Fort Snelling State Park Management Plan

July 18, 1997

Minnesota Department of Natural Resources

OFFICE OF THE COMMISSIONER
500 Lafayette Road
St. Paul, Minnesota 55155-4037

RE: Department of Natural Resources Approval of the Management Plan for Fort Snelling State Park

Minnesota Statutes 86A.09 requires that a master plan be prepared for units of Minnesota's outdoor recreation system, including state parks and state recreation areas. Fort Snelling State Park was established in 1961, and includes Fort Snelling and Camp Coldwater State Historic Sites, managed by the Minnesota Historical Society.

Over the past two years, the DNR has worked in partnership with an advisory committee and technical team representing park users, local units of government, and state, regional, and federal agencies to develop a management plan for this area. The management plan was approved through the DNR's CTECH/Senior Manager review process during June and July, 1997.

Rodney W. Sando, Commissioner
Minnesota Department of Natural Resources

7-17-97
Date

Fort Snelling State Park Management Plan

State of Minnesota, Department of Natural Resources, 1997

For more information on this management plan please contact any of the following project participants from the Division of Parks and Recreation:

Wallace Bartel, Park Manager
Mark Cleveland, Park Resource Specialist
Paul Kurvers, Park Naturalist

Fort Snelling State Park
Hwy. 5 and Post Road
St. Paul, MN 55111
(612) 725-2389

Bill Weir, Regional Manager
Sarah Vest, Resource Specialist
Judy Thomson, Regional Naturalist

DNR Parks and Recreation
1200 Warner Road
St. Paul, MN 55106
(612) 772-7999

Grant Scholen, State Park Planner

Division of Parks and Recreation
500 Lafayette Road
St. Paul, MN 55155-4039
(612) 296-7381

Table of Contents

List of Maps

INTRODUCTION

Park Description and Management Plan Summary

Fort Snelling State Park is situated in the heart of the Minneapolis-St. Paul metropolitan area. The park boundary includes approximately 2,932 acres, with approximately 2,642 acres currently owned and administered by the DNR, Division of Parks and Recreation. The park represents one of the most historically significant areas in the state, and includes two state historic sites administered by the Minnesota Historical Society (MHS)—Historic Fort Snelling and Camp Coldwater. The park includes the confluence of Minnesota's two greatest internal rivers—the Mississippi and the Minnesota. Its natural areas support rare calcareous fen habitat and the species associated with them. With approximately 626,600 visits annually, Fort Snelling State Park is the most heavily used park in the state park system. The park provides outstanding recreational opportunities for biking, hiking, picnicking, swimming, interpretation and environmental programs, cross-country skiing, boating and fishing. The park also includes a nine-hole golf course and open field areas for soccer and other sports.

This management plan represents the results of a partnership-based planning process which identified issues, reviewed options, and recommended an initial direction on issues before the actions outlined in the plan were documented. The summary of actions below represent a brief outline of major actions within this management plan. Please refer to the plan text for additional background information on each action item.

1. Divert stormwater away from the Nicols Fen.
2. Restore more natural water levels at Gun Club Lake.
3. Coordinate with the MHS on historic landing and Camp Coldwater management.
4. Co-manage Pike Island for both its ecological and cultural values.
5. Utilize the primary theme "Rivers and People Coming Together" along with a variety of secondary themes in the park's interpretive program.
6. Build bridges to the diverse cultural communities within the park's service area through programming, facilities, transportation and trail access, marketing, and outreach.
7. Provide two more reservable picnic shelters.
8. Support the concept of boat dockage near the historic landing as long as a number of conditions are met.
9. Provide public access where practicable on the Dakota County side of the park.
10. Designate hike/mountain bike trails (beginner level) on the upper Gun Club Lake trail and around Snelling Lake/Picnic Island. Provide a paved bicycle trail connection between the WPA Overlook and the I-494 bridge, and between the I-494 bridge and Post Road.

11. In the Upper Bluff Area, support a use concept which balances the historical and recreational use of the property with some level of commercial use which supports area infrastructure.

12. Modify the park boundary in the Nicols Fen and Upper Bluff Area as appropriate. Work with a variety of partners to manage the northwest corner of the park.

13. Promote and market the park in a variety of ways. Work to provide easy access to the park and accessible facilities within the park.

Ecosystem-Based Management Philosophy

This plan suggests that the resources of Fort Snelling State Park be managed on an ecological basis. An ecosystem is where things live--it is the interacting group of physical elements (soils, water, etc.), plants, animals, and human communities that inhabitant a particular place. All of these elements and their interactions need to be considered in developing goals and plans for management. Ecosystem-based management views people as part of the community, and that maintaining a healthy ecosystem is the best way to meet human needs as well as those of other organisms in the community for the long-term.

Managing on an ecosystem basis integrates scientific knowledge and human values toward a general goal of protecting the health of the ecosystem for the long term. (Grumbine, 1994). A key measure of the health of ecosystems is the level of diversity of plants and animals native to the area - a higher diversity of native plants and animals probably indicates a healthier ecosystem. A healthy, diverse Fort Snelling ecosystem is a desirable goal because it will provide for the basic needs of all living evolutionary processes to continue with as much genetic diversity as possible so that natural communities in the park can adapt to changing conditions.

Ecosystem-based management is discussed in detail on pages 57-59 of this plan.

State Park's Mission/Vision/Goals

The following statements were generated by planning process participants after reviewing the general Department of Natural Resources and Division of Parks and Recreation mission statements.

Park Mission:

To preserve and manage the diverse natural, scenic, and cultural resources of Fort Snelling State Park for present and future generations while providing appropriate recreational and educational opportunities.

Park "100-year" Vision:

- Native plant communities have increased.
- The park is part of an environmental corridor along the Mississippi and Minnesota Rivers.
- Adequate buffer zones have been established.
- Park boundaries have expanded and park ownership within the boundary is completed.
- Green spaces and trail connections have been improved.
- Appropriate portions of the park emphasize the American Indian culture.
- Park management recognizes changes in diversity and demographics (i.e.; appropriate maps, signs and programs).
- Park management emphasizes education.
- Innovative educational programs are provided (i.e.; "virtual" electronic school).
- Management zones have been identified and managed.
- An appropriate balance has been provided between recreational use and resource preservation.
- Human intrusions at the park have been minimized.
- Mass transit connections to the park have been provided.
- Both trail and resource connections to adjoining parks have been made.

Park Goals:

- To protect or enhance the health of the ecosystem in the park and native biological diversity of its habitats.
- To provide an appropriate balance between resource preservation and recreational use.
- To maintain the natural character and historic integrity of park resources while meeting an appropriate level of the demand for recreational use in this area.
- To partner with a variety of agencies, user groups, and communities to perpetuate sustainable and improved resources in the park and surrounding areas.

Park Location and Legislative History

Park Location

Fort Snelling State Park is located in Hennepin, Dakota and Ramsey counties at the confluence of the Mississippi and Minnesota Rivers. The park entrance is at the intersection State Highway 5 and Post Road, east of the Minneapolis-St. Paul International Airport (see Local Area Map, page 7). The statutory boundary includes 3,460 acres.

Park Legislative History

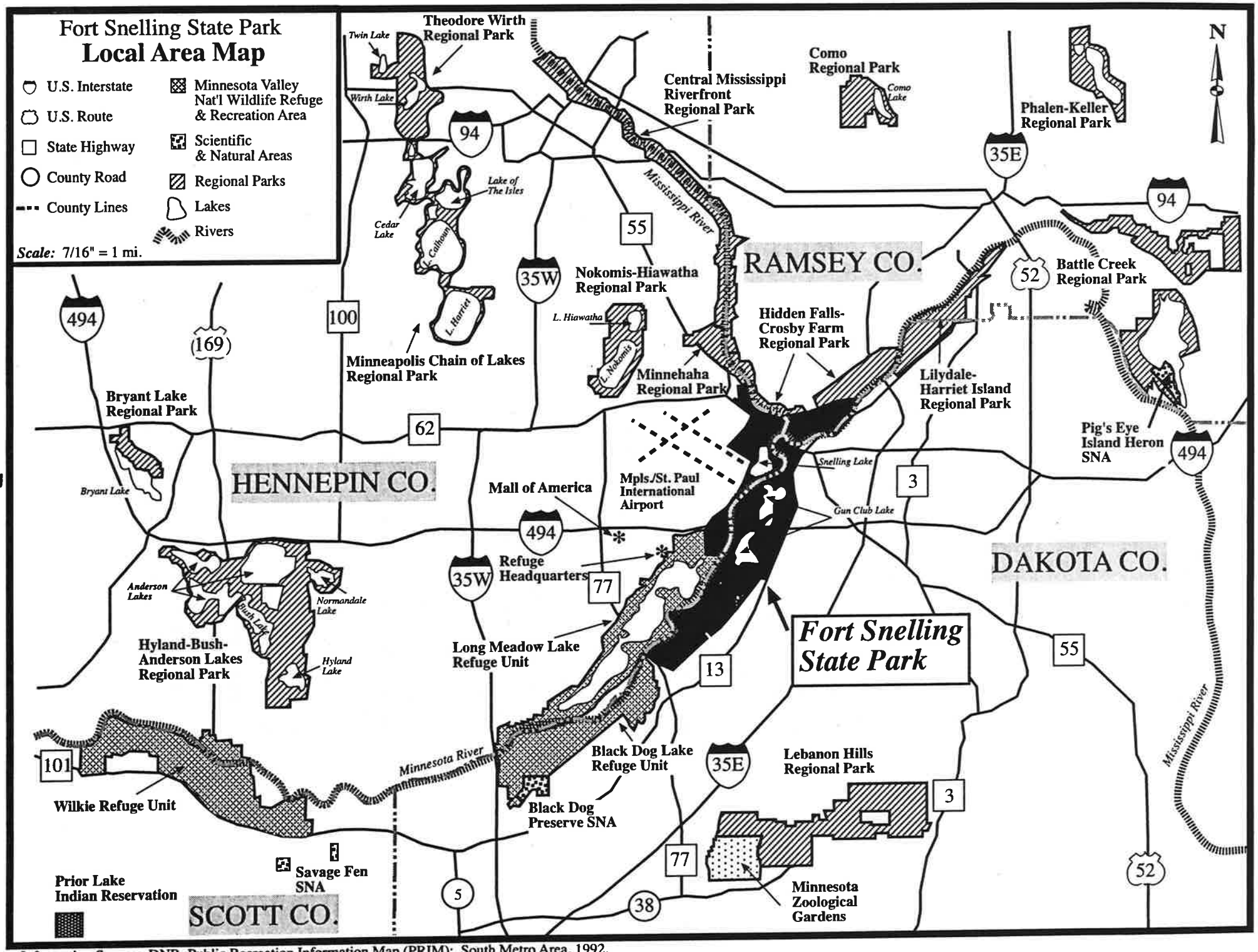
Fort Snelling State Park was established in 1961 and the park boundaries were amended in 1967, 1980 and 1982. Administration and control of Fort Snelling and Camp Coldwater state historic sites** were transferred to the Minnesota Historical Society (MHS) in 1969 and 1973, respectively. Minnesota Laws of 1973 (Chapter 225, section 2, subd. 2b) includes provisions for the DNR to develop a recreational trail along the old railroad right-of-way provided it does not impair any historic sites located within Camp Coldwater. Minnesota Laws of 1978 (Chapter 573, section 1, subd. 1-3) include provisions allowing the commissioner of natural resources to lease officer's row and the adjacent golf course and residential, storage and service buildings. This leased property is exempt from any state park permit or admission fees and the commissioner of public safety may issue an on-sale license for the sale of intoxicating liquor to the lessee or developer upon the leased property. In 1987 Minnesota Laws (Chapter 253, section 3, subd. 2) established an exemption of park permit fees for entry or parking at the Memorial Chapel Island portion of Fort Snelling State Park. In 1993 [MS 138.662] (Chapter 181, section 2, subd. 6 and 14) Camp Coldwater and Historic Fort Snelling officially were confirmed as historic sites. Major Lawrence Taliaferro's Indian Agency, presently building #53 and federally owned, is designated as a historic site [1994 MS 138.57 subd. 10]. [MS 138.664] (Chapter 181, section 4, subd. 15 & 73) Cantonment New Hope and Old Fort Snelling Historic District* are established and confirmed as historic places***. Both Old Fort Snelling Historic District and Major Lawrence Taliaferro's Indian Agency (the state's first known historical landmark) are on the National Register as National Historic Landmarks.

STATE DESIGNATION DEFINITIONS (see page 34 for National Designations)

* **State Historic districts** are defined as "..consisting of a number of structures, sites and open spaces of historical and architectural significance which together combine to give such an area of historic significance to the state of Minnesota."

** **State Historic sites** are defined as "Land or water areas containing historic or archeological value and is also an area designated by the MHS as a site possessing historical value of state or national significance."

*** **State Historic places** are designated to preserve the historical values of the state, outstanding properties possessing historical, architectural, archaeological, and aesthetic values are of paramount importance in the development of the state. Historic places also represent and reflect elements of the state's cultural, social, economic, religious, political, architectural, and aesthetic.



Information Source: DNR, Public Recreation Information Map (PRIM): South Metro Area, 1992.

Park Statute Summary

1994 MS 85.012 State Parks

Fort Snelling State Park

1961 c570

1967 c787 s3 subd.22

1969 c524 s2

1969 c956 s1 subd.2

1980 c489 s1 subd.3

1982 c639 s29

1984 c599 s1 subd.4

1994 MS 138.662 State Historic Sites

Camp Coldwater

1965 c779 s7

1993 c181 s2,13

Historic Fort Snelling

1965 c779 s7

1969 c956 s1

1975 c353 s28

1993 c181 s2,13

Trail Along Railroad Right-of-Way

1973 c225 s1,2

1993 c181 s2,13

1994 MS 138.664 Historic Places

Cantonment New Hope

1965 c779 s8

1967 c54 s10

1993 c181 s4,13

Old Fort Snelling Historic District

1971 c709 s3

1974 c249 s7

1993 c181 s4,13

1994 MS 138.73 Historic Districts

Old Fort Snelling

subd. 13

1994 MS 138.57 Historic Sites; Registry

Major Lawrence Taliaferro's Indian Agency

subd. 10

Park Session Law Chronological Detail

1961 [M.S. 85.184] (Chapter 570-H.F. No. 279, section 1)

Establishment of Fort Snelling State Historical Park to include the fort and 2,500 acres of land to be developed for recreation purposes.

1965 [M.S. 138.57] (Chapter 779-H.F. No. 1713, section 7, subd. 6, 7, 10)

subd. 6, 7, 10. Establishment of 3 state historic sites within the state park: Fort Snelling, Camp Coldwater and Major Lawrence Taliaferro's Indian Agency.

1965 [M.S. 138.58] (Chapter 779-H.F. No. 1713, section 8, subd. 12)

Establishment of Cantonment New Hope Historic Place (on picnic island), is privately owned at this time.

1967 [M.S. 138.62] (Chapter 54-H.F. No. 108, section 10, subd. 3)

Cantonment New Hope Historic Place changed from private to state ownership.

1967 [M.S. 85.1871] (Chapter 787-H.F. No. 2647, section 3, subd. 22)

Lands in the Mendota area (section 27, T28N, R19 & 20W) are added to Fort Snelling State Historical Park.

1969 [M.S. 85.012] (Chapter 524-H.F. No. 1252, section 2, subd. 18)

Fort Snelling state park, Ramsey, Hennepin and Dakota counties, is renamed from Fort Snelling state historical park.

1969 [M.S. 138.025] (Chapter 956-H.F. No. 2304, section 1, subd. 2)

Administration and control of Fort Snelling state historic site is transferred to the MHS, approximately 25.5 acres and the old landing road, which is 33' wide and runs from the fort site to the old landing on the Mississippi River.

1971 [M.S. 138.73] (Chapter 709-H.F. No. 2108, section 3, subd. 13)

Establishment of Old Fort Snelling historic district in Hennepin and Dakota counties (approximately 640 acres).

1973 [1971 M.S. 138.025 amended] (Chapter 225-S.F. No. 1080, section 1, subd. 2a; and section 2, subd. 2b)

subd. 2a. Administration and control of Camp Coldwater state historic site is transferred to the MHS (approximately 21 acres).

subd. 2b. Allows DNR to develop a recreation trail along the old railroad right-of-way provided it does not impair any historic sites located within the tract of land described in section 1, subdivision 2a of this act (described as Camp Coldwater).

1974 [M.S. 138.52] (Chapter 249-S.F. No. 3406, section 7, subd. 5)

Changes language of state historic sites from "..possessing historical value of state or national significance." to "areas containing historic or archeological value.." including Old Fort Snelling historic site (see Session Law, 1971).

1975 [M.S. 138.52] (Chapter 353 section 26, subd. 62; section 27, subd. 63; section 28, subd. 64; and section 29, subd. 65)

Fort Snelling and Cantonment New Hope, both owned by the state and in Dakota county, are located within the boundaries of Fort Snelling state park. Camp Coldwater, also owned by the state, is located in Hennepin county. Old Fort Snelling historic district is in Hennepin county, and is described is section 138.73, subdivision 13.

1977 [M.S. 138.025] (Chapter 455-S.F. No.1467, section 65, subd. 1-6)

subd. 1. The commissioner of administration may sell and convey any of all of the historic homes and lands located along Taylor Avenue, known as "Officers' Row" and the annex building (numbers 151-161), if deeded from the federal government.

subd. 2. All buildings not sold may be leased. The buildings historical exterior must be maintained along with maintaining the property for public park or public recreational purposes.

subd. 3.

1978 [M.S. 85.34] (Chapter 573-H.F. No. 2014, section 1, subd. 1-3)

subd. 1. Allows the commissioner of the DNR, with approval of the Executive Council, to lease officer's row and the adjacent golf course and residential, storage and service buildings, all lying within an area bounded by Minneapolis-St. Paul International Airport, trunk highway numbered 5, Taylor avenue, Minnehaha avenue, and Bloomington Road. The lease shall be in a form approved by the attorney general and for a term not to exceed 99 years.

subd. 2. Admission to the property leased in subdivision 1 shall be exempt from any state park permit or admission fees imposed pursuant to law.

subd. 3. Allows the commissioner of public safety with the approval of the Executive Council to issue to the lessee or developer of the property leased pursuant to subdivision 1, an on-sale license for the sale of intoxicating liquor upon the leased property. The annual fee for the license issued pursuant to this subdivision shall be set by the commissioner of public safety at an amount comparable to the fee charged by municipalities in the surrounding are for a similar license. All provisions of Minnesota Statutes, Chapter 340 shall apply to the sale of intoxicating liquor upon the leased property.

1978 [M.S. 138.025]

subd. 9. Minnesota Laws 1977, chapter 455, section 65 repealed regarding control and administration of Fort Snelling Officer's Row.

1980 [M.S. 85.012, subd. 18] (Chapter 489-H.F. No. 1451, section 1, subd. 3a, b)

subd. 3a. Sections, or part of, 7, 8, 9, 17 and 18 in T27N, R24W, Dakota county are added to Fort Snelling State Park. These areas are north of the Cedar avenue bridge and south of the Gun Club lake area in Dakota county.

subd. 3b. Sections, or part of, 22, 27, 29 and 32 in T28N, R23W, are deleted from Fort Snelling State Park. This includes lands in the Mendota area in Dakota county and lands in the vicinity of the Minneapolis-St. Paul International Airport in Hennepin county.

1982 [M.S. 85.012, subd. 18] (Chapter 639-H.F. No. 2136, section 29, subd. 18a, b)

subd. 18a. Part of section 20 in T28N, R23W, Hennepin county, near the Bureau of Mines land, is added to Fort Snelling State Park.

subd. 18b. Part of section 20 in T28N, R23W, Hennepin county, adjacent to the Bureau of Mines, is deleted from Fort Snelling State Park.

Note: Subdivisions 18a and 18b were written to allow a land exchange between the US Bureau of Mines and DNR-State Parks in the Minnehaha trail area.

1984 [M.S. 85.012, subd. 18] (Chapter 599-S.F. No. 1114, section 1, subd. 4)

Government Lots 1, 2, and 3 of section 7 in T27N, R23W, Dakota county is deleted from Fort Snelling State Park. This was written to allow a land exchange with the US Fish and Wildlife Service. This exchange involved 2 islands on the Minnesota River.

1987 [M.S. 85.054] (Chapter 253-H.F. No. 554, section 3, subd. 2)

Park permit fees are not required and may not be charged for motor vehicle entry or parking at the Fort Snelling Memorial Chapel Island portion of Fort Snelling State Park.

1993 [M.S. 138.662] (Chapter 181-S.F. No. 1244, section 2, subd. 6 and 14) and

Camp Coldwater and Historic Fort Snelling, both in Hennepin county, are confirmed as historic sites. These sites are to be administered and controlled by the MHS to preserve historic features, conduct archaeological investigations, establish necessary interpretive centers, and perform additional duties and services at the sites necessary to meet their educational mission. MHS may also contract with existing state departments and agencies for materials and services, including utility services, necessary for the administration and maintenance of the sites.

1993 [M.S. 138.664] (Chapter 181-S.F. No. 1244, section 4, subd. 15 and 73; and section 13)

subd. 15 & 73. Cantonment New Hope, in Dakota county, and Old Fort Snelling Historic District, in Hennepin county, are confirmed as a historic places.

section 13. The revisor need not include the legal description for each named historic site, but must include a history or the session laws establishing or amending the boundaries of the historic sites or places.

1994 [M.S. 138.57, subd. 10]

Major Lawrence Taliaferro's Indian Agency, Fort Snelling, in Hennepin county, is located within the boundaries of Fort Snelling State Park. This area is designated by law as a state historic site.

Park Advisory Committees and Planning Process

This management plan was developed through an open public process. The following committees were established to guide plan development: the Fort Snelling State Park Planning Advisory Committee and an Integrated Resources Management (IRM) Technical team.

Planning Advisory Committee representatives included:

- Fort Snelling State Park Association
- Dakota County*
- Minneapolis Parks & Recreation Board
- Friends of Ramsey County Parks & Trails
- Minnesota Native Plant Society
- Friends of the Minnesota River Valley
- Formalized Education Representative
- City of St. Paul*
- City of Eagan*
- City of Burnsville*
- City of Mendota Heights*
- St. Paul Audubon Society
- Regional Business/Marketing (Bloomington Convention & Visitors Bureau)

*Local units of government represented by a person from the respective parks department

Technical team representatives included:

- National Park Service - Mississippi National River and Recreation Area
- Minnesota Historical Society - Historic Sites Dept. and Historic Fort Manager
- Minnesota Valley National Wildlife Refuge
- Minneapolis Park and Recreation Board
- Minnesota Department of Transportation
- Metropolitan Airport Commission
- Minnesota Department of Natural Resources:
  - Area Forestry Supervisor
  - Area Trails and Waterways Supervisor
  - Area Conservation Officer
  - Area Fisheries Supervisors
  - Area Hydrologists
  - Area Wildlife Manager
  - Area Non-game Wildlife Specialist
  - Region 6 Planner

  Division of Parks and Recreation
  - Regional Parks Manager
  - Fort Snelling State Park Manager
  - Regional Resource Specialist
  - Minnesota Valley Trail Coordinator
  - Regional Interpretive Specialist
  - Fort Snelling State Park Resource Specialist
  - Fort Snelling State Park Interpreter

Monthly Planning Advisory Committee public workshops focused on topic areas as follows:

Workshop Topic:	Date:
Resource Management	June 26, 1996
Interpretation/Education	July 24, 1996
Recreation Development/Operations	August 28, 1996
Trails	September 25, 1996
Upper Bluff Area	October 30, 1996
Park Boundary and Marketing/Promotion/Transportation Access	December 11, 1996

In addition, public open houses were held on the following dates:

Introductory Open House	May 15, 1996
Direction Document Review	February 19, 1997
Draft Management Plan Review	May 14, 1997

Technical (IRM) team members attended workshops and opens houses as needed pertaining to a variety of issues. The technical team met "formally" on December 20, 1995 and then reviewed workshop notes, the direction document, and the draft plan.

This plan was approved through the DNR's CTECH/Senior Managers approval process during June and July, 1997.

A completed park plan and "planning process file" documenting the 1996-97 planning process and pertinent background information will be distributed to the following locations: Fort Snelling State Park Office, Regional State Park Manager's Office in the Metro Regional DNR Office, State Park Planning Section in St. Paul, and DNR Bureau of Engineering in St. Paul.

The recommendations in this plan are the result of this partnership-based planning process. This plan provides a basic management direction for the recreation area and is not intended to provide specific management or development details.

BEYOND PARK BOUNDARIES

Regional Landscape and Watershed Description

Mississippi River Sandplains Landscape Region

This region covers an area of predominately sandy outwash extending in a strip running north to southwest from the coniferous forest formation west of Mille Lacs to the Twin Cities. The Anoka Sandplain, which encompasses a portion of Fort Snelling State Park, is located within the Mississippi River Sandplains Landscape Region and was formed largely by the drainage of Glacial Lake Grantsburg. As the lake drained, the meltwaters formed a series of coalescing outwash plains wherever the wasting ice exposed low ground. In this way the vast sandplain was formed, also receiving water from the diverted Mississippi River. Small lake plains were formed here, in addition to the outwash plains of Lake Grantsburg. Although flat over broad areas, the region has local relief that can be attributed to several factors. The positive features are either areas of sand dunes or were formed by southwesterly winds after the sandplain was abandoned by the outwash streams and buried by the tills form either the Grantsburg Sublobe of the Superior Lobe. The negative relief features are mostly ice block depressions resulting form the same glacial occurrences. Marschner (1974) indicates that the vegetation on the sandy outwash plains was predominately oak barrens and openings. While nowhere abundant in the region, conifer bogs and wet prairies can be found occupying depressions in the region's landscape.

Southern Oak Barrens Landscape Region

The Southern Oak Barrens Landscape Region is located in south central Minnesota and also encompasses a portion of Fort Snelling State Park. This region extends to the Twin Cities on the north to the Iowa border on the south. The region is bordered on the northwest by the deciduous forest, south by the prairies of the Minnesota River Valley, and on the east by the Blufflands Region. Biologically, this area is a broad transition zone between the prairie to the west and the deciduous forest to the north and east. Originally this area's dominant vegetation was prairie with occasional groves and scattered individual oak trees, an ecological type known as Savanna. Prehistorically, the region contains representative artifacts form most of the major cultural affiliations in the Paleo, Archaic, Woodland and Mississippian periods and many archaeological sites have been located. European cultures valued the area as an attractive agricultural ground, and today the original vegetation has been massively altered for cropland.

Ecological Classification System (ECS)

Minnesota's ECS stresses the interrelationships among components of the ecosystem. These components include climate, geology, geomorphology, parent material, soil, vegetation, hydrology, and land history. The ECS approach handles each component in relation to the others, rather than each one separately.

The ECS of Minnesota is divided into 24 units which are called subsections (see ECS Map on page 17). Fort Snelling State Park is located on the western border of the St. Croix & Outwash Plains and the southern border of the Anoka Sand Plain subsections of the ECS.

These subsections consist of moraines, outwash plains, a flat sandy lake plain and terraces along the Mississippi River, small dune features, kettle lakes, ice block depressions and tunnel valleys. Topography of the subsections is characterized as rolling to hummocky on the moraines and level to rolling on the outwash plains.

Watershed Description

The Minnesota River flood plain, a 16,400 square mile watershed, is a major drainageway which includes a large portion of the Twin Cities Metropolitan area. The Mississippi River (metro) watershed, which drains 19,100 acres and has an average slope of 2.5 feet per mile, is also a major drainage way influencing Fort Snelling State Park.

Fort Snelling State Park is located within these watersheds and is largely a water-orientated park including extensive marshlands, Snelling and Gun Club lakes, a complex of quarry lakes, frontage on the Minnesota and Mississippi Rivers and two small streams.

