field. Water supply should come from the spring near the campground which now supplies most of the park's water needs. (The manager's residence has a well but the water is of poor quality due to a high salt content.)

The existing vault toilet building should be retained to serve as an auxiliary toilet facility for campers.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	100,000					100,000

Action #2. Construct a primitive group camping area with an estimated capacity of 25 campers.

The park manager has received many requests for group camping facilities. At present, the park has none and none are available in the vicinity. Primitive

group camping is provided at most state parks and, with the excellent hiking opportunities available, would be justified at Judge Magney.

There is a good site for a group camp north of the existing campground. The site is level, fairly open, and has an access trail that would be usable by vehicles. Needed development would include:

- sites to pitch tents
- 1 vault toilets
- fire rings
- water supply (a waterline to the nearby spring)
- small parking area (5 car capacity)

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		25,000				25,000

Action #3. Develop 4 to 6 backpack campsites in the interior of the park.

Although park land follows the Brule River inland for more than six miles, most of the park's trails are located less than a mile from Highway #61 and the camping and picnic facilities much nearer than that. The interior of the park receives a minimum of recreational use even though it contains many interesting and scenic hiking areas as well as several excellent overlooks with views of Lake Superior.

The scenic opportunities of the park's interior are of such quality that it is highly desirable that park visitors be given an opportunity to enjoy them. However, the negative environmental impacts and construction costs associated with providing good road access into the interior make such developments prohibitive. The only kind of access which should be permitted into the interior of the park during the summer months is trail access. (Note that kayakers sometimes use portions of the Brule River within the park. Their put-in point is at a public road outside the park boundary. Kayak use is permissible on the river.)

The Trails section of this plan (see page 68) will address in more detail the trail alignments and overlooks which are proposed. However, if trail access is provided into the park interior, then primitive campsites should also be

provided because to hike to some portions of the park and return to the use area near Highway 61 would require a hike of well over 10 miles. This is much more mileage than many hikers wish to cover in one day. In addition, camping in the kind of primitive setting the park can provide is very desirable to some visitors. There is another state park, George H. Crosby Manitou, which is located a few miles inland from Lake Superior about 65 miles southwest of Judge Magney. It provides a system of hiking trails and backpack campsites which are quite popular with visitors. Judge Magney has natural resources of comparable quality and could provide an equally desirable backpacking experience.

Due to the limited amount of park staff available to maintain the primitive campsites and the uncertainty as to the level of use these sites will receive, development should be limited to 4 to 6 campsites. Sites should include the following:

- fire rings
- tent pitching areas
- access to wilderness toilets
- supply of firewood

There are many areas in the park where backpack camping could be provided. If this kind of camping proves to be popular and the park has adequate staff to maintain them, additional primitive campsites could be provided at some time in the future.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		3,000				3,000

Trails

At present, the park is somewhat limited in its trail development. For many years, a hiking trail has been provided along the east side of the Brule River to the Upper and Lower Falls and the Devil's Kettle. Total length of this trail is about one mile. In the past few years, the park staff has spent much time upgrading this trail by constructing overlooks, stairways and boardwalks. The popularity of this trail and the wealth of other scenic opportunities the park has to offer suggests that additional trail development is justified. Due to its size, terrain, and scenic potential, the park can provide hiking and

skiing experiences of varying length and challenge for a wide variety of park users. The development of additional trail mileage and the provision for year-round use of these trails will be the major recreation development focus of this plan.

Objectives:

Provide trail opportunities for a wide variety of potential users

Provide year-round trail access into the interior of the park

Provide trail access to scenic points in the park

Action #1. Develop a system of pedestrian trails to provide access to scenic overlooks and primitive campsites in the interior of the park.

The interior of the park has some outstanding hiking potential, both for longer day hikes and for overnight backpack outings. The only other state park along the North Shore which can provide similar trail experiences is George H. Crosby Manitou State Park, located 65 miles to the southwest. Both the state and federal governments manage land in the vicinity of Judge Magney which can be used for hiking and backpacking. However, marked and improved trails and primitive camping sites are not provided. Use of these areas is recommended only for people who are able to find their own way with only the aid of a compass and topographic maps.

The design and construction of this trail system should consider the following:

Trails on both sides of the Brule River

There are potential scenic destination points on both sides of the river. Overlooks provide views of Lake Superior, the Brule River Valley, and the nearby Flute Reed River Valley. Trail access to these areas should be provided. However, the potential for trail development on the east side of the Brule River is more restricted by private ownership within the park statutory boundary. Private lands in Sections 4 and 10 (see Existing Development/Ownership Map, p. 63) lie adjacent to the river and would restrict trial development unless easements were granted. It is probably unnecessary to acquire such easements because the best overlook point on the east side of the

river is south of the private land in the central southern portion of Section 10. In order to reach this overlook, it would, however, be desirable to acquire a trail easement on a 40-acre parcel of private land in Section 22 (see Existing Development/Ownership Map, p. 63). If the owners are unwilling to grant an easement, a trail access could be provided on park land but would be less scenic.

Development along the east side of the river should be restricted to hiking-only trails (with the exception of some fairly short ski trail loops near Highway 61). There is ample (and more desirable) land on the west side of the river to provide for backpack camping and the majority of the proposed ski trails. Focusing this development on the west side of the river will help to limit the amount of staff time necessary for trail and campsite maintenance.

