Master Plan for an

ADDITION TO THE GLACIAL LAKES STATE TRAIL

June 1993

esota Department of Natural Resources • Trails & Waterways

Cover illustration by Edwin Whitefield. This watercolor on paper was done in 1859. The title is "Smedmore Lake, Kandiyohi County." Minnesota Historical Society.

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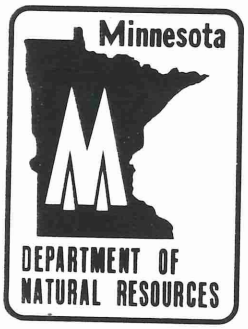

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ACKNOWLEDGEMENTS

This master plan was prepared by Angela Anderson, Landscape Architect, Recreation Services, Trails and Waterways Unit, Minnesota Department of Natural Resources, DNR Building - 500 Lafayette Road, Saint Paul, Minnesota 55155-4052.

Many others contributed their time, energy, and talents to this effort.

Dan Collins, in particular, and Thomas R. Danger provided advise and guidance throughout the planning process.

The plan was initiated by Cynthia A. Wheeler who conducted the first discussions and public meetings.

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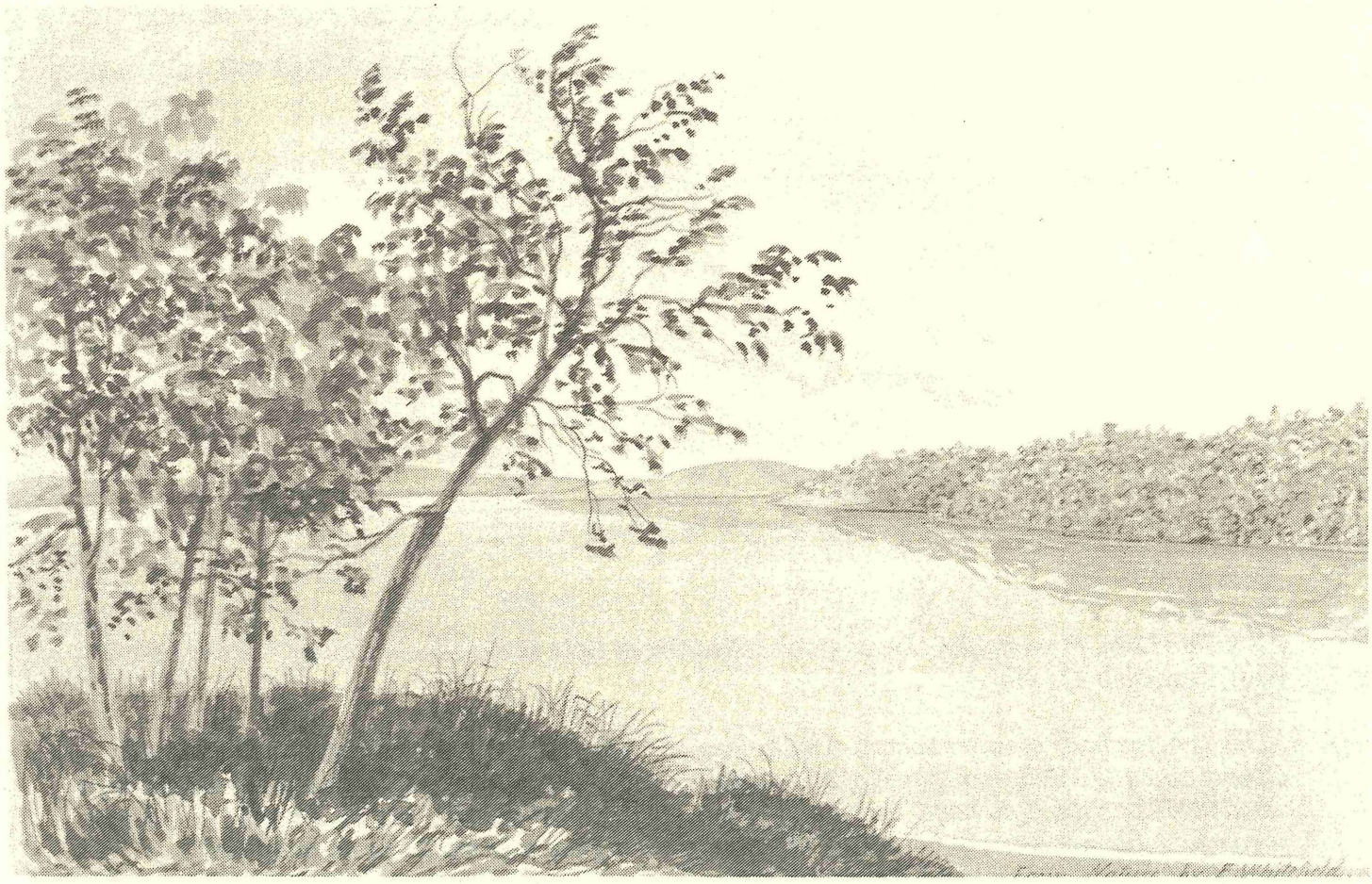
Barbara Burgum was continuously involved in the planning process contributing many good ideas. She did a fine job in assembling and writing much of the resource data. She also prepared all graphic exhibits. Steven Geis assisted in getting the plan through all reviews and in assembling the approved plan.

Joyce Suckow did all the word processing.

Many trail users, local civic leaders, and private citizens contributed their time, skills, and ideas to make this a better plan.

No document of this nature is ever the work of just one individual. The assistance of the above individuals enhanced and advanced the planning process resulting in this master plan.

ADMINISTRATIVE SETTING AND ROLE



Cornelian Lake, Monongalia County (now called Green Lake, in Kandiyohi County.) From Edwin Whitefield's 1859 Minnesota Scenes. *Minnesota Historical Society.*

Cornelian Lake, Monongalia County (now called Green Lake in Kandiyohi County.) Range 34 West, Township 121 North.

"This is a fine body of water some 5-6 miles long and nearly 3 miles wide situated in Monongalia County about 115 miles northwest of Minneapolis. The water is very pure and cold. There are high wooded hills on the right hand, and through them comes the Middle Fork of the Crow River. There is considerable wood on the borders of this lake but is is generally small and scrubby with a considerable undergrowth of hazel and prickly ash. The surrounding Country is very rolling and there are many sloughs, but the soil is generally good. Most of the best lands are taken up, but land can be bought off settlers at prices varying from 3-6 dollars per acre. October 1858." Plate No. 10, from Minnesota Scenes, *by Edwin Whitefield. Minnesota Historical Society.*

ADMINISTRATIVE SETTING AND ROLE

In 1975, the Minnesota legislature enacted the Outdoor Recreation Act (ORA) (Minnesota Statutes Sections 86A.01 through 86A.11). This Act established an outdoor recreation system comprised of eleven components or "units" classifying all state management recreational lands.

State trails, which comprise one unit of the system, were established pursuant to Minnesota Statutes Section 84.029, subdivision 2 and Section 85.015. (Department of Natural Resources State Trail System.) In order to provide for appropriate administration of each unit "in a manner that is consistent with the purposes for which the unit was authorized," the ORA requires that the managing agency prepare a master plan for the establishment and the development of each unit.

This plan is prepared for the proposed addition to the Glacial Lakes State Trail. Only part of this addition was authorized in 1971 under Minnesota Statutes 85.015, Subdivision iv, 5. In order to carry out the recommendations of this plan, a change in the original legislation is needed *(see LEGISLATION section of this plan)*.

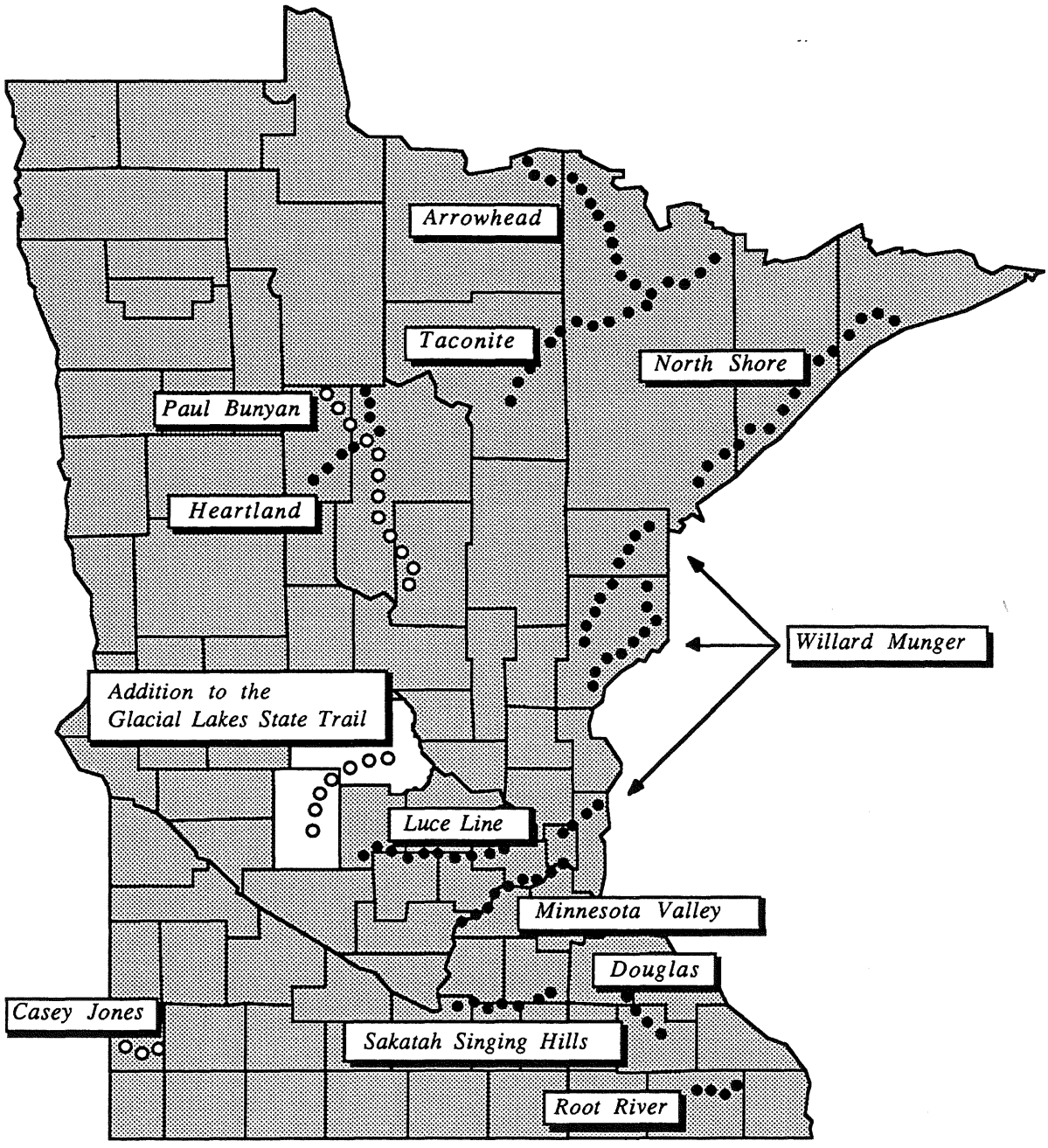
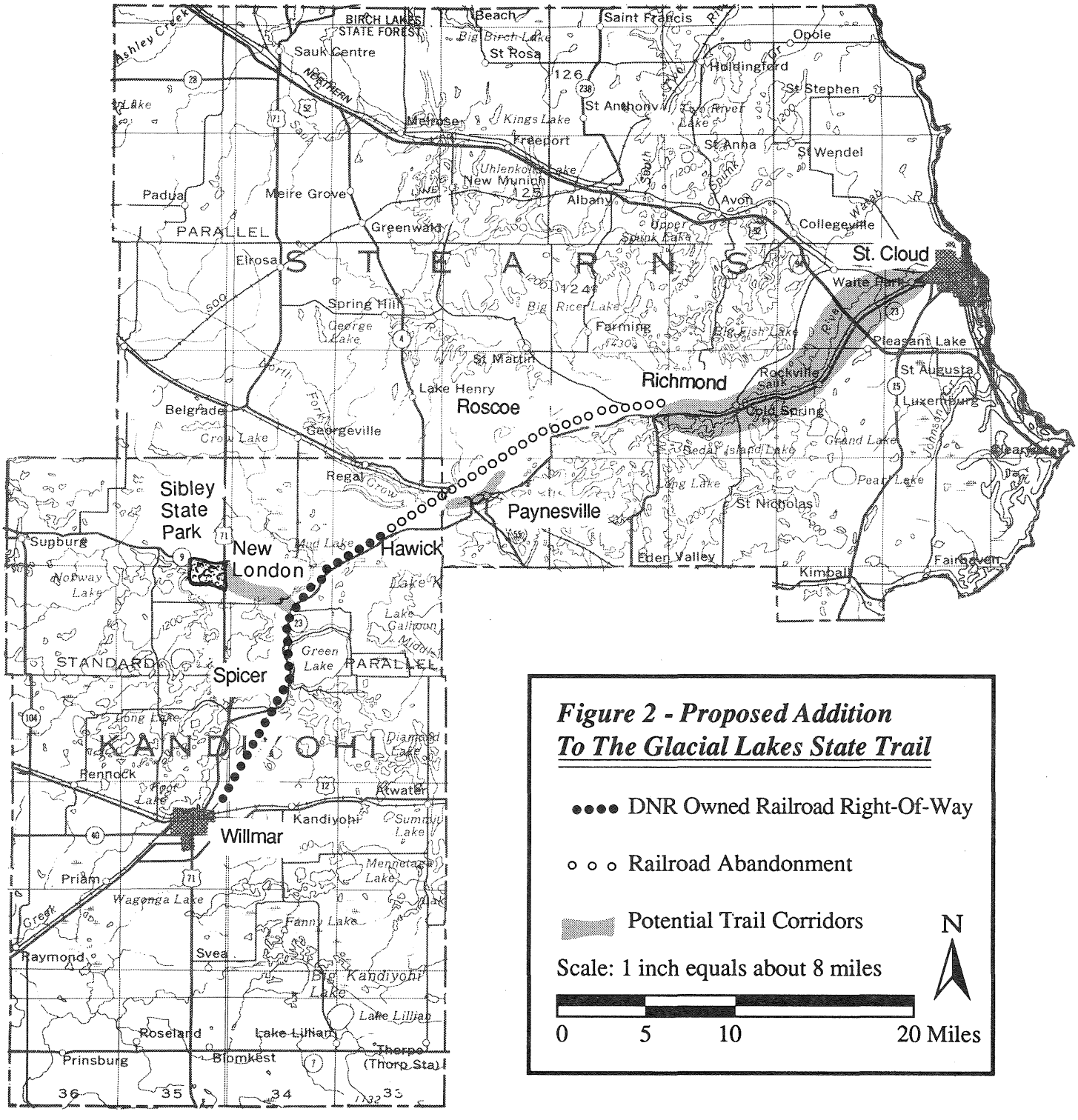
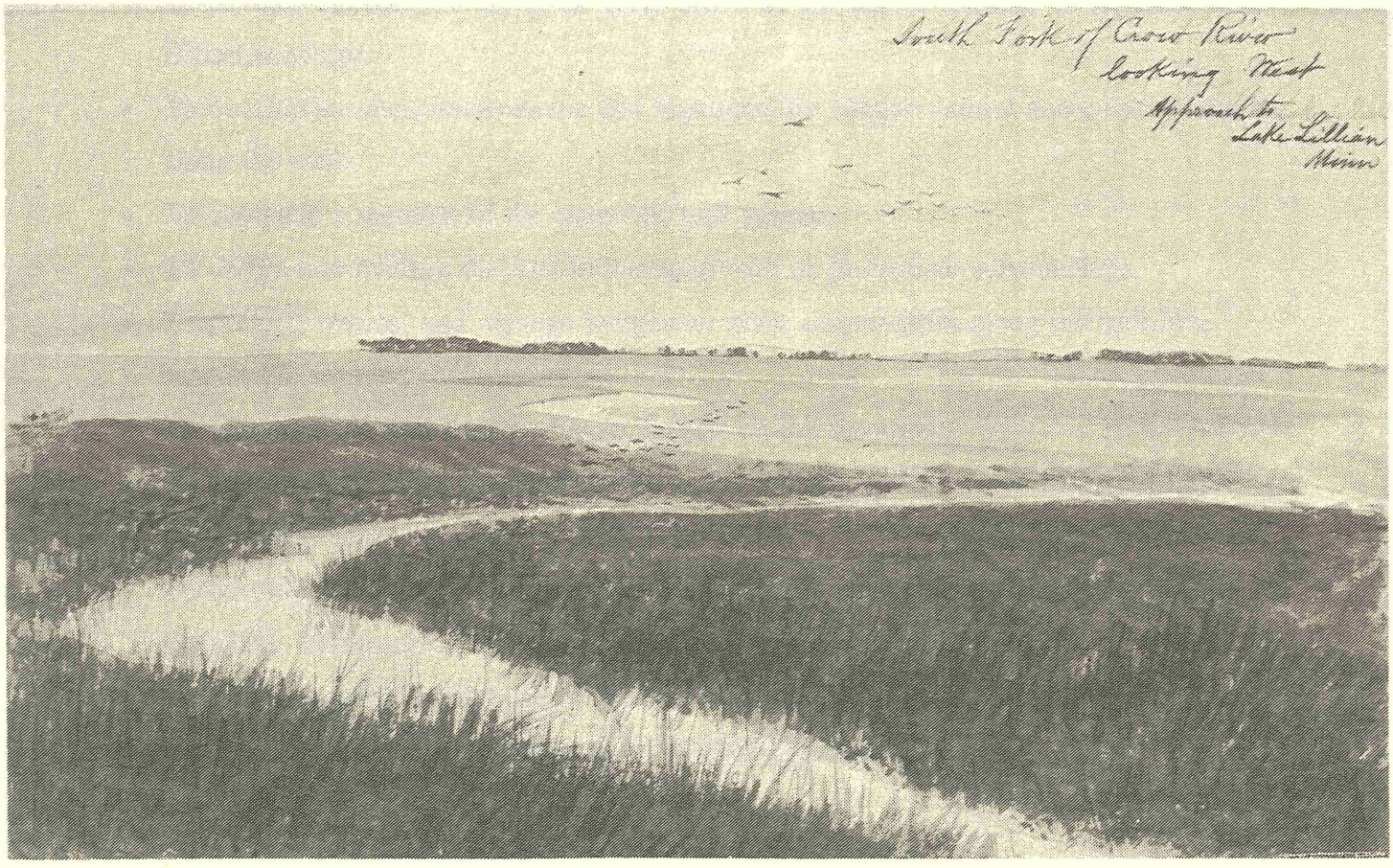


Figure 1 - Minnesota Department Of Natural Resources State Trails

●●● Existing State Trails
○○○ Proposed State Trails


Sibley State Park
New London
Willmar
Spicer
Hawick
Paynesville
Roscoe
Richmond
St. Cloud
Sauk Centre
Melrose
Freeport
St Rosa
St Anthony
St Stephen
St Anna
St Wendel
Albany
Avon
Collegeville
Waite Park
Pleasant Lake
St Augusta
Luxemburg
Rockville
Opole
Holdingford
New Munich
Greenwald
Meire Grove
Padua
Elrosa
Spring Hill
Farming
St Martin
Lake Henry
Belgrade
Georgeville
Regal
Cold Spring
St Nicholas
Eden Valley
Kimball
Grand Lake
Pearl Lake
Cedar Island Lake
Sunburg
Norway Lake
Mud Lake
Green Lake
Lake Calhoun
Diamond Lake
Kandiyohi
Atwater
Hennock
Raymond
Svea
Big Kandiyohi Lake
Lake Lillian
Roseland
Prinsburg
Blomkest
Thorpe (Thorp Sta)
Priam
Wagonga Lake
Fanny Lake
Mennetaga Lake
Summit Lake
Lake Lillian
BIRCH LAKES STATE FOREST
STEARNS
KANDIYOHI
STANDARD PARALLEL
PARALLEL
NORTHERN
Figure 2 - Proposed Addition To The Glacial Lakes State Trail
DNR Owned Railroad Right-Of-Way
Railroad Abandonment
Potential Trail Corridors
Scale: 1 inch equals about 8 miles
N
0
5
10
20 Miles

EXECUTIVE SUMMARY



South Fork of the Crow River, Kandiyohi County. 1857 sketch by Edwin Whitefield. Minnesota Historical Society.

EXECUTIVE SUMMARY

The primary purposes of this plan are to fulfill the requirement of the Outdoor Recreation Act (ORA) and to establish an effective, orderly program for the development and management of the proposed addition to the Glacial Lakes State Trail. This program shall ensure that the natural, scenic, historic, and recreation qualities of the trail are managed in a way that provides a diverse, stimulating, and healthy environment to the benefit of trail users and adjoining landowners.

GOAL AND MAJOR OBJECTIVES

The goal for this trail segment consists of three inter-related parts: Provide a recreational state trail in the Hardwood Hills Landscape between Willmar and Saint Cloud, with a connection to Sibley State Park, that exemplifies the uniqueness of this particular landscape, is managed in harmony with the natural and built environment that surrounds it, and is responsive to user needs and public concern.

To implement this goal, the following major objectives have been identified:

- To develop the trail for the users appreciation of the natural features of the Hardwood Hills Landscape.
- To develop an interpretive theme that highlights the unique natural and cultural features along the trail.
- To complete a segment of the statewide trail system.
- To design and manage the trail in harmony with its immediate surroundings.
- To protect, restore, and manage indigenous plant communities along the trail in a sustainable manner.
- To minimize the trail user's adverse impacts on the resource.
- To develop long range management priorities and guidelines for the trail, and implement them accordingly.
- To develop and operate the trail so it provides safe, enjoyable recreation for hikers, bicyclists, horseback riders, and snowmobilers.
- To take into consideration use of the trail by people with physical disabilities.
- To promote connections to existing regional and local trails.

- To link the trail with other state recreation facilities.
- To involve representatives of government, user groups, adjacent landowners, and other concerned citizens in the trail design process so their needs and concerns are properly addressed.
- To coordinate planning, design, and management efforts with other public land administrators to foster a spirit of cooperation and avoid duplication of effort.

MAJOR ACTIONS

Overall

Propose change in the original trail legislation *(see LEGISLATION section)*.

The proposed change is underlined and reads as follows:

The Glacial Lakes State Trail shall originate in the city of Willmar, Kandiyohi County, and thence extend northeasterly to the town of New London on the abandoned Burlington Northern railroad right-of-way. From there it shall continue on same railroad right-of-way in an easterly direction to Richmond in Stearns County. Ultimately the trail shall connect to Saint Cloud. From New London the trail shall also extend in a westerly direction to Sibley State Park, . . . thence northwesterly to Glacial Lakes State Park in Pope County, thence northeasterly to Lake Carlos State Park in Douglas County, and there terminate.

This master plan only addresses the proposed addition to the original Glacial Lakes State Trail legislation.

By Segment and Priority

Willmar to New London (12 miles) *(see Figures 3 and 4)*

1. Develop two treadways; one primarily for snowmobiling and bicycling, and the other primarily for horseback riding consistent with existing environmental policies. Use the clearing of the fiber optics line where feasible.
2. Pave one treadway of this segment to accommodate bicycling; this is a potentially high use area because it is a well known resort area.
3. Identify opportunities to connect the trail into Willmar; coordinate any efforts with the City's Parks Department.

4. Develop a trailhead/parking area at the Willmar Civic Center.
5. Work with the communities of Spicer and New London to develop a trail interpretation and management theme through each town; develop a concept plan for each community.
6. Cooperate with local communities in the development and maintenance of trail access/parking areas within each.
7. Develop a trail access and rest area at County Road 26 or Township Road 127 south of Spicer.
8. Develop a rest area below the Nest Lake bridge.
9. Provide a primitive camping area by the Nest Lake bridge on an experimental basis.
10. Facilitate shore fishing at the Nest Lake bridge.
11. Cooperate with the Minnesota Department of Transportation (Mn/DOT) to develop an adequate trail underpass under County Road 9 near New London.
12. Cooperate with Mn/DOT and the local school district to develop a trail access/general parking area near the proposed underpass.
13. Cooperate with the local school district to establish a spur trail that links the school with the trail.

New London to Sibley State Park (4 miles) *(see Figure 4)*

1. Promote a temporary bicycle and snowmobile route into Sibley State Park until a permanent connection can be established such as existing grants-in-aid (GIA) snowmobile trails and County Road 148 as a bicycle route into the park.
2. Actively pursue a permanent off-road trail alignment into Sibley State Park. The Trails and Waterways Unit will take the initiative to develop a connection to Sibley State Park.

New London to Hawick (6 miles) *(see Figure 5)*

1. Develop and manage this segment for snowmobiling, hiking, mountain bicycling, and horseback riding. Monitor the use on this segment over the next several years before making any further decisions whether or not to pave one treadway and establish a second treadway.
2. Develop a rest area on a DNR-owned parcel adjacent to the trail in New London.

Hawick to Richmond (18 miles) *(see Figures 5 and 6)*

1. Pursue acquisition of the right-of-way.
2. Develop this trail segment for snowmobiling, mountain bicycling, hiking, and horseback riding.
3. Monitor the use on this segment over the next several years before making any further decisions whether or not to pave one treadway and establish a second treadway.
4. Investigate opportunities for a trail connection into Cold Spring (approximately 3 miles east of Richmond).
5. Work with the communities of Roscoe and Richmond to develop a trail interpretation and management theme through each community; develop a concept plan for each.
6. Explore and identify opportunities to link the trail to the city of Paynesville located 1½ miles south of the right-of-way. Cooperate with the city of Paynesville in developing a trail connection into downtown.
7. Identify and promote an interim bicycling and snowmobile route into Paynesville along roads and GIA trails.
8. Identify alternative solutions for a safe crossing of the active Soo Line right-of-way under State Highway 55 west of Paynesville.
9. Cooperate with the local communities in development and maintenance of trail access/parking areas in each community.

Cold Spring to Saint Cloud (approximately 13 miles) *(see Figure 7)*

This segment is only mentioned here without being further addressed in the master plan. It is important, however, to address a trail connection to Saint Cloud as a long-range opportunity.

A possible trail connection into Saint Cloud could come about in conjunction with the reconstruction of Trunk Highway 23 between Cold Spring and Saint Cloud in the late-1990s.

The Sauk River corridor could present another opportunity. Within Saint Cloud's urban area a greenway along the river could be dedicated (Stearns County Recreation Plan, 1989). An ideal terminus for the proposed addition to the Glacial Lakes State Trail could be the proposed Quarry Lake Regional Park near Waite Park.

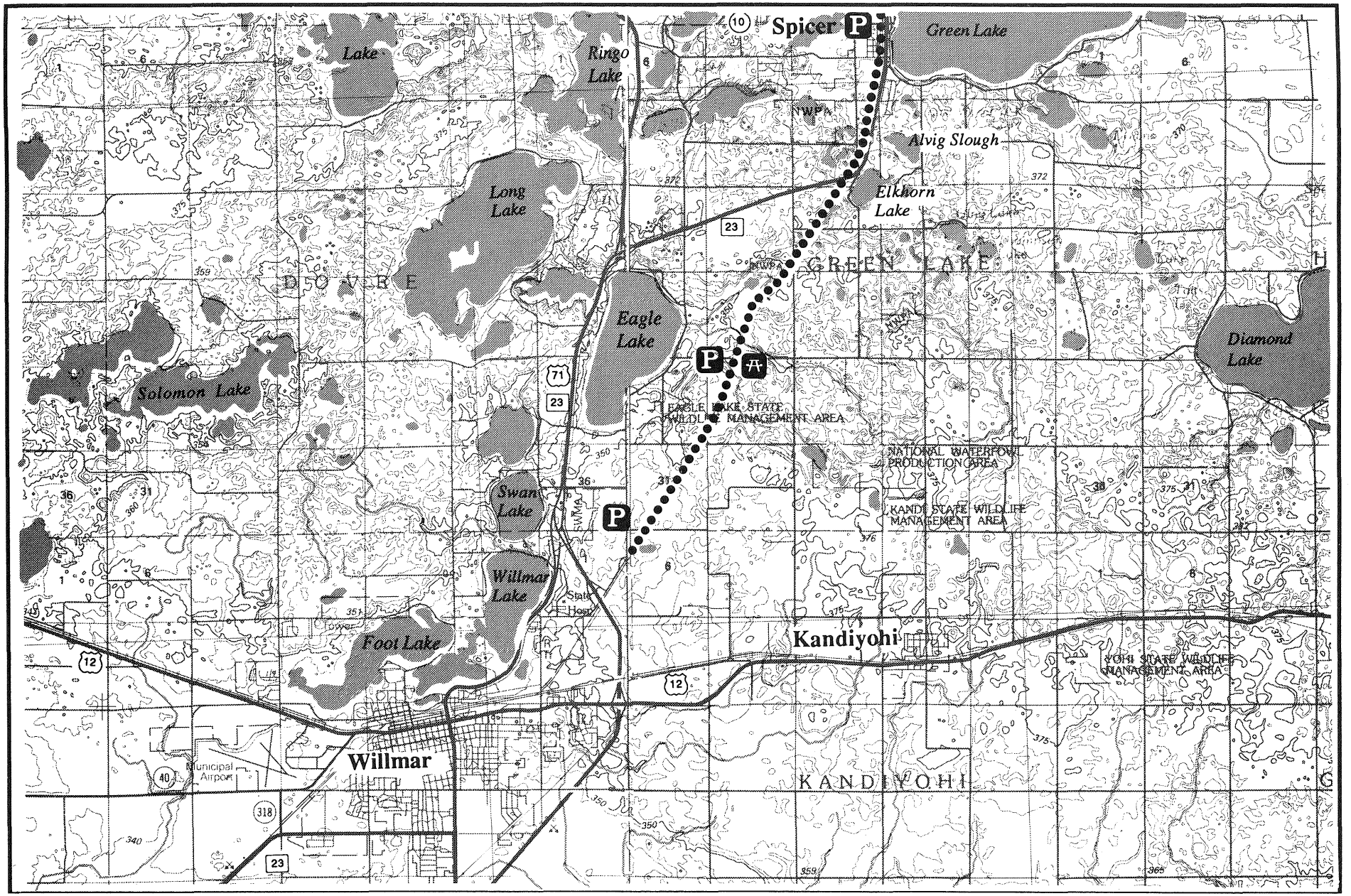


Figure 3 - Willmar to Spicer Segment

●●●● DNR Owned Railroad R.O.W.