Mississippi National River and Recreation Area, and Mississippi River Critical Area Designation

Mississippi National River and Recreation Area

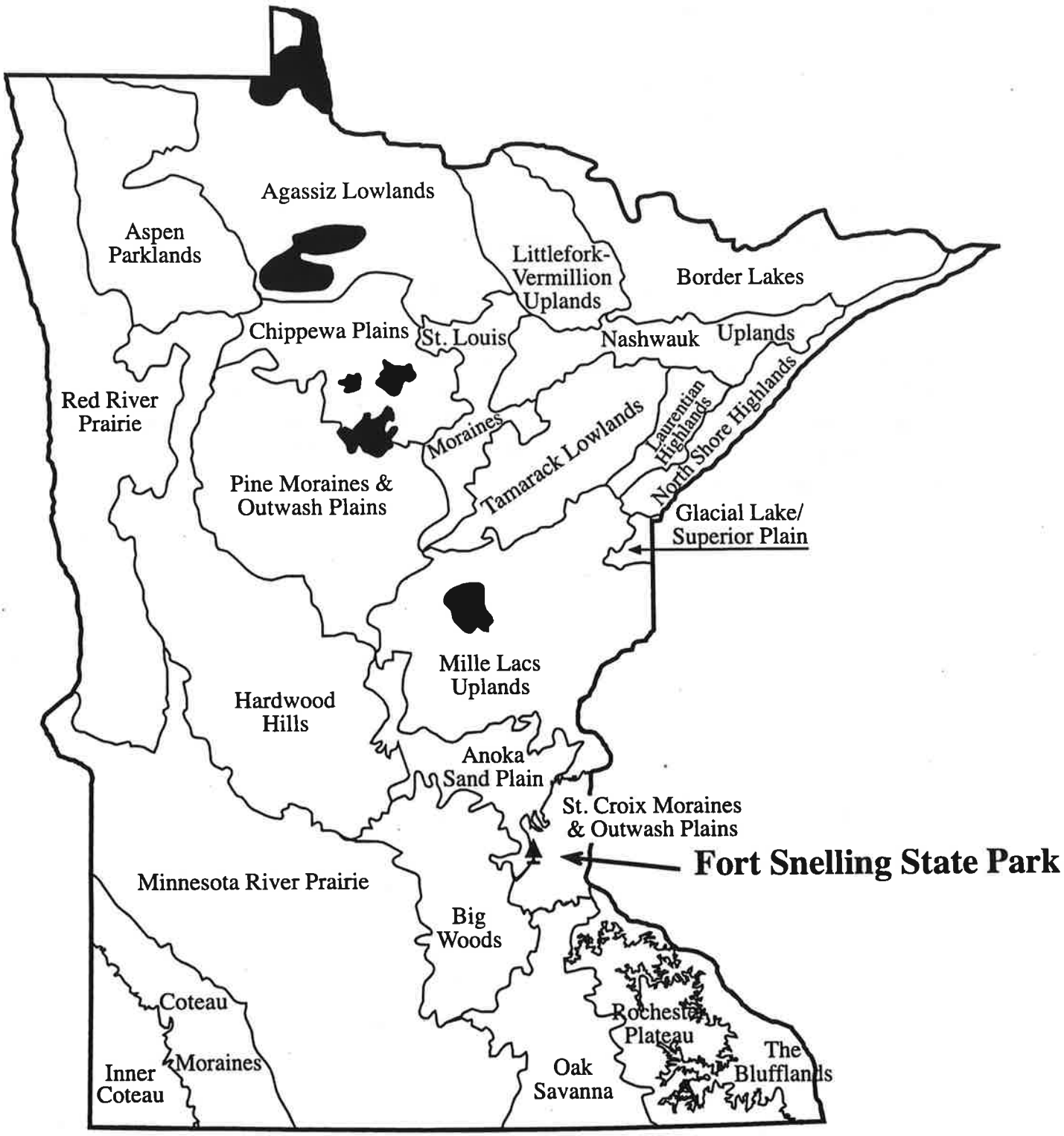
The Mississippi National River and Recreation Area (MNRRA) was established by the U.S. Congress in 1988, and a comprehensive management plan for the area was approved in 1995. The MNRRA is managed by the National Park Service, which works with a 22-member coordinating commission to protect, preserve, enhance and interpret the Mississippi River corridor in the metropolitan area. The MNRRA boundary encompasses 72 miles of the Mississippi River and the adjacent land. The MNRRA boundary includes all of Fort Snelling State Park, except for that portion south of the I-494 bridge. The MNRRA and Fort Snelling State Park share many common goals and the management plan for Fort Snelling State Park is compatible with the MNRRA Comprehensive Management Plan (also refer to Interpretive Services, page 95).

Mississippi River Critical Area Designation

The Mississippi River Corridor Critical Area was designated in 1976, in compliance with the 1973 Critical Areas Act. The Critical Area designation serves to protect sensitive resources in the metropolitan river corridor while also providing for orderly development. The Critical Area boundary includes all of Fort Snelling State Park except for that portion south of the I-494 bridge. The Fort Snelling State Park Management Plan has followed the standards and guidelines specified by the Mississippi River Corridor Critical Area Executive Order 79-19 and will serve as the DNR's Critical Area plan for the park.

ECOLOGICAL CLASSIFICATION SYSTEM (ECS)

Subsection Map of Minnesota



Regional Issues

The primary natural resources issue in the Twin Cities Metropolitan Area (TCMA) is increasing development and recreation pressures which cause the destruction, degradation, and fragmentation of valuable natural resources. Providing an appropriate level of recreational opportunities while at the same time protecting natural resources requires a very delicate management balance.

Fort Snelling State Park has experienced increased urban pressure in recent decades, with the following adjacent neighbors:

- International Airport
- Military Reserve District
- Minneapolis, St. Paul, Bloomington, and Mendota City Limits, and
- Eagan, Mendota Heights and Burnsville City Limits, which represent some of the most rapidly growing development areas in the TCMA.

Fortunately, surrounding neighbors also include several natural resource areas: Minnesota Valley National Wildlife Refuge, Hidden Falls-Crosby Farm Regional Park, and Minnehaha Regional Park. These areas, along with the river corridors that connect them to the state park, must be managed for their natural resource values if we are to preserve important habitats and recreational opportunities.

Regional Population

According to the 1990 U.S. Census and Metropolitan Council estimates, there were approximately 2.4 million people residing in the seven-county Twin Cities Metropolitan Area (TCMA) in 1993. The overall population is projected to grow to 2.6 million by the year 2000, and to 2.8 million by 2010.

The 1990 U.S. Census estimated that 2.3 million resided in the TCMA. There are approximately 22 cities with over 50% of their area within a ten mile radius of Fort Snelling State Park; the 1990 population in this area exceeded 1.1 million.

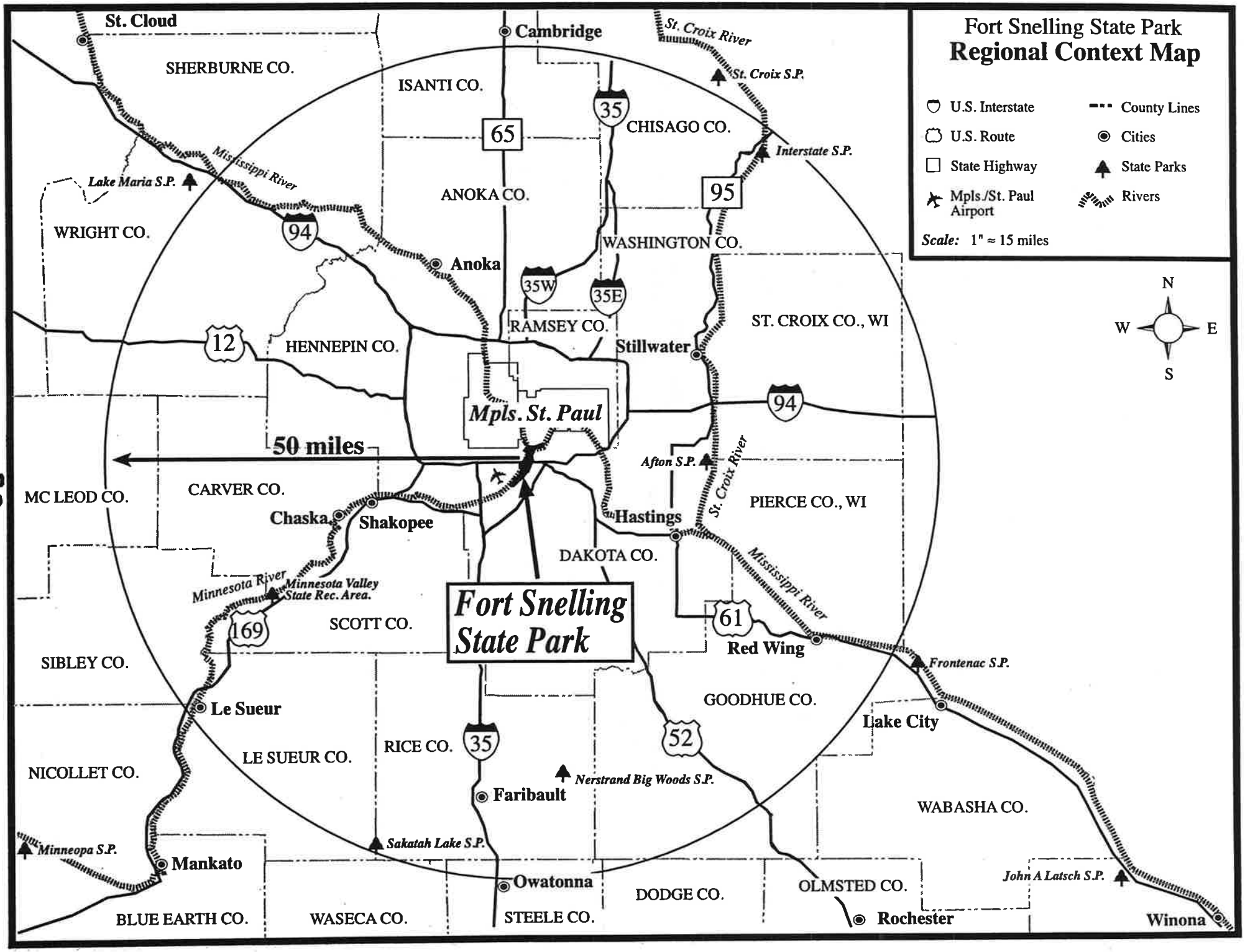
Over one million people live within a few minutes drive of Fort Snelling State Park. One-half of the state's population is within a one-hour drive of the park (see Regional Context map, page 20).

The park's primary service area includes the most diverse population in the state. In providing services at Fort Snelling State Park, it is important to recognize the recreational interests and barriers to participation for all persons. Additional discussion and recommendations related to the diverse population in this park's primary service area can be referenced on page 86.

Fort Snelling State Park is located in portions of Hennepin, Ramsey, and Dakota counties.

Counties	1990 Population	Cities with Area in Park Boundary	1990 Population
Hennepin	1,032,431	Minneapolis	368,383
		Bloomington	86,335
Ramsey	485,783	St. Paul	272,235
Dakota	275,186	Burnsville	51,288
		Eagan	47,409
		Mendota Heights	9,381
		Mendota	164

All statistics in this section were compiled from *Metropolitan Council of the Twin Cities Metropolitan Area* data.


Fort Snelling State Park
Regional Context Map
U.S. Interstate
U.S. Route
State Highway
Mpls./St. Paul Airport
County Lines
Cities
State Parks
Rivers
Scale: 1" ≈ 15 miles
N
W
E
S
St. Cloud
Cambridge
St. Croix River
St. Croix S.P.
SHERBURNE CO.
ISANTI CO.
CHISAGO CO.
Interstate S.P.
Mississippi River
Lake Maria S.P.
ANOKA CO.
WRIGHT CO.
WASHINGTON CO.
Anoka
RAMSEY CO.
ST. CROIX CO., WI
HENNEPIN CO.
Stillwater
Mpls. St. Paul
50 miles
Afton S.P.
St. Croix River
MC LEOD CO.
CARVER CO.
Chaska
Shakopee
Hastings
PIERCE CO., WI
DAKOTA CO.
Minnesota River
Minnesota Valley State Rec. Area.
Mississippi River
Fort Snelling State Park
SCOTT CO.
Red Wing
Frontenac S.P.
SIBLEY CO.
GOODHUE CO.
Le Sueur
Lake City
LE SUEUR CO.
RICE CO.
Nerstrand Big Woods S.P.
NICOLLET CO.
Faribault
WABASHA CO.
Minneopa S.P.
Sakatah Lake S.P.
Mankato
John A Latsch S.P.
Owatonna
DODGE CO.
OLMSTED CO.
BLUE EARTH CO.
WASECA CO.
STEELE CO.
Rochester
Winona
35
65
94
95
35W
35E
12
169
61
52

20

Tourism and Marketing

ACTIONS:

1. Action 1. Promote the park and its programs in a variety of ways, including:

- **Identify marketing goals and strategies with a common message**
- Promotional materials including brochures, videos, exhibits, use of internet
- Direct mailings targeted to neighborhoods and diverse groups
- Partnerships and cross-promotion: Historic Fort, Science Museum, Airport, Mall of America "Explore Minnesota!" Store Packages and "mini-tours" of the park, US Fish and Wildlife Service Visitor Center, Underwater World
- Partner with hotels and rental car companies, starting with brochure distribution
- Identify audiences - differentiate between "park" opportunities and park/fort interpretive programs
- Partner with airport services including targeting layover (overnight) clientele
- Target nature groups, MOA shoppers and other market segments
- Market lower use time periods (e.g. weekdays)
- Focus on youth and youth groups to establish long-term visitation behaviors
- Recognize fees may be a barrier to short-term visits
- Consider renaming the park to avoid confusion between the Historic Fort and Fort Snelling State Park. Some of the suggested name changes included:

  - *Great Rivers State Park*
  - *Mississippi/Minnesota Rivers State Park*
  - *Josiah Snelling State Park*
  - *Mendota State Park* (means "confluence")
  - *Pike Island or Wi-ta Tan-ka State Park*
  - *Twin Rivers State Park*
  - *Pigs Eye State Park*

If the name is not changed, consider using a "tagline" with the park name on signs and marketing material (e.g. *"Fort Snelling State Park: A Place where People and Rivers Come Together"*).

Also, consider marketing the area as one complex with three components, e.g.,

Fort Snelling Area - *Historic Fort Snelling*
Fort Snelling State Park
Fort Snelling Recreation Area (Upper Bluff)

Action 2. Provide easy access to the park in several ways, including:

- Work to reinstate public bus service to the Historic Fort (and lower park)
- Explore ways of providing school bus access to the park (use public bus service as noted above, donation programs to hire school buses, etc.)
- Continue providing trail connections to the park; explore school group connections via local and regional trails
- Explore the provision of a shuttle between the park and Bloomington Hotels, the Mall of America, the Airport, or other stops

Action 3. Provide accessible facilities within the park, including:

- Work to provide a more accessible physical link between the Historic Fort and lower park. This might be a motorized elevator "incline" (probably cost-prohibitive) or more likely a motorized tram.
- The tram mentioned above could connect not only the fort and state park, but make a connection to Minnehaha Regional Park as well. Visitors could ride the tram between Minnehaha Regional Park, Fort Snelling State Park, and the Historic Fort.
- Continue to provide physically accessible facilities , both indoors and outdoors.

Supply and Demand of Recreational Facilities

Supply

The Twin Cities Metropolitan Area (TCMA) has one of the most extensive and high-quality regional recreation systems in the United States. This system was established in 1974 by the Metropolitan Parks Act, and has grown to include over 50,000 acres of regional parks, park reserves, and regional trials administered by ten implementing agencies (major cities, counties, and special park districts). The system administered by these agencies includes 49 regional parks, 12 park reserves, and 14 regional trails currently open to the public. The major natural-resource-based areas identified within the metropolitan area that provide similar opportunities to the regional system include three state parks (William O'Brien, Afton, and Fort Snelling), one state recreation area (Minnesota Valley), the Minnesota Valley National Wildlife Refuge, and two state trails (Luce Line and the Gateway Segment of the Munger State Trail).

This extensive system of parks and trails provides a substantial supply of recreational opportunities similar to those provided in state parks. Facilities for picnicking, swimming, hiking, biking, skiing, boating, fishing, camping, environmental education, and many other activities are provided in this system.

Fort Snelling State Park is unique in many ways—its history, its resources, its complexity. However, another unique characteristic is that Fort Snelling is the only "park reserve" type of unit that is situated in the center of the TCMA, with both Minneapolis and St. Paul immediately adjacent the park.

Demand

Situated in the center of a major metropolitan area, there is a very high demand for recreational facilities at Fort Snelling State Park. Although this park has approximately 3,000 acres, the majority of this area (about 2,000 acres) is in the Dakota County wetland and fen complex and is not suitable for development. The great majority of use takes place within a relatively small area within the park.

1995 Use Summary, Fort Snelling State Park

Total Visitation: 547,537

By vehicle: 231,210

Other entries: 316,327

Breakdown	
Minnehaha Trail	174,726
Historic Fort Hill	10,581
"Runners"	3,638
Cedar Ave.	6,854
Buses	4,243
Polo Grounds	28,070
Golf	31,361
Chapel	56,854
	316,327

The 1995 use outlined above is considered to be characteristic of use at this park in recent years. Use in 1996 increased to 626,630 visits, and is expected to increase in 1997 as trail use on the Big Rivers Regional Trail is officially counted. Park use will continue to increase as other important trail connections to the park are completed (e.g. Minnesota Valley Trail), and the new park interpretive center opens. Trail entries at the Sibley House and I-494 bridge should also be included in future use calculations for Fort Snelling State Park.

Recreational demand studies conducted by the Metropolitan Council in 1988 took into consideration survey data, socioeconomic indicators, and demographic trends. These studies concluded there was a slightly higher demand in the eastern half of the metropolitan area, and that strong participation trends would continue in family-oriented and physical fitness related activities.

Based on recreational demand studies and existing use levels, there is considerable demand for all outdoor recreation opportunities currently offered at Fort Snelling State Park. In addition to existing facilities, it will be important to consider the following additional facilities, while at the same time limiting the types and amounts of recreational use to an appropriate level.

- Reservable picnic shelters and extended-family large group areas
- Mountain biking opportunities
- Shore fishing and general shoreline access
- Hiking and biking trail opportunities
- Nature study and bird-watching areas

CULTURAL AND NATURAL RESOURCES

Introduction

The Cultural and Natural Resources chapter begins with sections which inventory and describe the resources of the park. At the end of the chapter is a section which lists integrated resources management actions. The Resource Objectives and Integrated Management section will serve as the resource management plan for the park; this section can be revised periodically as described on page 104 of this plan.

Cultural Resources/History

Cultural Resources

The confluence of the Minnesota and Mississippi River has been a meeting place for people throughout history. It is still a meeting place and reflects today the diversity and changing nature of Minnesota's many cultures.

The rich resources of the two river valleys has long provided people with food, water, housing and transportation, meeting material and spiritual needs for many thousands of years. What do we know about the use of the park area throughout history? The archaeology of the area is not extensive and is difficult in a floodplain where periodic floods and regular deposits of silt and erosion have destroyed sites and changed the landscape. Oral tradition among the Dakota of Minnesota, South Dakota and Canada is an important source of information on the lifestyle of the Dakota before Europeans and during the contact period. Written records, especially military records and correspondence, is likewise an important source of first-hand observation of the early fort era.

Combining these different sources, our challenge is to piece together pictures of life along the two rivers through time. Norene Roberts (1993) summarized prehistoric and historic uses in the Fort Snelling area, documenting known archaeological sites and offering insights related to future archaeological potential, future research needs and possible interpretive direction for the known cultural resources.

The Minnesota River Valley traverses a broad and diverse landscape from its origins in the prairie area of western Minnesota to its confluence with the Mississippi in the woodlands of eastern Minnesota. Although histories of the river often begin with Marquette's 17th century map of the region and LeSueur's expedition to the Mankato area in September of 1700, native cultures were living in this area for more than 10,000 years prior to this time.

Taken as a whole, these archaeological traditions show the change in American Indian lifeways from small, nomadic hunting and gathering groups focusing on large mammals to the more sedentary, complex societies who met the first Europeans entering the region. These changes included the dramatic shifts in the landscape of the region following the retreat of the glacial ice which had covered the land for tens of thousands of years.

Crosscutting the broad archaeological traditions are several themes which are unique to the Minnesota River Valley itself. These are:

- The Minnesota River Valley served as the major east-west corridor for transportation and communication between the eastern edge of the tall-grass prairie and both the Mississippi River Valley and the western edge of the deciduous forest. It has been, therefore, a focal point for contact, interaction and cultural change for thousands of years.
- At different times in the past, the Minnesota River Valley (along certain portions of its extent) may also have served as a barrier to north-south communication and transportation, as well as a "contested zone" between different groups of people.
- The evolution of the Minnesota River floodplain has been distinctive and the floodplain is characterized by numerous backwater sloughs, ponds, marshes and protected areas. The floodplain is significantly larger than any of its tributary streams and may have served as an "oasis" for people seeking a variety of resources concentrated in a relatively small area.

  Major changes have taken place in the physical characteristics of the valley during the last 10,000 years and the continuing processes of erosion and deposition have destroyed or buried many archaeological sites, particularly those from early periods. Concomitant changes have also taken place in the vegetation and climate of the valley and have been along an east-west gradient. Thus, the environmental setting for most of the American Indian history in this region has not been the same as that encountered during the 19th and 20th centuries.

The following is a partial list of the many cultural sites known in the park area:

- PALEO-INDIAN TRADITION (ca. 11,000 - 8,500 B.P.) The Paleo-Indian Tradition represents a period in time when the landscape of the Minnesota River Valley was being formed. Glacial Lake Agassiz formed and drained during this period, carving out the Minnesota River Valley. The Browns Valley site is known at the head of the Minnesota River Valley.
- ARCHAIC TRADITION (ca. 8,500 - 3,000 B.P.) A general warming trend results in the expansion eastward of the tall-grass prairie. The Minnesota Valley was probably dominated or surrounded by prairie. Toward the middle end of this period, a cooler and wetter climate resulted in the shift of the eastern forests to the west. Two cultural traditions, the Prairie Archaic and the Eastern Archaic reflect the different adaptations to climate and vegetation change. The Prairie Archaic is defined by adaptations to the tall-grass prairie, especially bison hunting. The Eastern Archaic is associated with the eastern deciduous forest and tools for a wide variety of activities, including wood-working and hunting.

  There is a bison kill site at Granite Falls overlooking the Minnesota River. Archaic sites are probably present but have not yet been identified or studied. Erosion and deposition that has taken place along the river have buried or swept away many sites.

- WOODLAND/MISSISSIPPIAN TRADITION (ca. 3,000 - 1,000 B.P.) The climate change during the woodland period did not change as dramatically as during the proceeding periods and cultural adaptation to the environment seemed also to stabilize and become more complex. Of course more is known about the woodland period since there are more material remains to learn from.

  The Woodland period is marked by earthen mounds, ceramics and tools of agriculture, hide preparation and sewing as well as smaller hunter points.

  Most ancient sites identified along the Minnesota and Mississippi are Woodland sites.

  In Fort Snelling, a Late Woodland site has been identified on the Dakota County side of the Minnesota River, and another was recently discovered near the new visitor center.

- ONEOTA AND PLAINS VILLAGE (ca. 1,000 - 300 B.P.) About 1,000 years ago, horticulture based on the cultivation of corn, beans and squash appeared throughout much of eastern North America. This shift to farming resulted in a more sedentary life, larger semi-permanent villages, the expansion of long-distance networks of trade and interaction, rapid increases in population, and the development of well-defined regional complexes.

- DAKOTA HISTORY AT THE CONFLUENCE OF THE MINNESOTA AND MISSISSIPPI The confluence is the center of the ancient homeland for the Dakota. Dakota elders say that the Dakota have always lived in Minnesota. When Pike arrived at the mouth of the Minnesota in 1805, Dakota villages existed all along the Minnesota River to its source, clustering near the confluence and from that point south along the Mississippi. For generations, the Dakota lived along the two rivers and developed a lifestyle based upon the rich diversity of the floodplain river valleys.

  Our State name comes from the name that the Dakota people gave to the Minnesota River. It is Mi-ni so-ta which was translated by Charles Eastman, (Ohiyesa) a Wahpetonwan Dakota, as "Land of the Sky Blue Waters" in his book Indian Boyhood.

  Fort Snelling and the Minnesota Valley contain many places central to the story of the Dakota homeland and the meeting and relationships between the Dakota and the Euro-Americans.

- MDO-TE (Dakota) "Mdo-te, n. the mouth or junction of one river with another (a name commonly applied to the country about Fort Snelling, or the mouth of the St. Peters; also the name appropriated to the establishment of the Fur Company at the junction of the rivers, written Mendota); the outlet of a lake." (Riggs, 1890)

  The confluence of the Minnesota and Mississippi Rivers has also been referred to as "ma-ko-ce-co-ka-ya-kin," or "the center of the earth," and considered by some Mdewakanton to be a creation place. The confluence area of the park is designated as part of the Fort Snelling National Historic Landmark and Historic District.

- WI-TA TAN-KA (Pike Island) Long before Europeans came here, the Dakota called this island Wi-ta Tan-ka, or "Big Island." The island marks the confluence of the Minnesota and Mississippi Rivers. When Zebulon Pike landed here in 1805, he was met by people from Little Crow's village on the Mississippi and Black Dog's village on the Minnesota.

- DAKOTA VILLAGES Permanent planting villages were located all along the Minnesota and Mississippi rivers. Numerous accounts were written at the time of European contact about these villages, Dakota people and their leaders as they struggled to live with the invasion of Europeans. The following is a partial list of those villages in and near the park and along the Minnesota Valley State Trail. The only village that has been located and documented is Little Rapids. A description and references for all these sites is located in the interpretive file.

  Kaposia Mdewakanton Dakota
  Located on the Mississippi in South St. Paul. Not within the park, but part of the park story. Little Crow I was the village leader who, in 1805, met Zebulon Pike on Pike's Island (Wi-ta Tan-ka) and signed the treaty of 1805.

  White Bustard's village (1823)
  Limited references. On the north side of the Minnesota River, within the park.

  Black Dog's village (ca. 1812 - 1852) Mdewakanton Dakota
  In Dakota County and within the park, near the crossing of Cedar Avenue.

  Cloudman's villages (ca. 1840)
  After moving from Lake Harriet and Calhoun, Cloudman established a village on the Minnesota. Part of the Minnesota Valley Trail.

  Nine Mile Creek village (ca. late 1700's - 1840) Mdewakanton Dakota
  Also known as Penichon's and Good Road's village (1853). Located near the mouth of Nine Mile Creek in Bloomington, along the Minnesota Valley Trail.

History

The following is a partial list of the many historical aspects of the Fort Snelling State Park area.

- Treaty of 1805 This was the first treaty between the U.S. Government and the Dakota. It occurred on Pike's Island. This was the land which included the site for the future first military post (Fort Snelling) and was chosen because of its location at the confluence of the two rivers. This treaty was the beginning of formal relations between the US and the Dakota and set the stage for later events of the 1862 US - Dakota Conflict, the Dakota Internment Camp and the forced removal of the Dakota from Minnesota.

- Treaty of 1837 with the Ojibway took place in the park on the polo grounds.

- Mendota Treaty of 1851 took place across the Minnesota River on a bluff overlooking the park.

- Lacrosse Playing Field The Polo ground was a traditional lacrosse field for the Dakota. Mdewakanton elders have talked about different families and bands meeting here to play lacrosse. Charles Eastman received his name (Ohiyesa) meaning "the winner" from a famous lacrosse game. The polo ground has been a gaming place for centuries. It was used historically for baseball and polo and is still a playing field today, used primarily for soccer. It is currently being leased by the Minneapolis Park and Recreation Board.

- Dakota Internment Camp 1600 Dakota, mostly women and children, were held captive during the winter of 1862-63 following the US - Dakota conflict of 1862. Many people died here (estimated 300). The people were then loaded on steamboats at the nearby steamboat landing and sent to Crow Creek, South Dakota. A marker was put up and a dedication ceremony was held in October of 1987. This was the first time the State officially acknowledged this site and event.

- Wilmot Rolette and Anderson Fur Post (1811 - 1814) Thomas G. Anderson, Allen Wilmot and Joseph Rolette established a trading post on Pike's Island. The Dakota camped around the post in the spring of 1811, numbering 300 lodges.

- Faribault Fur Post (1820) By 1820, fur trader Jean Baptiste Faribault constructed a home on Pike's Island. He farmed the area during the summers and wintered at Little Rapids on the Minnesota. In 1822, a flood swept away all of his buildings on the island. He built a home across the river in Mendota, which still stands today.

- American Fur Company Headquarters at Mendota Across the Minnesota River from Fort Snelling was the main trading post for the American Fur Company for the region encompassing the upper Mississippi River, including the Minnesota River and the Red River of the North. Alexis Bailly was agent from 1825-35, he was succeeded by Sibley, who remained agent at Mendota until the late 1850's.

- Historic Fort Snelling First called Fort St. Anthony, Fort Snelling was named for Josiah Snelling in 1825. Snelling was commandant from 1820 until 1827. Major Lawrence Taliaferro was Indian Agent at the Fort from 1820 - 1839 and the role of the Indian Agent was a primary one for the Fort until agencies were established up the Minnesota River with the treaties of 1851. Another role the early fort played was to keep a check on the traders across the Minnesota River at Mendota, headquarters of the American Fur Company.

- Fort Gardens and Root Cellars Establishing gardens and having the soldiers work in them, often more time was spent gardening and farming than in military drills. Farming areas and gardens were located in the top of the bluff and the river bottoms below the fort. The root cellars were built into the bluff underneath the landing road.

- Land's End Trading Post of the 1820's - 1830's, originally owned by the Columbia Fur Company.

- River Landing and Landing Road The river being the primary transportation route, the boat landing below the fort and the road leading up to it was the first road the Americans established in Minnesota. The road exists pretty much as it was cut into the bluff. The landing is much closer to the fort than the present-day shoreline. It was at this river landing that the first steamboat, *The Virginia*, arrived in Minnesota (1823).
- "Perry's Landing" was an early steamboat landing between 1820's - 1850's.
- Ferry across the Mississippi River from 1830's - late 1870's was the major means of crossing the Mississippi River until the bridge was complete in the 1870's.
- Ferry across the Minnesota River from late 1830's - 1900's was located a few rods upstream from the mouth of the Minnesota River, was one of the only means of getting to the east bank of this river which also provided a well traveled route from the fort to the early trading town of Mendota.
- Sibley House and vicinity from 1835 - present was the Upper Mississippi headquarters of the American Fur Company which became the social center of the locality. There were various outbuildings also located in the area. Currently the Sibley House is run by the Sibley House Association of the Minnesota Daughters of the American Revolution.
- Faribault's House on the east bank of the Minnesota River (Mendota) from 1839 - present was used as such things as; a hotel, private residence, a warehouse, and currently as a historical site.
- American Fur Company and vicinity from 1825 to 1866 (in Mendota). The warehouse and surrounding log huts have since been destroyed.
- St. Peter's Catholic Church from 1835 to present (in Mendota).
- Cantonment New Hope Located on what is now Picnic Island, Cantonment New Hope was the first attempt to establish a military post at the confluence of the two rivers. Lieutenant Colonel Henry Leavenworth arrived here in August of 1819. He brought with him $2,000 worth of trade goods which Pike had promised in the treaty of 1805. He established the cantonment as a temporary post and his men and their families spent a disastrous winter, sick and without proper provisions. By spring, 30 men had died.
- Camp Coldwater existed in the Mid-1800's:

  a) Camp Coldwater (1820 - 1822), which represented a cluster of cabins, was used as a temporary summer camp located at a cold spring located what is now land belonging to the Bureau of Mines who have preserved a small pond and stone monument.

  b) B.F. Baker Trading House - The St. Louis House from 1830's - late 1850's was established as a trading house not far from Camp Coldwater. The trading house was then sold and most likely converted into the St. Louis House which was a hotel later destroyed by fire in the late 1850's.