River crossings

At present there is only one bridge crossing the Brule River within the park. It is the pedestrian bridge located adjacent to the day-use parking lot. At one time there was a vehicular bridge which crossed the river in Section 5 (the northern end of the park). However, it washed out many years ago (probably in the mid-1960s) and there are no plans to replace it.

There was some consideration given to providing a second pedestrian bridge somewhere in the northern end of the park. However, a thorough search of the area revealed no site where the river narrows sufficiently to construct a bridge. Within the park, there are few places where the river is less than 80 to 100 feet wide. Even this width would be expensive to bridge. There is ample land on the west side of the river to provide challenging and scenic trail alignments.

Scenic overlooks and trail shelters

There are at least four areas in the interior of the park which should be signed and maintained as scenic overlooks. One in Section 10 on the east side of the river has already been discussed. The other three are located on the west side of the river:

- A hilltop in the southeast quarter of Section 9
- A view of a waterfall/cascade in the extreme east central part of Section 9
- A ridge top in the southwest corner of Section 4 and northwest corner of Section 9

Other areas may also be appropriate for overlooks, but these are the most outstanding and should be focused on first. Development should be kept to a minimum and include locational signage for the sites, interpretive information where appropriate, and any platforms or railings necessary for user safety.

Because the majority of the trail system will also be used for ski touring, it is appropriate to provide some trail shelters. The Adirondack style with a fire pit and one open side should be used. Two or three of these shelters would be appropriate. One should be located in Section 27 or the southern part of Section 22 to serve skiers using the trails in the lower portion of the park. A second shelter should be provided near the proposed overlook on the ridge top in Section 4. Skiing access will be provided to the overlook. A third shelter could be provided in the central part of the proposed trail system (somewhere in Section 16), possibly near the river if a site with a view of the river can be found.

Trail alignments

The majority of the trails on the west side of the river will serve both hikers and skiers on the same alignment. There are, however, some alignments which will be restricted to hiking-only. Most of them are in areas where steeper climbs and descents would make them dangerous to ski but desirable for hiking due to their scenic quality. Some of these are in the vicinity of the river and provide access to proposed backpack campsites. In addition to the above hiking only alignments, a loop trail will be developed in the Gauthier Creek area to provide access to two scenic waterfalls. This loop trail will also be hiking-only due to the steepness of the terrain and the impact to fragile areas that ski trail development would have.

On the east side of the river the majority of the trails will be hiking-only because ample ski trail mileage is available on the west side of the river. Also that much additional ski trail mileage would make it difficult for the park manager to adequately maintain the ski trail system. The only ski trails recommended on the east side of the river are two loops totalling about 1½

miles near Highway 61. These are in a fairly level area and will provide skiing opportunities for people seeking only a brief outing and for those beginner level skiers who do not wish to ski the longer and more challenging trails on the west side of the river.

Access across privately owned land

Although almost all of the proposed trail development would take place on park land, there are two places where it would be desirable to locate short segments of trail on private land. One of these trail segments on a 40-acre piece in Section 22 on the east side of the river, has previously been discussed. The other is on the west side of the river on parts of four adjoining 40-acre parcels (one owner)in Section 21 (See Existing Development/Ownership Map, p. 63). It is desirable to have the trail cross this piece of private property because the adjacent park land is a steep slope that the trail would have to cross laterally. Development would be much more difficult than on the private land.

The approximate alignments for the proposed trail system are shown on the Proposed Trails Map, p. 78. It is not essential that the system be developed to follow these exact alignments but that it provide access to the recommended overlook and backpack camping sites, provide scenic and challenging hiking and skiing experiences, and expose trail users to the variety of natural habitats to be found in the park. There are a number of old logging roads in the park which can be used for trail alignments. Other alignments should take advantage of the existing terrain and avoid areas where substantial development work would be necessary to provide trails.

The developments necessary to provide the recommended trail system are listed here along with cost estimates.

Action #1a. Develop 18 miles of hiking/skiing trails.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	25,000					25,000

Action #1b. Develop 4 miles of hiking only trails.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:			20,000			20,000

Action #1c. Construct three Adirondack style trail shelters.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		6,000				6,000

Action #1d. Develop four scenic overlooks.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		8,000				8,000

Action #1e. Provide trail crossings at two creeks in Sections 16 and 27. (These crossings must be capable of supporting trail grooming equipment and occasional maintenance vehicles).

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	5,000					5000

Development of this extensive system of trails will probably not be completed in one biennium (2-year period). Therefore, the system should be developed using the following priorities:

Phase 1 - Expand statutory boundary to encompass the private land necessary for trail alignment (See Park Boundary, Action #1, p. 91). Construction of those hiking/skiing trail segments necessary to provide access to scenic overlooks and backpack campsites on the west side of the river. Construction of the scenic overlooks. Construction of ski trail on east side of river

Phase 2 - Development of additional hiking/skiing trail alignments on the west side of the river to provide more trail options for users. Construction of the Adirondack trail shelters.

Phase 3 - Construction of the hiking-only trails and scenic overlook on the east side of the river.

Action #2. Develop a hiking-only trail along Gauthier Creek.

