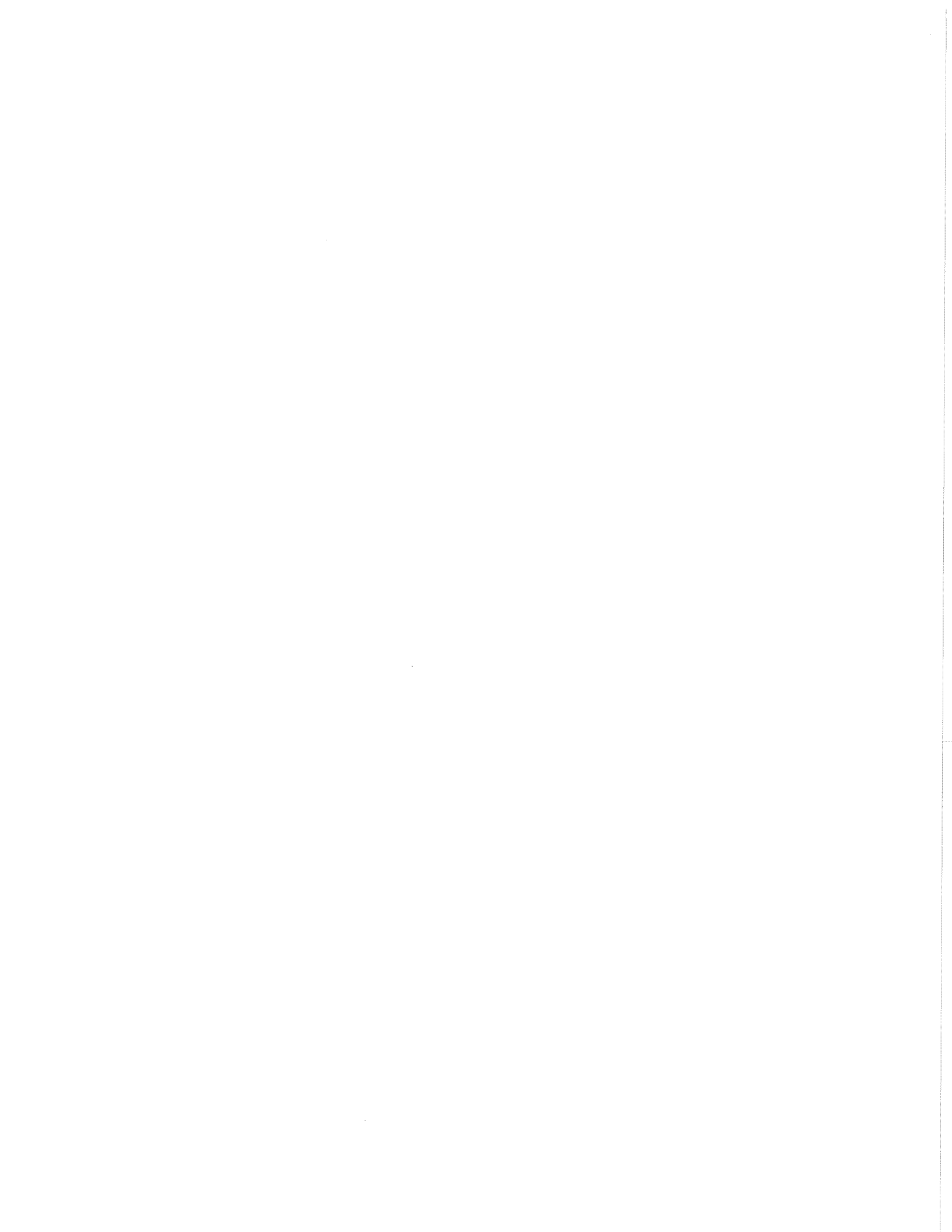




# **Gitchi-Gami State Trail Master Plan**

**Minnesota Department of Natural Resources  
Division of Trails and Waterways**



# Gitchi-Gami State Trail Master Plan

Master plan prepared by:  
Minnesota Department of Natural Resources  
Division of Trails and Waterways  
500 Lafayette Road, Box 52  
St. Paul, MN 55155

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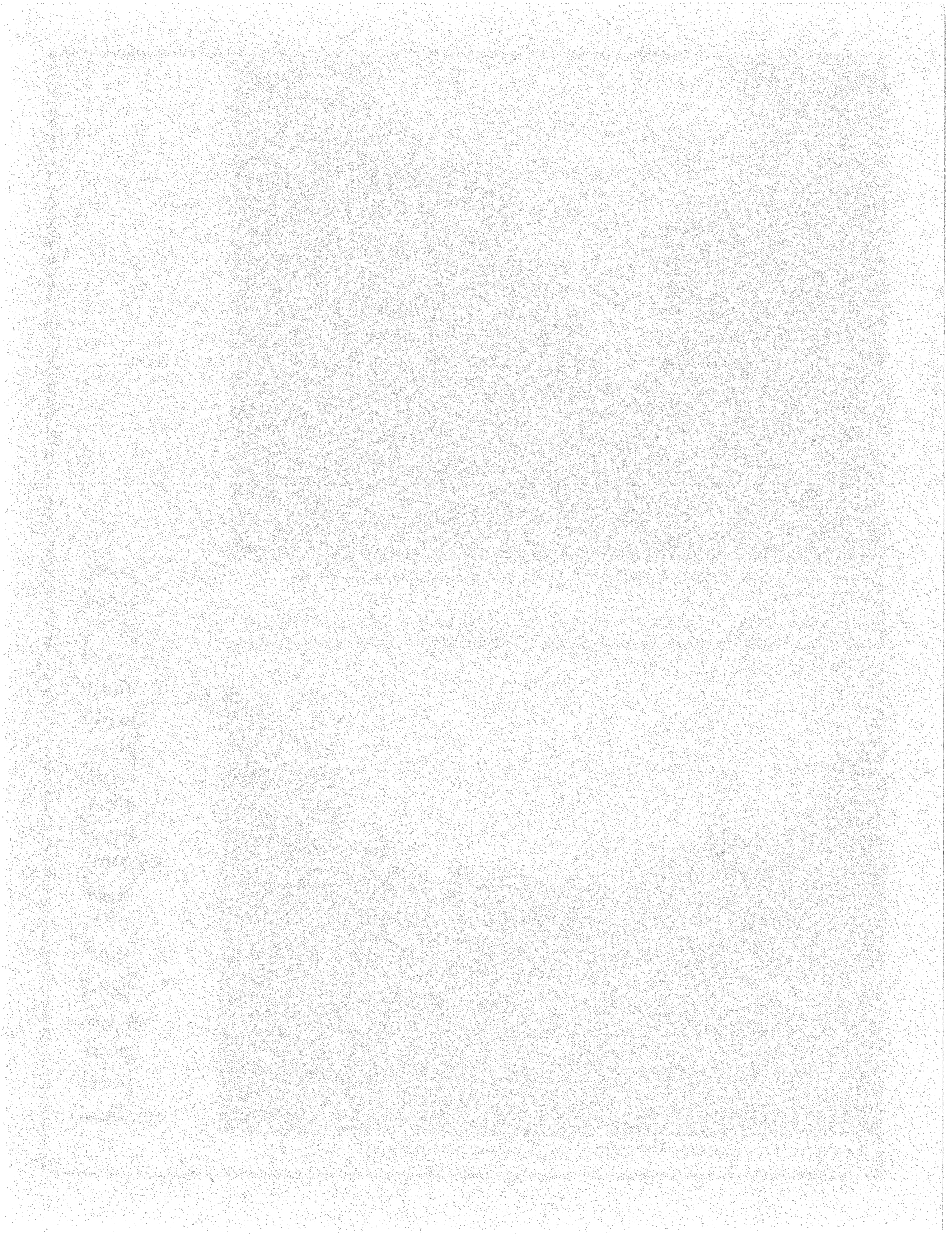
Highway between Two Harbors and Beaver Bay, 1917. Photo by William Roleff, Minnesota Historical Society.

*The corridor between Two Harbors and Grand Marais has evolved to accommodate travel and commerce along the North Shore of Lake Superior. And now....the Gitchi-Gami State Trail.*



Horseback riders on road between Two Harbors and Grand Marais, Minnesota Historical Society.

# Introduction





# Executive Summary

The Gitchi-Gami State Trail will connect Two Harbors to Grand Marais along the North Shore of Lake Superior. Much of the trail alignment will be located in Trunk Highway (TH) 61 right-of-way, but there will be several segments which leave the right-of-way allowing trail users to sample a diversity of the North Shore's varied environments. This approximately 86 mile trail will connect five state parks, communities, four Scientific and Natural Areas, four Lake Superior public accesses/safe harbors marinas, numerous historic sites, and provide views and vistas of Lake Superior. The trail is parallel to the Lake Superior Water Trail and the Superior Hiking Trail and will share facilities. Trail users will travel through birch and aspen forest, cross numerous cascades and waterfalls, and have the opportunity to access beaches of Lake Superior.

## Trail Uses

The allowable uses of the trail include bicycling; hiking and walking; dog walking; jogging; in-line skating; cross-country skiing; environmental education/interpretation; and access to fishing.

## Trail Alignment and Development

For purposes of outlining trail alignment and development recommendations in the master plan, the trail was divided into 17 planning segments. These planning segments coincide closely with the 23 segments the Minnesota Department of Transportation (MnDOT) is using for the planning and reconstruction of TH 61. Maps and descriptive text provide information about each segment and identify opportunities for parking, rest areas, interpretive opportunities and connecting trails. A specific trail alignment has not been determined for most of the trail at the time this plan was written. The alignment has been determined for Segment 4: Gooseberry Falls State Park to Split Rock Lighthouse State Park; Segment 5: Split Rock River to the eastern limits of Beaver Bay; Segment 11: Shroeder to Tofte; and Segment 12: Tofte to ½ mile west of the Onion River. Maps in Section 3 of the plan, Trail Alignment, illustrate these alignments. In the future, when a specific alignment has been determined for a segment, DNR will host a public workshop to provide information about the alignment and address issues and concerns. The Gitchi-Gami State Trail will be developed with an asphalt surface, 10 feet wide.

## Trail Management

The plan contains recommendations for maintenance, enforcement, and interpretation of natural and cultural resources. The plan recommends that an adequate level of enforcement be provided via a multifaceted approach to help maintain a safe and secure trail environment and to encourage trail users to understand and obey trail rules and respect other trail users and adjoining properties. Interpreting the natural and cultural features along the trail is also recommended.

## Natural and Cultural Resources

The trail will be acquired, developed, and managed to minimize impact to natural resources. Native grasses, flowers, trees and shrubs will be planted and managed within the trail corridor.

## Planning Will Continue

Planning will continue on the trail segments for which an alignment has not yet been determined. The trail development specialist will work with MnDOT, the Gitchi Gami Trail association, other trail associations, communities, adjacent landowners and other interested parties to find an alignment and address issues and concerns. It is recommended that a public workshop be held at the point in the process where an alignment for a segment of trail has been determined. The purpose of these workshops should be to provide information on the specific trail location and proposed trail development and obtain feedback on development and management of the trail segment.

# Planning Process: Purpose and Scope

## Planning Process Goals

Master planning for the Gitchi-Gami State Trail was conducted in response to the need to:

- Provide a unifying vision for trail advocates who are working to secure a trail alignment and funds for development and maintenance of the trail. The Gitchi-Gami Trail Association is a driving force behind the establishment, acquisition and development of this trail.
- Guide the development, management, maintenance, and operation of the Gitchi-Gami State Trail so that quality recreation experiences are provided.
- Provide a forum for open public discussion and debate concerning trail use and trail development options, trail maintenance and management issues, and trail operations and enforcement needs.
- Set in motion partnerships and processes that will help carry out the plan and contribute to providing quality trail experiences.
- Inform the decision-making process by assessing the projected impacts of trail development on natural, cultural, and historic resources, and on local communities.

*The chart on the next page outlines the planning process used in developing this master plan.*

## Gitchi-Gami State Trail Master Planning Process

STEPS IN THE PROCESS	WHO'S INVOLVED?
<b>Information Gathering and Issue Identification</b>	<ul style="list-style-type: none"> <li>• Trail Association Meetings</li> <li>• Resource Managers Field Review</li> <li>• Resource Managers</li> <li>• Public Workshops</li> </ul>
<b>Vision, Goals, and Design Concepts Formulated</b>	<ul style="list-style-type: none"> <li>• Resource Managers</li> <li>• Trail Association Meetings</li> <li>• Community Meetings</li> <li>• Trail Users</li> <li>• Public Workshops</li> </ul>
<b>Trail Development and Management Recommendations Formulated</b>	<ul style="list-style-type: none"> <li>• Trail Association Meetings</li> <li>• Community Meetings</li> <li>• Trail Users</li> <li>• Resource Managers</li> <li>• Public Workshops</li> </ul>
<b>Draft Plan and Internal DNR Review</b>	<ul style="list-style-type: none"> <li>• DNR Interdisciplinary Review Team</li> </ul>
<b>Final Plan Written and Public Review</b>	<ul style="list-style-type: none"> <li>• Trail Association</li> <li>• Communities</li> <li>• Trail User Groups</li> <li>• Trail Users</li> <li>• Second Public Workshop</li> <li>• Website Review</li> </ul>
<b>Trail Plan Adopted - Implementation Begins</b>	<ul style="list-style-type: none"> <li>• Trail Association</li> <li>• Communities</li> <li>• Trail User Groups</li> <li>• Trail Users</li> <li>• Resource Managers</li> </ul>
<b>Public Workshops For Each Segment Once Alignment Is Determined</b>	<ul style="list-style-type: none"> <li>• Trail Association</li> <li>• Communities</li> <li>• Trail User Groups</li> <li>• Trail Users</li> <li>• Resource Managers</li> <li>• Residents</li> </ul>
<b>Evaluation and Adjustment</b>	<ul style="list-style-type: none"> <li>• Feedback from trail users, trail groups, landowners, communities, elected officials, other agencies</li> </ul>

# Historical Milestones - Gitchi-Gami State Trail

Planning activity for the Gitchi-Gami State Trail did not begin with this master planning process and does not end with it. This planning process and master plan are necessary steps in creating the trail. A lot of thought and effort went into the trail project before this plan. The DNR master plan establishes the trail's niche in the state trail system and provides guidelines for the trail's acquisition, development, and management by the partnership comprised of the DNR, MnDOT, Gitchi-Gami Trail Association and communities. A summary of historical milestones in the history of the trail follows.

## **1988 - Idea for a Trail Along Trunk Highway (TH) 61**

The initial idea for a trail centered around the Tofte-Schroeder-Lutsen area. Some resort owners in Cook County saw the benefit of getting the walkers, runners, and bicyclists off TH 61 and onto a trail for safety reasons and increased enjoyment.

## **1990s - MnDOT Incorporates Trail Concept Into Plans for Redevelopment of TH 61**

MnDOT incorporated the idea of including a trail into redevelopment plans for TH 61.

## **1996 - Trail Association Is Formed**

A citizen's group formed to advocate for the trail. Initially named the North Shore Touring Trail Association, it was renamed the Gitchi-Gami Trail Association in 1999. The Association was instrumental in creating the vision for the trail, generating broad-based support for the trail, and securing funding for development of the first segments.

## **1997-1999 - Arrowhead Regional Development Commission (ARDC) Works With Trail Association to Advance the Trail Agenda**

The Arrowhead Regional Development Commission worked with MnDOT, the trail association, and the DNR to develop the Gitchi-Gami Trail Plan which coordinated the efforts of the partners, identified trail amenities, developed a trail construction/funding schedule and identified potential sources of funding.

## **1999 - The Decision Is Made That the Gitchi-Gami Should Be a State Trail**

The Trail Association decided it would be advantageous for the Gitchi-Gami to be a state trail. It was determined that the resources and expertise of the DNR in trail acquisition, development, management, and maintenance would be essential to the success of the trail. In addition, it was clear that this trail would be of statewide significance.

## **1999 - Legislative Authorization**

The trail was legislatively authorized as a state trail in 1999. (Minnesota Statutes 85.015, Subdivision 4).

## **2001 - First Mile of Trail is Constructed**

## **2001 - Memorandum of Understanding (MOU) Developed By Project Partners**

Coordinated effort by MnDOT, DNR, and the Gitchi-Gami Trail Association will be essential in order for the trail to become a reality. The commitment of these parties to the trail was cemented in a MOU that outlined the roles and responsibilities of the project partners. This document was signed at the groundbreaking ceremony for the Split Rock Lighthouse segment in August of 2001. See Appendix A.

## **Master Plan for the Gitchi-Gami State Trail - WE ARE HERE**

# Trail Authorization

The Gitchi-Gami State Trail was legislatively authorized in 1999, (Minnesota Statutes 85.015, Subdivision 4).

*"(a) The trail shall originate in the city of Two Harbors and shall extend in a northeasterly direction along the shore of Lake Superior, running parallel to state highway 61 to the city of Grand Marais.*

*(b) The trail shall be developed primarily for hiking and bicycling."*

The Gitchi-Gami State Trail is one of the legislatively authorized state trails in the State Trail System. (See the map of Minnesota's State Trail System on the next page.) State trails are one unit of the state's outdoor recreation system established by the Legislature. In 1975, the Minnesota Legislature enacted the Outdoor Recreation Act (ORA) (Minnesota Statutes, Section 86A.05, Subdivision 4 and Section 85.015). This act established an outdoor recreation system comprised of eleven components or "units" classifying all state-managed recreation lands. The ORA requires that the managing agency prepare a master plan for the establishment and development of each unit. This plan fulfills this mandate.