- Zebulon Pike arrived on Pike Island in September of 1805 and held council with the Dakota to obtain the land for the establishment of a military post.

- In 1824 Alexis Bailey constructed a trading post (in present Mendota) which was used until 1835. This was an important trading center in the Upper Mississippi region.
- Fort Snelling Gardens, comprised of up to 400 acres, existed between 1820's-1850's which is now beneath the Mendota Bridge.
- High Rock (Quarry Island) an island on Gun Club Lake comprised of well cemented St. Peter's Sandstone. The front wall of the J.B. Faribault's house uses this stone. Dakota tradition refers to the island as Wateon Island.

A number of important modern cultural sites are also in Fort Snelling State Park. These include:

- Chicago, Milwaukee, St. Paul and Pacific Railroad Bridge. A stone arch bridge built in 1878 and is located in old Mendota.
- Mendota Bridge: 1926 - present. Built in 1925-26 and opened November 6, 1926, it was the longest continuous arch bridge at the time it opened to traffic. It is a National Registered historic Site.
- Minnesota Central Railroad Bridge: 1865 - 1957. This railroad bridge crossed the Minnesota River near the Mendota Bridge. The bridge was part of the rail line connecting Minneapolis and Faribault via Fort Snelling.
- Minnesota Central Railroad Depot: 1865 - 1957. The depot was located in the floodplain of the Minnesota River, below Fort Snelling and west of Pike Island.
- Nicols Townsite: 1867 - 1957. The town of Nicols was established as a flag stop for the Chicago, Milwaukee and St. Paul Railroad. Local products shipped from Nicols included silica sand and onions. Changes in local crops, new silica sources and the decline in passenger traffic led to Nicols decline and abandonment.
- Mendota Transient Camp #1: 1935 - 1937. One of a series of Work Progress Administration Camps along the Minnesota River Valley, the Mendota Camp was home to both African American and white males who worked on public works projects in the area.
- Fort Snelling Memorial Chapel: 1927 - present.

Park Establishment

In recognition of the vital role that Fort Snelling played in the development of the state, legislation was passed in 1961 creating Fort Snelling State Historical Park to include 2,500 acres of land to be developed for recreation purposes.

Theodore Wirth was the first individual to submit a plan which included the old fort as a part of a recreational park system. It was in 1934 that Theodore Wirth suggested in a report to the Governor that a park be established along the Minnesota River for the principle purpose of providing a large recreational area for the entire state, particularly the Twin Cities metropolitan area, and to provide for the preservation of places of special and historic interest within this system.

Although nothing was done about establishing a park in this area until 1960, concern for the fort, described in 1885 as "crowded, unfit for habitation, a fire trap and a ruin", had begun to surface as early as 1895. In that year, General E. C. Mason, commandant of the fort, proposed a limited restoration and the conversion of the buildings into a museum. In spite of this, the War Department in 1901 ordered the officers quarters torn down. Considerable damage was done before a citizen's committee persuaded the post commander to intercede. Two years later, plans were approved for strengthening the Round Tower and replacing the parapets "to make it look as it did in days gone by." The following year, the Tower was covered with white stucco, but such a public outcry arose that it was soon chipped off. In 1905, the primitive flavor of the building was obscured with the addition of second stories to the commandant's house and the officers' quarters, which were remodeled on a Spanish theme.

Over the years, while Fort Snelling served as a training center for officers and induction-discharge station for Minnesota troops in the Civil and Spanish American Wars and World Wars I and II, "progress" waged its own war. With the construction of a new bridge to St. Paul in 1909 and the Mendota Bridge in 1926, a complex system of roads was created near and through the fort grounds. To ease public concern during the 1930's, a small museum was maintained with the aid of Federal Works Progress Administration funds. In 1946, however, the War Department retired Fort Snelling as an army post, closed the museum and turned the entire facility over to the Veterans Administration. The fort's 126 years of service as a military post had come to an end.

During the next decade, preservationists who felt that the original remaining features of the fort should be protected tried and failed in their attempts to secure official recognition of the site and to have the area designated as a national monument of a state park.

In 1956, the Minnesota Highway Department announced plans to construct a much needed freeway through the old fort grounds with a cloverleaf loop encircling the Round Tower. Governor Orville L. Freeman, barraged by public protest over this plan, mediated the dispute, ordering the construction of a 450-foot tunnel north of the fort with minimal disturbance to the historical setting. The Highway Department assisted in acquiring certain parcels which the Department of Natural Resources was unable to obtain in other areas of the park.

Interest generated by the highway debate and the state centennial in 1958 prompted the Minnesota Statehood Centennial Commission to grant $25,000 to the Minnesota Historical Society for an archaeological exploration of the walled area of the old fort. After 16 months of digging, the foundations of nearly half of the original structures had been uncovered. This excavation, reported Russell W. Fridley, Director of the Minnesota Historical Society, "proved beyond question that a restoration of Fort Snelling was not only possible but highly favored by the richness and extent of the remains of the post."

Two years later a general study of the development of the proposed state park in the area of Fort Snelling, was done by consultant landscape architect A. R. Nichols. Submitted in 1960 to U. W. Hella, Director, Division of State Parks, this plan explored the relationship between the old Fort Snelling site, described as "a most vital and keystone part of the entire park project," and the possibilities for recreational development and natural areas in the flood plain portion of the park. Recommendations concerning the straightening of the Minnesota River channel by the Army Corps of Engineers were also a major part of this plan.

Due to public interest in the fort restoration and recreational development near the fort in 1960, when the Veterans Administration declared 320 acres of the former military post to be surplus property and available for disposal, the Division of State Parks applied for this land under the provisions of the Surplus Property Act. This act provides that historic sites which have been declared surplus property will be given to the states without cost for the preservation of the historic feature. The 320-acre tract, which was the first acquisition in what was to eventually become Fort Snelling State Park, was transferred to the State in the fall of 1961.

In his inaugural address that same year, Governor Elmer L. Anderson vigorously supported the establishment of a state park which included this old fort site. Recognizing that historical experiences was well as natural beauty are resources to be conserved, he urged the legislature to act on the "almost incredible" opportunity of creating a historical park in the heart of the Twin Cities metropolitan area.

Responding to the Governor's plea, the 1961 Legislature passed a bill providing for the establishment of Fort Snelling State Historical Park, a 2,500-acre park with the historical old fort as the nucleus and including the river bottomland along approximately four miles of the Minnesota River. At the same time, the Fort Snelling State Park Association was organized to generate citizen support for the park.

After the 1961 legislation in which the appropriation for park acquisition was cut to one-tenth of the requested amount, the directors of the Fort Snelling Park Association decided to inaugurate a fund raising campaign to raise part of the funds needed to acquire the land. This campaign was started in earnest in November, 1962 and by the end of the 1963 legislative session some $160,000 had been raised by the generous support of foundations, corporations and individuals throughout the Twin Cities. Additional needed money was provided in the 1963 Natural Resources Bill. The amount included for Fort Snelling was $400,000.

In the same year, the newly created Minnesota Outdoor Recreation Resources Commission investigated the feasibility of rebuilding Snelling's fort as an exciting focal point in the new recreational area. Upon the enthusiastic recommendation of the Commission, a ten-year program for complete restoration and reconstruction was introduced and approved by the

Legislature in 1965. The estimated cost of $2 million was to be met by funds from federal and state governments and the contributions of private citizens.

Recreational development in the flood plain portion of the park began in 1963. Filling was a major part of the park development as the unstable soils associated with the flood plain prevented conventional structure, road, and parking lot construction. Both dredge spoils from the Minnesota River (straightened by the US Army Corps of Engineers in 1965) and off-site fill materials were used in various areas of the park, including the new entrance road, the park office area, the swimming beach complex and the center of Picnic Island. A 30' fill that had been an extension of the railroad grade to Minnehaha Park was removed in 1964 and used to fill the parking lot area under the Mendota Bridge. Before the park had been established, excess fill from the airport construction was used for dikes to create Snelling Lake.

The park officially opened in 1965, with a temporary entrance road to the flood plain. The park provided picnic facilities, trails and abundant wildlife viewing opportunities. In that same year, archaeological investigations were done in the Round Tower area by the Minnesota Historical Society. In the following year the old museum there was re-opened to the public.

The name Fort Snelling State Historical Park was changed to Fort Snelling State Park in 1967 and in 1969, the legislature transferred administrative authority for the 25.5-acre Fort Snelling Historical Site from the Minnesota Department of Natural Resources, Parks and Recreation to the Minnesota Historical Society.

The major fort restoration took place between 1966 and 1970, although an on-going process continues today. In September of 1970, the nearly restored fort and start of the uniformed staff interpretive program were commemorated with grand opening festivities at the fort and parade grounds. The swimming beach on Snelling Lake was also opened in 1970, resulting in a marked increase in park attendance.

State historic sites and districts (and places as described on page 6) are shown on the Historic Sites and Districts map, page 35.

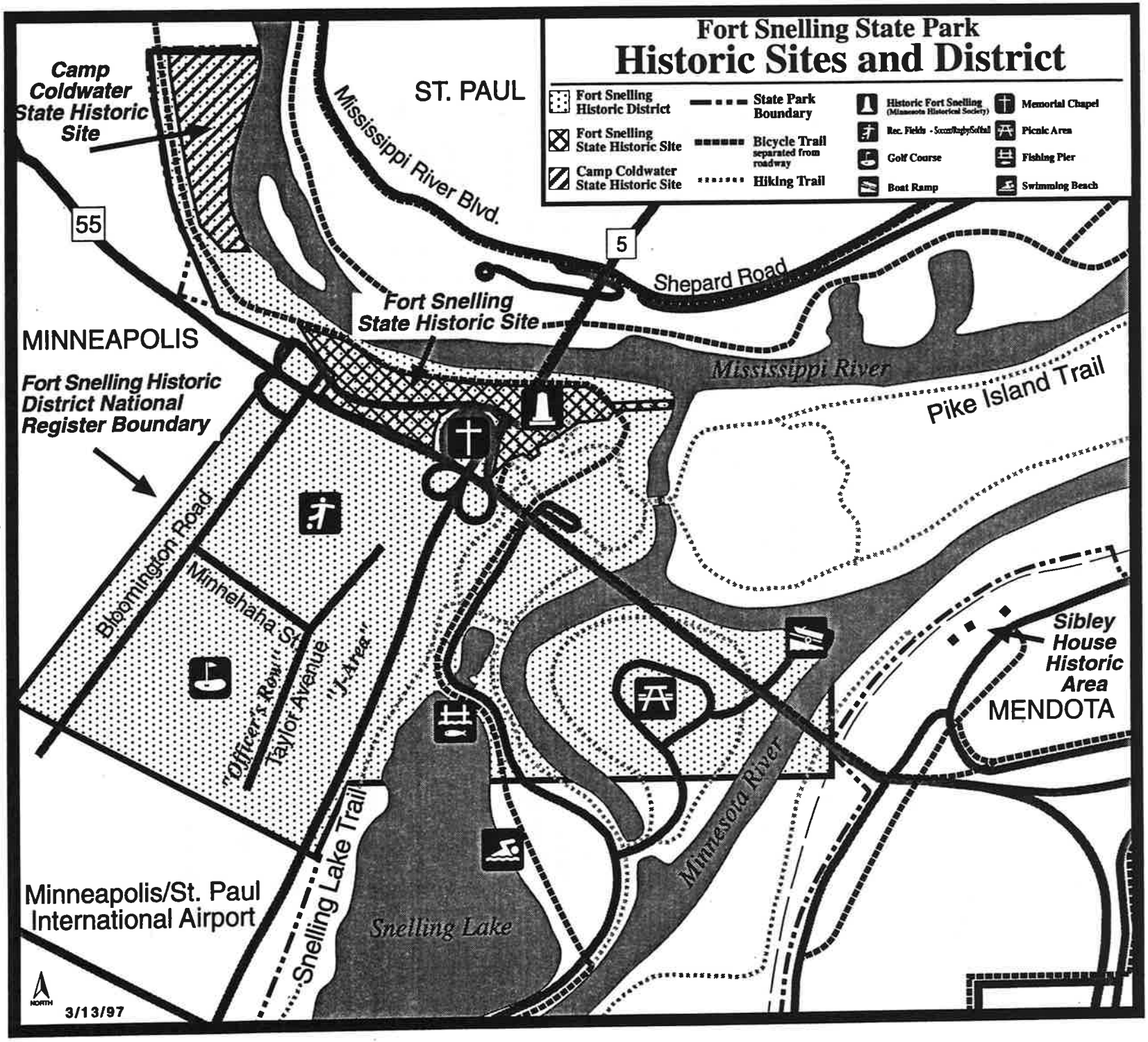
These include the National Register of Historic Places which incorporates many of the state-designated areas, as well as Fort Snelling National Register Historic District. In addition, the National Park Service highlights properties that have "transcendent value to the Nation as a whole" by conferring on them the status of National Historic Landmark (NHL). At Fort Snelling, the NHL boundaries include the following two areas (see the planning process file for a map):

1. The 141-acre "Upper Bluff Area," and an area bound by:
2. North - 54th Street

   East - Mississippi River to the western side of Pike Island

   South - Mendota Bridge and Hwy. 55 to the U.S. Bureau of Mines property

   West - U.S. Bureau of Mines property and the "Minnehaha Trail."


Fort Snelling State Park
Historic Sites and District
Fort Snelling Historic District
Fort Snelling State Historic Site
Camp Coldwater State Historic Site
State Park Boundary
Bicycle Trail separated from roadway
Hiking Trail
Historic Fort Snelling (Minnesota Historical Society)
Rec. Fields - Soccer/Rugby/Softball
Golf Course
Boat Ramp
Memorial Chapel
Picnic Area
Fishing Pier
Swimming Beach
Camp Coldwater State Historic Site
ST. PAUL
Mississippi River Blvd.
55
5
Shepard Road
Fort Snelling State Historic Site
MINNEAPOLIS
Fort Snelling Historic District National Register Boundary
Mississippi River
Pike Island Trail
Bloomington Road
Minnehaha St.
"Officer's Row"
Taylor Avenue
"J-Area"
Sibley House Historic Area
MENDOTA
Minnesota River
Snelling Lake Trail
Snelling Lake
Minneapolis/St. Paul International Airport
NORTH
3/13/97

Natural Resources

Climate

Total annual precipitation in the Fort Snelling State Park area ranges from 27 to 29 inches with an average growing season of 146 to 156 days, and an annual mean temperature of 45 degrees.

Geology and Soils

Geology

The exposed bedrock geology of Fort Snelling State Park and surrounding area is dominated by sedimentary rock units which were deposited during the Ordovician Period. The Ordovician Period lasted from approximately 500 million years ago to 430 million years ago. During this period, there were a number of major advances and retreats of shallow marine environments, as well as a great deal of deposition sands, hard parts of small animals and plants, and muds. These became the sandstones, limestones and shales that are exposed along the Minnesota and Mississippi Rivers. Hard, bluff forming Platteville limestones and dolomites over-lie more erodable St. Peter sandstone. Marine fossils are locally abundant in Platteville limestone and Glenwood shales.

This bedrock landscape has been altered during the past two million years by a series of continental glacial advances and the subsequent impacts of glacial melt water. Most of the present surficial geology is the result of the Des Moines Lobe during the last part of the Wisconsin glaciation which ended between 12,000 and 9,000 years ago. To the north of the Minnesota River Valley lies the Rogers Till Plain, comprised of glacial till and water sorted gravels of a series of outwash plains. Similar glacial till deposits are found south of the Minnesota River Valley. The Minnesota River Valley that cuts through the bedrock is nearly one mile wide at its confluence with the Mississippi River Valley. This wide valley was formed by glacial melt water flowing south from Glacial Lake Agassiz. Rapid flowing glacial melt water also cut the narrower Mississippi River Valley.

With the retreat of the glaciers, the smaller modern Minnesota River deposited sediments which currently fill most of the old channel of Glacial River Warren (the predecessor of the Minnesota River). Pike Island is a large sand and gravel deposit which formed at the confluence of the Minnesota and Mississippi Rivers. Other significant geologic features include Quarry Island, a flood plain exposure of well cemented St. Peter Sandstone; and river bluffs, which have allowed for the up stream movement of area water falls.

Soils

Soils within Fort Snelling State Park are grouped into two general types: upland soils and flood plain or bottom land soils.

Upland soils in the Dakota County portion of the park are classified as belonging to the Waukegan-Wadena-Hawick soil series', which are silty, loamy and sandy soils, found on outwash plains and terraces. These soils are well drained to excessively drained. The floodplain soils of this portion of the park are classified as belonging to the Colo-Algansee-Minneiska soil series', which are nearly level, poorly to moderately drained soils formed in loamy, silty, or sandy alluvium, and are associated with the flood plain of the Minnesota River. Generally, Algansee soils are found at the lowest elevation, followed by Colo soils, and highest in the flood plain are Minneiska soils. Minneiska soils are calcareous throughout the upper part of the soil profile, which can contribute to the calcareous fens found in the park.

Pike Island is the only portion of the park within Ramsey County. The soils found on Pike Island formed in recent alluvium, and are classified as members of the Udorthents-Algansee Series'. Udorthents on Pike Island are limited to a building site on the northwest end of the island. The other soils series found on Pike Island are Chaska silt loam and Algansee sandy loam.

Upland soils in the Hennepin County portion of the park are members of the Estherville-Dickman-Dakota soil series' and are typically moderately course to medium textured soils underlain by sand and gravel. Floodplain or bottom land soils for this portion of the park are classified as belonging to Mixed alluvial land-Marsh-Chaska soil series'. Some area are "fill land," adjacent areas mapped as Chaska soils up to the edge of the upland slopes.

The Soil Limitation chart on page 38 provides additional information on the some of the representative soils found in Fort Snelling State Park. In addition, the Soil Limitations Map on page 39 provided a general overview of the development limitations related to these soils.

Soil Limitations Chart

Fort Snelling State Park

(see Soils map for development limitations and text for descriptions)

County	Map Unit	Description	Slope	Original Vegetation	Permeability*	Water Table	Septic Tank Absorbtion Fields	Sewage Lagoon Areas	Buildings**	Local Roads & Streets	Camp Areas	Picnic Areas	Playgrounds	Paths & Trails	Lawns & Landscaping	Overall Suitability
Ramsey	329	Chaska silt loam	-	Oak Woodland & Brushland	0.6-2.0/2.0-6.0	1-3 feet	S	S	S	S	S	S	S	M	S	S
	1027	Udorthents, wet substratum	-	Oak Woodland & Brushland	-	-	S	S	L	L	L	L	L	L	L	L
	1821	Algansee loamy sand	-	Oak Woodland & Brushland	6.0-20+	1-2 feet	S	S	S	S	S	M	S	M	M	S
Hennepin	Ch	Chaska clay loam	-	Upland Prairie	0.63-2.0/0.63-6.3	1 foot	-	-	-	S	M	S	S	M	M	S
	Cu	Cut and fill land	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DaA	Dakota loam	0-2%	Upland Prairie	2.0-6.3	5 feet	L	S	L	L	L	L	L	L	L	L
	DaB	Dakota loam	2-6%	Upland Prairie	2.0-6.3	5 feet	L	S	L	L	L	L	L	L	L	L
	DnC	Dickman sandy loam	6-12%	Upland Prairie	2.0-6.3/2.0-6.3+	5 feet	-	-	L	M	L	M	M	L	M	M
	EtA	Estherville sandy loam	2-6%	Upland Prairie	2.0-6.3/2.0-6.3+	10 feet+	L	S	L	L	L	M	M	L	M	M
	EtB	Estherville sandy loam	2-6%	Upland Prairie	2.0-6.3/2.0-6.3+	5 feet	S	S	L	L	L	M	M	L	L	M
	Fd	Fill land	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HuC	Hubbard loamy sand	6-12%	Upland Prairie	2.0-6.3+	5 feet	M	S	M	L	M	M	M	M	M	M
	Ma	Marsh	-	-	-	0 feet	S	S	S	S	S	S	S	S	S	S
	Mx	Mixed alluvial land, frequently flooded	-	-	-	0 feet	S	S	S	S	S	S	S	S	S	S
	SaE	Salida coarse sandy loam	18-35%	Upland Prairie	6.3+	10 feet	S	S	S	S	S	S	S	S	S	S
Dakota	7C	Hubbard loamy sand	6-12%	Oak Woodland & Brushland	6.0-20	6.0+	S	S	M	M	M	M	S	L	S	S
	7D	Hubbard loamy sand	12-18%	Oak Woodland & Brushland	6.0-20	6.0+	S	S	S	S	S	S	S	L	S	S
	94C	Terril loam	4-12%	Oak Woodland & Brushland	0.6-2.0	6.0+	M	S	M	S	M	M	S	L	M	M
	98	Colo silt loam, occasionally flooded	-	Oak Woodland & Brushland	0.6-2.0	1.0-3.0	S	S	S	S	S	M	S	M	M	S
	100A	Copaston loam	0-2%	Oak Woodland & Brushland	0.6-2.0/0.6-6.0	6.0+	S	S	S	S	S	S	S	L	S	S
	100C	Copaston loam	6-12%	Oak Woodland & Brushland	0.6-2.0/0.6-6.0	6.0+	S	S	S	S	S	S	S	L	S	S
	251E	Marlean loam	18-25	Oak Woodland & Brushland	0.6-2.0/2.0-6.0	6.0+	S	S	S	S	S	S	S	M	S	S
	299B	Rockton loam	2-6%	Oak Woodland & Brushland	0.6-2.0	6.0+	S	S	M	M	L	L	M	L	M	M
	313	Spillville loam, occasionally flooded	-	Oak Woodland & Brushland	0.6-2.0/0.6-6.0	3.0-5.0	S	S	S	S	S	L	M	L	M	S
	317	Oshawa silty clay loam	-	Oak Woodland & Brushland	0.2-0.6	1-1.0	S	S	S	S	S	S	S	S	S	S
	342B	Kingsley sandy loam	3-8%	Oak Woodland & Brushland	0.6-2.0/0.2-0.6	6.0+	S	M	L	L	M	M	M	L	L	M
	463	Minneiska loam, occasionally flooded	-	Oak Woodland & Brushland	2.0-6.0	3.0-6.0	S	S	S	S	S	L	M	L	M	S
	522	Boots muck	-	Oak Woodland & Brushland	0.2-6.0/0.6-6.0	1-1.0	S	S	S	S	S	S	S	S	S	S
	539	Palms muck	-	Oak Woodland & Brushland	0.2-6.0/0.2-2.0	1-1.0	S	S	S	S	S	S	S	S	S	S
	540	Seelyeville muck	-	Oak Woodland & Brushland	0.2-6.0	2-2.0	S	S	S	S	S	S	S	S	S	S
	545	Rondeau muck	-	Oak Woodland & Brushland	0.2-6.0/0.2+	1-1.0	S	S	S	S	S	S	S	S	S	S
	611F	Hawick loamy sand	25-50%	Oak Woodland & Brushland	6.0-20/6.0+/20+	6.0+	S	S	S	S	S	S	S	S	S	S
	860C	Urban land-Lester complex	3-15%	Oak Woodland & Brushland	0.6-2.0	6.0+	M	S	M	S	M	M	S	L	M	M
	896F	Kingsley-Mahtomedi complex	25-40%	Oak Woodland & Brushland	0.6-2.0/0.2-0.6	6.0+	S	S	S	S	S	S	S	S	S	S
	1013	Pits, quarry	-	Oak Woodland & Brushland	-	-	O	O	O	O	O	O	O	O	O	O
	1027	Udorthents, wet	-	Oak Woodland & Brushland	-	1-6+ feet	O	O	O	O	O	O	O	O	O	O
	1029	Pits, gravel	-	Oak Woodland & Brushland	-	-	O	O	O	O	O	O	O	O	O	O
	1039	Urban land	-	Oak Woodland & Brushland	-	-	O	O	O	O	O	O	O	O	O	O
	1055	Aquolls and Histosols, ponded	-	Oak Woodland & Brushland	-	-	O	O	O	O	O	O	O	O	O	O
	1825C	Seelyeville muck, sloping	-	Oak Woodland & Brushland	0.2-6.0	0-2 feet	S	S	S	S	S	S	S	S	S	S
	1827A	Waukegan silt loam, bedrock substratum	0-2%	Oak Woodland & Brushland	0.6-2.0/6.0-20	-	S	S	S	M	L	L	L	L	M	M
	1898F	Etter-Brodale complex	25-60%	Oak Woodland & Brushland	.0-6.0/0.6-2.0/6.0-2	-	S	S	S	S	S	S	S	S	S	S

Chart Legend-Soils Suitability/Characteristics

L - (Low) Limitations for a stated use are minor and can be overcome easily.

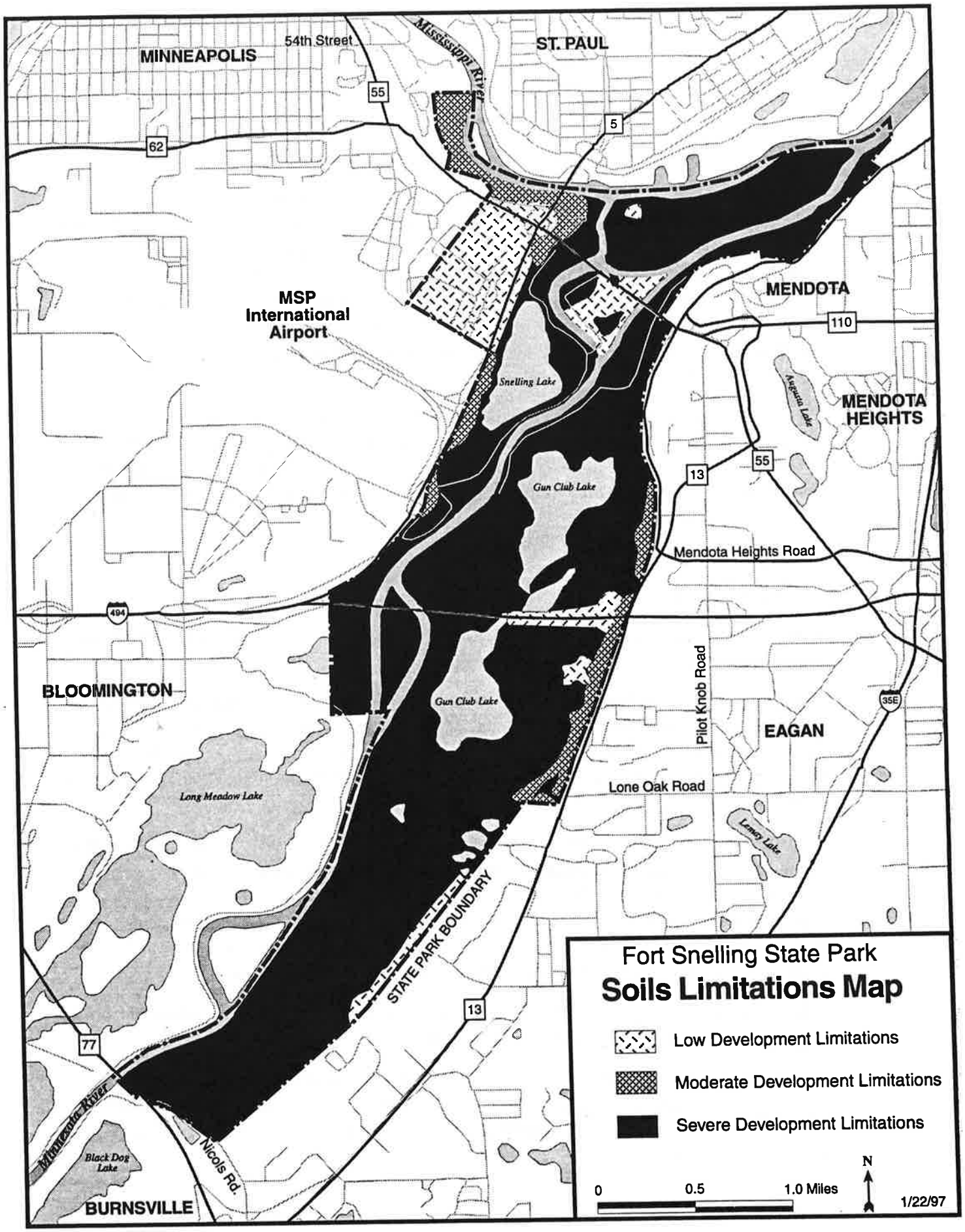
M - (Moderate) Limitations for a stated use can be overcome by special planning, design, or intensive maintenance.