Proposed Trail Access

Proposed Rest Area

Contour Interval: 5 meters

One inch equals approximately 1.6 miles

0 1 2 3 4 Miles

N

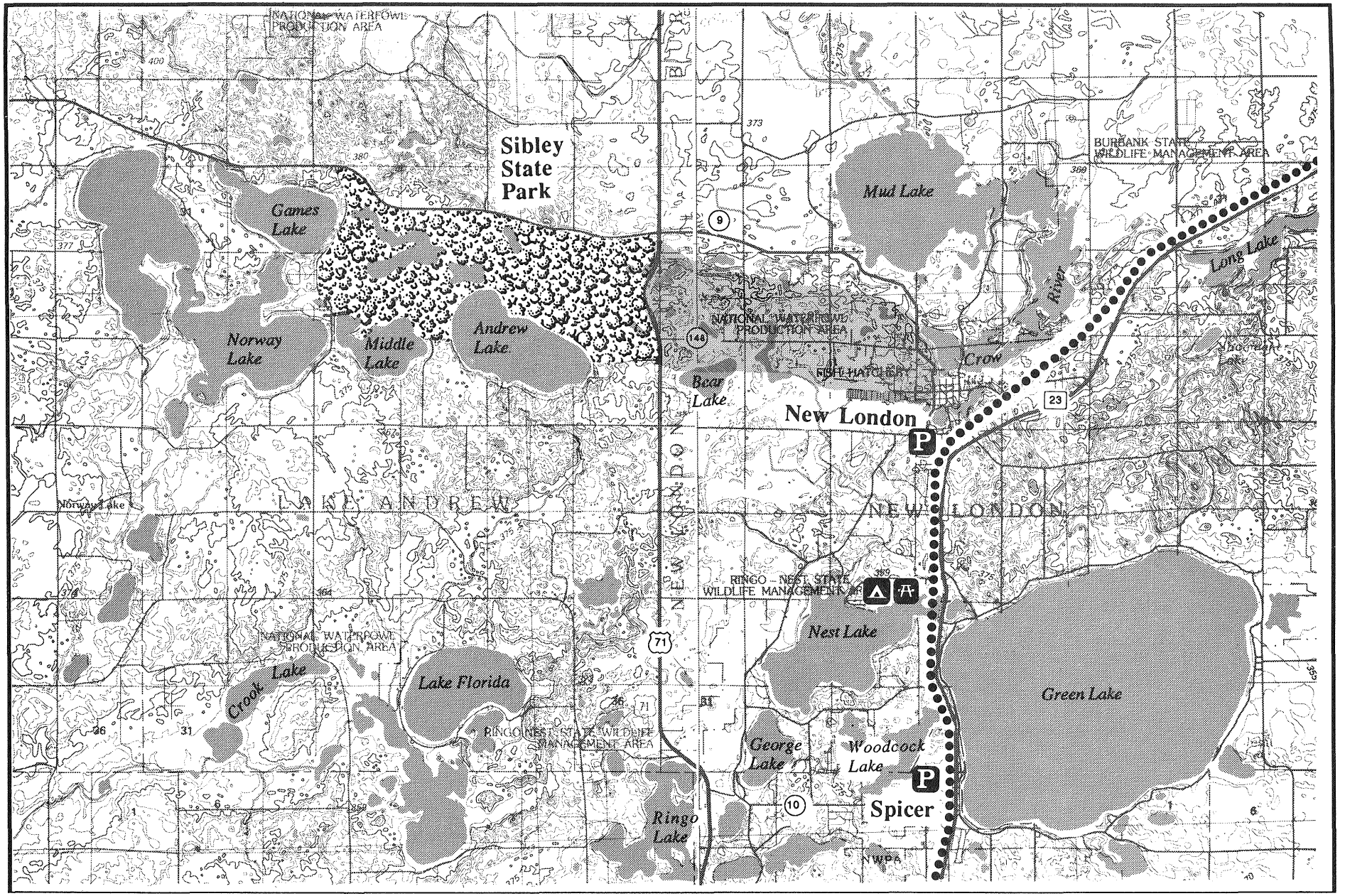


Figure 4 - Spicer to New London Segment & Sibley State Park Area

●●●● DNR Owned Railroad R.O.W.
Potential Trail Corridor
P Proposed Trail Access
Proposed Rest Area
Proposed Campsite

Contour Interval: 5 meters
One inch equals approximately 1.6 miles
0 1 2 3 4 Miles

N

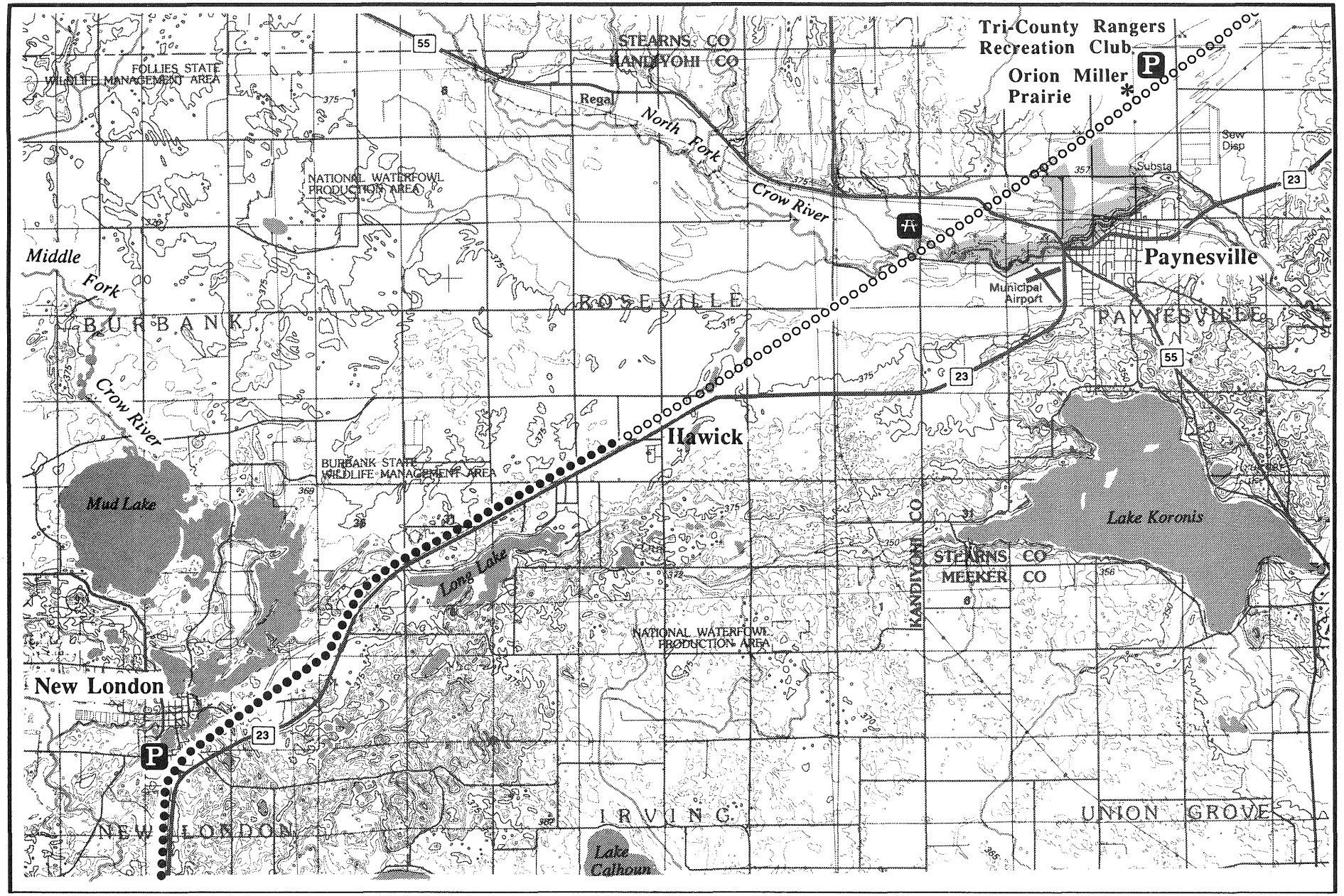


Figure 5 - New London to Hawick Segment and Paynesville Area

●●●●● DNR Owned Railroad R.O.W.
○○○○○ Railroad Abandonment
Potential Trail Corridor

Contour Interval: 5 meters
One inch equals approximately 1.6 miles

P Proposed Trail Access Proposed Rest Area

0 1 2 3 4 Miles

N

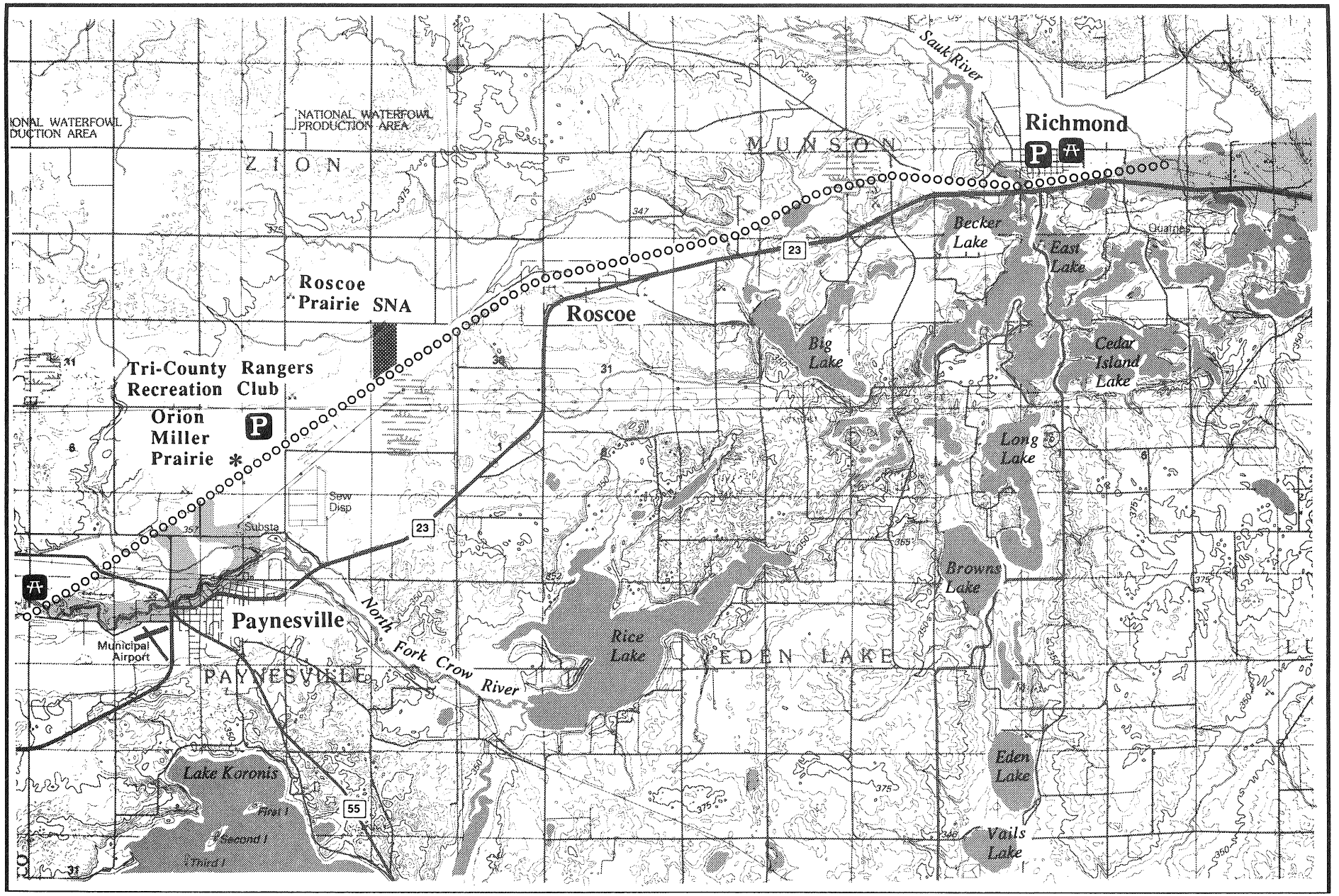


Figure 6 - Paynesville, Roscoe and Richmond Area

- Railroad Abandonment
- Potential Trail Corridor
- Proposed Trail Access
- Proposed Rest Area

Contour Interval: 5 meters

One inch equals approximately 1.6 miles

0 1 2 3 4 Miles

N

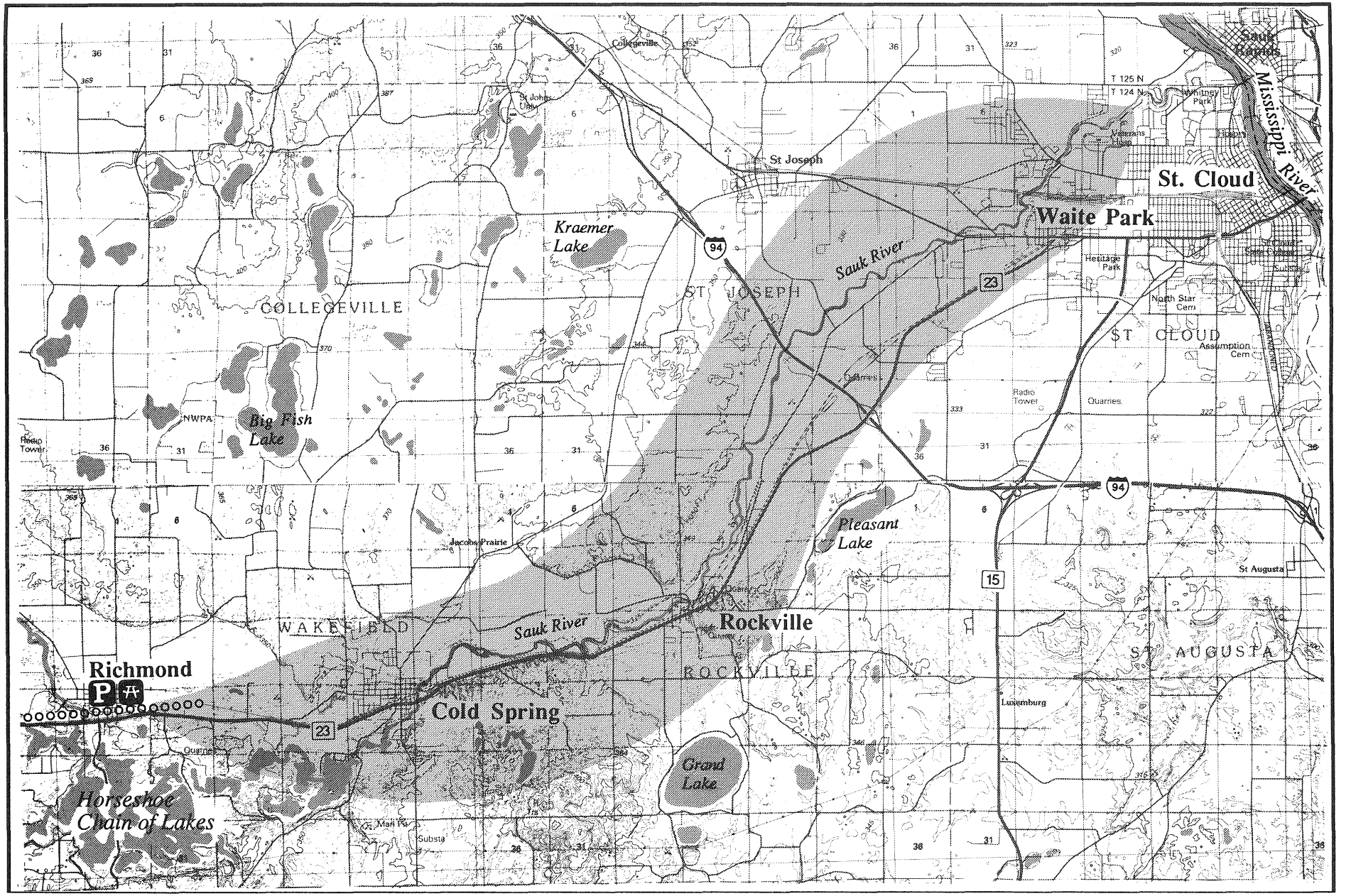


Figure 7 - Richmond, Cold Spring, and St. Cloud Area

- Railroad Abandonment
- Potential Trail Corridor
- Proposed Trail Access
- Proposed Rest Area

Contour Interval: 5 meters

One inch equals approximately 2 miles

0 1 2 3 4 Miles

N

LEGISLATION

Smedmore Lake, Kandiyohi County. 1859 watercolor sketch by Edwin Whitefield. Minnesota Historical Society.

LEGISLATION

TRAIL AUTHORIZATION

In 1971, the Minnesota Legislature authorized the acquisition and development of the Glacial Lakes State Trail, Kandiyohi, Pope, and Douglas counties (Minnesota Statutes 85.015, subdivision 5).

> "The trail shall originate in Kandiyohi County Park on the north shore of Green Lake in Kandiyohi County and thence extend northwesterly to Sibley State Park, thence northwesterly to Glacial Lakes State Park in Pope County, thence northeasterly to Lake Carlos State Park in Douglas County, and there terminate.
>
> The trail shall be developed primarily for riding and hiking."

The Department of Natural Resources (DNR) proposes the following change in this legislation. (The proposed change is underlined.)

> The Glacial Lakes State Trail shall originate in the city of Willmar, Kandiyohi County, and thence extend northeasterly to the town of New London on the abandoned Burlington Northern railroad right-of-way. From there it shall continue on same railroad right-of-way in an easterly direction to Richmond in Stearns County. Ultimately the trail shall connect to Saint Cloud. From New London the trail shall also extend in a westerly direction to Sibley State Park, . . . thence northwesterly to Glacial Lakes State Park in Pope County, thence northeasterly to Lake Carlos State Park in Douglas County, and there terminate.

The following discussion explains the proposed addition to the Glacial Lakes State Trail.

In 1976 and 1977, the DNR tried to establish a trail as authorized; however, these attempts were unsuccessful because of lack of public ownership, lack of opportunities for a linear corridor (such as an abandoned railroad grade in the vicinity), and the difficulties in establishing a linear corridor through the acquisition of private property.

In 1985, Burlington Northern, Inc., abandoned its railroad grade between Willmar and Hawick. Concurrently, the DNR was selling a portion of the western end of the Luce Line State Trail that it had acquired but not developed due to local opposition. The Luce Line State Trail was acquired, in part, with Federal Land and Water Conservation Funds (LAWCON), and federal laws require that the land, if sold, be replaced with property of similar recreational utility and value. Therefore, in April of 1990, the DNR acquired the abandoned Burlington Northern, Inc., railroad grade from Willmar to Hawick, a distance of approximately 18 miles. This purchase was made for several reasons:

1. As a requirement to replace the portion of the Luce Line State Trail that was sold.
2. Local initiative and support for this trail was significant.
3. In the future, there may also be an opportunity to extend the trail east into Saint Cloud, one of the largest cities in the state, making this trail and its resources accessible to many people.

In 1988, an additional 18.7 miles of this railroad right-of-way had been abandoned between Hawick and Richmond, the latter located 3½ miles west of Cold Spring *(see Figure 2)*.

This master plan does not address any part of the original Glacial Lakes State Trail legislation west of Sibley State Park.

TRAIL CLASSIFICATION

The Outdoor Recreation Act (ORA) of 1975, Minnesota Statutes 86A.05, subdivision 4, specifically identifies state trails as one of the units of this Act and sets guidelines for the purpose of qualifications for a state trail.

It is the DNR's finding that the proposed addition to the Glacial Lakes State Trail (proposed change in legislation) substantially satisfies the criteria required there under.

"a. A state trail shall be established to provide a recreational travel route which connects units of the outdoor recreation system or the national trail system, provides access to or passage through other areas which have significant scenic, historic, scientific, or recreational qualities or establishes or permits travel along an historically prominent travel route or which provides commuter transportation.

b. No unit shall be authorized as a state trail unless its proposed location substantially satisfies the following criteria:

1. Permits travel in an appropriate manner along a route which provides at least one of the following recreational opportunities:

   v. travel between units of the state outdoor recreation system or the national trail system."

   This plan proposes a trail to be built between the railroad right-of-way at New London and Sibley State Park, 4 miles to the west. Sibley State Park is a unit of the Outdoor Recreation System (ORS). Near Roscoe, the proposed addition to the Glacial Lakes State Trail abuts the Roscoe Prairie Scientific and Natural Area (SNA), another unit of the ORS.

2. The proposed addition to the Glacial Lakes State Trail "utilizes, to the greatest extent possible consistent with the purposes of this subdivision, public lands, rights-of-way, and the like." The trail is located on an abandoned railroad right-of-way. The trail alignment to Sibley State Park and from Richmond to Saint Cloud would be located on public land to the greatest extent possible.

3. The proposed addition to the Glacial Lakes State Trail will "provides maximum potential for the appreciation, conservation, and enjoyment of significant scenic, historical, natural, or cultural qualities of the areas through which the trail may pass."

   The trail is located in the Hardwood Hills Landscape. It displays some of the essential characteristics of this landscape. There is no other state trail developed or proposed in this recreation landscape.

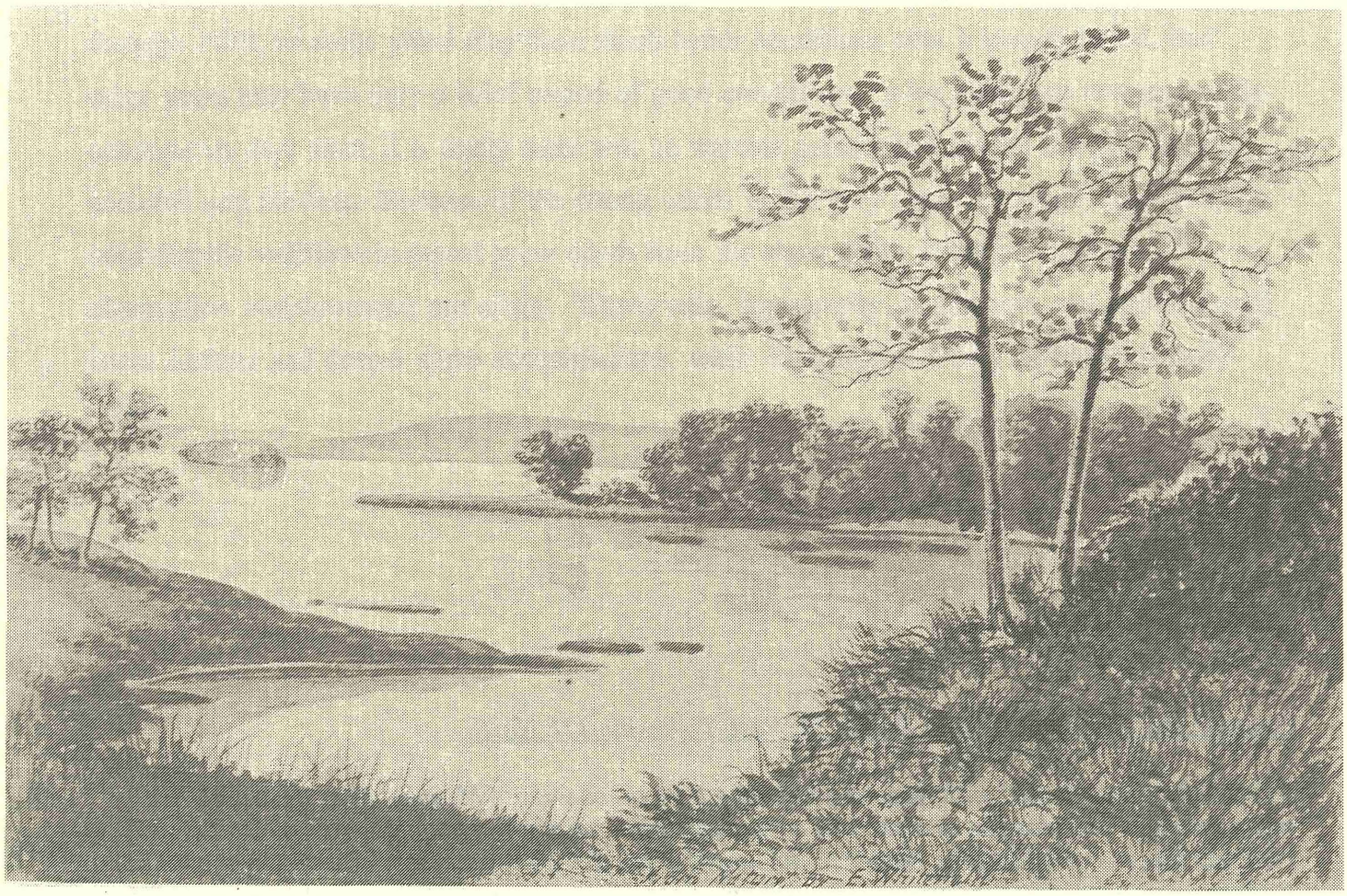
   The Hardwood Hills Landscape, a subsection of the Minnesota Ecological Classification System (ECS), is dominated by the hilly terrain of the Alexandria Moraine Complex. The landuse today is primarily agricultural, but tourism is also an important economic factor in this region. Presettlement vegetation consisted of tall grass prairie in the western part gradually changing to oak savanna, northern hardwood, and aspen birch forests toward the eastern part of the region.

   The master plan lays out a plan of action for design, development, and management of the trail. The master plan also outlines actions which respond to user

needs and enjoyment, practice sound natural resource management, and enhance the cultural qualities of the area.

"4. Takes into consideration predicted public demand and future use." The master plan evaluates and uses the information gathered at public meetings and information on future trends offered in the Statewide Comprehensive Outdoor Recreation Plan (SCORP). It also takes into consideration information gathered through the Unit's ten years of trail monitoring efforts.

DESCRIPTION OF THE ENVIRONMENT



Owapi Lake, Kandiyohi County. From Edwin Whitefield's 1859 Minnesota Scenes. *Minnesota Historical Society*

Owapi Lake, Kandiyohi Count,Range 34 West, Township 118 North.

"This Lake is connected with Kasota and is about 90 miles west of Minneapolis. There are too many marshes and sloughs to make this a very desirable point for settlement; still the soil is very rich and there is considerable timber in the neighborhood. At present there are only two or three settlers about here and there is therefore plenty of land for new comers. The land around to the north is very rolling, but to the south is generally low and marshy." Plate No. 7, from Minnesota Scenes by *Edwin Whitefield, 1859. Minnesota Historical Society.*

DESCRIPTION OF THE ENVIRONMENT

NATURAL RESOURCE INVENTORY

Weather

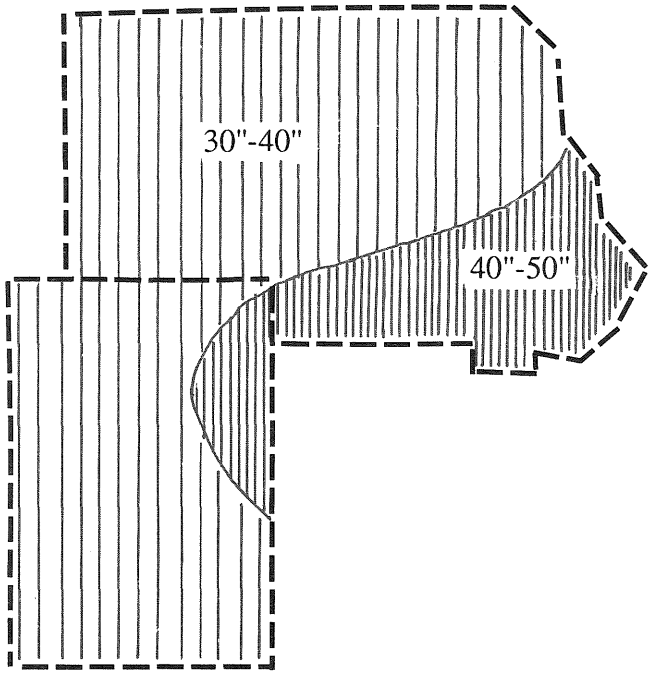
The proposed addition to the Glacial Lakes State Trail is located in central Minnesota, specifically in Stearns and Kandiyohi counties. The weather there is typical of Minnesota's continental climate with hot, humid summers and cold, dry winters.

Precipitation averages 25 to 28 inches annually. Snowfall has averaged approximately 40 inches annually in the years 1931 through 1966.

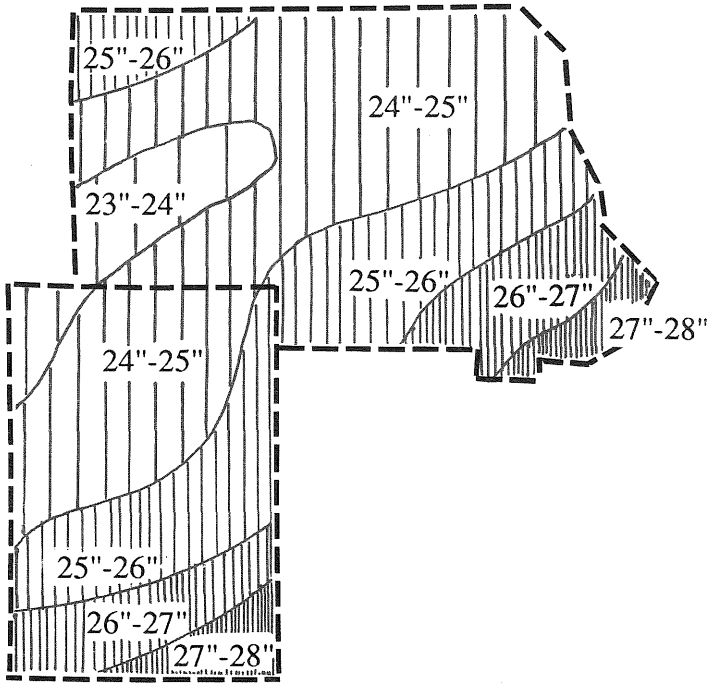
For cross-country ski or snowmobile grooming, a snow depth of at least six inches or more is the bare minimum. In this area, the median snow depth is six inches or greater on approximately 55 to 60 days each year. (In comparison, the northeast corner of Minnesota may have 100 to 130 days with snow cover of six inches or more, while the southwest corner of the state may have as few as 30 such days in a winter.)

Note that these snow depth figures are averages of data collected over the years 1959 through 1970, so some years may have much better conditions over a longer period, and other years may have only a brief period of good conditions. Also, these are not necessarily consecutive days since it is likely there will be warmer periods in between the first heavy snowfall and the last. Because of the strong winds in the very open landscape, there may be considerable variation in actual snow depth from the snow depth at the point where observation measurements are taken. Windbreaks, topography, vegetation, and buildings can cause drifting and deeper snow accumulations, while exposed areas may be blown bare of snow.

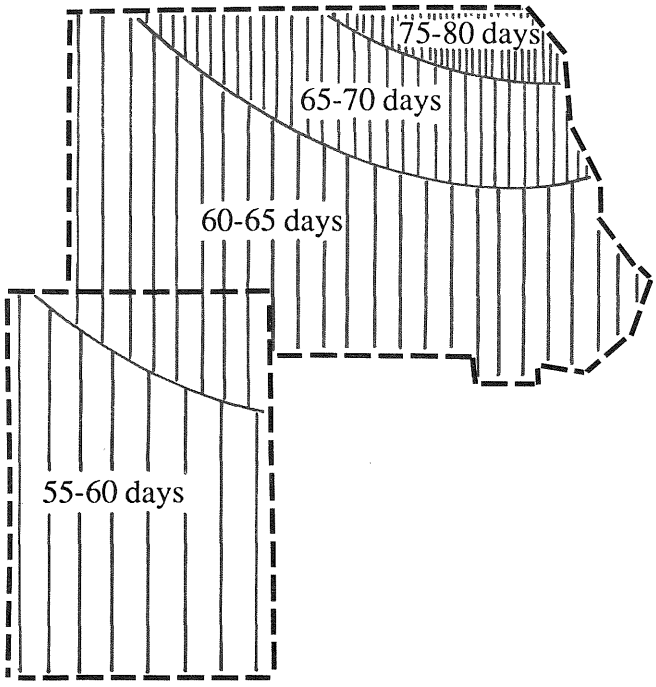
Figure 8 - Climate Data for Stearns and Kandiyohi Counties



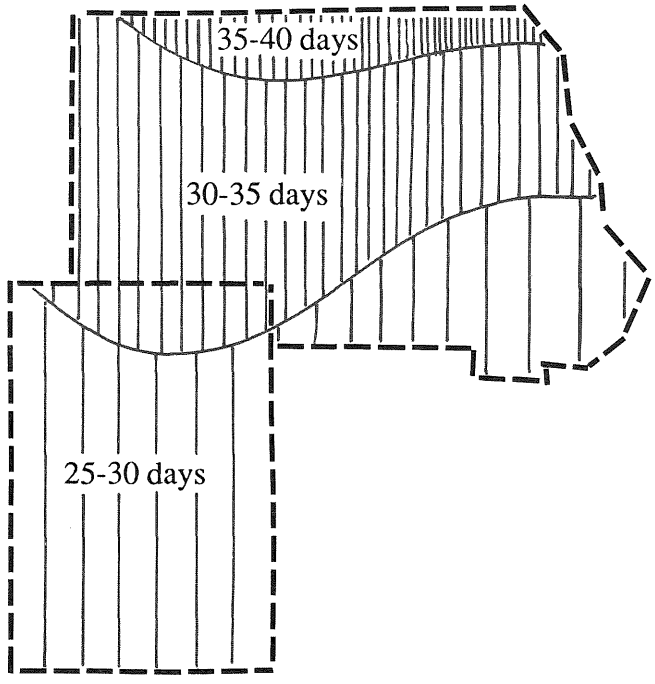
Normal Annual Snowfall (in inches)
From Climate of Minnesota, Part V



Normal Annual Precipitation (in inches)
From Climate of Minnesota, Part V



Mean Duration of Snow Cover Depth of
6 Inches or Greater (in days)
From Climate of Minnesota, Part XIII



Mean Duration of Snow Cover Depth of
12 Inches or Greater (in days)
From Climate of Minnesota, Part XIII

Geology/Landform/Soils

The proposed addition to the Glacial Lakes State Trail crosses an area with a rich variety of geological features that are already referred to in the very name of the trail--remnants of glacial activity that were the major force that shaped the landscape of this region. This landscape is one of the best records on earth of the effects of glacial action. As great ice sheets advanced and retreated, they deposited rocky debris from as far away as Lake Superior, North Dakota, and Canada. The flowing ice, hundreds of feet thick, resculpted the land into a topography of *kames* (conical hills), *kettle ponds* (formed when buried ice collapsed), and elongated ridges called *eskers*. The debris left by earlier glacial advances has been over-ridden in places by the subsequent advances and melting of later glaciers.

