Flandrau

State Park Management Plan

Draft

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LIST OF MAPS

PREFACE

The primary concern in the development of the park management plan format was the identification of the "audience." For whom are these plans to be written? Eight different audiences were identified.

1. DNR staff responsible for implementing park plans
2. DNR reviewers whose main concern is one specific part to the plan
3. DNR regional administrators, supervisors, and park managers
4. SPA reviewers
5. The general public
6. Special interest groups
7. Reviewers of the environmental impacts of proposed actions
8. Legislators

The requirements of each of the audiences are different. All audiences require a document which includes some technical data, but the degree of detail as well as the manner of presentation varies. Some audiences require that specific topics be discussed in detail in all phases from inventory through recommended management. Other groups require a short, non-technical, yet comprehensive and logical management plan. A plan, obviously, cannot be both technical and non-technical nor can it be both long and short. It seemed logical then to produce two documents: 1) a short, comprehensive, non-technical document for the general public ("General Park Management Plan" GPMP), and 2) a detailed, technical document for specialists ("Management Plan Detail" MPD).

This document is the General Park Management Plan. All recommendations, both resource management and physical development, are included in this document. Detailed inventory data (MPD) and specific instructions necessary for implementation of the plan are not included. This information has been compiled into technical appendices, which are on file at:

Park Planning
Department of Natural Resources
Space Center
444 Lafayette Road
St. Paul, Minnesota 55101

INTRODUCTION

AN OVERVIEW OF FLANDRAU STATE PARK

Flandrau State Park is located in northeastern Brown County in south central Minnesota. The park is situated adjacent to and partially within the city limits of New Ulm. The city of Mankato is located 28 mi (45 km) to the southeast and the Twin City metropolitan area is approximately 100 mi (160 km) to the northeast. Trunk Highway (TH) 14 provides access to the park from the east and west and TH 15 provides access from the north and south.

The statutory boundary of the park encloses 805 acres (326 hectares). Of this, 3.7 acres (1.5 hectares) are privately owned. The remainder is state owned.

The landscape in the vicinity of Flandrau is the result of glacial activity. Deposits of up to 150 ft (46 m) of glacial material are present. These deposits have been eroded away by the Cottonwood River to form the valley in which most of the park is situated.

The Cottonwood River is the only natural surface water resource in Flandrau. It originates approximately 90 mi (145 km) to the west in Lyon County and empties into the Minnesota River 2 mi (3.2 km) downstream from the park.

Flandrau was established in 1937. Shortly thereafter, the Flandrau Dam was constructed to form Cottonwood Lake. The lake served as a recreation resource for the New Ulm area until 1969 when, for the third time, the earthen embankment of the dam was washed out in a flood. The dam was not rebuilt.

The vegetation of Flandrau consists of lowland hardwoods and grasses with scattered marshes on the valley floor. The valley slopes are forested with northern hardwoods such as maple, ash, and walnut and the blufftops with oak. A few pieces of native prairie can also be found on the blufftops.

The park offers a variety of activities for both day visitors and campers. Recreational facilities include a picnic ground, a swimming pond, a semi-modern campground with 57 sites, a structured group camp

with a capacity of 100, a primitive group camp, and 8 mi (13 km) of trails. Three mi (5 km) of these trails are used for snowmobiling during the winter and horseback riding in the summer. The interpretive center is operated from June until September.

1203

THE PLANNING PROCESS

The variety of outstanding natural, cultural, and historical resources of Minnesota provide abundant opportunities for outdoor recreation and education. In order to ensure that present and future generations will have the opportunity to enjoy these resources, we must plan now to protect, perpetuate, and provide access to these resources. For this reason, the Minnesota Legislature passed the Outdoor Recreation Act of 1975 (ORA '75).

The ORA '75 mandates that a comprehensive management plan be completed for each of the major units in the state recreation system. In the course of this planning process, each park will be classified in recognition of its resources and its role in the statewide system.

This plan sets the long range goals and objectives for resource management and recreational development which are appropriate for the park's classification. The actions that should be taken to move toward fulfilling these goals and objectives are then stated and scheduled.

The planning process consists of five steps:

1. Compilation of an inventory of natural resources and existing facilities. Task forces of specialists from other DNR divisions and sections are mobilized to assist in collecting pertinent data. At this point the first public workshop is held.

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

3. Classification of park, development of park goal, and writing draft plan. This step culminates in the first interdepartmental review, followed by a 30 day public review. Within this 30 day period, the third public workshop is held.

4. Revision of the draft plan according to information received from public and interdepartmental reviews. Plan is then sent to the State Planning Agency for a 60 day reviewal period.

5. Implementation of development plan by the DNR, Division of Parks and Recreation.

1204

SUMMARY

A recreational state park classification is proposed for Flandrau State Park. (See pp22-26.)

The goal for development of the park is based upon the recreational state park's purpose as stated in the ORA '75:

> "A recreational state park shall be established to provide a broad selection of outdoor recreational opportunities in a natural setting which may be used by large numbers of people."

Vegetation management will emphasize the enhancement of the scenic qualities of the park, the removal of dead and diseased trees, tree plantings to replace those trees removed, and the restoration of small prairie plots representative of the prairie which once covered the area. (See pp30-33.)

A diverse wildlife population will be maintained by managing for a variety of vegetation types. (See pp34-36.)

The major proposed changes to existing park facilities will be to:

- Remove the hazardous portions of what remains of the dam. (pp49-53)

- Construct a pedestrian bridge across the Cottonwood River at the site of the old Flandrau dam. (p 60)
- Redesign the sewage disposal system in the structured group camp. (p 55)
- Construct a contact station/park office. (p 66)
- Provide electrical hookups in the semi-modern campground. (p 55)
- Remodel the swimming pond. (pp 58 - 59)
- Resurface the picnic ground parking lot. (pp 59 -)
- Develop ski touring trails. (pp 60 -)

REGIONAL ANALYSIS

INTRODUCTION

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

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

THE SURROUNDING AREA

Accessibility

The accessibility of Flandrau to the population it serves must be evaluated when recreation programs and developments are considered. Alternative methods of transportation for park users must also be considered in light of the energy situation.

Flandrau State Park borders the city limits of New Ulm. It is 28 mi (45 km) northwest of Mankato and 100 mi (160 km) southwest of Minneapolis/St. Paul. The park is accessible from the Mankato area via TH 68 or TH 14. Park visitors from Minneapolis/St. Paul use TH 169 to St. Peter and then TH 99 to New Ulm. New Ulm residents have access to the park via city streets.

The dramatic increase in gasoline prices in the past two years has affected recreation travel patterns. People who once traveled longer distances are now recreating much closer to home. Because there are few comparable recreational facilities available in the vicinity, New Ulm area residents can be expected to continue their substantial use of the park. With the park less than a two hour drive from the Twin Cities, its appeal as a weekend camping destination for many

metro area residents will be enhanced. Because of these factors, park visitation is not expected to decrease. It is projected there will be an increase in camping.

Another potential result of higher gasoline prices is the increased use of alternative types of transportation. Bicycle access for area residents is good, particularly for those living in New Ulm. There are, however, some problems at the park entrance road. (See Access and Visitor Contact, Action #1, p 53 for discussion.) City roads to the park are paved and in good condition. The only problem is a few steep hills such as 10th Street. Access to the park by bicycle from surrounding towns such as St. Peter and Sleepy Eye is fair, the major problem being unpaved shoulders on area trunk highways. The road from Mankato to New Ulm presents the additional problem of a high volume of traffic.

Another access alternative to the New Ulm area is the bus line which serves New Ulm and Mankato from the Twin City area on a daily basis. The bus stop is located in downtown New Ulm approximately 1.5 mi (2.4 km) from the park.

Population

New Ulm has an estimated population of 13,800 (1975 estimate). This city has a very definite effect on the visitation pattern of the park. Its residents make up a large portion of the park's day users. Mankato, the 6th largest city in Minnesota with an estimated population of 35,000, is located 28 mi (45 km) southeast of Flandrau. It also has an effect on the park visitation pattern. The Twin Cities, located approximately 100 mi (160 km) away, contributes significantly to park visitation, more so with overnight visits than day visits.

The potential user population for the park is substantial. Over 123,000 people live within 25 mi (40 km) of Flandrau. People within this distance of the park make up the majority of the park users, particularly for day use activities such as picnicking, swimming, and trail use (see the Willingness to Travel Chart, p 12). Approximately 357,000 people live within a 50 mi (80 km) radius of Flandrau. The population that

resides between 25 and 50 mi (40 and 80 km) from the park use it for some day activities, but on a much smaller scale. They do, however, account for a substantial portion of the camper use (see the Camper Origin Map, M 3).

Economy and Land Use

The predominant land use in the vicinity of the park is agricultural. The city of New Ulm, in addition to providing service to the surrounding agricultural community, supports a variety of industrial firms. Manufactured items include electrical products, dairy and grain foods, motors, and machinery.

The park is located largely within the valley of the Cottonwood River. The northern end of the park, where the campground and service court are located, lies within the New Ulm city limits. The park boundary generally follows the top edge of the steep valley wall. In most areas, the valley wall is covered with trees. These two factors combine to block the view of most of the development around the park from park visitors. The only visually obtrusive structures are two houses on the southeast edge of the park. Both of these houses were built on the very crest of the steep valley slope, and no trees were left between the houses and the park.

The northeast side of the park is bounded by a golf course and residences. The south and southeast side is bounded by agricultural land and scattered residences. East and west of the park is a mixture of woods, agricultural land, and residences.

The park receives considerable walk-in traffic because of the adjacent residential development. The most heavily used path leads down the steep slope through the campground. Intensive, non-camper pedestrian use of the campground is not desirable, because it increases the chances of vandalism and theft of camping equipment and decreases the privacy of the campers. Many of the paths on the steep slopes are causing soil erosion. In addition to providing screening of residential development,

the maintenance of vegetation on the bluff will help to prevent erosion on steep slopes.

Land to the south and southeast of the park is now used primarily for agriculture. City officials have stated that, if expansion of the city boundary is proposed, the land adjacent to the southeast side of the park is a likely place for residential development. If this occurs, it would be desirable to maintain a fringe of trees along the bluff top to screen development from the view of park users. The plan recommends that the city establish an ordinance which either requires that homeowners maintain vegetative screening on their lots or that there be a minimum required setback from the edge of the bluff.

Storm water from New Ulm empties into the Cottonwood River in several places in the park. The water is brought down the hillside through culverts, so soil erosion is minimized. The areas where the culverts come out at the base of the valley wall should be landscaped with boulders and shrubs to screen the culverts. This will enhance the natural character of the park.

Cooperative Land Management

In some cases, lands in close proximity which have recreational potential may be managed by different government agencies or private individuals. Such is the situation at Flandrau, where a DNR regional office is located less than a mile southeast of the park. The regional office is in a large wooded area adjacent to the Cottonwood River. The land between the park and the regional office is primarily in private ownership, is wooded, and has limited development potential because of its location in the floodplain. The city owns a small parcel of land in this area. This area has good potential for a multi-use trail along the river connecting the park and the regional office land. Development of such a trail would require the cooperation of private landowners; the DNR, Division of Parks and Recreation; the DNR regional office; and the city of New Ulm. Development of trails such as this have been recommended by the New Ulm Parks and Recreation Department (see Trails Section, Action #7, p 62 for further discussion).

30
29
28
31
32
33
5
6
4
Res.
School
New Ulm City Limits
Cottonwood River
Minnesota River
City Park
Golf Course
Com.
Ind.
Industrial
Region IV DNR Headquarters
T. 110 N.
T. 109 N.
14
15
850
900
950
1000

Legend

Res.	Residential
Com.	Commercial
Ind.	Industrial
	Agricultural
	Wooded

N

0 500' 1/4mi. 1/2mi. 1mi.
Miles

0 500m 1km
Kilometers

M1

Flandrau State Park

Surrounding Land Use

Another case of cooperative land management is the flood control study being done by the Southern Minnesota River Basin Commission. The commission is studying the Minnesota River basin including the Cottonwood River watershed. Management actions resulting from this study could have an effect on river depth during spring run-off and heavy rains. The low lying areas of the park might be beneficially affected if run-off can be better controlled.

Portions of the Cottonwood River are also being studied by the DNR, Trails and Waterways Unit for possible use as a canoe and boating route. Cooperative management between DNR, Parks and Recreation and DNR, Trails and Waterways could result in additional recreational facilities along the river.