The Gitchi-Gami State Trail meets the following criteria established for state trails in the Outdoor Recreation Act, Minnesota Statutes 86A.05, Subdivision 4, State Trail; purpose; resource and site qualifications; administration; designation.

*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 or passage through other areas which have significant scenic, historic, scientific, or recreational qualities; or establishes or permits travel along a historically prominent travel route or which provides commuter transportation.*

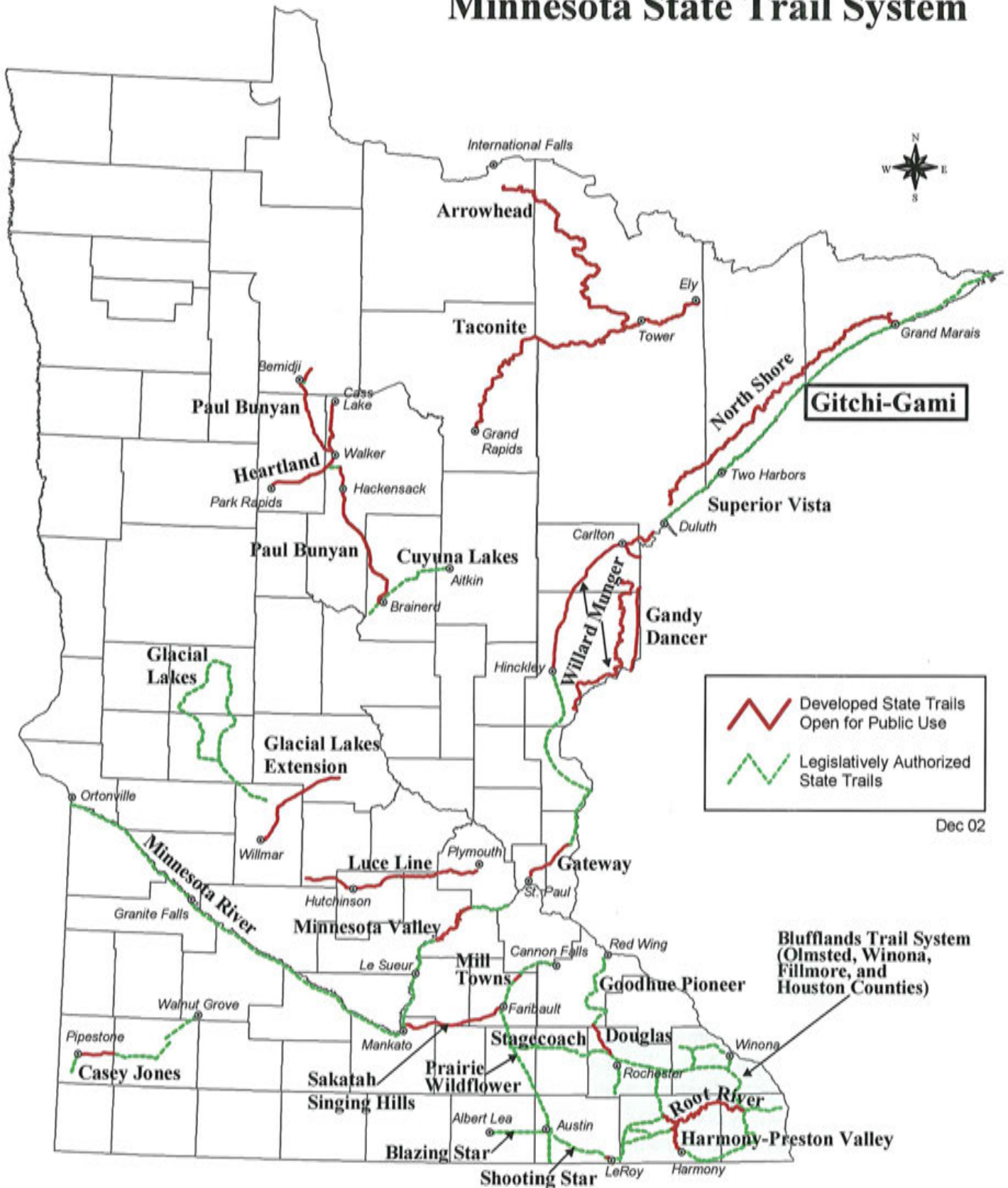
*b. No unit shall be authorized as a state trail unless its proposed location substantially satisfies the following criteria:*

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

*(i) Travel along a route which connects areas or points of natural, scientific, cultural and historic interest."*

The Gitchi-Gami State Trail connects five state parks; Gooseberry, Split Rock Lighthouse, Tettegouche, Temperance River, and Cascade River. Each of these state parks contains significant points of natural, scientific, cultural and historic interest. The trail alignment will cross the statutory boundary of a sixth state park - George Crosby Manitou State Park. (At this time, portions of the area where the state trail will likely cross is privately owned, but it may be purchased prior to construction of this trail segment. The trail will connect a state historic site,

# Minnesota State Trail System



Dec 02

Split Rock Lighthouse, and other historic resources on the National Register of Historic Places. The trail will also connect three state waysides, Flood Bay State Wayside, Ray Berglund State Wayside and Cross River State Wayside, which are managed by the Division of Parks and Recreation.

Each community along the trail has sites of historic interest. Four Scientific and Natural Areas are connected by the trail. The communities along the trail have numerous and diverse cultural and historic resources including several museums and interpretive centers.

(ii) *"Travel through an area which possesses outstanding scenic beauty."*

The Gitchi-Gami State Trail will parallel the shore of Lake Superior. The North Shore of Lake Superior is one of the most scenic resources in the state. Vistas of the lake and access to the shore will be provided wherever possible. The sheer size of the lake, the crashing waves, cobblestone beaches, waterfalls and cascades, orange lichen-studded rocks, towering cliffs, and forest of pine, spruce, fir and birch provide outstanding scenic beauty.

The beauty of the North Shore has been the subject of travel writers, poets, artists, essayists, journalists, and novelists. The following quote illustrates the outstanding beauty of the area.

"Nestled against the ancient Sawtooth Mountains and wrapped around Lake Superior's breathtaking coast, the North Shore of Minnesota has an unforgettable soothing, magical effect. Call it serene, peaceful, rejuvenating, powerful, breathtaking or wild. But no matter what word you choose, there will always be a special part of the experience that can only be felt, not spoken." From "Shore lines", by Lisa Wagner, Lake Superior North Shore Getaways, 1999 MSP Communications

The fact that TH 61 has been designated as a National Scenic Byway and All American Road underscores the fact that the trail paralleling this road meets this criterion.

(iii) *"Travel over a route designed to enhance and utilize the unique qualities of a particular manner of travel in harmony with the natural environment."*

The trail will be developed predominately for walking, bicycling, and in-line skating, all slower paced modes of travel that foster the opportunity to recreate in a natural setting.

(iv) *"Travel along a route which is historically significant as a route of migration, commerce or communication."*

The route the Gitchi-Gami State Trail will follow, parallels the shore of Lake Superior. This route is historically significant as a route of migration, commerce and communication. It was a significant route during the fur trapping era. It was significant during the logging era. Logs were rafted along the shore and later, logging railroads transported logs to sawmills along portions of the route. It is also a significant route for the fishing industry and the mining industry.

The route is historically significant as a route of communication also. During the late 1800s John Beargrease delivered mail by dogsled along this route until the North Shore road was completed and mail delivered by stage. The construction of TH 61 is also historically significant.

(v) *"Travel between units of the outdoor recreation system or national trails system."*

Five State Parks, four Scientific and Natural Areas, two Wildlife Management Areas, a State Forest, and a State Historic Site will be connected by the Gitchi-Gami State Trail. The trail alignment will actually cross the statutory boundary of a sixth state park - George Crosby Manitou State Park. At this time, portions of the area where the state trail will likely cross the park is still privately owned, but it may be purchased prior to construction of this trail segment. The park entrance and visitor facilities at George Crosby Manitou State Park are located to the north of the TH 61 corridor and will not be accessible from the state trail.

Safe Harbors will be connected by the trail. Currently two have been developed, one at Silver Bay, the other at Taconite Harbor. Also, the Lake Superior Water Trail will parallel the Gitchi-Gami State Trail and share facilities with it.

The state trail will also connect to three state waysides, Caribou Falls State Wayside, Flood Bay State Wayside, and Ray Berglund State Wayside, which are managed by the Division of Parks and Recreation.

2. *"Utilizes to the greatest extent possible, consistent with the purposes of this subdivision, public lands, rights-of-way and the like."*

A significant portion of the trail alignment will be located on existing state-owned land. Portions of the trail will be located in state parks. A significant portion will be located in the right-of-way of TH 61. A segment of trail between Schroeder and Tofte will be located in the Superior National Forest.

3. *"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."*

Because the trail links to five state parks, trail users will be connected to state parks' interpretive programs and facilities. Overlooks, waysides, and interpretive facilities are proposed to increase trail users' appreciation and understanding of the natural and cultural resources of the area. There is great potential for use of the trail for environmental education. Plant community restoration projects, wildlife habitat improvement projects, and development of learning stations are potential projects that would benefit students and trail users.

4. *"Takes into consideration predicted public demand and future use."*

The master plan evaluates and uses the current research and trends on existing use of trails and demand for trail opportunities. Current demographic data is taken into account. Information gathered at public workshops is also considered.



## **Vision for the Gitchi-Gami State Trail**

The following vision statement for the Gitchi-Gami State Trail is largely adapted from the vision, mission, purpose, and goals and objectives statements found in the Gitchi-Gami Trail Plan developed by the Arrowhead Regional Development Commission.

**The Gitchi-Gami State Trail will be a premier, continuous, non-motorized, paved trail that connects communities, state parks and interest points along the North Shore of Lake Superior providing non-motorized transportation and recreation for residents and visitors. The trail is authorized from Two Harbors to Grand Marais. It connects to the legislatively authorized Superior Vista Trail, which will connect Two Harbors to Duluth.**

**The trail will be a high quality, aesthetically superior recreational experience, safe, accessible and well maintained.**

# Goals for the Gitchi-Gami State Trail

## Environmental

- Preserve and enhance the natural and cultural features of the trail corridor.
- Interpret the natural and cultural features of the trail and the North Shore Highlands landscape.
- Design, construct, and maintain the trail in a way that protects and enhances the natural environment and minimizes the trail users' impact.
- Protect, restore, and manage plant communities, wildlife, soil, and water resources in a way that is appropriate to the North Shore Highlands landscape.

## Adjacent Landowner Relationships

- Develop and maintain the trail so that impacts to adjacent landowners are avoided or minimized.

## Trail Integrity/Connectivity

- Provide a continuous, off-road, multi-use trail which serves as a component in the emerging northeastern Minnesota trail system.
- Connect regional tourist travel destinations and population centers.
- Connect state and local outdoor recreation lands and facilities.

## Meeting Trail User Needs

- Provide access for a wide range of people with varying degrees of capabilities.
- Promote the safety and security of trail users.
- Work with local communities in developing, managing, and maintaining the trail right-of-way to mutually benefit both trail users and the community.
- Complement the character and economic vitality of the communities through which the trail passes.
- Involve local units of government, user groups, adjacent landowners, and other concerned citizens in the planning, design, and operation of the trail so that their needs are identified and addressed.
- Work cooperatively with other units of the DNR and public agencies to fulfill mutual objectives.



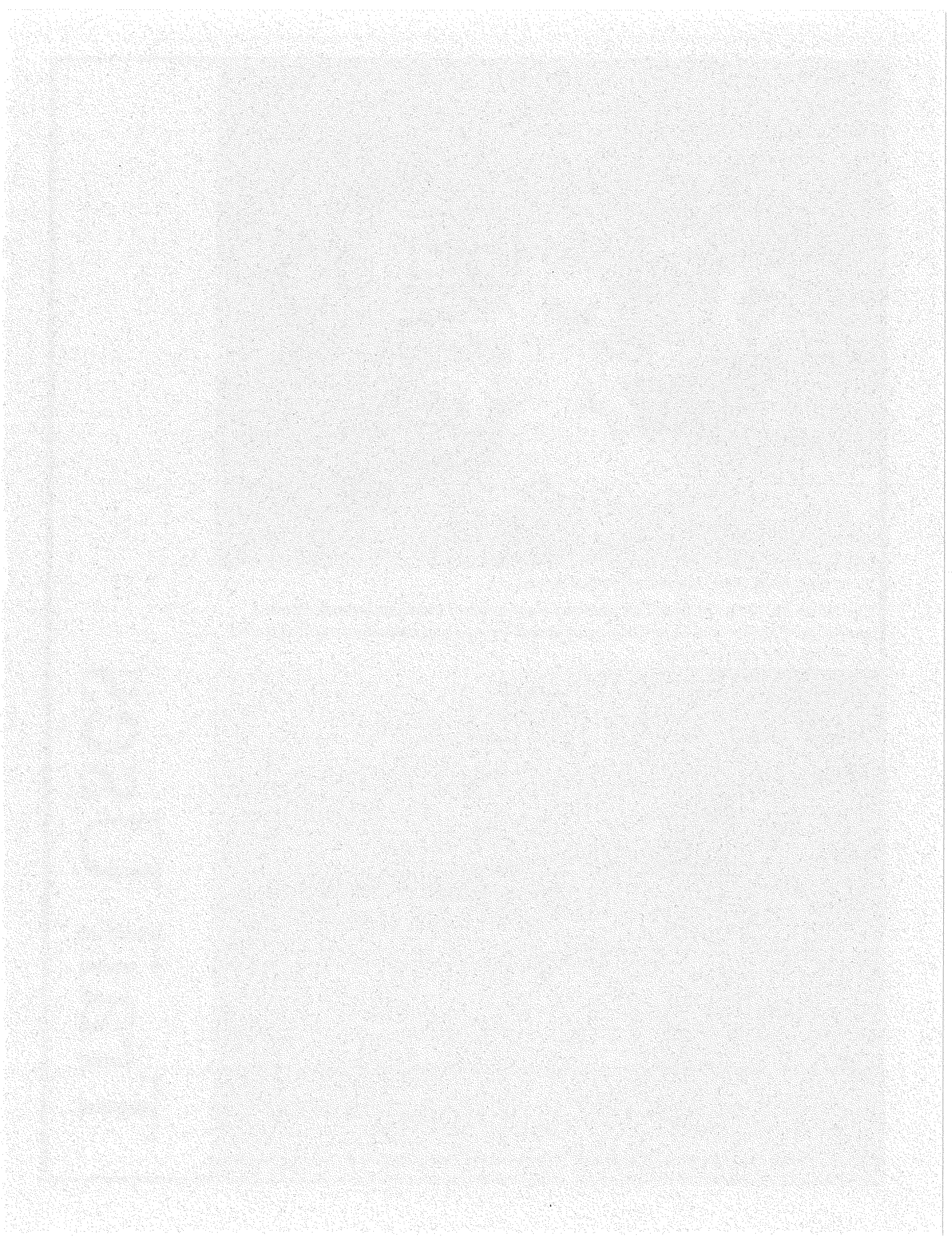
Picnic Party, North Shore. Minnesota Historical Society.

*The North Shore has provided recreation for groups and individuals for decades. A goal of the Gitchi-Gami State Trail is to provide groups and individuals with safe and enjoyable trail experiences.*



Child on rocky beach along North Shore ca 1910. Minnesota Historical Society.

# Trail Uses



# Summary of Recommended Gitchi-Gami Trail Uses

This page summarizes the recommended allowable uses for the trail. The Gitchi-Gami State Trail is a multi-use trail, but the physical limitations of the corridor dictate that not all uses can be accommodated at all times on the entire length of the trail. Allowable uses will be discussed individually in more detail on the following pages.



**Bicycling**



**Hiking and Walking**



**Dog walking**



**Running/Jogging**



**In-Line Skating/Skate skiing**



**Cross-country skiing**



**Snowmobiling for a short segment near Two Harbors, Temperance River State Park and Beaver Bay**



**Environmental Education/Interpretation**



**Trail development will be accessible to people with disabilities wherever possible**



**Access for fishing. The trail will cross streams at right angles in many locations. Certain segments of the trail parallel Lake Superior. The trail can be used as access for fishing.**

## **Bicycling**

Bicycling is a popular activity in Minnesota. According to the Executive Director of the Minnesota Coalition of Bicyclists, 175,000 bicycles are sold annually in Minnesota. Currently, there are at least 765 miles of public bike trails, with more being added every year. There are approximately 395 miles in the DNR state trail system that are paved and there are over 500 miles of mountain biking opportunities. Bicycling is recommended as a use on the entire length of the trail.

## **Hiking and Walking**

On state trails, hiking or walking is second only to biking in numbers of summer use. Pushing strollers or walking for low-impact cardiovascular fitness is popular on state trails. The Gitchi-Gami State Trail will be developed with relatively flat grades that will be easy for most people to walk and hike. Hiking and walking are recommended as a use on the entire length of the trail.

## **Dog Walking**

Dog walking will be allowed on the trail as long as dogs are leashed and owners properly dispose of pet wastes. State trail rules require all pets to be attended and restrained by a leash not more than 6 feet in length but do not specifically address owners' responsibility to remove and dispose of pet feces properly. Dog walking is a recommended use on the entire length of the trail.

## **Running/Jogging**

Many people use the state trails for running or jogging. Besides the individuals who regularly use the trails for exercise, nearby school track and cross-country running teams sometimes use the trails for training. Running and jogging are recommended uses on the entire length of the trail.

## **In-Line Skating**

According to 1997 Rollerblade, Inc. statistics, in-line skating is still a popular sport. There has been a steady increase in total participant numbers since 1989. As of 1997, there were 29.1 million in-line skaters in the U.S. However, the *percentage* increase has seen a decline which means the sport is not increasing in total participant numbers as fast as it did in the past.