The hills, shallow pothole lakes, and wetlands of this area are typical of the debris left after the melting of the last glaciation period of 10,000 years ago.

South of Willmar, the Altamont *ground moraine* shows the gently rolling topography of low hills and swales typical of the more or less uniform blanket of debris deposited by a moving glacier. From Willmar to New London, the trail traverses the Alexandria *stagnation moraine*, typified by knob and kettle topography and numerous small wetlands and lakes. This drift was released by the glacier as it stopped moving. The Alexandria moraine is a good example of this type of moraine. Another type of moraine is the *end moraine*, formed at the margin of a glacier as the amount of advance was equaled by the amount of meltback. The glacier acted as a gigantic conveyor belt bringing loads of debris to the margin of the glacier and building belts of hills. The distinctions between these types of moraines is somewhat arbitrary with many moraines being transitional rather than clear-cut examples of one type or the other.

Near New London, *eskers* are noted to the north and west of the railroad grade, towards Sibley State Park. These worm-like ridges are the remnants of the sand, gravel, cobbles, and boulders deposited in the ice-walled channels of glacial streams that were left above the level of the surrounding landscape when the ice walls melted. On Figure 9, the esker is shown to scale in length, but the width is exaggerated.

From New London to Saint Cloud, the railroad grade follows what was very likely the "path of least resistance" in a level outwash plain. Outwash plains consist of stratified or

layered drift, sorted by glacial meltwater with occasional pits or small lakes formed as underlying buried ice melted and collapsed. In places such as the stretch between Hawick and Roscoe, the grade itself is in very flat terrain, but moraine ridges are visible either to the north or south of the grade. Present day streams, like the North Fork of the Crow River and the Sauk River, flow along the same routes as the glacial meltwater once did.

Glacial debris 100 to 300 feet thick covers most of the bedrock in Stearns and Kandiyohi counties, with the notable exception of the outcrops in the Richmond-Rockville-Saint Cloud area. In contrast to the youthful (only 15 to 10 thousand years old) glacial features, these gneiss rocks are 3,600 million years old; they are some of the oldest rocks found on earth. These gneiss may be seen in quarries east of Richmond, and from Highway 23 in Rockville.

Soil suitability is an important factor in building and maintaining a trail. However, the majority of the proposed addition to the Glacial Lakes State Trail will be located on an abandoned railroad right-of-way, an artificial grade. In areas where the trail continues on land other than the railroad right-of-way, namely a connecting trail to Sibley State Park or to Paynesville, soil suitability becomes an important factor in developing a trail alignment.

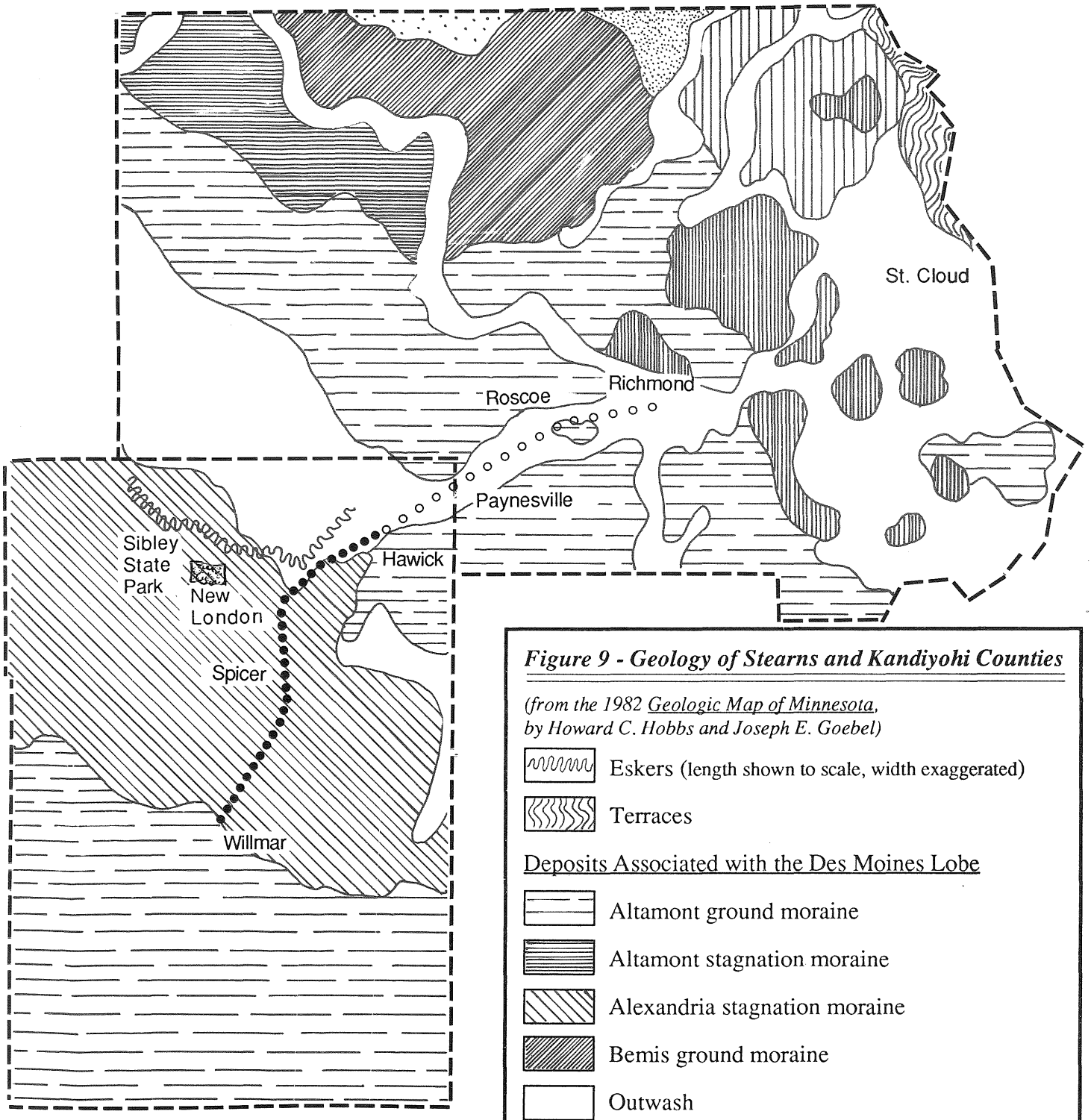


Figure 9 - Geology of Stearns and Kandiyohi Counties

(from the 1982 Geologic Map of Minnesota, by Howard C. Hobbs and Joseph E. Goebel)

Eskers (length shown to scale, width exaggerated)

Terraces

Deposits Associated with the Des Moines Lobe

Altamont ground moraine

Altamont stagnation moraine

Alexandria stagnation moraine

Bemis ground moraine

Outwash

Deposits Associated with the Rainy Lobe

End moraine

Ground moraine

Deposits Associated with the Superior Lobe

End moraine

Ground moraine

●●●● DNR Owned Railroad Right-Of-Way

o o o Railroad Abandonment

N

Scale: One inch equals about 8 miles

0 5 10 20 Miles

Watersheds

The proposed addition to the Glacial Lakes State Trail crosses a geologically "youthful" area with numerous lakes, shallow pothole depressions, marshy areas, and only a few developed streams in the gently rolling topography. (Stearns County has 232 lakes; Kandiyohi County has 361 lakes.)

Part of the area between Willmar, Sibley State Park, and Spicer is in the Chippewa River and Hawk Creek watersheds. Waters from Hawk Creek and Shakopee Creek eventually drain into the Minnesota River.

The Spicer-New London area is drained by the Middle Fork of the Crow River. West of Paynesville, the proposed trail crosses the North Fork of the Crow River. The Crow River flows into the Mississippi River.

The Roscoe, Richmond, and Cold Spring area is part of the Sauk River watershed. The proposed trail passes over the Sauk River which leads into the "Chain of Lakes," an interconnected series of a dozen bays and lakes. The Sauk River eventually joins the Mississippi River near Saint Cloud after flowing through the Chain of Lakes. There are over 80 miles of shoreline in this series of lakes, while the length of the Sauk River through the lakes is only 8 miles.

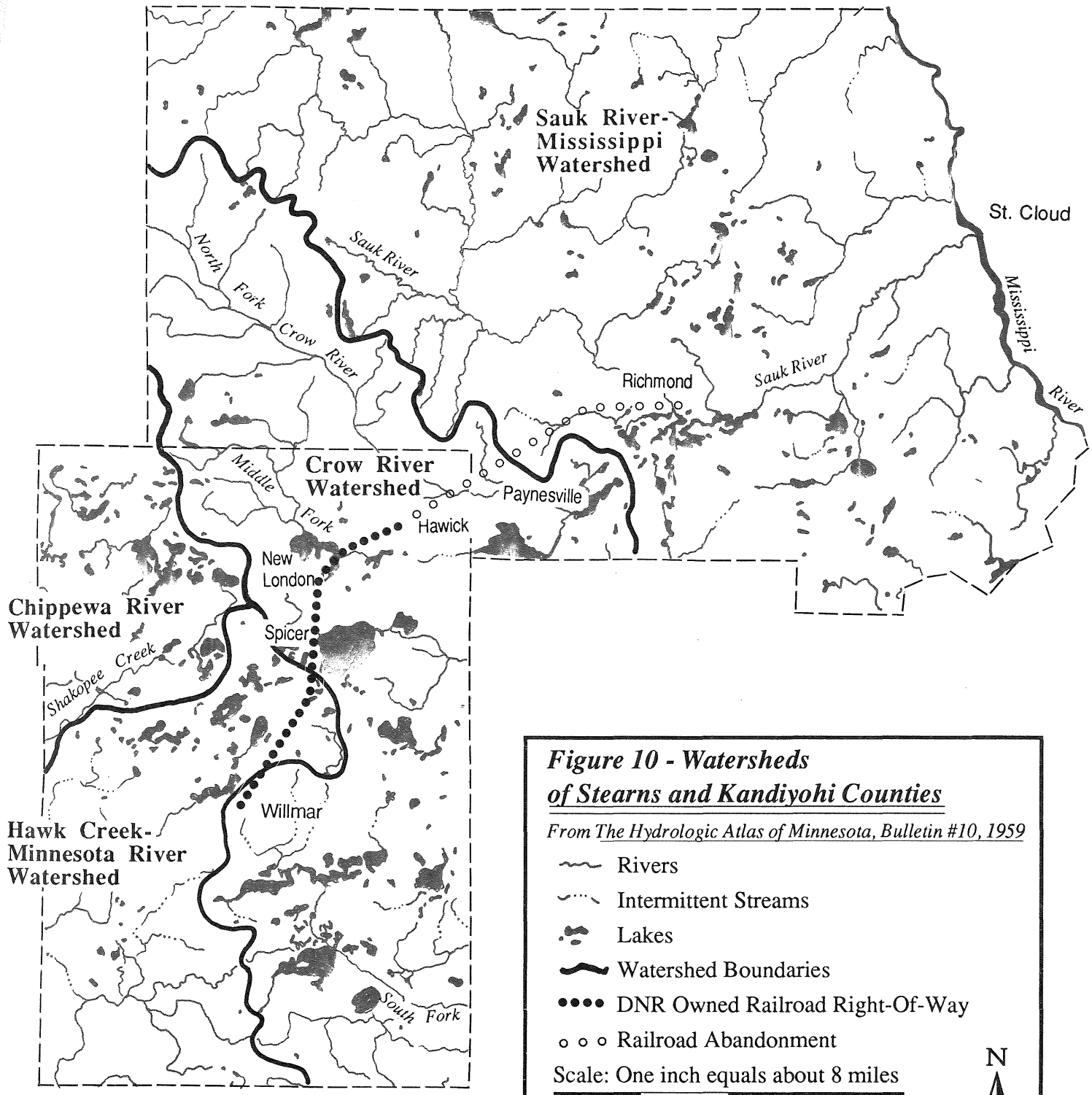


Figure 10 - Watersheds of Stearns and Kandiyohi Counties

From The Hydrologic Atlas of Minnesota, Bulletin #10, 1959

- Rivers
- Intermittent Streams
- Lakes
- Watershed Boundaries
- DNR Owned Railroad Right-Of-Way
- Railroad Abandonment

Scale: One inch equals about 8 miles

0 5 10 20 Miles

N

Vegetation

The proposed addition to the Glacial Lakes State Trail cuts across the border between two of Minnesota's major biomes: the western tallgrass prairie and the eastern deciduous forest. At the time of settlement, based on notes taken by public land surveyors, the area of Kandiyohi and southwestern Stearns counties was predominantly upland prairie with wetland vegetation along stream corridors and in the numerous potholes created by glacial action. The dominant species of this area were bluestem grasses, Indian grass, and needle and grama grasses, as well as a wide variety of forbs (non-woody, broadleaf plants). In more moist areas the species would be bluejoint grass and cordgrass. Cattails, rushes, and sedges filled the wetlands and bordered the prairie potholes.

Oak woodland and brushland was a common transitional community type between the prairie and the deciduous forest of eastern Stearns County. Aspen and hazel thickets, pockets of pin or bur oak, woodland savannah, or brushland dotted the transition zone between the prairie and the rich maple/basswood forests (called the "Big Woods" by early settlers) to the east. Along streams like the Sauk River, floodplain forests of silver maple, American elm, green ash, black willow, and cottonwood thrived.

The eastern deciduous forest species of the Big Woods are all particularly sensitive to fire, so they were only found in small patches in northern Kandiyohi and eastern Stearns counties where the rougher terrain, lakes, and streams acted as natural firebreaks. Elm, basswood, sugar maple, and red oak are the most typical species; Sibley State Park presents a good example. In particular, the western part of the park has pockets of maple-basswood forest growing on slopes surrounded by lakes. These forests were protected from fires sweeping across the prairie.

From Willmar to Spicer the original vegetation was tallgrass prairie with extensive wetland areas midway between the two cities. Near Spicer the lakes provided enough of a firebreak to allow a maple-basswood community to grow between Woodcock, Nest, and Green lakes. North of Nest Lake, to north of New London, the area of the railroad right-of-way was once composed of prairie wetlands and an aspen-oak woodland area with prairie openings. Open prairie area in a fairly level glacial outwash plain followed with wetlands

extending around the North Fork of the Crow River. From north of Paynesville, through Roscoe to Richmond, the right-of-way traverses significant areas of wetland.

The look of the land has changed considerably since the original survey due to development. Forests have been cleared, wetlands drained, millponds created, windbreaks planted, and prairies plowed into agricultural fields. The suppression of prairie fires that would have regularly swept through the area prior to settlement has altered the patterns of vegetation allowing trees and shrubs to grow and shade out the prairie grasses in some areas. Red cedar, in particular, has heavily invaded the dry, south-facing slopes that are visible along the trail.

Today, less than one percent of the prairie that once covered Minnesota survives. Remnants of virgin prairie, important reservoirs of species diversity, can sometimes be found along railroad rights-of-way that have escaped disturbance as in the case of Roscoe Prairie Scientific and Natural Area (SNA) along this trail. These railway corridors can also function as important links between habitats that would otherwise be isolated islands surrounded by developed lands. There are remnants of prairie habitat in the Alexandria moraine area due to the limited agricultural potential of sites with steep slopes, coarse glacial soils, or poor drainage. About 50 percent of the land in Kandiyohi County is cultivated with the rest in either woodland or grassland pasture. (In contrast, in the outwash plain area of southwest Stearns County, about 80 percent of the land is under cultivation.) Glacial Lakes State Park in Pope County, bordering Kandiyohi County in the northwest, contains excellent examples of undisturbed gravel prairies on the crests and side slopes of moraines that are too dry and too steep to support cultivation. Shorter grasses, like little bluestem and grama grasses, are the predominant species with a species composition similar to that of the shortgrass prairie further westward in more arid states.

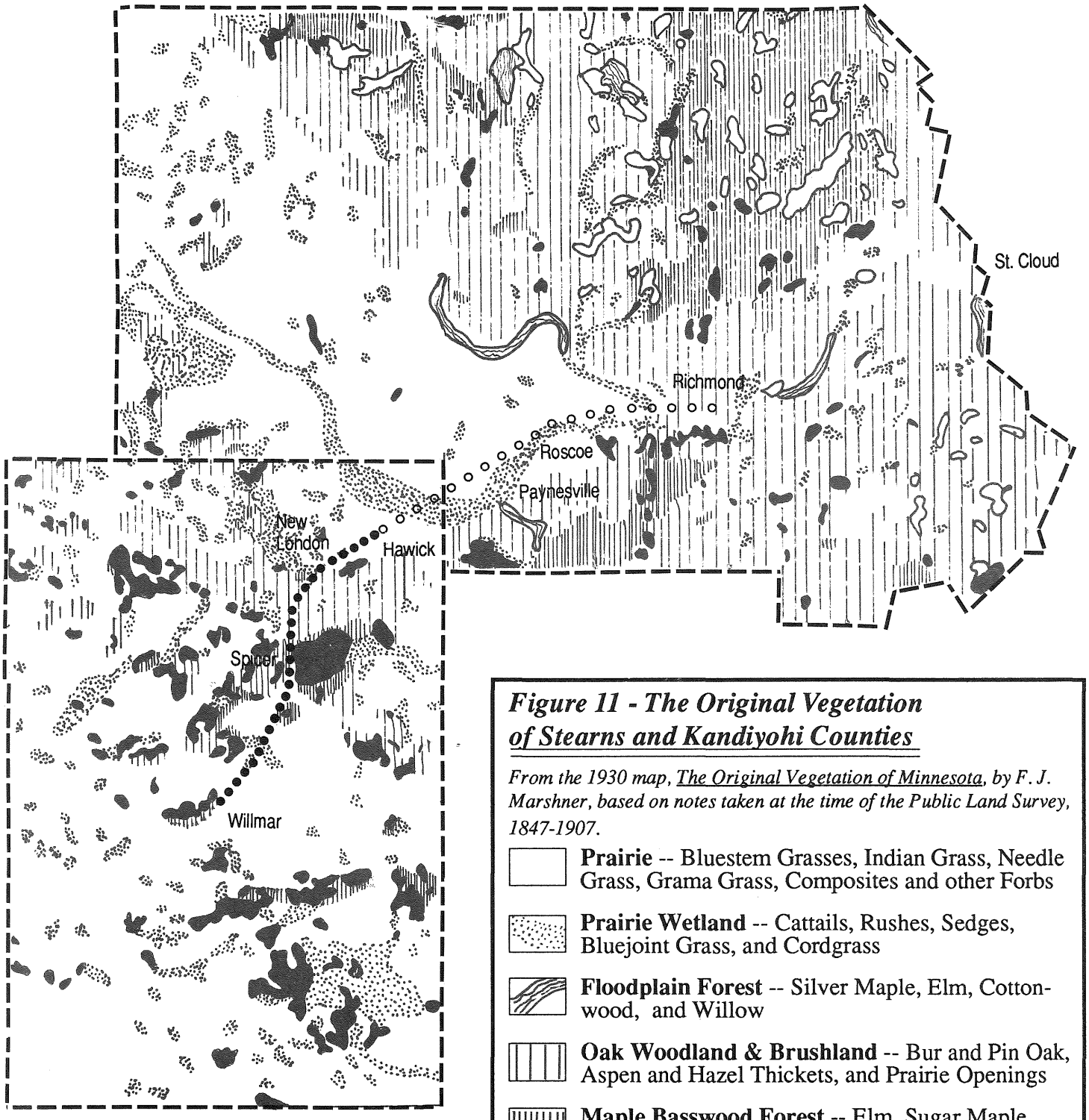


Figure 11 - The Original Vegetation of Stearns and Kandiyohi Counties

From the 1930 map, The Original Vegetation of Minnesota, by F. J. Marshner, based on notes taken at the time of the Public Land Survey, 1847-1907.

Prairie -- Bluestem Grasses, Indian Grass, Needle Grass, Grama Grass, Composites and other Forbs

Prairie Wetland -- Cattails, Rushes, Sedges, Bluejoint Grass, and Cordgrass

Floodplain Forest -- Silver Maple, Elm, Cottonwood, and Willow

Oak Woodland & Brushland -- Bur and Pin Oak, Aspen and Hazel Thickets, and Prairie Openings

Maple Basswood Forest -- Elm, Sugar Maple, Basswood, Red and White Oak

Conifer Bog -- Tamarack

Lakes and Prairie Potholes

DNR Owned Railroad Right-Of-Way

Railroad Abandonment

Scale: One inch equals about 8 miles

0 5 10 20 Miles

N

The following plant lists reflect the major native plant communities that once existed and still exist, in the case of Roscoe Prairie SNA along the proposed addition to the Glacial Lakes State Trail. These plant communities can serve as models for restoring native plant communities and creating naturalized plantings along the trail. In addition to several types of prairies, oak woodland-brushlands, and shrub lowland-wetland communities, there are small areas of river bottom communities along the trail where it crosses the Sauk and Crow Rivers.

A. Prairie Communities

Prairie (grassland) communities exist along a continuum from very wet sites, to extremely dry sites. Certain plants, such as cattails in marshy situations and short grasses on dry sites, are typical of each of these extremes. There are overlaps in the lists of different prairie types since some plants are adaptable to both wet and dry situations. Another reason for variance in species composition of prairie communities is that some species may disappear from sites on which one would expect to find them during drought or wet years, only to reappear years later when conditions are more suitable. Species may also be eradicated by grazing, mowing, or competition from more aggressive plants.

Till hill prairies have excessive drainage due to the slope and the subsoil of gravelly glacial till. The species found on these dry, exposed sites may be similar to that of short-grass prairies found further west from Minnesota, where there is less rainfall. These dry, stony sites may have been uneconomical to farm intensively, but many have been disturbed by sand and gravel excavation. (Dry conditions similar to these may exist along raised railway grades.)

Following are plant lists for these various prairie communities.

Roscoe Prairie Scientific and Natural Area. The Roscoe Prairie SNA is a fine example of dry-mesic, mesic, and wet prairie, despite having very little topographic relief (less than 10 feet of variation in elevation). The 57 acre site has flat to rolling topography with poor drainage. Undisturbed mesic blacksoil prairie covers the section closest to the railroad grade. The northern portion of the SNA is primarily sedge meadow and shrub swamp. The list that follows is only a partial inventory of the plant species to be found on Roscoe Prairie SNA, which is indicative of the incredible richness and diversity of these prairie communities.

Grasses and Sedges

Agrostis alba (Red Top Grass)
Andropogon gerardii (Big Bluestem)
Andropogon scoparius (Little Bluestem)
Bromus kalmii (Brome Grass)
Carex brevior (Fescue Sedge)
Muhlenbergia racemosa (Muhly Grass)
Panicum leibergii (Lieberg's Panic Grass)
Sorghastrum nutans (Indian Grass)
Spartina pectinata (Cord Grass)
Sporobolus heterolepis (Prairie Dropseed)
Stipa sp. (Needle and Thread Grass)

Forbs (non-woody, broadleaf plants)

Agoseris glauca (Prairie Dandelion)
Allium canadense (Meadow Garlic)
Allium stellata (Prairie Onion)
Amorpha canescens (Lead Plant)
Amorpha nana (Dwarf False Indigo)
Anemone canadensis (Canada Anemone)
Anemone cylindrica (Anemone)
Anemone patens (Pasque Flower)
Apocynum androsaemifolium (Spreading Dogbane)
Asclepias ovalifolia (Oval Leaved Milkweed)
Asclepias speciosa (Showy Milkweed)
Asclepias syriaca (Common Milkweed)
Aster azureus (Azure Aster)
Aster ptarmicoides (Upland White Aster)
Astragalus crassicarpus (Prairie Plum, Buffalo Bean)
Circuta maculata (Water Hemlock, Spotted Cowbane)
Cypripedium calceolus (Yellow Lady's Slipper)
Cypripedium candidum (White Lady's Slipper)
Delphinium virescens (Prairie Larkspur)
Desmodium canadense (Showy Tick-trefoil)
Echinacea pallida (Purple Coneflower)
Equisetum palustre (Horsetail, Scouring Rush)
Erigeron philadelphicus (Fleabane, Daisy)
Eupatorium maculatum (Joe Pye Weed)
Eupatorium perfoliatum (White Boneset)
Fragaria virginiana (Wild Strawberry)
Galium boreale (Northern Bedstraw)
Gentiana andrewsii (Closed Gentian)
Gentiana puberula (Prairie Gentian)
Geum macrophyllum (Avens)
Geum triflorum (Prairie Smoke)
Helianthus maximiliana (Maximillian's Sunflower)
Heliopsis helianthoides (Ox-eye)
Heuchera richardsonii (Alum Root)
Hieracium sp. (Hawkweed)
Hypoxia hirsuta (Yellow Star Grass)
Lathyrus venosus (Vetch)
Lepidium desiflorum (Pepper Grass)
Liatris ligulistylis (Large-headed Blazing Star)
Liatris punctata (Dotted Blazing Star)
Liatris pycnostachya (Prairie Blazing Star)
Lilium philadelphicum (Wood Lily)
Lilium superbum (Turk's Cap Lily)
Lithospermum canescens (Hoary Puccoon)
Lysimachia quadriflora (Prairie Loosestrife)
Lysimachia thyrsiflora (Marsh Loosestrife)
Monarda fistulosa (Wild Bergamot)
Oenothera biennis (Evening Primrose)
Oenothera serrulata (Cut Leaved Evening Primrose)
Oxalis stricta (Wood Sorrel)
Oxalis violacea (Violet Wood Sorrel)
Petalostemon candidum (White Prairie Clover)
Petalostemon purpureum (Purple Prairie Clover)
Phlox pilosa (Prairie Phlox)
Physalis heterophylla (Clammy Ground Cherry)
Polygala seneca (Seneca Snakeroot)
Potentilla argentea (Silvery Cinquefoil)
Potentilla arguta (Tall Cinquefoil)
Prenanthes aspera (Rough Rattlesnake Root)
Psoralea agrophylla (Silverleaf Scurf Pea)
Pycnanthemum virginianum (Mountain Mint)
Rudbeckia hirta (Black-eyed Susan)
Scutellaria parvula (Prairie Skullcap)
Scutellaria galericulata (Marsh Skullcap)
Solidago missouriensis (Missouri Goldenrod)
Spiranthes cernua (Lady's Tresses)
Thalictrum dasycarpum (Tall Meadow Rue)
Thlaspi arvense (Penny Cress)
Tradescantia bracteata (Long Bracted Spiderwort)
Trifolium procumbens (Low Hop Clover)
Typha sp. (Cattail)
Veronicastrum virginicum (Culver's Root)
Viola pedata (Bird's Foot Violet)
Zygadenus elegans (White Camas)

Shrubs and Trees

Populus tremuloides (Quaking Aspen)
Rosa blanda (Smooth Rose)
Salix sp. (Willow)

Introduced Species

These species are known not to be native to Minnesota, but seeds have been transported in by wind, animals, or humans. Some of these may be difficult to eradicate, aggressive weed species.

Bromus kalmii (Brome Grass)
Euphorbia esula (Leafy Spurge)
Medicago lupulina (Alfalfa)
Melilotus alba (White Sweet Clover)
Phalaris arundinacea (Reed Canary Grass)
Poa pratensis (Kentucky Blue Grass)
Sisyrinchium angustifolium (Blue-eyed Grass)
Tragopogon pratense (Goat's Beard)

Below is a partial list of dry prairie species compiled by Richard Peifer, from the 1973 survey of Stearns County natural areas. The site of this survey is located 1 mile south of the railway grade in the northeast quarter of Section 6, Eden Lake Township, Stearns County. It may not even exist any longer in an undisturbed state, but this listing provides an indication of the typical species composition of dry prairie sites in the immediate area. Some of the species listed previously for Roscoe Prairie SNA might also be able to adapt to these conditions. With the suppression of fire, the fire-sensitive eastern red cedar may be invasive on dry sites, shading out the lower vegetation.

Grasses

Andropogon scoparius (Little Bluestem)
Andropogon gerardii (Big Bluestem)
Aristida sp. (Triple-awn Grass)
Bouteloua gracilis (Side Oats Grama Grass)
Bouteloua hirsuta (Hairy Grama Grass)

Forbs

Achillea millefolium (Yarrow)
Amorpha canescens (Leadplant)
Anemone patens (Pasque Flower)
Antennaria canadensis (Canadian Pussy-toes)
Artemisia caudata (Tall Wormwood)
Artemisia ludoviciana (Dark-leaved Mugwort)
Aster ptarmicoides (Upland White Aster)
Astragalus canadensis (Canadian Milk-Vetch)
Astragalus crassicarpus (Ground Plum)
Cirsium flodmanii (Flodman's Thistle)
Echinacea pallida (Purple Coneflower)
Gentiana andrewsii (Closed Gentian)
Helianthus sp. (Sunflower)
Heuchera sp. (Alumroot)
Liatris punctata (Dotted Blazing Star)
Oenothera sp. (Evening primrose)
Petalostemon purpureum (Purple Prairie Clover)
Phlox pilosa (Prairie Phlox)
Potentilla arguta (Tall Cinquefoil)
Solidago sp. (Goldenrod)
Viola pedata (Bird's Foot Violet)

Shrubs and Trees

Juniperus virginiana (Eastern Red Cedar)
Symphoricarpos occidentalis (Western Snowberry)

B. Wetlands and shrub lowland communities may exist at the borders of ponds, in ditches, in very poorly drained areas, and along stream corridors. Species composition will vary with the water level. The species listed for Roscoe Prairie SNA that enjoy wet conditions might also be found in association with these plants. The railroad grade crosses an extensive wetland west of Richmond where many of these plants are found.