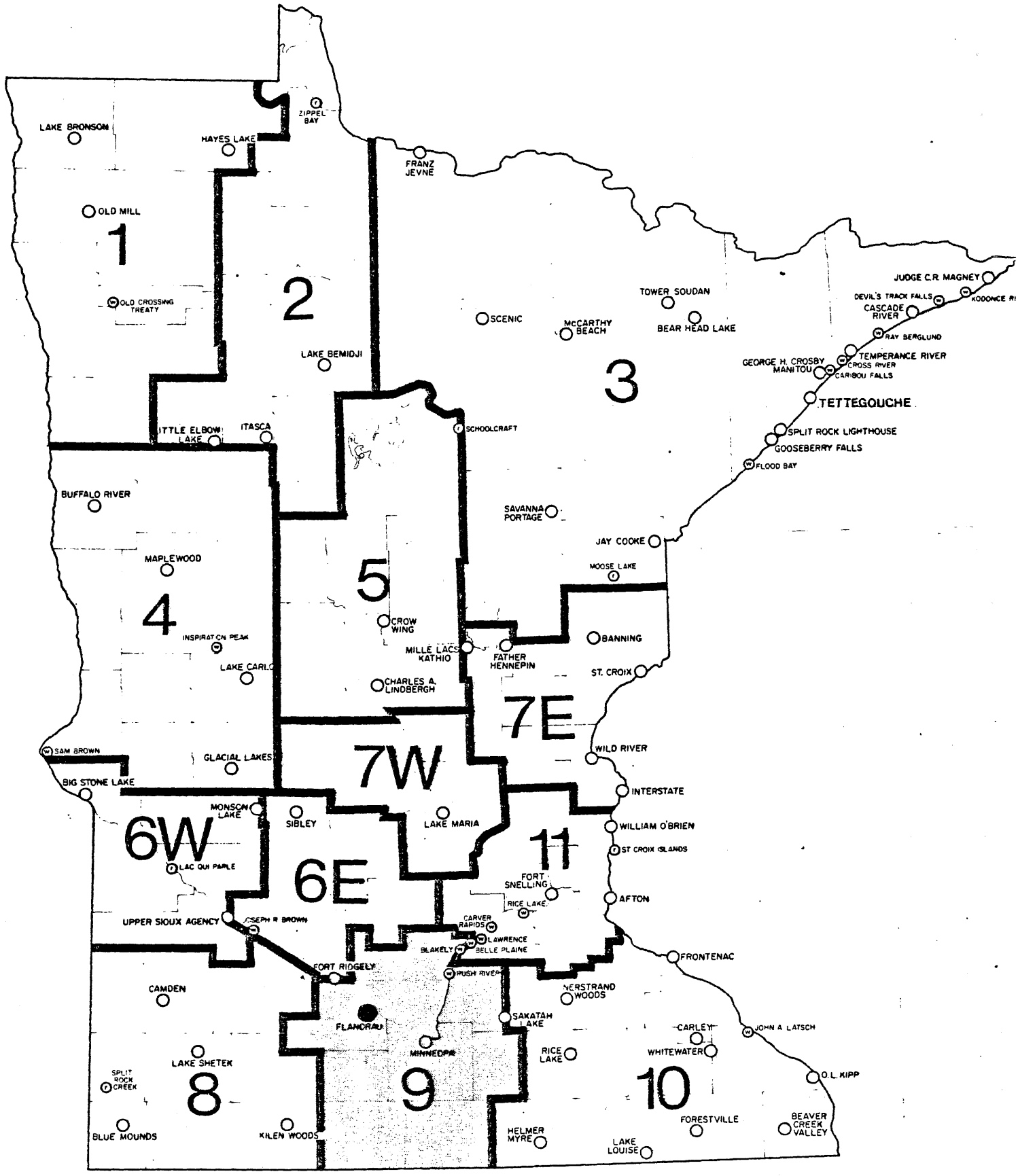
RECREATIONAL FACILITY SUPPLY AND DEMAND

In the planning of Flandrau State Park it is important to analyze the potential interrelationship of Flandrau with other area recreational facilities. This is necessary in order to assess the demand for particular activities and how Flandrau might function to fill this demand.

The inventory of recreational facilities was done using either a 25 mi (40 km) or 50 mi (80 km) radius. This was the form in which data was available The determining factor was willingness to travel. The following mileage figures on an individual's willingness to travel to make use of a recreational facility came from information collected by the DNR in the preparation of the State Comprehensive Outdoor Recreation Plan (SCORP '79).*

*SCORP '79 is a four year study which is identifying recreation patterns and activity preferences on state and region levels. The study is continually updated.

SCORP information was collected on the basis of economic development regions. There are 13 regions in the state. Region 9, in which Flandrau is located, includes the counties of Sibley, Brown, Nicollet, Le Sueur, Watonwan, Blue Earth, Martin, and Faribault.


LAKE BRONSON
HAYES LAKE
ZIPPEL BAY
FRANZ JEVNE
OLD MILL
1
2
OLD CROSSING TREATY
SCENIC
McCARTHY BEACH
TOWER SOUDAN
BEAR HEAD LAKE
JUDGE C.R. MAGNEY
DEVIL'S TRACK FALLS
KODONCE RI
CASCADE RIVER
RAY BERGLUND
TEMPERANCE RIVER
CROSS RIVER
CARIBOU FALLS
GEORGE H. CROSBY MANITOU
LAKE BEMIDJI
3
TETTEGOUCHE
SPLIT ROCK LIGHTHOUSE
GOOSEBERRY FALLS
FLOOD BAY
ITTLE ELBOW LAKE
ITASCA
SCHOOLCRAFT
BUFFALO RIVER
SAVANNA PORTAGE
JAY COOKE
MAPLEWOOD
4
5
MOOSE LAKE
CROW WING
INSPIRATION PEAK
LAKE CARLO
MILLE LACS KATHIO
FATHER HENNEPIN
BANNING
ST. CROIX
CHARLES A. LINDBERGH
7E
7W
SAM BROWN
GLACIAL LAKES
WILD RIVER
BIG STONE LAKE
INTERSTATE
MONSON LAKE
SIBLEY
LAKE MARIA
WILLIAM O'BRIEN
6W
11
ST CROIX ISLANDS
LAC QUI PARLE
6E
FORT SNELLING
AFTON
RICE LAKE
UPPER SIOUX AGENCY
JOSEPH R BROWN
CARVER RAPIDS
LAWRENCE
BLAKELY
BELLE PLAINE
FRONTENAC
FORT RIDGELY
RUSH RIVER
CAMDEN
NERSTRAND WOODS
SAKATAH LAKE
FLANDRAU
MINNEOPA
CARLEY
JOHN A. LATSCH
RICE LAKE
WHITEWATER
LAKE SHETEK
SPLIT ROCK CREEK
8
9
10
O.L. KIPP
FORESTVILLE
BEAVER CREEK VALLEY
BLUE MOUNDS
KILEN WOODS
HELMER MYRE
LAKE LOUISE

M 2

Willingness to Travel

Activity	Distance willing to travel to participate (non-Metro Minnesotans)	
Camping	76 miles	123 km
Picnicking	32 miles	52 km
Hiking	31 miles	50 km
Swimming	16 miles	26 km
Bicycling	14 miles	23 km
Horseback Riding	22 miles	36 km
Ski Touring	32 miles	52 km
Snowmobiling	43 miles	69 km

SCORP '79 has ranked the following recreational activities according to Minnesotans' desire for more opportunities to do them.

Preferred Recreational Activities

Summer Activities

All Minnesotans	Region 9 residents
1. Bicycling	1. Camping
2. Camping	2. Fishing
3. Fishing	3. Bicycling
4. Tennis	4. Swimming
5. Swimming	5. Hiking
6. Hiking	6. Tennis
7. Picnicking	7. Boating
8. Boating	8. Golfing
9. Golfing	9. Picnicking
10. Park Facilities	10. Park Facilities
11. Canoeing	11. Horseback Riding
12. Horseback Riding	12. Trail Biking

Winter Activities

All Minnesotans	Region 9 residents
1. Hunting	1. Hunting
2. Ski Touring	2. Snowmobiling
3. Snowmobiling	3. Ski Touring

The following is a summary of the supply of each facility type in the area of the park and then a brief discussion of the demands for that opportunity on a regional and statewide basis.

It is important to note that recreational facilities near a park may duplicate services. However, some people will consistently choose to frequent one area over another in the pursuit of a particular experience. For example, camping is a recreational activity which state parks accommodate. City and county parks in the vicinity of a state park may also have campsites. However, some people will consistently travel to a state park because of the type of experience it offers, namely, camping in a natural setting augmented by other recreational opportunities such as hiking, wildlife observation, and historical interpretation. While camping facilities may be duplicated elsewhere, the total activity experience is not.

Camping

There are 56 campgrounds within a 50 mi (80 km) radius of Flandrau. This is a sizable amount though it is substantially less than in the traditional vacation areas of Minnesota, such as in the vicinity of Brainerd.

Type of Facility	Number of Campgrounds	Number of Campsites
State Parks	5	281
County Parks	10	102
City Parks	10	206
Private-Group (church, Scouts)	3	89
Private-Individual (resorts, campgrounds)	28	1,267
Total	56	1,945

Camping is an increasingly popular outdoor activity in Minnesota. According to SCORP '79, 10 year projections (1980-90) predict a 9.4 percent increase in camping occasions statewide and a 8.8 percent increase in Region 9.

SCORP figures for 1978 show that people living in Region 9 account for 4.6 percent of the total camping population in Minnesota. As a camping destination, Region 9 receives 4.4 percent of the total camping which occurs in the state. Of the people who camp in Region 9, 50 percent come from Region 9, 23 percent from Region 10, 21 percent from Region 11, and 5 percent from Region 8.

The future demand for camping facilities is expected to grow. The facilities in Flandrau have met camping demand in the past. Records indicate that the campground is rarely filled to capacity other than on holiday weekends such as the 4th of July. The energy situation is, however, expected to alter camping patterns. Individuals can be expected to travel shorter distances to camp. This may attract more campers to Flandrau, including [redacted] people from the local area and the Twin Cities.

Picnicking

There are a number of places to picnic within a 25 mi (40 km) radius of Flandrau, the majority of these are city parks. The following chart summarizes these facilities.

Type of Facility	Number of Parks	Number of Picnic Tables
State Parks	3	273
Historic Sites	1	4
MN/DOT	4	8
County	5	69
City	28	626
Total	41	980

Swimming

Lake and river swimming opportunities in the area are limited. There are few lakes in the vicinity and most of the rivers are undesirable for swimming. Within a 25 mi (40 km) radius of Flandrau there are only seven swimming beaches, including the swimming pond at Flandrau. (There is a second smaller swimming pond in the park which is available for users of the structured group camp.) There are 15 swimming pools within a 25 mi (40 km) radius. This large number of pools is probably the result of the lack of natural swimming facilities.

Trails

Within a 25 mi (40 km) radius of Flandrau State Park there are two other state parks, Fort Ridgely and Minneopa. These two parks offer the following trail mileages.*

*All of these mileages do not represent separate trails. For example, most of the hiking trails are also used for snowmobiling or ski touring.

Activity	Trail Miles	
Snowmobiling	4 mi	6 km
Ski Touring	6.5 mi	10 km
Hiking	10 mi	16 km
Horseback Riding	4 mi	6 km

In addition, Blue Earth County maintains a 36 mi (58 km) grant–in–aid snowmobile trail. Neither Brown or Nicollet counties have snowmobile grant-in-aid trail systems.

There are a number of short trails provided by counties, towns, and private landowners. There is, however, no complete record of these from which to draw mileage information.

In addition to the above listed trail mileages, Flandrau has:

4 mi (6 km) of snowmobile trails
4 mi (6 km) of ski touring trails
7 mi (11 km) of hiking trails
3 mi (5 km) of horseback riding trails

Snowmobile trail use remains popular with 10 year projections indicating a slow, but steady 8 percent increase statewide. Snowmobiling in Region 9 is expected to increase 4.4 percent during the same 10 year period.

The demand for ski touring has grown rapidly in recent years. Though other areas of the state are more popular, skiing is a popular activity in Region 9. Ski touring occasions are expected to increase 10.5 percent.

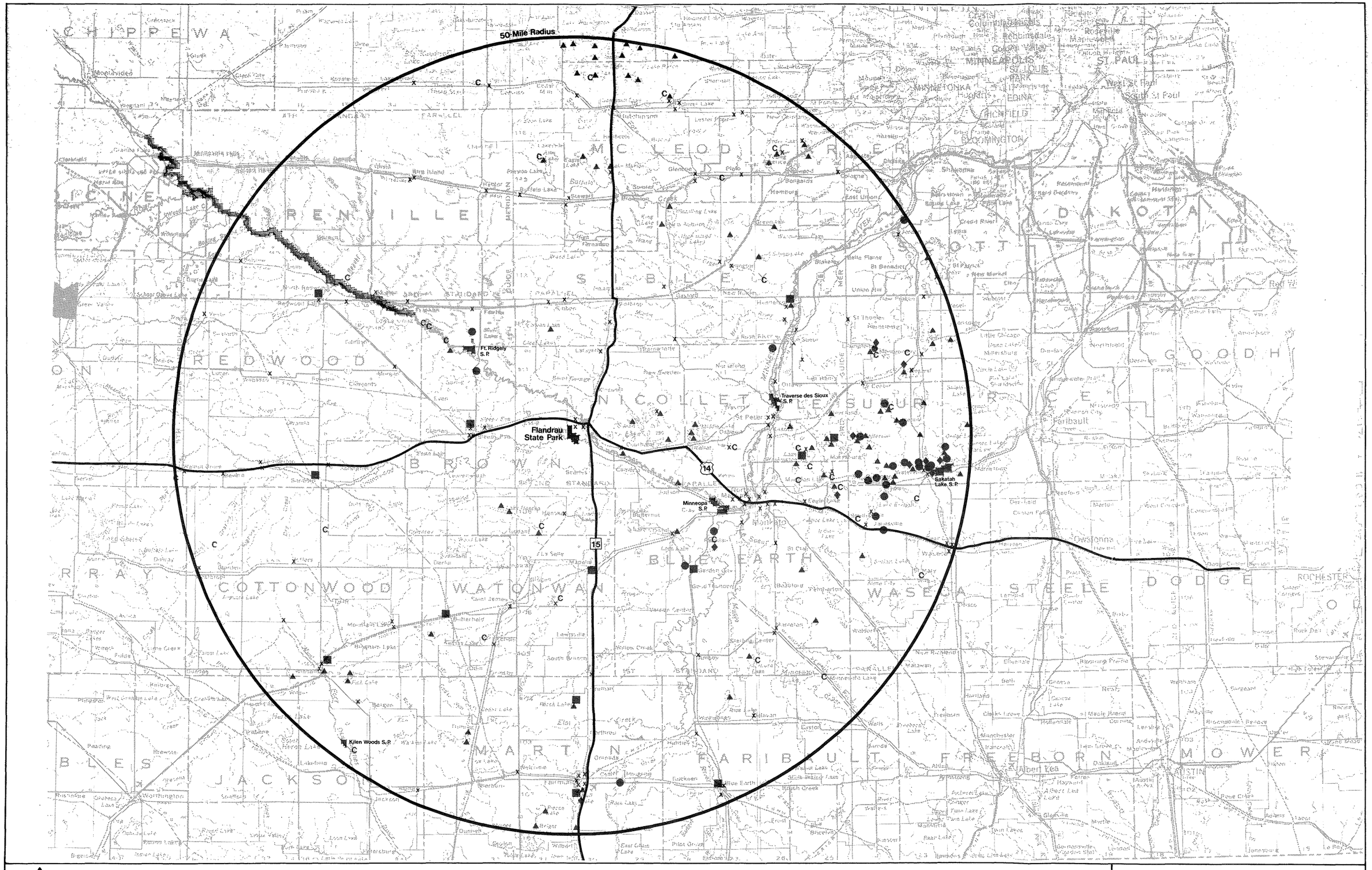
Hiking is a much more dispersed kind of activity which can be done in a variety of areas. Unlike some activities such as snowmobiling or ski touring, hiking requires no special equipment and nearly everyone can participate.