The participation rate in Minnesota is still strong, according to 1998 American Sports Data. Based on a 3 year average, Minnesota was in the top ten list of states in participation rates. Minnesota ranked eighth in total number of participants in the sport and ranked fourth in participants per 100 people.

In-line skaters need a smooth, wide surface, such as asphalt, and prefer trails with no surface debris, twigs or stones. In-line skating is recommended as a use on the entire length of the trail.

## **Cross-country Skiing**

Cross-country skiing may be allowed on segments of the Gitchi-Gami State Trail. There are a number of cross-country ski trails along the North Shore. Terrain will vary from flat to some segments with moderate slope.

## **Snowmobiling**

Minnesota has over 18,000 miles of public snowmobile trails. As of July 2002, 285,675 snowmobiles were registered in Minnesota. Besides the extensive grant-in-aid trail system, snowmobiles can legally ride in the right-of-way of roads unless prohibited by local ordinance and on frozen public waters.

Snowmobilers are interested in trail connections, quality of trail grooming, safety, and funding stability for their programs. As boundaries of urban and suburban development expand, existing grant-in-aid trail routes that connect to trail systems in rural communities may no longer be available, or snowmobiling may be curtailed by local ordinance. Snowmobiling will not be allowed on the majority of the trail alignment, but will be permitted on small segments near Two Harbors, Temperance River State Park and Beaver Bay.

## **Environmental Education/Interpretation**

Use of the Gitchi-Gami State Trail for environmental education, both for individual trail users and formal groups is encouraged. Schools or organizations that wish to use the trail can work with DNR staff on specific projects.

Interpretation and education opportunities will also be available at numerous locations along the trail. Gooseberry State Park has a visitor center and naturalist on staff. Other state parks have interpretive signs, displays, and brochures. A variety of museums will be located within close proximity to the trail. A visitor center at Sugar Loaf will provide information on the North Shore and the restoration efforts occurring on the site. Interpretation of the natural and cultural resources can add rich dimensions to the trail experience.

## **Opportunities for Trail Use by Individuals with Disabilities**

The nearly level slopes of the Gitchi-Gami State Trail will be ideal for accessible use along with the fact that the trail will be paved. In new facility construction, such as adjoining parking areas or rest areas, the DNR designs barrier-free facilities.

## **Fishing**

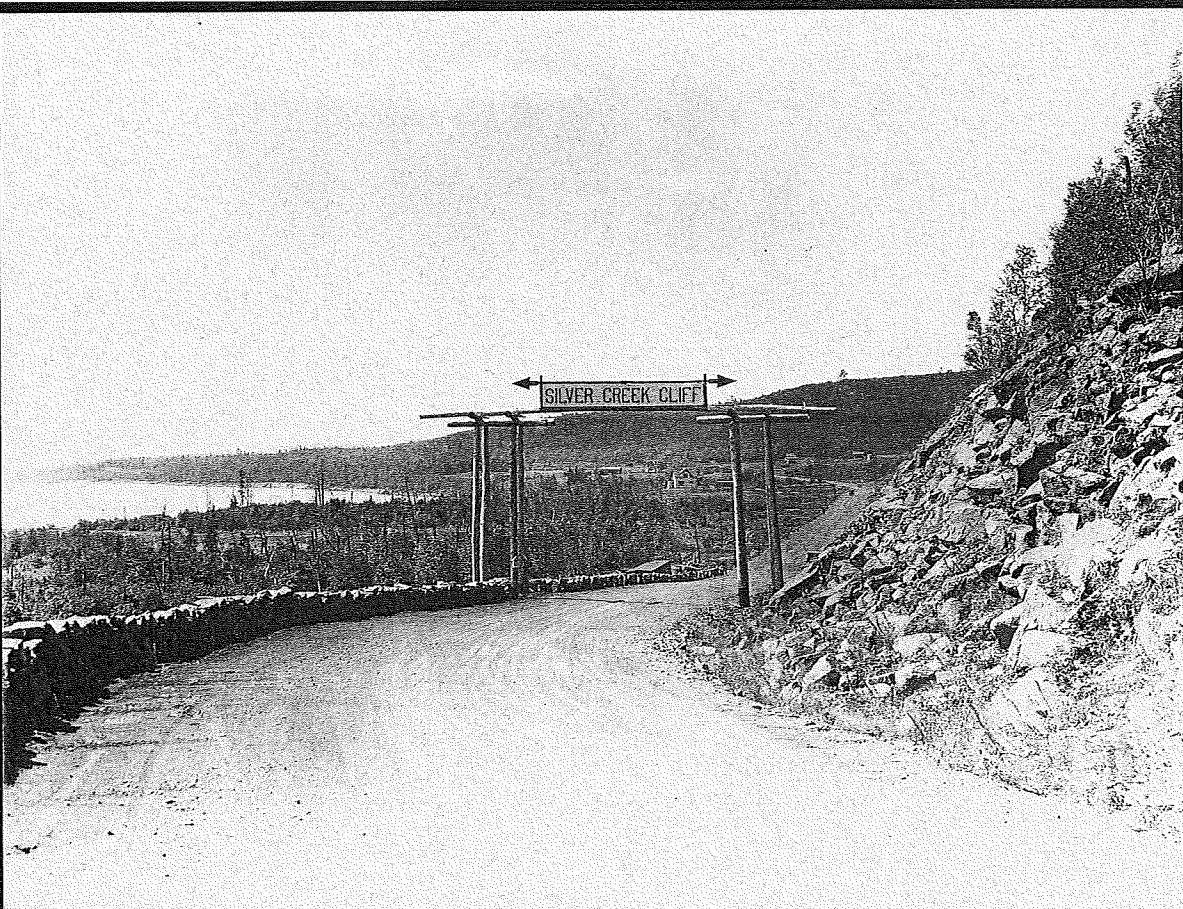
The trail can be used as access for fishing. The trail will cross streams at right angles in many locations. Certain segments of the trail parallel Lake Superior.

## **Hunting**

*During legal hunting season only* - Currently, state trail rules allow hunting within the trail right-of-way, except where restricted by local ordinance. The current rule states: "No firearm or bow and arrow shall be 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 be discharged upon, over, or across the trail treadway at any time." There are no restrictions on hunting upland game birds and small game within highway right-of-way. Hunting big game is restricted. Hunting is not allowed in state parks (Minnesota Rule 6100), and this rule takes precedence over state trail rules within state park boundaries. Communities may restrict firearms or bow and arrow discharge, or trapping, by ordinance. These ordinances also take precedence over state trail rules.







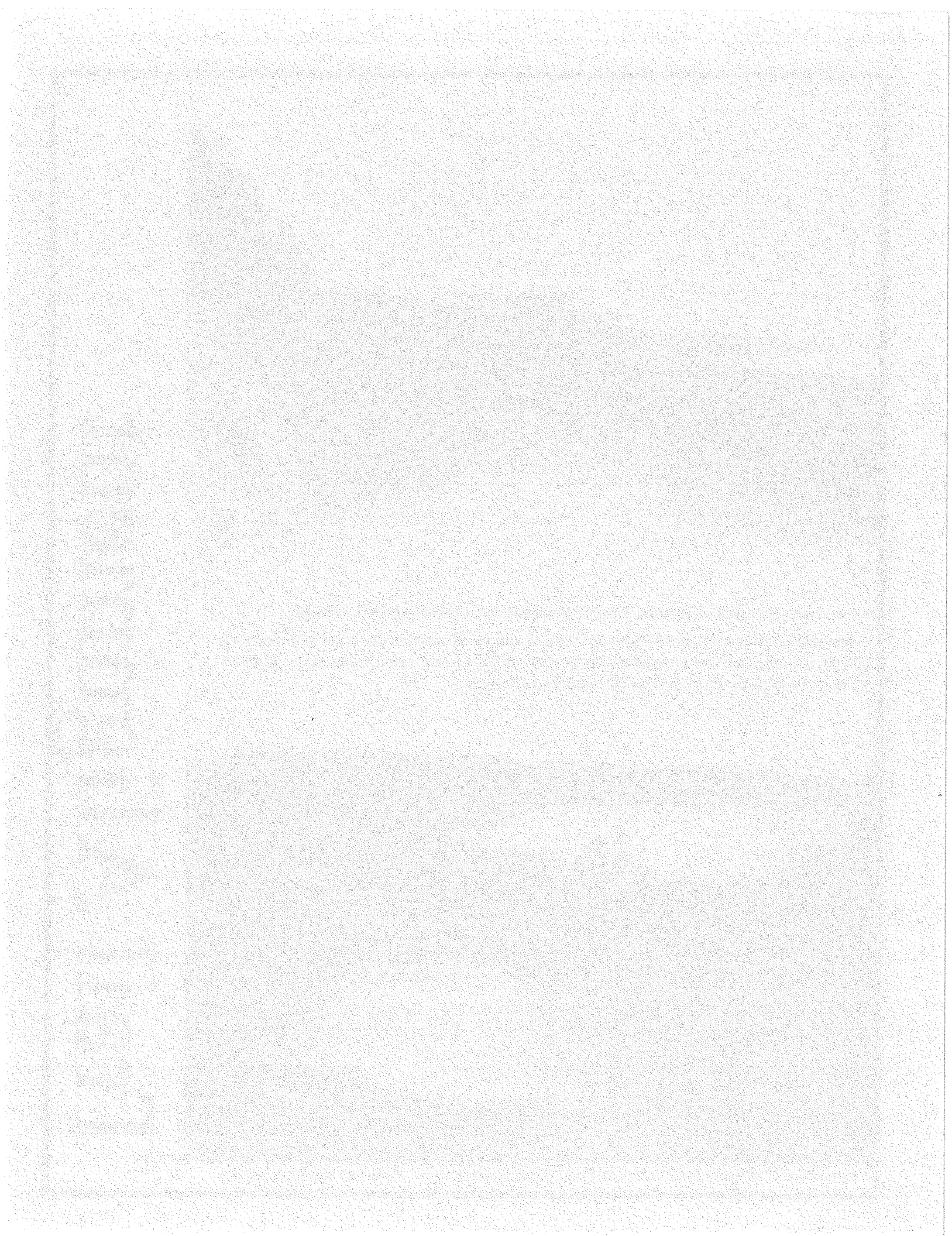
Silver Creek Cliff near Two Harbors. Photo by William Roleff, Minnesota Historical Society.

*Some segments of the Gitchi-Gami State Trail will be located on old road bed, formerly TH 61. The trail will be located on the portion of TH 61 that ran around Silver Creek Cliff and Lafayette Bluff, before the tunnels were built.*



Construction of Lafayette Bluff Tunnel on TH 61. Photo by Lee Radzak , Minnesota Historical Society.

# Trail Alignment



## **Overview of the Trail Alignment**

The Gitchi-Gami State Trail will connect Two Harbors to Grand Marais along the North Shore of Lake Superior. Much of the trail alignment will be located in the TH 61 right-of-way, but there will be several segments which leave the right-of-way allowing trail users to sample a diversity of the North Shore's varied environments. This approximately 86 mile trail will connect five state parks, communities, four Scientific and Natural Areas, numerous historic sites, and provide views and vistas of Lake Superior. The trail is parallel to the Lake Superior Water Trail and the Superior Hiking Trail and will share facilities. Trail users will travel through birch and aspen forest, cross numerous cascades and waterfalls, and have the opportunity to access beaches of Lake Superior.

## **Planning and Construction Segments**

**For purposes of outlining trail alignment and development recommendations in this master plan, the Gitchi-Gami State Trail was divided into 17 planning segments. These planning segments coincide closely with the 23 segments MnDOT is using for the planning and reconstruction of TH 61. A few of the planning segments are a combination of two or more construction segments, therefore there are**

**fewer planning segments than construction segments. Since TH 61 planning and reconstruction and Gitchi-Gami State Trail planning and construction are often integrated as one project, using this framework for the master plan will help facilitate communication and coordination between MnDOT, DNR, the Gitchi-Gami Trail Association, communities and other project stakeholders.**

The map on page 17 illustrates the location of the planning segments. The table on page 16 lists the end points of the trail segments, mileage and anticipated construction schedule.

In this section of the plan, a map of each of the 17 segments is provided along with a description of the trail environment and location of the trail alignment, to the extent that it is currently known. The locations of trail access points, parking areas, rest areas, interpretive opportunities, and trail connections are summarized. A more detailed discussion of the interrelationship of the trail and the state parks and communities located in the planning segment follow the segment summary.

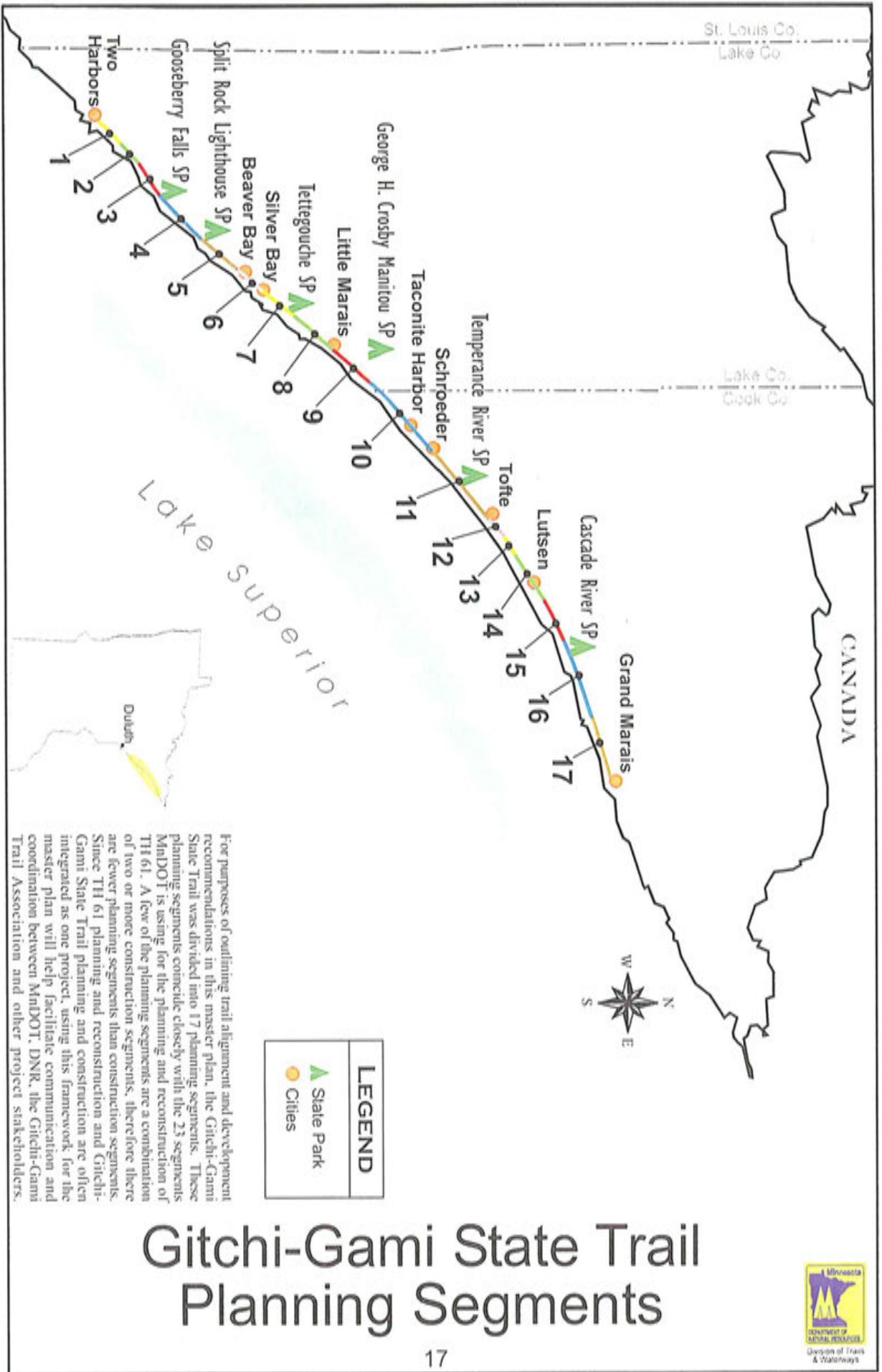
## **Status of Trail Construction**

The first mile of trail has been developed near Gooseberry Falls State Park. Another eight mile segment has been developed from the Split Rock River through Beaver Bay. The 2.5 mile section from Tofte to ½ mile west of the Onion River is also developed.