Gauthier Creek is a scenic area which has much to offer hikers. There are two waterfalls, some rocky cascades, and interesting vegetation including the only concentration of white pine in the park. Also, DNR Fisheries has made stream improvements for trout management purposes which are interesting to observe. The Division of Fisheries will be consulted regarding the signing of this area.

The area of the creek recommended for trail development is about one-half mile from the campground and day use parking lot. The development of a loop trail would provide hikers with trail distances similar to hiking the trail on the east side of the Brule to the Upper Falls and the Devil's Kettle.

Portions of the Gauthier Creek area cannot tolerate normal trail use. It is important that the selected trail alignment avoid these areas and be developed in such a way that hikers are encouraged to remain on the trail. In order to do this some portions of the trail will require steps, boardwalks, and railed viewing platforms.

Total trail mileage for this trail will be 1½ - 2 miles.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		30,000				30,000

Action #3. Provide hiking along the Lake Superior Shore for park visitors.

The park staff is frequently asked by park visitors if there is any place nearby where they can hike along the Lake Superior shore. The state does own a narrow strip of land along the shore west of the Brule River. (See Ownership Map, p. 63). This strip is primarily beach and may be under water at times during periods of high waves. Access to this strip could be developed by boardwalk along the Brule River or from a rocky lot adjacent to the western boundary in Section 34. There are a number of privately owned cabins and year round homes in clear view of the park land, several of them less than 50 feet from the beach. A trail along this stretch of shoreline would give hikers the impression that they were walking across people's front yards rather than hiking in a state park. In addition, this park owned stretch of shoreline is only about a third of a mile long.

A better alternative lies just west of the state park land in Section 33. Just across the Section 33/34 line is a privately owned home. Beyond that is approximately three-fourths of a mile of Superior shoreline owned by the Minnesota Department of Transportation (Mn/DOT). This shoreline is a part of the right-of-way for Highway 61. Although some recreation activities are not permitted on this property, it is permissible for the public to walk along the shore. It is a typical pebble covered Lake Superior shore and could provide very enjoyable beachcombing opportunities.

Access to the shoreline will be provided from the campground and day-use parking lot using the Highway 61 bridge underpass (See Action 36). Once on the south side of the highway, a trail alignment can be developed on park land between Highway 61 and the old highway alignment which now provides access to the lakeshore cabins. This trail will connect to the Highway 61 right-of-way.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	2,000					2,000

Action #4. Develop a loop trail in the day use area accessible to special populations.

At present the only day use hiking trail that the park provides is the one which follows the east side of the Brule River to the Upper and Lower Falls and the Devil's Kettle, a distance of approximately one mile. Although this trail has been improved significantly in recent years, it is not accessible to all visitors including the handicapped, the elderly, and the very young. The terrain through which the trail passes is such that it would not be possible to make it accessible to all. In addition, the Devil's Kettle Trail is longer than some people wish to hike.

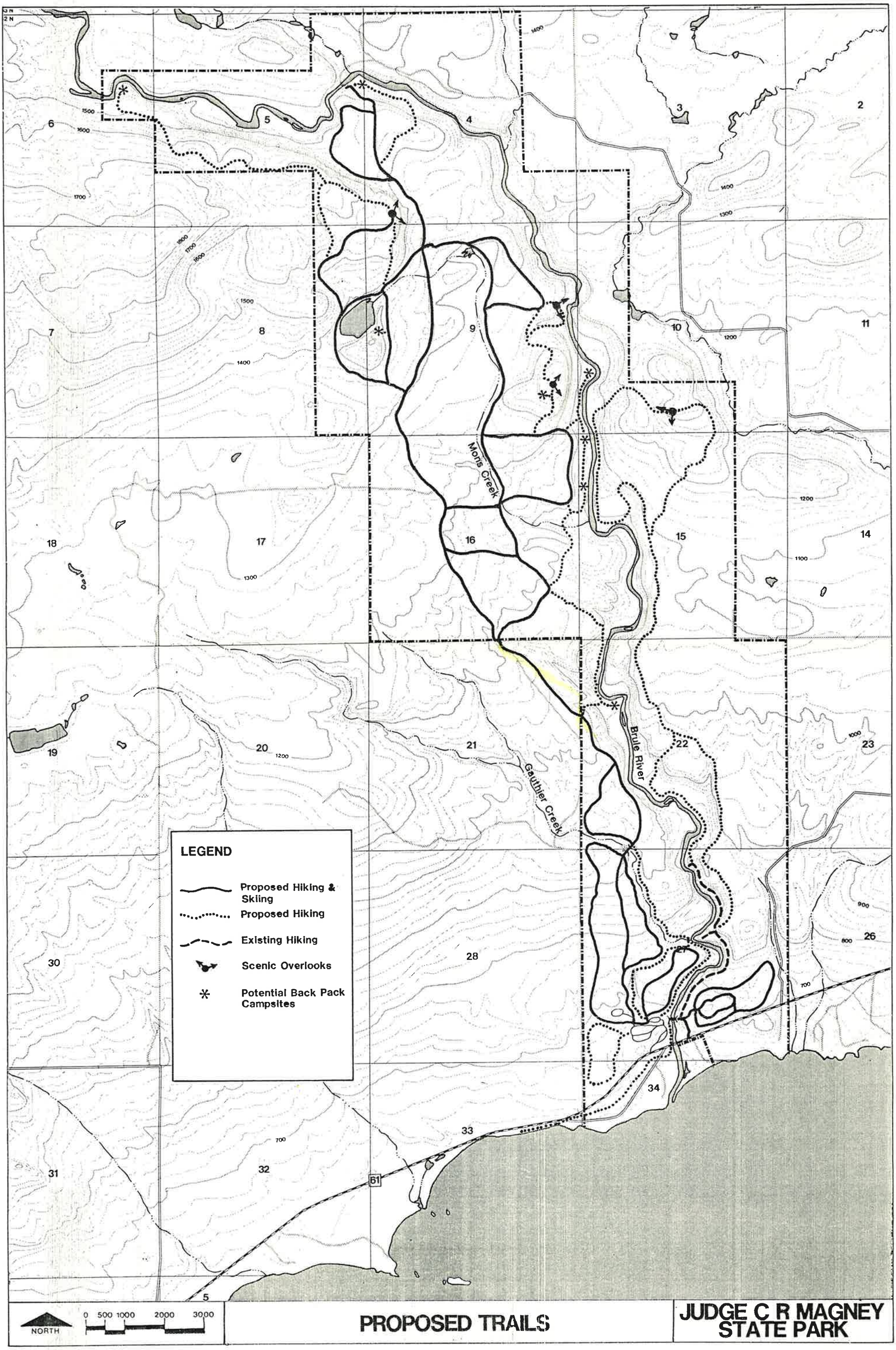
The present park picnic and day use area extends along a portion of both sides of the Brule River and includes a small parking lot, some picnic sites, and a pedestrian bridge crossing the river. The land on both sides of the river is fairly level and could easily accommodate a hiking trail. The Highway 61 bridge constructed in 1981 has a pedestrian walkway on its upstream side. Using this walkway and the park's pedestrian bridge, a loop trail could be provided with a fairly level grade that would be usable by special populations. An improved trail surface (finely crushed and packed limestone would be preferred but asphalt would be acceptable) would further enhance use.