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

O - (Onsite) Investigations are needed to best determine the potentials and limitations of this unit for any proposed use.

*Permeability measure in inches per hour.

**Based on buildings with a basement or foundation.


MINNEAPOLIS
54th Street
Mississippi River
ST. PAUL
55
5
62
MSP
International
Airport
MENDOTA
110
Snelling Lake
Augusta Lake
MENDOTA
HEIGHTS
55
13
Gun Club Lake
Mendota Heights Road
494
BLOOMINGTON
Gun Club Lake
Pilot Knob Road
35E
EAGAN
Long Meadow Lake
Lone Oak Road
Leroy Lake
STATE PARK BOUNDARY
13
77
Minnesota River
Black Dog
Lake
Nicols Rd.
BURNSVILLE
Fort Snelling State Park
Soils Limitations Map
Low Development Limitations
Moderate Development Limitations
Severe Development Limitations
N
0
0.5
1.0 Miles
1/22/97

Water Resources

Groundwater

The park is influenced by two groundwater aquifer systems, one associated with the Mississippi River Valley and one associated with the Minnesota River Valley.

Along the Minnesota River, between Eagan and Bloomington, almost 200 feet of post-glacial alluvium, glaciofluvial sand and gravel, Pleistocene lake deposits and peat fill a bedrock valley under the present-day Minnesota River. As much as 40 feet of post-glacial peat, silty clay, clay and muck lie near the river valley walls. Confining bedrock units beneath the river channel impede the discharge of groundwater from the underlying Prairie du Chein - Jordan Aquifer to the river. Groundwater discharges to wetlands, lakes and springs along both the north and south sides of the river. When stable, these conditions have been ideal for establishing unique wetland environments, including calcareous fens.

Upstream of the confluence with the Minnesota River, the Mississippi River lies in a post-glacial valley cut through thin glacial drift into the St. Peter Aquifer. Beneath the river, groundwater flows from the St. Peter Aquifer through the overlying post-glacial alluvium to the Mississippi River. No confining unit separates the St. Peter Aquifer and the Mississippi River.

Surface Water

Park surface waters are part of numerous watersheds, including the Lower Minnesota River, Gun Club Lake and Minnehaha Creek watersheds.

Minnesota River: The lower Minnesota River, approximately 300 feet wide and 9 feet deep in this area, is the major drainageway for a 16,200 square mile watershed that includes a large part of the metropolitan area. Generally winding through a one to two-mile wide alluvial valley floor, it has been straightened and dredged in the area of Fort Snelling State Park by the Army Corps of Engineers to facilitate barge movement from the mouth to Savage.

Largely due to urban development within the watershed and the elevation of the park, flooding is a major problem for Fort Snelling State Park. The 1965 flood swelled to an elevation of 717 feet above sea level at Pike Island, nearly 30 feet higher than the normal elevation of 687.5. This magnitude of flood is expected to reoccur about once every 100 years. Less severe flooding occurs more frequently; floodwaters are expected to reach an elevation near 707 feet every 10 to 20 years and an elevation of 704 feet every five to eight years.

In 1993, severe flooding of Fort Snelling State Park occurred again with floodwaters reaching their peak at 711 feet above sea level at Pike Island.

Historically, the Minnesota River has been polluted from a variety of both point and non-point sources. Known sources of pollution into the Minnesota River include agricultural runoff and siltation and barge and boat traffic which causes erosion and stirring of bottom sediments, and increasing turbidity.

Mississippi River: The north end of Fort Snelling State Park, including one side of Pike Island, adjoins about 3 miles of the Mississippi River. Some sand beaches exist along the Mississippi-Fort Snelling State Park border.

Floodwaters have been recorded at 16 feet above normal water level and have contributed to flooding the park in much the same way that the Minnesota River has, as well as having "backed up" the Minnesota floodwaters at times.

A nine foot barge channel is maintained by the Corps of Engineers, making the river navigable to pleasure craft as well. Water quality is generally considered to be better in the Mississippi than in the Minnesota River.

Kennealy's Creek: Kennealy's Creek is a small tributary to the Minnesota River about 1/2 mile in length which is created by underground water surfacing near the edge of the flood plain. The creek averages 4 to 5 feet in width and 7 inches in depth. The water is clear and colorless. It currently discharges surface runoff from adjacent park lands and Gun Club Lake.

Black Dog Creek: Black Dog Creek is another small tributary to the Minnesota River near the Cedar Avenue Bridge. It may originally have been the outlet for Black Dog Lake which now drains directly into the Minnesota River over a water level control structure. A low flow from Black Dog Creek now enters the park through a storm sewer, but the construction of Cedar Avenue has effectively cut this source off from its partner stream - Kennealy's Creek.

Snelling Lake: Snelling Lake is currently the major recreational lake within Fort Snelling State Park. It is heavily used for swimming and for fishing, although the fisheries potential is limited by the maximum 8-foot water depth. The lake is fed by numerous springs. There is a stormwater runoff retention basin from Minneapolis-St. Paul International Airport on the north side of the lake. The lake is currently protected from up to 10-year floods by a dike built under the main park road.

Gun Club Lake: A large, shallow body of water, Gun Club Lake is an integral part of the Minnesota River Valley flood plain water table. The maximum known depth of the lake is 4 feet. Lower Gun Club Lake is known to provide better fishing than Upper Gun Club Lake. Part of Gun Club Lake was known as Slater's Lake, named after a local farmer. The adjacent wetlands were grazed, hayed and sometimes farmed.

Quarry Lakes: Located along the eastern border of the park, just off of Meadowview Road, these abandoned gravel quarries periodically support a fish population as a result of floods from the Minnesota River.

Species of fish known to exist include carp, northern pike, walleye, largemouth bass, bluegills, and minnows. Fishing pressure and harvest is relatively low.

Natural Communities

Introduction/Minnesota County Biological Survey Inventory Information

In 1987, the MN DNR initiated the Minnesota County Biological Survey (MCBS) in recognition of the need to assess the status of the state's biological diversity and its rare natural resources. It is a systematic, county-by-county inventory of Minnesota's rare biological features. MCBS identifies significant natural areas and collects and interprets data on the distribution and ecology of natural communities, rare plants and rare animals. The information gathered by MCBS serves as a foundation for the conservation of critical components of Minnesota s biological diversity.

Biological surveys were conducted in Dakota County during portions of the 1992 - 1995 field seasons. Through a cooperative agreement between MCBS and the Division of Parks and Recreation, surveys of natural communities and rare species were intensified within Fort Snelling State Park. The vegetation of the park, including natural communities and disturbed areas, was mapped and additional vegetation sampling plots were established. To meet the needs of Park resource managers, the number of surveys for rare plants and rare animals were intensified beyond the scope of work generally pursued as part of county-level inventory. An inventory of plants and natural communities was also completed for the adjoining Minnehaha Regional Park to address potential negative impacts to rare resources from planned park development. Although animal surveys were not conducted in Minnehaha Regional Park, historic rare animal records were included in the MCBS report.

The following sections (including Pre-European Settlement Vegetation, Existing Natural Communities, and Wildlife) were excerpted from the 1995 MCBS report as referenced in the bibliography of this management plan. The MCBS report contains much more detailed information on methodology and results and should be referenced if additional information is needed.

Pre-European Settlement Vegetation

The best information we have about vegetation in Minnesota prior to Euro-American settlement is that collected by the original land survey in the middle 1800's. The vegetation in the area of Fort Snelling and Minnehaha parks when the original land survey was conducted consisted of a variety of natural communities, determined by studying and interpreting the surveyors notes (U.S. General Land Office 1853, Marschner 1974) and by examining topography, soils, and present-day vegetation. The flat to rolling uplands were primarily oak openings and barrens, which translate to oak savanna and oak woodland-brushland in present-day natural community terminology. (Note: natural communities are defined below.) On steep moist slopes, maple-basswood and mesic oak forest occurred. The floodplains in the Minnesota River valley south of the present-day Mendota Bridge were occupied by a narrow strip of floodplain forest on alluvial soils immediately next to the river, and a complex of lakes, calcareous seepage fens, and emergent marshes on organic soils between the floodplain forest and the bluffs to the east. Pike Island was originally occupied by floodplain forest, with some emergent marsh or wet meadow in depressions in the interior. Minnehaha Creek was bordered by lowland hardwood

forest or floodplain forest in the valley, with black ash swamps and seepage meadows occurring at the base of bluffs with active seepage areas.

The vegetation in these parks today has been drastically changed by urban and park development. The natural communities have been fragmented and most of those that still persist are altered by the spread of invasive non-native species. However, there are some small significant natural communities and rare species that remain; these are detailed in the following sections.

Existing Vegetation and Natural Communities

Natural communities are distinct assemblages of native plants and animals living together under similar environmental conditions. Natural communities are classified and described by considering vegetation, successional status, topography, hydrology, landforms, substrates, soils, and natural disturbance regimes (including wildfires, windstorms, normal flood cycles, and the effects of native pathogens, insects, and microorganisms). The Natural Heritage and Nongame Research Program (NHNRP) has developed a classification of natural communities (Minnesota Natural Heritage Program 1993) that is used by MCBS in the evaluation of potential natural areas.

Natural communities (with the exception of calcareous seepage fens) have no legal protection in Minnesota. However, the NHNRP considers the identification, protection and management of natural communities and ecosystems a high priority. NHNRP evaluated natural communities and assigned ecological quality rankings using a scale of A to D, with A being the highest quality and D the lowest.

The natural community descriptions below correspond to those shown on the Natural Communities map, page 47.

Aspen Forest (Map Code A)

Some of the upland areas of Fort Snelling State Park are occupied by disturbed forest dominated by aspen (*Populus tremuloides*). These were probably formerly prairie or oak savanna, and have either converted to aspen forest in the absence of fire or have succeeded to forest following large-scale disturbances such as plowing and planting to crops followed by abandonment.

Black Ash Swamp (seepage subtype) (not on map)

(located in Camp Coldwater and Minnehaha Regional Park)

This community type occurs in two areas at the base of east- to northeast-facing bluffs. This community type is very rare in southern Minnesota. It is characterized by the presence of groundwater seepage, dominance of the tree layer by black ash, and the presence of herbaceous species associated with seepage, notably skunk cabbage and marsh marigold. The black ash swamps here are C quality; they are disturbed by foot and mountain bike traffic and contain some non-native invasive species.

Calcareous Seepage Fen (prairie subtype) (Map Code CSF)

Along the Minnesota River valley in Fort Snelling State Park, there is an expanse of wetlands about four miles long on broad low slopes beneath steep west-facing bluffs. These areas, occurring between the elevations of 706 and 728 feet, were described as "perched bogs" by park planners (Nelson and Cox 1978). They are more accurately described as calcareous seepage fens (Minnesota Natural Heritage Program 1993), characterized by the presence of mineral-rich groundwater discharge areas, deep peat and muck soils, and several calcareous seepage fen indicator plant species.

This whole expanse was almost certainly calcareous seepage fen prior to Euro-American settlement. However, agricultural and development activities in the fens have severely impacted large portions, particularly those areas that were ditched and planted to crops (Section 8 and the northeast quarter of Section 18). These highly disturbed areas do have some native wetland species in them, but they also have large patches of the invasive species reed canary grass and common reed grass.

However, there are also intact calcareous seepage fens in Sections 33 and 5. All of the fens in the park and in the adjacent Nicols Meadow were given the quality rank of C. The relatively low rank was due to the presence of large patches of reed canary grass, common reed grass, and shrubs and small trees scattered throughout most of the area. Despite this, there is still an overall high diversity of native fen species and there are several populations of rare plants and fen indicator species. There are active seepage zones throughout the existing fens.

Emergent Marsh (Map Code EM)

This community type is highly variable in the park. It is characterized by the presence of standing water year-round. Marshes have deeper water than fens and do not have sources of groundwater discharge. Portions around the perimeter of Gun Club Lake include large areas dominated by wild rice and other areas dominated by common reed grass (also known as phragmites). Better quality areas, ranked B, are relatively high in species diversity and are not dominated by invasive non-native species. Because the size of Gun Club Lake has been increased using control structures, some areas that were formerly fen now have a mix of fen and marsh species because they are inundated longer each year than they used to be.

The areas dominated by common reed grass are difficult to rank. There has been an increase in the amount of this species in the park in recent years. While common reed grass is a species native to this area, it is possible that there are non-native strains in the park that are especially well adapted to disturbance such as siltation. It is also possible that water tables are becoming lower and phragmites is increasing due to its ability to withstand relatively dry conditions (Shay and Shay 1986). Whatever the reason for its increase, many of the common reed grass stands in the park are nearly monocultures, with few other species in them. It should thus probably be treated as an undesirable species and considered invasive.

Floodplain Forest (silver maple subtype) (Map Code FF)

With the exception of Pike Island, nearly all the floodplain forest in these parks is young and disturbed. In some cases, there has been extensive past logging and possibly grazing, and non-native invasive plants are common. In other cases, the forest appears to consist of young tree growth in what was once marsh or fen vegetation that is converting to forest due to hydrologic changes or the absence of fire. In general, these forests were ranked CD to D in quality. They are characterized by a canopy of silver maple, sometimes dominant, with cottonwood, black willow (*Salix nigra*), peach-tree willow, green ash, and hackberry. There is often a lower tree layer dominated by box elder with saplings of American elm, red elm (*Ulmus rubra*), and the previously mentioned canopy species. Ground layers are generally low in species richness, with exotic species predominating, including ground ivy (also known as creeping charley), moneywort (*Lysimachia nummularia*), and possibly garlic mustard (*Alliaria petiolata*).

In some areas, there are small fragments of better-quality forest. For example, in the narrow strip of forest on the east side of the Minnesota River south of the Mendota bridge, there are several areas of good-quality forest with intact ground layers and good tree canopies. These areas are surrounded by a mix of disturbed forest and open marsh and mud flat vegetation.

During a visit to the floodplain forest at the north edge of Fort Snelling State Park in the spring of 1994, a large population of the invasive non-native species garlic mustard was observed dominating the ground layer. It is not known whether these plants survived the entire year. A biennial plant, it has proved to be invasive in forests east of Minnesota, and may now be getting a foothold in this state.

The forest at Pike Island, especially that in the eastern portion, is larger in extent and generally better in quality than the remaining floodplain forest in the parks. Portions have been cleared, grazed, and cultivated, and the island was heavily impacted by the deaths of American elms from Dutch elm disease in the 1960s and 1970s. However, the forest does include trees that are over 100 years old (see Wovcha et al. 1995, page 39). The releve plot describes the forest in the southwest part of the island and the species list describes that in the eastern portion.

Maple-Basswood Forest (Map Code MB)

Never common in this area, this community type has probably become rarer over the years due to the opening up of steep slopes by early logging and more recent heavy erosion of bluffs along the river valleys. There are two small remnants totaling about 15 acres on north to northeast-facing slopes above the Mississippi River and its floodplain south of Minnehaha Park. They are C rank in quality, with occasional stumps, some narrow foot trails, a fair amount of common buckthorn in the shrub layer, and trash and fire rings left by human visitors.

Mesic Oak Forest (Map Code 0F)

The bluffs lining the valleys of the Minnesota and Mississippi rivers and Minnehaha Creek all support mesic oak forest, with the exception of a few small areas of maple-basswood forest. In the absence of fire or other disturbance, much of the oak forest will probably succeed to maple-basswood forest. The oak forest is generally highly disturbed by erosion and by the invasion of non-native invasive shrubs, particularly common buckthorn. Most of it was ranked CD- or D-rank, with only occasional pockets of better quality, C-rank forest. The ground layer is generally sparse and low in species diversity due to water erosion originating from the upper slopes and rocks and gravel that were apparently dumped onto the slopes. There are also unofficial foot trails in many areas that have caused additional erosion.

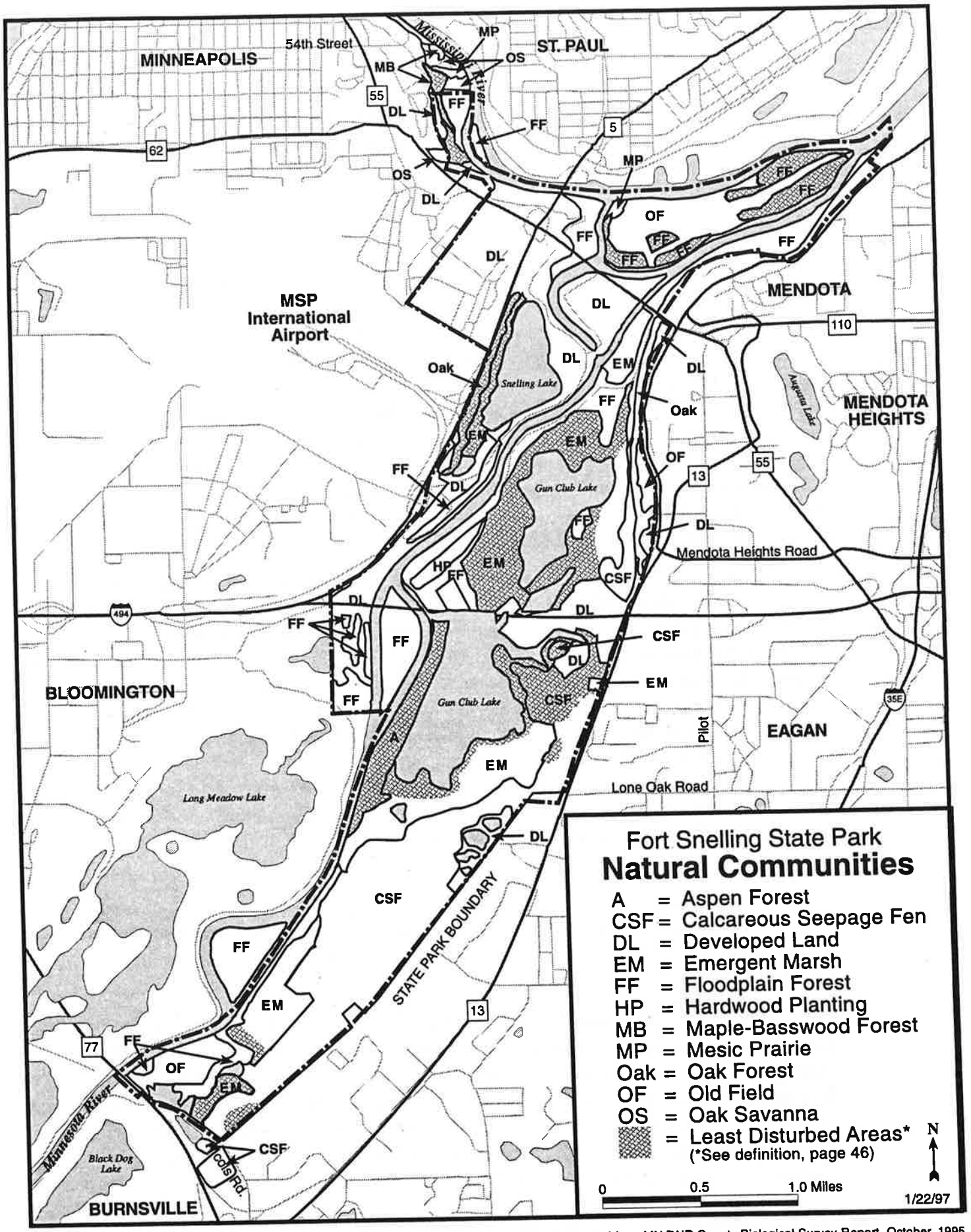
Mesic Prairie (Map Code MP)

The mesic prairie in Fort Snelling and Minnehaha parks has all been planted.

Oak Savanna (southeast section) mesic subtype (Map Code OS)

This community type has been nearly extirpated from the state of Minnesota. Nearly all former savanna has either been converted to agricultural or urban areas, or has become overgrown to form oak forest in the absence of fire and grazing by native large mammals. The two small remnants in Fort Snelling and the adjacent land to the north, while much disturbed by thick growths of trees and brush, including the exotic species common buckthorn, have been improved by recent clearing and prescribed burning. The best area, ranked BC in quality and described in a releve plot, includes about 5% cover by bur oak and northern pin oak (*Quercus ellipsoidalis*). The herbaceous flora is dominated by big bluestem and the exotic species Kentucky bluegrass, and contains an impressive number of native forbs (wildflowers). With continued cool-season burning, the native savanna plants should increase in quantity and number of species at the expense of the non-natives.

*NOTE: The Natural Communities map on page 47 was adapted by DNR, Division of Parks and Recreation planning staff to be readable in a black and white format. Community subtypes were combined for clarity and those areas which were not noted as "disturbed" by MCBS were included in the "Least Disturbed Areas." These areas are not to be considered intact natural communities, but rather the areas remaining in the park with the least level of disturbance.



Fort Snelling State Park
Natural Communities

A = Aspen Forest
CSF = Calcareous Seepage Fen
DL = Developed Land
EM = Emergent Marsh
FF = Floodplain Forest
HP = Hardwood Planting
MB = Maple-Basswood Forest
MP = Mesic Prairie
Oak = Oak Forest
OF = Old Field
OS = Oak Savanna
= Least Disturbed Areas*
(*See definition, page 46)

N

0 0.5 1.0 Miles

1/22/97

Source: Adapted from MN DNR County Biological Survey Report, October, 1995.

Wildlife

Introduction

The following descriptions of mammals, birds and reptiles/amphibians were excerpted from the MCBS report referenced earlier. The fish and mollusk sections were developed using the MCBS report combined with other sources (e.g. lake survey information from the DNR, Section of Fisheries).

Mammals

Rare mammal species that occur in the metropolitan area include two small rodents associated with dry sand prairies, the Prairie vole (*Microtus ochrogaster*) and Plains pocket mouse (*Perognathus flavescens*). Both are state special concern species. While the nearest locality for the Plains pocket mouse is in Anoka County, a 1917 record exists for a Prairie vole that was found in Minnehaha Falls. Field evaluation of potentially suitable prairie habitat within Fort Snelling State Park this habitat largely absent from the park. Those grassland habitats that exist are small, with encroaching shrubby vegetation, and generally are too mesic for these mammal species. Because the probability of finding Prairie voles or Plains pocket mice was quite low, it was decided that small mammal surveys would not be done at Fort Snelling State Park. However, incidental collections of small mammals were made from the drift fence set at Pahl's Field for herpetofauna.

Two state special concern bat species, the Northern myotis (*Myotis septentrionalis*) and Eastern pipistrelle (*Pipistrellus subflavus*), hibernate during winter in the sandstone mines and caves along the bluffs of the Mississippi and Minnesota rivers. Although, no caves or mines are present at Fort Snelling State Park, these species may forage in the park during spring and summer. It is likely that all seven bat species known to occur in Minnesota, may be present in the vicinity of Fort Snelling State Park at some time during the year. These species include two other bats that hibernate locally, the Little brown myotis (*Myotis lucifugus*) and Big brown bat (*Eptesicus fuscus*), and three species that migrate south for the winter, the Hoary bat (*Lasiurus cinereus*), Red bat (*Lasiurus borealis*), and Silver-haired bat (*Lasionycteris noctivagans*). Although no intensive surveys were conducted at the park for bats, a training session with park staff from Fort Snelling State Park and William O'Brien State Park demonstrated the use of bat detectors.

No rare mammal species were documented at Fort Snelling State Park during MCBS animal surveys. Small mammal species collected from the drift fence were the Masked shrew (*Sorex cinereus*), White-footed mouse (*Peromyscus leucopus*), and Meadow vole (*Microtus pennsylvanicus*).

Rare bat species cannot be identified using the bat detector, so their presence in Fort Snelling State Park remains unknown. During the bat detector demonstration Big brown bats were visually located as they flew across open areas and audibly identified using the bat detector. This species appeared to be quite common. In addition, a few individual Little brown myotis and possibly a Hoary bat were detected. The abundance of wetlands and river backwaters present in Fort Snelling State Park provide excellent foraging areas for insectivorous bats. It is likely that additional surveys will reveal that this park is an important summer use area for bats.

Birds

MCBS bird surveys documented the presence of 72 species at Fort Snelling State Park during the breeding season, including two state-listed species (Bald Eagle and Forster's Tern) and one unlisted but rare species (Bell's Vireo). The park's avifauna is relatively diverse, owing to the variety of habitats found within the park.

Reptiles and Amphibians

A total of ten species were found in the park during MCBS surveys, including the Snapping turtle which is listed as state special concern. The state-threatened Blanding's turtle was not found during our surveys, but has been documented in the park by others. It is possible that additional herpetofauna may be documented in the park, such as the treefrogs and salamanders. Park staff reported that Mudpuppies have been found there, however, MCBS survey activities were not conducted in suitable habitat for this species.

Chorus frogs and American toads were the only species documented during anuran surveys. One or both of the species was recorded at nine of the fourteen anuran survey sites. Call indices were typically low for both species. Conspicuously absent were Spring peepers (*Pseudacris crucifer*) and treefrogs, Eastern gray treefrog (*Hyla versicolor*) and Cope's gray treefrog (*H. chrysoscelis*). For unknown reasons, Spring peepers appear to be absent from the core metropolitan area. Treefrogs, however, have been found elsewhere and should have been present in the park. The excessive flooding of 1993 may have biased our findings. Some of the survey sites were severely impacted and many were inaccessible during the third run of the survey. In addition, detection of calling anurans was hampered by the loud noises from planes passing overhead and freeway traffic surrounding the park.

Four species of herpetofauna were captured in the drift fence: American toad, Green frog, Northern leopard frog and Snapping turtle. The ability of species with toepads, such as Chorus frogs and treefrogs, to adhere to the bucket wall and escape may have biased drift fence results. In addition, the effectiveness of this sampling technique also was affected by the flooding, which filled the buckets with water or dislodged them from the ground.

Seven painted turtles, including six adult males, were captured in the turtle traps. Bluegills were also captured in the hoop nets.

Herp searches and incidental observations documented two amphibians and five reptiles in or near the park. Eastern garter snakes were frequently found during the searches and a Plains garter snake was found dead on Highway 13. Green frogs, Snapping turtles, and Painted turtles were observed at Gun Club Lake. American toads were observed near the Sibley House and are probably distributed throughout the park. A Fox snake and Eastern garter snake hibernaculum is known to exist in the park. Redbelly snakes are known to exist in the Cedar Avenue bridge area.

Fish

Fort Snelling State Park has a variety of types of aquatic habitats including major streams (the Minnesota and Mississippi Rivers), flood plain lakes (Snelling and Gun Club Lakes), small streams (Kennealy's and Black Dog Creeks), a water filled gravel quarry (Quarry Lakes), and a variety of dug drainage ditches.

Three state listed species of fish are found in the rivers in the vicinity of Fort Snelling State Park. Paddlefish (*Polyodon spathula*, 1990), Blue sucker (*Cycleptus elongatus*) and Shovelnose Sturgeon (*Scaphirhynchus phatornchus*, 1980) are all listed as species of "Special Concern."

The Mississippi River has the greatest diversity of fish species of any of the bodies of water found within or adjacent to Fort Snelling State Park. Over 40 species of fish (including minnow species) are currently found in the Mississippi River through Fort Snelling State Park. Carp and other rough fish make up a significant portion of the fish found in the river. However, there are abundant populations of game fish in this section of the river. The section of the Mississippi River through Fort Snelling State Park and a short section of the Minnesota River east of Pike and Picnic Islands are part of an experimental "Catch and Release Only" fishing regulation area. These experimental fishing regulations are for the following fish species: Walleye, Sauger, Largemouth Bass and Smallmouth Bass, and are in effect from March 1, 1993 through February 28, 1999.

Minnesota River fish species are dominated by carp, carpsucker, and other rough fish. Many of the same species of fish found in the Mississippi River are also found in the Minnesota River. Because of high turbidity and sediment load, the oxygen levels in the Minnesota River are not currently able to support the abundance of game fish found in the Mississippi River. Many game and non game fish species appear to have been extirpated from the Lower Minnesota River Watershed, including Paddlefish (*Polyodon spathula*, 1990) and Shovelnose Sturgeon (*Scaphirhynchus phatornchus*, 1980) which are both listed as species of "Special Concern."

Snelling Lake is typical of floodplain lakes throughout the Minnesota River Valley. It is shallow (8 foot maximum depth) with abundant native aquatic vegetation. The lake has limited fish kills normally found with floodplain lakes due to the use of an aeration system which has been installed at the south west end of Snelling Lake. Dominant gamefish species are largemouth bass and northern pike. Panfish are plentiful in Snelling lake and there are a number of minnow species as well. There has been no fish stocking done. Fish stocks are maintained through natural spawning and flooding of the Minnesota and Mississippi Rivers.

Gun Club Lake fish populations are dominated by pan fish, rough fish and minnow species. This flood plain lake has some natural spawning but is mostly stocked by flooding from the Minnesota River. Both aquatic and emergent vegetation are abundant. Winter kills of fish due to oxygen depletion are fairly common, especially in the north section of Gun Club Lake.

Kennealy's Creek, Black Dog Creek and Creek #1 (Harneck's Creek) are all spring feed streams draining into the southeast corner of the park, which have had small brook trout populations. Recent surveys of Kennealy's and Black Dog Creek found no brook tout. Creek #1 has a small population of brook trout. These populations appear to have been extirpated from these creeks. Four to six species of minnows are found in all three creeks. All three creeks have a good potential for restoring populations of trout, if reliable water sources can be maintained.