**Gitchi Gami State Trail Planning and Construction Segments**

(As of 12-09-02; Timeline subject to change)

Planning Segment	Planning Segments	MNDOT Project Location	Estimated Construction Date	Miles
1	Two Harbors to Silver Cliff Tunnel	<ul style="list-style-type: none"> <li>Two Harbors to Stewart River</li> <li>Stewart River to Silver Cliff Tunnel</li> </ul>	2009 2009	2.4 2.8
2	The Tunnels - Silver Cliff Tunnel to Lafayette Tunnel	Silver Cliff Tunnel to Lafayette Tunnel	2006	2.3
3	Lafayette Tunnel to Gooseberry Falls State Park Trailhead	Lafayette Tunnel to Gooseberry Falls State Park Trailhead	2006	4.2
4	Gooseberry Falls State Park to Split Rock Lighthouse State Park	<ul style="list-style-type: none"> <li>Gooseberry Falls State Park Trailhead to 1/4 mile west of Gooseberry River</li> <li><i>E. Limits of Gooseberry Falls State Park to Gooseberry R.</i></li> <li><i>E. Limits of Gooseberry Falls State Park to Split Rock R.</i></li> </ul>	<i>complete</i> 2004	2.3 1.2 3.5
5	Split Rock River to Western Limits of Beaver Bay	<i>Split Rock River to Mary Street in Beaver Bay</i>	<i>complete</i>	7.8
6	Silver Bay Marina - Western Limits of Beaver Bay to County Road 5	<ul style="list-style-type: none"> <li><i>Mary Street to Beaver River Trailhead Area</i></li> <li><i>Beaver Bay to Silver Bay</i></li> </ul>	<i>complete</i> 2004	0.6 4.5
7	Silver Bay to Tettegouche - County Road 5 in Silver Bay to Eastern Limits of Tettegouche State Park	Silver Bay to Tettegouche	2006	6.5
8	Little Marais - Eastern Limits of Tettegouche State Park to 1.75 miles north of Little Marais	<ul style="list-style-type: none"> <li>Tettegouche to 3.3 Miles North of TH 1</li> <li>3.3 miles North of TH 1 to 1.75 Miles North of Little Marais</li> </ul>	2008 2010	5.0 3.1
9	Caribou Falls State Wayside - 1.75 Miles North of Little Marais to Cook County Line	1.75 Miles North of Little Marais to Caribou Falls State Wayside	2011	5.7
10	Taconite Harbor - Caribou Falls State Wayside to Schroeder	Cook County Line to Schroeder	2009	7.7
11	Temperance River State Park - Schroeder to Tofte	<ul style="list-style-type: none"> <li>Schroeder to Temperance River State Park</li> <li>Temperance River State Park to Tofte</li> </ul>	2003 2003	1.4 1.6
12	Tofte - Tofte to ½ mile west of the Onion River	<i>Tofte to ½ mile west of the Onion River</i>	<i>complete</i>	2.5
13	½ west of the Onion River - Onion River to County Road 34	½ mile west of the Onion River to County Road 34	2004	3.0
14	Lutsen - County Road 34 to County Road 41	County Road 34 to County Road 41	2004	5.0
15	Cascade River State Park- County Road 41 to Cascade River	County Road 41 to Cascade River	2007	3.9
16	Cascade River State Park - Cascade River to western limits of Grand Marais	Cascade River to western limits of Grand Marais	2005	7
17	Grand Marais - Western limits of Grand Marais to 8 <sup>th</sup> Avenue	Western limits of Grand Marais to 8 <sup>th</sup> Avenue	2002	1



For purposes of outlining trail alignment and development recommendations in this master plan, the Gitchi-Gami State Trail was divided into 17 planning segments. These planning segments coincide closely with the 23 segments MNDOT is using for the planning and reconstruction of TH 61. A few of the planning segments are a combination of two or more construction segments, therefore there are fewer planning segments than construction segments. Since TH 61 planning and reconstruction and Gitchi-Gami State Trail planning and construction are often integrated as one project, using this framework for the master plan will help facilitate communication and coordination between MNDOT, DNR, the Gitchi-Gami Trail Association and other project stakeholders.

# Gitchi-Gami State Trail Planning Segments



















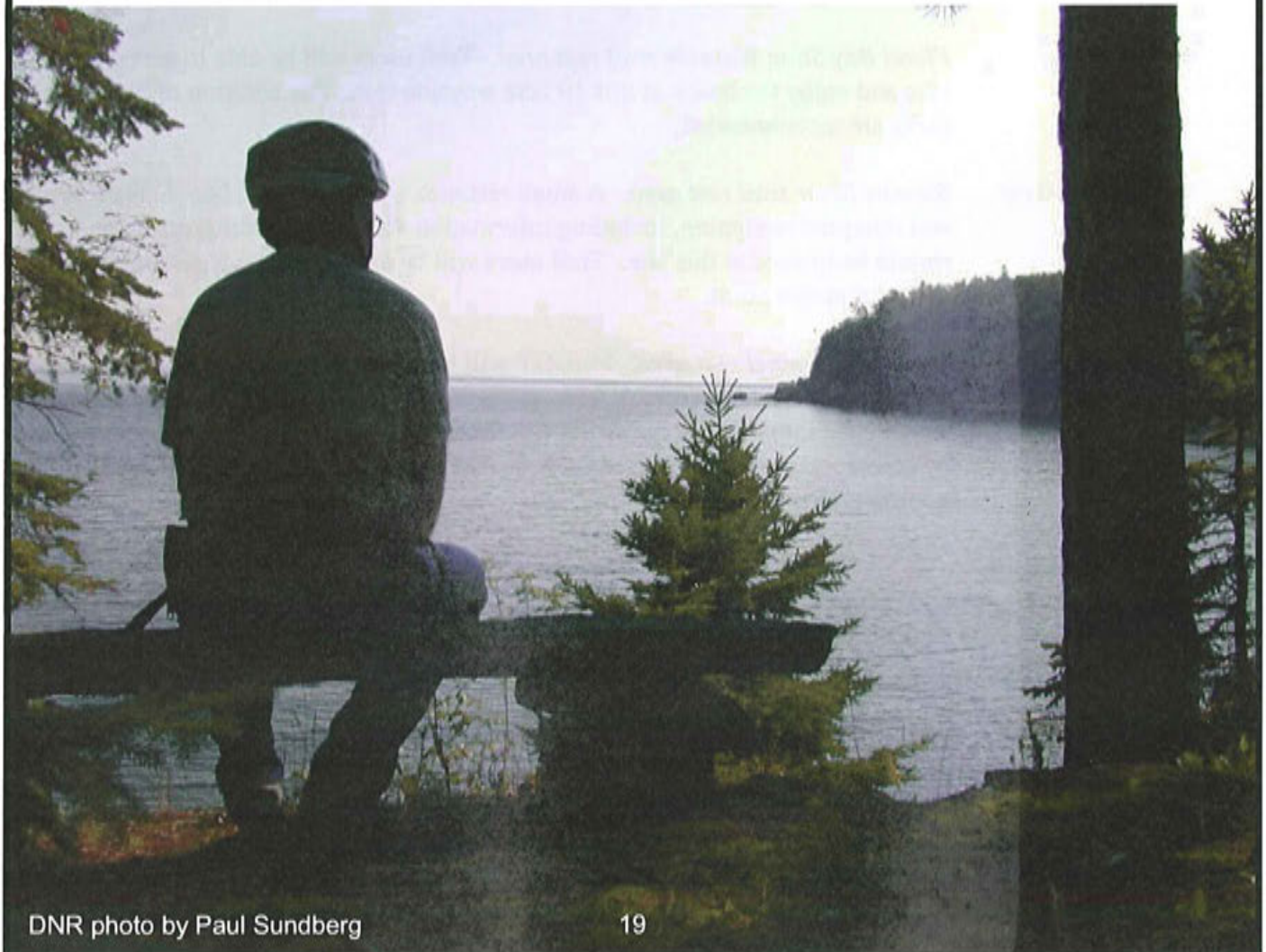


# Legend for Map Segments

Black markers indicate existing facilities  
 Green markers indicate proposed facilities

-   Parking
-   Rest Area
-   Camping
-   Interpretive Site
-  Scientific and Natural Area
-  Wildlife Management Area

-  Incorporated Cities
-  State Park and Recreation Land
-  State Forest Land
-  State Wildlife Management Area Land
-  State Scientific and Natural Area Land
-  City Streets
-  Township Roads
-  County Highways
-  Highways
-  Perennial Streams
-  Intermittent Streams
-  Lake Superior Water Trail
-  Superior Hiking Trail
-  Red Dot ATV Trail
-  Proposed Gitchi-Gami Trail Alignment
-  Completed Gitchi-Gami Trail Alignment



## Segment 1: Two Harbors - Two Harbors to Silver Cliff Tunnel

(5.2 miles)

### Description of the Trail Environment and Trail Alignment

Two Harbors is the southwestern terminus of the Gitchi-Gami State Trail. The proposed trailhead is located near Lake Superior, across from the boat access on Burlington Bay. The first 5.2 mile segment of trail will parallel TH 61 on the lake side to Silver Cliff Tunnel. There is a lot of development along the Shore in this segment. The trail passes by a number of resorts and homes, therefore there will be a number of driveway crossings of the trail. There will be three locations along this segment where trail users can stop for a vista of Lake Superior and access the lake at two of the locations - Flood Bay State Wayside, managed by the Division of Parks and Recreation and Stewart River. A view of Silver Creek provides another scenic amenity. Trail users will have a spectacular view of Lake Superior from a future wayside rest located adjacent to Silver Creek Tunnel. To be developed by MnDOT, the overlook will serve TH 61 motorists and Gitchi-Gami State Trail users. The trail alignment in the Silver Cliff tunnel area will follow the alignment of Old TH 61 - the location of the road before Silver Cliff tunnel was built.

### Trail Access and Parking Areas, Rest Areas, Interpretive Sites

- Two Harbors *Two Harbors trail access/parking/rest area.* A trailhead facility could be developed in conjunction with the expansion of the R.J. Houle Visitor Center, located at the junction of TH 61 and 1<sup>st</sup> Street. DNR, the county, and the city of Two Harbors will work cooperatively to provide parking, rest rooms, picnic tables, water, and trail orientation at this location.
- Flood Bay *Flood Bay State Wayside trail rest area.* Trail users will be able to access the lake and enjoy the beach at this 19 acre wayside rest. The addition of bicycle racks are recommended.
- Stewart River *Stewart River trail rest area.* A small rest area with a pull off, bench, restroom, and interpretive signing, including information about the fisheries resource should be located at this site. Trail users will be able to access the shore of Lake Superior at this point.
- Silver Cliff *Silver Cliff Tunnel rest area.* MnDOT will be developing a small rest area with parking and a scenic overlook with interpretive signing. A trail wayside should be designed into this site including a pull-off with bike racks. Information about the construction of the road in the 1920s and tunnel in 1991 should be included in the interpretive signing.

### Trail Connections

A trail connection should be made to the Sonju Trail, a local community trail that will lead trail users to Agate Bay and the historic and cultural resources there including the lighthouse, the tugboat - Edna G, two steam locomotives, Lake County Historical Museum and ore docks.

The Arrowhead Regional Bike Plan identifies CSAH 2 from Two Harbors as a connection to the Iron Range for bicyclists. One of the proposed facility improvements for the North Shore area is to "Improve and maintain shoulders along CSAH 2 from Two Harbors to Forest Highway 11." The intersection of CSAH 2 and the Gitchi-Gami State Trail should be designed to provide information about the regional bicycling opportunities.



# Segment 1: Two Harbors - Two Harbors to Silver Cliff Tunnel



- Incorporated Cities
- ~ Superior Hiking Trail
- ~ Sonju Hiking Trail
- City Streets
- Township Roads
- County Highways
- Highways
- ~ Perennial Streams
- ~ Intermittent Streams

**P** Existing Facility = Black Markers      **P** Proposed Facility = Green Markers



## **Segment 2: The Tunnels - Silver Cliff Tunnel to Lafayette Tunnel (2.3 miles)**

### **Description of the Trail Environment and Trail Alignment**

Fantastic vistas of Lake Superior and pine forest are the defining characteristics of this segment. Overlooks of Lake Superior at Silver Cliff Tunnel and Lafayette Tunnel provide views of Lake Superior. Pine forest preserved by the Encampment Association can be viewed as trail users travel through this segment and provides a glimpse of what the landscape looked like at the turn of the century. Other scenic highlights include the view trail users will have of the Encampment River as they cross it, and the view of Lafayette Bluff as they approach it.

The trail will be located within TH 61 right-of-way, on the lake side in this 2.3 mile segment between the tunnels.

The Lafayette Tunnel opened in 1991 and is named for a shipwreck that occurred here in 1905. The trail alignment in the Lafayette Tunnel area will follow the alignment of old TH 61 - the location of the road before the Lafayette Tunnel was built.

### **Trail Access and Parking Areas, Rest Areas, Interpretive Sites**

- Interpretive Site      An interpretive sign including information about the forest composition at the turn of the century should be located in this segment.
  
- Interpretive Site      An interpretive sign including information about the building of the road in the 1920s and the construction of the Lafayette Tunnel should be located in this segment.

# Segment 2: The Tunnels - Silver Cliff Tunnel to Lafayette Tunnel



- Superior Hiking Trail
- City Streets
- Township Roads
- County Highways
- Highways
- Perennial Streams
- Intermittent Streams
- Proposed Facility = Green Markers



Division of Trails & Waterways



## Segment 3: Castle Danger - Lafayette Tunnel to Gooseberry Falls State Park (5.2 miles)

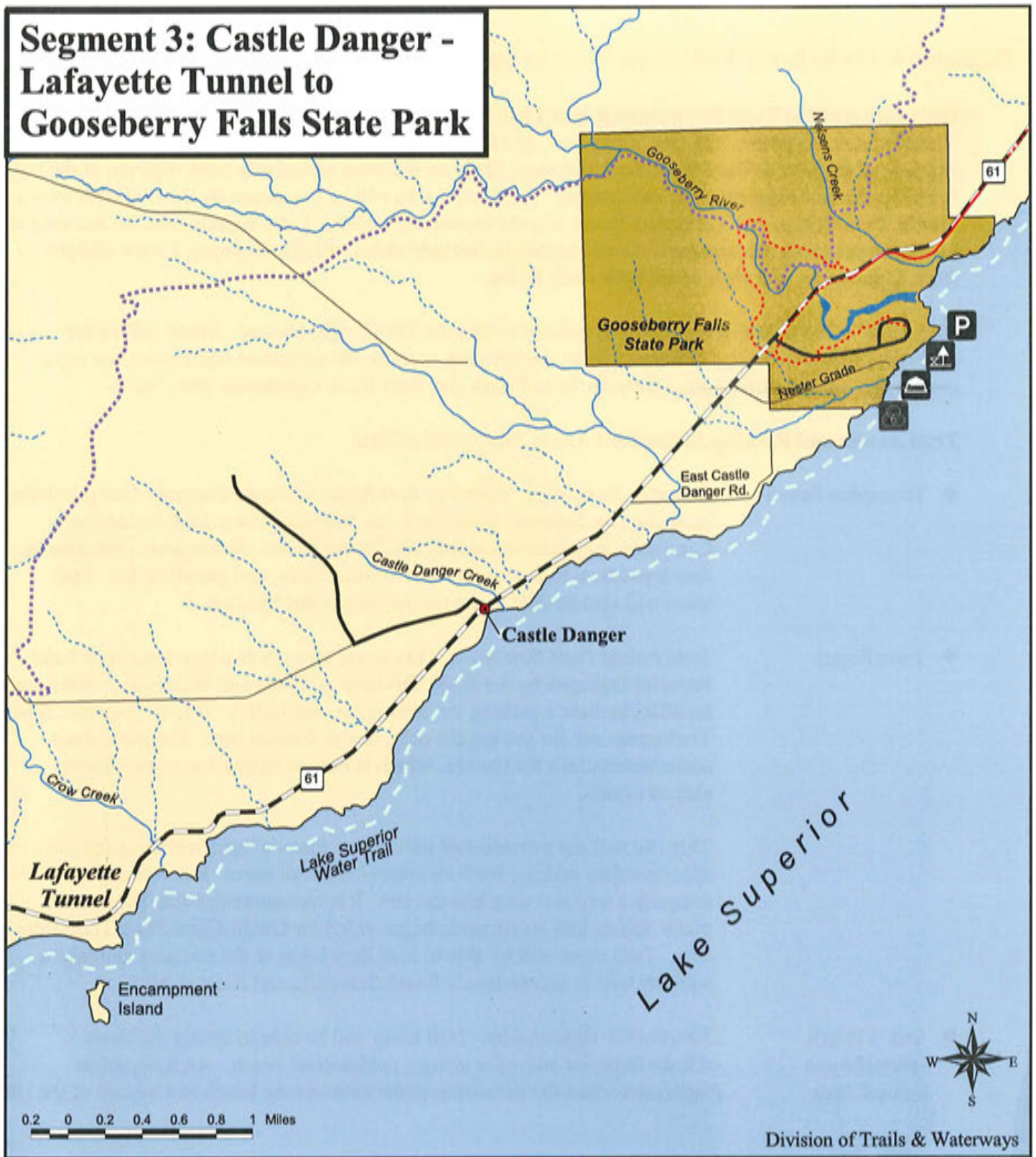
### Description of the Trail Environment and Trail Alignment

The proposed trail alignment in this segment will be located in TH 61 right-of-way on the lake side. Although there is no proposed rest area facility development in this area, trail users will be able to find food and lodging at Castle Danger. Gooseberry Falls State Park is a destination for trail users and provides opportunities for camping, a rest area, and exploration of the waterfalls and other scenic amenities. The description of Gooseberry Falls State Park on page 56 provides a more detailed description of the resources and recreational opportunities available in this park.

### Trail Access and Parking Areas, Rest Areas, Interpretive Sites

- **Castle Danger**      *Castle Danger.* Although there is no proposed rest area facility development in this area, trail users will be able to find food and lodging at this location.
  
- **Gooseberry Falls**      *Gooseberry Falls State Park trail access/parking lot/rest area.* Gooseberry Falls State Park will serve as a trail access and rest area. Parking and overnight camping are available in the park. Water and restroom facilities are also available. A vehicle permit is required to enter the park. There are numerous scenic and recreational amenities trail users can take advantage of here. The description of Gooseberry Falls State Park on page 56 provides a more detailed description of the resources and recreational opportunities available in this park.