Grasses and Sedges

Calamagrostis sp. (Bluejoint Grass)
Carex sp. (Sedge)
Elymus sp. (Wild Rye)
Juncus balticus (Baltic Rush)
Phalaris sp. (Reed Canary Grass)
Phragmites australis (Giant Reed Grass)
Sorghastrum nutans (Indian Grass)
Spartina pectinata (Prairie Cordgrass)
Scirpus sp. (Rush)

Forbs

Alisma sp. (Western Water Plantain)
Asclepias incarnata (Swamp Milkweed)
Caltha palustris (Marsh Marigold)
Circuta sp. (Water-Hemlock)
Epilobium palustre (Marsh Willow Herb)
Equisetum sp. (Horsetail)
Helenium sp. (Sneezeweed)
Helianthus grosseserratus (Saw-toothed Sunflower)
Iris sp. (Blue Flag)
Lathyrus palustris (Vetchling)
Lobelia syphilicata (Great Blue Lobelia)
Lycopus sp. (Water Horehound)
Mentha sp. (Mint)
Physotegia sp. (False Dragonhead, Obedient Plant)
Senecio aureus. (Golden Ragwort)
Sium sp. (Water-Parsnip)
Solidago altissma (Tall Goldenrod)
Solidago gigantea. (Late Goldenrod)
Solidago graminifolia. (Lance-leaved Goldenrod)
Stachys palustris (Marsh Hedge-nettle)
Typha sp. (Cattail)
Veronia sp. (Ironweed)
Viola nephrophylla (Northern Bog Violet)
Zizia aurea (Golden Alexander)
Zygadenus sp. (Camas)

Shrubs and Trees

Cornus stolonifera (Red Twig Dogwood)
Salix spp. (Willows)

C. Woodland Communities

The following listing is a common transition type of plant community between the prairie and the eastern deciduous forest. Fire, more than landform type or climate, was the significant factor in influencing the position and extent of this community prior to settlement. The oak woodland and brushland ranged from small groves of trees

intermixed with open prairie to scrub forest and dense shrub thickets, as noted in the sketches of the area by Edwin Whitefield in 1858. The structure of the plant community was largely determined by fire frequency and soil conditions. In upland areas protected from fire by lakes and wetlands, the trees would predominate. In more open areas, prairie plants would be intermingled with trees and or shrub thickets.

Along the trail, several multiple-stemmed bur oaks are noticeable as they were cut back but not killed by fire or trimming by railroad crews. These bur oak might have originally germinated hundreds of years ago, even though there is no top growth of that age.

Trees and Small Understory Trees

Celtis occidentalis (Hackberry)
Fraxinus pennsylvanica (Green Ash)
Ostrya virginiana (Ironwood)
Populous tremuloides (Aspen)
Prunus americana (Wild Plum)
Prunus serotina (Black Cherry)
Prunus virginiana (Chokecherry)
Quercus macrocarpa (Bur Oak)
Quercus palustris (Pin Oak)

Shrubs

Corylus sp. (Hazel)
Rhus typhina (Staghorn Sumac)
Ribes americanum (Wild Black Currant)
Rosa sp. (Wild Rose)
Sambucus sp. (Elderberry)
Zanthoxylum sp. (Prickly Ash)

Ground Layer Plants

Amorpha canescens (Leadplant)
Antennaria neglecta (Pussy Toes)
Aster linariifolius (Stiff-leaved Aster)
Comandra richardsiana (Bastard Toadflax)
Euphorbia corollata (Flowering Spurge)
Fragaria virginiana (Wild Strawberry)
Helianthemum canadense (Rock Rose)
Heliopsis helianthoides (Ox-eye)
Lithospermum canescens (Hoary Puccoon)
Lupinus perennis (Wild Lupine)
Physalis virginiana (Prairie ground cherry)
Polygonatum canaliculatum (Solomon's Seal)
Rhus radicans (Poison Ivy)
Viola sagitta (Arrow-leaved Violet)

Wildlife

A variety of wildlife can be observed along the proposed addition to the Glacial Lakes State Trail, especially in those areas where public lands or fairly undeveloped land abuts the narrow corridor. There may be no large mammals besides white-tail deer, but the right-of-way can support a number of small mammals, birds, reptiles, and butterflies.

The following animals have been recorded on sites near the proposed addition to the Glacial Lakes State Trail.

Bird Species Seen in Cold Spring Heron Colony Scientific and Natural Area (flood plain, river's edge, hill prairie habitats)

American Goldfinch
American Robin
Bank Swallow
Barn Swallow
Belted Kingfisher
Black-capped Chickadee
Blue Jay
Brown Thrasher
Brown-headed Cowbird
Cardinal
Cedar Waxwing
Clay-colored Sparrow
Common Crow
Common Flicker
Common Grackle
Common Yellowthroat
Downy Woodpecker
Eastern Kingbird
Eastern Phoebe
Eastern Wood Pewee
Gray Catbird
Great Blue Heron
Great Crested Flycatcher
Great Egret
Green Heron
Hairy Woodpecker
House Wren
Indigo Bunting
Killdeer
Mourning Dove
Northern Oriole
Purple Martin
Red-eyed Vireo
Red-headed Woodpecker
Red-tailed Hawk
Red-winged Blackbird
Rose-breasted Grosbeak
Rough-winged Swallow
Ruby-throated Humming Bird
Scarlet Tananger
Song Sparrow
Spotted Sandpiper
Starling
White Breasted Nuthatch
Yellow Warbler

Bird Species Nesting on Observation Hill (part of Cold Spring Heron Colony SNA) (dry hill prairie, old field, and woods edge habitats)

Blue Bird
Clay-colored Sparrow
Field Sparrow
Goldfinch
Phoebe
Rose-breasted Grossbeak
Starling
Vesper Sparrow
Yellow Warbler

Birds Seen On, Near, or Over Roscoe Prairie Scientific and Natural Area (wet and mesic prairie habitats)

American Goldfinch
American Robin
American Woodcock
Black Tern
Black-billed Cuckoo
Bobolink
Brewer's Blackbird
Brown-headed Cowbird
Clay-colored Sparrow
Common Grackle
Common Snipe
Common Yellowthroat
Eastern Kingbird
Eastern Meadowlark
Grasshopper Sparrow
Gray Catbird
Great Blue Heron
Green Heron
Horned Lark
Least Flycatcher
Long-billed Marsh Wren
Mallard
Marbled Godwit
Mourning Dove
Northern Oriole
Red-winged Blackbird
Ring-necked Pheasant
Savanna Sparrow
Short-billed Marsh Wren
Song Sparrow
Swamp Sparrow
Upland Sandpiper
Western Meadowlark
Willow Flycatcher
Yellow Warbler
Yellow-headed Blackbird

Mammals of Sibley State Park (woods, prairie, and marsh habitats)

Badger
Beaver
Coyote
Eastern Cottontail Rabbit
Eastern Gray Squirrel
Fox Squirrel
Franklin Ground Squirrel
Gray Fox
Mink
Muskrat
Prairie Vole
Raccoon
Red Fox
Red Squirrel
Spotted Skunk
Striped Skunk
Thirteen-lined Ground Squirrel
White-footed Mouse
White-tailed Jackrabbit
White-tailed Deer
Woodchucks

Mammals of Cold Spring Heron Colony Scientific and Natural Area

Eastern Chipmunk
Pocket Gopher
Raccoon
Red Squirrel
Red-backed Vole
Short Tail Weasel
Short Tail Shrew
Whitetail Deer

Mammals of Roscoe Prairie Scientific and Natural Area

Eastern Cottontail	Short Tail Weasel
Masked Shrew	Thirteen-lined Ground Squirrel
Plains Pocket Gopher	White-footed Mouse
Prairie Deer Mouse	White-tail Deer
	White-tail Jackrabbit

Department of Natural Resources Region III Reptiles and Amphibians

Common Snapping Turtle	Easter Hognose Snake
Map Turtle	Eastern Tiger Salamander
Western Painted Turtle	American Toad
Western Spiny Softshell Turtle	Gray Treefrog
Northern Prairie Skink	Boreal Chorus Frog
Texas Brown Snake	Western Chorus Frog
Western Plains Garter Snake	Northern Leopard Frog
Eastern Garter Snake	Green Frog

Butterflies of Roscoe Prairie Scientific and Natural Area

(Many of these butterflies are rare and dependant on native prairie vegetation for survival.)

Acadian Hairstreak	Checkered White
Alfalfa Butterfly	Common Sooty Wing
American Painted Lady	Common Sulphur
Aphrodite Fritillary	Eastern Tailed Blue
Great Spangled Fritillary	European Cabbage Butterfly
Meadow Fritillary	Eyed Brown
Regal Fritillary	Inornate Ringlet
Variegated Fritillary	Little Wood Satyr
Beaded Purple	Long Dash
Black Swallowtail	Melissa Blue
Broad-winged Skipper	Monarch
Checkered Skipper	Mourning Cloak
Dakota Skipper	Mulberry Wing
Delaware Skipper	Painted Lady
Dion Skipper	Pearl Crescent
Least Skipper	Red Admiral
Peck's Skipper	Silvery Checkerspot
Powesheik Skipper	Spring Azure
Broken Dash	Viceroy
Bronze Copper	Wood Nymph

CULTURAL RESOURCE INVENTORY

Historic Resources

The proposed addition to the Glacial Lakes State Trail area has a rich, historic heritage. To give a clear portrait of this heritage, the plan addresses these resources in chronological order. The most distinct historic events for this particular area were removal of the Native American population, railroad construction and agricultural development, and early tourism; the tourism focus still plays a very important part in the area's economy today. The occurrence and mining of exquisite granite is another specialty of this area setting it apart from the rest of the state.

There is evidence that humans inhabited this area as much as 6,000 years ago, leaving burial mounds with pottery fragments and implements. Unfortunately, most of these mounds have been disturbed or ransacked, and few are well preserved. Sites near the North Fork of the Crow River, Sauk Lake, Lake Koronis, Ashley Creek Valley, the north shore of Green Lake, and Paynesville were noted in the "Brief Early History of Stearns County."

This area, the transition zone between the deciduous forest region and the prairie, was important hunting and fishing grounds for the Dakota people who superseded the mound builders. Kandiyohi comes from the Dakota phrase for "abundance of buffalo fish." The Dakota and Ojibway had traditionally been in conflict over this area, since it was such prime hunting and fishing grounds. In 1825, the United States tried to negotiate a treaty at Prairie du Chien by defining boundary lines between the two tribes, but this settlement was not a total success.

Early European explorers such as Captain Zebulon Pike, Governor Lewis Cass, Giacomo Beltrami, Henry Schoolcraft, and Joseph Nicollet mapped the area as they passed through in their searches for the headwaters of the Mississippi between 1805 and 1836.

Other early contact between the Native American cultures and the European-American culture occurred when fur traders, trappers, and users of the Red River Oxcart Trail (a route established long ago by Native Americans) came to this area in the 1850s.

The Red River Oxcart Trail crossed the middle branch of the Sauk River at Richmond and passed through Roscoe, following the "path of least resistance" in the glacial outwash

plain. Closer to Willmar a branch of the Yellow Medicine Agency Trail led toward the Minnesota River.

The Traverse de Sioux and Mendota treaties of 1851 confined the Dakota to reservations and opened the land to settlement. Soon, immigrants hoping to homestead farms were flooding in and land speculators were laying out towns in the projected routes of the railroads. Many immigrants from Scandinavia, Germany, Poland, England, and the Netherlands came to this area. Conflicts between the Dakota and the encroaching settlers flared up in the U.S.-Dakota Conflict of 1862. Some of the sites of conflict lie along the trail route, including the Little Crow campsite between Green and Woodcock lakes, and the so-called "Battle of the Broom" near Hawick, although the main conflict was concentrated further south along the Minnesota River Valley. Most of the settlers fled the area and did not return until 1865.

Grasshopper plagues and blizzards did not deter the pioneers from their efforts to make a living off the land. All the towns along the trail were affected by the plagues of grasshoppers in the years 1856, 1857, and 1873 through 1877. There were reports that the clouds of grasshoppers were so thick that they blocked the light of the sun and made a deafening sound as they passed. Trains were unable to move because there were so many grasshoppers on the tracks; the trains just slipped. Farmers tried "hopper-dozers," tar, and trenches, but nothing really worked.

Settlements grew despite setbacks, particularly along rivers and lakes, and gradually churches, schools, and mills were established. New London's 1865 mill and mill pond reminded Sinclair Lewis of the beauty of New England villages. Edwin Whitefield, an early settler, artist, and land speculator, sketched and painted in water colors landscape scenes of the area that were nationally famous and were used to attract new settlers to the area.

Between 1869 and 1887 three railroad lines were built in this area. The first rail line was the 1869 and 1870 St. Paul and Pacific that ran east and west through Willmar, Pennock, and Atwater. In 1886, the Minneapolis and Pacific (now known as the Soo Line) was built from Minneapolis toward North Dakota via Paynesville. This line cuts across the southwest corner of Stearns County and the northeast corner of Kandiyohi County. A north-south branch of the Great Northern was built in 1886 and 1887 from Willmar to Saint Cloud. This

branch, called the Willmar and Sioux Falls Railroad, was supported by John M. Spicer of Spicer.

Tourism came as early as the 1890s to the trail area. It was focused on the lakes and surrounding land for fishing and hunting. Digging up Native American artifacts was also a popular tourist activity. Tourists came on excursion trains to resorts from Willmar, Saint Cloud, and the Twin Cities. A steam boat was brought overland from Lake Minnetonka to offer cruises on Green Lake. Two local, well-to-do families built mansions on Green Lake near Spicer that have been nominated for the National Register of Historic Places.

The granite industry is unique to this area. The Cold Spring Granite Company, one of the state's largest granite producers, began operation in 1889 in Rockville. It grew to be one of the largest producers of cut stone for buildings and monuments. Pink, gray, and red granite are available. Two-thousand, seven-hundred million year old rock outcroppings, active, and abandoned quarries may be visible from the future trail to Saint Cloud. Near Highway 23 on the western edge of Rockville is a good place to see the gneiss bedrock which is usually covered by 100 feet or more of glacial drift.

Lately, the decline of the importance in railroads, population shifts to the cities, changes in farming technology, and the rise in auto and truck traffic have reshaped the landscape. The railroad right-of-way turned trail will give an opportunity to connect the past with the future.

(Almost all of the above information is from Susan Granser's Kandiyohi Historic Sites Survey, *1984-85.)*

Communities

Willmar was platted and named by the president of the railroad, George F. Becker, for Leon Willmar, a native of Belgium who was living in London and was an agent for the European bondholders of the St. Paul and Pacific Railroad. He later secured several hundred acres of land on the northeast shore of Foot Lake, section 1 (near the trailhead at the Civic Center), and gave it to his son, Paul Willmar, who ran an extensive farming operation there. In 1881, Paul sold the land and returned to Belgium.

Willmar was an important railroad division location. The Willmar State Hospital near the trail is both historically and architecturally interesting and has been nominated for the

National Registry of Historic Places. Willmar is the largest city in the county and is the county seat and site of Willmar State Community College.

The town of Spicer hosted the first settlers in Kandiyohi County, but that was thirty years before the town was so named. E. T. and Loretta Woodcock spent their first winter in 1856 in a small cabin on the west shore of Green Lake near the north edge of the city. In 1856, settlers platted the town of Columbia where Spicer is now located. The town plat expired, the Dakota rose up in protest in 1862, and the area settlers left for some time. When they returned, they settled in other locations, and it wasn't until John Spicer spearheaded a railroad through from Saint Cloud to Willmar that the town was platted again, this time as Spicer.

John Spicer, whose interest in farming started as a youth on a farm near Oregon City, Illinois, was developing "Medayto" Farm on Green Lake's southeast shore at this time. He tested innovative farming techniques on this farm to use on other farms. As he spent much of his time there, he built a home there which fishermen later called the Spicer Castle. In the period following the railroad's completion, excursion trains arrived and Spicer had a tourism boom in the 1890s. In the town park, you could buy an excursion ticket for 25 cents on a boat called the Green Lake Belle (reportedly able to hold 300 passengers), rent a row boat, or slide down the water slide into the lake. Numerous cabins along with lodges and hotels sprang up in town and on the lake.

In the early 1900s, tourism slowed. Farming became Spicer's dominant industry. By the 1920s, agriculture was starting to have hard times, and Spicer's economy dwindled through to the late 1930s. The Great Depression and World War II kept what little tourism there was to a crawl. Farming remained as Spicer's main industry until the 1960s. As more and more people began looking for a lake place and taking annual vacations, starting in the late 1940s, seasonal residents and tourism contributed increasingly to Spicer's economy. In Spicer's centennial year, 1986, the railroad tracks that brought Spicer's initial tourism boom were being torn out as obsolete.

Many residents of Spicer feel that the trail will provide another recreational opportunity for seasonal visitors, and that there is potential for trail-related businesses to increase.

New London was settled in 1856 and incorporated in 1889. It was named by an early settler for its similarity in situation with the location of New London, Wisconsin.

Swedish immigrant Louis Larson settled the area in 1857 and built a dam at the waterfall in 1862. When he returned in 1864, after the U.S.-Dakota Conflict, the dam had collapsed and had to be rebuilt. For a time, New London was the county seat of Monongalia County, which was joined with Kandiyohi County in 1870. In 1885, Louis Larson persuaded James J. Hill to reroute his planned railroad line just south of New London, instead of bypassing it altogether. The last mail and passenger service was provided in 1950. New London has a historical museum and two pioneer log cabins, as well as many interesting Victorian-era brick residences. The 1938-41 Fish Hatchery was built by the Work Projects Administration (WPA) and is now part of the Minnesota Department of Natural Resources (DNR).

Paynesville was first platted in 1857 and named for Edwin E. Payne, postmaster and agent of the townsite company. The school in town became part of the stockade which was hastily built when the Native Americans began to take exception to their land being pre-empted. The town was abandoned for two years after the stockade was burned in 1862.

The train crews of the Soo Line and Great Northern raced to see which would be the first line through the area, working all night by the light of bonfires and lanterns, and hiring anyone they could find to help lay the grade. For a time, there were three Paynesvilles, all close together. Three separate townsites had been platted: Northtown, closer to the proposed Great Northern tracks a mile north of the existing downtown; Old Paynesville, at the easiest place to ford the Crow River; and Jimtown, or New Paynesville, near the Soo Line a mile east of Old Paynesville. The rivalry between these three spots as to which was the center continued for several years. The Northtown center, with four elevators, dwindled when wheat productivity fell in the late 1890s and early 1900s, and present day Paynesville grew from the past New Paynesville. Today agriculture and related services provide the major income.

Because of an oddity of the survey, Paynesville was not legally part of any county and had to be included in Stearns County by a special act of the Minnesota Legislature. There is a pioneer home exhibit and historical museum in Paynesville.

Roscoe, a Great Northern Railway village was formerly called Zion, an allusion to the biblical name for the hill in the city of Jerusalem. It was also called Frogtown due to the wetlands in the area. It was at one time a thriving railroad town with twenty-two businesses, but it has shrunk to a town of less than 150 residents.

Richmond was first known as Torah. Richmond was re-named for an early settler and Reuben Richardson, who platted the town in 1856. A log cabin church was built here in 1856. German Catholic priests serving as missionaries to the Native Americans also promoted immigration here and the influence of the church has been strong every since in Stearns County. The "prospectus" sent home to German newspapers successfully lured over 50 families here in 1857. It was here, in Richmond, that oxcarts could ford the Sauk River on the Red River Oxcart Trail, and later it was a stop on the stagecoach road between Sauk Center and Saint Cloud. It became known as a summer resort area for the fine hunting and fishing in the Horseshoe Chain of Lakes by the turn of the century. Today, its major industries are agriculture and tourism.

Economic Perspective

The population of Stearns County increased 11 percent from 1980 to 1990, to 119,000. (During this time, the statewide population increase was 7 percent.) Kandiyohi County's population in 1990 is more than 38,000, a 5.4 percent increase over the last decade.

Information on tourism and travel in these two counties is taken from U.S. Travel Data Center's 1988 report, *Estimates of the Impact of Tourism on the State of Minnesota.* (These are projections based on an economic model, not actual figures.)

	Stearns County	Kandiyohi County
Total income from tourism/travel	$87.6 million	$39.5 million
Tourism/travel payroll	$15.6 million	$7.3 million
Tourism/travel related jobs	1,762 jobs	774 jobs
State tax receipts/tourism related	$5.8 million	$2.3 million
Local tax receipts/tourism related	$789,000	$270,000

Income from tourism in Stearns County was approximately 8 percent of the gross revenue for the county. While the dollar amount of income from tourism was less in

Kandiyohi County, it accounted for a higher percentage of the gross revenue--about 14 percent.

Unlike some other rural counties, Kandiyohi County has not suffered a decline in population, it has risen steadily. Growth in new industries like poultry and light industrial development, and the presence of colleges in Willmar have contributed to this growth. Tourism continues to be of major importance to the local economy.

Agribusiness is a major pillar of the Stearns County economy. Stearns County ranked first in the state in livestock and milk production in 1988. Poultry and dairy processing are other significant components of the county's economy.

Stearns County is home to many industrial and manufacturing specialty firms. Granite quarrying and finishing companies export granite worldwide. Optical lens producers are also located here, with nearly half of the eyeglass lenses in the U.S. produced here.

Saint Cloud, the county seat of Stearns County and the state's tenth largest city, is an important regional service, trade, and education center. The population of Saint Cloud is more than 48,000, a 14.7 percent increase from the 1980s.

Relationship to Other Recreation Facilities *(see Figure 12)*

The two counties through which the proposed addition to the Glacial Lakes State Trail travels, Kandiyohi and Stearns, offer a number of recreational facilities and resources. Many are provided through local governments such as city and county parks.

Sibley State Park is named for Minnesota's first governor, Henry Hastings Sibley, who once hunted here. It is a very popular recreation destination, with more than 36,000 campers and more than 290,000 day-use visitors in 1990. For travelers from southern Minnesota or Iowa, this park is the start of Minnesota's Hardwood Hills Landscape. Visitors enjoy fishing, swimming, boating, and canoeing in the park's seven lakes. There are 8 miles of horseback riding trail and a group camp facility for horseback riders. There are 10 miles of cross-country ski trail, 11.5 miles of hiking trail and 6 miles of snowmobile trail within the park.

Mount Tom, the highest point within a 50 mile radius, was once used by Native Americans as a lookout for buffalo herds or fires, as a signal station, and a spiritual site. It was also an important landmark for those on the month-long oxcart journey between Saint Paul and Moorhead on the Red River Oxcart Trail. Especially in winter the forested hilltop provides park users with a panoramic view of the surrounding lakes and rural countryside.

Sibley State Park's diverse habitats of oak and maple-basswood forests, prairies, wetlands, ponds, and lakes provide excellent opportunities for nature study. There is an interpretive center overlooking a wetland complex; 142 bird species, and 22 kinds of mammals have been identified within the park. The land for the park was purchased in 1919. Until state funding was provided in 1931, volunteers and Kandiyohi County were responsible for the park maintenance and operation. Many of Sibley State Park's original trails and roads, as well as its distinctive granite park buildings, were constructed in 1935 through 1938 by the Veteran's Conservation Corps.

The *1988 DNR State Parks Interpretive Plan* ranked all state parks on its diversity of natural and cultural resources, current visitation, and population within 25 miles. Sibley State Park was ranked highly for its landscape resources, and its cultural resources were described as regionally significant. These features, combined with its high numbers of

visitors, gave it an overall interpretive service need rating of level four (with five being the highest possible rating.)

Linking the proposed addition to the Glacial Lakes State Trail with Sibley State Park is not only part of the original legislation, it is also a legislative requirement under Minnesota Statutes, 86A.05, Subd. 4, requiring a state trail to connect units of the Outdoor Recreation Act (ORA). The two facilities will undoubtedly complement each other.

There are 332 miles of Grants-In-Aid (GIA) snowmobile trail in Stearns County and 140 miles of GIA snowmobile trail in Kandiyohi County. Grants-in-aid snowmobile trails are jointly maintained facilities with 65 percent of funding coming from the state and the remainder provided locally, with the labor provided by local snowmobile groups; the county administers the program.

There are 51 public water access sites in Stearns County and 34 in Kandiyohi County. There are public water accesses on each major lake and on many of the smaller lakes.

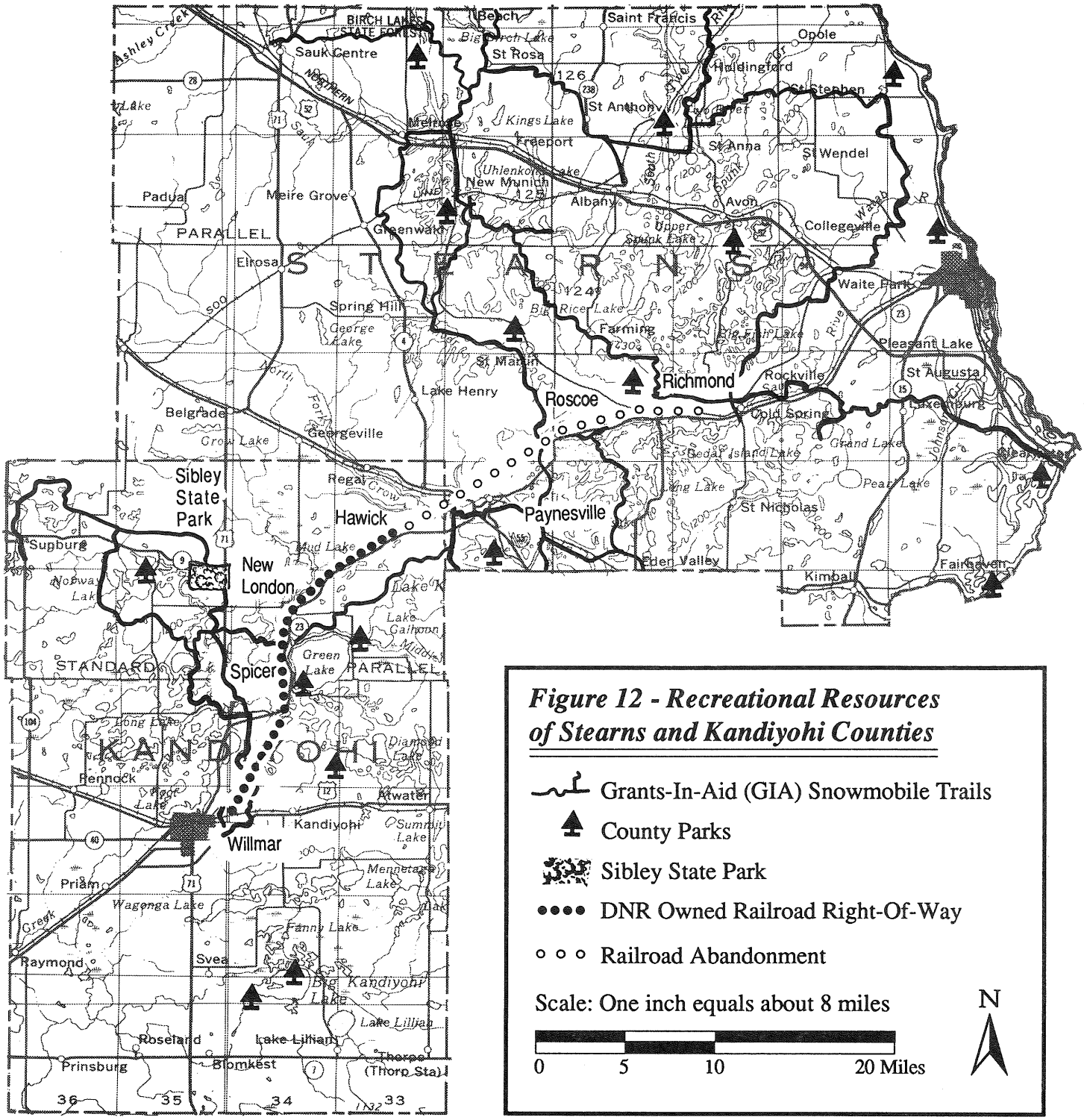
Fishing is excellent in the area. Crappie, largemouth bass, northern pike, sunfish, muskellunge, walleye, and smallmouth bass are the most common game species caught.

Fishing is very popular in the Chain of Lakes area located south of Richmond. There are several carry-in boat accesses on the Sauk River and a canoe wayside north of Richmond at the Richmond River wayside.

The North Fork of the Crow River is a state-designated canoe and boating route; starting from Lake Koronis (near Paynesville), it runs eastward for 125 miles and eventually joins the Mississippi River near Dayton. Although the North, Middle, and South forks of the Crow are all part of the route, the North Fork is generally considered to be the best for canoeing as the other two branches of the river are shallow and may be clogged with debris.

Stearns County has developed a canoe map and brochure for the 90-mile long Sauk River. Because of the shallow depth of the Sauk River, and somewhat poor water quality, game fish are not abundant in the Sauk River.

There are no designated trout streams in Kandiyohi County. The 11 designated trout streams in Stearns County are all to the east of the proposed trail alignment, with the two closest (Kinzer Creek and Cold Spring Creek) located near Cold Spring.


Sibley State Park
Willmar
New London
Spicer
Hawick
Paynesville
Roscoe
Richmond
Sauk Centre
St Rosa
St Anthony
Melrose
Freeport
New Munich
Albany
Avon
Collegeville
Waite Park
Pleasant Lake
St Augusta
Rockville
St Wendel
St Anna
Opole
Holdingford
St Stephen
Saint Francis
Beach
Padua
Meire Grove
Greenwald
Elrosa
Spring Hill
Farming
St Martin
Lake Henry
Belgrade
Georgeville
Regal
Sugburg
Norway Lake
Mud Lake
Lake Koronis
Lake Calhoun
Green Lake
Long Lake
Diamond Lake
Rennick
Hoof Lake
Atwater
Kandiyohi
Summit Lake
Mennetaga Lake
Wagonga Lake
Fanny Lake
Big Kandiyohi Lake
Lake Lillian
Raymond
Svea
Priam
Roseland
Prinsburg
Blomkest
Thorpe
(Thorp Sta.)
Cold Spring
Grand Lake
Cedar Island Lake
Pearl Lake
St Nicholas
Eden Valley
Kimball
Fairhaven
Lake Henry
Big Rice Lake
Big Fish Lake
Uhlenkott Lake
Kings Lake
Upper Spunk Lake
Lake Lillian
Ashley Creek
Crow Lake
North Fork
South Fork
Spunk Creek
Wiscan R.
Johnson
BIRCH LAKES STATE FOREST
NORTHERN
PARALLEL
STEARNS
KANDIYOHI
STANDARD
PARALLEL
Figure 12 - Recreational Resources of Stearns and Kandiyohi Counties
Grants-In-Aid (GIA) Snowmobile Trails
County Parks
Sibley State Park
DNR Owned Railroad Right-Of-Way
Railroad Abandonment
Scale: One inch equals about 8 miles
0
5
10
20 Miles
N

Trail Use, Demand, and Projections

The Heartland State Trail, in its fifteenth year of operation, is somewhat similar to the proposed addition to the Glacial Lakes State Trail. It is 50 miles long and located in an area of lakes and established resorts, much like the proposed trail. It is used here as an example of tourism potential for the proposed addition to the Glacial Lakes State Trail. Winter use, primarily snowmobiling, will probably be less here than on the Heartland State Trail because average snow depth and the number of days with adequate snowcover is much lower in this part of the state. Summer uses may well be higher than on the Heartland State Trail, mainly because Saint Cloud and the Twin Cities are within one or two hours driving time.

The Heartland State Trail has a 27-mile long asphalt path for bicycling, and the remaining 23 miles of trail consists of a mowed path for mountain bicycling, and horseback riding. The entire length is groomed in the winter for snowmobiling.

A survey done in the summer of 1989 found an estimated 47,000 users during the May to September survey season. Seventy-six percent of the trail users were adults; 54 percent of all users were bicyclists, 42 percent were hikers, and the rest were joggers, horseback riders, or roller skaters.