Quarry Lakes Gravel pit are comprised of 4 gravel pit basins, which drain into the Minnesota River via drainage ditches. The pits are cold water basins with low oxygen content. Sampling has identified 13 fish species and a number of minnow species present. Most common game fish are black crappie and northern pike. There is no record of fish stocking and no stocking is planned for the Quarry Lakes. Legal public access is difficult at this location. No rare elements are found here.

A number of engineered drainage ditches exist south of Gun Club Lake. These ditches date to the 1940's and 1950's. No fish species or population data is available on these drainage ditches. However, beaver activity along their courses is extensive, creating deep pools. Sampling of these ditches will likely yield species similar to other park streams and lakes.

Mollusks

Mussels throughout Fort Snelling State Park are important resources and are often viewed as indicators of environmental health and quality of the water body where they are found. Mussel populations appear to have been in decline in this area as early as 1908 (H. Nachtrieb). By 1989, researchers stated "the stretch of the Minnesota River below Shakopee is now essentially devoid of viable mussel populations." Many of the species formerly found in the Minnesota and Mississippi Rivers have been extirpated. The probable cause of the extirpation are decreased water quality and early 1900's mussel harvesting for the button industry.

Recent surveys of the Mississippi River's Pool 2 in 1978 and 1989, found nine and eleven species respectively. None of these species were state or federal listed species. Twelve live species were found up stream from the park in Pool 1; seven species found in the 1989 survey were located during the 1978 survey. One species of mussel has been found in Gun Club Lake.

A number of the species that have apparently been extirpated from the Minnesota and Mississippi Rivers are currently found on the state list of endangered, threatened and special concern species. These are: Ebony Shell (*Fusconaia ebena*), Wartyback (*Quadrula nodulata*), Mucket (*Actinonaiasss ligamentina*), Purple Wartyback (*Cyclonaias tuberlulata*), Washboard (*Megalonaiass nervosa*), Monkeyface (*Quadrula metanevra*), Spike (*Elliptio dilatata*), Black Sandshell (*Ligumia recta*), and Hickorynut (*Obovaria olivaria*).

Current survey data is not available on either land or aquatic snails or other non-mussel mollusk populations in Fort Snelling State Park. Future surveys would be of value, especially in seepage plant communities such as the calcareous fens and black ash seepage swamps.

Insects

There have been no comprehensive surveys of insects in Fort Snelling State Park. The park's wide variety of habitats increases the potential for the park playing an important role in maintaining insect and other invertebrate populations throughout the area. Future surveys are of importance, especially in rare and uncommon communities such as the remnant oak savannas and oak woods, calcareous fens and associated wetland communities, and seepage swamps.

Lichens

Lichens are found throughout Fort Snelling State Park. Initial surveys of the Gun Club Lake area have identified 12 species present. None of the species found are federal or state listed as endangered, threatened or of special concern.

Endangered, Threatened, and Special Concern Species

The Minnesota Natural Heritage (MNHP) and Nongame Programs identify and document occurrences of endangered, threatened, or special concern, plant and animal species, as well as geologic processes and natural communities. Each occurrence is termed an "element" and is included on an official register maintained by the MNHP. The status reported in the text is the official current state status as listed by the State of Minnesota (there may also be a federal status for each species).

Plants:

Three state-listed plant species occur in the park, all within the calcareous seepage fen communities: sterile sedge and valerian are state-threatened species, and small white lady's slipper is a state-special concern species. Two species which were state-listed until 1996 also occur in the park: cowbane and Walter's barnyard grass.

The majority of state-listed plant species in the park occur in the calcareous seepage fens located in the Dakota County Wetland Complex. It will be important to follow recommendations in the wetland complex study to protect these species within their habitat.

Animals:

Rare amphibians and reptiles

Two rare reptile species have been documented recently in Fort Snelling State Park: Blanding's turtle and Snapping turtle. There are also numerous Fox snake occurrences in the park, which were state special concern species until 1996. Historic records exist for two additional snake species, Milk snake and Eastern hognose snake, which were state special concern species until 1996. The Milk snake was collected in 1949 in Mendota Township and the Eastern hognose is an older specimen taken from Fort Snelling. These species inhabit woodlands, forest edges, and grasslands which are represented in the park. Although it is possible that they still occur in the area, viable populations in the park are doubtful. MCBS surveys elsewhere in Dakota County documented Blue racers and Gopher snakes, two species of special concern. Both were found in southern Dakota County in habitats not found to any extent within the park.

Blanding's turtle

The state-threatened Blanding's turtle has been observed within the park in recent years, but nesting success and recruitment of juveniles into the population is likely to be quite low. Although suitable wetland habitat is present at Fort Snelling State Park, nesting habitat is a limiting factor. Grasslands within the park are small and many are overgrown with shrubs, reducing their suitability for nesting. Blanding's turtles which attempt to nest on grasslands outside the park are vulnerable to being hit by vehicles on the busy roadways. Railroad tracks on the eastern border of the park may also create a barrier limiting movements of this species.

Snapping turtle

This special concern species was observed basking along Gun Club Lake and was captured in the drift fence at Pahl's Field. Snapping turtles likely occur elsewhere in the park wherever permanent, open water is present.

Fox snake

Four locations of Fox snakes in the park suggest that a healthy population of this species exists here. Fox snakes were listed as state special concern until 1996. This species inhabits woodlands and forest openings and is often associated with stream or river corridors.

Rare birds

Among the targeted rare bird species, only the Bald Eagle and Forster's Tern (both state special concern species) were seen in the park during the 1993 surveys. However, Peregrine Falcons began to nest on the Mendota Bridge in 1996.

Surveys of emergent marsh habitats within Fort Snelling State Park failed to document the presence of rare wetland birds, such as American bittern, Common moorhen, and Black tern. American bitterns are quite rare in this region and there was only a slight possibility of finding this species here. Common moorhens prefer an interspersion of open water, emergent vegetation for concealment, and submergent vegetation that provides feeding areas. Much of the emergent marshes and fens present in the park appeared to be densely-vegetated, and dominated by phragmites and reed canary grass that do not provide the ideal habitat structure for moorhens. Black terns were not detected during the 1993 surveys. They are known to breed in scattered locations in the metropolitan area, where their preferred nesting habitat is exposed muck and floating cattail root masses. They may feed over the wetlands at Fort Snelling State Park, although none were documented by MCBS.

Two rare species, Cerulean warbler and Red-shouldered hawk, are associated with mature floodplain forest habitats. Surveys focused on this habitat within the park, however, these species were not documented. Floodplain forest in Fort Snelling State Park appears too fragmented to provide suitable habitat for these species. Also, the extreme flooded conditions in 1993 may have affected use of this habitat by Cerulean warblers and Red-shouldered hawks. Additional surveys in larger tracts of this habitat (e.g. along the Mississippi River on Pike Island and near Minnehaha Trail) during more normal years may reveal their presence.

Bald eagle

An active bald eagle breeding territory which encompasses a portion of the park has occurred in the Minnesota River Valley since 1983. Bald eagles (state special concern; federal status threatened) were seen flying in the vicinity of Gun Club Lake during the 1993 surveys, however no nests were found at Fort Snelling State Park. Two nests occur in the vicinity of the park and it is possible that these birds use the park for feeding. Management plans have been prepared for both nests and they currently are being monitored by Regional Nongame Wildlife personnel.

Forster's tern

Forster's terns (state special concern) were observed flying over the wetlands of Fort Snelling State Park, however, no breeding evidence was noted. There are no known nesting colonies in the vicinity of the park, and non-breeding individuals frequently wander widely.

Bell's vireo

Although this species is not state-listed, the Bell's vireo is sparsely distributed in southeastern Minnesota, reaching the northern edge of its range in the Twin Cites area. During the 1993 surveys, this species was found nesting at Fort Snelling State Park. Bell's vireos prefer brushy edges, including wet areas such as shrub swamps. The shrubby wetlands and fens in the park provide ideal habitat for this species. Although the rare animal print-outs in Appendix II include the sighting of a Bell's vireo in 1980, this species is no longer tracked in the database

and the most recent records are not included. However, all known sightings of Bell's vireo in the park are included in Figures 2 and 5.

Peregrine Falcon

Peregrine Falcons began to use the Mendota Bridge as a nesting site in 1996. Peregrine falcons are a state threatened species.

Additional Known Elements in the Vicinity of the Park

The 1995 MCBS report on Fort Snelling State Park and Minnehaha Regional Park includes information on elements within these two parks. For additional information, refer to MCBS maps for individual metro area counties (in various stages of completion at this time).

Resource Objectives and Integrated Management

Introduction

There is a delicate balance in bringing people and nature together. People need access to open space and natural areas for recreation and renewal in an ever increasingly complex world. County biological surveys indicate only four to eight percent of most Minnesota counties remain in natural communities. In the metropolitan area, only a small percentage of area remains in natural communities and these are highly fragmented. The natural community areas which remain are increasingly important and should be protected from further degradation.

Actions outlined in this chapter which involve water level or shoreland management (e.g. Nicols and Sibley Fens, Gun Club Lake, MHS landing) may require permits or review by the DNR Division of Waters (see Planning Process File for further direction).

Plan Modifications Related to Future Park Resource Information

Natural and cultural resource information will continue to be inventoried and documented. For example, a major analysis of the Dakota County wetland complex is scheduled to be completed in the near future. As this new information becomes available, it should be evaluated in relation to the management recommendations in this plan. Appropriate plan revisions and amendments (see pages 104) should be made to this plan if warranted. The Regional Resource Specialist, Park Resource Specialist, Regional Park Manager, Park Manager, and a member of the park planning staff should jointly review and recommend appropriate plan modifications.

Natural Community and Historic/Cultural Resource Objectives:

- Manage for functional ecological systems and the integrity of biological diversity at all levels: landscape, habitat, species, and genetic.
- Maintain habitats essential for declining species and identified heritage elements.
- Restore degraded natural communities and ecological systems.
- Identify, monitor, and manage historical and cultural resources in cooperation with the Minnesota Historical Society.
- Manage park resources according to ecosystem - based management principles as outlined in Topic 1, below.

Integrated Resources Management:

Topic 1. Ecosystem-Based Management

Discussion: Following is an ecosystem-based management goal and some principles for managing Fort Snelling State Park. They are paraphrased from current literature on ecologically-based management. These principles should also be considered when new issues arise that have not been considered in this plan.

GOAL AND PRINCIPLES FOR ECOSYSTEM-BASED MANAGEMENT

GOAL: Management should protect or enhance the health of the ecosystem in the park and native biological diversity of its habitats. This is generally defined as giving first priority to protecting and restoring the native diversity (including species and communities), and the ecological patterns and processes needed to maintain that diversity. When the highest quality areas have been protected, the next steps include buffering and connecting these areas, and restoring and maintaining healthy, diverse communities and habitats in surrounding areas.

Managing for ecosystem health in the park would include identifying and conserving viable populations of native species, using natural disturbances such as controlled fires to maintain and restore communities, and increasing native species diversity in the park and surrounding areas when possible. Recreation uses should be balanced with the ability of resources to sustain use without damage--areas most sensitive to human use should be considered for least intensive uses; areas that can sustain more use without negative impacts to plan and animal communities or natural systems should be considered for more intensive use.

While maintaining some native species and processes offers challenges in an urban setting, it is worth pursuing for a variety of reasons:

1) Native plant and animal species and communities have evolved together in the park area for a long time, and are particularly suited to this environment. Over the long term, they will maintain a healthy system that can adapt to disease, weather of other natural disturbances, and should require less management inputs than species less suited to the environment of the park.

2) These species and communities offers human visitors a varied and interesting Park environment that illustrates the ecological history of our region and provides diverse opportunities for recreation and education; and

3) High quality natural communities are rare in Minnesota, and particularly in the Twin Cities Metro Area, and are worth protecting and enhancing because they are rare and difficult, if not impossible, to restore to natural condition. Such areas can serve as a source of native seed for restoration of other park areas and areas nearby.

Some ecological principles that are important components of this theme include the following:

1. **Species are interdependent:** planning should be focused on maintaining healthy communities and habitats, and the processes that sustain them, and "saving all the parts," since we don't always understand how all components function.

2. **Introductions of exotic species (plant and animal species not native to the area) reduces native diversity, the quality of habitat, and the health of communities, and therefore exotics should be excluded or controlled.** Appropriate methods for controlling exotic species include cutting, burning, herbicide application, and biological controls.

3. **The health of communities depends on their size--**in general, smaller and more fragmented communities support fewer species, are more vulnerable to extinctions and invasions, and are less able to recover their diversity, particularly if other sources of native populations are not available nearby. **Management therefore emphasizes improving connectivity, avoiding fragmentation of contiguous habitats, protecting natural waterways, and identifying and protecting critical habitats.** Connections between communities along natural corridors may help to maintain diversity and health by allowing plants and animals to migrate and reproduce.

4. **People are part of nature.** The decisions and actions of humans have been a major force shaping the natural resources and processes of the Park for a long time. Humans and their values must be an important component in shaping park management.

   Recreation is an important goal of park management. Natural resources management needs to consider providing for appropriate active and passive recreation opportunities in the park.

5. **Planning should be based on ecological boundaries and long time frames.** Natural systems and communities that make up the park extend beyond political boundaries, and influence the quality of resources in the Park. For example, the wetland natural communities of the Park continue southwest into the Minnesota Valley National Wildlife Refuge and other communities. Common management goals for these areas could improve long-term health and survival of plant and animal communities here, and their value for human residents and recreationists. Effective management needs to consider broader spatial areas that influence the Park, and be based on time frames that consider natural processes.

6. **Management should be based on good data collection and monitoring.** Baseline species and population assessments, habitat inventories and classification, and monitoring data are critical to evaluating the quality of the Park's resources and determining appropriate management. Management should be a learning process, and an ongoing experiment, based on the results of previous actions, allowing managers to be flexible and adapt to changing conditions.

7. **Management should be based on interagency cooperation.** All organizations that make decisions or take actions that affect the resources of the Park should be involved as appropriate in developing management plans, implementing actions, and evaluating outcomes.

8. **Management should provide for permanent protection of important natural resources,** particularly those of county-wide, metro or state significance.

ACTIONS

Action 1. Participate in local and regional planning efforts to sustain healthy ecosystems.

Action 2. Incorporate concepts of biodiversity, ecosystem-based management and watershed/landscape management into park interpretive programs.

Topic 2. Biological Diversity

Discussion: Each species within a given community fills a niche that is interconnected to all other species. As individual species are lost, ecosystems deteriorate, providing habitat for fewer and fewer species. Prior to 1900, it is estimated that one species was lost every four years; today, estimates indicate one species is lost every hour. Although these figures represent our global situation, we must do our part to preserve the diversity of biological species.

ACTIONS

Action 1. Follow the recommendations listed in the MCBS report regarding specific species and habitats. This includes providing native vegetation in all areas and:

- providing grasslands near selected wetland areas for nesting habitat;
- providing contiguous tract/closed canopies for specific bird species such as red-shouldered hawks and cerulean warblers;
- enhancing interspersion in emerged marsh areas;
- maintaining snag trees for bats, woodpeckers and other species;
- managing for reptiles in areas where they are known to exist.

Action 2. Protect Federal and State listed species and manage habitats which encourage their proliferation.

Action 3. Continue biological surveys to document element occurrences which may exist but are unknown at this time.

Action 4. Implement management strategies that mimic natural disturbance patterns to maintain and restore the ecological integrity of the natural communities in the park.

Action 5. Survey all proposed development areas for impacts to natural and cultural resources (see Proposed Development, page 72).

Topic 3. Habitat Fragmentation

Discussion: Natural communities are fragmented when adjacent land uses result in smaller and smaller, broken-up pieces of natural areas. One of the most obvious fragmentation examples can be seen in forested areas where development and cutting results in many smaller forest tracts with many "edges." Fragmentation can also occur in other communities (fen, prairie, oak savanna, etc.). This sort of landscape change is an ecological issue because it favors some species and disfavors others, hence affecting biological diversity.

ACTIONS

Action 1. Minimize habitat fragmentation to protect large, contiguous community areas. This includes forested areas, fens and all other natural communities.

Action 2. Manage trails, roads and development areas to minimize fragmentation effects within the constraints of park management needs.

Action 3. Restore forest canopy to old fields and recreation areas where necessary and appropriate to reduce "edge" effect.

Discussion: The majority of this 3,500 acre park lies in Dakota County and includes very sensitive fen communities. Many other important natural community remnants including floodplain forests on Pike Island and Oak Savanna areas near Minnehaha Regional Park were identified in a report by the Minnesota County Biological Survey (MCBS) in 1995. This report, which includes management recommendations, has been invaluable during the planning process for this park. A future major study of the Dakota County Wetland Complex will provide additional information related to specific recommendations in that area (park management plan revisions and amendments will be made if needed - see page 104).

ACTIONS

Action 1. Divert stormwater away from the Nicols Fen. Stormwater from a 54" pipe should be diverted away from the Nicols Fen, and the existing plunge pool and channel needs to be filled with peat material and restored. A new retention basin should be considered (if stormwater quality indicates it is needed) on adjacent buffer lands or in another location. Major partners identified to cooperate on this project include: the Gun Club Lake Watershed Management Organization (which includes the 300 acre drainage area), the Lower Minnesota Watershed District (where the stormwater drain pipe is located), the City of Eagan, the DNR-Fort Snelling State Park, and the Dakota County Soil and Water Conservation District. MN/DOT would also be involved to determine the feasibility of diverting water to the Cedar Avenue MN/DOT basin.

Action 2. Manage Gun Club Lake water levels at a more natural, lower level. Gun Club Lake is mostly shallow with limited fishing potential. Some game fish survive here, especially in the lower lake, after Minnesota River flooding. Intensive fish management, including flood decks, aerators, and increased public access points, would probably be inappropriate in this area. The 1977-78 park plan recommended that Gun Club Lake be managed primarily for its wildlife and interpretive values. Since then, water has been drained via the control structure only when it rises to the top of the structure and threatens to erode the nearby trail. The 1995 MCBS Report recommended "more natural" (lower) water levels, but to be careful not to allow more exotic species encroachment as a result. Lower lake levels will also provide less habitat for deer and geese, which we are trying to control in this area. Beaver control, i.e., finding an appropriate population level that is in balance with the natural community, will continue to be a concern.

Action 3. Manage the Sibley Fen area. Highview Avenue erosion must be addressed, followed by bituminous road removal in this area (extending from the 494 bridge on the north to its southern terminus south of Highview Avenue), and fen/natural community restoration efforts (exotic species control, water level, and controlled burns).

Action 4. Coordinate Resource Management with the Minnesota Historical Society (MHS). Work with the MHS to manage the following areas:

Historic Landing Road - By statute, MHS manages a 33-foot wide historic landing road from the fort to the Mississippi River. The exact location of this road near the river has not been defined. *MHS and DNR should work together to define the alignment and agree on its management.* MHS would like to consider some tree removal and a "dry dock" within the MHS corridor (dockage of boats will be discussed as part of another topic area (see Recreation Management, page 77).

Camp Coldwater - *MHS and DNR managers will work together to accomplish reducing exotic species while maintaining some type of native shrub-cover to protect historic resources in the Camp Coldwater area.* Cutting buckthorn and other problem species and replanting with native shrub species may be the most viable approach to meeting both agency needs in this area.

5. Modify the state park statutory boundary in the Nicols Fen area to include additional fen and buffer areas (see Park Boundary section, page 84).

6. Continue to control exotic and other problem species including buckthorn, honeysuckle, garlic mustard, leafy spurge, crown vetch, and purple loosestrife.

Topic 5. Water Quality

Discussion: Water quality has declined in the park area as development has continued to increase. This is especially apparent in the Minnesota River and Snelling Lake. These water bodies have deteriorated as increased phosphorous loading, stormwater runoff, agricultural/residential runoff and other forms of pollution have increased.

ACTIONS

Action 1. Support statewide programs which attempt to improve the water quality in the Minnesota River. The governor recently initiated a program to help address this issue. Work with Watershed Districts in overall watershed planning.

Action 2. Review potential methods to improve the water quality of Snelling Lake. This might include weed harvesting, carp/bullhead control and other methods.

Action 3. Continue to work with MN/DOT to help control highway drainage and the Metropolitan Airports Commission to control airport drainage into the park.

Topic 6. Historical and Cultural Resources

Discussion: Fort Snelling State Park includes some of the most significant historical and cultural resources in the state.

ACTIONS

Action 1. Survey all proposed development areas for the presence of cultural resources as required by the Field Archaeology Act and Historic Sites Act. If significant cultural resources are discovered during the surveys, facility siting, public use and possible archaeological mitigation will need to be reviewed to avoid or minimize impacts.

Action 2. Work with the Minnesota Historical Society, State Historic Sites, Archaeology Department and State Historic Preservation Office, to manage historical and cultural resources within the park.

Topic 7. Research, Inventory, and Monitor Natural and Cultural Resources

Discussion: Resource management decisions and effective education programs require accurate, sufficient information and knowledge. Natural systems are dynamic and continually changing through natural succession, with fluctuations in climate, pest cycles and other factors. In the past, research has focused on populations and patterns of individual species. Scientific information on ecological systems is limited. Research and monitoring must be ongoing to evaluate effectiveness of management activities, impacts of recreational use and other factors affecting the resources.

ACTIONS

Action 1. Conduct further research pertaining to the health and appropriate management of the Dakota County Wetland Complex (see *Plan Modifications*, page 104).

Action 2. Survey and monitor mussel populations throughout the park. Also monitor for zebra mussels, Asiatic clams and other exotic species.

Action 3. Incorporate new management techniques as recommended by research and evaluation.

Action 4. Complete a baseline level of biological information of park and ecological boundary resources.

Action 5. Maintain a database and geographic information system of natural and cultural resources information to guide planning and monitoring activities (coordinate with the MHS, State Historic Preservation Office - also in Action 10, below).

Action 6. Collaborate with other agencies and organizations to identify and conduct research to further understanding of natural and cultural resource systems.

Action 7. Monitor and evaluate resource management activities to determine effectiveness for desired goals and objectives.

Action 8. Monitor recreational use to determine needed changes in management strategies.

Action 9. Provide training and educational opportunities to keep park staff informed of trends in current resource management techniques.

Action 10. Conduct cultural resource surveys, including an overall park inventory and additional research on known cultural sites. Consider archiving historical documents and research reports at the new park visitor center (for staff and visitor use).

Topic 8. Pike Island Management

Discussion: Pike Island was a popular topic of discussion at several planning workshops and meetings, including discussions related to natural/cultural resources, interpretation, summer/winter trail systems, recreational development, and trail use. The island is appreciated by many persons as an important natural and cultural area. Many park visitors come to the island for hiking and interpretive programs in the summer and cross-country skiing or hiking in the winter. The island is one of the most important resource and recreation areas in the park. Its floodplain forests, historical/cultural significance, and esthetic appeal make it a popular destination and important resource.

ACTIONS

Action 1. Co-manage the island for both its ecological and cultural values. Management practices must be mutually compatible to both uses. Cultural management should recognize the "center of the earth" and spiritual significance of the area as understood by persons in the Dakota community. Ecological management should recognize the importance of the floodplain forest and manage the area for closed canopies and connecting forested tracts (as recommended by the MCBS report).

Action 2. Support renaming Pike Island to its Dakota name, "Wi-ta Tan-ka." In addition, work with Dakota community members to define what types of management Dakota community members would like to encourage on this island.

Action 3. Remove the old interpretive center building. The new interpretive center was funded based on the inadequacies of the old center. The old interpretive center should be removed based on the following factors related to the building and its location. The building is:

- in very poor physical condition;
- 1/2 mile walk from parking areas and the approach is not physically accessible;
- expensive to redevelop, staff, maintain, and enforce;
- without a public vehicle access route;
- poorly accessible by service/emergency vehicles because they must travel down the Minnehaha trail connection treadway (safety/liability concern);
- situated on a "knob" of fill surrounded by floodplain; and,
- without city water or sewer connections.

Provide a toilet facility somewhere on the "knob." This would likely be a vault facility if the existing drainfield cannot be utilized. The open area on the "knob" could be used for a variety of outdoor gatherings/activities, or, it could be planted to close the canopy in this area.

Action 4. Manage Pike Island trails as narrow as possible, but no wider than an 8-foot wide corridor (trail surface) to allow vehicles and grooming equipment. Maintain a continuous canopy above the trail treadway in forested areas.

Action 5. Continue recreation management on the island similar to that which exists today. This includes strictly enforcing no bikes on island trails. When the old interpretive center is removed, the bike rack currently on the island should be moved off of the island, and signs will strictly prohibit bikes from the bridge and island. Enforcement should also be implemented related to unleashed dogs on the island; this is an area where visitors are known to unleash their dogs. The island will continue to be used for interpretive programs (see Interpretive Services chapter, page 86). A separated hike-ski system will be maintained in the winter (see Summer and Winter trails management, pages 73-77).

RECREATION RESOURCES

Recreation Management Objectives

- Preserve the park's scenic beauty and historic character
- Concentrate park development in appropriate areas in order to preserve the remaining natural resources
- Encourage park use, but manage and control all use so that it does not detract from the resources people have come to enjoy
- Provide the highest level of access practicable for persons with disabilities
- Offer and market a package of opportunities which includes:
    - The new interpretive center and associated programs
    - Historic Fort Snelling and Camp Coldwater State Historic Sites
    - Hiking, biking, and skiing opportunities
    - Picnicking and swimming opportunities
    - Fort Snelling Memorial Chapel, and
    - Upper Bluff Area Golf Course and Open Field areas

Existing Development

Trails

- Hiking: 18 miles
- Biking, off-road, paved: 5 miles (plus 1 mile of Big Rivers Regional Trail)
- Biking, on-road, shoulder: 5 miles
- Cross-country skiing: 18 miles
- Skate skiing: 9 miles
- Connections to:
  - Minnehaha Regional Trail and Minneapolis Regional Park System
  - Hidden Falls Regional Park and St. Paul Regional Park System
  - Big Rivers Regional Trail and Dakota County/Eagan/Mendota Heights Local Trails
  - Minnesota Valley Trail System