Bicycling

Bicycle trails within a 25 mi (40 km) radius of Flandrau are limited. However, the city of New Ulm has received funding through the State Planning Agency (SPA) to develop a three mile milti-purpose

trail along the Minnesota River within the city limits. This trail would be used by hikers, cyclists, and in the winter, skiers.

The development of bicycle trails in the park is not recommended because it is relatively small and there is good road access to all facilities. However bicycle access on the entrance road could be improved. Bicycle access to the park must be considered because of the large potential cycling population nearby. With the current energy situation, cycling trips to the park can be expected to increase. (See Access and Visitor Contact, Action #1, p 53.)



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M3

Flandrau State Park | **Regional Analysis**

THE PARK USER

DAY USER

In all cases, day use in state parks is considerably higher than overnight use. For those parks which are near a population center, as is Flandrau, or which have features that attract day visitors, such as Itasca State Park, day visitation accounts for the vast majority of park use.

In Flandrau, day use during the three year period, 1977-79, has averaged 90 percent of total park visitation. The close proximity of the park to New Ulm probably accounts for this high percentage. A contributing factor to the relatively low camper percentage is the fact that Flandrau is not located near an interstate freeway. Therefore it does not get many out-of-state travelers who camp for one night and continue to a primary destination. In addition, southern Minnesota is generally a less popular camping destination than is northern Minnesota. Day users come from New Ulm and the immediate area to take advantage of the picnicking, swimming, and year-round trail opportunities the park offers.

Organized groups also make use of the day facilities. The New Ulm Recreation Department and the Brown County Welfare Department sponsor several weeks of day camp during the summer months.

OVERNIGHT USER

For the three year period, 1977-79, overnight visitors, including both the campground and the structured group camp, have accounted for about 10 percent of total park attendance.

The campground accommodates a variety of users, including tent campers, camper-trailers, and motor homes, although there are no electrical or water hookups.

The structured group camp has a modern dining hall and 8 dormitory cabins. It is available during the summer only and receives use from many different groups, including public schools, welfare organizations, Scout groups, churches, and miscellaneous adult groups. The majority of these groups are from New Ulm and the Twin Cities.

The following chart illustrates the number of visitors to Flandrau during the five year period from 1975-79.

	Organized Group Camp	Tourist Campground	Day Visitors	Total Park Visitors
1979	2,383	8,054	107,862	118,299
1978	2,496	8,485	97,718	108,699
1977	2,385	8,448	99,210	110,143
1976	2,735	14,435	103,890	121,060
1975	2,423	10,614	94,655	107,692

Camper Profile

Camper registration cards are completed for each campsite which is used. Information on this card includes camper name and address, number in party, length of stay, and dates the campsite was used. A sampling of these cards for the three year period, 1977-79, revealed the following:*

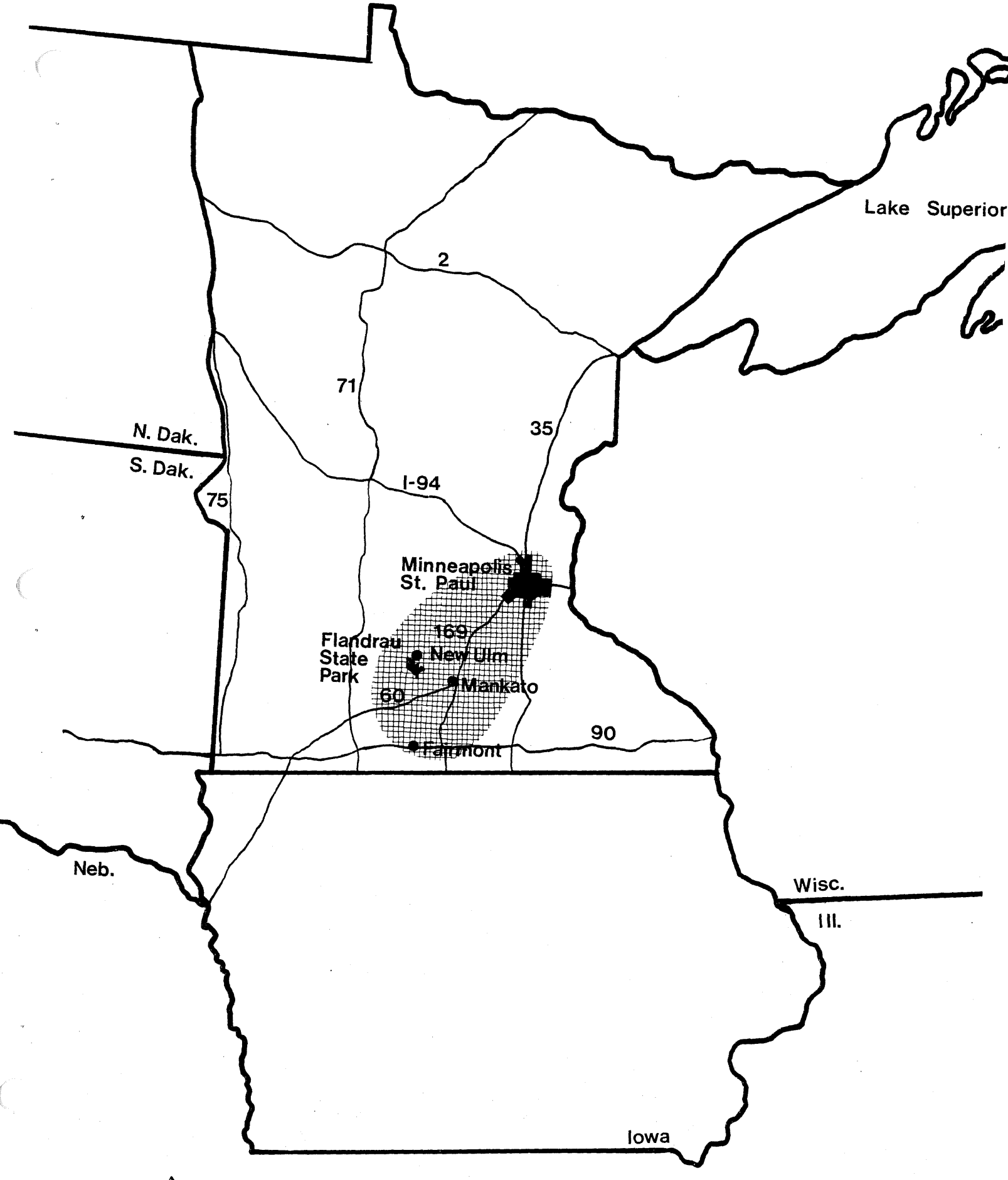
Origin	Percent
Minnesota	67.9
Out-of-State	32.1

Largest out-of-state percentages

Iowa	8.9
Wisconsin	3.1
Illinois	2.9
South Dakota	2.2

A little more than two thirds of the camping parties at Flandrau were from Minnesota. Of these parties, 63.3 percent came from an area of Minnesota which is bounded by the Twin Cities to the north and Fairmont to the south (see Camper Origin Map, M 3).

*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, the party may include an entire family or group of people; in others, it may be an individual.



M4

Camper Origin

Camping Seasons

This chart shows the percentage of the camping occasions for the season that occurred each month. The figures were averaged over a three year period.

	Percent
March	.2
April	1.6
May	14.4
June	23.3
July	31.6
August	20.0
September	6.7
October	2.0

As is the case with most of Minnesota's state parks, the vast majority of camping occasions occurred during June, July, and August. These percentages demonstrate the need for hiring additional staff on a seasonal basis to maintain facilities used by campers.

Number in Camping Party

Number in Party	Percent of Total Camping Parties
1	4.7
2	37.8
3	15.6
4	21.8
5	11.6
More than 5	8.6

Forty-two percent of the camping parties in Flandrau are made up of four or more people. If a campsite receives regular use throughout the summer, the result is a large number of people using a very small piece of land. High use of a campsite can cause soil compaction or erosion and damage to or loss of vegetation. Sites which receive a considerable amount of use should be monitored by park staff for such damage and appropriate action taken where necessary

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 the use of 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 IS MAINTAINED, the Minnesota State Legislature established, through the Outdoor Recreation Act of 1975 (ORA '75), a classification process whereby each unit in the state recreation system can be identified as one (or more) component in the system. These components 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. Included in this legislation are general criteria for classifying, planning, and managing each of these components.

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. If a state park does not meet the established classification criteria, the DNR will consider the possibility of eliminating the park from the state recreational system.

THE BIOCULTURAL REGION SYSTEM

The biocultural 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 biocultural region system is a framework which provides information valuable in the planning of Minnesota's state parks.

Flandrau State Park is located in the Upper Minnesota River Country Biocultural Region (see the Biocultural Region Map,M 1). It is a large region, covering broad areas on either side of the river from Mankato northwest to Ortonville on the Minnesota-South Dakota border. The region encompasses 7,828,000 acres (3,168,000 hectares) or 14.6 percent of the state.

The area is relatively flat and covered by glacial till deposited 10 to 12,000 years ago during the Wisconsin glacial period. The most distinctive geological feature in the region is the Minnesota River. It flows through a valley cut by the earlier and much larger glacial River Warren. Presettlement vegetation in the area consisted mostly of prairie with river bottom forests along the river banks.

The majority of vegetation in Flandrau is lowland forest. It is representative of the river bottom lands of the Upper Minnesota River Country Biocultural Region, however some areas of the park have been altered. The park may contain prehistoric human habitation sites.

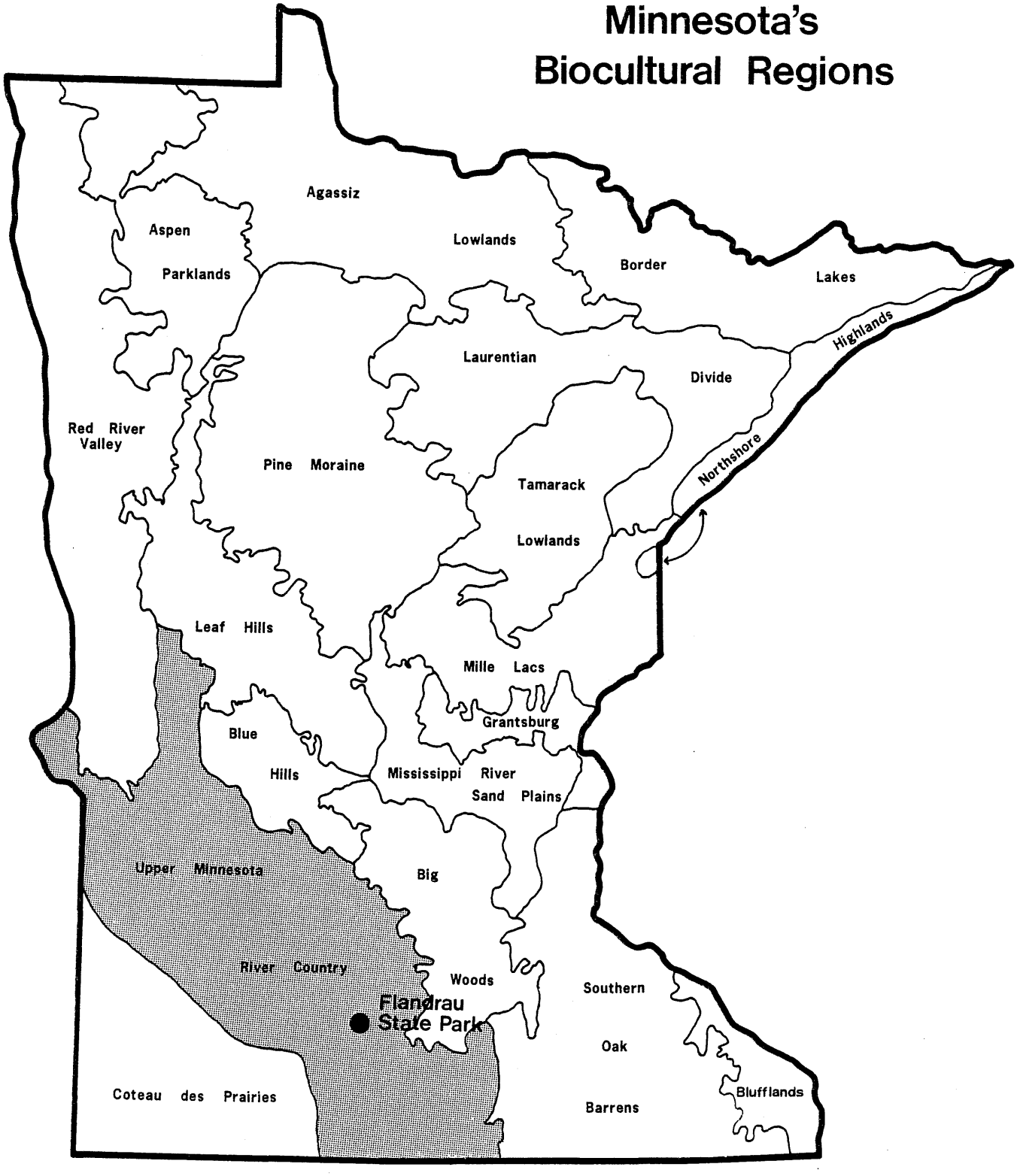
2202

CLASSIFICATION PROCESS

The purpose of the classification process as stated in the Outdoor Recreation Act of 1975 (ORA '75) is to establish "an outdoor recreation 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."

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 Flandrau State Park were recreational state park, natural state park or the transfer of the park to New Ulm or Brown County.

Minnesota's Biocultural Regions



The criteria in ORA '75 for a natural state park are as follows:

1. Exemplifies the natural characteristics of the major landscape (biocultural) regions of the state, as shown by accepted classifications, in an essentially unspoiled or restored condition or in a condition that will permit restoration in the foreseeable future; or contains essentially unspoiled natural resources of sufficient extent and importance to meaningfully contribute to the broad illustration of the state's natural phenomena;

Flandrau is located in the Upper Minnesota River Country Biocultural Region. Prior to European settlement this region was covered almost entirely by tall grass prairie with wooded areas of ash, elm, and cottonwood along the rivers. Flandrau does contain small fragments of native prairie, but the majority of the park is forested river bottom land. As such, Flandrau does not exemplify the major characteristics of its biocultural region. Nor is there any potential expansion area that would provide enough acreage to adequately portray the tall grass prairies of the Upper Minnesota River Country Biocultural Region.