# Segment 3: Castle Danger - Lafayette Tunnel to Gooseberry Falls State Park



Division of Trails & Waterways

- State Park and Recreation Land
- Superior Hiking Trail
- City Streets
- Township Roads
- County Highways
- Highways
- Perennial Streams
- Intermittent Streams
- Proposed Gitchi-Gami Trail Alignment
- Completed Gitchi-Gami Trail Alignment



## Segment 4: Gooseberry Falls State Park to Split Rock Lighthouse State Park (3.9 miles)

### Description of the Trail Environment and Trail Alignment

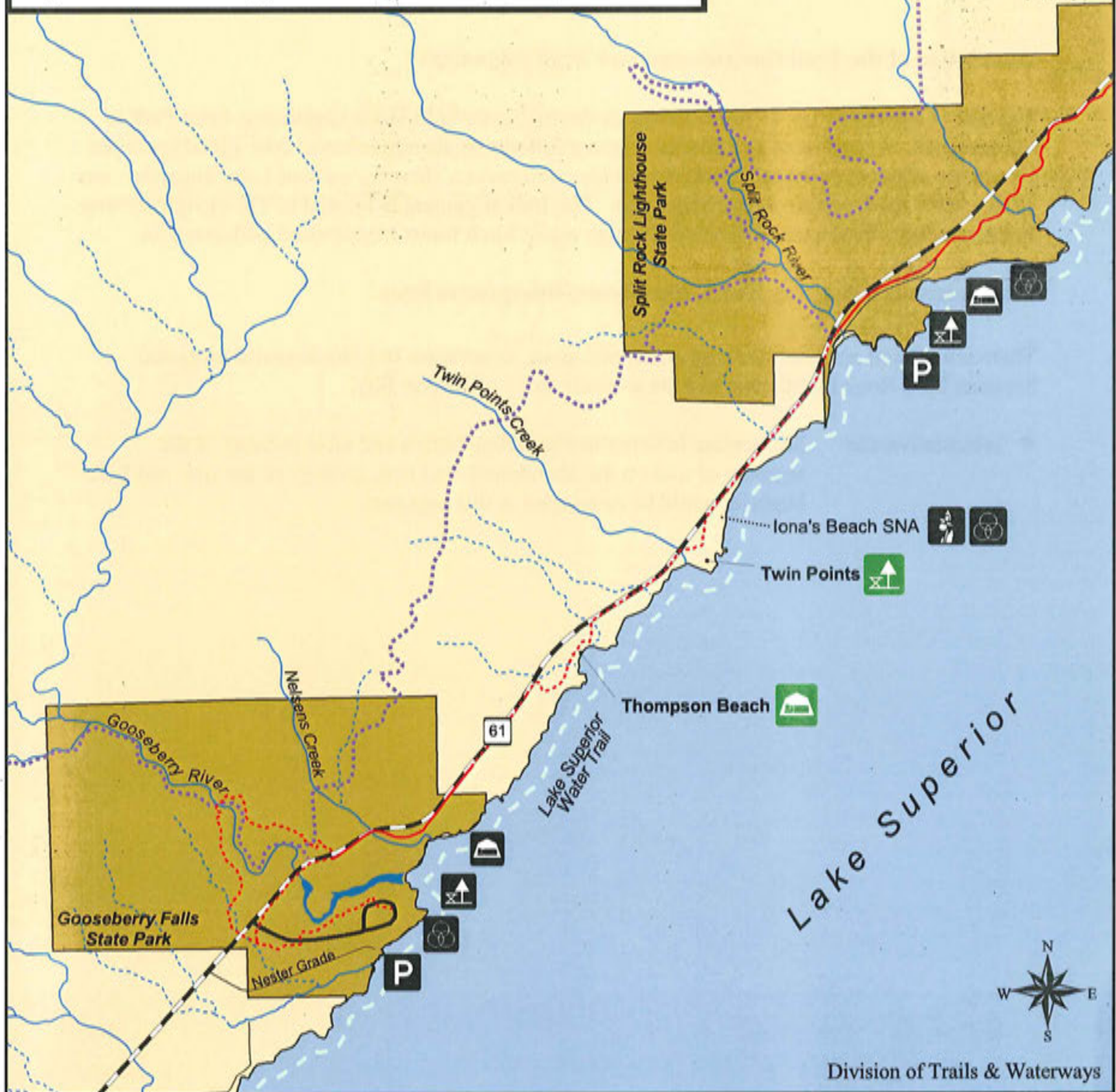
Access to Lake Superior, beaches, lighthouse, and history are the keywords defining this segment. This segment of the Gitchi-Gami State Trail will most likely be the most intensively used segment of the trail. It will be the first segment to be constructed. Two state parks will be connected by the trail with Iona's Beach, Twin Points, and Thompson Beach located between the parks. Lake Superior can be accessed at five locations along this segment. Scenic highlights include views of Lake Superior, a view of Split Rock Lighthouse, and view of the Split Rock River.

About half of the trail alignment will be located within the TH 61 right-of-way. About half of the alignment provides the opportunity to leave the highway corridor for a distance and experience more remote and natural surroundings through Twin Points and Split Rock Lighthouse State Park.

### Trail Access and Parking Areas, Rest Areas, Interpretive Sites

- Thompson Beach      *Potential Campsites. Potential Rest Area.* There are currently four primitive campsites for kayakers using the Lake Superior Water Trail located here. Campsites may serve bicyclists here in the future. A rest area could also be developed here to include restrooms, bike racks, and picnic tables. Trail users will also be able to access the lake at this location.
  
- Twin Points      *Twin Points Trail Rest Area.* This seven acre site is a boat launch on Lake Superior managed by the DNR, Division of Trails and Waterways. Existing facilities include a parking lot, boat ramp, and toilets. A Lake Superior Water Trail group site for sea kayaks only, is also located here. Kayakers must make reservations for the site, which is only available for groups during special events.  
  
This site will not provide trail parking, as there is insufficient capacity to accommodate parking for both boaters and trail users. It is feasible to integrate a trail rest area into the site. It is recommended that bike racks, picnic tables, and information be provided for Gitchi-Gami State Trail users here. Trail users will be able to lock their bikes at the rest area and take a walking trail to access Iona's Beach Scientific and Natural Area.
  
- Iona's Beach  
Scientific and  
Natural Area      *Interpretive Opportunity.* Trail users will be able to access the shore of Lake Superior and walk along a cobblestone beach. An interpretive display describes the formation of the cobblestone beach and history of the site.
  
- Split Rock  
Lighthouse      *Split Rock Lighthouse State Park trail access/parking lot/rest area.* Split Rock Lighthouse State Park will serve as a trail access and rest area. Parking and overnight camping are available in the park. Water and restroom facilities are also available. A vehicle permit is required to enter the park. There are numerous scenic and recreational amenities trail users can take advantage of here. The description of Split Rock Lighthouse State Park on page 59 provides a more detailed description of the resources and recreational opportunities available in this park.

# Segment 4: Gooseberry to Split Rock - Gooseberry Falls State Park to Split Rock Lighthouse State Park



Division of Trails & Waterways

0.5 0 0.5 1 Miles

- State Park and Recreation Land
- Superior Hiking Trail
- City Streets
- Township Roads
- County Highways
- Highways
- Perennial Streams
- Intermittent Streams

- Proposed Gitchi-Gami Trail Alignment
- Completed Gitchi-Gami Trail Alignment



## **Segment 5: Chapin's Curve - Split Rock River to Western Limits of Beaver Bay (4 miles)**

### **Description of the Trail Environment and Trail Alignment**

The trail is located in TH 61 right-of-way as the trail exits Split Rock Lighthouse State Park to the northeast. A section of trail in this segment follows an abandoned road (old TH 61) perched on a ledge adjacent to the shore which provides trail users a close-up view of Lake Superior - one of the trail's most notable scenic highlights. The trail alignment is located in TH 61 right-of-way to Beaver Bay. Trail users will travel through aspen birch forest interspersed with conifers.

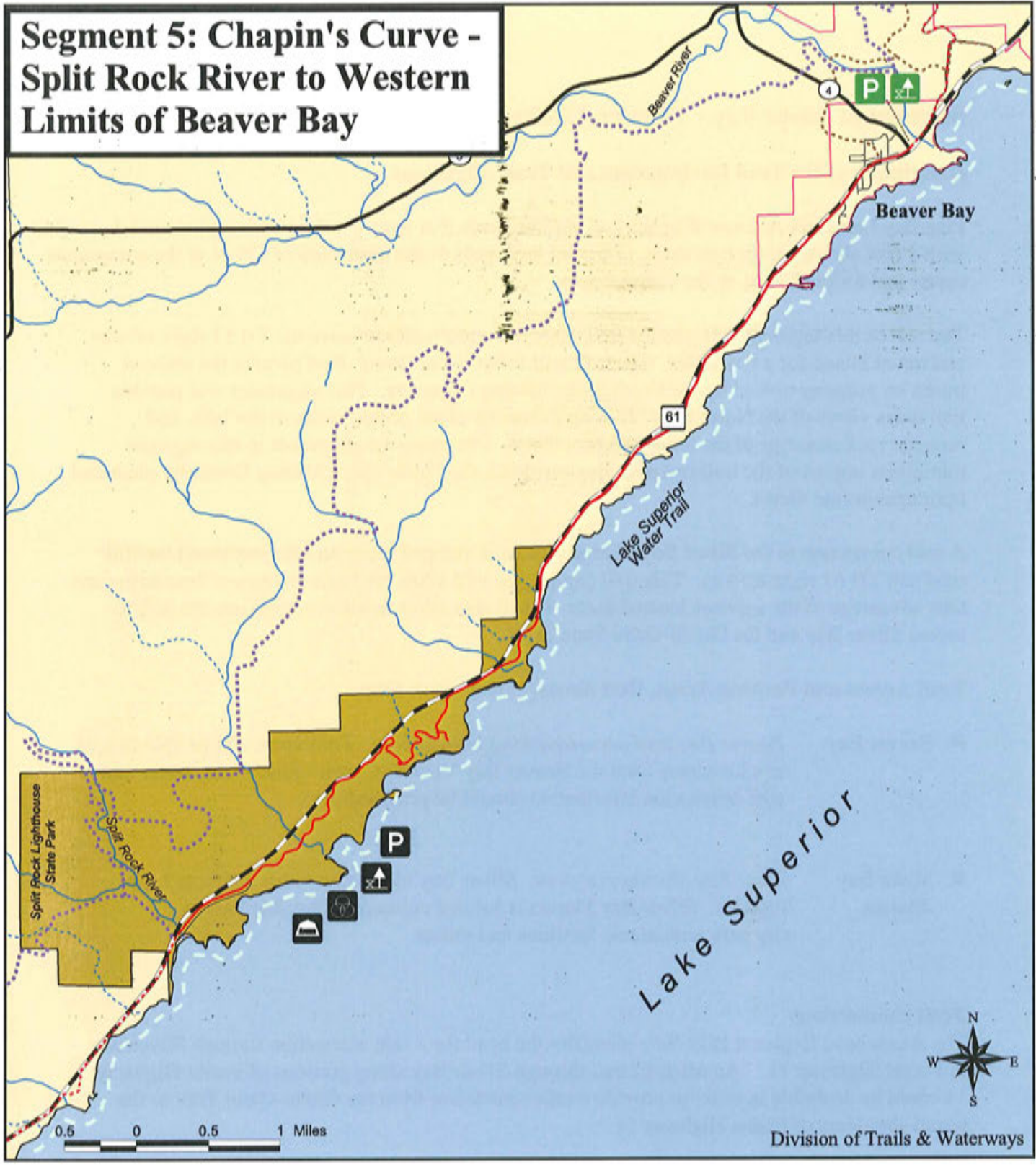
### **Trail Access and Parking Areas, Rest Areas, Interpretive Sites**

There are no trail accesses, parking areas, rest areas, or accesses to Lake Superior proposed between Split Rock Lighthouse and the western limits of Beaver Bay.

- Interpretive site      Interpretive information including before and after pictures of the segment of trail on the abandoned road bed, geology of the site, and Lake Superior could be developed in this segment.



# Segment 5: Chapin's Curve - Split Rock River to Western Limits of Beaver Bay



Division of Trails & Waterways

- Incorporated Cities
- State Park and Recreation Land
- Superior Hiking Trail
- Red Dot ATV Trail
- Proposed Gitchi-Gami Trail Alignment
- Completed Gitchi-Gami Trail Alignment
- City Streets
- Township Roads
- County Highways
- Highways
- Perennial Streams
- Intermittent Streams



## **Segment 6: Silver Bay - Western Limits of Beaver Bay to County Road 5 (4 miles)**

### **Description of the Trail Environment and Trail Alignment**

Pine Bay Loop and Algoma Way are low volume roads that were overlain with asphalt and developed with 4 foot shoulders for trail users. The trail will cross to the north side of TH 61 at the community center and follow TH 61 to the visitor center.

The rest of this segment will provide trail users the opportunity to leave the TH 61 right-of-way and travel inland for a few miles. The trail will follow West Road, then parallel the railroad tracks on property owned by the North Shore Mining Company. This alignment will provide trail users views of the North Shore Mining Company plant, scenic vistas of the lake, and remnant rock outcrops of the Sawtooth Mountains. The proposed alignment in this segment minimizes impact of the trail to Silver Bay residents, the North Shore Mining Company plant and optimizes scenic views.

A trail connection to the Silver Bay Marina will be developed using an old abandoned landfill road and TH 61 right-of-way. This trail connection will allow trail users to access the marina and take advantage of the services located there. It will also allow marina users to use the trail to access Silver Bay and the Gitchi-Gami State Trail.

### **Trail Access and Parking Areas, Rest Areas, Interpretive Sites**

- Beaver Bay      *Beaver Bay trail access/parking lot/rest area.* Trail users will be able to park at a lot across from the Beaver Bay Visitors Center. Restrooms, water and trail orientation information should be provided here.
  
- Silver Bay Marina      *Silver Bay Marina rest area.* Silver Bay Marina provides access to Lake Superior. Silver Bay Marina is located adjacent to Bayside Park, a city park with picnic facilities and toilets.

### **Trail Connections**

The Arrowhead Regional Bike Plan identifies the need for a safe connection through Silver Bay to Forest Highway 11. "An off-road trail through Silver Bay along portions of Forest Highway 11 could be desirable in order to provide a safe connection from the Gitchi-Gami Trail to the paved shoulders of Forest Highway 11."

The intersection of Gitchi-Gami State Trail to the route should be designed to provide information about the regional bicycling opportunities.

# Segment 6: Silver Bay - Western Limits of Beaver Bay to County Road 5



Division of Trails & Waterways

- |                                       |                 |                      |
|---------------------------------------|-----------------|----------------------|
| Incorporated Cities                   | City Streets    | Perennial Streams    |
| State Park and Recreation Land        | Township Roads  | Intermittent Streams |
| Superior Hiking Trail                 | County Highways |                      |
| Red Dot ATV Trail                     | Highways        |                      |
| Proposed Gitchi-Gami Trail Alignment  |                 |                      |
| Completed Gitchi-Gami Trail Alignment |                 |                      |



**Segment 7: Tettegouche State Park - County Road 5 in Silver Bay to Eastern  
Limits of Tettegouche State Park (4.5 miles)**

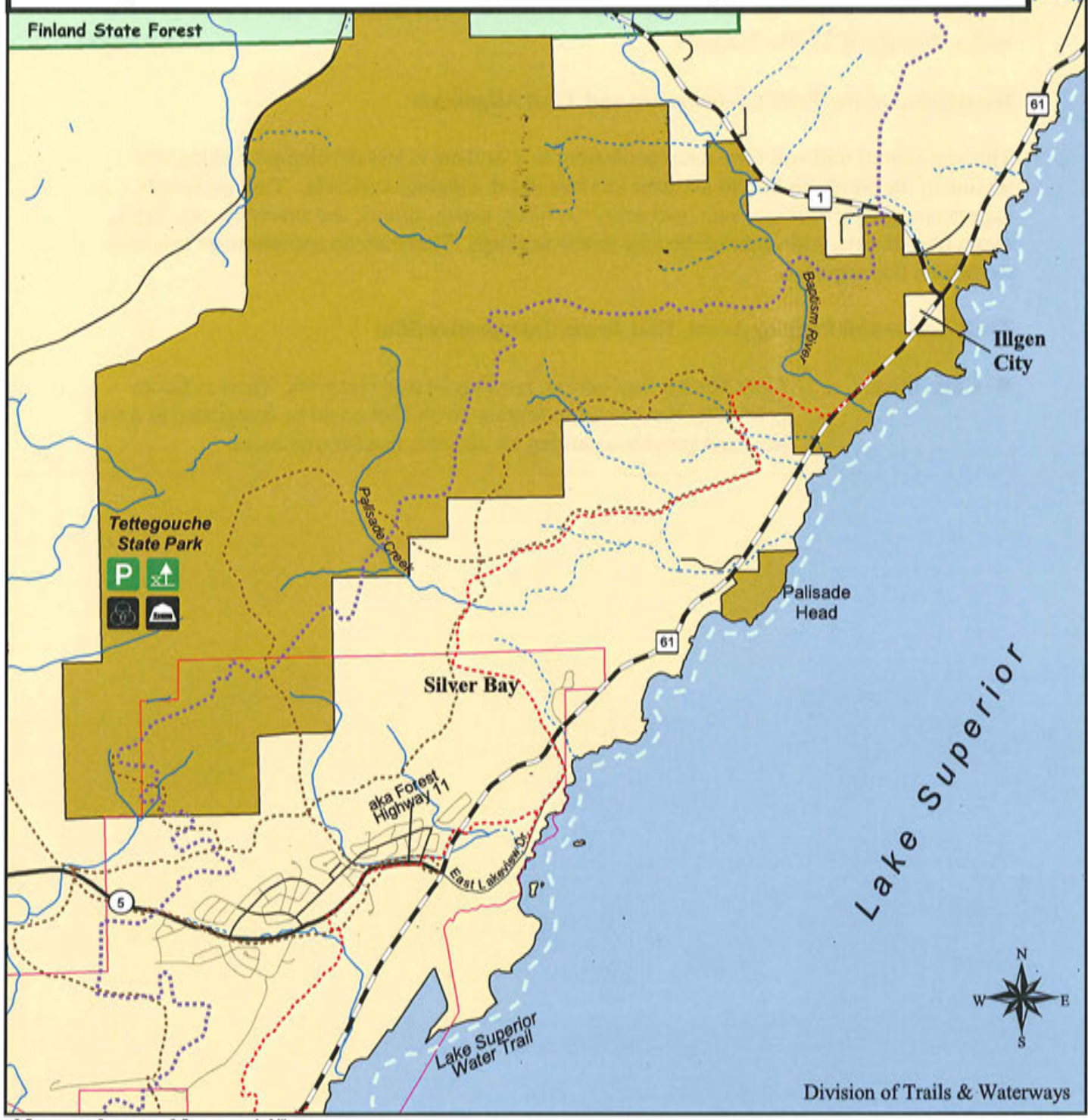
**Description of the Trail Environment and Trail Alignment**

The alignment will use an underpass on TH 61 to access the Silver Bay Business Park. The trail will travel adjacent to east Lakewood Road and cross TH 61, travel up the Mt. Rockwood Road, and then travel adjacent to the Red Dot ATV/snowmobile trail, traversing the boreal forest across state, county, and some private land. Palisade Head (a sheer rhyolite cliff on Lake Superior), the Baptism River, and a chance to explore the resources of Tettegouche State Park are highlights of this segment. Development of a spur trail along TH 61 from Tettegouche State Park to Palisade Head is recommended. This spur would provide access to this scenic highlight of the North Shore for both Gitchi-Gami State Trail users and Tettegouche State Park users.