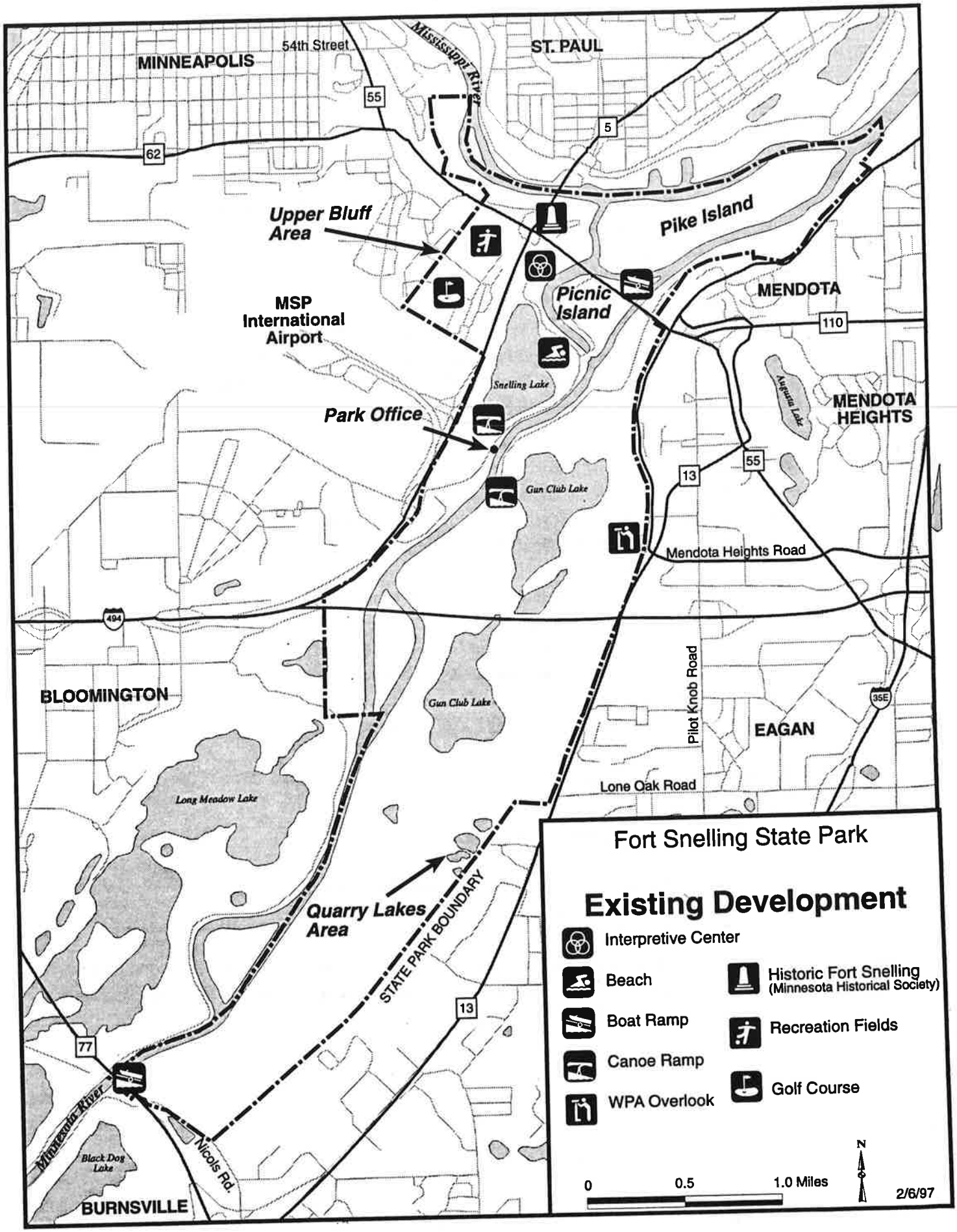
Day-Use

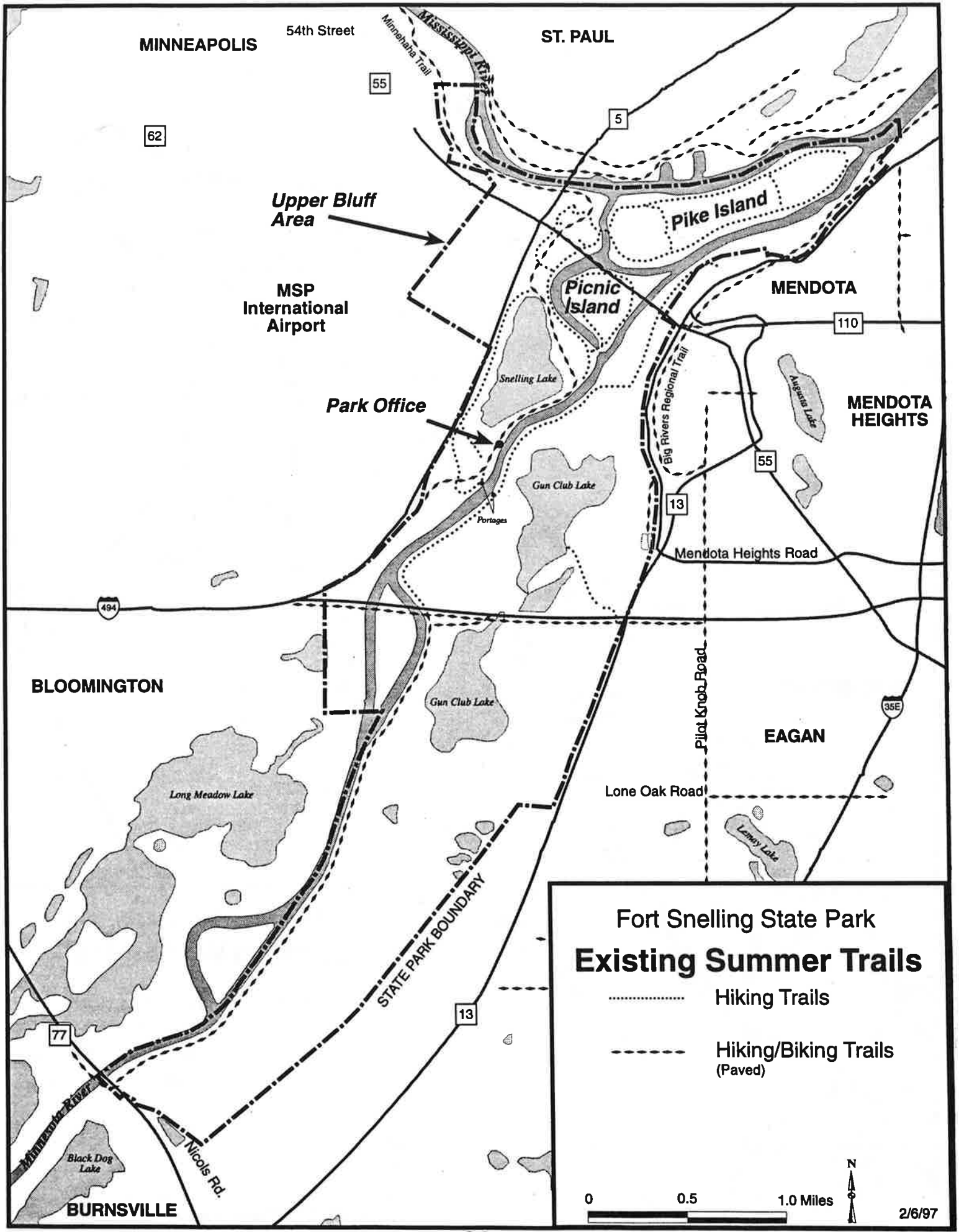
- Two reservable picnic shelters, 1 non-reservable
- Major swimming beach with lifeguards and sanitation building
- Major open picnic and event area (Picnic Island)
- Interpretive Center
- Nine-hole golf course and open field areas (under concession agreement with MPRB)
- Fort Snelling Memorial Chapel
- State Historic Sites—Historic Fort Snelling and Camp Coldwater
- Two drive-in boat accesses, two carry-in boat accesses
- Fishing pier
- Electric motors only on Snelling Lake, paddleboat and canoe rental available

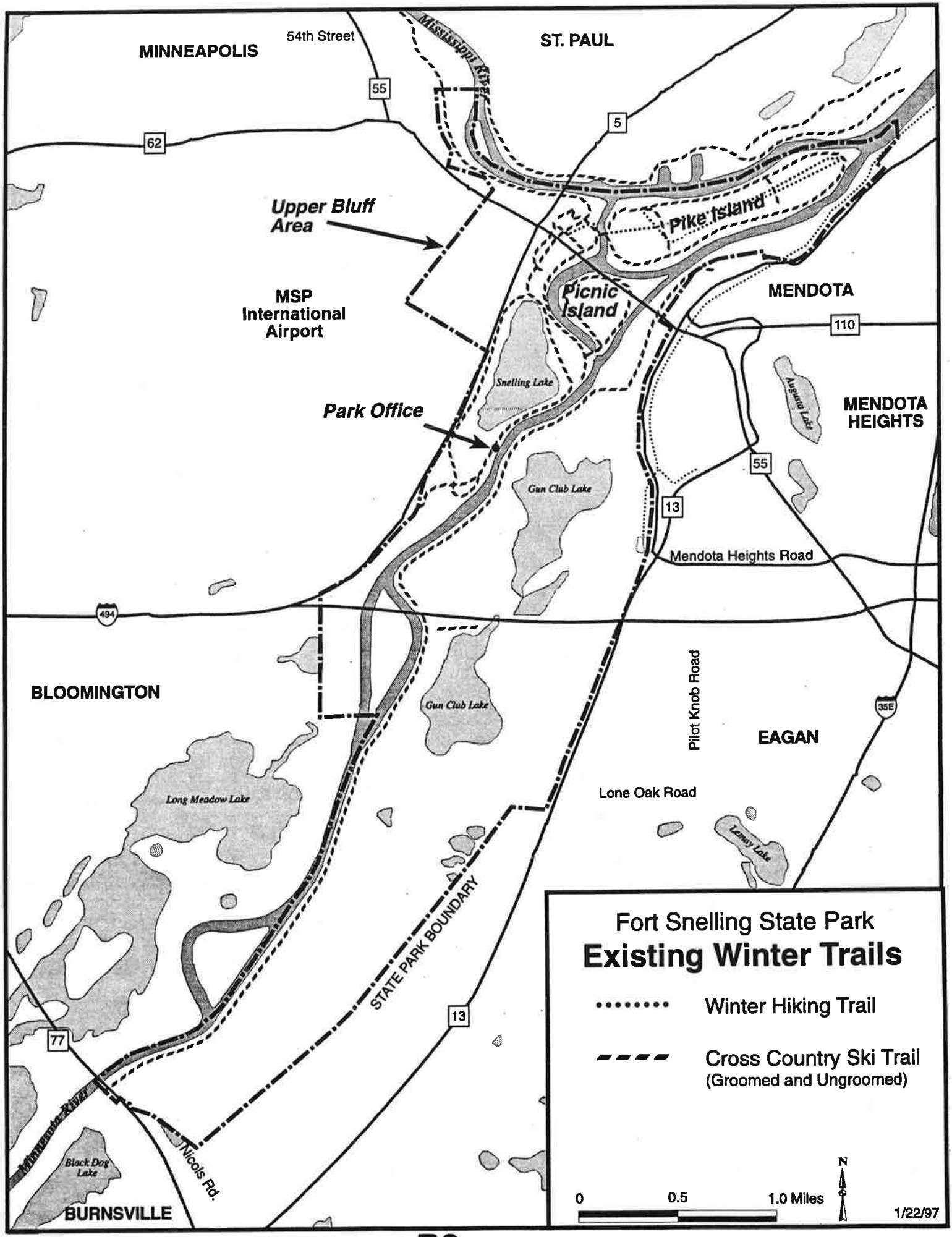
Park Administration

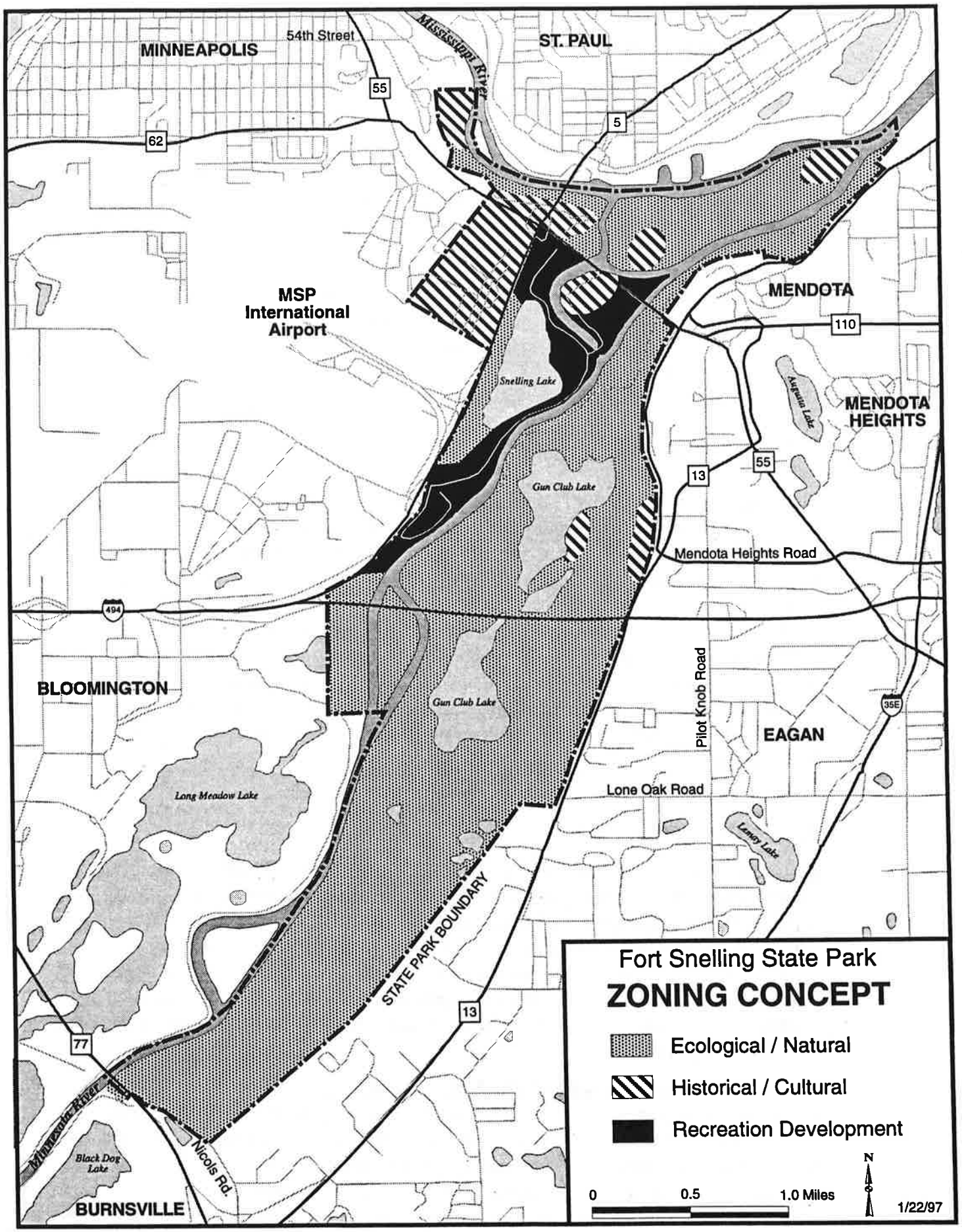
- Contact station and park office
- Roads: 5 miles paved, 1 mile gravel
- Active wells: 2
- Septic tanks: 3, Lift stations: 3, Collection line: 2 miles
- Shop, garage, and service area

The Existing Development map on page 68 and Zoning Concept map on page 71 shows general park development and zoning. Existing trail systems and shown on the Existing Summer Trails and Existing Winter Trails maps on pages 69 and 70, respectively.


MINNEAPOLIS
54th Street
ST. PAUL
Mississippi River
55
62
5
Upper Bluff Area
Pike Island
MSP International Airport
Picnic Island
MENDOTA
110
Snelling Lake
Park Office
Augusta Lake
MENDOTA HEIGHTS
13
55
Gun Club Lake
Mendota Heights Road
494
BLOOMINGTON
Gun Club Lake
Pilot Knob Road
35E
EAGAN
Lone Oak Road
Long Meadow Lake
Quarry Lakes Area
STATE PARK BOUNDARY
13
77
Minnesota River
Black Dog Lake
Nicols Rd.
BURNSVILLE
Fort Snelling State Park
Existing Development
Interpretive Center
Beach
Boat Ramp
Canoe Ramp
WPA Overlook
Historic Fort Snelling (Minnesota Historical Society)
Recreation Fields
Golf Course
N
0
0.5
1.0 Miles
2/6/97


MINNEAPOLIS
54th Street
ST. PAUL
Minnehaha Trail
Mississippi River
55
5
62
Upper Bluff Area
Pike Island
Picnic Island
MSP International Airport
MENDOTA
110
Snelling Lake
Park Office
Big Rivers Regional Trail
Augusta Lake
MENDOTA HEIGHTS
55
Gun Club Lake
Portages
13
Mendota Heights Road
494
BLOOMINGTON
Gun Club Lake
Pilot Knob Road
35E
EAGAN
Long Meadow Lake
Lone Oak Road
Lemay Lake
STATE PARK BOUNDARY
13
77
Minnesota River
Black Dog Lake
Nicols Rd.
BURNSVILLE
Fort Snelling State Park
Existing Summer Trails
Hiking Trails
Hiking/Biking Trails
(Paved)
N
0
0.5
1.0 Miles
2/6/97


MINNEAPOLIS
54th Street
ST. PAUL
Mississippi River
55
62
5
Upper Bluff Area
Pike Island
MSP International Airport
Picnic Island
MENDOTA
110
Snelling Lake
Augusta Lake
MENDOTA HEIGHTS
Park Office
55
Gun Club Lake
13
Mendota Heights Road
494
BLOOMINGTON
Gun Club Lake
Pilot Knob Road
35E
EAGAN
Long Meadow Lake
Lone Oak Road
Lemay Lake
STATE PARK BOUNDARY
13
77
Minnesota River
Black Dog Lake
Nicols Rd.
BURNSVILLE
Fort Snelling State Park
Existing Winter Trails
Winter Hiking Trail
Cross Country Ski Trail
(Groomed and Ungroomed)
0
0.5
1.0 Miles
N
1/22/97


MINNEAPOLIS
54th Street
Mississippi River
ST. PAUL
55
5
62
MSP
International
Airport
MENDOTA
110
Snelling Lake
Augusta Lake
MENDOTA
HEIGHTS
13
55
Gun Club Lake
Mendota Heights Road
494
BLOOMINGTON
Gun Club Lake
Pilot Knob Road
35E
EAGAN
Long Meadow Lake
Lone Oak Road
Lemory Lake
STATE PARK BOUNDARY
13
77
Minnesota River
Black Dog
Lake
Nicols Rd.
BURNSVILLE
Fort Snelling State Park
ZONING CONCEPT
Ecological / Natural
Historical / Cultural
Recreation Development
N
0
0.5
1.0 Miles
1/22/97

Proposed Development

The proposed development in this plan is generally conceptual. Site-specific, detailed development plans will be completed based on the concepts outlined in this plan. Actions which involve shoreland areas may require a permit or review by the DNR, Division of Waters (see Planning Process File). Proposed developments outlined in this plan were generated after reviewing available information on park resources. Development recommendations are made after careful consideration of the natural/cultural resources and the resource/recreation management objectives outlined in this plan.

All recommended development proposals (e.g. buildings, trails) will be contingent on a detailed site analysis prior to implementation. Development will only take place after a detailed physical analysis (e.g. soils) and resource assessment (e.g. rare plants or archaeological sites) have been conducted and considered.

Topic 1. Upper Bluff Area

Discussion: The Upper Bluff Area includes 141 acres deeded to the DNR from the United State Government in 1971. A deed restriction specifies that the property must be used for "public recreation purposes." The area includes a 9-hole golf course and open field area managed under a concession contract. The property also includes 28 historic buildings, some of which are in very poor condition. The Minnesota Legislature mandated a "Future Use Study" conducted by the DNR in 1992. In its long-term recommendations, the future use study recommended expanding the open recreational component of the property, but concluded the rehabilitation of the entire complex of buildings was *probably* cost-prohibitive (only a representative sample sufficient to preserve the historical integrity of the site was recommended). For discussion related to the park boundary in this area, see Proposed Park Boundary, page 84.

ACTIONS

Action 1. Develop an overall use plan which balances the Historical and Recreational uses of the property with some level of Commercial use to support the infrastructure of the project. Some type of public corporation or enterprise fund which returns the revenue generated back into the Upper Bluff Area infrastructure is needed. The 1992 future use study recommended that revenues from the concession be deposited in an account to pay for planning, operations, maintenance, and rehabilitation of buildings and grounds in the upper bluff area. Instead, these revenues are currently deposited into the state's general fund.

Action 2. Conduct a study of the Upper Bluff Area At the October 30, 1996 workshop, several participants indicated an interest in serving on an advisory committee to study the Upper Bluff Area. It was suggested that a broader vision for the upper bluff area be developed as part of the study. The study would incorporate how the upper bluff area relates to the lower park, the historic fort, and its location in the metropolitan area.

Topic 2. Summer Trails (Biking and Hiking)

Discussion: The Fort Snelling State Park summer trail system connects to numerous local and regional trail systems and the park serves as a "hub" for bicycle trails in the 3 counties and eight municipalities surrounding the park. The following action plan was generated following discussions pertaining to trail linkages, recreational demand, and natural resource issues. Pertaining to each action, please refer to the Proposed Summer Trails map, page 76.

ACTIONS

Action 1. Designate the Upper Gun Club Lake trail as a hike/mountain bike trail for beginner, family-type use. Consider providing trail pull-off or hiking only spurs off of the hike-bike Trail.

This segment of trail follows the Minnesota River from the 494 bridge to Mendota. It is mapped as a hiking trail, but more bicyclists currently use it than hikers. When the Minnesota Valley Trail connection from Cedar Avenue to 494 is paved, there will be much more bicycle traffic approaching the 494 juncture. At this point bicyclists can follow the 494 bridge East to the Big Rivers Trail, or West to the main park and Minnehaha/Mpls. trail system. Discussion during the planning process included the following options: 1) Hiking only (bikes must follow other routes), 2) Hike/Bike gravel trail, and 3) Hike/Bike paved trail.

There was very little support for paving this segment of trail (especially if Action 2, below, is implemented). Three criteria for considering new "mountain bike" trails were discussed-should not cause additional resource damage, user conflicts, or maintenance costs. There is a need for trails of this type in the metro area -- family oriented, beginner-level mountain bike trails. Some type of trail pullout or footpaths to birding areas where bikes are not allowed should be considered.

Action 2. Develop a paved bicycle trail between the WPA Overlook and the I-494 bridge. This new bicycle trail connection would follow Highway 13 from the WPA Overlook to the 494 bridge(less than 0.5 mile). It would be a paved surface trail located within the MN/DOT right-of-way and built up on the "sideslope" of Highway 13 (best alignment for both grade/safety and to minimize resource impacts). This connection would complete the Big Rivers Regional Trail connection to 494 without using Pilot Knob Road (essentially a sidewalk connection which forces bicyclists to cross Pilot Knob Road). The trail would ideally ramp upward beneath the 494 bridge so that it connects directly to the separated bike trail over Hwy. 13 and the railroad tracks. Dakota County has applied for federal funding to complete this project (on MN/DOT right-of-way).

Action 3. Designate the existing trails around Snelling Lake and Picnic Island as hike-mountain bike trails. The park currently provides separated hiking trails, a paved bike/hike trail, and biking along park roads. Some of the hiking trails in flatter areas (essentially around Snelling Lake and Picnic Island) are also used by bicyclists. As bicycle traffic has increased over the past 5 to 7 years, enforcement has become a problem because the park receives a lot of bicycles coming in from many trail connections. The 20 year-old plan

recognized the projected use on bike trails in this developed "hub" setting, and proposed that these trails (around Snelling Lake and Picnic Island) be hike/bike trails. These flat, non-surfaced trails would meet the three criteria for mountain bike trails discussed above in Action 1 (related to resource damage, user conflicts, and maintenance costs).

It will be important to continue and expand trail etiquette signage to minimize user conflicts. Pike Island will continue to be managed for hiking only - one access over the trail bridge is conducive to enforcement and "no bikes" will be signed and strictly enforced. The Axel Von Bergen Trail should be designated as hiking only and signed "no bikes." All other trails in the vicinity of the new interpretive center should be evaluated for their potential as hiking-only and interpretive trails. The trail along the backwater area across from Picnic Island and under the Mendota Bridge will remain hiking trail and evaluated for hiking/interpretive potential (as well as its ability to be enforced as a "no bikes" trail).

Action 4. Develop a paved bicycle trail connection through the US Air Force property between the 494 bridge and Post Road. Negotiations to make this essential connection have been ongoing for several years. This connection will provide a linkage between the Minnesota Valley Trail and the bicycle "hub" which includes the Minneapolis and St. Paul regional trail systems.

Action 5. Manage trails within the park as narrow as possible within the constraints of park management needs (e.g. emergency, maintenance, user conflicts, and trail grooming). Narrower trails are sometimes more esthetic, and have less resource impacts. There are concerns related to fragmentation as trails become wider. Wider trails are safer for multiple uses, especially in an urban setting. At Fort Snelling State Park, most trails are wider to allow vehicle access -- for emergencies, easements and utility vehicles (e.g. MAC, NSP, oil/gas pipeline), and park maintenance. There are also some areas where heavy trail use dictates the need for wider trails

Action 6. Work with the Minnesota Historical Society (MHS) to manage bicycle trail connections in the "hub" area, i.e., historic fort, landing road, and Minnehaha trail areas. Situated at the confluence of two rivers, three counties, and several municipalities, Fort Snelling State Park is a "hub" for many bicycle trails. Nowhere is this more apparent than at the Historic Fort site administered by the MHS. Bicyclists converge here from:

- Mendota Bridge (Hwy. 55) - Big Rivers Regional Trail and several local trails,
- Post Road Bridge (Hwy. 5)- Mississippi Gorge Reg. Trail, St. Paul regional parks/trails, and,
- Minnehaha Regional Park trail connection at the base of the Historic Landing Road.

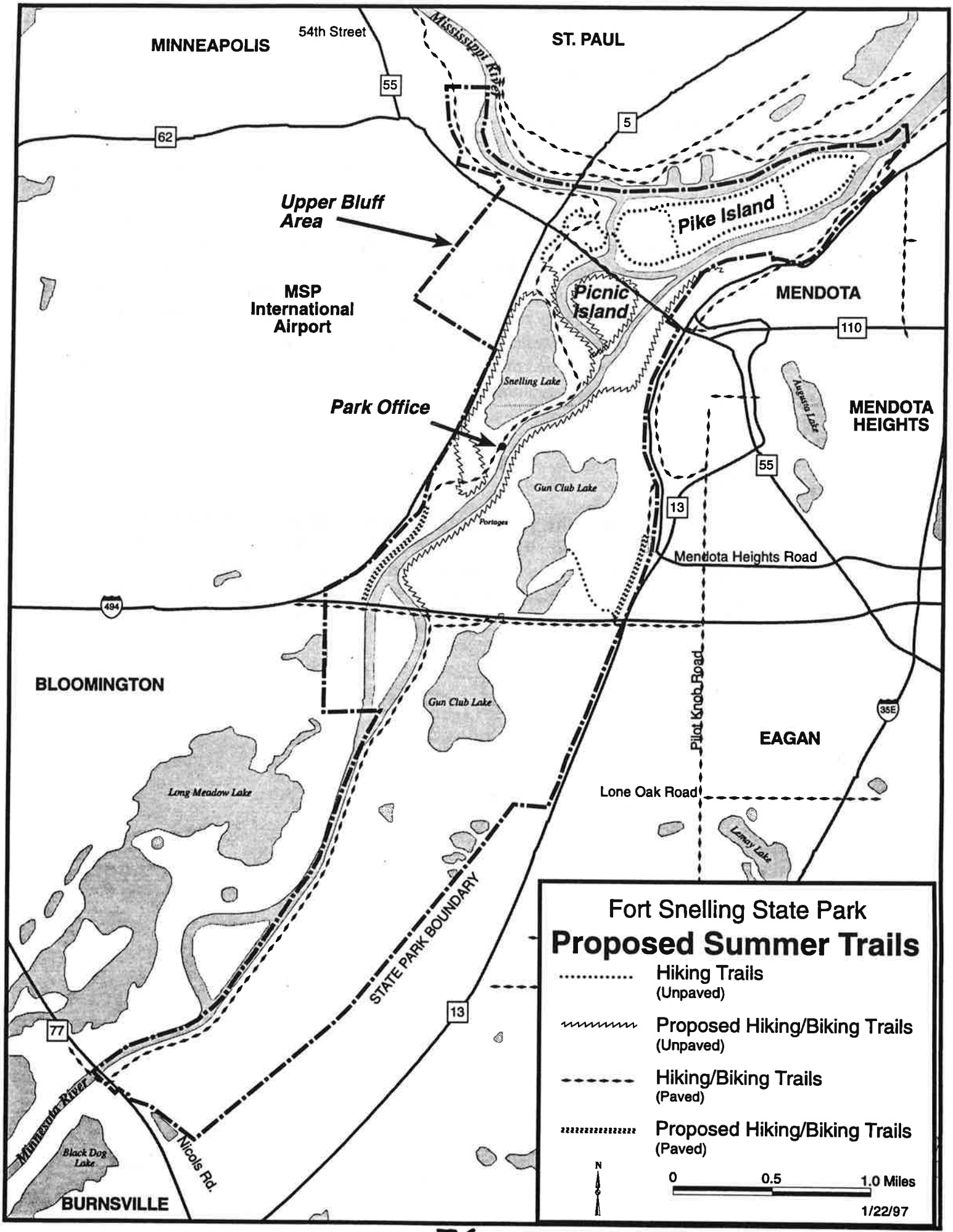
The MHS has received an ISTEA grant to provide many of the improvements needed in the Historic Fort Area, including a new defined treadway system through the historic site and information kiosks. Construction of these improvements should take place in 1997.

Topic 3. Winter Trails

Discussion: Pike Island was noted as a very important focus for many types of trail uses, both summer and winter. In the winter, visitors use the island for both cross-country skiing and hiking. There is a separated hiking trail loop in the center of the island, and a traditional track ski loop around the outside of the island. This arrangement seems to be well accepted by both user groups, keeping them separate so groomed ski tracks are not impacted. Skate-skiers are directed to the Dakota County side of the park where a relatively straight, 6-mile trail from Mendota to Cedar Avenue is packed for skate-skiing. Winter mountain bikes are a problem in this park because they damage groomed ski trails. This is most pronounced on the Minnehaha trail connection, where bikers have a tradition of use during the summer season. This area is also heavily used by people walking their dogs year-around, and groomed trails are often destroyed within a short period of time after of grooming. Some tickets are written, but it is difficult to keep up with the volume of violations.

ACTIONS

Action 1. Continue the existing winter trail system, and enforce the ski track damage rule. *Bikes must stay on designated vehicle roads during the winter. Consider packing or plowing the Minnehaha trail connection during the winter months. Consider experimenting with traditional track skiing on the Dakota County side of the park. Special uses, such as dogsledding, will be handled on a case-by-case, "special use permit" basis.*


MINNEAPOLIS
54th Street
ST. PAUL
Mississippi River
55
62
5
Upper Bluff Area
Pike Island
MSP International Airport
Picnic Island
MENDOTA
110
Snelling Lake
Park Office
Augusta Lake
MENDOTA HEIGHTS
55
Gun Club Lake
13
Portages
Mendota Heights Road
494
BLOOMINGTON
Gun Club Lake
Pilot Knob Road
35E
EAGAN
Long Meadow Lake
Lone Oak Road
Lemay Lake
STATE PARK BOUNDARY
13
77
Minnesota River
Black Dog Lake
Nicols Rd.
BURNSVILLE
Fort Snelling State Park
Proposed Summer Trails
Hiking Trails (Unpaved)
Proposed Hiking/Biking Trails (Unpaved)
Hiking/Biking Trails (Paved)
Proposed Hiking/Biking Trails (Paved)
N
0
0.5
1.0 Miles
1/22/97

Topic 4. DNR/Minnesota Historical Society Coordination

Discussion: Historic Fort Snelling and Camp Coldwater are state historic sites within a state park statutory boundary. The visiting public generally does not differentiate between two operating entities - they expect and deserve an efficient operation by "the state." There are many ways the MHS and DNR can provide efficient public services. Cooperative efforts are outlined in actions throughout this management plan, including the areas of marketing/promotion (see page 21), resource management (see page 63), and interpretation (see page 86). In addition, MHS and DNR intend to cooperate in providing a river boat landing on the Mississippi River, as long as the conditions outlined below are met. The City of St. Paul's legal issues related to allowing riverboat dockage should be reviewed prior to implementing this action.