2. Contains natural resources, sufficiently diverse and interesting to attract people from throughout the state;

The park does not totally meet this criteria. Though Flandrau does attract campers from out-state areas, the vast majority of its day use is from people in the New Ulm area. These people do not visit the park because of its natural resources, but rather to make use of the swimming pond and picnic ground.

3. Is sufficiently large to permit protection of the plant and animal life and other natural resources which give the park its qualities and provide for a broad range of opportunities for human enjoyment of these qualities;

Flandrau is approximately 805 acres (326 hectares) in size. This acreage is sufficient to protect plant and animal life and other natural resources and still provide a broad range of recreational opportunities. However it does not allow the preservation of much of the park in a completely natural state.

The criteria in ORA '75 for a recreational state park are as follows:

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

The recreational opportunities in Flandrau do attract people from beyond the local area. However, park users are largely local people, primarily because of the close proximity of the park to New Ulm.

2. Contains resources which permit intensive recreational use by large numbers of people;

Much of the park contains resources which can be used by large numbers of people without causing undue disruption of the resources. In fact, Flandrau has had in excess of 100,000 visitors per year for the last several years and the resources have suffered no significant damage. Areas which are sensitive have been avoided or developed so that disruption is minimized.

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

There are several recreational facilities within 25 mi (40 km) of the park. Most of these are city or county parks which provide picnic and playground facilities, occasionally a swimming pool, and a small number of campsites. None provide an outdoor beach-type swimming facility such as the one in Flandrau. Nor are their acreages large enough to provide substantial numbers of campsites or extensive trail systems. In addition, city and county parks usually do not have the resource base to provide their facilities in the kind of natural, appealing setting which Flandrau has.

The day use of Flandrau is predominantly local, however this is true of most state parks. Over the last three years, 1977-79, at least one third of the camping parties in Flandrau were from out-of-state (mainly from Iowa, Wisconsin, South Dakota, and Illinois). In addition,

over 25 percent of the in-state camping parties were from the seven county metropolitan area. Because of these visitation patterns, operation of Flandrau as a state park is justified. However, if visitation from beyond the local area decreases significantly, the state should approach the city of New Ulm or Brown County with the possibility of city or county ownership and operation of the park.

RECOMMENDED CLASSIFICATION

A recreational state park classification is recommended for Flandrau State Park. Flandrau receives substantial use from the local area as well as out-state and out-of-state. The park provides a wide variety of recreational experiences and, through this management plan, has the potential to improve and increase these facilities.

GOAL FOR THE PARK

The goal for Flandrau State Park can be found in the purpose for all recreational state parks as stated in the ORA '75:

> "A recreational state park shall be established to provide a broad selection of outdoor recreation opportunities in a natural setting which may be used by large numbers of people."

PARK RESOURCES

2203

ELEVATION AND SLOPE

The Slope Map (M 6) was developed from an analysis of the contour lines on a United States Geological Survey Map. Use of this slope map will aid in site selection and management of park facilities.

Flandrau is located in a portion of the Cottonwood River valley. The boundaries of the park include the steep-walled bluffs on either side of the river. These bluffs provide the only dramatic changes in elevation in the park. Present development on them is limited to a few miles of hiking trails. The steepness of the slopes and the soil make-up are such that caution must be used in any further development of trails in these areas. This is particularly true of trail uses such as horseback riding and snowmobiling, which have a greater potential for causing trail damage. In addition, user safety must be considered in any trail development on these slopes.

The majority of Flandrau is level ground-much of it within the floodplain of the Cottonwood River. Elevation is not a major consideration in the development of trails and other park facilities in these areas. Soil limitations, however, do place some restrictions on the kinds of development and use that can occur. (See Soils Section, pp29 - 30 for further discussion.)

2204

CLIMATE

Average summer temperatures in Minnesota vary only a few degrees from north to south. The only major exception is the North Shore of Lake Superior where temperatures can vary from 10 to 15 degrees Fahrenheit cooler than southern Minnesota.

Temperatures for the month of July in the Flandrau area vary from an average high of 84°F (29° C) to an average low of 60° F (16°C). This is quite similar to temperatures in north central Minnesota (the Bemidji area) which range from an average high of 80° F (27°C) and an average low of 56°F (13°C).

30

29

28

Minnesota River

Cottonwood River

31

32

33

Cottonwood River

T. 110 N.

T. 109 N.

14

15

6

5

4

Legend

Greater than 12 % slope

0 500' 1/4 mi. 1/2 mi. 1 mi.

Miles

Kilometers 0 500m 1km

N

M6

Flandrau State Park

Slope

During the winter, there is a greater variation in temperature within the state. Temperatures in January for the area surrounding Flandrau vary from an average high of 23°F (–5°C) to an average low of 2°F (–17°C). This is about 10° warmer than average temperatures for January in north central Minnesota.

Information on annual precipitation in the Flandrau area comes from a weather recording station in New Ulm. There the total annual precipitation (rain and snow) averages about 28 in. (71 cm). During the winter of 1977–78, total snowfall was about 50 in. (127 cm) in the New Ulm area. This accumulation of snow provides a good base for winter recreational activities such as ski-touring and snowmobiling.

2205

GEOLOGY

The existing landforms in the vicinity of Flandrau State Park are the result of glacial activity. The park was covered several times by massive sheets of glacial ice. The last advance occurred about 13,000 years ago. As the glacial ice melted, vast quantities of rock and soil which had been carved from land further to the north, were deposited. In the area of Flandrau, these glacial deposits reach a depth of 150 ft (45.7 m). Much of this was eroded away by the glacial River Warren, a large river which once drained a glacial lake located in the area of the Red River Valley. The Cottonwood River is the remnant of this glacial river.

Below these glacial deposits lie extensive deposits of sandstone, shale, and limestone which were formed about 135 million years ago when seas once covered large portions of North America. Outcroppings of these deposits, in the form of sandstone, can be seen on the north bank of the Cottonwood River at the west end of the park. Beneath all of these glacial and ancient sea deposits lies a bedrock of granite.

2206

SOILS

The soils in Flandrau can be categorized into two different groups. The valley floor is composed of water-deposited alluvial soils, most

of which would be flooded under 100 year flood conditions. These soils are fine textured and vary from silty loam to loamy sand. They have a high water table and are generally not suitable as building sites, due to flooding potential and the high water table.

The valley walls are very steep and are composed of easily eroded glacial till soils. Many springs are located near the base of the steep slopes, particularly in the western third of the park. These soils are not suitable for most development, but trails can be developed along the slopes, if the alignments are carefully selected and developed to minimize soil erosion.

The Soils Suitability Map (M 7) was developed to show those areas of the park in which the soils are acceptable for the development of recreational facilities. In almost all cases, present facilities are located on acceptable soils. Facilities can be developed in some unacceptable areas if special construction techniques are used, such as building up the base under the gravel road between the structured group camp and the dam. Also, some areas which have wet, mucky soils are unacceptable for most development, but could be used during the winter for ski touring or snowmobile trails.

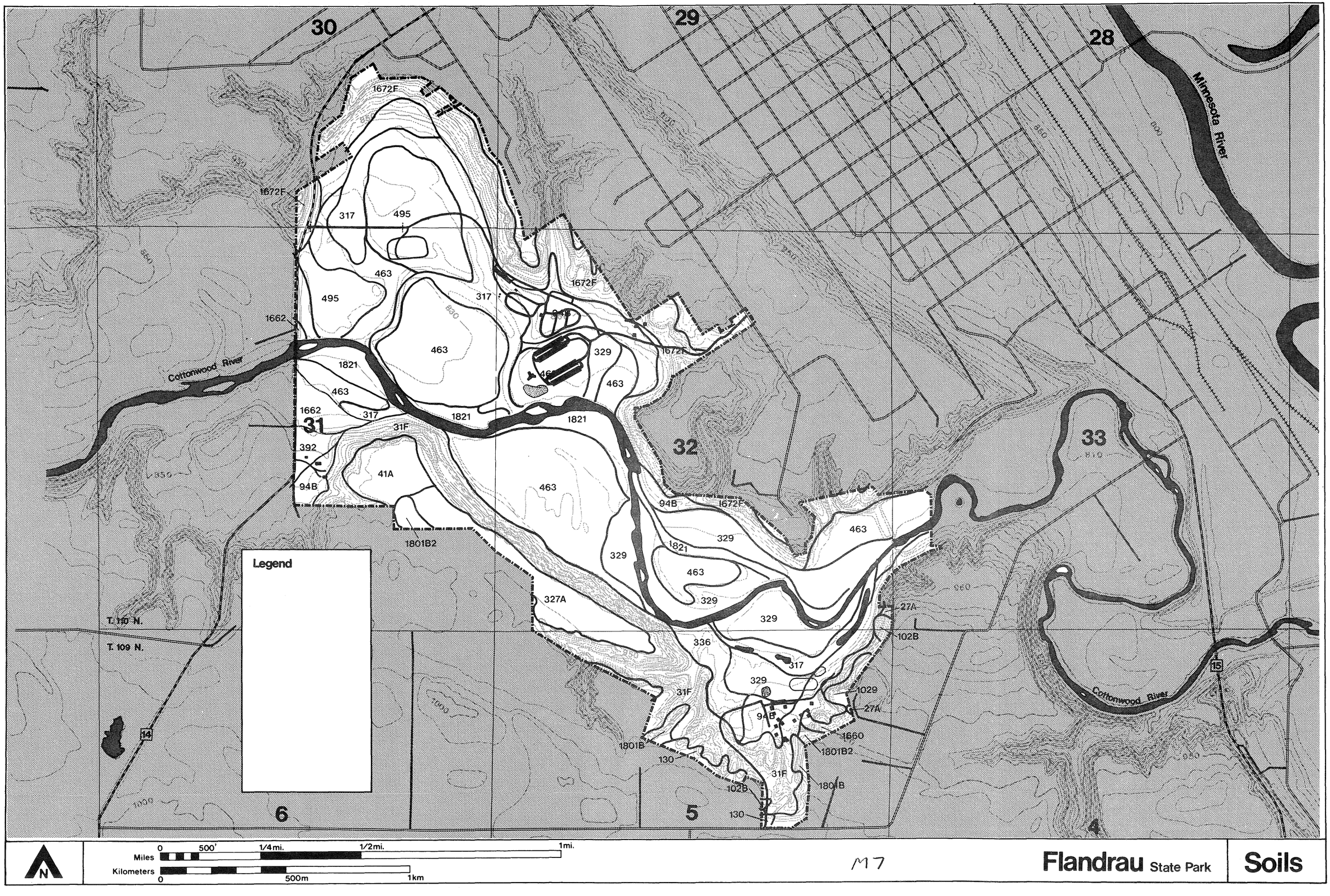
2207

VEGETATION

Inventory

Presettlement Vegetation

Prior to European settlement in the mid 1800's, the land around Flandrau was covered by tall grass prairie. The only exceptions were the forested river valleys. Within the park only a few small areas supported prairie vegetation. These were located along the blufftops on the periphery of the park. Most of the park is composed of steep valley walls and the floodplain of the river. The valley walls were forested, primarily with red and bur oak, though some basswood and maple were present. The floodplain was mainly river bottom forest with some areas of wet prairie. This bottomland forest was composed of willow, cottonwood, American elm, silver maple, and green ash.



M7

Flandrau State Park

Soils

Existing Vegetation

Since the time of settlement, the vegetation in the park has gone through several changes. Fire is a necessary element in maintaining a prairie. Settlement of the area brought about an eventual end to prairie wildfires. This allowed stands of sumac to take over many of the prairie areas in the park. The valley walls became more densely wooded with red oak, basswood, and maple. Much of the river bottom forest was removed and the area used for farm fields. Most of the remaining river bottom forest was cleared for Cottonwood Lake when the dam was built in 1938. More recently, a large number of elm trees were killed by Dutch elm disease and had to be removed. The areas hardest hit were the structured group camp and the picnic ground. Dutch elm disease has not yet run its course in the park and it is expected that perhaps another 200 elm trees will be lost.

Original recreational development occurred in the park in the late 1930's when the WPA built the picnic ground, swimming beach, and structured group camp. Under this program many trees were planted in the use areas. Other trees have seeded naturally. Since the last failure of the Flandrau dam in 1969, dense clusters of young trees and shrubs have sprouted on the former lake bottom. The overall result is that the park is more heavily forested than in presettlement times. With proper management, these areas can be returned to lowland hardwoods.

Management

Objectives:

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

To manage vegetation for scenic diversity and wildlife habitat

To protect and perpetuate rare or unusual plant communities

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

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29

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Minnesota River

O

OF

NH

Mh

LH

P

Rec.

LB

LG

Cottonwood River

31

32

33

Rec.

T. 110 N.

T. 109 N.

14

15

6

5

4

Legend

NH	Northern Hardwood
LH	Lowland Hardwood
LB	Lowland Brush
LG	Lowland Grass
O	Oak
Mh	Marsh
P	Prairie
OF	Old Field
Rec.	Recreation Development

N

0 500' 1/4mi. 1/2mi. 1mi.

Miles

Kilometers 0 500m 1km

M8

Flandrau State Park

Vegetation

To manage vegetation with natural forces (such as fire) wherever feasible

Detailed Recommendations

Action # 1. Remove dead and diseased elm.

Dutch elm disease has killed many elm trees in the park over the past several years. Most of those in the use areas have been removed. However, many healthy elm still remain. Over the next few years, a number of these are likely to die. Sufficient funds should be made available so that trees can be removed as soon as the disease is detected. It is hoped that prompt action may slow the spread of the disease and save some of the elms. Use areas that have been substantially affected include the structured group camp, picnic ground, and campground.

Cost. $9,000 in three phases.

Action # 2. Establish and maintain a tree planting program.