**Trail Access and Parking Areas, Rest Areas, Interpretive Sites**

- Tettegouche State Park *Tettegouche State Park trail access, parking lot, and rest area.* Tettegouche State Park will serve as a trail access and rest area. Overnight camping is available in the park. A future trail center will serve as a rest area and trailhead for the Gitchi-Gami State Trail. Water and restroom facilities will be available. A vehicle permit is required to enter the park. There are numerous scenic and recreational amenities trail users can take advantage of here. The description of Tettegouche State Park on page 62 provides a more detailed description of the resources and recreational opportunities available in this park. A spur trail to Palisade Head from the park along TH 61 should be developed in the future.

# Segment 7: Tettegouche State Park - County Road 5 to Eastern Limits of Tettegouche State Park



Division of Trails & Waterways

- Incorporated Cities
- State Park and Recreation Land
- State Forest Land
- Superior Hiking Trail
- Red Dot ATV Trail
- Proposed Gitchi-Gami Trail Alignment
- City Streets
- Township Roads
- County Highways
- Highways
- Perennial Streams
- Intermittent Streams



**Segment 8: Little Marais - Eastern Limits of Tettegouche State Park to 1.75 miles North of Little Marais (5.5 miles)**

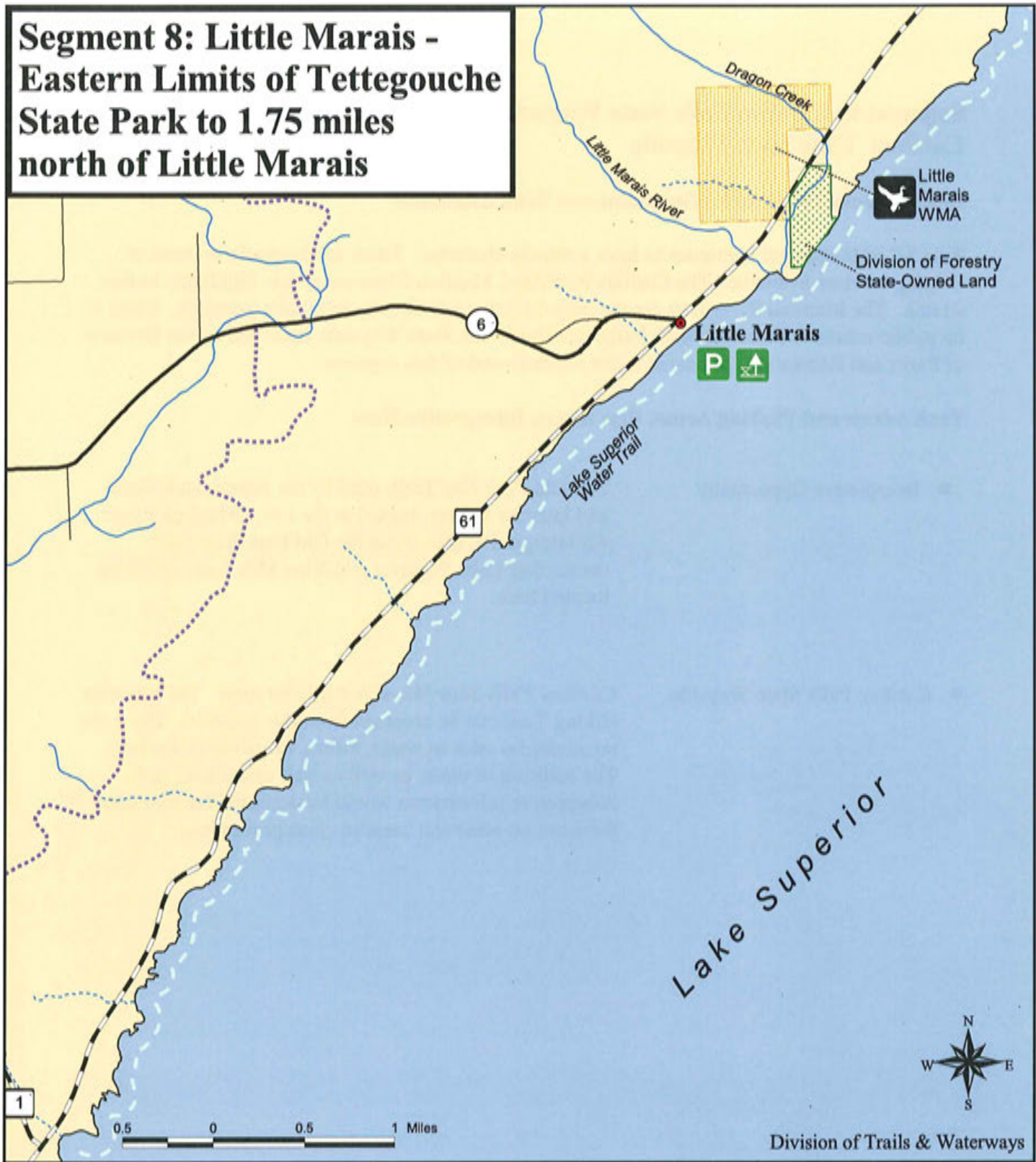
**Description of the Trail Environment and Trail Alignment**

This segment of trail will have a remote feeling to it as there is less development along this section of the North Shore and minimal services (food, lodging) available. Trail users will experience, gently rolling terrain, and enjoy the birch, aspen, spruce, and mountain ash forest, views of rock cuts, and vistas of the lake in this segment. There are no opportunities to access the lake in this segment.

**Trail Access and Parking Areas, Rest Areas, Interpretive Sites**

- Little Marais *Little Marais trail access, parking lot and rest area.* There is future possibility that the Little Marais Town Hall could be designated as a trail head and provide a parking lot and rest area for trail users.

**Segment 8: Little Marais -  
Eastern Limits of Tettegouche  
State Park to 1.75 miles  
north of Little Marais**



Division of Trails & Waterways

- |                                     |                 |                      |
|-------------------------------------|-----------------|----------------------|
| State Park and Recreation Land      | City Streets    | Perennial Streams    |
| State Wildlife Management Area Land | Township Roads  | Intermittent Streams |
| Superior Hiking Trail               | County Highways |                      |
|                                     | Highways        |                      |



**Segment 9: Caribou Falls State Wayside - 1.75 Miles North of Little Marais to Caribou Falls State Wayside** (5.7 miles)

**Description of the Trail Environment and Trail Alignment**

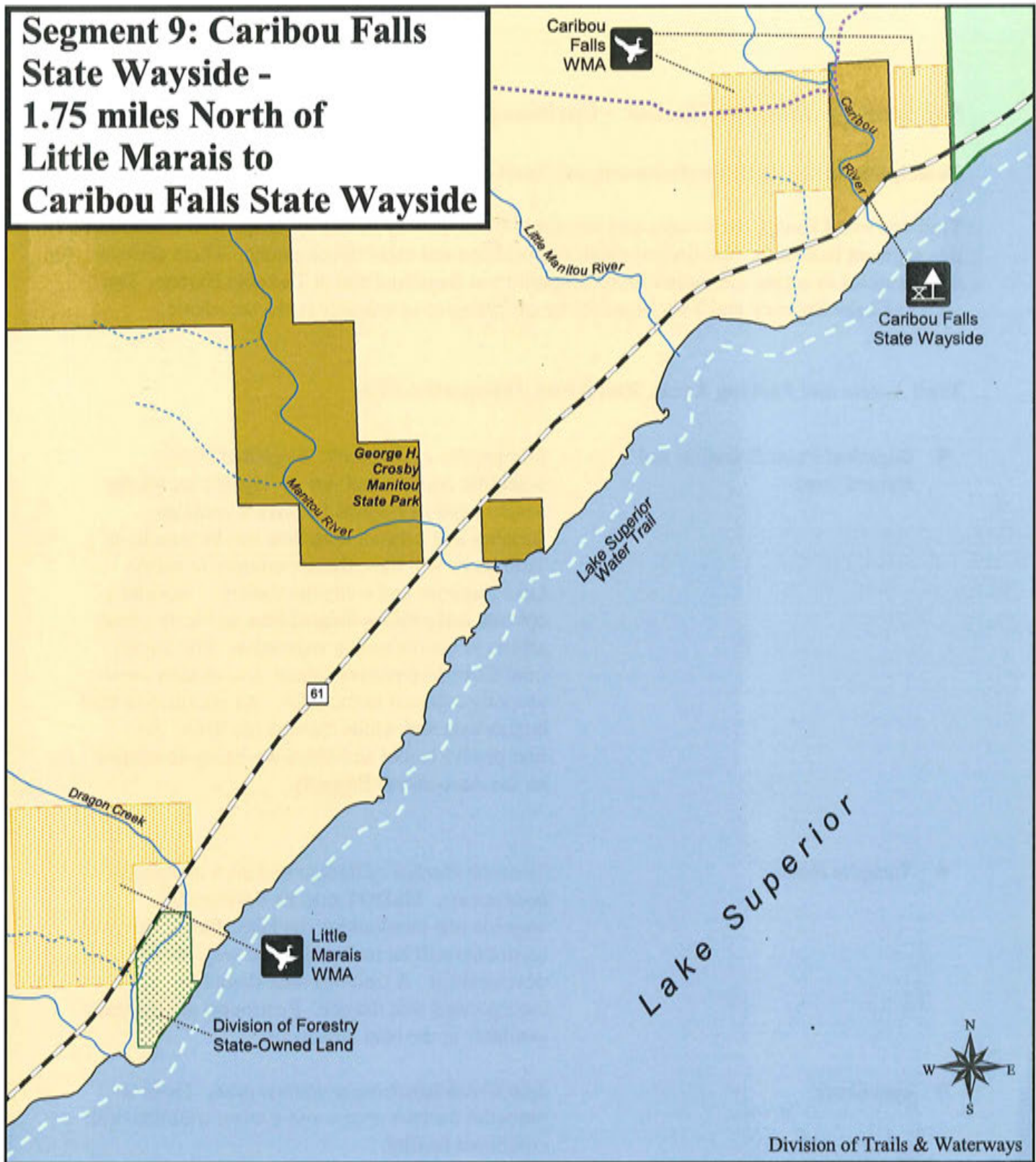
This 5.7 mile segment continues to have a remote character. There are currently no food or lodging services available. The Caribou River and Manitou River are scenic highlights in this stretch. The Manitou River falls are the only falls that fall directly into Lake Superior. There is no public access to Manitou River Falls. Caribou Falls State Wayside, managed by the Division of Parks and Recreation, is located at the northern end of this segment.

**Trail Access and Parking Areas, Rest Areas, Interpretive Sites**

- **Interpretive Opportunity**                      The Old Pork Bay Trail, used by the American Indians and later fur traders, started at the Little Manitou River. An interpretive sign about the Old Pork Bay Trail connecting Lake Superior and Nine Mile Lake could be located here.
  
- **Caribou Falls State Wayside**                      *Caribou Falls State Wayside trail rest area.* The Superior Hiking Trail can be accessed from this location. There are no amenities such as water, toilets, or picnic tables here. The addition of these, as well as trail orientation and interpretive information would be desirable for trail users as there are no other rest areas in close proximity.



# Segment 9: Caribou Falls State Wayside - 1.75 miles North of Little Marais to Caribou Falls State Wayside



Division of Trails & Waterways



- |                                     |                 |                      |
|-------------------------------------|-----------------|----------------------|
| State Park and Recreation Land      | City Streets    | Perennial Streams    |
| State Forest Land                   | Township Roads  | Intermittent Streams |
| State Wildlife Management Area Land | County Highways |                      |
| Superior Hiking Trail               | Highways        |                      |



## Segment 10: Taconite Harbor - Caribou Falls State Wayside to Schroeder (7.7 miles)

### Description of the Trail Environment and Trail Alignment

Trail users will leave Lake County and cross into Cook County in this segment. The character of this segment is remote, with limited views of buildings and other development. There are two opportunities to access the shore of Lake Superior - at Sugarloaf and at Taconite Harbor. The views of Lake Superior and Two Island River cascading over volcanic rocks are scenic highlights.

### Trail Access and Parking Areas, Rest Areas, Interpretive Sites

- Sugarloaf Point Scientific and Natural Area

*Interpretive opportunity.* Sugarloaf Point Scientific and Natural Area is significant for the beaches and geological features it contains. Beaches and a basalt lava flow can be seen here. Trail users will have the opportunity to access Lake Superior and study the variety of boulders, cobbles and pebbles located here and learn about efforts to restore native vegetation. The Sugar Loaf Cove Interpretive Center Association owns property adjacent to the SNA. An interpretive trail begins here and winds through the SNA. An interpretive center and kiosk are being developed on the Association Property.

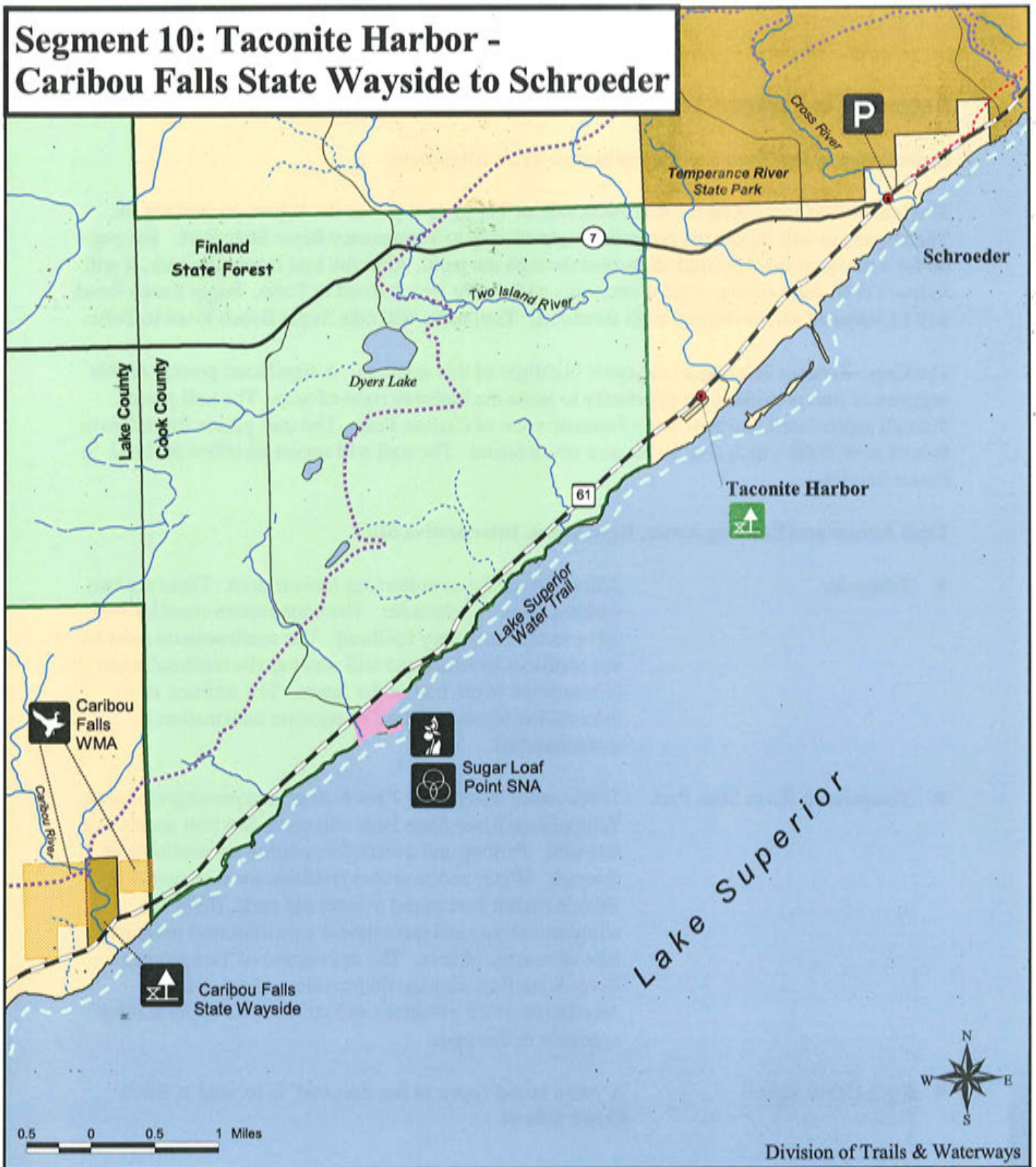
- Taconite Harbor

*Taconite Harbor of Refuge rest area and public boat access.* MnDOT may be developing a wayside rest overlooking the lake. Picnic sites and restrooms will be included in the wayside development. A trail rest area should be incorporated into the site. Restrooms are currently available at the boat launch site.