ACTIONS

Action 1. Support the concept of river boat dockage at the end of the historic landing road as long as the following conditions are met:

- *Resource impacts are reviewed including mussel inventory and impacts*
- *Stop-in boat visits only with a maximum docking time*
- *Controlled use via contract with both MHS and DNR*
- *Dredging, and associated impacts, must be addressed*
- *Minimal dock development, possibly hardening of site only (use gangplank)*
- *Day-use only; parking/vehicles not allowed/desired in landing area*
- *Review for appropriateness to park mission* - one idea which surfaced during our discussion was to partner with the science museum to provide education-based group visits by boat. The boat would start at the science museum and travel for stop-in visits at the park. The stop-in might include a guided tour of the historic fort and new interpretive center. The boat might be of a design that would cause minimal disturbance to the shoreline and mussel population.

Topic 5. Accessible Facilities / Shore Fishing

Discussion: All new construction and building remodeling will be accessible to persons with disabilities. All outdoor development will be accessible where it is possible/practicable. Shore access/fishing opportunities are extremely popular in the Twin Cities Metropolitan area and should be provided where it is possible and reasonable to do so (may require a protected waters permit from the DNR, Division of Waters).

ACTIONS

Action 1. Expand accessible trails and other facilities where possible.

Action 2. Work with DNR, Fisheries and the Trails and Waterways Unit to provide additional shore fishing opportunities.

Topic 6. Dakota County Access Points

Discussion: Although the majority of recreational development in the park is on the Hennepin County side of the park, the majority of land and natural resources are on the Dakota County side of the park. Much of this area is not generally accessible because an active railroad line forms much of the park boundary (limited legal crossings), and parking areas are limited. The Cedar Ave. access provides a boat access to the Minnesota River, parking, and important trail connections with the Minnesota Valley. Four other areas and the direction for management are described in the actions below.

ACTIONS

Action 1. In the Sibley House area, use the MN/DOT parking lot on an interim basis and work to determine the long-term, comprehensive additional parking needs.

Visitors to this area have limited parking opportunities. Parking for the Sibley House and state park trail access is primarily along County Road 12 (otherwise known as *Co. Rd. D* or *Water Street*). The Big Rivers Regional Trail also passes through this area on the opposite side of Hwy. 13; as this is the midpoint for this major trail it is anticipated there will be parking needs in the Mendota area for this facility as well. A new, 25-car MN/DOT commuter lot is positioned to provide parking for several uses in this area.

The three major partners - Sibley House (DAR/MHS), Big Rivers Regional Trail (Dakota County), and Fort Snelling State Park (DNR) should evaluate future parking needs together along with the City of Mendota and MN/DOT.

Action 2. In the WPA Overlook area, work with Dakota County to cooperatively manage the area.

At the WPA overlook, the MN/Dot currently holds ownership and has entered into agreements with Dakota County to develop the site as a parking terminus for the Big Rivers Regional Trail. DNR has been involved because it is in the state park boundary and the majority of this area will be turned over to DNR. The highway right-of-way line will be delineated so that the new parking lot is within the highway right-of-way (no state park parking permit would be required; Dakota County and Mendota Heights would provide the majority of enforcement). The new parking lot should be in a better position for enforcement issues. DNR will maintain ownership of the overlook itself but will consider entering into a cooperative agreement with Dakota County to develop and maintain the area. Visual impacts from the river valley related to new development should be minimized.

Action 3. In the 494 bridge area, pursue the concept of a parking lot on the East side of Highway 13. Visitors currently park in the Hwy./railroad right-of-way beneath the 494 bridge and access the park for fishing on Lower Gun Club Lake (0.5 mile walk), interpretive uses at Quarry Island (0.5 mile walk), and some trail access. The Metropolitan Airports Commission (MAC) has a road gate at this location and maintains the road to Quarry Island for emergency purposes. Although Lower Gun Club Lake will always get some game fish from Minnesota River flooding, it will not be managed as a fishery.

There is not enough room for parking in this area, and it is not a legal railroad crossing. The parking lot described in action 3 would be East of Highway 13 on land that is currently in private ownership. From this parking lot, visitors could access the 494 trail bridge which goes over Hwy. 13 and the railroad tracks into the park. Determine if the City of Eagan, Dakota County, or another public jurisdiction is interested in pursuing a parking lot in this location.. If not, consider a state park boundary change that would allow this area to become a part of the park (a parking permit would be required, and some parking use would probably still occur under the 494 bridge because some users would not want to purchase a permit).

Action 4. In the Quarry Lakes area, continue to work with adjacent landowners as issues arise.

The Quarry Lakes area is located at the end of Meadowview Road and has no public parking available. There is no legal railroad crossing. It is used for fishing and as a local swimming area. The 20 year-old park plan recommended a parking lot near the park manager's residence, with trail access under an old railroad trestle and through a wetland (fen) area. This was implemented about 10 years ago and was subsequently closed off because: 1) there is a 0.75 mile walk to Quarry Lakes, 2) the walk is through a very wet area where it is difficult to maintain a trail, 3) inappropriate uses in the parking area caused numerous enforcement problems, and 4) access under open railroad trestle was questioned.

There was no direct solution generated for Quarry Lakes access in the park planning process.

Topic 7. Picnic Shelters

Discussion: There is a very high level of demand for reservable picnic shelters in the metropolitan area. The existing shelters in the park are reserved every weekend and holiday between Memorial and Labor Days.

ACTIONS

Action 1. Provide one or two more reservable picnic shelters on picnic island and possibly the beach area. Use existing bathroom and parking facilities in these areas. These facilities would accommodate a maximum group size of approximately 200 persons. Larger groups may be accommodated in the upper bluff area (see Upper Bluff Area, page 72). New structures must be in compliance with the State Floodplain Standards and State Shoreland Management Standards.

Topic 8. Dredged Material Placement

Discussion: River basins in the park area and beyond are periodically dredged to allow barge traffic and other navigation through the river corridors. The placement of dredged material has been an issue for several years. Through the 1980 Great River Environmental Action Team Plan, the DNR accepted designation of four dredged material placement sites within the park. The Lower Minnesota Valley Watershed Board is responsible for providing dredged material placement sites for the U.S. Army Corps of Engineers in the Lower Minnesota River Area. Recently, the DNR, Division of Parks and Recreation and Division of Waters worked with the watershed district and the Corps to identify one placement site in the park and eliminate the previous four sites. The placement site is in the southwestern corner of the park, near the Highway 77 bridge. A review of potential impacts to natural and cultural resources will need to be completed before this site is used for dredge material placement.

ACTIONS

Action 1. Continue to work with the agencies listed above to find acceptable solutions to the placement of dredged material which minimize impacts to the resources within Fort Snelling State Park.

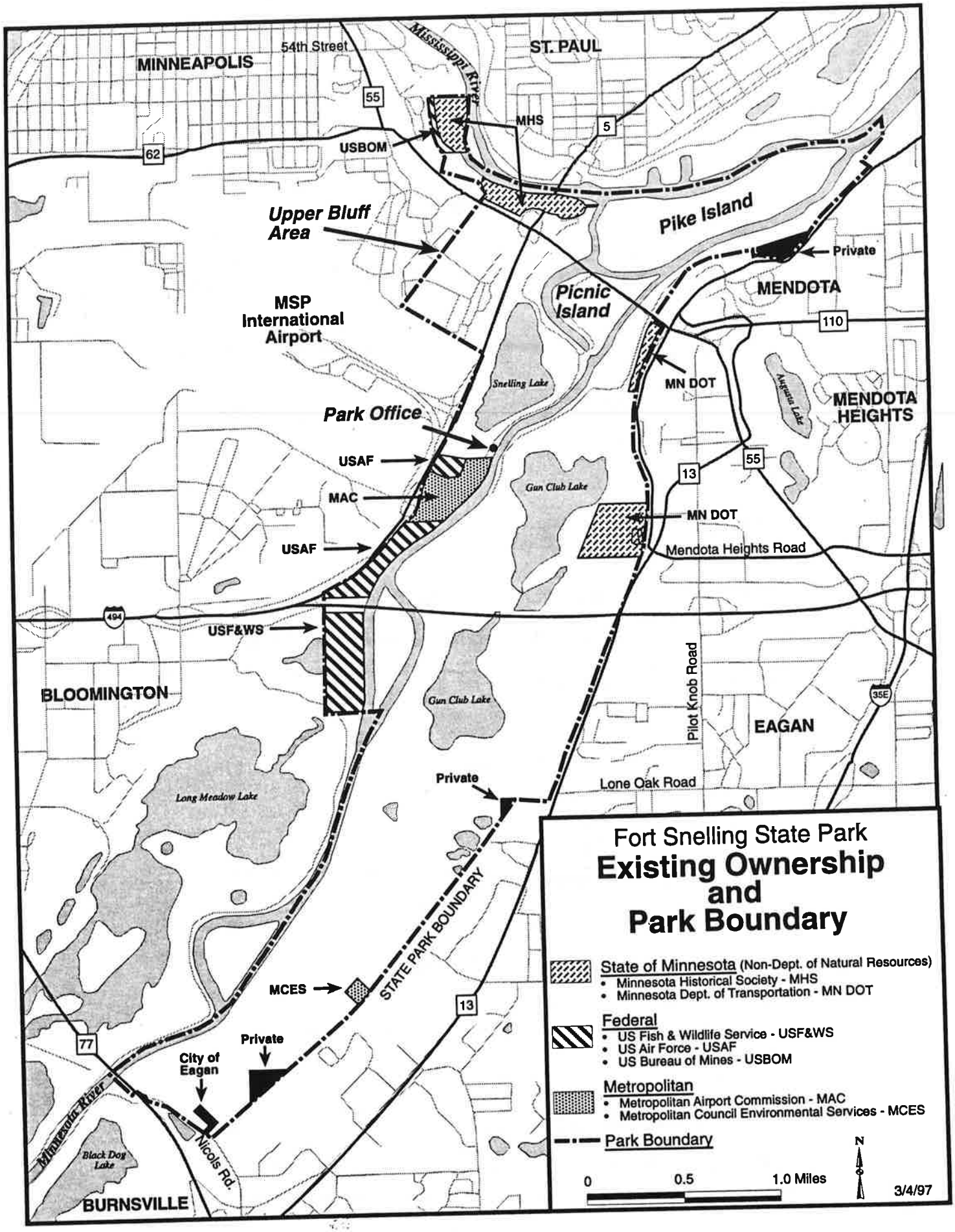
PARK BOUNDARY

Introduction

The park statutory boundary includes approximately 2,932 acres. Of this total, the Minnesota Department of Natural Resources owns and administers approximately 2,642 acres. Ownership and approximate acreage within the park statutory boundary is shown on the Existing Ownership & Park Boundary Map, page 82, and outlined below.

OWNERSHIP	ACRES	
STATE OWNERSHIP	Acres	
Department of Natural Resources	2,642	**
Minnesota Historical Society	47	*
Department of Transportation	50	
Total State Ownership	2,739	
FEDERAL OWNERSHIP		
United States Air Force	31	
United States Fish and Wildlife Service	61	
United States Bureau of Mines	3	
Total Federal Ownership	95	
METROPOLITAN OWNERSHIP		
Metropolitan Airport Commission	68	
Metropolitan Council Environmental Services	4	
Total Metropolitan Ownership	72	
CITY OWNERSHIP		
City of Eagan	8	
PRIVATE OWNERSHIP (4 parcels)	18	
TOTAL LAND IN STATUTORY BOUNDARY	**2,932**	

*Historic Fort 25.5 acres; Camp Coldwater 21 acres
**Includes 360 acres jointly owned by DNR/DOT on the west and north side of Gun Club Lake. (All ownership will be transferred to DNR)


MINNEAPOLIS
54th Street
Mississippi River
ST. PAUL
55
MHS
5
62
USBOM
Upper Bluff Area
Pike Island
Private
MENDOTA
Picnic Island
MSP International Airport
110
Snelling Lake
MN DOT
Augusta Lake
MENDOTA HEIGHTS
Park Office
USAF
55
13
MAC
Gun Club Lake
MN DOT
USAF
Mendota Heights Road
494
USF&WS
BLOOMINGTON
Gun Club Lake
Pilot Knob Road
35E
EAGAN
Private
Lone Oak Road
Long Meadow Lake
STATE PARK BOUNDARY
MCES
13
77
Private
City of Eagan
Minnesota River
Nicols Rd.
Black Dog Lake
BURNSVILLE
Fort Snelling State Park
Existing Ownership and Park Boundary
State of Minnesota (Non-Dept. of Natural Resources)
• Minnesota Historical Society - MHS
• Minnesota Dept. of Transportation - MN DOT
Federal
• US Fish & Wildlife Service - USF&WS
• US Air Force - USAF
• US Bureau of Mines - USBOM
Metropolitan
• Metropolitan Airport Commission - MAC
• Metropolitan Council Environmental Services - MCES
Park Boundary
0
0.5
1.0 Miles
N
3/4/97

NOTE: The state also owns 0.5 acres of land outside of the statutory boundary administered by the MN DNR south and west of the land owned by the US Bureau of Mines near the northwest corner of the park. This ownership was the result of legislation which was intended to facilitate a land exchange between DNR and the U.S. Bureau of Mines, but was never completed because of complications involving the National Park Service/MNRRA legislation.

When private land is included in a state park boundary, it only means that the state can negotiate for purchase of that land from a willing seller. Outside of the boundary, state parks cannot purchase land. Purchases can only take place when funds are available, and landowners can sell to whomever they choose.

Boundary modifications are considered during all state park management planning processes. Although this plan can recommend boundary changes, only the legislature can change park boundaries. All boundaries are legally described in Minnesota Statutes. When an addition to a park is considered, the DNR, Division of Parks and Recreation will contact private landowners that would be within a proposed boundary and ask for their documented support. Appropriate local units of government will also be contacted for their support; without the support of the community, the Division of Parks and Recreation will not request boundary changes from the Minnesota Legislature.

Topic 1. Park Boundary Modifications

Discussion: Boundary modifications or management related to boundary issues are recommended in three areas (see Proposed Boundary map, page 85, and actions, below). In addition, a boundary deletion is recommended if the U.S. Fish and Wildlife Service wants to retain ownership of their 61-acre parcel south of the 494 bridge.

ACTIONS

Action 1. Northwest Corner - Work in partnership with the other administering agencies in this area to determine short-term and long-term cooperative management of this area. This may involve entering into a cooperative agreement with several other agencies, coordinated rules/enforcement, and other measures to adequately manage the area. Also consider state park-related uses for the U.S. Bureau of Mines property adjacent to this area. Although the majority of this area is outside of the control of the DNR, it presents some of the most difficult "boundary" issues for the state park. The area includes approximately 65 acres and is managed as follows:

- **Minneapolis Park and Recreation Board** - Minnehaha Regional Park south of 54th St. (app. 26 acres)
- **Minnesota Historical Society** - Camp Coldwater (app. 21 acres)
- **Veterans Administration** - Adjacent to MPRB land above (app. 7 acres)
- **National Park Service** - an island in Ramsey County adjacent to this area (app. 5 acres)
- **MN-DNR-State Parks** - Manages a trail corridor under a license agreement with the Veterans Administration and Bureau of Mines (app. 6 acres)

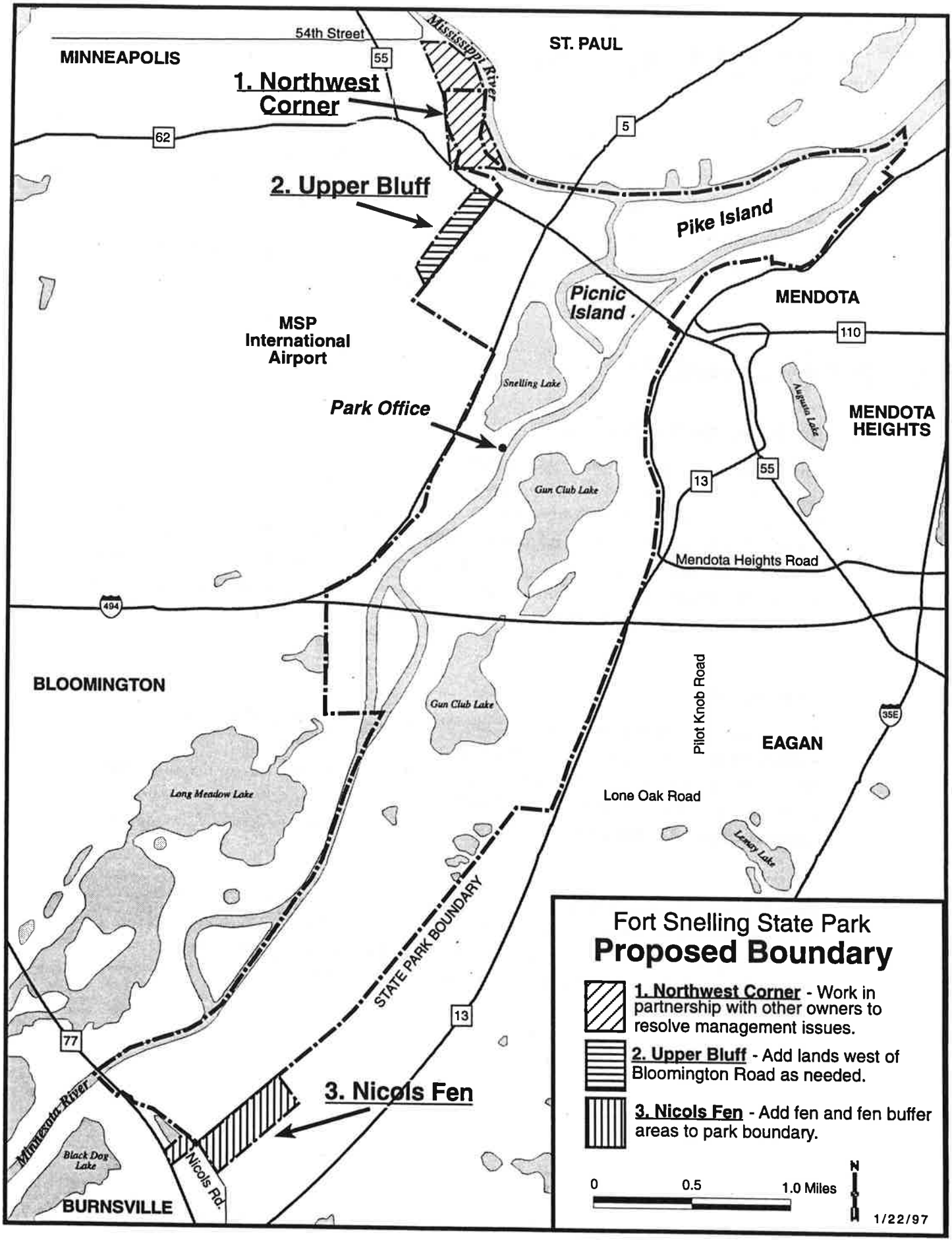
Although the majority of this area is not managed by DNR, resource and operational issues "spill over" into the state park. The primary uses in this area are dog-walking and mountain biking, along with parties. Issues in the area include:

- **Unleashed dogs** sometimes threaten, intimidate, or attack other recreational users. Unleashed dogs also harass wildlife (e.g. ground-nesting birds). Dog feces are left in the area.
- **Mountain bikes** cause trial damage and erosion, which can impact sensitive resource areas. Black-ash seep areas were noted in the MN CBS report which were being negatively impacted by mountain bikes. There is also the potential for trail user conflicts.
- There are **liability issues** related to dog attacks and mountain bike accidents.
- The area is **difficult to enforce** because of multiple ownerships and differing operational rules.

Action 2. Upper Bluff - Expand the boundary to include those areas needed for development when the plans for the area have been finalized. In the meantime, the DNR Commissioner can accept gifts of land outside of the park statutory boundary. The lands west of Bloomington road are owned by the General Services Administration (GSA), Veterans Administration, and a private party. As the GSA lands have become available as surplus property, some proposals have been made to expand the park boundary to allow uses in conjunction with Upper Bluff Area Development. The majority of planning advisory committee members addressing this issue felt the statutory boundary should be expanded to include this area as soon as possible.

Action 3. Nicols Fen - Modify boundary to include additional fen and fen buffer areas. The 1977-78 park plan recommended adding land outside the current park boundary to acquire additional fen area and portions of Kennealy's Creek. Some of these lands, if developed, would negatively impact park resources as they drain directly into the park. Since 1978, the U.S. Fish and Wildlife Service has acquired a major fen in this area, however other areas remain in private ownership. Although most of this area is zoned light industrial, some of it may not be suitable for development. Zoning changes may help protect the resources of the park, however, it seems most viable to include the buffer area in the state park boundary. Acquisition would be from willing sellers. The MWCC land includes some headwater areas of Kennealy's creek, a former trout stream. MWCC's plan for this area has not been determined, however, DNR - State Parks should consider a cooperative agreement with MWCC if the area cannot be incorporated into the park.

NOTE: Potential boundary modifications were also discussed and considered in the Mendota area. This plan recommends retaining the existing boundary in the Mendota area, which includes two private parcels and a segment of the Big Rivers Regional Trail corridor. The DNR, Division of Parks and Recreation will work with Dakota County to assure a trail connection through this area (by a cooperative agreement or other arrangements). The regional trail is owned by the MN/DOT, but is managed by Dakota County under a 50-year real estate license.


54th Street
MINNEAPOLIS
55
Mississippi River
ST. PAUL
1. Northwest Corner
62
5
2. Upper Bluff
Pike Island
Picnic Island
MENDOTA
MSP International Airport
110
Snelling Lake
Park Office
Augusta Lake
MENDOTA HEIGHTS
13
55
Gun Club Lake
Mendota Heights Road
494
BLOOMINGTON
Gun Club Lake
Pilot Knob Road
35E
EAGAN
Long Meadow Lake
Lone Oak Road
Lemay Lake
STATE PARK BOUNDARY
13
77
3. Nicols Fen
Minnesota River
Black Dog Lake
Nicols Rd.
BURNSVILLE
Fort Snelling State Park
Proposed Boundary
1. Northwest Corner - Work in partnership with other owners to resolve management issues.
2. Upper Bluff - Add lands west of Bloomington Road as needed.
3. Nicols Fen - Add fen and fen buffer areas to park boundary.
0
0.5
1.0 Miles
N
1/22/97

INTERPRETIVE SERVICES

Fort Snelling State Park is the meeting place of rivers and people. The location of the park, the proximity of over a million tourists and recreationists, and the unique thematic opportunities presented by the historic confluence of the Mississippi and Minnesota Rivers give Fort Snelling State Park ample opportunities for a nationally significant interpretive program. It is an ideal place to introduce visitors to Minnesota's State Park System and it's interpretive mission "To...create a sense of stewardship for Minnesota's natural and cultural heritage by illuminating the changing relationship between people and landscapes over time."

Interpretive Clientele

Socio-Demographics of Area

The Minneapolis-St. Paul Metropolitan Area has a population of 2.3 million persons with a projected growth to almost 3 million persons by the year 2020. While this reflects a slowing of the 1980's growth rate, it still projects a substantially larger regional market for the park in the future. The largest gains in the market will be outside the communities in the immediate vicinity of the park. Of the total metropolitan area population, approximately 90% is White, 4% African-American , 3% Asian, and 2% Hispanic and 1% American Indian. For references and further information, see Regional Population, page 19.

Individuals

Park visitors who utilize the services of the interpretive program are very diverse. These visitors range from people whose primary purpose for visiting the park is to participate in an interpretive activity to those whose participation in the interpretive program is secondary to other park activities (i.e. swimming, bicycling, hiking etc.) People who participate in the interpretive program that are not associated with a group can be characterized as the following:

Beach users at Snelling Lake - Over 100,000 recreationists per year use Lake Snelling. These are people who visit the park with a primary focus on sun, sand, and water but have traditionally been shown to be receptive to on-beach programming and visits to an interpretive center. It is anticipated that the new visitor center, with its closer proximity to the beach will draw more visitors from the beach area.

Hikers and bikers on the Minnehaha Trail - On some weekends during the summer and fall over 10,000 visitors enter the park using the Minnehaha Trail. It is assumed that a significant number of these trail users will visit the new center because of it is located at the junction where the Minnehaha trail enters the park.

Hikers and bikers using other trail connections - Trail users who enter the park from other connecting trails from Dakota county and the Minnesota River Valley Trail via the Mendota bridge will account for a substantial number of visitors to the visitor center. Traditionally, on weekends during the spring, summer, and fall when the weather is nice, the number of people using these trails and visiting the park and visitor center increases dramatically.

Historic Fort Snelling visitors - As many as 600 visitors per day are admitted to Historic Fort Snelling during the months of May - October when the Fort's living history program is operating. Routinely, many individuals walk from the Fort down into the park to hike or tour the visitor center. During time periods when Historic Fort Snelling has special events, visitors to the park and visitor center can increase significantly.

Groups

School and other youth groups - Fort Snelling's location within easy access of both Minneapolis and St. Paul School systems make it an important environmental education site. The surrounding suburbs also make use of the park for environmental education. In addition to public schools, area private schools, home school programs and a host of special education and social service programs, scouting organizations, 4-H, Boys and Girls Clubs, church groups, and public and private day camps all make use of the facilities and services in the park for environmental education.

Cooperative programs with historic Fort Snelling - These include school and other organized groups who visit both sites. These are typically large groups that range in size from 75 to 200 students.

Visits by school groups to historic Fort Snelling generally peak during the month of May. During this month the Fort averages about 600 students per day. In 1995, the number of students visiting the Fort in May exceeded 16,000. At this time, the park's ability to provide and or expand cooperative programming with historic Fort Snelling is limited by available staff.

Interpretive Themes

Connecting Theme

"Fort Snelling State Park - A Place Where Rivers and People Come Together"

Fort Snelling State Park best exemplifies a meeting place. Here, geological forces have shaped an environment where two great rivers flow together. The river confluence has attracted people for millennia and continues to do so today. The river floodplain is unique in that it provides for a large natural area within a major metropolitan community. It represents the meeting of cultural traditions, including American Indian and Euro American, with dramatically different values, lifestyles and affects upon the landscape. This area, which blends natural and cultural heritage, continues to bring people together in the context of history and the environment.

Primary Themes

The major themes identified for the exhibits in Visitor Center Master Plan are:

- The Minnesota Department of Natural Resources' state parks system provides a diverse set of recreational and educational opportunities for all citizens.
- Geological forces shaped the landscape we see today, bringing two major rivers together.
- Rivers, watersheds, and floodplains are living, changing systems.
- The park is a meeting place of diverse biological communities.
- The confluence of the two rivers is the center of the historic homeland of the Dakota people.
- The river's confluence has been a meeting place for people throughout history.
- Throughout history people have altered and impacted the natural environment in a variety of ways.
- People are part of the natural environment, and can be good stewards of the land and water.
- The Mississippi and Minnesota rivers need our help.

Secondary Themes

Geologic

1. The Minnesota River Valley was formed some 10,000 years ago when Glacial River Warren drained glacial Lake Agassiz.
2. The confluence of the rivers was once a great waterfall.
3. The rocky gorge along Minnehaha trail and along the Mississippi through St. Paul was formed by this migrating falls.
4. Layered sedimentary rocks derived from ancient inland seas can be seen in the exposed bedrock in the bluff along the trail to Minnehaha Falls.

Hydrological

1. Floodplains serve an important function by naturally storing and slowing flood waters.
2. Calcareous fen depends upon a unique hydrology of up welling calcified water.
3. There are many watersheds in the metro area that converge where the two rivers meet.
4. The Minnesota River carries significant amounts of pollutants and silt into the Mississippi River.
5. Storm sewers are urban watersheds and carry storm water and pollutants quickly and directly to the rivers.

Biologic

1. The Minnesota River is a biological corridor between the tall grass prairie of the west and deciduous forest of the east.
2. Plants and animals have made unique adaptations to living in the floodplain.
3. A calcareous fen is a unique and rare wetland community.
4. The park contains remnants of oak savanna, one of North America's most threatened ecosystems.
5. People have maintained savannas with fire for thousands of years. Plant communities in the park are threatened because of the absence of fire.

6. Deer are being managed in the river valleys because they are too numerous and threatening the native vegetation.
7. The Mississippi and Minnesota Rivers provide habitats for many species of fish.
8. The Mississippi River is home to a wide variety of fresh water mussels.
9. The Mississippi River Valley is used by many different species of migrating birds.
10. Land use practices and the introduction of non-native species have resulted in vegetative changes at Fort Snelling State Park.
11. Because of extensive wetlands, beavers, muskrats, and other aquatic animals are common at Fort Snelling.
12. Many different species of reptiles and amphibians live in a variety of habitats found in the park.