Many areas of the park have lost their vegetative cover, either to disease or clearing of the land for farm fields. Vegetation management practices in a recreational state park aim to reestablish examples of the visual character of the area as it appeared prior to European settlement. This does not mean that all areas of the park will be planted to duplicate the plant type and appearance of the area during presettlement times. What is intended is to replant certain areas to provide examples of the original presettlement character of the park. Representative vegetation types to be maintained or replanted include lowland hardwoods, prairie, and northern hardwoods. In some cases, different plant species than those originally found may be used. For example, it would be unwise to replant elm in those areas which have already lost many trees to Dutch elm disease. In addition to the use areas discussed in Action #1, this replanting program should include the former lake bottom and the former farm field at the north end of the park.

Cost. $8,000 in three phases.

Action # 3. Restore and maintain representative examples of the kind of prairie which once was found on the perimeter of the park.

Most of the land which is now Flandrau State Park was forested river valley. However, along the rim of the valley, tree growth was sparse and many prairie plants could be found. Remnants of these prairie areas can still be seen on the bluffs along the northern boundary of the park near Indian Point Drive (see the Existing Vegetation Map, M 8). Along much of the southwestern boundary of the park (see the area labeled Old Field on the Existing Vegetation Map, M 8) there is a flat blufftop area which was farmed for many years. Prior to settlement, this area was covered mainly by prairie plants. With standard techniques of prairie restoration and maintenance, a portion of this area could be returned to prairie.

Restoration and management techniques may include periodic burning of the areas, some seeding or transplanting of prairie species and possibly the localized use of herbicides. (Herbicides should only be used when other types of non-chemical control have failed.) The prairie remnants on the northern boundary of the park are in an area that is being developed for residential use. To avoid conflicts, management of these prairie areas should be done with the cooperation and understanding of neighboring landowners.

Cost. $8,000 in three phases.

Action # 4. Plant trees and shrubs to screen the manager's residence and service court from public view.

Though a service court is an essential part of a state park, it is not a public use area and should not be visible to park visitors. The manager's residence should also be well-screened because it is not a public use area and because the manager's family should have privacy. There are some trees growing between the park road and the service court and residence, but some interplanting of additional trees and shrubs is desirable to improve the existing screening. Tree and shrub species used should be representative of presettlement lowland hardwoods. (See Presettlement Vegetation, p 30, for representative species.)

Cost. $1,000.

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Minnesota River

Screen Residence and Service Court

Restore and Maintain Prairie Species

Remove Dead and Diseased Elms and Replant With Other Species

Cottonwood River

31

32

33

Cottonwood River

T. 110 N.

T. 109 N.

14

15

6

5

4

Legend

NH	Northern Hardwood
LH	Lowland Hardwood
LB	Lowland Brush
LG	Lowland Grass
O	Oak
Mh	Marsh
P	Prairie
OF	Old Field
Rec.	Recreation Development

N

Miles 0 500' 1/4mi. 1/2mi. 1mi.

Kilometers 0 500m 1km

M 9

Flandrau State Park

Vegetation Management

WILDLIFE

Inventory

All wildlife species have not been inventoried in Flandrau, although a bird list has been compiled. The basis for the recommendations in this section consists of the observations of the area wildlife manager and the park manager.

Most of the land around Flandrau is extensively developed for agriculture or housing and is poor habitat for wildlife. Flandrau and the river bottom land along the Cottonwood and Minnesota Rivers provide the only adequate wildlife habitat in the immediate vicinity of the park. Therefore the park is very important to the wildlife in the area.

A publication by the Minnesota DNR, "The Uncommon Ones," discusses wildlife species in the state which merit varying degrees of consideration. Such species are placed in one of three categories:

> Endangered Species - Species in danger of extinction or those which have disappeared or nearly disappeared as a breeding species in Minnesota.
>
> Threatened Species - Species which may become endangered in Minnesota in the foreseeable future, but not necessarily throughout their entire natural range, or species that are listed by the U.S. Fish and Wildlife Service as threatened though their status is secure in Minnesota.
>
> Priority Species - Species that are uncommon or local in Minnesota, but are not presently threatened or endangered.

Source: Moyle, John B., 1975. "The Uncommon Ones." Minnesota Department of Natural Resources.

No endangered or threatened species inhabit Flandrau, although bald eagles, a threatened species, are occasionally seen during periods of migration. A few priority species may also be seen in Flandrau during the summer months. These, however, are usually songbirds which are migrating through the area and not nesting in the park. As a result, no special management actions are necessary in Flandrau to accommodate endangered, threatened, or priority species.

Flandrau does, however, have a diverse population of wildlife including white-tailed deer, gray fox, raccoon, beaver, striped skunk, and squirrel, as well as several species of raptors and a multitude of songbirds.

Management

Objectives:

To maintain and improve species diversity and population

To minimize damage to surrounding private property caused by wildlife

Due to the park's protected environment, there is some potential for overpopulation. Species populations should be monitored by park staff. If reduction of a population is necessary to avoid disease or damage to habitat, appropriate action should be taken.

The white-tailed deer is one of the species whose numbers should be monitored. As mentioned earlier, the only areas in the vicinity which provide good wildlife cover are the park and the Cottonwood and Minnesota river valleys. The rest of the area is either residential or agricultural. For this reason, Flandrau attracts a large number of deer. If the population gets too large, foraging for food during the winter could result in damage to some of the park vegetation. Also, any crops near the park left standing during the winter may be subject to damage. Should this situation occur, the DNR, Division of Parks and Recreation should consider planting a small wildlife foodplot to aid in management of the herd. A good location for a wildlife foodplot is on the blufftop on the south side of the river adjacent to and southeast of the area proposed for prairie restoration (see the Vegetation Management Map, M 9).

Action #1. Maintain an abundance of dead and down trees.

Dead trees provide habitat for a variety of wildlife. These trees should be left unless they pose safety hazards to visitors, obstructions to park facilities, or enhance the spread of tree diseases such as Dutch elm disease.

2209

SURFACE WATER

Inventory

The only surface water resource in Flandrau State Park is the Cottonwood River which has its beginning in Lyon County about 30 mi (48 km) east of the Minnesota-South Dakota border. From there it flows eastward to New Ulm, emptying into the Minnesota River.

In 1938 a dam was constructed on the river in the park to create Cottonwood Lake. The lake was used for various recreational activities. The dam has failed and been restored twice. After the third failure in 1969, the dam was not rebuilt.

In the past, water quality of the Cottonwood River has been poor. For many years, the Minnesota Pollution Control Agency (PCA) had a water testing station near the TH 15 bridge about one mi (1.6 km) downstream from Flandrau. Water quality testing included readings taken on the coliform content of the water. Coliform organisms are found in the intestines of all warm blooded animals, including humans, and in surface soil. The presence of coliforms indicates the possibility of pollution by sewage or surface runoff. The acceptable fecal coliform level for whole body contact (swimming) recommended by PCA is 200 organisms per 100 ml (3.5 ozs) of water. Only a few times in the fifteen year period (1963-1977) in which the river was tested did it meet this PCA water safety standard. In many instances, it was several times higher than the recommended maximum fecal coliform level. With such pollution levels it would be unwise to maintain a swimming beach either on the Cottonwood River itself or with water diverted from the river.

The Cottonwood River is subject to flooding from snowmelt in the spring and occasional heavy spring and summer rains. During these periods, the water level and rate of flow increase dramatically, frequently causing erosion damage to the park. Rock cribbing and rip-rap were placed along the riverbank adjacent to the swimming pond to control erosion damage caused by the river. The erosive force of the river was responsible for the three washouts of the Flandrau dam in 1947, 1965, and 1969. Alterations of the river's watershed (such as agricultural drainage structures) have caused the watershed to drain more rapidly than when the dam was first built in 1938. Faster drainage of the land results in a much greater peak flowage of the river. If another dam is built, it would require a considerably greater flowage capacity than the original dam to avoid another dam failure. The original dam had a maximum discharge rate of 13,000 cfs (368 cms). During the last washout of the dam in 1969, the park flowage was 28,700 cfs (812 cms). (See Proposed Development, pp49-53 for a complete discussion of the dam issue.)

The Flood Zone Map, M 10 shows those portions of the park which lie within the 100 year and 500 year flood zones. These zones indicate those portions of the park which would be inundated during floods having a projected frequency of occurrence of once in every 100 and 500 years. A flood with a reoccurrence frequency of 100 years would be rather severe. For example, the flood that washed out the Flandrau dam in the spring of 1969 had a reoccurrence frequency of about 72 years.

Management

Objectives:

To flood proof all park facilities in the Cottonwood River floodplain

To ensure that park development does not decrease the water quality of the Cottonwood River

All development located in the 100 year flood zone should be flood proofed. That is, developments should be designed to withstand a flood without suffering severe and costly damage. The Flood Zone Map, M 10

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Minnesota River

Cottonwood River

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T. 110 N.

T. 109 N.

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Cottonwood River

6

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4

Legend

100-year flood zone

500-year flood zone

N

Miles 500' 1/4 mi. 1/2 mi. 1 mi.

Kilometers 0 500m 1km

Flandrau State Park

Flood Zones

shows that the swimming pond, bathhouse, structured group camp sewage lagoon, and portions of the picnic ground and campground lie within the 100 year flood zone. The amount of work to flood proof these developments varies from very little in the picnic ground to a great deal in the removal of the structured group camp sewage lagoon. In the future, those developments which would suffer severe damage in the event of a flood should be located in areas beyond the 100 year flood zone and possibly beyond the 500 year flood zone. (For further discussion and recommendations see Proposed Development: Flandrau Dam, Action #1, p53- , Camping, Action #4, p55, and Picnic Ground/Swimming Area, Action #2, pp57-58.)

2210

GROUNDWATER

Inventory

Groundwater in the Flandrau area is usually found in glacial deposits of sand and gravel or in the sandstone below these glacial deposits. Supplies are adequate for municipal, industrial, and rural use, although there is considerable variation in the yield of the wells in the area. Water quality also varies considerably. Most supplies are high in dissolved solids. In some areas, there is a high concentration of nitrates.

Management

Objectives:

To provide an adequate supply of high quality water for park users

To protect groundwater from contamination by park development

Groundwater quality and quantity is not optimal, but it is adequate for the needs of the park. Therefore no specific management is recommended in this plan.

2211

FISHERIES

Introduction

Fishing is one of the most popular recreational activities in Minnesota. Each year, more than 1.5 million Minnesotans and thousands of out-of-state visitors fish the state's lakes and streams. With this tremendous pressure upon fish populations, every effort should be made to maintain and improve fisheries.

The primary goal for any fisheries management program is to maintain the optimal natural fish population that a water body can support. The optimum is determined by such factors as water fertility, oxygen supply, food supply, and water temperature.

The Cottonwood River is the only body of water in the park which supports a fish population. Several species of rough fish and some game fish are found in it. The most common game fish are northern pike and smallmouth bass. Fishing opportunities in Flandrau are limited because of the lack of accesses along most of the riverbank. Most of the fishing is done immediately downstream of the remains of the dam.

The existing habitat is sufficient for game fish. The smallmouth bass which were reintroduced a few years ago by the DNR, Fisheries Section, are doing quite well. Improvements to the river are not necessary to maintain the game fish population. The restoration of Cottonwood Lake would be of little benefit to game fish (see the Proposed Development Section, pp 49-53 for a complete discussion of the Flandrau dam restoration issue).

In recent years, the following fish stocking has been done by the DNR, Fisheries Section in the Brown County portion of the Cottonwood River:

1975	Northern pike (fingerlings)	696
1976-77	Smallmouth bass (fingerlings)	5,075
	Smallmouth bass (fingerlings)	640
1977	Channel catfish (fingerlings)	4,833
1978	Channel catfish (yearlings)	923

Remnants of the dam which failed in 1969 are still present. Though they do little to hold back water, they act as a rough fish barrier making it difficult for carp, sucker and other rough fish to travel upstream. Removal of the dam remnants might result in damage to the game fish habitat.

Management

Objectives:

To maintain the present level of fishing opportunities

To protect game fish habitat

The DNR, Division of Fish and Wildlife is responsible for fisheries management in the Cottonwood River. This plan recommends a continuation of the management programs which are currently being implemented by the Fisheries Section.

HISTORY/ARCHAEOLOGY

Prehistory

The area around Flandrau, including the Cottonwood and Minnesota river valleys, has long been a desirable place for people to live. Perhaps as much as 7,000 years ago, groups of people lived there, traveling throughout the area in search of food. Few remains of these early people have been found.

More evidence exists of people who inhabited the area from about 2,000 years ago to early historic times. Several burial mounds and a habitation site have been located in the vicinity of New Ulm. Similar sites have been located in other parts of Brown County as well as neighboring Nicollet and Blue Earth counties. Many of these sites have been destroyed by cultivation and construction.

History

During historic times, the area was inhabited by Dakota Indians. These people lived by hunting, gathering, and trapping. The fur pelts they collected were traded to white fur traders for such staples as salt, tobacco, gunpowder, clothing, and weapons.

During the 1840's and 50's a major route of the Red River Oxcart Trail passed through the area. Prior to the development of railroad and paddlewheel steamboat transport, oxcarts were used extensively to haul goods between the Red River Valley and St. Paul. Oxcart trails existed on both the north and south sides of the Minnesota River, with an important ford located just below the point where the Cottonwood River flows into the Minnesota. The oxcarts traveled to Traverse des Sioux (near the present town of St. Peter) where the goods they carried were unloaded and placed aboard keelboats for the final leg of the journey via the Minnesota River, to St. Paul.

The town of New Ulm was established in 1854 by German immigrants. These early settlers were faced with grave danger when, in 1862, New Ulm was attacked by a large body of Dakota (Sioux) Indians.

The attack was unsuccessful and the town survived, though many lives were lost and many buildings were destroyed. The Defender's Monument near the Brown County Courthouse was erected in memory of those who fought to save New Ulm.

New Ulm's historic past is evidenced by the many buildings which have been preserved by the city, community organizations, and private citizens. The August Schell mansion, and the Kiesling home are two examples. In addition, the New Ulm Post Office, the Hermann Monument, and the Kiesling home are listed on the National Register of Historic Places.