About 60 percent of the trail users are people living in towns on or near the trail. About 34 percent were from other places in Minnesota, and about 6 percent from out of state. Non-local trail use rose on weekends, and about 20 percent of trail use took place on weekends. About 10 percent of all the trail users travelled a distance, primarily to use the trail. There was heavy repeat use; 68 percent had used the trail previously. About 43 percent reported using the trail in winter.

The estimated number of snowmobilers using the Heartland State Trail in 1985-86 was 74,500, and 30,000 in 1986-87. (The winter of 1986-87 was snowless in the southern third of the state.) Depending on snow conditions, numbers of users can vary greatly. Seventy-three percent of the snowmobilers responding to the survey said they traveled 50 miles or more from home to use the trail. They reported that they had traveled an average of 138 miles from home, used the trail on 3.25 days, and spent an average of 23 dollars per day.

Another method to provide projected use figures for the proposed addition to the Glacial Lakes State trail is to use the most up-to-date and accurate information on hand.

This information comes from surveys conducted by the Trails and Waterways Unit during the summer months on 7 Minnesota state trails. Each of these 7 trails is surveyed biennially to determine user numbers and characteristics. Due to this biennial schedule, use estimates made for existing state trails during the summers of 1989 and 1990 can be used to project use for the proposed addition to the Glacial Lakes State Trail in the following way.

1. The estimate of overall use for each trail is divided by that trail's length in miles, yielding trail user per mile.
2. System-wide user per mile is then calculated by adding the use per mile numbers for the individual trails and dividing the sum by the number of trails.
3. System-wide use per mile is then multiplied by proposed trail length to project summer season use for the proposed addition to the Glacial Lakes State Trail.

By averaging use per mile for all existing state trails, the unique visitor attraction characteristics of each are taken into account. These characteristics include trail length, surface type, and proximity to population and/or tourism centers.

Use Per Mile by Trail as of 1990

STATE TRAIL NAME	USE PER MILE	± CONFIDENCE INTERVAL*
Heartland	1,690	357
Luce Line	1,383	471
Sakatah Singing Hills	427	271
Douglas	3,807	965
Willard Munger		
Hinckley Fire Segment	697	306
Carlton to West Duluth Segment	2,820	712
Root River	540	150
System-wide Average Use Per Mile	**1,623**	**642**

(*)**NOTE:** Confidence intervals that are computed from the standard errors resulting from the process of developing the individual trail use estimates are also reduced to trail confidence interval per mile and expanded to system-wide confidence interval per mile.

Considering that the proposed addition to the Glacial Lakes State Trail will be 18 miles in length (between Willmar and Hawick), the following formula is applied:

18 miles x 1,623 users per mile = 29,214 users ± 8,316

The *Outdoor Recreation Facility Adequacy Survey*, a 1989 DNR Office of Planning publication, polled a random sample of 400 adults in each of the six regions of the state as to which of thirty-three types of outdoor recreation facilities were important to them. If the survey respondent answered that a facility was important, they were asked if there were enough of these facilities conveniently accessible to their household. No major statistical differences among regions were found in ranking the importance of recreational facilities or need for additional facilities. Minnesotans from all regions had very similar priorities.

Adults were asked if they felt thirty-three different kinds of recreation facilities were very important, somewhat important, or not important. If they answered that a particular kind of recreational facility was very important or somewhat important; they were asked if they had adequate accesses to that type of facility. Did they think they needed more of that kind of facility, or did they think that there were already enough? The *importance* of recreational facilities did not always correlate with the *adequacy* of existing facilities. For example, statewide, 60 percent of people interviewed thought that playgrounds were important, but only 16.5 percent of those people thought that more playgrounds were needed. In contrast, 76.1 percent of people interviewed thought that paved shoulders for bicycles were important, and 61.6 percent of those people thought that more paved shoulders were needed *(see Tables 1, 2, and 3).*

Table 1 - Recreation Facility Needs Survey, DNR Region 3

Numbers represent the percentages of survey participants responding to questions about their recreation facility needs in DNR Region 3, which covers central Minnesota, including Stearns County. Items highlighted in bold-face type are the recreation opportunities that the proposed addition to the Glacial Lakes State Trail will provide.

S*	R*	RECREATION FACILITY	Impor-tant	Need More	Have enough	Day Outings	Overnight Outings
1	2	Natural Park Areas	88.9	37.9	47.1	19.1	27.0
2	**1**	**Wildlife & Nature Observation**	**88.9**	**55.2**	**29.8**	**31.5**	**33.5**
3	**8**	**Walking Paths**	**78.6**	**51.8**	**23.5**	**41.5**	**19.9**
4	5	Picnic Grounds	83.4	30.4	51.3	18.2	16.3
5	**7**	**Nature & History Interpretation**	**80.8**	**39.6**	**38.0**	**27.1**	**21.3**
6	4	Swimming Beaches	85.3	49.5	35.6	38.8	22.5
7	3	Lake Accesses	86.1	44.4	40.1	31.5	23.8
8	**13**	**Bicycle Paths and Trails**	**73.2**	**51.8**	**19.2**	**42.8**	**17.3**
9	9	Paved Shoulders for Bicycles	77.1	64.1	12.1	52.0	23.5
10	10	Flower Gardens	76.8	42.1	33.2	35.7	12.1
11	11	Campgrounds	74.8	36.7	36.1	0.0	36.7
12	**16**	**Hiking Trails**	**69.7**	**39.9**	**26.9**	**28.0**	**20.3**
13	12	Athletic Fields	73.3	20.8	50.6	18.6	5.2
14	14	Skating and Hockey Rinks	72.2	31.9	39.8	30.8	2.6
15	6	Shore Fishing Areas	81.6	41.1	39.4	28.0	21.4
16	15	River and Stream Access	71.7	43.1	27.3	27.9	25.7
17	**18**	**Cross-country Ski Trails**	**63.3**	**36.8**	**24.8**	**29.8**	**12.2**
18	17	Playgrounds	66.9	23.8	40.5	17.2	9.8
19	19	Swimming Pools	60.8	37.6	22.2	32.6	9.7
20	23	Downhill Ski Areas	52.6	23.4	28.8	15.9	11.7
21	24	Tennis Courts	51.6	16.6	33.7	16.1	1.9
22	25	Golf Courses	50.4	10.6	39.5	9.4	2.5
23	20	Waterfowl Hunting Areas	60.0	32.9	25.0	18.6	22.5
24	**22**	**Snowmobile Trails**	**54.0**	**28.0**	**24.3**	**18.3**	**14.1**
25	21	Big Game Hunting Areas	59.1	28.3	29.4	13.6	22.1
26	27	Basketball Courts	43.2	17.7	22.7	17.0	3.3
27	**28**	**Horseback Trails**	**41.1**	**25.3**	**14.6**	**19.5**	**9.9**
28	26	**Upland Game Hunting Areas**	**47.6**	**24.6**	**22.0**	**12.7**	**17.5**
29	29	Shooting Ranges	40.2	19.1	20.0	17.2	3.3
30	30	All Terrain Vehicles Trails and Areas	33.0	20.1	12.5	12.4	9.6
31	31	Field Dog Training Areas	25.4	10.5	12.8	8.0	3.8
32	33	Scuba Diving Areas	19.8	11.5	6.6	7.5	5.9
33	32	Four-Wheel Drive Trails and Areas	23.3	12.5	10.1	8.3	6.9

* S: Statewide ranking of facilities in order of percent of adults rating as important
* R: Regional ranking of facilities in order of percent of adults rating as important

Table 2 - Recreation Facility Needs Survey, DNR Region 4

This table shows the percentages of survey participants responding to questions about their needs for recreation facilities in DNR Region 4, which covers southwestern Minnesota, including Kandiyohi County. Lines highlighted in bold face type refer to the recreation opportunities the proposed addition to the Glacial Lakes State Trail will provide.

S*	R*	RECREATION FACILITY	Impor-tant	Need More	Have enough	Day Outings	Overnight Outings
1	1	Natural Park Areas	86.5	28.5	54.3	15.2	19.9
2	**2**	**Wildlife & Nature Observation**	**85.3**	**46.1**	**35.6**	**27.4**	**25.4**
3	**7**	**Walking Paths**	**78.7**	**40.9**	**33.4**	**33.1**	**14.8**
4	3	Picnic Grounds	81.3	19.2	60.5	10.8	11.1
5	**4**	**Nature & History Interpretation**	**80.8**	**30.9**	**45.8**	**21.7**	**13.8**
6	8	Swimming Beaches	77.2	36.0	37.9	28.3	15.1
7	5	Lake Accesses	79.9	34.3	42.8	24.3	17.7
8	**11**	**Bicycle Paths and Trails**	**68.6**	**40.2**	**24.9**	**31.6**	**14.4**
9	14	Paved Shoulders for Bicycles	67.1	48.6	16.3	39.7	15.9
10	9	Flower Gardens	74.6	33.5	37.7	27.5	9.7
11	10	Campgrounds	70.9	28.8	40.8	0.0	28.8
12	**13**	**Hiking Trails**	**67.6**	**32.8**	**32.3**	**22.9**	**16.8**
13	15	Athletic Fields	67.0	14.5	49.7	11.2	4.3
14	16	Skating and Hockey Rinks	66.5	28.3	36.3	25.2	5.0
15	6	Shore Fishing Areas	79.0	33.7	43.5	25.4	16.7
16	17	River and Stream Access	62.2	27.6	33.4	20.3	12.8
17	**20**	**Cross-country Ski Trails**	**53.0**	**28.1**	**21.4**	**23.1**	**10.4**
18	19	Playgrounds	59.2	15.4	42.9	10.0	8.0
19	12	Swimming Pools	68.1	28.3	36.6	23.4	7.6
20	27	Downhill Ski Areas	41.1	20.0	20.1	15.4	9.6
21	21	Tennis Courts	52.6	12.1	38.1	10.6	2.6
22	22	Golf Courses	48.7	14.1	32.3	12.7	2.6
23	18	Waterfowl Hunting Areas	61.5	27.9	32.0	20.4	14.1
24	**24**	**Snowmobile Trails**	**46.3**	**24.0**	**21.6**	**18.6**	**9.7**
25	25	Big Game Hunting Areas	45.8	23.7	21.3	11.0	17.7
26	23	Basketball Courts	46.6	16.8	28.1	14.8	2.8
27	**29**	**Horseback Trails**	**33.4**	**18.5**	**13.5**	**11.8**	**9.5**
28	**26**	**Upland Game Hunting Areas**	**44.2**	**22.2**	**20.7**	**14.2**	**12.0**
29	28	Shooting Ranges	36.3	17.6	17.7	15.8	4.7
30	30	ATV Trails and Areas	25.4	14.5	10.5	10.5	6.1
31	32	Field Dog Training Areas	19.7	9.8	7.8	7.5	4.0
32	33	Scuba Diving Areas	13.2	8.3	4.4	5.8	3.4
33	31	Four-Wheel Drive Trails and Areas	20.3	11.8	8.4	8.3	6.0

* S: Statewide ranking of facilities in order of percent of adults rating as important
* R: Regional ranking of facilities in order of percent of adults rating as important

Table 3 - Comparing Facility Needs Among DNR Regions

This table lists the percentages of the survey particpants who who stated a need for these additional recreational facilities for their household. Of the 33 types of facilities listed, the four recreational activities for which the highest percentage of adults felt a need for additional facilities were the same statewide and in Regions 3 and 4: paved shoulders for bikes, opportunities for wildlife and nature observation, and walking and biking paths and trails. Region 3 includes Stearns County and Region 4 includes Kandiyohi County. Lines highlighted in bold face type refer to the recreation opportunities the proposed addition to the Glacial Lakes State Trail will provide.

RECREATION FACILITY	Statewide	Region 3	Region 4
Paved Shoulders for Bicycles	61.6	64.1	48.6
Wildlife and Nature Observation	**50.5**	**55.2**	**46.1**
Walking Paths	**49.1**	**51.8**	**40.9**
Bicycle Paths and Trails	**48.6**	**51.8**	**40.2**
Swimming Beaches	43.3	49.5	36.0
Flower Gardens	40.2	42.1	33.5
Hiking Trails	**37.8**	**39.0**	**32.8**
Nature and History Interpretation	**37.1**	**39.6**	**30.9**
Lake Accesses	36.5	44.4	34.3
Cross-country Ski Trails	**35.8**	**36.8**	**28.1**
Natural Park Areas	35.7	37.9	28.5
Swimming Pools	35.5	37.6	28.3
Shore Fishing Areas	34.7	41.1	33.7
River and Stream Access	32.5	43.1	27.6
Campgrounds	32.4	36.7	28.8
Skating and Hockey Rinks	29.4	31.9	28.3
Picnic Grounds	26.1	30.4	19.2
Horseback Trails	**23.8**	**25.3**	**18.5**
Waterfowl Hunting Areas	22.2	32.9	27.9
Downhill Ski Areas	21.0	23.4	20.0
Snowmobile Trails	**20.8**	**28.0**	**24.0**
Athletic Fields	20.7	20.8	14.5
Basketball Courts	17.7	17.7	16.8
Upland Game Hunting Areas	**17.7**	**24.6**	**22.2**
Big Game Hunting Areas	17.4	28.3	23.7
Tennis Courts	17.1	16.6	12.1
Playgrounds	16.5	23.8	15.4
Shooting Ranges	15.4	19.1	17.6
All-Terrain Vehicles Trails and Areas	14.6	20.1	14.5
Golf Courses	14.6	10.6	14.1
Scuba Diving Areas	12.7	11.5	8.3
Four Wheel Drive Trails and Areas	10.2	12.5	11.8
Field Dog Training Areas	8.8	10.5	9.8

Source: DNR Office of Planning, April 1989. Outdoor Recreation Facility Adequacy Survey

PUBLIC INVOLVEMENT

***Sand Lake, Kandiyohi County**. 1859 watercolor by Edwin Whitefield. Minnesota Historical Society.*

OVERALL TRAIL DESIGN AND MANAGEMENT RECOMMENDATIONS

Wacanga Lake, Kandiyohi County. 1859 sketch by Edwin Whitefield. Minnesota Historical Society.

OVERALL TRAIL DESIGN AND MANAGEMENT RECOMMENDATIONS

The following section addresses design concepts and management guidelines that will assure a safe, enjoyable experience for trail users and mitigate any adverse impacts on others affected by the trail.

Detailed trail design and construction specifications including items such as trail grading, drainage, signing, bridge construction, and design of support facilities will not be addressed in this plan; they are addressed in the Department of Natural Resources' (DNR) Trail Manual. This manual also outlines the procedures and policies for acquisition, implementation, and maintenance of trails in general and shall be applied to the proposed addition to the Glacial Lakes State Trail. For specific information on individual communities, see the section on *Communities*.

OVERALL ACCESSIBILITY

Trail access should ideally be located near or within the communities along the trail. This way the services a town has to offer are readily available for the trail user and local businesses can benefit. The DNR encourages joint use of trail parking areas in exchange for joint maintenance once the facility is developed, such as plowing snow and helping with trash removal.

Numerous road intersections along the trail are an asset for local bicyclists, hikers, and horseback riders as they can be feeder routes to the trail. At the same time, unauthorized vehicle parking along roadsides can pose a safety/visibility problem at intersections of the road and trail.

Trail maps and interpretive information boards should be located at all trail access sites to provide information to visitors about services and points of interest in each particular town.

TRAIL ACCESS FACILITIES *(see Figures 3, 4, 5, and 6 in Executive Summary)*

The westernmost access to the proposed addition to the Glacial Lakes State Trail is about 2 miles north of Willmar at the new Civic Center. This access will be temporary in nature until a trail connection can be developed into Willmar. The city of Willmar permits the DNR to use a portion of the Civic Center parking lot.

The DNR is cooperating with the city of Willmar's Recreation Department to facilitate a trail connection into town as soon as possible *(see Communities in this section)*.

A small trail access is proposed about half way between Willmar and Spicer, in the vicinity of County Road 26 or Township Road 127, to serve especially hikers. A destination point there is the scenic view of an extensive wetland.

Another trail access is proposed in Spicer (7 miles northeast of Willmar), either in conjunction with the ball park at the south end of town, or on a city-owned piece of land that the DNR could purchase near the intersection of State Highway 23 and County Road 10, just south of the grain elevator.

A third trail access will be located in New London. This parking area is proposed on Minnesota Department of Transportation (Mn/DOT) property adjacent to State Highway 9 at the proposed trail underpass. This parking area will also serve the local high school for overflow parking during school events. Although Spicer and New London are only 4 miles apart, it is essential to have a trail access in each town. Each town has its own unique features, and it would be easy to bypass New London since the trail does not traverse the town but skirts it to the south *(see Communities in this section)*.

A fourth trail access is proposed 14 miles east of New London near the town of Paynesville. Presently, the railroad right-of-way bypasses Paynesville 1½ miles to the north, but an access is proposed at the Tri-County Rangers' club house, a privately owned recreation club north of Paynesville, adjacent to the trail. This local business would like to work out an agreement with the DNR to provide for trail parking and rest room facilities. There will also be some food services available at this site.

The last access will be approximately 9 miles east in Richmond near the end of the railroad abandonment. The parking area is proposed within the railroad right-of-way near the intersection of State Highway 23 and Grant Avenue. Here again, the trail skirts the town to the south, but Grant Avenue leads directly into the main business district *(see Communities in this section)*.

The Plan recommends that a trail link should be built to the Spicer/New London School situated adjacent to the trail south of New London and to Neer Park, to encourage trail use by the school and park users.

A trail link should be developed into the city of Paynesville, which is one of the larger communities along the trail. However, the DNR sees this as a local initiative.

REST AREAS

The plan proposes three sites be developed as rest areas. Two of them are located on the acquired portion of the trail. The first proposed site is about one-third to halfway between Willmar and Spicer, in the vicinity of County Road 26 or Township Road 127. This area offers some great views of the extensive wetlands below the trail, and a suitable rest area site near the access should be selected.

The second site is located right below the Nest Lake bridge between Spicer and New London. The site is a peninsula jutting out into Nest Lake. Nest Lake was named for the former extensive colony of double crested cormorants on the island in the Lake. Most of the peninsula is in private ownership but landlocked because of the DNR's ownership of the railroad right-of-way. The DNR should pursue the acquisition of the peninsula land and enhance shore fishing opportunities by building steps down to the shore.

Two miles west of Paynesville, where the trail crosses over the Crow River, is another potential rest area site. This site would be especially interesting if a trail into Paynesville along the Crow River could be realized.

CAMPING

The DNR, in general, does not provide camp sites along its state trails. However, the small peninsula below the Nest Lake Bridge located halfway between Spicer and New London is an inviting spot for a rest area and primitive camp site. Presently, the peninsula is not owned by the DNR. The Plan recommends acquiring the land and developing a primitive campsite.

TRAIL TREADWAY

One hard-surface treadway of an 8 to 10 foot width is proposed for the trail between Willmar and New London (12 miles). It will primarily be designed for snowmobiling and bicycling.

A second, grassy treadway within the right-of-way is also proposed between Willmar and New London. This second treadway will be primarily suited for horseback riding. The second treadway will be mowed periodically during the summer.

For the foreseeable future, the existing trail right-of-way, between New London and Richmond (24 miles), will be managed for snowmobiling, horseback riding, mountain bicycling, and hiking. As soon and as long as the trail right-of-way is covered with snow, it will not be open to horseback riding and mountain bicycling.

The above uses will be monitored over the next several years, and then be re-evaluated. Public participation in the re-evaluation process will be assured.

Between Hawick and Richmond (18 miles), the existing grade will be upgraded to a class five aggregate surface as soon as the right-of-way is acquired. Basic level of service will also be provided such as installing trail identification signs, traffic control signs, regulatory signs, and upgrading trestles for safe use.

The selection of a trail surface was a significant concern raised at all public meetings with proponents and opponents of blacktop and limestone.

Blacktop was favored for bicycling for the smoothness of the surface; blacktop was thought to be undesirable for snowmobiling because it was felt that it did not hold snow cover well; it was also considered undesirable by joggers and horseback riders. A trail width of 12-feet was a priority for some participants.

Other surfaces to consider include granite fines, a product similar to limestone and locally available from Saint Cloud. Granite fines consist of crushed granite 3/8-inch fines; as with limestone, spraying the fines with water and rolling binds the material together and forms a concrete-like surface. A surface of granite fines would also have some of the disadvantages that limestone has: more ongoing maintenance, sponginess for a short period in the spring, the potential for washing out on slopes, and vegetation growing on the treadway in areas of little use. Its advantages are much lower establishment cost, its natural

appearance, and possibly an improved capacity to hold snow. Snow conditions in this part of the state are often unpredictable and fluctuate considerably.

The Plan recommends that more research be done before deciding on a type of surface for the treadway between New London and Richmond.

TRAIL UNDERPASSES

Prior to the DNR's purchase of the right-of-way between Willmar and Hawick, the Mn/DOT installed a trail underpass under State Highway 23 south of Spicer. This underpass is an inadequate facility for safe, pleasant trail use. It is poorly designed: water drains into it, making it a mud hole many times during the bicycling season and unsafe immediately after a snowfall. Its dimensions are 10-feet by 12-feet which makes it inadequate for moving through it easily with snowmobile grooming equipment and also does not enhance the personal safety of trail users. Overall, the quality of this underpass is below the quality standards we would like to establish on a trail facility that has statewide significance. The Plan strongly recommends that the existing culvert be upgraded to meet safe trail standards, and to prevent water from draining into the underpass.

A road reconstruction project is proposed for State Highway 9 in New London. The proposal includes taking out the bridge under which the proposed addition to the Glacial Lakes State Trail passes and replacing it with a 12-foot by 12-foot culvert. The plan recommends that a 25-foot, 4-inch span, pre-cast concrete arch be constructed to meet the physical, aesthetic, and safety requirements for a trail facility of statewide significance. Located in a popular resort area, and only an hour's drive from a major population center (Saint Cloud) this trail has the potential to attract many people during all seasons of the year. *(See Trail Use, Demand, and Projections.)*

In addition, the 1992 *Comprehensive State Bicycle Plan* (Policy Recommendations 13, 14, and 15) strongly recommends the development of bicycle facilities that are aesthetically attractive, enhance personal safety, and provide equal mobility opportunities to people on bicycles as they are enjoyed by people in cars.

COMMUNITIES

There are seven communities along the proposed addition to the Glacial Lakes State Trail ranging in population from 17,531 in Willmar to less than 100 in Hawick. The other communities are Spicer (population 1,020), New London (971), Paynesville (2,275), Roscoe (141), and Richmond (965). Only in Spicer does the trail pass through the center of town. In New London, Roscoe, and Richmond the trail is located at the fringe of town. Paynesville is located approximately one mile south of the trail and stretches along the North Fork of the Crow River. Presently, the trail ends 3 miles northeast of downtown Willmar near the new Willmar Civic Center.

Although most of the towns along the trail benefit economically from the surrounding lakes lined with summer residences and fishing resorts, they are all primarily farming communities. Willmar is the county seat of Kandiyohi County as well as the site of Willmar State Community College, the Willmar Regional Treatment Center, agricultural processing plants, and other industrial development.

During the planning process, the planning team visited with residents of all of the communities with the exception of Willmar. The purpose of these visits was to gain an understanding of the unique qualities of each community and to learn how the trail and the community could benefit from each other. In each community the planning team solicited input from community leaders and representatives. In addition, the planning team analyzed the physical environment along the trail and how the railroad right-of-way relates to each community center. Concept plans evolved for each individual community environment; these plans are discussed as follows.

Willmar *(see Figure 13)*

The planning team did not have a community meeting in Willmar because Willmar has a city Recreation Department that the DNR can work cooperatively with to build the connecting link to the proposed addition to the Glacial Lakes State Trail as time and funds permit. The proposed addition to the Glacial Lakes State Trail railroad abandonment ends near the new Willmar Civic Center on the northeast fringe of Willmar, east of U.S. Highway 71. The city of Willmar has approximately 14 miles of bicycling and hiking trails which do not presently connect to the Civic Center. However, the City is planning to extend its trail system north from Robbins Island Park toward the Civic Center between Willmar Lake and U.S. Highway 71 in 1992. In addition, there is a sidewalk along Civic Center Drive running east from U.S. Highway 71 which could possibly be part of a link to the proposed addition to the Glacial Lakes State Trail.

At this time, the DNR has reached an agreement with the city of Willmar to build a trail connection across city land from the end of the DNR-owned right-of-way to the new Civic Center parking lot. For the interim, this will be the main access to the proposed state trail at Willmar.

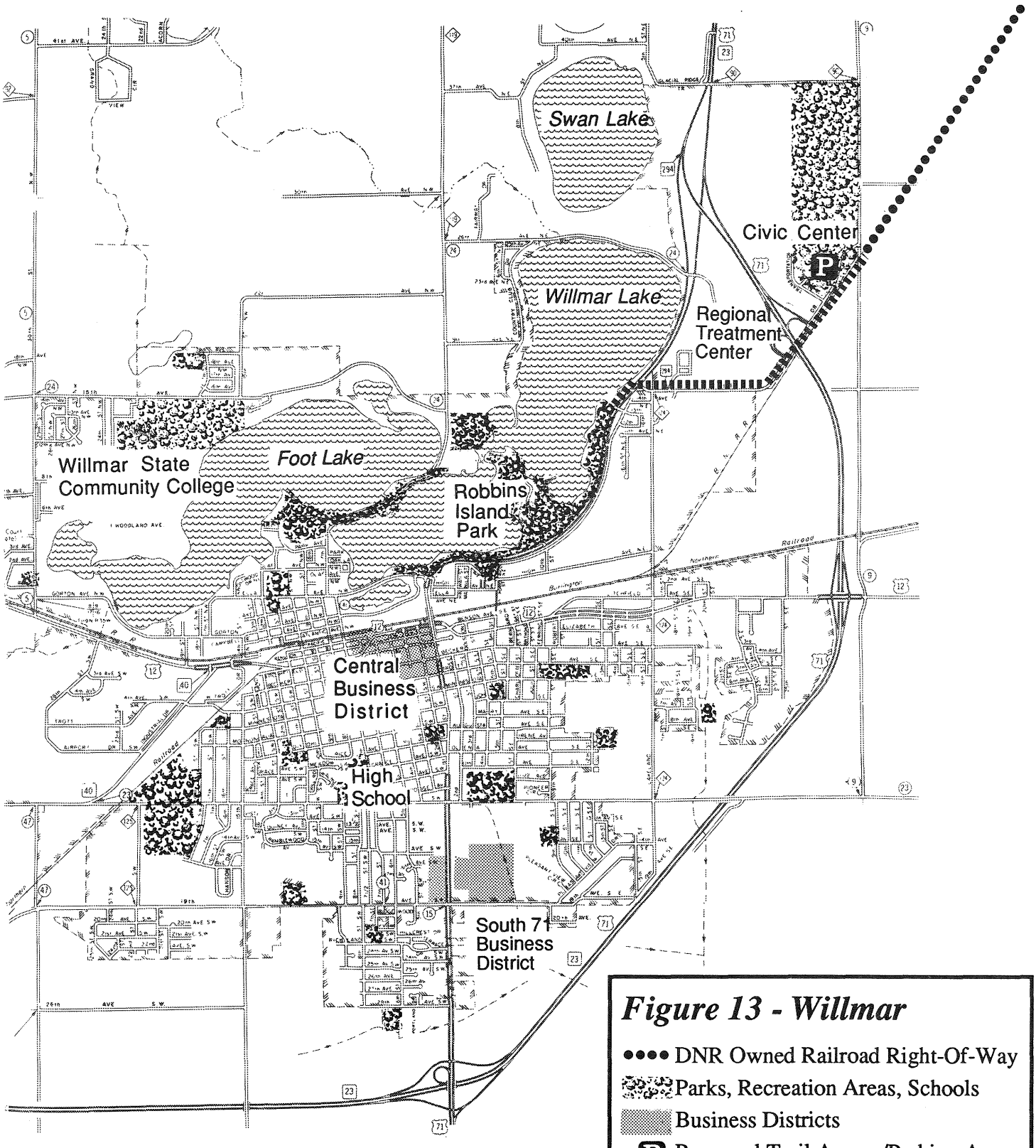


Figure 13 - Willmar

●●●● DNR Owned Railroad Right-Of-Way

Parks, Recreation Areas, Schools

Business Districts

P Proposed Trail Access/Parking Area

▮▮▮▮▮▮▮ Potential Connecting Route

Scale: One inch equals 2/3 mile

N

0 1/3 2/3 1 2 miles

Spicer *(see Figure 14)*

Here the trail bisects the community for a little more than 1 mile with State Highway 23 paralleling it. A portion of the town, primarily residences, a grain elevator, and the old Spicer School, is located west of the right-of-way. The other portion of town, mainly downtown businesses and residences, is developed to the east of the trail sandwiched between State Highway 23 and the shore of Green Lake. New commercial development is spreading rapidly south along both sides of State Highway 23. To the north of town, development is much more residential. There is very little physical or visual separation between State Highway 23 and the trail right-of-way through Spicer.

There is a row of mature cottonwoods across from Saulsbury Beach County Park, and a number of sugar maples along State Highway 23 in the center of town. A long row of box elders line the right-of-way near the north end of town. The Mn/DOT plans to expand State Highway 23 to four lanes in 1994, primarily through Spicer. The separation between the trail and the highway will then be even less and the trail environment will feel like being merely a part of the busy highway right-of-way. In addition, the trail right-of-way shrinks to a width of 30 feet between Agnes Street (County Highway 10) and Manitoba Street adjacent to the elevator.

New commercial development along Progress Way, a frontage road along the west side of the trail, will also impact the trail experience through Spicer. Just north of Progress Way, the trail affords a view of a wetland with hills in the background. It is important to retain this scenic view, since most of the area south of it is and will be commercially developed.

The ball park south of town is heavily used by young people. The proposed addition to the Glacial Lakes State Trail can become a local amenity improving safety for bicyclists, as they will no longer have to use the heavily traveled State Highway 23 to get to-and-from the ball park.

Two trail access/parking sites are being considered. One is at the city ball park, and the other is a site owned by the city near the intersection of Agnes Street (County Road 10) and State Highway 23. The latter site has the potential to contribute to traffic congestion since County Road 10 is a major feeder route from U.S. Highway 71 west of Spicer

(projected average daily traffic count for 1991 is 2,340 vehicles). The ball park may be the better site to choose for development of a dual-purpose parking area with a shared development and maintenance contract between the community and the DNR.

Presently, the trail right-of-way south of South Street is poorly drained. This section of right-of-way will be reconstructed by the Mn/DOT as part of the 1995 State Highway 23 project.

Design guidelines and suggestions for the proposed addition to the Glacial Lakes State Trail through Spicer are:

- Work with Mn/DOT and the city of Spicer to create the best possible visual separation between the trail and the proposed expansion of State Highway 23 through Spicer.
- Plant rows of large trees such as linden, sugar maple, or hackberry, along both sides of the trail between Agnes and Manitoba streets to announce the center of town (access to downtown, the lakeside City Park, and Green Lake). Enhance the area with perennial flower beds and shrubs.
- Retain an open view to the west of the trail between Agnes and Progress streets so the trail user can enjoy the wetlands and hills there.
- Plant rows of native decidous trees along both sides of the trail in the vicinity of Progress Way. This would provide shade for the trail user and soften the visual impact of commercial development along Progress Way.
- Sign all intersections to make trail users aware of local recreation facilities and services.
- Develop interpretive displays for Spicer *(see Interpretation Section)*.

New London-Spicer School *(see Figure 15)*

The New London-Spicer High School and Elementary School is located next to State Highway 9 leading into New London. The proposed addition to the Glacial Lakes State Trail passes just to the southeast of the school, affording an excellent opportunity for the school to establish a connecting trail. This trail connection should be a cooperative effort between the communities of New London, Spicer and the DNR. This connecting trail should be developed in conjunction with the 1993 State Highway 9 reconstruction project.