Cultural

1. People settle along rivers because they are productive ecosystems and provide water, food, transportation and power.
2. Native people used fire to maintain woodlands and openings (savannas) for thousands of years.
3. The Minnesota River receives it's name from the Dakota, Mini-Sota, translated as "whitish, water" (Riggs, 1890).
4. The historic Dakota villages of the confluence area and along the lower Minnesota River were Mdewakanton, Wahpekute and Wahpetonwan, representing three of the seven council fires of the Dakota.
5. Traditional Dakota life was based upon seasonal, food gathering activities, Dakota women maintained gardens of corn, beans and squash in summer villages along the two rivers.
6. Maple sugaring was practiced by the Dakota Indians living in this area.
7. The meeting of rivers is a creation place according to a Mdewakanton Dakota creation story.
8. The meeting Zebulon Pike and Little Crow at the treaty of 1805 on Pike Island was the first treaty between the Dakota and the U.S. Government - setting the stage for the US - Dakota conflict of 1862.
9. Many Dakota people died at the internment camp of 1862. The injustice of the internment and exile of the Dakota at Fort Snelling needs to be acknowledged in order for healing to take place.
10. The park is a spiritual center for many American Indians.

11. Ancient and historic sacred places and burials are still honored, should be respected and are protected by law.
12. The river confluence at Mendota was the headquarters for the American Fur Trade Co.
13. The fur trade reduced wildlife populations dramatically.
14. The fur trade system built up Dakota debt and the companies profited heavily from the treaties of 1851 and 1857. This situation contributed to the Dakota Conflict of 1862.
15. The first arrival of American Military troops were unprepared to survive the climate and conditions they found at the junction of the two rivers.
16. The fort was built from limestone quarried from the bluff and shaped to fit the landscape.
17. Fort gardens established on the bottom lands provided food for the soldiers.
18. There are significant historic elements at Fort Snelling related to African-American history, including Dred Scott's residency here and the WPA camp in Dakota County.

Summary of Existing Interpretive Services

Environmental Education

Fort Snelling's location within easy access of both Minneapolis and St. Paul School systems make it an important environmental education site. The surrounding suburbs also make use of the park for environmental education. In addition to public schools, area private schools, home school programs and host of special education and social service programs, scouting organizations, 4-H, Boys and Girls clubs, church groups, and public and private day camps all make use of the facilities and services in the park or environmental education.

Fort Snelling has unique features which make it a desirable place for environmental education. The two rivers, lakes and large natural areas offer diverse habitats and water systems for nature study. Pike Island is a particularly unique place for students from city schools to experience the river, natural floodplain and a feeling of "wildness" close to home. At the same time, Fort Snelling Park has real-life examples of the pressures on natural areas and systems in the heart of the metro area. Air and water pollution, runoff and erosion, noise pollution, pipelines and power lines can all be observed, talked about, and studied.

Students can also study Minnesota history and the relationship between people and the environment through time. Early Dakota history, the first treaty in Minnesota, the Dakota internment and exile, the establishment of the historic fort, the Faribault fur trade post, the building of the Mendota bridge - all are first hand stories to be told at the confluence of the rivers.

There is also a growing demand to provide service-learning projects for youth and adult organized groups who would like to put into action their goal of learning by working and caring for the environment. This is an area that calls for continued integration of the resource and interpretive programs.

Personal Programming

The park's interpretive program started in 1973 when a former private residence on Pike Island was converted into an interpretive center. From 1973 to the present the interpretive center on Pike served as the primary focus of interpretive activities in the park. Over the years visitors to the interpretive center have fluctuated greatly. Visitation at the interpretive center over the past twenty years have ranged from a low of 5,000 to more than 15,000. The average visitor attendance for the last 5 years (1991-1996) is 12,000. Participation in activities offered by the interpretive program has also been very variable over the years. During some years school group attendance totaled 1,000 students per month. However in recent years 5,000 per year has been more typical. In 1996, 0000 people participated in the park's interpretive activities. Some reasons for the fluctuating visitation and activity attendance at Pike Island can be attributed to the half-mile walk from the parking lot to the interpretive center, periodic flooding, the number of staff and interns, and the difficult-to-find location of the center.

Non-Personal Programming

Interpretive Signs currently exist at the following locations:

Park Office Kiosk. The park office has a large 8-sided kiosk outside the main door. The signs here are large color graphics (Scotch Print) that include a state-wide interpretive map, Fort Snelling features, skiing, biking and hiking maps and an interpretive program description.

Snelling Lake Trail. Around Snelling Lake are a series of metal-photo signs that interpret the plant an animal life in and near the lake.

Beach Kiosk. The beach area has an 8-sided kiosk where Snelling Lake signs are sometimes displayed along with seasonal park information.

Confluence Area. A series of 4 single-sided kiosks interpret the historic features of the confluence area. These are fiberglass embedded color photos, graphics and text. Two are located at the Mendota Bridge parking area, one at Steamboat Landing and one on Pike Island.

Staff

Currently the park has one full-time naturalist position. One - two interns are hired for the summer season. The statewide plan calls for two full-time and two seasonal naturalist positions.

Volunteers

The Interpretive programs has approximately volunteers who help with interpretive activities, supplement other services provided, and help with special projects. Volunteers are used to assist the naturalist and intern(s), but are not used to provide essential staffing of the program operations and facilities.

Facilities

A new visitor center was approved by the Legislature in August of 1995. It will be completed in the fall of 1997. This will bring a new phase to the park interpretive program. An accessible building, designed for interpretation and education will certainly increase attendance dramatically. The only limitation will be lack of interpretive staff.

Ecosystem Based Management

The interpretive program is a natural forum for promoting the concepts of ecosystem-based management. The primary themes identified for the park explore ecosystems and human interactions and values. Interpretation uses a multi-disciplinary approach.

In addition, because of it's location, Fort Snelling is in a unique position to highlight, for a large metropolitan audience, the educational programs that DNR offers. It is an ideal location for teacher and community workshops in Project/Aquatic Wild, Project Wet, Project Learning Tree and MinnAqua. The naturalists and resource specialists use examples in the park when interacting with the public concerning other disciplines projects and issues .

Fees

Presently, fees are charged for interpretive activities that require purchase of materials, payment of contract service provider, or workshop fees. In the future, fees for interpretive activities may be charged according to a fee strategy as developed by the Division of Parks and Recreation.

Regional Interpretive Opportunities

There are approximately 25 centers that focus on environmental education within a 25 mile radius of Fort Snelling State Park. Adding historical and cultural interpretation facilities probably adds another 15 to that number. The large number of centers in addition to the level of funding and exhibits at places like the Minnesota Science Museum, the Minnesota History Center, or the Minnesota Zoo, puts Fort Snelling in a different situation than most State Park interpretive programs. The competition in terms of area attractions is significant but the potential for cooperative programming and marketing is also great, especially with facilities in the immediate area of the park.

Historic Fort Snelling, managed by the Minnesota Historical Society, is integrally related to the park. The interpretation at the Historic Fort is a living history program which portrays military life within the fort walls in the year 1827. Daily tours and special theme events occur from May to October. The Fort Snelling History Center has an auditorium, gift shop and display room. Programming and exhibits also interpret military history, early exploration of the area. An annual rendezvous is held one weekend each year. The park has had a long history of cooperation and communication with the historic fort. Joint programs, displays, projects and staff working together to blend natural and cultural interpretation all help the two facilities compliment each other. Having two complimentary facilities increases visitation to both areas.

Sibley and Faribault Houses are located adjacent to the park in Mendota. They are managed by the Minnesota Historical Society, in cooperation with the Daughters of the American Revolution, and offer public tours of these historic buildings which house the Whipple collection of Dakota artifacts. They are open on a limited basis during the summer months.

The Minnesota Valley Wildlife Refuge is managed by the U.S. Fish and Wildlife Service and borders the park on the south. In 1990, the refuge opened a new visitor center and increased its staff to include field interpreters and environmental education. The refuge places its primary emphasis on managing for wildlife habitat. Its interpretive mission focuses on the value of the river valley refuge as wildlife habitat.

The Minnesota Valley State Park and Trail is managed by the Minnesota Department of Natural Resources, Division of Parks and Recreation. The entire trail is 72 miles long, and includes several management units along the river between Fort Snelling and LeSueur. The natural and cultural history of the Minnesota Valley cannot be separated from that of Fort Snelling State Park. While audiences, methods of interpretation and programming will be different between locations like Jordan, Shakopee, and Fort Snelling, the stories to be told and mission for state parks is the same. Major cultural themes for the valley have been identified and further work needs to be done to incorporate natural history and include more detailed interpretive planning for the State Trail in this plan. Fort Snelling visitor center will be able to serve as an information and interpretive trail head for the Minnesota Valley Trail.

Minnehaha Regional Park is managed by the Minneapolis Park and Recreation Board. The park joins Fort Snelling State Park along the trail to Minnehaha Falls. Minnehaha Falls was Minnesota's first state park in legislation, although it became a City of Minneapolis park before it was ever included in the state park system. The park shares important natural and cultural features and stories with Fort Snelling State Park. The Minneapolis park operates summer recreation and education programs. Fort Snelling has often been the site for an environmental day camp staffed by the park board. Opportunities for cooperative programming and non-personal interpretation should increase with the new visitor center.

The Mississippi National River and Recreation Area (MNRRA) is coordinated by the National Park Service. This 72 mile corridor of the Mississippi River and 4 miles of the Minnesota River. The NPS plan has identified Fort Snelling State Park Visitor Center as one of five major "cooperating centers" along the river way. The plan states: "At the new visitor center proposed by the Department of Natural Resources at Fort Snelling State Park, themes on Native American cultures and interdependence of all living things will be emphasized. The confluence of the Mississippi and Minnesota has special significance to Native Americans. The National Park Service will be available to cooperate with state park staff in developing interpretive media and presenting interpretive and educational programs and events."

The Mall of America, *Explore Minnesota!* store is a new cooperative tourism store located at the Mall of America. The store offers opportunities for promoting package tours to Fort Snelling and other area destinations. There are other environmental education contacts at the Mall - at Camp Snoopy and the new aquarium. Region 6 interpretive staff have participated in the annual Eco Education days at the mall with a booth and activities.

Interpretive Services Recommendations

There are many new opportunities for improving the interpretive services in the park because of the construction of the new visitor center. Cooperation with other agencies, like the Minnesota Historical Society, will continue to expand programs and non-personal interpretation in the park. Marketing of the park and programs is important in order to reach a larger segment of the metro residents.

Topic 1. Staffing

The Statewide Interpretive Plan identifies the need for two full-time and two seasonal naturalist positions at Fort Snelling State Park. The new visitor center will also require support staff for the interpretive program and Nature Store. Interns and volunteers will continue to be key to a successful program. Most of the recommendations included in this section depend upon additional staffing. See Operations, Staffing, and Costs, page 101, for additional discussion.

Topic 2. Marketing (also see Tourism and Marketing, page 21.)

Park visitors have commented over the years on the importance of getting the word out about the park and what it has to offer. Publications, advertising, and community outreach are necessary in order for publicity to reach a wide variety of visitors.

ACTIONS

Action 1. Develop a marketing plan for the park in order to prioritize and phase-in strategies for reaching a greater variety of visitors and potential visitors.

Action 2. Pursue linkages with neighbors through community newsletters, community organizations, cooperative marketing with other area attractions.

Action 3. Provide better access to the park through public transportation. Encourage MTC to re-instate bus service to the park from Minneapolis and St. Paul.

Action 4. Promote the interpretive program at the *Explore Minnesota!* store in the Mall of America. Develop tours and special cooperative programs in connection with the store.

Action 5. Pursue marketing the park at the Minneapolis/St. Paul International airport. Develop a cooperative relationship with a car rental business that would transport tourists to the park while they are waiting for connecting flights. This would also be of benefit to the Nature Store.

Topic 3. Meeting the Needs of Diverse Populations

Reviewing the results of studies conducted by the Metropolitan Council on recreational services related to persons of color, persons with disabilities, elderly persons, persons living below poverty levels, and single-parent families, it is recognized that persons in these groups may have barriers to participation in recreational and educational services provided at the park. Through focus groups and public workshop meetings during the park planning process, participants explored some of the potential needs of our diverse population. The following actions are based in-part on these discussions.

The American Indian community has a very strong historical connection to this park in a variety of ways. The confluence of the two rivers is considered to be the center of the homeland of the Dakota people. Generations of Dakota people lived along both rivers and in the confluence area. During 1862 - 63, an internment camp of approximately 1500 Dakota persons was located near the confluence area. DNR staff and Dakota community members have worked together in the planning stages for the new interpretive center; this relationship will continue as the center is constructed and new interpretive programming is initiated.

ACTIONS

Action 1. Consider diversity issues when choosing staff and developing interpretive themes, messages and displays.

Action 2. Provide access to the park on several different levels. Improve public transportation access, look at ways to assist school groups to gain access at a low cost.

Action 3. Build bridges to each community in order to better understand needs and barriers to participation. This might include program offerings in the park or participation in community meetings to bring welcoming messages out to the community.

Action 4. Provide reserve picnic areas capable of serving extended family and larger groups, (see Proposed Development, page 80). Provide open game areas, such as the soccer fields in the upper bluff area and improve access to shoreline fishing opportunities, (see Upper Bluff Area, page 72).

Topic 4. Personal Programming

ACTIONS

Action 1. Develop new personal programs. Programming should expand to cover the primary themes illustrated in the visitor center exhibits. Activities and supporting materials will be developed that accompany the new interpretive center exhibits. In addition, programs can be developed to include the secondary themes outlined in the park plan.

Action 2. Expand cooperative programming with neighbors and partners such as the Historic Fort, MNRRA, Dakota Communities, Minneapolis Park & Rec., Dakota County as staff and budget allow.

Action 3. Develop the visitor center as a site for DNR environmental education workshops, speakers and outreach.

Action 4. Expand environmental education programming with schools and organized groups by promoting and offering teacher workshops, developing service-learning opportunities, and selecting schools to initiate cooperative learning partnerships.

Action 5. Develop the educational resources room at the visitor center as an active learning area for teachers, students and group leaders.

Action 6. Continue to develop joint resource management - interpretive programs and projects such as the center landscaping and garden project, fen management, and wildlife monitoring.

Topic 5. Non-Personal Programming

ACTIONS

Action 1. Develop Brochures and Booklets (outlined below)

1. An educator's field trip guide is needed for the park. Other materials and tools for group learning in the park need to be developed as a part of the center's educational resources room.

2. Park brochures are needed to expand on park interpretive themes and to provide self-guided interpretive experiences in the park. These include: 1) a trail guide to the Minnehaha trail; 2) A guide to winter tracking and animal signs; 3) A bird checklist for the park; 4) Self-guide historic loop beginning at the visitor's center; 5) Environmental education opportunities (see marketing section); 6) Revise and reprint "Dakota Seasons" brochure

Action 2. Develop Displays, Signs, and Interpretive Trails

1. Complete landscaping of native plant communities at the visitor center site. Develop and produce interpretive signs to accompany the planting.
2. Revise and Reprint the four historic kiosks at the confluence area. These may need relocating as the new center and interpretive trail route is completed.
3. Work with MHS to develop the interpretive loop between the historic fort and the new visitor center.
4. Work with the Minnesota Dakota Communities, Indian Affairs and National Park Service to develop management recommendations and make appropriate improvements to the historic Dakota Internment Camp area and develop supporting information and resources at the visitor center.
5. Develop informational and interpretive kiosk at Cedar Avenue access. This would include Minnesota Valley trail maps and information, Fort Snelling State Park information and natural and cultural interpretation of the area and recreational trail opportunities. Interpretive topics would include wildlife habitat and forest fragmentation, floodplain forests, history of the 1800's Dakota Black Dog's village, and Nichols Townsite.
6. Develop a major kiosk at the 54th St. entrance of the Minnehaha Trail. This would include park entrance information, trail map, interpretation of oak savanna and historic sites along the trail such as the historic railroad line and Camp Coldwater.
7. Develop a kiosk for Picnic Island that would include park information and interpretation of historic Cantonment New Hope.
8. In cooperation with Dakota County, help develop interpretive signing for the Dakota County Overlook, and the Dakota county-managed trail (the Big Rivers Regional Trail). Included would be interpretation of the wetland and fen complex, Quarry Island history, the WPA camp, and wildlife habitat.

Topic 6. Interpretive Research Needs

ACTIONS

Action 1. Conduct historical research and compile photographs and other resources that exist for the Dakota Internment Camp. The resource room in the center will house these resources that will be accessible to visitors. It may be desirable to compile these resources on a CD for ease of use. Dakota relatives of Internment Camp victims and community members will be consulted as to appropriate use of these resources.

Action 2. Conduct historical research and oral history interviews on the WPA camp on the Dakota County side of the park. The research is needed in order to interpret this African-American site and locate any possible relatives of residents and workers. These resources may then be made available also at the visitor center.

Action 3. Compile land use histories and oral histories for areas of the park such as Pike Island and the Dakota Internment Camp area are needed for interpretation and resource management. These should be prioritized and developed as project proposals in order that valuable resources and stories are not lost.

Operations, Staffing and Costs

Operations and Staffing

Fort Snelling State Park operations are effectively implemented with present staff levels. However, the new interpretive center will require additional staff, and other staff levels will need to be increased as plan actions are implemented and park use increases.

Interpretation: Current interpretive staffing includes one year-round naturalist, volunteer efforts, self-guiding trails and exhibits, and the Pike Island Interpretive Center. As the new interpretive center becomes operational, the Statewide Interpretive Services Plan recommends increasing efforts to a total of two year-round naturalists and two seasonal naturalists. Occasional programming would also occur at the Minnesota Valley State Recreation Area.

Enforcement: Fort Snelling is part of an urban recreational system which experiences more enforcement issues than a typical state park. Recognizing this fact, a conservation officer is stationed in the park. This position is primarily focused on vehicle permit violations, and ensuring that park visitors and activities remain orderly. In recent years, the park has experienced increasing amounts of illegal activity, such as vandalism, car break-ins, drug dealing and usage, and many more incidents of visitor conflict, disrespect, and disorderly behavior. The Divisions of Parks and Recreation and Enforcement have recommended that an additional officer be provided in this area to deal with specific recreation oriented problems during heavy visitation and use seasons at Fort Snelling State Park, as well as the Minnesota Valley State Recreation Area. This position could focus on other DNR Enforcement duties during the other seasons.

Operations: Operational funding at Fort Snelling State Park is currently far below the Division's minimum operating standards. As this plan is implemented, the park will experience a substantial increase in use. This is related to all park plan improvements, including a new visitor center, several major new trail connections to the park and increases related to general recreational visitation. To meet these needs, this plan recommends the addition of one full-time operations specialist, upgrading one current parks worker position to full-time, upgrading one current building and grounds worker to full-time, and one general repair worker to full-time. In addition, the new visitor center will require the equivalent of two full-time positions for its operation - this includes nature store sales/administration (one and one-half full-time equivalents to stay open 7 days/week) and one half of one full-time position for maintenance.

Resource Management: Because of the volume, intensity, and complexity of resource pressures at Fort Snelling State Park, a year-around, full-time resource specialist position was established at the park in 1994. Fort Snelling State Park includes resources which are significant on a statewide basis and the proximity to the metropolitan area affords an excellent resource management education opportunity.

Anticipated Increase in Workload: The DNR, Division of Parks and Recreation, will experience increased staffing needs and workloads as a result of plan implementation. Other DNR disciplines may also experience increased workload, depending on which actions are implemented (as well as other variable factors).

Costs

Operational Costs

If all of the actions and recommendations in this park plan were implemented, the park's annual operational costs would increase. The level or amount of this increase is difficult to estimate because many of the recommendations are too general to base estimates on at this time. However, the increase in staffing outlined in the previous section combined with a review of the development projects outlined below, suggests the park's annual operating budget would increase by approximately 40 percent.

Development Costs

The following list represents those actions which have major cost implications. The total cost to implement these actions (as noted) is estimated at $1.2 million (1997 dollars).

This estimate was generated as part of the planning process and has a significant margin of error because a variety of assumptions were made related to unknown variables (e.g. use of existing well vs. new wells, site specific soil conditions, decisions related to site design, septic system selection, distance to electrical service).

1. Remove Pike Island interpretive center and provide a new toilet facility
2. Remove exotic species, conduct natural community management and natural resource research
3. Conduct cultural resource surveys, especially in proposed development areas
4. Construct a trail connection from I-494 to Post Road
5. Harden site for Riverboat dockage as is necessary (cooperative with MHS)
6. Construct two modern picnic shelter facilities
7. Develop and implement a park marketing plan
8. Develop interpretive brochures, booklets, displays, signs and trails

This development cost estimate does not include:

- Land acquisition costs
- Upper Bluff Area costs
- WPA Overlook and trail connection to I-494 (Dakota County has applied for Federal funding)
- Dakota County Wetland Complex (recommendations pending, study in progress)

A breakdown of development cost estimates is available in the planning process file.

Plan Modification Process

State Park Management Plans document a partnership-based planning process and the recommended actions resulting from that process. These comprehensive plans recognize that all aspects of park management are interrelated, and that management recommendations should also be interrelated.

Over time, however, conditions change that affect some of the plan recommendations (or, in extreme cases, an entire plan). Plans need to acknowledge changing conditions and be flexible enough to allow for modifications as needed.

For the purpose of this plan, we will differentiate between less controversial plan revisions and major plan amendments. Minor plan revisions can generally be made within the Division of Parks and Recreation. If a proposed change to a management plan meets any of the criteria below, it must follow the Plan Amendment Process. To maintain consistency among the plans and processes, all revisions and amendments should be coordinated through the Division of Parks and Recreation planning section. Requests for planning assistance should be directed to the Division of Parks and Recreation Planning Manager at the central office.

Major Plan Amendments

Criteria for Major Plan Amendments

If a proposed change meets any of the following criteria, it must be approved through the management process below.

The proposed change:

1. alters the park mission, vision, goals, or specific management objectives outlined in the plan; or
2. is controversial among elected officials and boards, park user groups, the public, other DNR divisions or state agencies; or
3. directly affects other state agencies (e.g. Minnesota Historical Society).

Management Plan Amendment Process

1. Division of Parks and Recreation Initial Step: Review plan amendment at the park and regional level. Determine which stakeholders potentially have a major concern and how those concerns should be addressed. If the major concerns are within the Division of Parks and Recreation, the issue should be resolved within the division. Review the proposed approach with central office managers.

2. If the proposed change issue involves DNR Divisions, the issue should be resolved by staff and approved by the Division Directors. This may require one or two area/regional integrated resource management team meetings. The Division Directors will determine whether the proposed change should go through the departmental review process (CTECH/Senior Manager).

3. If the proposed change issue involves other state agencies, the issue should be resolved by staff and approved by the appropriate Division Directors.

4. If the proposed change is potentially controversial among elected boards, park user groups, or the public, the park advisory committee should discuss the proposed change and attend an open house forum that is advertised in the local and regional area. Following the open house, the Division of Parks and Recreation Director will determine whether the proposed change should be reviewed by the department.

5. All plan amendments should be coordinated, documented and distributed by the Division of Parks planning staff.

Plan Revisions

If a plan change is recommended that does not meet the amendment criteria above and generally follows the intent of the park management plan (through mission, vision, goals and objectives), the Division of Parks and Recreation has the discretion to modify the plan without a major planning process.

Revisions related to physical development constraints and resource protection

Detailed engineering and design work may not allow the development to be completed exactly as it is outlined in the plan. A relatively minor modification, such as moving a proposed building site to accommodate various physical concerns, is not uncommon. Plans should outline a general direction and document the general "areas" for development rather than specific locations. For the most part, plans are conceptual, not detail-oriented. Prior to development, proposed development sites are examined for the presence of protected Minnesota Natural Heritage Program elements and historical/archaeological artifacts. If any are found, the planned project may have to be revised to accommodate the protection of these resources.

Program Chapter Revisions

The resource management section and interpretive services chapter should be updated periodically as needed. Division of Parks and Recreation Resource Management and Interpretive staff will determine when an update is needed and coordinate the revision with the park planning section. Program chapters should be rewritten in a format consistent with the plan as originally approved by the DNR. To retain consistency, park planning staff should be involved in chapter revision review, editing and distribution.

BIBLIOGRAPHY

Albert, D. A. 1993. Draft ecoregion map and classification of Michigan, Minnesota, and Wisconsin.

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

Chase, Richard A., 1989. Recreational Interests and Needs of Special Need Groups. Amherst H. Wilder Foundation, St. Paul, MN.

Field notes from the Public Land Survey Records, between 1848 to 1890, for the State of Minnesota.

Grumbine, Edward R., 1994. What is Ecosystem Management? Conservation Biology, 8 (1:27-38).

Hargrave, Bryan C., Minnesota Department of Natural Resources, Division of Forestry. Upper Levels of an Ecological Classification System for Minnesota Working Draft, January. 1996. pp. 18-19.

Hargrave, Bryan C., Minnesota Department of Natural Resources, Division of Forestry. Ecological Classifications System, Draft Subsection Map of Minnesota, 1992.

Hobbs, Howard C., Aronow, S., and Patterson, C. J., 1990, Geologic Atlas of Dakota County, Minnesota: Surficial Geology: University of Minnesota Geological Survey, County Atlas Series Atlas C-6, Plate 3 of 9, Quaternary Geology.

Hundley, S. J. 1983. Soil survey of Dakota County, Minnesota. U.S. Department of Agriculture, Soil Conservation Service, in cooperation with the Minnesota Agricultural Experimental Station, St. Paul. 272pp.

Interview with Lowell Guetzlow, U. S. Geological Survey and Mike Robinson, Division of Waters, Department of Natural Resources, July 23, 1976.

Itasca Engineering, Inc. Lower Minnesota River Watershed District, The Effectiveness of Flood Control Structures. Minneapolis, MN. 1970. 64pp.

Itasca Engineering, Inc. Lower Minnesota River Watershed District, Water Resource Inventory Minneapolis, MN, 1969. pp. 11-22.

Kain, Sister Joan, Along Two Rivers (PhD. Dissertation, Northern Arizona University, 1973).

Lower Minnesota River Watershed District, The Effectiveness of Flood Control Structures (Minneapolis Engineering, Inc., 1969).

Lower Minnesota River Watershed District, Water Resource Inventory (Minneapolis Engineering, Inc., 1969).

Lueth, R. A. 1974. Soil survey of Hennepin County, Minnesota. U.S. Department of Agriculture, Soil Conservation Service, in cooperation with the Minnesota Agricultural Experimental Station, St. Paul. 159pp.

Marschner, F. J. 1974. The original vegetation of Minnesota. Map compiled from U.S. General Land Office survey notes. U.S. Forest Service, North Central Forest Experiment Station, St. Paul, MN.

Minnesota DNR, A Management Plan For Fort Snelling State Park. Division of Parks and Recreation, St. Paul, MN. 1978

Minnesota DNR, County Biological Survey, Inventory of Biological Features in Fort Snelling State Park..., October, 1995. Copyright 1996 State of Minnesota, Department of Natural Resources. Rare feature data have been provided by the Natural Heritage and Nongame Research Program of the Section of Wildlife, Minnesota Department of Natural Resources (MN DNR). These data are not based on a comprehensive inventory of the state. The lack of data for any geographic area shall not be construed to mean that no significant features are present. In addition, there may be inaccuracies in the data, of which MN DNR is not aware and shall not be held responsible for.

Minnesota DNR, Minnesota State Parks Interpretive Services Plan. Division of Parks and Recreation, St. Paul, MN. 1995.

Mississippi River Coordinating Commission and National Park Service. Mississippi National River Recreation Area: Final Comprehensive Management Plan Environmental Impact Statement, Volume One, US Department of the Interior. October, 1994. 288 pp.

Nichols, A. M., Consultant's Study Submitted to Division of Parks and Recreation, 1960.

Ojakangas, R. W. and Matsch, Charles L. Minnesota's Geology. University of Minnesota Press, Minneapolis, MN, 1982. pp. 233-238.

Sansome, Constance J. 1983. Minnesota Underfoot: A Field Guide to the State's Outstanding Geologic Features. Voyageur Press, Edina, Minnesota. pp. 204-209.

Scholen, Grant. Regional Recreation Open Space Needs in the Twin Cities Metro Area. Metropolitan Council of the Twin Cities Area, October, 1988.

Scholen, Grant. The Provision of Regional Recreation Open Space Services to Populations with Special Needs. Metropolitan Council of the Twin Cities Area. December, 1987.

Scholen, Grant. Reservable Group Picnic Facilities in the Regional Recreation Open Space System. Metropolitan Council of the Twin Cities Area. December, 1985.

Schwartz, George M. and Thiel, G. A. 1973. Minnesota's Rocks and Waters: A Geologic Story The University of Minnesota Press, Minneapolis, Minnesota.

U.S. Department of Commerce, Economics and Statistics Administration, Bureau Of The Census: County and City Data Book, 12th edition, 1994.

U.S. Department of the Interior, National Park Service. National Register of Historic Places Inventory: Nomination Form. Minnesota Historical Society, St. Paul, MN. 1969.

Vinar, K. R. 1980. Soil survey of Washington and Ramsey Counties, Minnesota. U.S. Department of Agriculture, Soil Conservation Service, in cooperation with the Minnesota Agricultural Experimental Station, St. Paul. 246pp.

Wirth, Theodore, Tentative Study Plan for the West Section of the Metropolitan Park System for the Twin Cities: Minneapolis and St. Paul, 1935.

Wovcha, Daniel S., Delaney, B. C., and Nordquist, G. E., Minnesota's St. Croix River Valley and Anoka Sandplain: A Guide to Native Habitats. Minnesota Department of Natural Resources. University of Minnesota Press. 1995.

Wright, H. E., Jr., *in* Sims and Morey, 1972. Quaternary History of Minnesota, p. 537.

Ziebarth, Marilyn and Ominski, Alan, Fort Snelling, Anchor Post of the Northwest, Minnesota Historic Sites Pamphlet Series, (St. Paul: Minnesota Historical Society, 1970).