Park History

Flandrau State Park, originally named Cottonwood River State Park, was established in 1937. In the late 1930's a Civilian Conservation Corps (CCC) camp was established in the park at the present location of the DNR Field Services sign shop. Men who lived there participated in projects which helped establish the recreational facilities in Flandrau. One such project was the creation of Cottonwood Lake. In addition, men who worked for the Work Progress Administration (WPA) built and lived in the Flandrau group camp. These men constructed several buildings in the park, including the bathhouse/picnic shelter. Their residence camp was closed in 1942. During the latter part of World War II, the camp was used as a prisoner-of-war camp for captured German soldiers.

Management

Objectives:

To preserve and protect all important prehistoric and historic sites in the park

To interpret prehistoric and historic use of the park and surrounding area for park visitors

To encourage archaeological research that will increase the existing knowledge of prehistoric human activity in Minnesota

• Detailed Recommendations

Action # 1. Field check all proposed development sites for the presence of prehistoric and historic remains before any work is begun.

Where remains are found, an assessment will be made of the size and importance of the site. When necessary, the site will be excavated before construction is begun (see Action #3). All excavation work must have the approval of the state historic preservation officer. Artifacts removed will become the property of the DNR. Information obtained on the site during excavation will be made available to the park interpretive program. Construction of the development in another location will be considered, if the site proves to be significant.

Cost. $1,000.

Action # 2. Make all information regarding prehistoric or historic sites in the park and surrounding area available to the park interpretive staff.

The information will be used in developing interpretive programs for presentation to the public.

Human prehistory of Flandrau should be an important feature of the park interpretive program. Archaeological information would improve the interpretive program by further developing an understanding and appreciation for Flandrau among park visitors.

Cost. No development cost.

Action # 3. Allow archaeological excavation of a site where the significance of the site makes excavation desirable and the site is located in an area being considered for development.

Only those excavations authorized by the state historic preservation officer and the state archaeologist will be allowed. If any excavations occur, steps must be taken to ensure visitor safety in the site area.

Current information on human prehistory in Minnesota is by no means complete. It is quite possible that archaeological sites in Flandrau could further contribute to this body of information.

Giving visitors an opportunity to observe an archaeological excavation in progress can be a very effective interpretive experience. The visitor not only receives first hand information on the site being excavated, but also can observe the techniques used by archaeologists to gather data.

Cost. No development cost.

MANAGEMENT AREAS

MANAGEMENT AREAS

Flandrau can be divided into two general areas for management. One will be managed for intensive use and the other for passive use (see Management Areas Map, M 11). The intensive use area will be maintained for the comfort and enjoyment of visitors, avoiding undue impact to the natural environment. The passive use area except for trails and overlooks, will be managed for perpetuation of native plants and animals.

It is necessary to actively manage the resources in the intensive use area to ensure a comfortable, enjoyable, and scenic area for people. Much of the vegetation in this area will be maintained as low groundcover to minimize mosquito problems, allow easy walking, and maintain a scenic setting. The scenic qualities which are focused upon in a state park are qualities of the natural environment as opposed to the well manicured appearance of a typical city park. Therefore, the amount of area maintained in mowed grass will be minimized. Islands of native vegetation will be maintained in all areas not needed for active use. The trees will be pruned only to remove hazardous limbs.

The passive use area encompasses the remainder of the park. Use in this portion of the park is limited to trails and a few overlooks. The management proposals for this area (see Vegetation Management, M 9) are directed toward reestablishing representative native vegetation and enhancing the diversity of wildlife habitat.

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Minnesota River

31

32

33

Cottonwood River

Legend

Intensive Use Areas

T. 110 N.

T. 109 N.

14

15

6

5

4

0 500' 1/4 mi. 1/2 mi. 1 mi.

Miles

Kilometers 0 500m 1km

N

MII

Flandrau State Park

Management Areas

PHYSICAL DEVELOPMENT AND RECREATION MANAGEMENT

2203

RECREATION MANAGEMENT OBJECTIVES

These recreation management objectives are intended to guide the development of recreational facilities in all recreational state parks.

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

To limit park development to that which is necessary for efficient management and for the public to experience, study, and enjoy the natural resources

To locate park development where it will not adversely affect 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).

3204

EXISTING DEVELOPMENT

Campground

57 campsites with picnic tables and fire rings
Modern toilet building
Small picnic shelter (trail shelter in winter)

Primitive Group Camp

33 campsites
2 pit toilets
Well with a hand pump

Structured Group Camp

Mess hall with cooking and dining facilities
2 modern toilet buildings
8 barracks buildings
Swimming pond
Staff quarters building

Picnic Ground/Swimming Area

Picnic shelter/bathhouse with modern toilet facilities
Picnic tables
300 car capacity parking lot
Swimming pond with sand beach

Administrative/Support Facilities

Contact station
Park office
Manager's residence
Assistant manager's residence
Shop building--also used as regional shop
2 small storage buildings
Former regional sign shop now used by Regional Field Services

Trails

4.6 mi (7.4 km) hiking only
3 mi (4.8 km) snowmobiling/horseback riding

3205

PROPOSED DEVELOPMENT

Prior to the implementation of any development actions, the DNR, Division of Parks and Recreation should obtain all necessary permits from the appropriate agencies.

Flandrau Dam

Objective:

To ensure that the Flandrau dam site and those areas of the park affected by the site will be managed to the optimal benefit of park resources and visitors

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Minnesota River

Parking

Primitive Campground

Campground

Manager's Residence

Office

Service Area

Contact Station

Parking

Bathhouse

Swimming Pool

Cottonwood River

31

32

33

Asst. Manager's Residence

Regional Sign Shop

Dam

Legend

T. 110 N.

T. 109 N.

14

15

Swimming Pool

Cottonwood River

Group Camp

6

5

4

0 500' 1/4 mi. 1/2 mi. 1 mi.

Miles

Kilometers 0 500m 1km

M12

Flandrau State Park

Existing Development

Flandrau Dam was constructed in 1938 to provide water based recreational opportunities for the people of New Ulm and the surrounding area. The 215 acre (87 hectare) Cottonwood Lake was used for boating, water skiing, swimming, and fishing. The park provided a boat launch, dock, swimming beach, and bathhouse (still in existence). There were several private boathouses along the lakeshore.

During its existence the dam failed three times because of flooding. The third time it was not rebuilt and much of the concrete portion of the dam was removed. What now remains are the abutments, energy disipator, and stilling basin.

Early in the planning process for the park, it became evident that the Flandrau dam would be the single most important issue. Opinion among local citizens was divided. Some felt that a new dam should be constructed to reestablish Cottonwood Lake while others did not want the dam and asked that the existing dam remains be removed because of safety problems. As a result the DNR, Division of Parks and Recreation hired the firm of Donohue and Associates, consulting engineers, to analyze the dam issue and make recommendations. Their findings included:

- A restored dam and lake would have no significant potential for flood control. This is because of the small size of the lake basin relative to the size of the watershed.

- There is sufficient flow in the Cottonwood River to maintain a restored lake.

- Water quality of the lake would be determined primarily by the quality of the Cottonwood River. Periods of poor water quality would affect uses of the lake, such as swimming and water skiing.

- A restored lake would be subject to the deposit of sediments at a fairly high annual rate. If incoming sediments are not periodically removed as part of maintenance measures, approximately half of the capacity of the reservoir would be lost in the first 50 years of its existence. Sediment removal methods would include dredging, drawdown, or seasonal drainage of the lake.

- A restored lake and new dam would have the capability to produce hydroelectric power. However, the electricity produced would amount to only a very small portion of the total electrical demands of New Ulm. It is questionable that such a project would be cost effective over the 30 year life span of the power generating equipment.

The DNR, Division of Fish and Wildlife has expressed concern over the loss of wildlife habitat, if the lake is restored. Most of what would be lake bottom is now a mixture of lowland grasses, brush, and hardwoods with small areas of marsh. They have stated that a restored lake would make no significant improvement of habitat for northern pike and smallmouth bass, although some habitat improvement for crappies and sunfish could be expected. They are also concerned about the removal of the existing dam remains if the lake is not restored. The remains of the dam now act as a barrier preventing such rough fish as carp from swimming upstream from the Minnesota River into the Cottonwood River. If the carp population increases significantly, the game fish habitat would be detrimentally affected.

Following a thorough study of information relating to the dam and a comprehensive site analysis of the existing dam remains, Donohue and Associates outlined necessary actions for both reconstruction and removal of the dam and the costs associated with both.

Dam Reconstruction

Calculations were made regarding the kind of dam that would be needed to withstand floods of 50, 100, and 500 year reoccurrence intervals and one-half the probable maximum flood. The consultants recommended that, if the dam is reconstructed, it be built to withstand floods with a reoccurrence interval of 100 years. This would satisfy federal standards and state recommendations. However, the estimated cost of constructing a new dam is $3,450,000. This would include development of an access road, clearing the lake bed, construction of a cofferdam, removal of the remnant dam and construction of a new dam with a pedestrian bridge. In addition, the consultants stated that the installation of a small scale hydroelectric facility

is technically and economically feasible, though the amount of electricity generated would not make a substantial contribution to the electrical demands of New Ulm.

Additional costs would also be necessary to maintain the structure. Periodic dredging and drawdown of the lake would be necessary maintenance procedures.

The possibility of developing the lake to a size larger than its original dimensions was also considered. A larger lake would increase the depth and provide more surface area for recreational activities. Such an action was considered questionable because of potential flooding of the Center Street bridge during high water periods. Increasing the size of the lake would also negatively affect the group camp sewage lagoon and the bathhouse. It would also make it necessary to increase the size of the earthen dike adjacent to the dam. In addition, there would be the possibility that private land upstream of the dam could be damaged by flooding.

Dam Removal

The consultants were also asked to recommend procedures and costs for removal of the existing dam remnants. An approximate cost for removal was set at $260,000. This would include removal of all concrete remnants, retaining most of the earthen embankment and cutting back and stabilizing the embankment on both sides of the river to provide a wider channel for flowage of flood waters.

As mentioned earlier, the DNR, Division of Fish and Wildlife has some reservations about removal of the remnant structure. Their concern is that removal would allow rough fish to enter the Cottonwood River in large numbers and affect the game fish habitat. Also, the dam remnants are now holding back a large amount of sediment which would be released downstream into the Minnesota River if the remnants are removed.

If the remaining abutments prove to be structurally sound, they may be useful in the development of a pedestrian bridge. Such a bridge is desirable to provide trail access between the two portions of the park. The consultants were asked to determine the structural stability

of the abutments. They determined that, although some minor damage had been done to the abutments when the dam was removed, they were still in good condition. The DNR, Division of Waters, Dam Safety Section, evaluated the existing dam remnants to determine what portion of the remains could be removed to improve safety at the site yet maintain the abutments and the portion of the dam which acts as a fish barrier. Their recommendations are to remove the baffle blocks, baffle wall, interior piers and two feet of concrete from the remaining spillway (see Dam Illustration, P 53A. This would significantly reduce the eddying problem which now occurs on the downstream side of the spillway. This problem has been identified by local residents as the major safety problem. The cost for this work would be approximately $75,000.

Action # 1. Implement the DNR, Division of Waters, Dam Safety recommendations for removal of portions of the remnant dam including the baffle blocks, baffle wall, interior piers and two feet of concrete from the remaining spillway.

Cost. $75,000.

Access and Visitor Contact

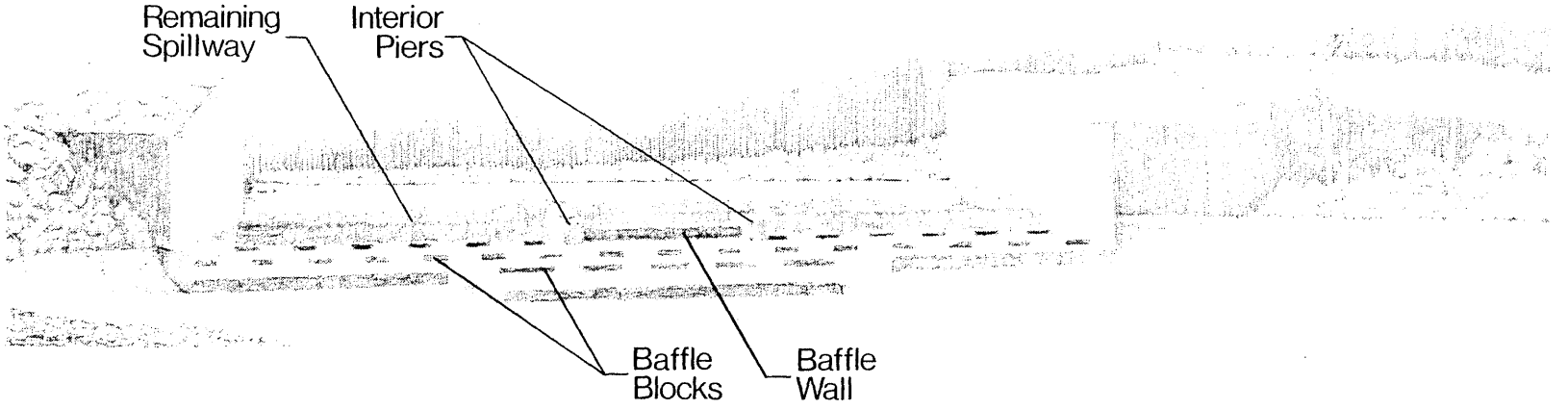
Objectives:

To develop facilities which will accommodate a variety of modes of transportation and access to the park

To provide an efficient accessible facility for contacting visitors entering the park

Action # 1. Improve bicycle safety on the park entrance road.

The park entrance road presents a problem for some cyclists because it is rather steep and curved in such a way that the bottom of the hill cannot be seen from the top. Cyclists entering the park must use caution and avoid riding down the hill too fast. Many of those leaving the park find the hill too steep to ride and must walk bicycles to the top.



Flandrau Dam Illustration

The solution is not a simple one. There is no other place along the park boundary where a less steeply sloped access trail could be located. The existing entrance road is located in the most suitable area. There is a park service road on the western boundary of the park which connects to County State Aid Highway 13 (CSAH 13). This, however, would also be a poor access site because the highway carries heavy traffic, has no paved shoulder, and is not subject to the maximum city speed limit of 30 mph (48 kph). In addition, there is a very steep hill on the highway near the northwest corner of the park which is even more difficult for cyclists to negotiate than is the park entrance road.