- Last Creek

*Last Creek kayak campsite/rest area.* There is potential for lake access and a water trail/bike trail combined facility.

# Segment 10: Taconite Harbor - Caribou Falls State Wayside to Schroeder



- State Park and Recreation Land
- State Forest Land
- State Wildlife Management Area Land
- State Scientific and Natural Area Land
- Superior Hiking Trail
- Proposed Gitchi-Gami Trail Alignment

- City Streets
- Township Roads
- County Highways
- Highways

- Perennial Streams
- Intermittent Streams



**Segment 11: Temperance River State Park - Schroeder to Tofte (3 miles)**

**Description of the Trail Environment and Trail Alignment**

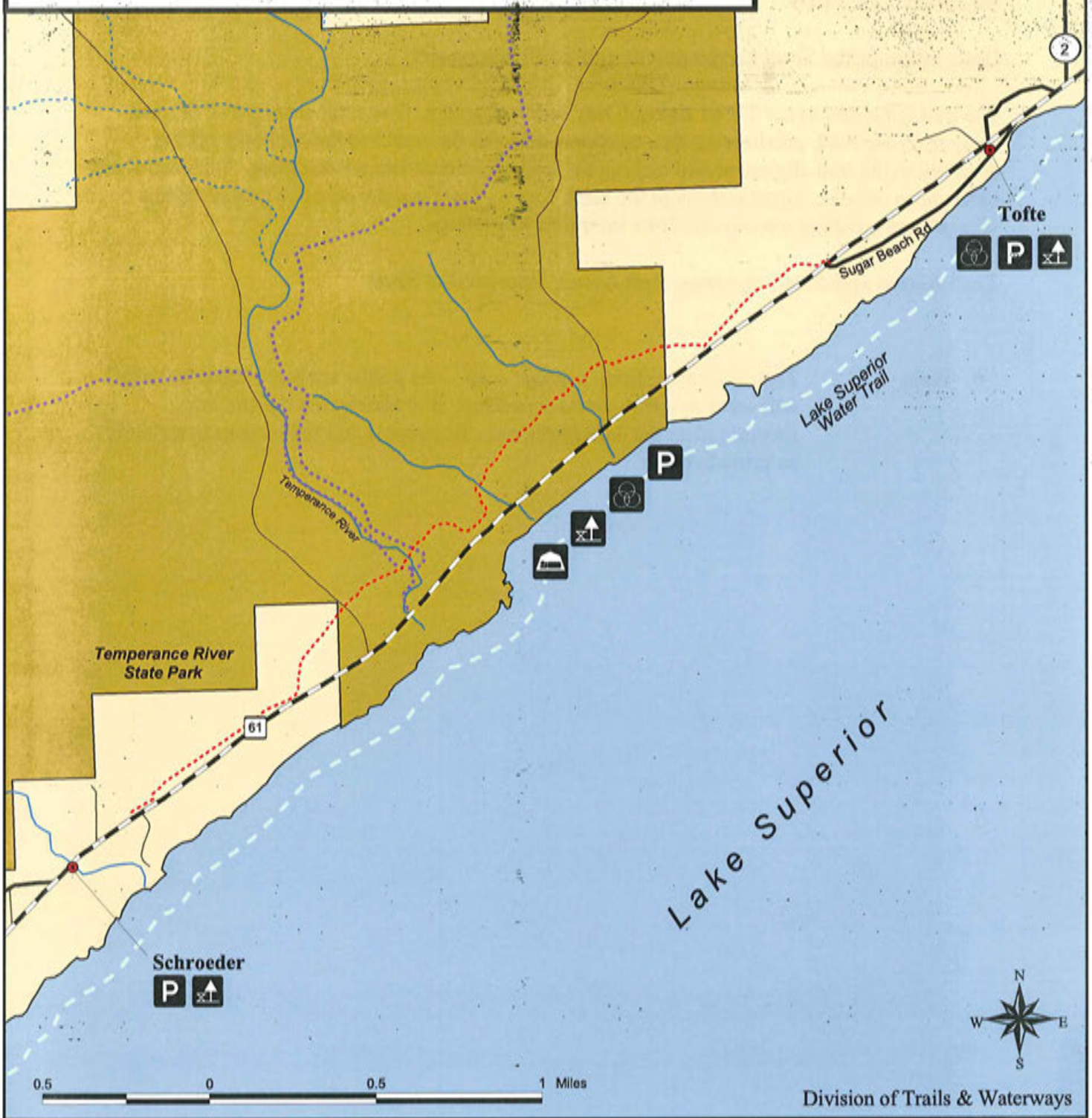
The trail will be located on the northwest side of TH 61 as it leaves the Schroeder parking lot. The alignment will follow the powerline right-of-way to Temperance River State Park. See page 66 for a description of the trail alignment through the park. After the trail leaves the park, it will follow TH 61 right-of-way until it intersects with Sugar Beach Road in Tofte. Sugar Beach Road will be widened and developed with shoulders. Trail users will take Sugar Beach Road to Tofte.

The Cross River in Schroeder is a scenic highlight of this segment. A significant portion of this segment of trail provides the opportunity to leave the highway right-of-way. The trail passes through aspen forest and provides a fantastic view of Carlton Peak. The trail passes Birch Grove School near Tofte which also serves as a youth hostel. The trail will access an office of the U. S. Forest Service.

**Trail Access and Parking Areas, Rest Areas, Interpretive Sites**

- Schroeder *Schroeder trail access/parking lot/rest area.* There are two parking areas in Schroeder. The northeastern-most lot will serve as the temporary trailhead. The southwestern-most lot has restroom facilities and will serve as the trailhead when it is connected to the trail in the future. The addition of an information kiosk with trail orientation information is recommended.
  
- Temperance River State Park *Temperance River State Park trail access/parking/rest area.* Temperance River State Park will serve as a trail access and rest area. Parking and overnight camping are available in the park. Water and restroom facilities are also available. A vehicle permit is required to enter the park. There are numerous scenic and recreational amenities trail users can take advantage of here. The description of Temperance River State Park on page 66 provides a more detailed description of the resources and recreational opportunities available in this park.
  
- Birch Grove Hostel A youth hostel (open in the summer) is located at Birch Grove School.

# Segment 11: Temperance River State Park - Schroeder to Tofte



- State Park and Recreation Land
- Superior Hiking Trail
- Proposed Gitchi-Gami Trail Alignment
- City Streets
- Township Roads
- County Highways
- Highways
- Perennial Streams
- Intermittent Streams



## **Segment 12: Tofte - Tofte to 1/2 Mile West of the Onion River**

**(4 miles)**

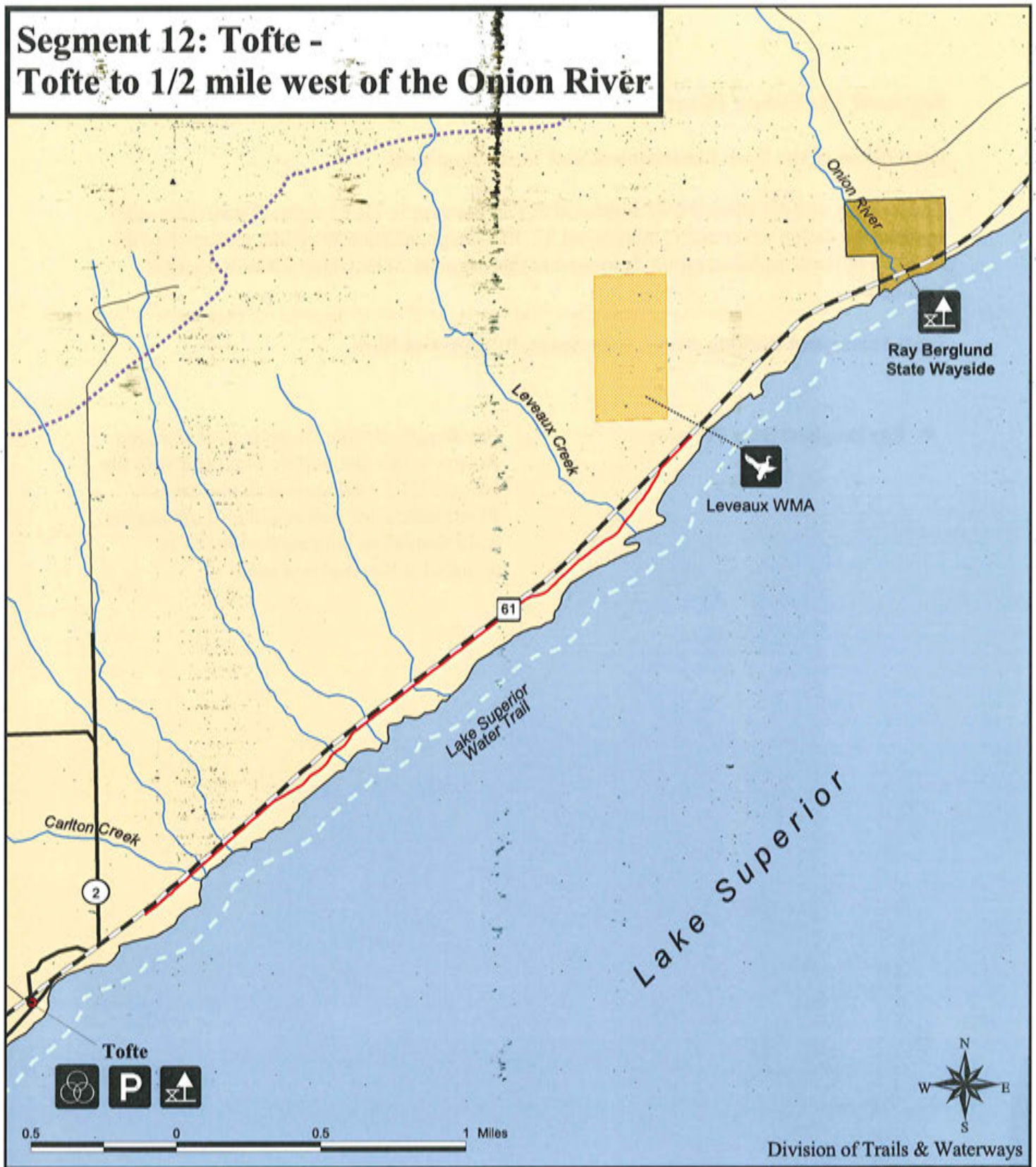
### **Description of the Trail Environment and Trail Alignment**

The trail is located in the TH 61 right-of-way in this segment. There are a couple of detours away from the road, maximizing the separation between the road and the trail thus adding diversity to the trail alignment and making the trail experience more interesting. Trail users will have views of Lake Superior through the birch forest. Tofte has the air of “a quaint fishing village” and a fishing museum in Tofte interprets its heritage.











### **Trail Access and Parking Areas, Rest Areas, Interpretive Sites**

- Tofte      *Tofte trail access/parking/rest area.* The public access to Lake Superior will serve as a rest area and parking. It is anticipated the site can accommodate the anticipated use. Restrooms and trail orientation should be provided here.

# Segment 12: Tofte - Tofte to 1/2 mile west of the Onion River



Division of Trails & Waterways

-  State Park and Recreation Land
-  State Wildlife Management Area Land
-  Superior Hiking Trail
-  Completed Gitchi-Gami Trail Alignment
-  City Streets
-  Township Roads
-  County Highways
-  Highways
-  Perennial Streams
-  Intermittent Streams



## Segment 13: Onion River - Onion River to County Road 34

(3 miles)

### Description of the Trail Environment and Trail Alignment

The location of the proposed trail alignment in this segment is TH 61 right-of-way (lake side) between the Onion River and County Road 34. Ray Berglund State Wayside, managed by the Division of Parks and Recreation, is located in this segment. The Onion River is a scenic highlight.

### Trail Access and Parking Areas, Rest Areas, Interpretive Sites

- Ray Berglund State Wayside

*Ray Berglund State Wayside trail rest area.* Access to this site will be improved with the future TH 61 road reconstruction project. Picnic tables, restrooms and trail orientation and interpretive information should be included at this trail rest area.



# Segment 13: Onion River - 1/2 mile west of the Onion River to County Road 34



Division of Trails & Waterways

- |  |   |  |
|--|---|--|
|  State Park and Recreation Land |  City Streets    |  Perennial Streams    |
|  Superior Hiking Trail          |  Township Roads  |  Intermittent Streams |
|  |  County Highways |  |
|  |  Highways        |  |



## Segment 14: Lutsen - County Road 34 to County Road 41

(5 miles)

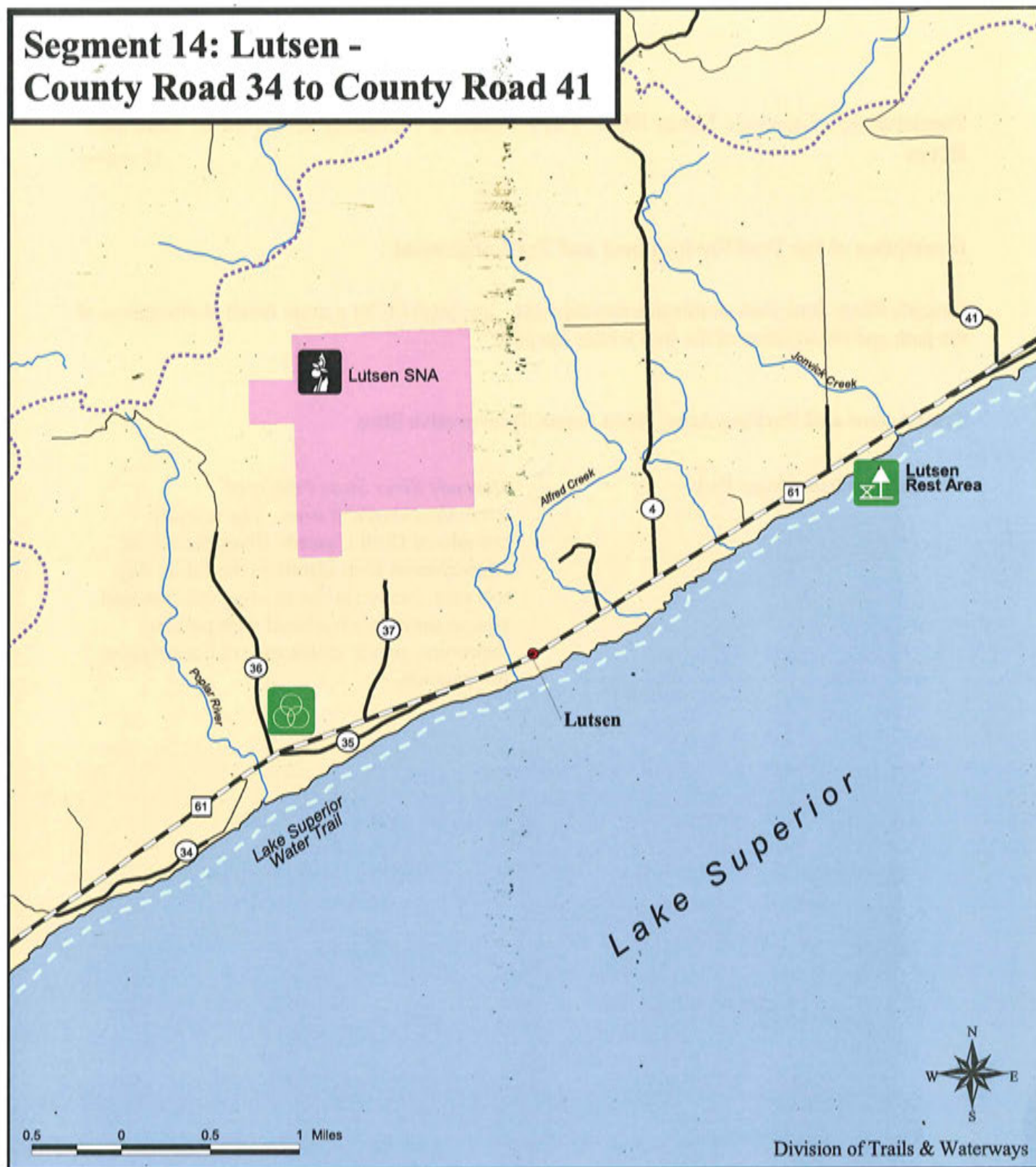
### Description of the Trail Environment and Trail Alignment



This segment will receive a significant amount of use by resort users and residents. Trail users will be able to find food and lodging at a resort. There is no public access to Lake Superior in this segment. Opportunities exist to use old county roads for the trail alignment to provide a separation from TH 61. The trail will likely be located in TH 61 right-of-way between County Road 4 and County Road 41.