This trail will provide good views of the river and should include some interpretive signage. (Possible topics might be the geologic history of the area or the use of the river by spawning trout.) Total length of the trail will be about 1/3 of a mile.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		5,000				

Action #5. Develop a hiking-only loop trail in the area west of the campground.

Campers enjoy having a hiking trail near the campground for short evening walks, hikes with small children, and so on. The park has a good opportunity to provide such a trail in close proximity to the campground.


3 N
2 N
1400
1500
1600
1700
1800
1700
1600
1500
1400
1300
1400
1200
1200
1100
1000
900
800
700
700
1300
1200
1500
1400
1300
1200
1100
1000
900
800
700
6
5
4
3
2
7
8
9
10
11
18
17
16
15
14
19
20
21
22
23
30
28
26
31
32
33
34
5
Moris Creek
Gauthier Creek
Brule River
61
LEGEND
Proposed Hiking & Skiing
Proposed Hiking
Existing Hiking
Scenic Overlooks
Potential Back Pack Campsites
NORTH
0 500 1000 2000 3000
PROPOSED TRAILS
JUDGE C R MAGNEY STATE PARK

77-78

In the area west of the campground a 1/3 to 1/2 mile hiking trail could be developed. The area includes a small drainage creek and some rocky mounds and ridges which will make the area interesting to hike through.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:			2,000			2,000

Action #6. Develop a trail underpass beneath the Highway 61 bridge.

The park has a hiking trail along the west bank of the Brule River south of Highway 61. It is available for hiking and is also used by people who stand on the riverbank and fish. At present, the only access to this trail is to cross the highway near the bridge. A better access from the main use area of the park could be provided if a trail could be run beneath the bridge. Development work for this underpass would be minor and would involve the leveling of a portion of the large stone rip-rap and the placement of some gravel to provide a treadway. Development of this underpass must have the approval of the state highway department.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	2,000					2,000

Action #7. Negotiate with private landowners in the park for permission to cross their land with park trails. (See Action #1, Park Boundaries Section p. 91).

Picnic Area

Action #1. Improve the picnic grounds.

Presently, the park offers very limited picnicking. The west side of the river has a few picnic tables and fire rings but is crowded by the day use parking lot. The east side of the river has a few picnic tables and a primitive vault toilet. However, access to this area cannot be controlled until the small gravel parking area on the east side of the Highway 61 bridge is eliminated. (See Administrative/Support Facilities, Action #7, p. 84).

The area on the east side of the river is larger and has more potential for expanded picnic facilities. When the parking lot near the Highway 61 bridge is closed, the area on the east side of the river should be improved with the addition of picnic tables, fire rings, and a handicapped accessible pedestrian trail through the area (See Trails, Action #4, p. 76). The few picnic sites that are on the west side of the river are very pleasant places to picnic. Space for expansion is very limited on this side of the river. Some quality picnic sites will continue to be provided on the west side of the river but most of the tables will be located on the east side of the river. Drinking water should be provided in the picnic ground area. A waterline should be run from the campground water supply to a spigot near the proposed day-use parking area.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:			2,000			2,000

Administrative/Support Facilities

Objectives:

Make improvements to those facilities which are important for the operation and maintenance of park recreation facilities

Provide support facilities which will enhance user enjoyment of the park.