Modification of the existing entrance road to provide a separate bicycle access also presents problems. The road enters the park down a narrow draw. A bicycle trail could not be placed on the roadbed without narrowing the traffic lanes. This would be impossible as the lanes are already rather narrow. To add more roadbed on which to build a trail would also present problems. Both sides of the road are used for drainage. If a trail is constructed, the drainage on one side of the road would have to be diverted the entire length of the road. In addition, a large portion of the embankment would have to be cut away creating an erosion problem.

There appears to be no development solution to the bicycle access problem. Cyclists must continue to share the entrance road with automobiles. However, cyclist safety could be enhanced. Signs should be installed at the top and bottom of the hill warning motorists that they might encounter cyclists on the entrance road. In addition, signs recommending that cyclists walk their bicycles up and down the hill would also improve the safety factor.

Cost. $500.

Action # 2. Construct a new contact station/park office in the same location as the existing contact station. (See Administrative/Support Facilities, Action #1, p 66.)

Action # 3. Provide hiking trail connections to developed pedestrian access trails entering the park from the city. (See Trails, Action #7, p 62.)

Camping

Objectives:

To provide quality camping facilities that allow the public to enjoy park resources 24 hours a day

To provide facilities for a variety of camping experiences

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

Action # 1. Provide electrical hookups in the modern campground.

Every year the park manager receives a substantial number of requests from campers for electrical hookups. The provision of hookups in Flandrau would be in keeping with policies for recreational state parks. No more than half of the campsites should have electrical hookups installed initially. The manager can then assess use over several years to determine if additional electrical hookups are needed.

Cost. $3,500.

Action # 2. Provide shade trees in the modern campground and primitive campground. (See Vegetation Management, Actions #1 and #2, p 32.)

Action # 3. Remodel the small picnic shelter building in the lower campground (lane) for use as a winter warming shelter for snowmobilers and skiers. (See Trails, Action #6, p 61.)

Action # 4. Redesign the sewage disposal system in the structured group camp.

The existing sewage system consists of two sanitation buildings with showers and flush toilets which drain into a small sewage lagoon. The kitchen and toilet in the mess hall are also connected to this system. There are problems with the system which must be corrected. The sewage lagoon is located within the 100 year flood zone and it does not meet Pollution Control Agency standards. The two toilet buildings are old, in poor condition, and need replacement.

Because of the high water table and potential flooding problems, it may be impossible to find a suitable location for a sewage lagoon in the vicinity of the group camp. The most likely solution would be to install a vault system for the toilets and a small drainfield for the "gray water" runoff from the showers. It may, however, be feasible to install a drain field on high ground above the group camp and pump sewage up to it.

In the interest of economy it is recommended that only one barrier-free toilet building with separate men's and women's facilities be constructed. Low cost showers could be provided "field style" by attaching shower facilities on either side of the building surrounded by an adequate privacy fence. If feasible, these recommendations could result in a considerable reduction in construction and maintenance costs over a conventional toilet building. Final determination of the design for the toilet building and sewage disposal system will be made by DNR, Division of Parks and Recreation and DNR, Bureau of Engineering.

Cost. Dependent on DNR, Bureau of Engineering study. Estimated cost - $100,000.

Action # 5. Retain the eight barracks buildings in the structured group camp with minimal maintenance for the near future.

The structured group camp is a popular facility with park users. A variety of groups use the camp. As there are few structured group camps in this portion of the state, the camp is serving a useful purpose. However, of all the facilities provided by the Minnesota state park system, structured group camps have the highest per user operation cost. They can be very expensive to operate, particularly when the facilities require a great deal of annual maintenance and repair. Such is the case with the group camp in Flandrau. Although the mess hall is a new facility requiring fairly low annual maintenance, the barracks buildings are old and need much more attention. Due to their age and inexpensive construction, it would be unwise to invest a large amount in renovating them. In addition, the maintenance budget for DNR, Parks and Recreation has been considerably reduced making it very difficult to provide the necessary funds to adequately maintain the buildings. For these reasons it is recommended that

only minimal funds be spent on the upkeep of the barracks and, when they are no longer usable, they should be removed. This action can be expected in the next 10 years. After removal of the barracks, it is recommended that the camp continue to operate on a more rustic basis with users supplying their own tents. The mess hall and a new toilet building will still be provided.

Cost. Covered by park operations budget.

Action # 6. Develop a canoe campsite on the south side of the river (see Water Activities, Action #2, p65).

Picnic Ground/Swimming Pond Area

Objectives:

To provide a variety of picnic facilities to fulfill the needs of a wide range of users

To provide the complementary facilities needed to enhance the picnicking experience

To provide an adequate number of high quality picnic sites to serve users

To provide an enjoyable swimming experience

To improve the water quality of the swimming pond

Action # 1. Remove dead and diseased elm in the picnic ground and replant the area with more shade trees. (See Actions #1 and #2, Vegetation Management, p32.)

Action # 2. Rehabilitate the bathhouse.

The overall condition of the bathhouse is good. It will be a usable structure for many more years, however, several of the facilities within the building are in need of remodeling. A complete rehabilitation of the toilet facilities is needed, including new fixtures, ceilings,

and floors. Provision must be made for accessibility by special populations. The interpretive center occupies an area once used as a refreshment stand. The amount of space is adequate to house the interpretive center. However, the existing area does not function well for interpretive purposes and must be remodeled. Recommended changes include better display facilities, improved lighting, and an office/work area for the park naturalist. The building will also require new electrical wiring and some tuck-pointing of the stone walls. The changing rooms should also be remodeled to include benches and better floor drainage. All construction methods and materials should be chosen in consideration of minimizing damage in the event of a flood.

Cost. $60,000.

Action # 3. Remodel the swimming pond.

The swimming pond is a popular facility receiving considerable use from both day visitors and campers. However, the pond is in poor condition. Problems include:

- very cloudy water
- no runoff area for floating debris
- the well supplying water has an insufficient flow for the pond in its present design
- the fecal coliform count in the water reaches unacceptably high levels

In order to remodel the pond to accommodate the high level of use it receives, the following modifications are necessary:

- removal of the sand bottom and replacement with a new plastic liner and new sand
- installation of an overflow gate to remove floating debris
- installation of a recirculating filter with a chlorinator

The existing sand bottom is full of sediment which is stirred up whenever the pool is in use. A new sand bottom is necessary to eliminate the problem. The pool was constructed with no means for floating leaves and other debris to drain off. Removal requires periodic hand labor.

Installation of an overflow gate would eliminate this problem. At present the pond water is unfiltered. Well water is pumped into the bottom of one end of the pond and flows out the other. The flow rate of the well is insufficient to provide a supply of clean water during periods of high use. The pond water should be pumped through a sand filter, chlorinated, and then recirculated into the pond. With this system, the amount of fresh water needed from the well would be much less.

The city of Shakopee, Minnesota has for the last 12 years operated a sand bottom swimming pool similar to the one proposed. They have had good success with the pool. Designers for the Flandrau swimming pond should consider contacting Shakopee officials for any recommendations they might have regarding construction and operation.

Cost. $150,000 - estimated cost. More accurate cost dependent on DNR, Bureau of Engineering study.

Action # 4. Resurface the picnic ground parking lot.

The existing asphalt surface is badly deteriorated and in need of replacement. Both bays of the parking lot should be resurfaced.

Cost. $47,000.

Trails

Objectives:

To provide access to a variety of areas within the park along alignments chosen for slight gradient, scenic views, interesting study areas, avoidance of sensitive areas, and separation of conflicting uses

Action # 1. Close the park to horseback riding.

The existing horseback riding trail is only 3 mi (5 km) long. For the past several years it has received almost no use. This low level of use does not justify horseback riding in Flandrau. It is the practice of the DNR to provide horseback riding trails only in those state

Redesign the primitive campground

Remodel the warming shelter

Provide electrical hookups

Construct a bicycle access

Rehabilitate the bathhouse

Remodel the swimming pond

Construct a new contact station

Resurface the parking lot

Develop a canoe access point

Develop a canoe campsite

Remove hazardous portions of the remnant dam

Construct a pedestrian bridge across the river

Redesign the sewage disposal system

Cottonwood River

Minnesota River

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31

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33

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T. 110 N.

T. 109 N.

14

15

Legend

0 500' 1/4 mi. 1/2 mi. 1 mi.

Miles

0 500m 1km

Kilometers

M13

Flandrau State Park

Proposed Development

parks where sizable acreage and favorable terrain allow the development of significant trail mileage. Forestville and Glacial Lakes state parks are good examples of this. Flandrau does not have enough acreage to allow for the kind of trail system necessary to provide an enjoyable horseback riding experience. The trail now designated for horseback riding will be designated as a hiking trail.

Cost. No development cost.

Action # 2. Realign the snowmobile trail.

The existing snowmobile trail is on the same alignment as the horseback riding trail. The mileage is insufficient to provide a good trail riding experience for either snowmobilers or horseback riders. Because of the limited trail mileage, Flandrau is more suited to hiking in the summer and ski touring in the winter. However, it is reasonable to provide some facilities for snowmobilers including a warming shelter, parking lot, and access into and through the park from Summit Avenue and CSAH 13.

Cost. No development cost.

Action # 3. Develop ski touring trails in Flandrau.

At present there are no ski touring trails in Flandrau or the surrounding area. There is, however, considerable demand for such trails. The park has not been checked in detail for trail potential, but could provide up to 10 mi (16 km) of ski touring trails (see ~~Proposed~~ Potential Trail Map, M 1.). The trail system will include trails on both sides of the river with a bridge access between the two areas. The bridge crossing will be located at the site of the old Flandrau dam. A warming shelter and parking lot will also be provided. (See Trails, Action #6, p 61 .)

Cost. $15,000 in two phases.

Action # 4. Construct a pedestrian bridge across the Cottonwood River at the site of the old Flandrau dam.

Almost half of the park is located on the south side of the Cottonwood River. It includes some of the most scenic and interesting areas of the park. However, the area is little used because there is no in-park access to it. Several miles of county roads must be driven to access the area.

At present, development in the southern portions of the park includes only the structured group camp and about 2 mi (3.2 km) of hiking trail. Also, the assistant manager's residence and two DNR regional field services storage buildings are located on the western boundary adjacent to CSAH 13. A total of 4 mi (6.5 km) of trail are proposed for this portion of the park. This will significantly add to the mileage and diversity of the trail system in Flandrau. A pedestrian bridge at the site of the old Flandrau dam will also provide good access for group camp users who wish to hike to the portion of the park on the north side of the river.

The kind of bridge will be determined by DNR, Bureau of Engineering. Consideration should be given to using the existing remains of the dam abutments as a base on which to build the bridge.

Cost. $60,000.

Action # 5. Realign a portion of the hiking/ski touring trail on the north side of the river (see ~~Proposed~~ Potential Trails Map, M 1. for exact location).

This section of the trail is subject to seepage from springs. It presents no problem during the summer. During the winter, however, these springs make the trail quite icy and difficult to ski. By locating the trail an additional 10 ft (3 m) down the slope these springs can be avoided.

Cost. $1,000.

Action # 6. Remodel the warming shelter.

The small picnic shelter in the lower campground is used during the winter as a warming shelter for snowmobilers and skiers. The building is in a good location and should continue to be used as a winter shelter.

However, some remodeling is necessary including better seating and a barrel stove to provide a better heat source. The parking lot adjacent to the building should be maintained during the winter for trail user parking.

Cost. $3,000.

Action # 7. Provide trail connections to developed pedestrian access trails entering the park from the city.

It has been proposed by local citizens that the city provide a pedestrian access trail into Flandrau. The city is currently attempting to establish such a trail in the vicinity of Indian Point Drive. The DNR, Division of Parks and Recreation cannot assist in the construction or funding of such a trail outside the park boundary (although funds may be available through the Minnesota Department of Transportation or the Office of Local and Urban Affairs). It can, however, enhance the feasibility of the project by providing a trail in the park to connect to one built by the city. The development of such a trail would provide good pedestrian access to Flandrau's day use facilities such as the swimming pond. Development of a trail connection in the park will not begin until the city has made a commitment to developing the access trail to the park.

Cost. $2,000 Conditional. Dependent on development of trail by city.

Action # 8. Develop a canoe portage around the dam.

For canoeists on the Cottonwood River who wish to continue on downstream to the Minnesota River, a canoe portage at the dam is needed. Necessary development is minor and would include a take out point above the dam, a put in point below the dam and a short trail connecting the two.

Cost. $1,000.

Action # 9. It is recommended that the DNR cooperate with the city of New Ulm in the development of a recreational trail between Flandrau State Park and the DNR regional headquarters (see Surrounding Land Use Map, M 2).

Between Flandrau and the DNR regional headquarters is a two mile (3.2 km) stretch of the Cottonwood River. The land along the south bank of the river is mostly wooded and would make a good site for a trail for non-motorized recreation. The city has a small park, Cottonwood River Beach Park, on this stretch of the river. City officials have considered developing such a trail sometime in the future. The land in this area is currently not zoned for residential development. This situation will change when the city can provide utility connections. To ensure trail access through the area, the city has an ordinance which requires that trail easement along the river be provided when the area is rezoned and subdivided into lots. If the city is interested in pursuing the development of such a trail, connecting trails could be provided by the DNR to their lands in Flandrau and the regional headquarters. The development of this section of trail along with existing and potential trail developments on adjacent DNR lands could provide up to 13 mi (21 km) of non-motorized recreational trails accessible from several points in New Ulm and Flandrau.

4202

Visitor Services

Interpretive Program

Objective:

To provide interpretive programs and activities that will increase the park visitor's awareness, appreciation, and understanding of the biological and cultural features within Flandrau State Park and the Minnesota state park system

Flandrau has a variety of natural and historical features which are the basis of an interesting interpretive program. Glacial geology and the effect of the Cottonwood River on glacial deposits are both readily evident in the park.

Biological features also have good potential for interpretation. There are three distinct forest communities within the park; the maple–basswood forest on the cool, moist north facing slopes, the oak forest on the

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Minnesota River

Cottonwood River

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Legend

Snowmobile/
Horseback Trail

Hiking Trail

Feet 0 500' 1000'
Meters 0 100m 200m

T. 110 N.

T. 109 N.

14

15

Cottonwood River

6

5

4

0 500' 1/4mi. 1/2mi. 1mi.
Miles

Kilometers 0 500m 1km

N

M 14

Flandrau State Park

Existing Trails

30

29

28

Minnesota River

Cottonwood River

31

32

33

Legend

Snowmobile Trail

Hiking/Ski Trail

Hiking Trail

Scenic View *

Bridge

T. 110 N.

T. 109 N.

14

15

Cottonwood River

6

5

4

N

Miles 0 500' 1/4mi. 1/2mi. 1mi.