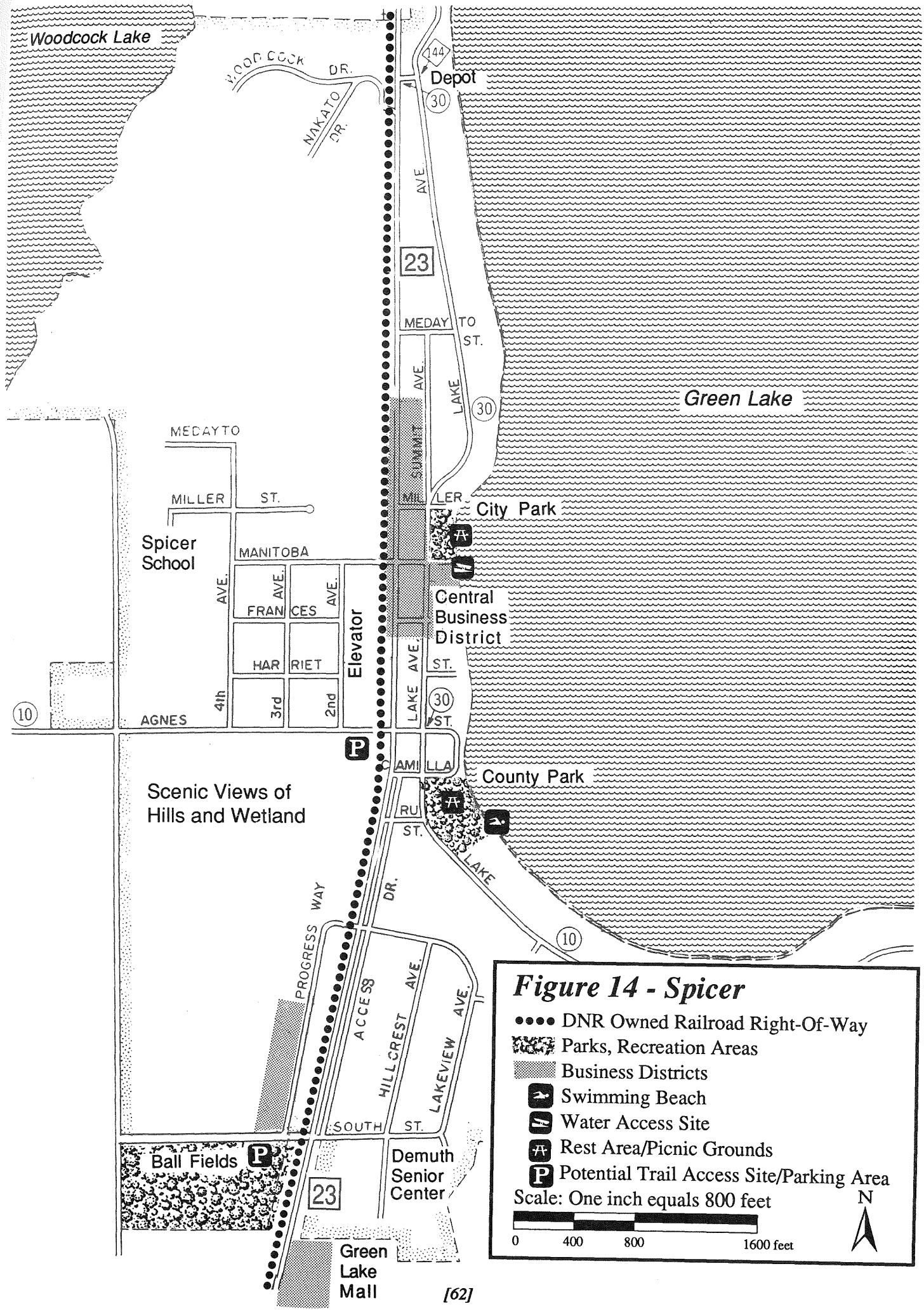


Figure 14 - Spicer

- DNR Owned Railroad Right-Of-Way
- Parks, Recreation Areas
- Business Districts
- Swimming Beach
- Water Access Site
- Rest Area/Picnic Grounds
- P Potential Trail Access Site/Parking Area

Scale: One inch equals 800 feet

N

0 400 800 1600 feet

New London *(see Figure 15)*

The proposed addition to the Glacial Lakes State Trail almost bypasses New London; it skirts the southeast edge of town. New London is a charming community, surrounded by water. The wide, partially man-made channel of the Crow River passes through the center of town. Sinclair Lewis once described New London as "sitting among its ponds like a Cape Cod village." The first glimpse of New London from the trail is at the intersection of Fourth Avenue *(see Figure 15)* and Birch Street where the DNR owns a triangular piece of land. About ¼ mile north of this site, past the elevator and storage tanks, there is a small passage through the woods to Neer Park, a city park next to an inlet of the Crow River.

Downtown New London is located on the north side of the Crow River channel. To reach the town center and to make the town's services available to the trail user, the Plan recommends:

- Development of the DNR-owned parcel as a rest area, and provide interpretive displays and maps to local services.
- Development of a trail access in cooperation with Mn/DOT and the local high school near the State Highway 9 trail underpass.
- That the town of New London be encouraged to identify a walking/bicycling loop off and on local streets through the town; New London is very walkable.
- Development of a separate path along the west side of State Highway 9 as part of the road reconstruction project to connect the trail to downtown.
- Securing an easement to develop a woodchip, limestone, or granite fines path into Neer Park for a picnic/rest area.
- That the Town of New London be encouraged to offer canoe rental for trail users to enjoy the town from the water. There already is a public boat access and a swimming beach in town.

Hawick

Hawick (population less than 100) is a small settlement along State Highway 23 opposite the trail. There is no access to the town without crossing State Highway 23. A demand for a trail access would need to be demonstrated before a facility would be provided.

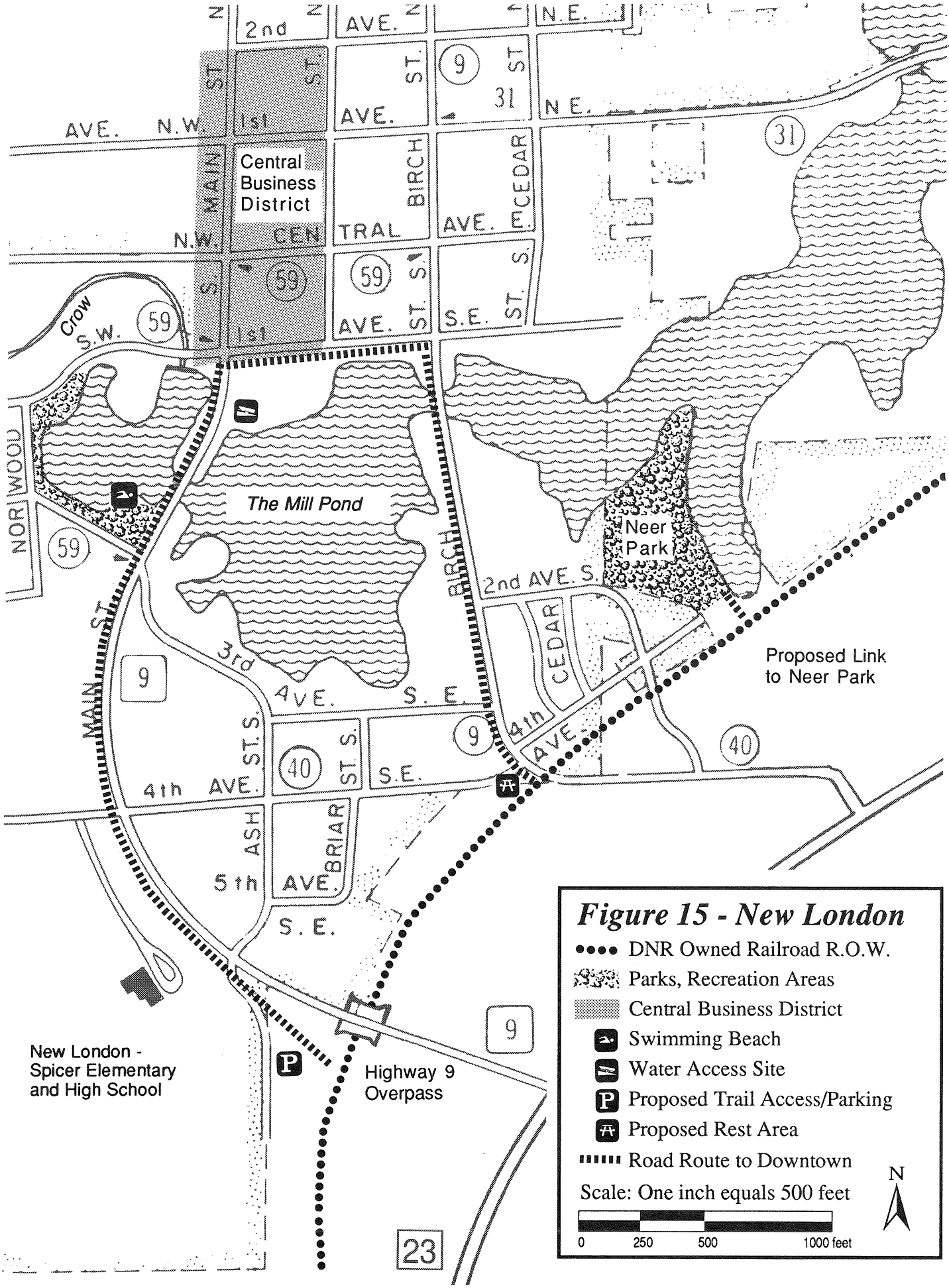


Figure 15 - New London

- DNR Owned Railroad R.O.W.
- Parks, Recreation Areas
- Central Business District
- Swimming Beach
- Water Access Site
- Proposed Trail Access/Parking
- Proposed Rest Area
- Road Route to Downtown

Scale: One inch equals 500 feet

0 250 500 1000 feet

N

The following communities of Paynesville, Roscoe, and Richmond are located along the portion of the railroad right-of-way abandonment that is not owned by the DNR at this time.

Paynesville *(see Figure 16)*

Paynesville is located about 1 mile south of the railroad abandonment. It is a thriving farming community, the second largest town in close proximity to the trail. Being situated along the south side of the North Fork of the Crow River is one of its greatest assets. In 1990, the Governor's Design Team visited Paynesville to help generate ideas on how the town could better capitalize on its natural resources. The Governor's Design Team is a group of volunteer professionals, such as architects, urban designers, historians, landscape architects, and economists, who help communities articulate ideas for long-range community improvement. The team strongly recommended development of a trail between the proposed addition to the Glacial Lakes State Trail and downtown Paynesville utilizing the river corridor to the greatest extent possible. It would be in the interest of the city to provide this link into town, making local services available to trail users, and providing its residents with easy and scenic access to the trail.

Routing the trail through Paynesville following the natural corridor of the Crow River into town would greatly enhance the trail experience along the otherwise straight, rigid alignment of the railroad right-of-way. It could also serve as an alternative to the unsafe intersection of the proposed trail with an active Soo Line right-of-way about 1½ miles north of Paynesville. This alternative would, however, have to be initiated by the city of Paynesville or any other local entity.

A second alternative for the active Soo Line crossing could be the establishment of a semaphore to warn trail users of oncoming trains. However, this is an issue that would have to be resolved with the appropriate railroad company.

The plan recommends a trail connection into Paynesville whatever alternative is chosen. In the interim, road rights-of-way for bicycling and grants-in-aid (GIA) trails for snowmobiling into Paynesville have to suffice.

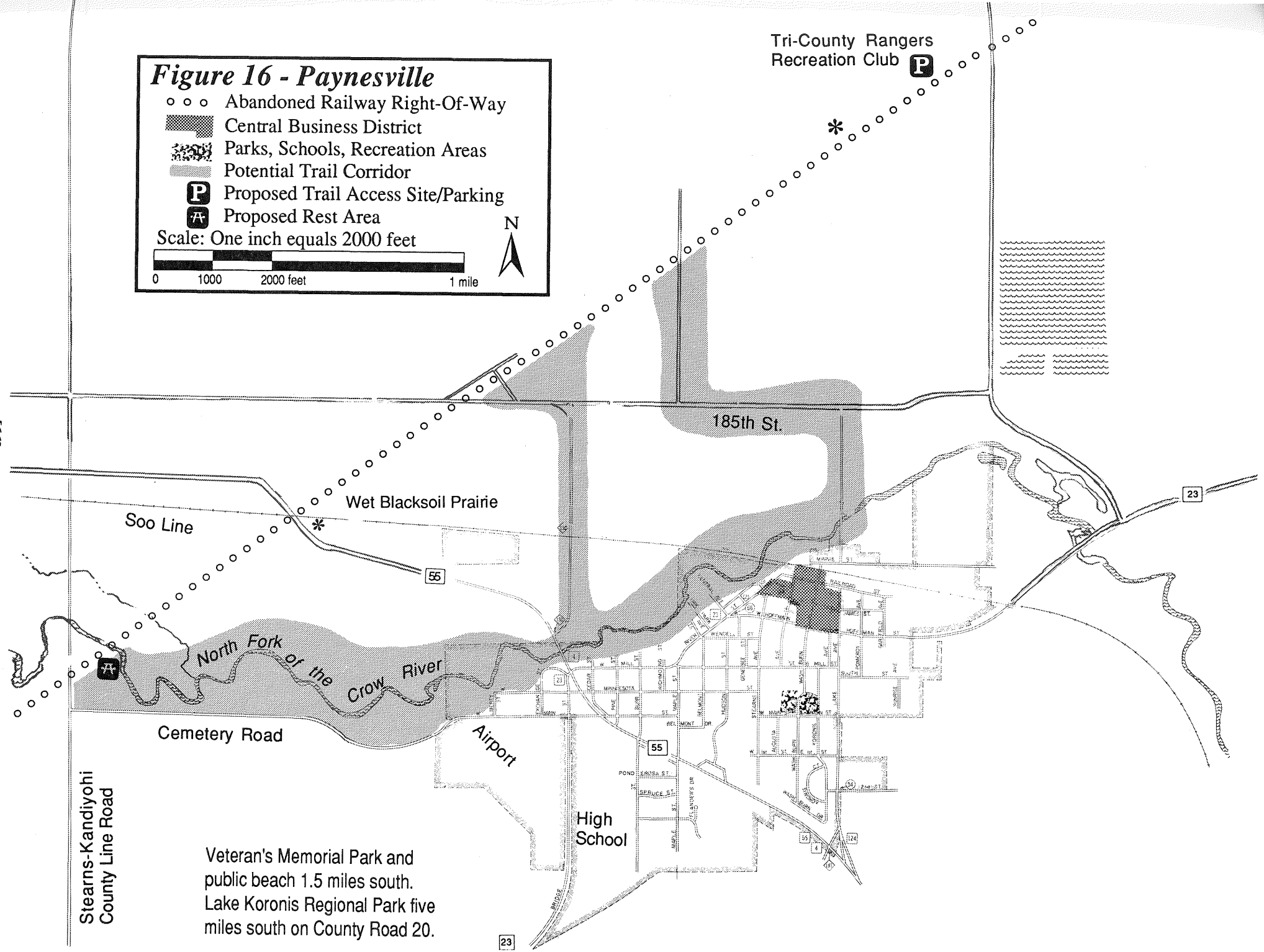


Figure 16 - Paynesville
Abandoned Railway Right-Of-Way
Central Business District
Parks, Schools, Recreation Areas
Potential Trail Corridor
Proposed Trail Access Site/Parking
Proposed Rest Area
Scale: One inch equals 2000 feet
0
1000
2000 feet
1 mile
N
Tri-County Rangers Recreation Club
185th St.
Wet Blacksoil Prairie
Soo Line
North Fork of the Crow River
Cemetery Road
Airport
High School
Stearns-Kandiyohi County Line Road
Veteran's Memorial Park and public beach 1.5 miles south. Lake Koronis Regional Park five miles south on County Road 20.
55
23

Roscoe *(see Figure 17)*

Roscoe is located on a hillside overlooking the trail right-of-way which passes through on the north side of town. The grain elevator is located along the south side of the trail right-of-way, and the ball fields are located along its north side. A decision has been made for the right-of-way through this area to be just 50-feet wide (25-feet each side of the centerline), instead of the 300-foot right-of-way originally owned by the railroad. The local elevator owner has already purchased a portion of the right-of-way from Burlington Northern. The local recreation club negotiated with the railroad to purchase a strip of land on the north edge of the right-of-way leaving 50-feet of right-of-way. The recreation club would like to use the land to expand their public open space. A 50-foot width is adequate to accommodate a trail, especially since the area is fairly open and rural, and the right-of-way abuts a local public park on its north side.

Richmond *(see Figure 18)*

Richmond is at the eastern terminus of the proposed addition to the Glacial Lakes State Trail and near the end of the present railroad abandonment. Richmond is located at the point where the Sauk River flows into the Horseshoe Chain of Lakes. It is a farming community which also serves seasonal visitors to the Horseshoe Chain of Lakes resort area and year-round residents in the lakes area. The trail enters Richmond after crossing the Sauk River at the west end of town. The right-of-way is located south of the central business district and parallels State Highway 23.

The Plan recommends:

- Development of a trail access/parking area in cooperation with the city at the southwest corner of the intersection of Grant Avenue Southwest (State Highway 22) within the right-of-way as proposed. This would be a good location to post a map of local services and suggest a loop route through town on local streets to reach Main Street and the central business district which is four blocks north on Grant Avenue.
- Planting of native shrubs and trees to screen the adjoining residential lot on the south edge of the trail access site.
- Working cooperatively with the city of Richmond in its effort to develop recreational facilities adjacent to the north side of the right-of-way between Grant Avenue and Central Street.
- Installation of caution signs where the right-of-way crosses Township Road 163 near its intersection with State Highway 23 at the east end of town.
- Planting of native trees and shrubs to screen storage areas of some of the back lots of businesses facing State Highway 23. As the railroad right-of-way is becoming a recreational corridor, a visually pleasing environment is important.
- Terminating trail development at the intersection of the right-of-way with County Road 71. This will provide access from Richmond's residential area to the road to the softball field east of town, and to the Lion's City Park, approximately ½ mile south of Highway 23. The railroad abandonment ends approximately 1 mile east of County Road 71 in a farm field. Since this is not an appropriate terminus for the trail, there is no need to develop the trail past County Road 71 until a trail can be developed into Cold Spring.

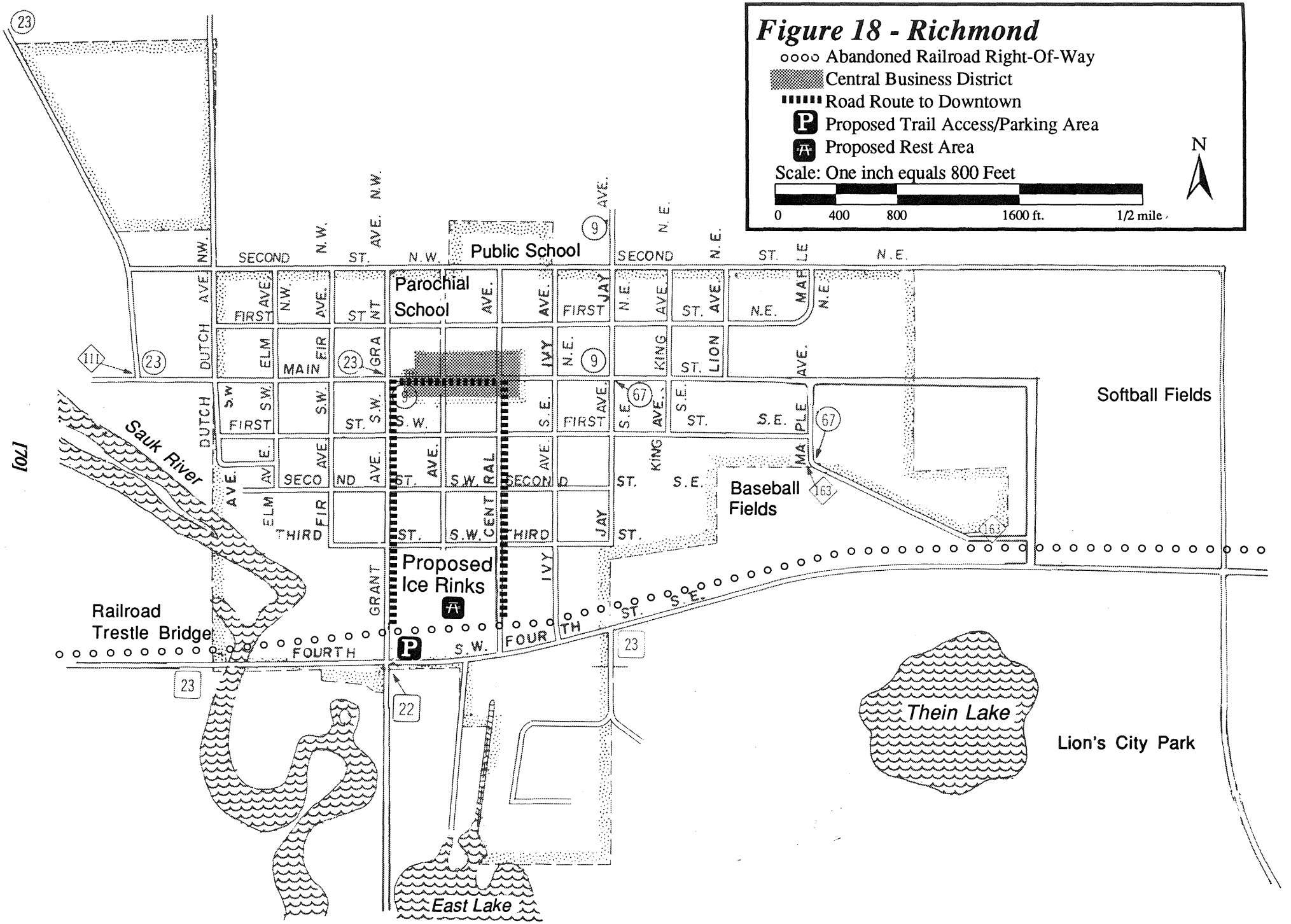


Figure 18 - Richmond
Abandoned Railroad Right-Of-Way
Central Business District
Road Route to Downtown
Proposed Trail Access/Parking Area
Proposed Rest Area
Scale: One inch equals 800 Feet
0 400 800 1600 ft. 1/2 mile
N
Public School
Parochial School
Softball Fields
Baseball Fields
Proposed Ice Rinks
Railroad Trestle Bridge
Sauk River
Thein Lake
Lion's City Park
East Lake
SECOND ST. N.W.
SECOND ST. N.E.
FOURTH ST. S.W.
FOURTH ST. S.E.
THIRD ST. S.W.
THIRD ST. S.E.
FIRST ST. S.W.
FIRST ST. S.E.
DUTCH AVE. N.W.
GRANT AVE. N.W.
IVY AVE. N.E.
MAPLE AVE. N.E.
KING ST. S.E.
JAY ST.
ELM AVE. S.W.
FIR AVE. S.W.
MAIN AVE. S.W.
LION ST. S.E.
[70]

RECREATION MANAGEMENT

A trail is a linear recreation corridor that can have an impact on many adjoining landowners; therefore, management issues including invasion of privacy, conflicts at crossroads/private driveways in the more developed areas, fencing, weed control, cattlepasses, drains, etc., in the rural areas need to be addressed.

Recreation management also has to address the multiple-use aspect which invites conflicts at times. Conflicts over land use, such as encroachment into the right-of-way, also may arise with adjoining landowners. Enforcement of trail rules and regulations, and monitoring use are also part of recreation management.

Conflicting and Competing Uses

Multiple-use state trails serve a diverse groups of users. In addition, any linear corridor has many adjoining landowners; therefore, conflicts can arise very easily. The DNR needs to be aware of potential conflicts and develop strategies and policies to deal with problems before they arise.

One of the major conflicts of trail use has been between ski-touring and snowmobiling. These uses cannot be successfully accommodated on the same treadway or even within a railroad right-of-way. Although ski-touring may be done on snowmobile trails, the experience may be less than satisfactory. Both uses differ greatly in their requirements. Snowmobiles travel much faster than cross-country skiers do. A snowmobiler may prefer a long, linear trail while a cross-country skier may prefer a loop trail. Therefore, the plan recommends that ski-touring in this area is best served by the trails in Sibley State Park or with some GIA cross-country ski trails in connection with the right-of-way.

Horseback riding is incompatible with bicycling and with hiking uses on the same treadway. Horseback riders prefer a soft surface, horses could shy at unexpected bicyclists, and horse manure could be offensive to hikers and bicyclists. Therefore, the proposed addition to the Glacial Lakes State Trail will provide for local horseback riding needs along a second, mowed treadway between Willmar and New London, a trail approximately 12 miles long one way. The right-of-way between New London and Richmond will be upgraded to accommodate horseback riders, mountain bicyclists, hikers, and snowmobilers. Use will be monitored over several years before making any further decisions relative to surface treatment of the treadway and the feasibility of constructing a second treadway.

Hunting and trapping are permitted uses on all existing state trails (Minnesota Rules, 1985, 6100.3000 to 6100.4300), including those located on abandoned railroad rights-of-way. Herein lies a potential for conflict because many trail activities in Minnesota are most enjoyable during late summer and fall because it is cool, the mosquitoes are gone, and the fall colors enhance the experience. Coincidentally, fall is also the time when the hunting season opens.

Another example of competing uses is the DNR's interest in establishing a trail and the adjoining landowners' interest in using the right-of-way for their own purposes: agricultural, commercial, or otherwise. If existing leases are carried over from the railroad company, the DNR honors those leases. However, adjoining landowners encroaching illegally onto the trail right-of-way will be prosecuted. In case of a competing commercial interest, the DNR has, in the past, expressed willingness to negotiate to reroute the trail or restrict the width of the trail right-of-way.

The unauthorized use of rights-of-way by nearby landowners is a particular problem on abandoned railroad rights-of-way. The DNR will not tolerate illegal encroachment but will negotiate with individual landowners under some circumstances.

Invasion of Privacy

The trail, a linear public recreation facility, will affect many adjoining property owners. The degree of impact it can have on each adjoining landowner depends on the nature of the land use adjacent to the trail. In towns the trail may pass close to residential yards while out in the rural environment the trail may dissect farm fields or separate pastures from the farmstead. In all cases, the DNR will do its best to be a good neighbor, recognize adverse effects and work with the adjoining property owner to mitigate the impact.

Trail related noise, like that of snowmobiles, can present a nuisance to adjoining landowners. The proposed addition to the Glacial Lakes State Trail passes through several towns, and residences are often close to the right-of-way. In problem areas, a dense vegetation buffer can be one measure to dampen the noise.

Enforcement

The acceptance of the trail by local communities and adjoining landowners will depend largely on favorable relations between the communities, adjoining landowners, and

trail users. To achieve this objective, the state has established management policies and specific rules and regulations to govern the use of recreational trails (Minnesota Rules, 1985, 6100.3000 to 6100.4300).

The DNR implements these rules and regulations by the following approaches:

a. Public education.
b. The enforcement of Minnesota Rules, 1985, 6100.3000 to 6100.4300 by DNR conservation officers.

a. Public Education

Special emphasis should be given to inform the public about rules and regulations on state trails. This is presently done by posting signs on trails to indicate designated uses and by posting Minnesota Rules, 1985, 6100.3000 to 6100.4300 *(see Appendix D)* at all designated trail accesses and waysides. In addition, the "Trail Courtesy and Safety" information developed by the Visitor Services Program should be displayed frequently along the trail as a friendly reminder.

Additional information should be available through the trail manager or the area trails and waterways supervisor.

b. Department of Natural Resources Conservation Officers

Department of Natural Resources conservation officers, in cooperation with local law enforcement agencies, will be responsible for the enforcement of Minnesota Rules, 1985, 6100.3000 to 6100.4300. The sheriff's office in each county along the trail will be asked to aid in the enforcement of trail rules.

NATURAL RESOURCE MANAGEMENT

Vegetation

Vegetation management on the proposed addition to the Glacial Lakes State Trail will primarily follow the criteria listed below. The plan strongly recommends the use of indigenous plant material with sensitivity toward the specific plant communities along the trail. This holds especially true along the rural and natural areas of the trail. *(For plant selections, see the Natural Resource Inventory, Vegetation.)*

The following criteria and the *Vegetation Section* of the Natural Resource Inventory should guide vegetation management practices along the trail. If necessary, advice from DNR staff trained in plant ecology and natural resource management should be sought to achieve the best results.

1. Avoid disturbance of native plant communities during the construction phase, especially those that have been identified by the Division of Wildlife's Natural Heritage Program *(see Appendix C)*.
2. Use native seed material from approved vendors to control erosion. On slopes steeper than 2:1, a wood fiber blanket should be installed. All other slopes should be mulched with prairie hay. A cover crop of winter wheat should be applied if seeded after August 15. A cover crop of oats should be applied between May 1 and August 15.
3. Seed other open areas disturbed by construction to native grasses and forbs (as in #2), with the exception of second treadways and/or shoulders that need to be mowed regularly.
4. Restore or, if necessary, recreate native grassland, woodland, or wetland communities along the trail to minimize maintenance, the use of pesticides to control noxious weeds, and to maximize bio-diversity for enhanced user experience.
5. Prescribed burns should be conducted in those areas where native grasses and forbs are established. These burns should be done on a cyclical basis, once every three to five years, beginning the third or fourth year after seeding. Late-summer or fall haying is an alternative to burning where burning is not feasible.
6. Restore woodland vegetation where woodland was removed due to construction.
7. Use native DNR nursery stock whenever feasible.
8. Use native vegetation to screen unsightly areas, to prevent encroachment by adjoining landowners or trespassing by trail users, to separate treadways located within the same right-of-way, and to prolong snowcover or avoid drifting.
9. Selectively remove vegetation in areas where the scenic potential of the trail can be enhanced.
10. Prepare planting plans for the trail right-of-way in each community to create a pleasant transition from rural/natural to built environment. Use plant material to enhance structures, direct views, and create spaces *(also see Recommendations in Communities Section)*.

11. Follow the guidelines to Pest Control, Pesticide Use, and Pesticide Management established by the DNR's Trails and Waterways Unit, 1991 (a required accompaniment to DNR Operational Order #59).
12. Manual control of red cedar may be appropriate in some areas since this species will, in the absence of fire, compete with the dry prairie community.
13. Avoid planting and try to eradicate any of the plants listed below with specific attention to those that have an asterisk (*); all of these plants are aggressive introduced species which will crowd out native species.

The above listed criteria need to be specifically tailored to the proposed addition to the Glacial Lakes State Trail in a subsequent vegetation management plan.