Action #1. Construct a new day use parking lot.

The existing day use parking lot is a small gravel surfaced lot capable of handling only 5-6 cars. There is inadequate parking and turn around space for larger recreational vehicles or for vehicles pulling trailers. Frequently, this lot is inadequate to serve the number of users wishing to picnic or hike the Devil's Kettle Trail.

Alternative sites for a larger parking lot are limited by the river and the nearness of the campground. There is, however, a broad ravine just west of the existing parking lot which should be able to accommodate a larger lot. Development of this site will require some grading and minor changes to a small drainage creek.

The lot should include space for 12-15 cars with 3 additional double length spaces that would be used as pull-through parking spaces for motor homes and vehicles with trailers. The lot should be asphalt surfaced with designated parking spaces to ensure that the vehicle capacity of the lot can be accommodated. The existing pit toilets should be removed and replaced by a primitive vault toilet.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		6,000				6,000

Action #2. Asphalt surface the entrance road and the road to the campground.

The park entrance road from Highway 61 to the proposed day-use parking lot should be asphalt surfaced. This should be done in conjunction with the parking lot work.

The short stretch of road leading into the campground is on a hill. At present, it is gravel surfaced and difficult to negotiate for some vehicles. This hill should be asphalt surfaced (although it is unnecessary to surface any of the campground lanes or parking spurs).

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		10,000				10,000

Action #3. Develop a trailer dump station.

Many park visitors use camping vehicles which contain toilet facilities. Use of such vehicles is common through the state park system and many parks provide a trailer dump station as a service for these vehicle users.

A possible location for this dump station is an area adjacent to the proposed day use parking lot (See Action #1, this section). There is an area on the campground side of the proposed parking lot which should be suitable. If it proves inadequate, another site should be selected (possibly along the entrance road near the contact station).

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		10,000				10,000

Action #4. Make improvements to the service court.

At present, the service court includes a two-bay heated shop and a single-bay unheated storage building. There is also a fenced area for the storage of materials. The shop has only standard-size garage doors, shallow parking bays, and a low ceiling, making it difficult to park any vehicle larger than a pickup in the building. As this is the only heated building, it is the only one available for vehicle maintenance work during the winter. The unheated storage building is too small to adequately store the amount of equipment the park has.

As a result, some equipment which should be stored indoors must be left outside.

Improvements to the service court should include:

- Removal of the existing unheated storage building
- Construction of a 2-bay shop with additional work space (one bay and the work space should be heated for winter use)
- Provision of toilet facilities for park employees
- Installation of buried gasoline tanks which store fuel for park vehicles
- Construction of a loading ramp

The existing shop building would then be utilized as an unheated storage building. Employee toilet facilities should be incorporated into the new shop building.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		110,000				110,000

Action #5. Rebuild the cistern used to retain water from the spring which serves as the park's water supply.

A spring north of the campground supplies water for the park during the summer months. The cistern used to retain water from the spring was originally constructed to supply water to the transients work camp built in 1934 (see Park History, p. 59). It is in need of repair and, when the modern toilet building is constructed, the cistern may not have an adequate storage capacity to supply it.

The existing cistern should be removed and a new one constructed. Other water supply work such as the water line to the proposed group camp (see Camping, Action #2) and the deep buried water line to the manager's residence (Action #6) could also be done at this same time.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	5,000					5,000

Action #6. Provide an adequate year round water supply for the park manager's residence.

The park manager's residence gets water from two sources; a water line connected to the spring north of the campground and a well located near the house. The spring is the preferred source of water because the well water is salty. However, the water line from the spring is shallow buried and would freeze if used during the winter. A deep buried water line which is usable year round should be installed and the salty well should be capped.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	5,000					5,000

Action #7. Eliminate the small seasonal parking lot on the east side of the Highway 61 bridge.

This lot is located just off the highway and very near the river. At one time it was a pull-through lot but, when the Highway 61 bridge was replaced in 1981, one of the entrances into the lot was blocked by a guard rail. It has a capacity of 4 or 5 vehicles.

Present users of this lot include hikers using the Devil's Kettle Trail, early spring fishing parties who park there and fish along the river between the bridge and the lake (much of this fishing occurs on private land on the east side of the river), and people who park there and walk to the lakeshore (again, crossing private land to do so). Although the parking lot is on park land, the vehicle permit requirement fee is not enforced because of staff limitations and because it is preferable that all park users identify with the one main entrance into the park.

At the present time, there may not be enough parking space in the existing day use lot to accommodate the additional vehicles if the roadside parking lot were closed. However, when the proposed day use parking lot is constructed, the roadside lot should be closed. A locked gate should be installed to permit service vehicle entrance into the picnic area in order to periodically pump out the vault toilet. All day use parking will be accommodated in the proposed lot. Those wishing to fish will have trail access to the river using the

underpass below the Highway 61 bridge (see Trails, Action #6, p. 77). No pedestrian crossing on the highway will be necessary in order to fish along the river.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		3,000				3,000

Action #8. Install a communication system within the park.