Kilometers 0 500m 1km

11 15

Flandrau State Park

Potential Trails

warm, dry south facing slopes, and the lowland forest on the Cottonwood River floodplain. In addition, small prairie remnants occupy many of the dry open knolls on the south facing slopes.

Archaeological information on Flandrau is incomplete. However, there is good potential for the presence of prehistoric and early historic Indian sites in the park. In the future, if sites are located, information about them should be incorporated in the park interpretive program.

The potential for historic interpretation is excellent. The first European settlers to the Minnesota River valley and their struggle in a new land allows for a variety of programs concerning early crafts, trades, foods, and customs from the local area. The numerous local historians with their wealth of knowledge provide excellent interpretive opportunities.

The Flandrau interpretive program is presently staffed by a naturalist and a work-study intern from June 1 to August 31. The existing staff can meet the interpretive needs of the park visitors. If the local school system and the community demonstrate a greater interest, and if funding as available, consideration should be given to extending the naturalist's term of appointment.

Action # 1. Remodel the interpretive center portion of the bathhouse.

The existing interpretive center receives frequent use and is an important element of the park interpretive program. However, the existing space and available facilities were not designed for an interpretive center and do not function well. Remodeling work should include:

- an office and work area for the naturalists
- better display equipment for interpretive materials
- better overhead lighting which will change the dingy appearance of the center

Cost. Covered in Picnic Ground/Swimming Pond Area, Action #2.

Action # 2. Upgrade the posted self-guiding interpretive trail and accompanying brochure for the Oxbow Trail.

The Oxbow Trail is located in the floodplain forest. A portion of it parallels the Cottonwood River. It has several interesting natural features and is in an excellent location near both the campground and the picnic ground. The trail is in need of reposting and minor repair. The brochure is out of stock and should be reprinted.

Cost. $2,000.

Action # 3. Construct and install two bulletin boards, one adjacent to the bathhouse and the other adjacent to the campground toilet building.

These bulletin boards will be useful in informing visitors of the interpretive and recreational opportunities available in the park.

Cost. $1,000

Water Activities

Objective:

To provide the opportunity for park visitors to fully explore the surface water resources of the park

Action # 1. Develop a canoe access point on the north side of the river in the vicinity of the picnic ground.

An access must be established on the Cottonwood River to provide canoeists with an exit point from the river. The park is a convenient location to do this as the potential access point is already state owned and would require only a minimum of development work. This access point must be located up river from the dam because of the potential danger the dam presents to canoeists. Location of the access in the vicinity of the picnic ground should be feasible.

Cost. $1,000.

Action # 2. Develop a canoeing campsite on the south side of the river (see Proposed Development Map, M 13).

The Cottonwood River can be canoed from Springfield, 25 mi (40 km) west of New Ulm, to the Minnesota River. At present, canoeing and boating facilities are very limited with only one river access point near Sleepy Eye. The desirability of canoeing on the Cottonwood would be enhanced, if camping facilities were provided.

The proposed site will be primitive and will include a tent pad, a fire ring, a canoe rack table, and a pit toilet. This campsite should be as remote as possible. There should be no trail from other parts of the park to the site.

Cost. $2,000.

Administrative/Support Facilities

Objectives:

To provide buildings which will ensure effective, efficient management of the park

To provide a suitable working area for the repair and maintenance of equipment

Action # 1. Construct a four-season building which will house the contact station and park office.

The contact station and the park office are now located in two buildings. Limited funds for staffing make off-season operation of the contact station difficult. As a result, there are many times when control of the park entrance is inadequate. The new facility will permit one person to sell ~~stickers~~ permits and provide visitor information while continuing to function as an office clerk. Costs for energy, maintenance and staffing will be kept at a minimum while maintaining better control of the park entrance, and providing better service to park visitors. The new structure will be heated and will have sewer and water facilities.

The existing contact station is about 15 years old. This structure will be dismantled and the new building located on approximately the same site. The existing station has no heating or plumbing and

many of the building materials can be salvaged. Thus, removal of this building will result in only a minimum of financial loss which will be more than compensated for with the increased efficiency of the new contact station.

Cost. $60,000.

Action # 2. Construct an unheated storage building in the service court.

The present storage of equipment is scattered between three or four small, dilapidated sheds. Much equipment which should be stored indoors is left outside as the result of inadequate storage space. The sheds should be removed and replaced with a suitably sized, unheated storage building.

Cost. $60,000

Action # 3. Construct a small building for gas and oil storage.

A separate gas and oil storage building is needed to meet Occupational Safety and Health Administration (OSHA) safety regulations. It will be located in the service center area.

Cost. $8,000.

Action # 4. Fence the storage yard in the service court.

The storage yard on the west end of the service court contains miscellaneous equipment, posts, firewood, and other things which can be stored outside without suffering damage. A security fence would prevent unauthorized access by the public, avoiding accidental injury and pilferage of materials.

Cost. $ 5,000

Action # 5. Remove the Field Services shop from the main park shop building.

At present the DNR Region 4 Field Services shop is located in the park shop building. Field Services uses the shop primarily for machinery and auto repair. The shop building is not large enough to accommodate both Field Services and the park maintenance and repair needs. It is planned that a new shop building will be built for Field Services at the Region 4 Headquarters located southeast of the park (See Surrounding Land Use Map, M 2). This building should be constructed as soon as possible to alleviate the crowded conditions at the park. When Field Services has vacated their space in the park shop, the building will adequately serve the needs of the park staff for many years.

Cost. No development cost.

Action # 6. Remove the former Field Services sign shop, the large storage shed, and the outdoor storage area adjacent to the assistant manager's residence on the west side of the park.

In past years, each of the six DNR regional offices was responsible for making signs used in their respective regions. Now, however, all DNR signs are made at the Region 2 Headquarters in Grand Rapids. The former sign shop located in Flandrau is now being used by Field Services as a carpenter shop. The large storage shed is being used to store lumber and other miscellaneous items. Both the carpenter shop and lumber storage will be moved to the new regional shop building when it is constructed. When this happens, these two buildings will have no further use and should be removed. The area adjacent to these two buildings is being used for miscellaneous storage. Much of the material stored here is poorly organized. Some of it is little more than garbage. This area must be cleaned up and all stored materials either moved to the new regional shop or disposed of. After building demolition and removal of the storage area, all that should remain at this site ~~is~~ are the assistant manager's residence and a gravel parking lot (already in existence) for park visitors who wish to use the hiking trail on the south side of the river. Some tree and shrub planting should be done to revegetate the site.

Cost. Building removal and clean up of the area are the responsibility of Field Services. Parks is responsible for revegation – $2,000.

Action # 7. Replace all overhead electric lines with underground lines.

Overhead electrical lines are visually obtrusive in a park setting. Underground lines require low maintenance and allow the appreciation of natural and historic sites without the visual distraction of power lines and poles.

Cost. $4,000

Action # 8. Plant trees and shrubs to screen the manager's residence and service court from public view (see Vegetation Management, Action #4, p 33).

Cost. Covered in Vegetation Management, Action #4.

4203

ARCHITECTURAL THEME

The bathhouse, manager's residence and garage, and the campground shelter building create a distinctive architectural theme for the park. All of these buildings are constructed of stone and have steeply pitched roofs. They were all constructed by Works Progress Administration (WPA) workers in the late 1930's. The stone construction theme is also exemplified by the stone pillars which stand on either side of the entrance road to the park. Stone construction of this type is attractive in appearance and quite long lasting. However, it is very labor intensive. High construction costs now make it an impractical method for the construction of park buildings.

Any future developments in Flandrau, such as the proposed contact station/office should exemplify this method of construction, if a cost effective means can be found to do so. If not, future structures should be built with a low profile and a simple, undistinctive style to avoid conflict with the existing architectural theme.

BOUNDARY MODIFICATION

Flandrau State Park was established in 1937. The statutory boundary includes approximately 805 acres (326 hectares). Three and a half acres (1.5 hectares) remain in private ownership, the rest is state owned. The majority of the park is located in sections 31 and 32, T110N R30W and section 5, T109N R30W. Smaller portions of the park are located in sections 29, 30 and 33, T110N, R30W.

Objective:

To provide sufficient park acreage to protect and perpetuate the natural resources and provide the necessary recreational facilities to interpret and enjoy these resources, without including acreage that would be unnecessary or unreasonable to purchase.

No additions to the statutory boundary are proposed. The present boundary encompasses a sufficient amount of land to provide for a variety of winter and summer recreational activities and still maintain the natural and scenic qualities of the park. The majority of the land which borders the park is outside the valley and has already been developed for residential or agricultural purposes.

There are two small pieces of private land within the boundary totaling 3.5 acres (1.5 hectares). They are located on the south side of the river near the structured group camp. The DNR is interested in acquiring all acreage within the statutory boundary, but only with the full consent of the landowner. Until this time the land will remain privately owned acreage within the park boundary.

The statutory boundary of the park is quite irregular in shape, primarily because of the topography of the area. In the future, if any development occurs near the boundary line, it is recommended that the line be surveyed to avoid locating any development on adjacent private land.

30

29

28

Minnesota River

850

830

Cottonwood River

31

32

33

Legend

State

Private

T. 110 N.

T. 109 N.

14

15

Cottonwood River

6

5

4

N

0 500' 1/4mi. 1/2mi. 1mi.

Miles

Kilometers

0 500m 1km

M16

Flandrau State Park

Ownership

COST AND PHASING SUMMARY

4205

The following cost estimates were generated in October 1980. They are based on current prices and available information. As new 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 10 years. The phases noted suggest the level of funding to be requested each biennium. However, there is no guarantee that this amount of funding would be received from the legislature. Therefore, some change to these phases can be expected.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Total
VEGETATION MANAGEMENT						
Action #1. Remove dead and diseased elm trees.		$ 3,000	$ 3,000	$ 3,000		$ 9,000
Action #2. Establish and maintain a tree planting program.		4,000	2,000	2,000		8,000
Action #3. Restore and maintain examples of prairie vegetation.		5,000		1,500	$ 1,500	8,000
Action #4. Plant trees and shrubs to screen the manager's residence and service court.		1,000				1,000
HISTORICAL/ARCHAEOLOGICAL MANAGEMENT						
Action #1. Field check development sites for archaeological remains.		1,000				1,000
Action #2. Make archaeological site information available to park interpretive staff.	No development cost					
Action #3. Allow archaeological excavation by qualified agencies.	No development cost					
PROPOSED DEVELOPMENT						
Dam Management						
Action #1. Remove portions of the remnant dam.		75,000				75,000
Access and Visitor Contact						
Action #1. Improve bicycle safety on the park entrance road.		500				500

Action #2.	Construct a new contact station/park office.	Covered in Administrative Support Facilities, Action #1			
Action #3.	Provide trail connections for pedestrian access.	Covered in Trails, Action #7			
Camping					
Action #1.	Provide electrical hookups.		3,500		3,500
Action #2.	Plant shade trees.	Covered in Vegetation Management, Actions #1 and 2			
Action #3.	Remodel the small picnic shelter for use as a trail warming shelter.	Covered in Trails, Action #6			
Action #4.	Redesign the sewage disposal system in the structured group camp.	Cost dependent on DNR, Bureau of Engineering study. Estimated minimum cost $100,000 (2nd phase)			100,000
Action #5.	Retain the barracks buildings with minimal maintenance.	Covered by park operations budget			
Action #6.	Develop a canoe campsite.	Covered in Water Activities, Action #2			
Picnic Ground/Swimming Pond Area					
Action #1.	Remove dead and diseased elm trees.	Covered in Vegetation Management, Actions #1 and 2			
Action #2.	Rehabilitate the bathhouse.		60,000		60,000
Action #3.	Remodel the swimming pond.	150,000	Estimated cost. More accurate cost dependent on DNR, Bureau of Engineering study		150,000
Action #4.	Resurface the picnic ground parking lot.	47,000			47,000
Trails					
Action #1.	Close the park to horseback riding.	No development cost			
Action #2.	Realign the snowmobile trail.	No development cost			
Action #3.	Develop ski touring trails.	7,500	7,500		15,000
Action #4.	Construct a pedestrian bridge at the site of the old Flandrau dam.			60,000	60,000
Action #5.	Realign a portion of the hiking/ski touring trail.		1,000		1,000

Action #6.	Remodel the warming shelter.	3,000				3,000
Action #7.	Provide trail connections for pedestrian access to the park.	Conditional - $2,000. Trail development dependent on development by the city of a pedestrian trail outside the park boundary				
Action #8.	Construct a canoe portage around the dam.	1,000				1,000
Visitor Services						
Action #1.	Remodel the interpretive center portion of the bathhouse.	Covered in Picnic Ground/Swimming Pond Area, Action #2				
Action #2.	Upgrade the self-guiding trail and accompanying brochure.		2,000			2,000
Action #3.	Construct two bulletin boards.	1,000				1,000
Water Activities						
Action #1.	Develop a canoe access point in the vicinity of the picnic ground.	1,000				1,000
Action #2.	Develop a canoe campsite.			2,000		2,000
Administrative/Support Facilities						
Action #1.	Construct a new contact station/park office.		60,000			60,000
Action #2.	Construct an unheated storage building.			60,000		60,000
Action #3.	Construct a gas and oil storage building.		8,000			8,000
Action #4.	Fence the service yard.		5,000			5,000
Action #5.	Remove the Field Services shop.	No development cost				
Action #6.	Remove the Field Services sign shop and storage shed. Revegetate the area.	Parks will pay revegetation costs	2,000			2,000
Action #7.	Bury all overhead electrical lines.			4,000		4,000
Action #8.	Plant trees and shrubs to screen the manager's residence.	Covered in Vegetation Management, Action #4				
TENTATIVE TOTAL DEVELOPMENT COSTS		$197,000	$203,000	$154,000	$132,500	$ 1,500	$688,000

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