Aggressive Introduced Species (exotics)

*Carduus nutans** (Musk Thistle)
*Centaurea maculosa** (Spotted Knapweed)
*Cirisium arvense** (Canada Thistle)
*Cirisium vulgare** (Bull Thistle)
*Euphorbia escula** (Leafy Spurge)
*Lythrum salarica** (Purple Loosestrife)
*Rhamnus cathartica** (Common Buckthorn)
*Robinia pseudocacia** (Black Locust)
*Sonchus arvensis** (Sow Thistle)
Acer ginnala (Amur Maple)
Acer platanoides (Norway Maple)
Berberis thunbergii (Japanese Barberry)
Bromus inermis (Smooth Brome)
Cannabis sativa (Hemp or Marijuana)
Chrysanthemum leucanthemum (Ox-eye Daisy)
Cichorium intybus (Chicory)
Convolvulus arvensis (Field Bindweed)
*Coronilla varia** (Crownvetch)
Daucus carota (Queen Anne's Lace)
Elaeagnus angustifolia (Russian Olive)
Elaeagnus umbellata (Autumn Olive)
Glechoma hederacea (Creeping Charlie)
Hieracium aurantiacum (Orange Hawkweed)
Lonicera tatarica (Tartarian Honeysuckle)
*Lotus corniculatus** (Birdsfoot Trefoil)
Melilotus alba (White Sweet Clover)
Melilotus officinalis (Yellow Sweet Clover)
Morus alba (Mulberry)
Phalaris arundinacea (Reed Canary Grass)
Plantago major (Common Plantain)
Poa compressa (Canada Bluegrass)
Poa pratensis (Kentucky Bluegrass)
Rosa multiflora (Multiflora Rose)
Tanacetum vulgare (Common Tansy)
Taraxacum officinale (Dandelion)
Ulmus pumila (Siberian Elm)
Verbascum thapsus (Common Mullein)
Vinca minor (Common Periwinkle)

Specific Sites Along the Trail

There are two sites along the trail which need to be addressed specifically because of their uniqueness. One is Roscoe Prairie, a state Scientific and Natural Area (SNA) 2 miles west of the town of Roscoe. The other site is a two- to three-acre, privately-owned parcel of land along the right-of-way 2 miles west of Roscoe Prairie, part of the Orion Miller property, in Paynesville Township, on the east half of Section 4 *(see Figure 6, Executive Summary)*.

The 57-acre Roscoe Prairie SNA abuts the trail along the north edge of right-of-way, about 3.5 miles northeast of Paynesville. Roscoe Prairie lies within a sandy outwash plain on flat to slightly rolling topography. The soils are loamy over sandy and are generally poorly drained. Despite minimal topographic variation, the site supports dry-mesic, mesic, and wet prairie vegetation *(see Natural Resource Inventory, Vegetation)*. Undisturbed blacksoil prairie covers almost 25 acres in the southern portion of the tract; it is dominated by prairie dropseed, Indian grass, and big bluestem. The remainder of the tract is predominantly sedge meadow and shrub swamp. Roscoe Prairie SNA supports a number of rare animals, including upland sandpiper, marbled godwit, and two rare butterflies--the Dakota skipper and the Powesheik skipper. The site was used as a hay meadow prior to preservation. Roscoe Prairie was acquired by The Nature Conservancy in 1969; it was designated a state Scientific and Natural Area in 1981.

The northern boundary of the right-of-way abuts the SNA. Therefore, during trail construction, heavy equipment will be confined to the top of the grade to ensure that prairie vegetation will not be disturbed or damaged. Measures to protect this site must be addressed in greater detail. User impacts must also be carefully monitored and trail regulations strictly enforced to prevent damage to the SNA by recreational trail users.

The Orion Miller property is also located adjacent to the north edge of the right-of-way. The DNR's Scientific and Natural Areas staff has evaluated the property and determined that two to three acres of that property may be suitable for prairie interpretation *(see Natural Resource Inventory)*; however, they would not be able to acquire this site because of its small size. The plan recommends that the Trails and Waterways Unit purchase the site for trail related interpretation as part of the visitor services program. If acquired, a management plan would need to be developed for the site in order to protect sensitive resources while making the site available to trail users.

Wildlife

As the Natural Resource Inventory Section of the plan indicates, the potential for a diversity of wild animals is significant. By creating and maintaining healthy, diverse plant communities along the trail, we will also foster a greater diversity of wildlife, enhancing the users' experience for observing, studying, and hunting. Especially in agricultural areas, the

trail right-of-way may have the function of a natural corridor providing habitat and mobility for many animals.

Surface Water

The proposed addition to the Glacial Lakes State Trail follows, in general, a glacial outwash area and crosses several streams and intermittent waterways *(see Natural Resource Inventory)*. In some areas, the trail right-of-way is built up, transsecting large wetlands. The majority of bridge structures need to be retrofitted to become safe trail bridges with railings and decking. Bridges and culverts in good, operational condition will be beneficial to the trail user and the water resource.

A second treadway for horseback riding will be provided bewteen Willmar and New London. It will be designed in a manner that does not impact any public water course.

INTERPRETATION

"Interpret: to expound the significance" of the proposed addition to the Glacial Lakes State Trail to the trail user.

The interpretation potential for the proposed addition to the Glacial Lakes State Trail is significant indeed. There are several major themes and a number of site-specific topics to be interpreted.

One of the most important themes is the glacial landscape, as the name of the trail implies. This landscape is one of the best records on earth of the effects of recent glacial action. Displays could explain the origins of the various types of glacial landforms visible from the trail *(see Resource Inventory for descriptions of these landforms)*.

Another important theme is the plant communities along the trail which are as diverse as the landforms they grow on. For example, Roscoe Prairie SNA is a genetic blueprint of several types of prairie communities that can be interpreted for the education of the trail user, as well as being a model for re-creation of native plant communities using appropriate management techniques. Along most railroad rights-of-way, including the proposed addition to the Glacial Lakes State Trail, remnants of native plant communities can be found, especially grassland communities, since these rights-of-way have escaped plowing in some cases. Fires (started by sparks from railroad operations) were a common occurrence,

naturally regenerating and renewing these plant communities. Patches of native grasses and multi-stemmed bur oaks stand as evidence of these processes.

Wetlands are a common sight along the right-of-way, with their abundance of plant and animal life. Some of the wetlands between Willmar and Spicer are extensive, and are federally protected Waterfowl Production Areas and State Wildlife Management Areas. The purpose and goals of these conservation programs could be interpreted for the trail user. Explaining the importance of wetland preservation as a habitat for diverse species and as fish spawning grounds, in maintaining water quality and recharging groundwater levels may raise the level of appreciation of the aesthetic and ecological qualities of wetlands.

Human history is woven into the natural setting. It started with the Native Americans who lived on these lands for thousands of years before settlers of European descent moved westward in the 1800s. The settlers and Native American clashed in the 1862 Conflict, and a few of the sites of this conflict are along the trail. Most of the settlements along the trail sprung up in anticipation of the railroads pressing westward, creating transportation possibilities for people and goods. Each of the towns has its own colorful story. As part of the settlement era theme, several topics could be developed. Examples include pioneer family life, and German missionary work, especially in Stearns County. These missionary priests not only tried to christianize the Native Americans, but also strongly promoted European immigration and settlement. Many of the town names in Stearns County reflect this German heritage.

Edwin Whitefield, an artist and land developer who traveled the area in 1857 through 1859, adds another dimension to the rich history of the trail area. His exquisite watercolors and descriptive text give a sense of place and time prior to development. "Splendid level prairies stretching as far west as the eye can see!" was his description of the view from a mound 2 miles from Paynesville. The story of his involvement in land speculation and townsite promotion illustrates the process of settlement and land development by homesteaders. Whitefield's sketches of the area are used on the cover and divider pages of this plan.

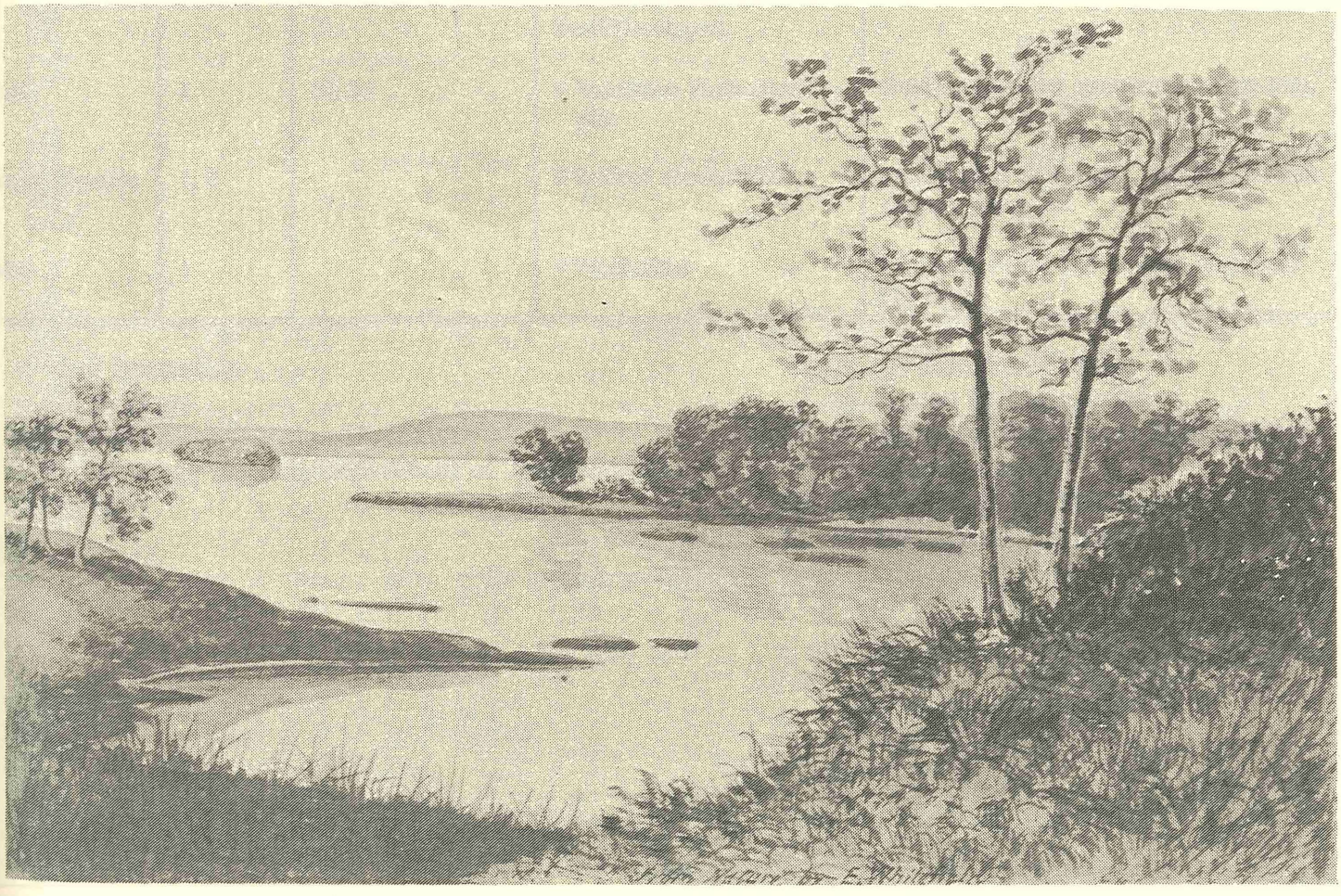
Individual site interpretation possibilities are plentiful. Each town has a unique story to tell.

- Willmar is the site of the historic State Hospital (now called the Willmar Regional Treatment Center), the county historical museum, and historical homes and businesses. The railroad played a very important role in Willmar's past.
- Spicer has been a popular resort destination since the 1890s. Today's tourists might enjoy learning about turn-of-the-century tourists, who came by excursion trains from Saint Cloud and the Twin Cities to enjoy the steamboat and waterslide on Green Lake.
- New London on the Millpond had its start as a milling center and was also at one time the county seat of Monongalia County, which was later added to Kandiyohi County.
- Paynesville originally had three townsites laid out, each competing to be the town center; at two locations in the projected paths of the two railroads, and at the ford over the Crow River.
- Roscoe would be a good site to interpret what goes on inside a grain elevator, possibly showing a cross-section through an elevator building. Information the display might include why it is called an elevator; what the reason is for the distinctive shape of the roof; what is done at an elevator--grain weighing, drying, cleaning, sampling, marketing, and shipping as well as feed, seed, and fertilizer sales; how the elevator is one stop between the farmer's field and the world grain market, and how agricultural technology and transportation have changed over the years.
- Richmond had its start before the railroad rush. A settlement grew up around the ford across the Sauk River used by the Red River Oxcart Trail on the route from Minneapolis to the Red River Valley.
- Sibley State Park already offers a year-round interpretive program.

Other potential topics for interpretation include:

- An interpretive display could feature samples of local granite, explaining the geological origins and the different cuts, colors, and uses for granite.
- Other topics interwoven with the human history are the changes in rural life since the pioneer era, as populations shift, family sizes change, schools consolidate, and transportation methods change, the economies of small towns are altered.

PLANNING AND IMPLEMENTATION PROCESS



Sketch by Edwin Whitefield, 1859. Minnesota Historical Society.

PLANNING AND IMPLEMENTATION PROCESS

TRAILS AND WATERWAYS UNIT'S TRAIL PLANNING PROCESS *(July 17, 1989)*

Lead in Trails and Waterways	Involved	Involvement by Others (as appropriate)	Status ○ Necessary Actions	What It Does
			Trail Acquired	
Trail Recreation	1, 6		○ Interim management guidelines	Guides trail uses and management until the trail is developed.
Trail Recreation	1, 6	2, 3, 4, 5, 7, 9, 10	○ Master plan/concept plan	Documents future vision for the trail. Includes visitor services and landscape management concept.
			Trail Development Funded	
Trail Recreation	1, 6	7	○ Engineering specifications	Gives site design details; could include landscaping design requests, as appropriate.
Trail Recreation	1, 6		○ Visitor services plan/implementation	Guides development of trail orientation and interpretive information.
			Trail Developed	
Field	1	10, 11	○ Vegetation management plan	Guides vegetation management along trail.
Trail Recreation	1, 6		○ Revised concept plan	Periodically, as needed. Documents future options, plans, etc.
Field	1		○ Work plans	Documents what will be done during the biennium.

1 = Trail Recreation
2 = All Regions
3 = Central Office Division Directors
4 = Metropolitan Council/Department of Transportation
5 = Public
6 = Specific Area/Region
7 = Bureau of Engineering
8 = Bureau of Real Estate Management
9 = Interest Groups
10 = Section of Wildlife/Nongame
11 = Division of Parks and Recreation

DEFINITIONS

Interim Management Guidelines

It Will: Provide guidelines to the regional trails and waterways supervisors, and area trails and waterways supervisors for trail uses and management until the trail is developed.

People Involved: Trail Recreation, Regional Staff

Issues to Address:

- Interim signage (uses, road crossings, etc.)
- Identification and signage of boundaries
- Assessment of existing trail conditions
- Identification of trespass issues
- Identification and resolution of any hazardous situations or potential hazards
- Identification of types of uses for interim use
- Recommendations regarding special policy considerations

Concept Plan/Master Plan

It Will: Capture future vision for the trail. Provide guidelines to the trails operations and field staff in the development and management of a specific trail.

People Involved: Trail Recreation, Regional Staff, DNR Divisions, Public

Issues to Address:

- Identification of goals and objectives
- Consensus on direction
- Public input/articulation of public needs
- Vision for development; makes recommendations, prioritizes uses, recommends phases based on priorities, lists alternatives, identifies resource issues
- Consensus on plan
- Concept of management and visitor services
- Landscape management concept
- Inventory natural and cultural resources; make recommendations

Engineering Specifications

It Will: Provide design details, construction specifications, and cost estimates.

People Involved: Trail Recreation, Regional Staff, Bureau of Engineering

Issues to Address:
- Site design details
- Cost estimates

Visitor Services Plan

It Will: Provide recommendations for the development of trail orientation[1] and interpretive[2] information for users of a specific trail.

People Involved: Trail Recreation, Regional Staff

Issues to Address:
- Identification of trail orientation needs, and resources with interpretive potential
- Analysis of users
- Recommendations as to what information should be provided at specific locations
- Recommendations for media to use; signs, information boards, brochures
- Priorities for development
- Cost estimates

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[1]Trail Orientation: rules and regulations, area services, safety information, other state trail opportunities, highway signs.

[2]Interpretive: information on the natural and cultural resources of the trail.

Vegetation Management Plan

It Will: Provide guidelines on the establishment and management of vegetation along trails for bio-diversity, to enhance user experience, and to address adjacent landowner concerns.

People Involved: Regional Staff, Trail Recreation

Issues to Address:

- Establish and maintain native vegetation indigenous to the specific region
- Establish and maintain buffer plantings between treadways where needed
- Mitigate adjoining landowner's loss of privacy
- Use native plant material for erosion control
- Seed non-bicycle trail surfaces to native grasses and forbs for wildlife and to avoid repeated mowing
- Noxious weed control
- Maintain good visibility along treadway/right-of-way for user safety
- Select native plants that provide food and cover for wildlife to enhance trail user experience and wildlife habitat
- Provide a sense of place and orientation by selectively cutting vegetation at overlooks and vantage points
- Maintain or improve existing spacial sequences; open, enclosed areas to enhance user experience

Revised Concept Plan

It Will: Document future options, plans, etc.

People Involved: Trail Recreation, Regional Staff

Issues to Address:

- Any issues that remain
- Any opportunities/issues that have emerged
- Any changes from the concept plan/master plan
- Review of assumptions, as appropriate, in original plan
- Identification of any newly emerged related trail opportunities that might spring from original trail (connecting trails)

Work Plans

It Will: Establish accountability of what will be done during the biennium.

People Involved: Regional Staff, Trail Recreation

Issues to Address:

- Identification of projects (acquisition, development, rehabilitation, maintenance, etc.), in part from the goals and objectives identified in the concept plan/master plan, and the capital budget six year plan
- Appropriate legislation

EVALUATION

The preceding pages have described the actions considered necessary to guide the development and management of the proposed addition to the Glacial Lakes State Trail. However, trail conditions, user populations, technology, landowners, land uses, and other management considerations change with time--often in unforeseen ways. Also, unexpected problems may arise in the development of the trail. It is, therefore, important to periodically review and evaluate the plan. The evaluation will enable managers, legislators, users, and other interested parties to determine how effectively and efficiently the trail is being managed. The evaluation will address such questions as whether user needs are being met and whether the second treadway should be extended. Based on the results of the evaluations, changes in the plan's goal, guidelines, and actions may be instituted.

Public Input

Public input is an important part of evaluation. Indeed, the public is constantly evaluating the trail and its managers. The users and adjacent landowners are particularly important since these groups are the two most interested in the trail. The evaluation these groups give the trail will largely determine whether the trail is used and well received. By encouraging citizens to voice their concerns, the DNR is acknowledging the importance of continuing citizen input in the management of the trail.

Provisions for Modifications

Managers, users, landowners, and other interested parties will eventually propose changes in the trail plan. Proposed changes must be sent to the Trails and Waterways Unit in Saint Paul. Proposals will be reviewed by the Trail Recreation Section. When agreement is reached, the Trail Recreation Section will draft the changes for the special assistant to the commissioner assigned to the Trails and Waterways Unit.

The entire plan should be thoroughly reviewed and updated every ten years. Public comments, DNR staff recommendations, and trail studies should all be used in these reviews. If major changes are proposed, such as changes in the goal, trail alignment, or management, then the same procedures used to develop the plan should be followed: public meetings, in-house DNR review, and Department of Trade and Economic Development review should all be sought.

APPENDICES

APPENDIX A - PUBLIC MEETINGS

APPENDIX B - PUBLIC AND PRIVATE CROSSINGS, AND FENCING

APPENDIX C - RARE NATURAL FEATURES MN DNR NATURAL HERITAGE PROGRAM

APPENDIX D - MINNESOTA RULES, 1985 STATE RECREATIONAL TRAILS

View of farmsted north of Paynesville. Sketch by B. Burgum

APPENDIX A: PUBLIC MEETINGS

INITIAL, GENERAL MEETINGS

Approximately 175 participants at four public meetings held in the spring of 1990 discussed the opportunities the proposed trail presents and also voiced their concerns. Major issues discussed were listed, and participants chose the five issues that were a top priority for them. Almost all of the issues raised had to do with questions concerning implementation of the proposed trail, rather than opposition to the concept of a trail. The opportunities and concerns voiced are summarized here. *(Lists of the issues raised at each of the four meetings, and the number of times participants selected that issue as a priority follow.)*

Creation of a state trail was perceived most frequently as an opportunity that could benefit the Willmar to Saint Cloud area by providing an enjoyable recreation opportunity linking population centers and stimulating tourism.

More than half of the comments reflected the view that providing for a wide variety of recreational uses was a major priority. The lack of a long distance trail facility in the area was frequently given as a reason why this proposed trail would present a good opportunity. Snowmobiling was the use most frequently mentioned. Bicycling, cross-country skiing, horseback riding, horse driving, nature study, jogging, walking, and riding all-terrain vehicles were the other uses identified.

Participants felt that continuity of the trail was a priority and expressed their desire for this trail to link Willmar, Saint Cloud, and Sibley State Park. Concerns were expressed regarding the specifics of routing of the trail through and into towns, the compatibility of trail users (such as horseback riders) with settled areas, and the feasibility of connecting to Sibley State Park.

Many participants said the trail could create a positive economic benefit to local communities with potential for new business opportunities and business growth for the existing resort industry.

Some participants said a strong benefit of the trail would be the creation of a safe recreation opportunity for bicyclists away from highways.

Some participants felt the trail would preserve the existing rail corridor for future uses: recreation, alternative transportation, or habitat preservation.

When asked what their top priority concerns were with the proposed trail, the issues that were mentioned most frequently were enforcement, funding, treadway surface, safety issues, and route connections off the abandoned railroad grade.

A major concern expressed by many participants regarded enforcement of trail regulations and unauthorized uses of the trail. Resolution of the conflicts between the needs of the various user groups was a top priority. Another major concern expressed was the compatibility of motorized recreation vehicles (such as all-terrain vehicles) with non-motorized trail users. Biking and horseback riding were thought by some to be incompatible uses of the same treadway. Hunting was thought to be a conflict with other trail uses by some participants.

Equitable funding for development and maintenance of the trail by various user groups was another concern expressed by many of those present. Concerns were aired about the adequacy of funding to properly maintain the trail and the bridges.

Safety issues regarding intersections (particularly the active Soo Line crossing), hunting, traffic control at crossings, conflicts between user groups, and speeding were raised.

Provision of adequate facilities such as parking, rest stops, telephones, and rest rooms was a concern for some of the participants.

Concerns voiced by adjacent landowners included privacy issues, trespassing, property damage by trail users, access across the grade, liability, and littering. Maintenance issues (littering, dumping, and vandalism) were raised.

Input from the public meetings and from letters received will be used to make recommendations in the trail plan for the development of the trail. Other factors such as projected demand for a particular use, feasibility, costs of a particular trail design, and any statutory requirements will need to be taken into account as well.

Summary of Willmar Public Meeting (February 22, 1990)

Opportunities

1. Bring visitors to area; tourism benefit (22)
2. Bicycling and snowmobiling opportunities (20)
3. Link to Saint Cloud (14)
4. Local and club participation (12)
   - development
5. Walking, jogging; sports (10)
6. Snowmobile touring (9)
6. To view countryside as is (9)
7. Continuity in trail systems (8)
8. Improved safety for bikes (7)
9. Blacktopping trail (5)
9. Environmental education (5)
10. Cross-country ski opportunity (4)
11. Control of vandalism (3)
11. Raise snowmobile registration fees and dedicate part to railroad grade acquisition and development (3)
12. Horse trail opportunity (2)
12. Keeping option open for future railroad use (2)
12. Location of Willmar (2)
13. To take advantage of existing grade

Concerns

1. Keeping unauthorized uses off the trail (18)
2. That connection to Sibley State Park be established (16)
3. Safety in general (15)
4. Surface selection (14)
4. Time frame for development (14)
5. Resolve conflicting uses (11)
6. Enforcement (10)
   - unauthorized vehicles
   - dumping
7. Adequate rest areas (9)
7. Privacy; adjacent landowners (9)
8. Litter (8)
9. Bridge improvement and upkeep (7)
9. Preserving native plant communities (7)
9. Trail connection into Willmar (7)
10. Fairness in user fees (3)
11. Dedicate snowmobile funds to acquisition of railroad grades (2)
11. Funding for surface (2)
11. Speed of users (2)
12. Vandalism (1)
12. Safety during hunting season (1)
13. All-terrain vehicles
13. Name of trail
13. That telephones be provided at parking areas

New London Public Meeting (March 1, 1990)

Opportunities

1. Priority of development due to lack of trails in the area (24)
2. Recreational opportunities (19)
3. Bicycle and snowmobile use between trail and Sibley State Park (18)
3. Creation of trail loops (18)
3. Keeping kids of highway for bicycling (18)
4. Safety for bicycling and hiking (17)
5. Equal sharing of funding between user groups (15)
5. Rest areas with rest room facilities
   - scenic waysides (15)
5. Tourism and economic impact (15)
6. Tie-in with GIA trails (13)
7. Bridges are already there (8)
7. Great for resorts in area (8)
8. Corridor is there for future needs (7)
9. Horse and buggy riding (5)
10. Fishing from bridges

Concerns

1. That connection to existing trails and Sibley State Park be established (28)
2. Motorized vehicle use
   - speed, types (17)
3. Funding (15)
3. Prefer to have blacktop (15)
4. Prefer not blacktopping (14)
5. Safety at intersections (13)
6. Snowmobile routing past Richmond (12)
7. Dumping trash on trail (10)
7. That funding be shared by different users (10)
7. Well placed parking areas (10)
8. Cross-country ski and snowmobile combination (8)
8. Feasibility of fee-owned connection to Sibley State Park (8)
9. Annoyance to adjacent property owners (3)
9. Fishing from bridges (3)
10. Crossing of Soo Line tracks
    - safety, design (1)
10. Gravel surface impact on ski tracks (1)
10. Hazardous waste site (1)
10. Right-of-way at crossings; liability (1)
11. Mixing uses on treadways

Cold Spring Public Meeting (March 5, 1990)

Opportunities

1. Link existing trails (44)
2. Snowmobile (36)
3. Link Sibley State Park (30)
4. Preserve for future generations for recreation (24)
5. Multi-use trail (22)
6. Horseback riding (19)
7. Tourism (17)
8. Limestone surface will hold snow longer for snowmobiling (15)
9. Save grade (14)
10. Camping for horseback riders (13)
11. Bike safety (10)
11. Horse teams (10)
11. Snowmobile close to home (10)
12. To get out of Saint Cloud (9)
13. Bicycling (8)
14. Cross-country ski (6)
15. Close to nature (5)
15. Improve habitat (5)
16. Blacktop (4)
16. Camping (4)
16. Second treadway (4)
17. Preserve for future alternative transportation uses (2)
18. Connect population centers (1)
18. Hiking (1)
19. Hunting
19. Improved job performance after recreating
19. Jobs
19. Landowner crossings

Concerns

1. Compatibility of all-terrain vehicle user with other trail users (50)
2. Expenses should be shared by all user groups (44)
3. Enforcement (37)
4. Availability of funding for maintenance and type of equipment used for winter maintenance (30)
4. Provide rest areas where needed (30)
5. Twelve feet wide minimum (26)
6. Link to Saint Cloud (17)
7. Need adequate parking areas (13)
8. Traffic control at crossings (9)
9. Protection from crime for trail users (7)
10. Available lodging, food, etc. (6)
10. Effect on industry if existing grade abandoned (6)
10. Keeping unauthorized vehicles off (6)
11. Preserve right-of-way (4)
11. Blacktop preference (4)
12. Safety at Soo Line crossing (3)
13. Adjacent landowner leases (2)
    - what is the status?
    - will adjacent landowner be able to continue to lease or purchase?
14. Long term litter maintenance (1)
14. Funding for blacktop (1)
15. Adjacent landowner resistance
15. Farmers crossing conflicting with trail users
15. Liability to State of Minnesota
15. Shooting across grade

Paynesville Public Meeting (March 6, 1990)

Opportunities

1. Linking Sibley State Park (39)
2. Parking areas (26)
3. To connect Willmar and Saint Cloud by trail (24)
4. Linking GIA snowmobile trails (22)
5. Rest areas (19)
6. Horseback riding on second treadway (18)
7. Linking towns and trails (17)
7. State trail for area (17)
8. Non-paved surface for jogging (16)
9. Tourism and economic benefits (15)
10. Blacktop for bicycles (9)
11. For "trail towns" to work together to promote the trail, provide support facilities (7)
12. Cross-country skiing (6)
13. For different user groups to work together (5)
14. Provide for all-terrain vehicle use (3)
14. Use will help decrease litter and vandalism

Concerns

1. Funding development of entire trail (26)
2. Adequate enforcement (25)
2. Provide safety warning device at Soo Line crossing (25)
3. Twelve foot minimum finished surface including bridges (21)
4. User groups share funding (17)
5. How to resolve multi-trail user (16)
6. Blacktop not conducive to horseback riding (13)
6. Hunting conflicting with other trail use (13)
6. Maintenance money once trail is developed (13)
7. Connection to Sibley State Park and Saint Cloud (11)
7. No all-terrain vehicle use (11)
8. Property damage to adjacent landowners (8)
9. Development of twelve foot wide treadway too expensive (7)
9. Metal not be used for bridge decking (7)
10. Controlling speed on trail (6)
10. Horseback riding and bicycling conflict on same treadway (6)
10. Litter (6)
11. privacy for adjacent landowners (5)
12. Providing access for adjacent landowners from one side of trail to the other (4)
12. To quickly sign to keep unauthorized motorized vehicles off trail (4)
13. Blacktop would have a negative impact on snowmobiling because it melts snow quicker (3)
14. Bridge surfaces need to be something other than wood (1)
15. Grooming on blacktop

(NOTE: The numbers in parentheses following each item are the number of times this issue was selected as very important by meeting participants.)

FOCUS GROUP MEETINGS

New London, April 10, 1991

Six citizens participated in this meeting. Genuine interest was expressed to make this trail a part of the community.

There was a strong interest in connecting the trail with downtown and the millpond via a bicycle/pedestrian path along State Highway 9, then along residential streets and another path through Neer Park back to the trail.

All participants thought that the trail should connect to Sibley State Park via a trail alignment and not along roads. There was also a request to develop a GIA ski-touring/horseback riding loop off the trail.

Since the trail does not run directly through New London, participants felt that an interpretive display at the trail access explaining points of interest and directing users to local services was important.

Spicer, April 11, 1991

Fifteen citizens representing resort owners and other businesses, community education, the city council, the county sheriff's office, the local garden club, and cross-country skiers participated in this meeting.

The main issue discussed was the reconstruction of State Highway 23 running parallel with the trail through the community, and associated loss of open space in that corridor. Some participants questioned the proposed location of a trail access near the County Road 10 and U.S. Highway 23 intersection. The traffic at this intersection is heavy, especially in the summer, and a trail access site may not be advantageous there. Instead, developing a cooperative trail access at the ball park parking lot at the south end of Spicer was suggested.

The trail is perceived as a local asset, a safe place for kids to ride back and forth from the ball fields, and potentially to the school in New London, along with being a tourism attraction.

Extensive development is proposed along Progress Street (a frontage road abutting the trail to the west), such as miniature golf, a waterslide, and go-cart tracks. Near the ball fields a new post office, city hall, and early childhood and family center is proposed.

Differing opinions were offered on the feasibility of the restoration and relocation of the "Whistle Stop," an old railroad depot, as part of the trail facility.

Several participants expressed an interest for a trail connection to Sibley State Park and a cooperative effort to develop a trail around Green Lake. There was strong support for user fees such as bicycle licenses, tax on equipment to fund trails, and especially to accelerate development.

Richmond, May 2, 1991

Six citizens representing the park task force, the city council, the civic and commerce club, snowmobilers, and adjoining landowner interests participated in the meeting.

The community would like to continue working with the DNR as they develop proposals for the Grant Avenue trail access point and as the City develops its plans for recreational facilities adjacent to the trail. It was suggested to end development at County Road 71 until a trail right-of-way can be secured to Cold Spring. Presently, the abandonment ends in a farmer's field, 1.3 miles east of the city of Richmond. The community also suggested that a services availability display be developed since the trail does not travel through the central business district.