At present, there is no way for park staff in the contact station to communicate with park staff in the service court area. If the manager or other staff are needed for any reason, the person in the contact station must leave the station and look for them. A communications system using the telephones in the shop building, contact station, and manager's residence should be implemented to alleviate this problem.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	No Development Cost					

Action #9. Relocate the park radio antenna.

At present, the park radio antenna is poorly located. The manager is unable to communicate by radio with any of the other state parks on the North Shore. The antenna should be relocated to a higher elevation to improve communication.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:		2,000				2,000

Interpretive Services

Judge Magney has a variety of natural features which provide an excellent base for interpretive programming. These include the Brule River with its cascades and waterfalls, the overlooks providing views of the park and Lake Superior, interesting vegetative components, and access to Lake Superior. In order to best interpret these features, the following interpretive methods could be utilized:

- Self-guiding interpretive trails. These are trails with an interpretive message contained in a pamphlet meant to be read while hiking the trail. Another method is to locate signs bearing an interpretive message at strategic points along the trail. One possible location for such a trail is the trail which runs to the Devil's Kettle.

- Interpretive pamphlets. Several state parks provide interpretive pamphlets which highlight the important natural and historical features of the park and surrounding area. A brochure which focused on the geologic history of the park and surrounding area would be a good example.

- Interpretive signage. There may be individual sites in the park where a sign with an interpretive message could help to explain for the visitor the feature they are observing. An example of such a feature might be one of the proposed overlooks in the interior of the park.

- Local volunteer interpretive efforts. Often, there are local people or organizations with the knowledge, skills, and willingness to develop and present interpretive programs for visitors. Such efforts can add much to the park's interpretive program.

Some state parks have an interpretative naturalist on staff to coordinate the park's interpretive efforts and present programs to visitors. While desirable, the addition of another staff person can be costly. In parks with limited staff budgets and lower visitor numbers, it is more cost-effective to spend interpretive funds on the kind of materials discussed above.

Objective:

To provide an interpretive program which highlights the diversity of features which make the park an interesting place to visit.

Action #1. Develop an interpretive program for the park.

The regional naturalist should work with the park manager and other appropriate DNR staff to develop a park interpretive program that utilizes self-guiding interpretive materials.

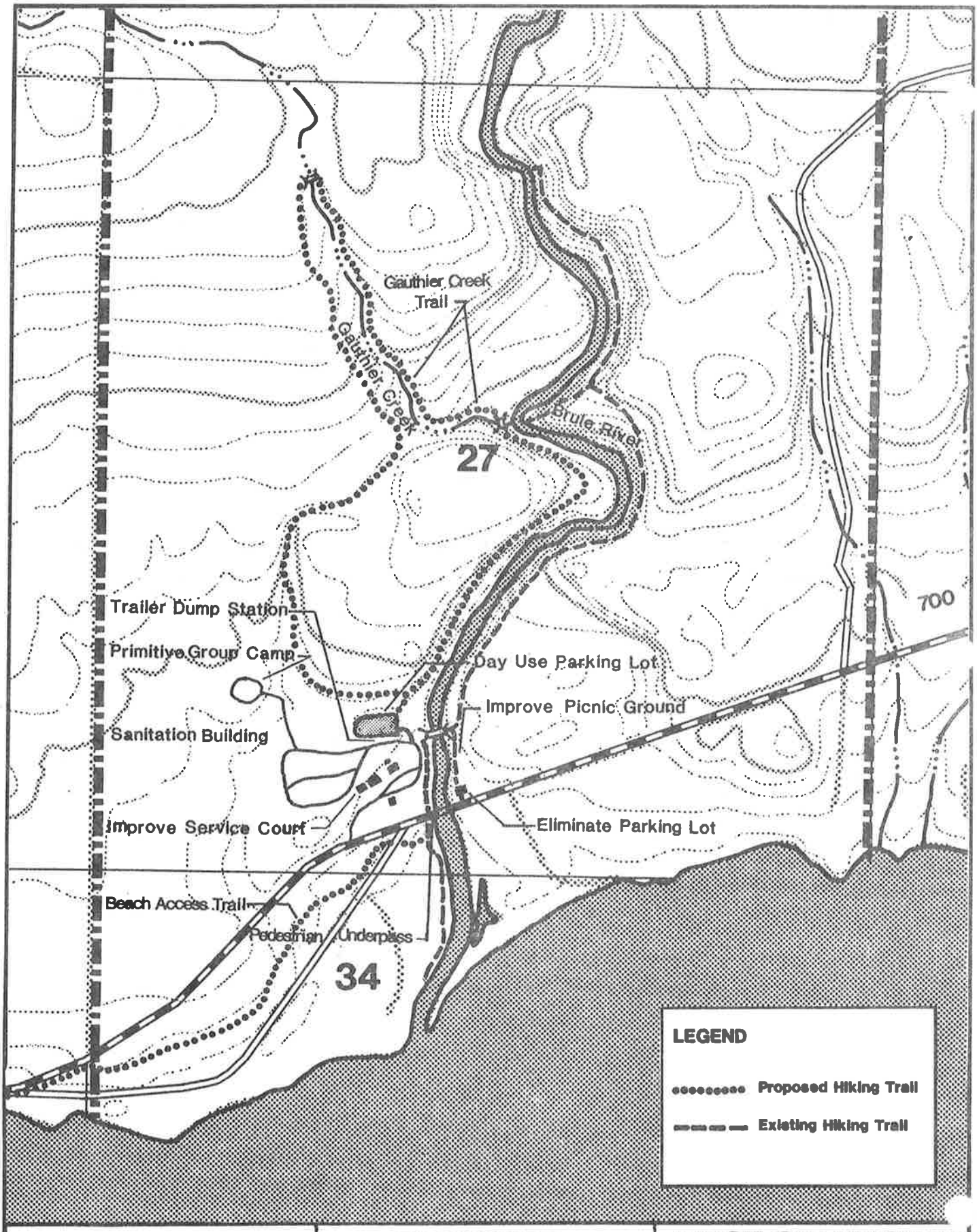
First priority should be given to developing interpretive materials for the Devil's Kettle Trail. Estimated costs for this and other interpretive projects should be determined by the regional naturalist.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	To Be Determined - Est. 2,000					