Roscoe, May 2, 1991

The small community of Roscoe was represented by the Mayor and snowmobilers. The main issue here was the sale of a portion of the railroad right-of-way by Burlington Northern Railroad. One portion is occupied by the Roscoe elevator; the northerly three hundred feet were sold to the Roscoe Recreation Club, leaving the DNR with fifty feet which is sufficient to build the trail through Roscoe.

Paynesville, May 3, 1991

Five citizens representing the city council, the chamber of commerce, economic development, public works, and the local newspaper participated in the meeting.

The discussion focused on parallel efforts of the city of Paynesville to plan a trail connection to the proposed addition to the Glacial Lakes State Trail. The Crow River, a unique resource, presents an under-used opportunity for Paynesville to provide a riverside, recreational trail for local residents and tourists.

Formation of a Trail Committee that would include representatives of local organizations was discussed. This Committee should follow up on ideas to activate a planning process started with the Governor's Design Team ideas of a riverwalk.

Since the DNR is also exploring alternative solutions for the active Soo Line Railroad crossing of the proposed trail west of Paynesville, an opportunity may present itself to reroute the state trail through Paynesville crossing the Soo Line right-of-way and roads in a controlled urban area.

SUMMARY OF PUBLIC COMMENT ON DRAFT PLAN

Approximately 120 individuals attended two open houses in October of 1992. Invitation letters were sent out to all those who attended previous meetings, and a press release was printed in all local papers. Plans were available for review from public libraries and city courthouses and were also sent to local officials and representatives. The towns of Spicer and Paynesville were selected for the open houses due to their proximity to the trail and the availability of facilities to conduct the open houses. The purpose of the gathering was to answer questions and concerns raised during the public review of the *Master Plan for an Addition to the Glacial Lakes State Trail (Public Review Draft).*

Those who attended the open houses received an executive summary of the plan. Everyone was encouraged to also submit comments and suggestions in writing.

Spicer, October 14, 1992

Fifty citizens representing all user groups attended the open house. Questions regarding the potential connection to Sibley State Park were raised, as well as how and when the trail was to be extended into Willmar.

Questions on the type of surface for the treadway were frequently raised. Parents welcomed the installment of a blacktop surface as did a number of bicyclists. The paved trail would create a safe corridor for children to and from school, the lake, and baseball games. Some individuals from the senior center also favored a paved surface for ease of walking. However, snowmobilers and horseback riders favored the existing surface. They enjoy the trail as it is and wanted some assurance that a second treadway would be provided if the trail was paved. Several snowmobilers opposed the idea of pavement because they believe that the combination, scarcity of snow (particularly true in this part of the state) and a dark surface, would severely impact the use of the trail for snowmobiles.

Paynesville, October 15, 1992

The majority of the seventy citizens who attended the open house were snowmobilers and horseback riders. Concerns were expressed over enforcement of trail rules as well as what was to be done about the dangerous trail crossing of the active Soo Line near Paynesville. A main concern again focused on the type of surface for the treadway. The general consensus was that, once acquired, the ballast needed to be removed from a large section of the trail to make it usable for snowmobilers and horseback riders. They prefer a gravel treadway but suggested a few compromises if the trail needed to be paved. For instance, the color of the surface could be a light gray to help prevent the snow from melting too fast. Another suggestion was to leave the shoulders natural (not mowed) so snow drifting could help maintain snow on the treadway.

APPENDIX B: PUBLIC AND PRIVATE CROSSINGS, AND FENCING

PUBLIC AND PRIVATE CROSSINGS

Public

All public crossings (i.e., state, county, township, and so forth) which are in existence at the time the Department of Natural Resources (DNR) has acquired the abandoned railroad right-of-way should be investigated to determine under what authority such crossings exists.

If the public body is capable of producing a legal document (i.e., road order, easement, license, lease, crossing agreement, deed, or final certificate of condemnation) the State will honor all terms of such document. Documents of this nature, when they exist, are usually in the possession of the railroad. Therefore, prior to the real estate closing of the State's acquisition, a request to the railroad should be made for all documents pertaining to crossings.

Where the road authority is unable to supply the State with a legal document which evidences their authority to cross the right-of-way, it shall be presumed that either (1) such road had at one time been legally laid out, but the usual accompanying documentation is no longer in existence; or (2) such road finds its authority in statutory dedication, see Minnesota Statutes, Section 160.05, Subdivision. 1. In either case, the State will recognize the crossing only to the extent of actual use, plus that portion reasonably necessary for maintenance and considerations of safety. In the event the road authority desires to upgrade the road through widening, any such widening shall be considered by the State as an enlargement of the original grant or dedication which will require a conveyance from the State pursuant to Minnesota Statutes, Section 84.63.

All state, county, or township road rights-of-way established after the DNR has acquired the railroad right-of-way must be supported by the State's conveyance of the appropriate easement pursuant to Minnesota Statutes, Section 84.63. Such conveyance shall be made at an appraised value.

All other roads that the state, county, or township declines to certify as a public road will be deemed a private road and subject to the rules governing a private road if it is being used by a private party, subject to the rights of the private party to prove otherwise.

Private

All private crossings of the railroad right-of-way, which exist at the time the DNR acquired the abandoned railroad right-of-way, will be recognized according to and to the extent of the terms found in the written agreements with the railroad. At such time as the written agreements with the railroad expire, a new agreement with the State, usually in the form of an easement, may be entered into. Further, if work is contemplated beyond the limits of the original written agreement, a new agreement with the State may be appropriate.

All private crossings of the railroad right-of-way which exist at the time the DNR acquired the abandoned railroad right-of-way, and for which no documentation exists, may be recognized to the extent of actual use where it can be demonstrated to the State that said roadway did, in fact, exist previous to the State's acquisition. Such proof may take the form of affidavits, aerial or other photographs, written documentation, site inspection, and any other evidence which, in the sole opinion of the DNR, demonstrates the presence of a private crossing. The width of the right-of-way shall be determined by the State and subsequently documented in an easement, lease (at market value), or other agreement between the State and the private user.

All private crossings established after the State has acquired the railroad right-of-way must be supported by an easement, lease, or other written agreement from the State at an appraised value. The decision to convey such an easement, including its terms and conditions, will be at the sole discretion of the State. The requirements of Minnesota Statutes, Section 84.631, control this situation.

Parallel Roads

The policy of the State relative to roads running parallel to trails shall be same as the state's crossing policy as hereinabove discussed.

Cattle Passes

Existing	New
Persons owning lands bisected by a state trail who have an existing cattle pass at the time of the purchase by the state from a railroad may continue to use the cattle pass as long as it is used in such a manner as not to obstruct or impair the use of the trail. The cattle pass shall be on a lease basis (unless a recorded agreement with the railroad existed) and shall be maintained and kept in repair by the adjacent owner. If a recorded agreement existed, the State will honor the terms of the agreement.	Persons owning grazing lands bisected by a state trail may construct, at their own expense, cattle passes under, over, or across the trail in such a manner as not to obstruct or impair the use of the trail. The cattle pass shall be on a lease basis and shall be maintained and kept in repair by the landowner. In the case where a major surfacing or rehabilitation project is taking place in the area of the proposed cattle pass and said cattle pass is determined to be of benefit to the state and shall not obstruct or impair the use of said trail, the state will construct the cattle pass in equal shares with the adjoining owner, but the cattle pass shall be maintained and kept in repair by the adjacent owner.

In addition, utility crossings will be granted in compliance to Minnesota State Regulations Natural Resources 5100.

Fencing

To further discourage unauthorized trail use, the DNR may temporarily close trails or modify the use of segments that have persistent enforcement or use problems. Fences and natural barriers (rocks and vegetation) may also be installed to deter unauthorized use.

The DNR's fencing policy is as follows:

There are two basic reasons for fencing: first, the protection of adjacent landowners from trespassing and property damage; and, second, the enclosure of pasture land adjacent to the trail. The state and the landowner will equally share the costs for the construction and maintenance of a fence based upon a mutual agreement.

If an existing fence on a common property line is in such a poor state of repair that it requires replacing and if the property owner is unable to do so, the State will negotiate an agreement equitable to both parties for the construction and maintenance of a new fence.

Where an existing fence is improperly placed on state land, the State will relocate the fence on the appropriate boundary, the cost shared equally by the state and the property owner.

If fencing is not covered by a local ordinance, the minimum standards stated in Minnesota Statutes, 1990, Section 344.02, will apply.

Minn. Dept. of Nat. Resources/Wildlife Section
Natural Heritage Program

Rare Natural Features on the Glacial Lakes State Trail
in Stearns and Kandiyohi Counties

APPENDIX C

TWP	RNG	SECTION	FED STATUS	MN STATUS	NC STATUS	ELEMENT and OCCURRENCE NUMBER	MANAGED AREA
T121N	R34W	SW28				COLONIAL WATERBIRD NESTING SITE (INACTIVE) #478	
T122N	R32W	NWSE04			END	MESIC BLACKSOIL PRAIRIE (EC) #6	
T122N	R32W	SESE07			END	WET BLACKSOIL PRAIRIE (EC) #8	
T123N	R32W	35			END	MESIC BLACKSOIL PRAIRIE (EC) #8	ROSCOE PRAIRIE SNA
T123N	R32W	SWNW35		SPC		BARTRAMIA LONGICAUDA (UPLAND SANDPIPER) #1	ROSCOE PRAIRIE SNA
T123N	R32W	NWSW35	C2	THR		HESPERIA DACOTAE (DAKOTA SKIPPER) #1	ROSCOE PRAIRIE SNA
T123N	R32W	35		SPC		LIMOSA FEDOA (MARBLED GODWIT) #5	ROSCOE PRAIRIE SNA
T123N	R32W	NWSW35	C2	SPC		CIRSIUM HILLII (HILL'S THISTLE) #11	ROSCOE PRAIRIE SNA
T123N	R32W	SWNW35		SPC		CYPRIPEDIUM CANDIDUM (SMALL WHITE LADY'S-SLIPPER) #106	HELLICKSON PRAIRIE WPA

RECORDS PRINTED = 9

The following Managed Areas are in the vicinity of the trail:

TNC Roscoe Prairie
Stearns County T123N R32W sec. SWNW35

Roscoe Prairie SNA
Stearns County T123N R32W sec SWNW 35 and NWSW 35 56.30 acres

Located from Roscoe 2 mi W on Co Rd 16, then .2 mi S.

Roscoe Prairie is a site which contains a mosaic of prairie plant community types which include wet, mesic and dry prairie in an area with very little variation in topography. The rare butterfly species, the Dakota skipper, occurs here along with several other uncommon butterfly species. The best times to visit this site is in the spring to view pasque flowers and puccoons in bloom, and again in late summer to view the abundant purple coneflowers and leadplants in bloom.

Rare Natural Features on the Glacial Lakes State Trail in Stearns and Kandiyohi Counties

*** SITE THREATENED ***

Element: MESIC BLACKSOIL PRAIRIE (EC) #6
State NC Status: ENDANGERED
EO Size: 3 acres approx. EO Rank: Current Status: 1 Intended Status: 1
Site: ORION MILLER PRAIRIE
Ownership: Private Ownership
Managed Area(s): not managed or no record
Source: WENDT,K. AND CONVERSE,C. 1986; TNC; PARTCH,M. 1973
Location: STEARNS COUNTY, MN DNR Region: 3
Legal : T122N R32W NWSE04 Wildlife Area: 320
Quad Map: PAYNESVILLE (Q11B) Forestry District: 353
Latitude: 45 24' 15" Long: 94 42' 35" Last Obs.: 1986
Precision: approx. boundaries have been determined
Voucher: Verification: verified
MOSTLY LEVEL WET TO WET MESIC SITE IN THE BELGRADE GLENWOOD OUTWASH PLAIN. ONLY A REMNANT OF INTACT PRAIRIE REMAINS (<5 ACRES). HAYED IN THE PAST. CONTAINS SOME HIGH QUALITY PRAIRIE DOMINATED BY NATIVE GRASSES INCLUDING SORGHASTRUM NUTANS ANDROPOGON GERARDI, BROMUS CF. CILIATUS. SOME OTHER SPECIES INCLUDE AMORPHA CANESCENS, LIATRIS PYCNOSTACHYA, PHLOX PILOSA, PRENANTHES SP., ZIZIA AUREA. MOST OF THE SURROUNDING LAND HAS BEEN DISTURBED BY CULTIVATION.

Element: MESIC BLACKSOIL PRAIRIE (EC) #8
State NC Status: ENDANGERED
EO Size: 57 acres EO Rank: AB Current Status: 9 Intended Status: 9
Site: ROSCOE PRAIRIE (100 acres)
Ownership: The Nature Conservancy
Managed Area(s): ROSCOE PRAIRIE SNA
Source: SNA INVENTORY, TNC, EJC, WENDT(1986)
Location: STEARNS COUNTY, MN DNR Region: 3
Legal : T123N R32W 35 Wildlife Area: 320
Quad Map: PAYNESVILLE (Q11B) Forestry District: 353
Latitude: 45 25' 15" Long: 94 40' 42" Last Obs.: 1977
Precision: approx. boundaries have been determined
Voucher: RELEVE(1986) Verification: verified
MESIC PRAIRIE COVER CLASS UNUSUALLY FINE STAND OF ECHINACEA PALLIDA.

Element: WET BLACKSOIL PRAIRIE (EC) #8
State NC Status: ENDANGERED
EO Size: 7 acres approx. EO Rank: Current Status: Intended Status:
Site: PAYNESVILLE 7
Ownership: Private Ownership
Managed Area(s): not managed or no record
Source: PARTCH,M.;TNC
Location: STEARNS COUNTY, MN DNR Region: 3
Legal : T122N R32W SESE07 Wildlife Area: 320
Quad Map: PAYNESVILLE (Q11B) Forestry District: 353
Latitude: 45 23' 5" Long: 94 44' 40" Last Obs.: 1973
Precision: approx. boundaries have not been determined
Voucher: Verification:
WET PRAIRIE COVER CLASS BETWEEN HWY 55 AND RR. HIGH DIVERSITY, SOLIDAGO RIDDELII PRESENT. RECOVERING FROM OLD DISTURBANCE.

Element: COLONIAL WATERBIRD NESTING SITE (INACTIVE) #478
EO Size: EO Rank: Current Status: Intended Status:
Site: site not named or no record
Ownership: Private Ownership
Managed Area(s): not managed or no record
Source: LAWSON,E.
Location: KANDIYOHI COUNTY, MN DNR Region: 4
Legal : T121N R34W SW28 Wildlife Area: 405
Quad Map: NEW LONDON (Q10C) Forestry District: 544
Latitude: 45 15' 33" Long: 94 57' 49" Last Obs.: April 1939
Precision: within 0.25 mile, confirmed
Voucher: Verification: verified
NEST LAKE. DCC- COLONY ABANDONED PRIOR TO 1939 BECAUSE OF ENCROACHMENT OF CIVI-LIZATION; COLONY MOVED TO BAY ON EAST SHORE OF LAKE AFTER LOGGING OF ISLANDS; FROM PRELOGGING TO PRESETTLEMENT HUNDREDS OF BIRDS NESTED ON 2 ISLANDS IN LAKE.

Rare Natural Features on the Glacial Lakes State Trail in Stearns and Kandiyohi Counties

Element: BARTRAMIA LONGICAUDA (UPLAND SANDPIPER) #1
State Status: SPECIAL CONCERN
EO Size: EO Rank: Current Status: 9 Intended Status: 9
Site: ROSCOE PRAIRIE (100 acres)
Ownership: The Nature Conservancy
Managed Area(s): ROSCOE PRAIRIE SNA
Source: SNA RESOURCE INVENTORY
TWO NESTS LOCATED IN 1977.
Location: STEARNS COUNTY, MN DNR Region: 3
Legal : T123N R32W SWNW35 Wildlife Area: 320
Quad Map: PAYNESVILLE (Q11B) Forestry District: 353
Latitude: 45 25' 15" Long: 94 40' 42" Last Obs.: 1977
Precision: within 0.25 mile, confirmed
Voucher: Verification: verified

Element: HESPERIA DACOTAE (DAKOTA SKIPPER) #1
State Status: THREATENED Federal Status: CANDIDATE, CATEGORY 2
EO Size: EO Rank: C Current Status: 9 Intended Status: 9
Site: ROSCOE PRAIRIE (100 acres)
Ownership: The Nature Conservancy
Managed Area(s): ROSCOE PRAIRIE SNA
Source: HUBER,R.L.(DATA LOG 1985),DANA,R.(FIELD NOTES), RESOURCE INVEN. 1977
DAKOTA SKIPPER. BREEDING HABITAT IS CA. 20 AC. UPLAND PRAIRIE IN SOUTH PART OF PRESERVE. FIRST COLL. 1966 BY J. MUGGLI. SMALL POP. PRESENT DURING 1977 STUDY BY DANA (25 SIGHTINGS OVER SEV. SAMPLING OCCASIONS 23 JUNE-05 JUL.). TWO FEMALES SEEN BY DANA DURING WALK-THROUGH 1983. (MUGGLI SPECIMENS IN SMM.)
Location: STEARNS COUNTY, MN DNR Region: 3
Legal : T123N R32W NWSW35 Wildlife Area: 320
Quad Map: PAYNESVILLE (Q11B) Forestry District: 353
Latitude: 45 25' 7" Long: 94 40' 49" Last Obs.: 09 July 1983
Precision: within 0.25 mile, confirmed
Voucher: 2DEFW Verification: verified

Element: LIMOSA FEDOA (MARBLED GODWIT) #5
State Status: SPECIAL CONCERN
EO Size: EO Rank: Current Status: 9 Intended Status: 9
Site: ROSCOE PRAIRIE (100 acres)
Ownership: The Nature Conservancy
Managed Area(s): ROSCOE PRAIRIE SNA
Source: HANSEN,S. MOU FILES
MARBLED GODWIT. IB. MORE THAN ONE OBS DURING SUMMER IN JUNE.
Location: STEARNS COUNTY, MN DNR Region: 3
Legal : T123N R32W 35 Wildlife Area: 320
Quad Map: PAYNESVILLE (Q11B) Forestry District: 353
Latitude: 45 25' 15" Long: 94 40' 42" Last Obs.: June 1977
Precision: within 0.25 mile, confirmed
Voucher: Verification: unverified

Element: CIRSIUM HILLII (HILL'S THISTLE) #11
State Status: SPECIAL CONCERN Federal Status: CANDIDATE, CATEGORY 2
EO Size: EO Rank: AB Current Status: 9 Intended Status: 9
Site: ROSCOE PRAIRIE (57 acres approx.)
Ownership: The Nature Conservancy
Managed Area(s): ROSCOE PRAIRIE SNA
Source: CONVERSE,C.(2859)
ABOUT 2 MILES SW OF ROSCOE. ON DRIER PORTIONS OF SE PART OF PRESERVE (N OF RR) NEAR SURFACE BOULDERS. MESIC PRAIRIE DOM. BY ANDROPOGON GERARDII, A. SCOPARIUM. POA PRATENSIS, SORGASTRUM NUTANS. SIGHT VISIT BY VAN NORMAN, K. AND MUELLER,L. 6/28/1989: ABOUT 101 BASAL ROSETTES AND 15 BUDDING PLANTS COUNTED ALONG SW-NE RIDGE 18 M. FROM RR ROW. TWO ALUMINUM CONDUITS/37M. N AND 15M. S OF POP. CENTER MARK LOCATION. PREV. COLLEC.: WESTKAEMPER,R. 8/1968:"PRAIRIE, ROSCOE, STERNS CO"
Location: STEARNS COUNTY, MN DNR Region: 3
Legal : T123N R32W NWSW35 Wildlife Area: 320
Quad Map: PAYNESVILLE (Q11B) Forestry District: 353
Latitude: 45 25' 10" Long: 94 40' 38" Last Obs.: 16 July 1988
Precision: within 0.25 mile, confirmed
Voucher: MIN Verification: verified

Rare Natural Features on the Glacial Lakes State Trail in Stearns and Kandiyohi Counties

Element: CYPRIPEDIUM CANDIDUM (SMALL WHITE LADY'S-SLIPPER) #106
State Status: SPECIAL CONCERN
EO Size: EO Rank: B Current Status: 9 Intended Status: 9
Site: ROSCOE PRAIRIE (100 acres)
Ownership: The Nature Conservancy
Managed Area(s): ROSCOE PRAIRIE SNA
Source: WESTKAEMPER,S.R.(S.N.)

Location: STEARNS COUNTY, MN
Legal : T123N R32W SWNW35
Quad Map: PAYNESVILLE (Q11B)
Latitude: 45 25' 12" Long: 94 40' 37"
Precision: within 0.25 mile, confirmed

DNR Region: 3
Wildlife Area: 320
Forestry District: 353
Last Obs.: July 1965

Voucher: 592429 MIN Verification: verified

ROSCOE. WET PRAIRIE. (THIS COLL IS BELIEVED TO BE FROM ROSCOE PRAIRIE; T123N R32W, SWNW SEC 35.) 1988 SURVEY FOUND 43 PLANTS WITH APPROX. 500 STEMS ABOUT 80 METERS E. ALONG FIREBREAK FROM CO. RD. PLANTS N. & S. OF BREAK. MANY BURNED IN 88. (STEINAUER 22 MAY 1988)

APPENDIX D: MINNESOTA RULES, 1985
STATE RECREATIONAL TRAILS

6100.3000 PURPOSE.

It is the purpose of these statewide rules to provide for public use of designated state recreational trails while protecting the quality of the trail environment to promote long-term trail use and enjoyment.

Statutory Authority: *MS s 84.03; 84.86*

6100.3100 STATUTORY AUTHORITY AND SCOPE.

These parts are adopted under the authority of Minnesota Statutes, sections 84.03 and 84.86, and apply to authorized state trail units as described in the Outdoor Recreation Act of 1975, Minnesota Statutes, chapter 86A, when designated by the commissioner of natural resources by order filed with the secretary of state.

These parts shall not apply to any person lawfully engaged in the performance of his duties in the development, maintenance, and operation of such trails, including but not limited to the commissioner of natural resources, his agents, employees, those persons operating under contract with the Department of Natural Resources, and law enforcement officers.

Statutory Authority: *MS s 84.03; 84.86*

History: *9 SR 694*

6100.3200 SEVERABILITY.

The provisions of these parts shall be severable, and the invalidity of any paragraph, subparagraph, or subdivision thereof shall not make void any other paragraph, subparagraph, subdivision, or any other part.

Statutory Authority: *MS s 84.03; 84.86*

6100.3300 DEFINITIONS.

Subpart 1. **Scope.** For the purpose of these parts, the terms defined in this part have the meanings given them.

Subp. 2. **Bicycle.** "Bicycle" means any land based vehicle powered by human muscle.

Subp. 3. **Commissioner.** "Commissioner" means the commissioner of natural resources, state of Minnesota, acting directly or through his authorized agent.

Subp. 4. **Drug.** "Drug" means any drug, controlled substance, or immediate precursor found in schedules I through V of Minnesota Statutes, section 152.02, and marijuana, as defined in Minnesota Statutes, section 152.01, subdivision 9.

Subp. 5. **Horseback riding.** "Horseback riding" includes all modes of human travel produced at least in part by nonhuman muscle.

Subp. 6. **Intoxicating liquor.** "Intoxicating liquor" for the purposes of these rules means liquors which are intoxicating pursuant to Minnesota Statutes, section 340.07, and malt liquor containing not less than one-half of one percent alcohol by volume nor more than 3.2 percent alcohol by weight.

Subp. 7. **Motor vehicle.** "Motor vehicle" means any self-propelled vehicle and any vehicle propelled or drawn by a self-propelled vehicle including, but not limited to, automobiles, trucks, dune buggies, minibikes, motorcycles, trail bikes, and all terrain vehicles (ATVs).

Subp. 8. **Person.** "Person" means any individual, partnership, corporation, or association.

Subp. 9. **Snowmobile.** "Snowmobile" means any self-propelled vehicle designed for travel on snow or ice and steered by skis or runners.

Subp. 10. **Special event.** "Special event" means an organized rally, race, exhibit, demonstration, or other similar activity of limited duration which is conducted according to a prearranged schedule and in which general public interest is manifested.

Subp. 11. **Trail.** "Trail" means all of that land contained within the area designated as a state recreational trail by the commissioner.

Subp. 12. **Treadway.** "Treadway" means that part of the trail constructed for travel.

Statutory Authority: *MS s 84.03; 84.86*

6100.34 TRAIL USES.

Subpart 1. **In general.** Subject to the limitations imposed by these parts and other duly enacted statutes, rules, and ordinances, or unless specifically prohibited by the commissioner, trails may be used for snowmobiling and all nonmotorized forms of recreation, including but not limited to hiking, bicycling, horseback riding, snowshoeing, cross-country skiing, camping, and picnicking.

Subp. 2. **Motor vehicles.** No motor vehicle, other than a snowmobile, shall be operated within a trail, except upon a legal road or highway as those terms are defined in Minnesota Statutes, section 160.02, subdivision 7, and except as authorized by the commissioner.

Subp. 3. **Snowmobiles.** No snowmobile shall be operated within a trail except upon treadways designated for such use and under conditions considered adequate for the protection of the trail by the commissioner.

Subp. 4. **Horses.** No one shall ride, lead, or drive a horse or other beast of burden upon a trail except upon treadways designated for such use.

Subp. 5. **Trail hours.** Any specific use of a trail may be limited to hours designated by the commissioner and any use in violation of such limitations is unlawful.

Subp. 6. **Traffic control.** Traffic control:

A. Trail signs shall be obeyed.

B. When on a trail treadway, all trail users must stay on the right half of the treadway when meeting or being passed by another trail user.

C. When passing another trail user traveling in the same direction, a trail user must pass on the left half of the treadway and may pass only when such left half is clearly visible and is free of oncoming traffic for a sufficient distance ahead to permit such overtaking and passing to be completely made without interfering with the safety of any trail user approaching from the opposite direction or any trail user overtaken.

D. Any trail user who is about to enter onto or cross a trail treadway, shall yield the right of way to any trail user already on the treadway to be entered or crossed.

E. When at approximately the same time, two trail users are about to enter an otherwise unmarked treadway intersection from different treadways or are approaching an otherwise unmarked merger of two treadways from any two directions, the trail user on the left shall yield the right-of-way to the trail user on the right.

Subp. 7. **Special events.** No special events shall be held within a trail except with a written permit of the commissioner previously obtained. Such permit may exempt the holder and other participants from the operation of any of the rules contained herein, and may be revoked or suspended by the commissioner at any time.

Statutory Authority: *MS s 84.03; 84.86*

6100.3500 USE OF CAMPING AND REST AREAS.

Subpart 1. **Camping.** Camping:

A. Overnight camping is restricted to designated camping areas.

B. The duration of the stay of any person at said areas shall be no more than two consecutive nights except where otherwise posted.

C. A fee may be prescribed by order of the commissioner for use of the camping areas and facilities, and if such a fee is prescribed, it shall be paid before the area or facility is used.

D. There shall be no digging or trenching within the camping or rest areas.

E. No persons or group of persons shall unreasonably exclude others from campgrounds or rest areas.

Subp. 2. **Fires.** It is unlawful to build a fire within a trail except in a fireplace or a fire ring provided for that purpose. However, portable gas or liquid fueled camp stoves may be used within a camping or rest area if such use does not create a hazard or danger to the trail or to others.

Statutory Authority: *MS s 84.03; 84.86*

6100.3600 HUNTING.

No firearm or bow and arrow shall he discharged within the trail at any time, except for the purpose of lawful hunting during the period from September 15 to March 30 only. No rifle, shotgun with slug, or bow and arrow shall he discharged upon, over, or across the trail treadway at any time.

Statutory Authority: *MS s 84.03; 84.86*

6100.3700 TRAPPING.

The commissioner may forbid the placement of any manner of animal trap in any area of a trail by order.

Statutory Authority: *MS s 84.03: 84.86*

6100.3800 PROTECTION OF THE TRAIL.

Subpart 1. **Environment.** No person shall disturb, destroy, injure, damage, or remove any property within trails including but not limited to vegetation, ruins, wildlife, geological formations, signs, or facilities except edible fruit and wild animals legally taken under the provisions of parts 6100.3600 and 6100.3700 and vegetation unavoidably damaged

or destroyed by the ordinary uses of the trail as specifically permitted by these parts. Collections for scientific and educational purposes may be made with the written consent of the commissioner previously obtained.

Subp. 2. **Bill posting.** No persons shall post, paste, fasten, paint, of affix any placard, bill, notice, or sign upon any structure, tree, stone, fence, or enclosure in a trail.

Subp. 3. **Obstructions.** No person shall place or cause to remain within any trail, any snowmobile, trailer, horse, bicycle, or other object so as to obstruct the free use and enjoyment of said trail. Any such obstruction shall be removed at the owner's expense. If not claimed and payment of expenses offered within a reasonable time, which in no case shall be more than 30 days, it shall be disposed of according to the provisions of Minnesota Statutes, section 16B.25 concerning the disposal of lost or abandoned property.

Subp. 4. **Refuse.** No person shall burn or dispose of garbage, refuse, litter, or trash within a trail except in receptacles provided for that purpose.

Statutory Authority: *MS s 84.03; 84.86*

6100.3900 PROTECTION OF OTHER USERS.

Subpart 1. **Personal conduct.** Within a trail, no person, knowing or having reasonable grounds to know that it will, or will tend to, alarm, anger, or disturb others, or provoke an assault, shall breach the peace by engaging in the following conduct:

A. brawling, fighting, or other violent conduct directed toward another; or

B. offensive, obscene, or abusive language, or boisterous and noisy conduct which might be reasonably expected to arouse alarm, anger, or resentment in others.

Subp. 2. **Intoxication.** No person while within a trail shall be in a state of intoxication brought about by the consumption of intoxicating liquor.

Subp. 3. **Drugs.** No person shall use, be in the possession of, or be under the influence of drugs within a trail unless such use, possession, or influence is pursuant to and in compliance with a prescription from a licensed physician.

Subp. 4. **Pets.** No persons shall allow any pet animal to be unrestrained or unattended except dogs used for hunting during legal hunting seasons in accordance with part 6100.3600. Such pets shall be restrained by a leash not exceeding six feet.

Subp. 5. **Peddling or soliciting.** No person shall peddle or solicit business of any nature, within a trail, or use any of the lands or structures as a base for commercial operations.

Subp. 6. **Safety.** While being ridden or operated within a trail, horses, bicycles, and snowmobiles must be under the control of the operator at all times.

Statutory Authority: *MS s 84.03; 84 86*

6100.400 ADJACENT LAND.

Subpart 1. **Access.** A trail shall not be used as an access to private land without the consent of the landowner, lessee, occupant, or his agent.

Subp. 2. **Posting.** Failure to post private lands does not imply such consent for trail users.

Statutory Authority: *MS s 84.03 84.86*

6100.4100 OTHER LAWS.

All uses of trails will be subject to commissioner's orders, snowmobile rules and safety laws, and bicycle rules and state laws.

Each component of the designated state recreational trail system shall he subject to the provisions of these parts, provided that in the event of conflict with some other law or rule of this state, the more restrictive provision will apply.

No regulation or ordinance adopted by a local unit of government may be inconsistent with these rules, except that local regulations or ordinances concerning the use of firearms, bows and arrows, and traps may be more restrictive than these rules.

Statutory Authority: *MS s 84.03: 84.86*

6100.4200 SUSPENSION OF RULES.

The commissioner may provide exceptions to the general rules for a specific trail by order filed with the secretary of state, if such exceptions authorize activities which are not inconsistent with the purposes for which the trail is established or better serve the public interest.

Statutory Authority: *MS s 84.03; 84.86*

6100.4300 PENALTY.

Any person who shall violate any rules promulgated herein shall be guilty of a misdemeanor and subject to arrest.

Statutory Authority: *MS s 84.03; 84.86*

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