Action #2. Move the brass dog sled trail plaque into the park.

Just east of the park along highway 61 is a pull-off with a brass plaque which discusses John Beargrease and the historic dog sled trail through this area. This plaque should be moved to a site near the day-use area in Judge Magney State Park, Minnesota Department of Transportation staff will assist in moving the large rock and attached plaque.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	No development cost					


Gauthier Creek Trail
Gauthier Creek
Brule River
27
Trailer Dump Station
Primitive Group Camp
Sanitation Building
Improve Service Court
Beach Access Trail
Pedestrian Underpass
34
Day Use Parking Lot
Improve Picnic Ground
Eliminate Parking Lot
700
LEGEND
Proposed Hiking Trail
Existing Hiking Trail
NORTH
PROPOSED DEVELOPMENT
JUDGE C R MAGNEY STATE PARK


PARK
BOUNDARY

Boundaries/Ownership

The statutory boundary of the park encompasses 4,500 acres. Of this, approximately 425 acres are in private ownership, 80 acres are owned by the U.S. Forest Service and the remaining 3,995 acres are owned by the state of Minnesota. Of the state owned land, 800 acres are School Trust Fund land. Trust fund lands are lands which were granted to the state (territory) in 1857 by the federal government. They were comprised of Sections 16 and 36 of each township and were held in trust by the state for the state's school districts (in some cases the trust designation was later shifted to lands outside sections 16 and 36). Any income produced from these lands was dedicated to the state's public education system.

The 425 acres of private ownership is broken up into a large number of separate parcels. North of Highway 61 there are 10 separate private parcels ranging in size from 5 to 80 acres. South of Highway 61, the privately owned portion of the Lake Superior shoreline has been divided into lots. There are 17 separate lot owners.

DNR Parks and Recreation is interested in acquiring private lands within the boundaries of state parks. However, private lands can only be acquired from a willing seller. Any owner not wishing to sell can retain ownership of their property as long as they wish. If they decide to sell their property, they are free to sell to any buyer. The park cannot place any restrictions on the sale of private land.

The development recommendations of this plan directly affect three private landowners. Two of them own property across which trail alignments currently run or are recommended to run. The third owner owns land both inside and outside of the park boundary. A small portion of their land outside the park boundary is needed for a trail alignment. This will require a minor expansion of the statutory boundary. No other privately owned property is required for the implementation of the recommendations in this plan.

Action #1. Negotiate with two private landowners on the east side of the Brule River for permission to cross their land with a park trail.

In Section 27, the Devil's Kettle Trail probably (a survey will be needed to establish the limits of the private parcel) crosses the southwest corner of a

private 80-acre parcel. The trail has been in existence for many years and the private landowners have not objected to it. An alternative alignment of the trail at this location would be difficult because of the steep river bluff nearby.

DNR Parks and Recreation should negotiate with the private owner for written permission to retain the trail in its present location. If the owner wishes to receive financial compensation for the use of their land, a trail easement or fee title acquisition could be negotiated.

In Section 22, the proposed hiking trail to an overlook in Section 10 would cross a 40-acre private parcel. Again, because of nearby steep bluffs, the trail could not run between the river and the private parcel. It would be necessary for the trail to run the full ¼ mile length of the west side of the 40-acre parcel.

DNR Parks and Recreation should also negotiate with this private owner for written permission to utilize their property. If the owner wishes to receive financial compensation, a trail easement or fee title acquisition could be negotiated. If none of these alternatives are acceptable, the trail could be realigned to run on park land to the east of the 40-acre parcel, although this alignment would not be as scenic.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	To Be Determined					

Action #2. Negotiate with Consolidated Paper for permission to cross their land in Section 21 with a park trail.

The main access trail to the trails in the northern part of the park must cross Consolidated land in Section 21 because ravines further to the east do not allow the trail to be located in Section 22 on park land. The length of trail which crosses Consolidated land is approximately one-half mile. Development costs would be minimal because the alignment is an old logging road which needs little if any modification to use as a hiking/skiing trail.

Use of this trail for park purposes is somewhat complicated by the fact that the Consolidated Paper ownership in Section 21 is outside the statutory boundary of the park. State parks cannot utilize or acquire private lands outside their statutory boundaries. In order for the park to utilize the trail without modifying the park boundaries, it would be necessary for DNR Trails & Waterways Unit to negotiate with the owner for use of the land for trail purposes. Such negotiations could include written permission, purchase of a trail easement, or fee title purchase.

If DNR Parks and Recreation wishes to have administrative control of this trail segment, it will be necessary to request the state legislature to approve a statutory boundary change to incorporate the necessary land (approximately 160 acres) into the park. Following this, the park could negotiate with the landowner for a trail easement or fee title purchase of the acreage.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	TOTAL
COST:	To Be Determined					

COST AND PHASING SUMMARY

The following cost estimates were generated in August, 1985. These cost estimates are based on current prices and available information. As information is made available and as new or modified programs are initiated, revised cost estimates will be prepared to more realistically represent costs at that time. This plan is intended to be implemented in ten years. All uncompleted recommendations should be reviewed after that time. The phases noted suggest the completion of all projects in phase one before implementing proposals in phase two, however, it is not always practical or economical to proceed in this manner. Also, there is no guarantee that adequate funding would be received from the legislature within the ten years. Therefore, some change to these phases can be expected. Estimated costs are for individual projects. Costs for some projects may be reduced if they are done in conjunction with other projects.

ACTION	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	TOTAL
RESOURCE MANAGEMENT						
Vegetation						
1 Create a vegetation filing system		no development cost				
2 Monitor vegetation problems		no development cost				
3 Tree planting & transplanting	1,000	1,000	1,000	1,000	1,000	5,000
4 Timber Stand Protection		no development cost				
Wildlife						
1 Shear openings		1,000		1,000		2,000
2 Manage for winter deer browse		depends on technique used				
3 Manage for nongame wildlife		no development cost				
PHYSICAL DEVELOPMENT						
Camping						
1 Construct a modern sanitation building	100,000					100,000
2 Construct a primitive group camp		25,000				25,000
3 Develop 4-6 backpack campsites		3,000				3,000

ACTION	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	TOTAL
Trails						
1a Develop 18 miles of hiking/skiing trails	25,000					25,000
1b Devlop 4 miles of hiking-only trails			20,000			20,000
1c Construct 3 adirondack ski trail shelters		6,000				6,000
1d Develop 4 scenic overlooks		8,000				8,000
1e Develop 2 short bridges	5,000					5,000
2 Develop a hiking-only trail along Gauthier Creek	30,000					30,000
3 Provide hiking along Lake Superior	2,000					2,000
4 Develop trail accessible to special populations		5,000				5,000
5 Develop hiking-only loop trail west of campground			2,000			2,000
6 Develop Highway 61 trail underpass	2,000					2,000
7 Negotiate permission to cross private land with park trails		no development cost				
Picnic Area						
1 Improve picnic grounds			2,000			2,000
Adminsitrative/Support Facilities						
1 Construct a day use parking lot		6,000				6,000
2 Asphalt surface the entrance road		10,000				10,000
3 Develop a trailer dump station		10,000				10,000

ACTION	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	TOTAL
4 Improve service court		110,000				110,000
5 Rebuild spring cistern	5,000					5,000
6 Provide year-round water supply for manager's residence	5,000					5,000
7 Eliminate seasonal parking lot on east side of Highway 61 bridge		3,000				3,000
8 Install communication system within park		no development cost				
9 Relocate radio antenna		2,000				2,000
Interpretive Services						
1 Develop an interpretive program			to be determined			
2 More brass dog sled trail plaque into the park		no development cost				
Boundaries						
1 Negotiate to cross private land with park trails			to be determined			
2 Negotiate to cross private land in Section 21 with park trails			to be determined			

BIBLIOGRAPHY

BIBLIOGRAPHY

Bray, Edmund C., 1962. Billions of Years in Minnesota. St. Paul: Science Museum of Minnesota.

Heinselman, Miron L., 1975. Interpretation of Francis J. Marshner's Map of the Original Vegetation of Minnesota, North Central Forest Experiment Station. (Map with text by M.L. Heinselman)

Kuehnast, Earl L., 1959. (revised 1972) Climate of Minnesota. United States Department of Commerce.

Kuehnast, Earl L., 1982. Climate of Minnesota; Part 13 - Duration and Depth of Snow Cover (Technical Bulletin 333). University of Minnesota, Agricultural Experiment Station.

Marschner, F.J., 1930. The Original Vegetation of Minnesota. St. Paul: USDA Forest Service, North Central Forest Experiment Station (Map with text by M.L. Heinselman).

Minnesota Department of Natural Resources, Division of Parks & Recreation, Interpretive Services Section, 1978. The Biocultural Region System of Minnesota.

Minnesota Department of Natural Resources, Division of Parks & Recreation, 1981. Policy-Natural State Parks; and Policy-Recretional State Parks.

Minnesota Department of Natural Resources, Wildlife Section, January, 1984. Minnesota-Official List of Endangered, Threatened, and Special Concern Plants and Animals.

Searle, R. Newell, State Parks of the North Shore, 1979. Sponsored by the Minnesota Parks Foundation.

Schwartz, G.M., and G.A. Thiel, 1954. Minnesota Rocks and Waters. Minnesota Press.

U.S. General Land Office Survey Notes. On file at the Minnesota Secretary of State Office, St. Paul, Minnesota.