### Trail Access and Parking Areas, Rest Areas, Interpretive Sites



- Lutsen Scientific and Natural Area *Interpretive Opportunity.* Interpretive information about the Lutsen Scientific and Natural Area, located one mile inland from the trail should be provided at the intersection of the trail and CSAH 36. Trail users may want to detour to visit one of the largest known acreages of upland old growth hardwood forest along the North Shore with trees up to 300 years old. Bike racks should be provided so bicyclists could lock their bicycles and explore the area on foot.

# Segment 14: Lutsen - County Road 34 to County Road 41



 State Scientific and Natural Area Land  
 Superior Hiking Trail

 City Streets  
 Township Roads  
 County Highways  
 Highways

 Perennial Streams  
 Intermittent Streams



**Segment 15: Cascade River State Park Phase 2 - County Road 41 to Cascade River** (7 miles)

**Description of the Trail Environment and Trail Alignment**

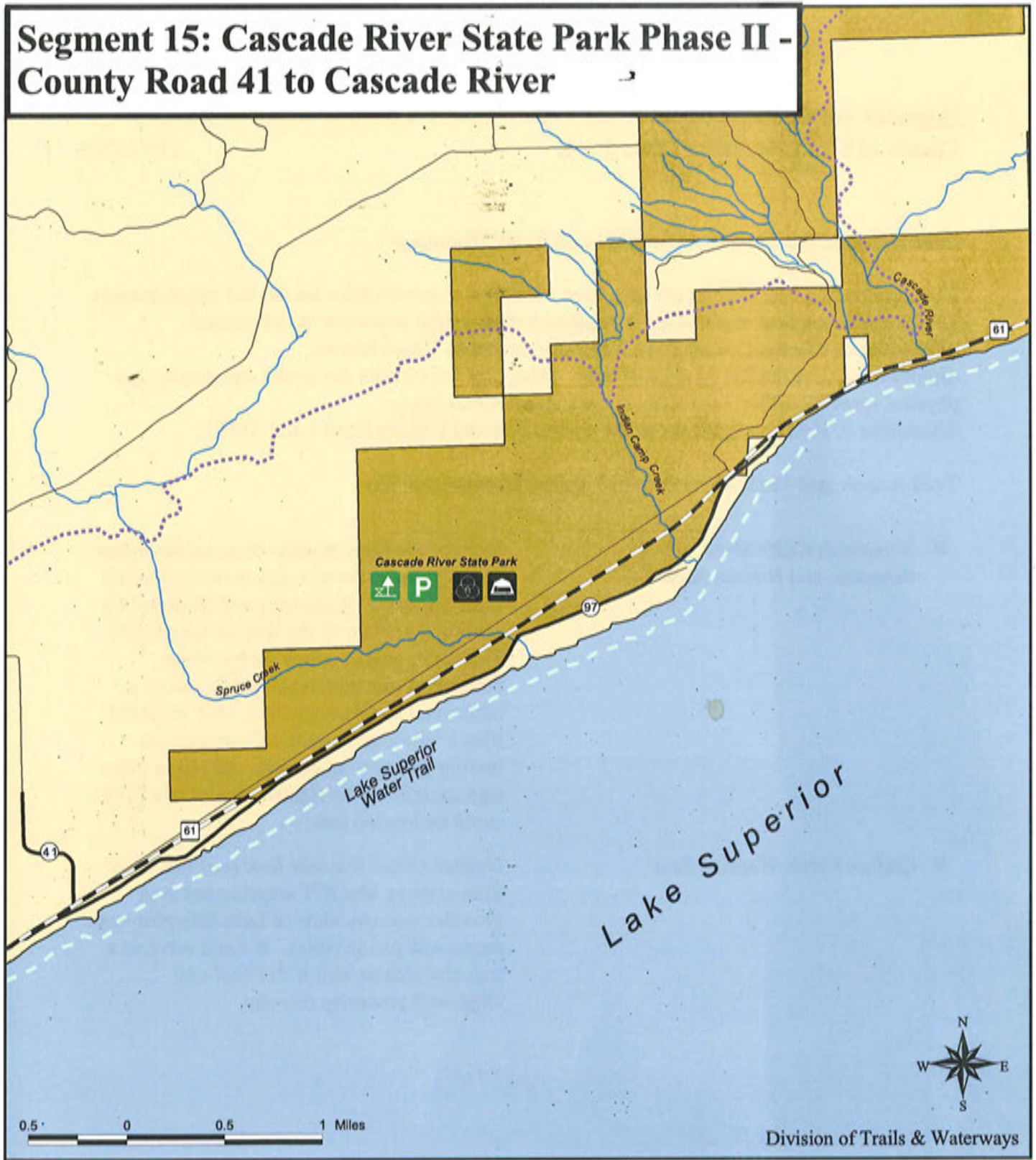
Cascade River State Park dominates this segment. See page 68 for a more detailed discussion of the park and the location of the trail within the park.

**Trail Access and Parking Areas, Rest Areas, Interpretive Sites**

- Cascade River State Park

*Cascade River State Park trail access/parking/rest area.* The recently completed Draft Cascade River State Park Management Plan identifies the future day use area, located at the existing campground site, to serve as a trailhead with parking, restrooms, picnic tables and trail orientation information.

# Segment 15: Cascade River State Park Phase II - County Road 41 to Cascade River



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State Park and Recreation Land  
Superior Hiking Trail

City Streets  
Township Roads  
County Highways  
Highways

Perennial Streams  
Intermittent Streams



**Segment 16: Cascade River State Park Phase 1-Cascade River to Eastern Limits of Cascade River State Park** (3.9 miles)

**Description of the Trail Environment and Trail Alignment**

Three alternative trail alignments have been identified as possibilities for the last two segments. Additional conceptual engineering is required before a final alignment is determined.

*Alternative 1:* Use the County Road 7 corridor, inland to Grand Marais.

*Alternative 2:* Use the TH 61 right-of-way. (There are constraints due to the topography and physical space available, especially in the Cutface Creek area).

*Alternative 3:* Find an alignment on the upland between County Road 7 and TH 61.

**Trail Access and Parking Areas, Rest Areas, Interpretive Sites**

- Butterwort Cliffs SNA  
Scientific and Natural Area

*Interpretive Opportunity.* Rare arctic-alpine plants grow in the wet rock shore habitat on Lake Superior. Butterwort and Hudson Bay eyebright are two of the species found here. The sticky yellow-green leaves of the butterwort trap insects the plant uses as a nutritional supplement. The SNA is closed May 1<sup>st</sup> through August 15<sup>th</sup> to protect a herring gull nesting colony. An interpretive sign describing the significance of this SNA could be located here.

- Cutface Creek Wayside Rest

*Cutface Creek Wayside Rest trail rest area.* This existing MnDOT wayside rest area provides a scenic view of Lake Superior, rest rooms and picnic tables. It could serve as a trail rest area as well if the final trail alignment passes by this site.

# Segment 16: Cascade River State Park Phase I - Cascade River to Eastern Limits of Cascade River State Park



Division of Trails & Waterways

- |  |   |   |
|--|---|---|
|  State Park and Recreation Land         |  City Streets    |  Perennial Streams    |
|  State Scientific and Natural Area Land |  Township Roads  |  Intermittent Streams |
|  Superior Hiking Trail                  |  County Highways |   |
|  |  Highways        |   |



**Segment 17: Grand Marais - Eastern Limits of Cascade River State Park to Grand Marais** (3 miles)

**Description of the Trail Environment and Trail Alignment**

There are views of Lake Superior throughout this segment, and as the trail user approaches Grand Marais from the southwest, the vistas open up into expansive views of Lake Superior and the Sawtooth Mountains. The terrain is hillier in this segment, and trail users will be able to coast on the descent into Grand Marais. Rock cuts provide other scenic highlights.

Three alternative trail alignments have been identified as possibilities for the last two segments. Additional conceptual engineering is required before a final alignment is determined.

*Alternative 1:* Use the County Road 7 corridor, inland to Grand Marais.

*Alternative 2:* Use the TH 61 right-of-way. (There are constraints due to the topography and physical space available, especially in the Cutface Creek area).

*Alternative 3:* Find an alignment on the upland between County Road 7 and TH 61.

**Trail Access and Parking Areas, Rest Areas, Interpretive Sites**

- Grand Marais

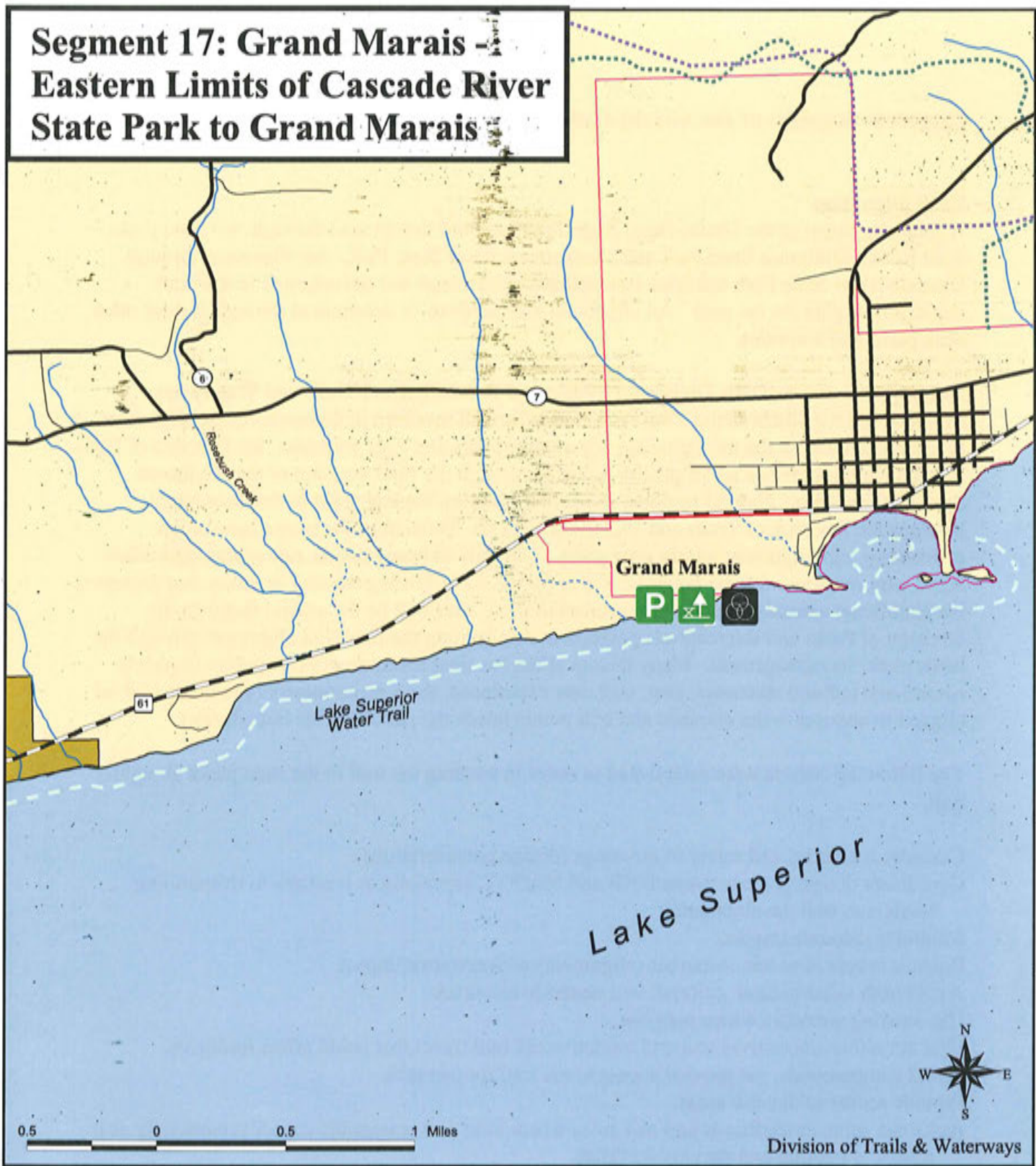
*Grand Marais trail access/parking/rest area*  
The city of Grand Marais is working on plans to integrate the trail into the community. A tentative alignment has been determined. Numerous services are available including restaurants, lodging, a campground, and retail stores. The lighthouse and breakwater are key scenic features of the community.

- Fall River Kayak Site

*Fall River kayak site.* Potential rest area/combined facility with Lake Superior Water Trail.



# Segment 17: Grand Marais - Eastern Limits of Cascade River State Park to Grand Marais



- Incorporated Cities
- State Park and Recreation Land
- Superior Hiking Trail
- North Shore State Trail
- Completed Gitchi-Gami Trail Alignment
- City Streets
- Township Roads
- County Highways
- Highways
- Perennial Streams
- Intermittent Streams



Division of Trails & Waterways



## **Interrelationship of the Gitchi-Gami State Trail and State Parks.**

### **Trail alignment**

A final alignment of the Gitchi-Gami State Trail has been determined through two state parks - Split Rock Lighthouse State Park and Temperance River State Park. An alignment through Cascade River State Park has been conceptually determined and documented in the draft management plan for the park. An alignment still needs to be determined through several other state parks and waysides.

The project partners (DNR Divisions of Parks and Recreation and Trails and Waterways, MnDOT and the Gitchi-Gami Trail Association) are all involved in determining the alignment. It is recognized that as the managing agency of state parks and state waysides, the Division of Parks and Recreation interests are of primary consideration in the final decision of the alignment through these units. Natural resource protection has been the key point in the discussions between the Division of Trails and Waterways and the Division of Parks and Recreation concerning trail alignment within state parks. Old growth forest stands, rare plants, and other significant resources dot the potential routes for the trail. Placing the trail in a way that preserves the significant natural and cultural resources of these sites will be the central factor in the Division of Parks and Recreation's position in determining the final trail alignment through the lands under its management. Many factors affect the final determination including impact to natural and cultural resources, cost, trail user experience, and trail connectivity (can the trail be aligned to connect to the entrance and exit points inside the park/wayside boundaries)

The following criteria were established to assist in locating the trail in the state parks along the trail.

Consider aesthetics and safety of crossings (design considerations).

Coordinate design plans between DNR and MnDOT, especially as it relates to overcoming barriers to trail development.

Minimize resource impact.

Balance access to scenic resources (alignment) with resource impact.

Avoid high value natural, cultural, and aesthetic resources.

Use existing corridors where possible.

Find attractive alternatives to avoid attractive off-trail travel that could affect resources.

Avoid campgrounds, yet provide access to the trail for campers.

Provide access to day use areas.

Parks can serve as trailheads and rest areas where there is a reasonable capacity, especially as it relates to parking and sanitary facilities.

Consider state parks a primary destination.

Provide access to park offices and visitor centers.

Provide access to interpretive opportunities. The trail can link historical and natural features that when experienced together, provide the whole North Shore story.

Offer combination biking/hiking opportunities.

Focus development on pre-existing high use areas and areas that have already been developed. Coordinate alignment with management plan decisions for each individual park. If a proposed alignment was developed as part of the process for the management plan, that route decision should serve as the proposed alignment through the park.

### **Development of support facilities and signage**

There is a need for the Division of Trails and Waterways and Division of Parks and Recreation to coordinate the design and development of support facilities identified in this master plan for state parks and state waysides - restroom buildings, parking areas, bicycle racks, kiosks, other signage, etc. New structures should be designed to fit in the natural or architectural context of the site, especially in relation to historic areas or buildings such as the CCC era developed sites. State trail and state park signage should also be visually complementary and use consistent symbols or language to help orient visitors and direct them to support facilities or places of interest.

There is also a need to coordinate funding for trail support facilities identified for state parks and state waysides. The Division of Parks and Recreation has a significant list of projects slated for development beyond the funding that is available. State park development projects are prioritized system-wide to receive funds based on visitor use, visitor health and safety, natural or cultural resource protection, infrastructure maintenance or repair. For facilities at high use parks, the improvements may receive high priority and be funded at the same time as trail development. Lower priority park projects may wait many biennial finding cycles before receiving funds. The Division of Trails and Waterways will seek funding for these support facilities in lower use areas in conjunction with trail development to assure their timely development.

# **Interrelationship of the Gitchi-Gami State Trail and Gooseberry Falls State Park**

## **Park Highlights**

Gooseberry Falls State Park is one of the most visited sites along the North Shore. It is the first state park located along the North Shore for north bound travelers originating in Duluth or the Twin Cities. The waterfalls on the Gooseberry River are a main attraction of this park.

Depending on the time of year and rainfall pattern, the river and its waterfalls can be thundering cascades or majestic flowing water - beautiful and fascinating to all who come here at any time.

A visitor center provides information about the park and its resources. The beautiful stonework of the buildings, steps, and walls constructed by the Civilian Conservation Corps is a highlight.

Trails provide access to Lake Superior's shoreline. Deer, loons, ravens, cedars, disjunct species of arctic-alpine plants - observing and learning about the wildlife and vegetation of the park is another draw.

Recreational opportunities include hiking trails, cross-country ski trails, mountain biking trails, a snowmobile trail, naturalist programs, camping, picnicking, fishing, and nature observation.

## **Role of the Park**

Gooseberry Falls State Park will serve as a trailhead for users of the Gitchi-Gami State Trail. An existing picnic area parking lot will be designated as the trailhead. Trail users can park here, use the trail, and leave their car overnight if they want. This area will also serve as a rest area. Trail orientation information, water, and picnic tables will be provided. Trail users have the opportunity to camp in the park and venture out on the trail for day use, or stop for one night as part of a longer journey on the trail.

## **Criteria for location of the trail alignment**

One of the most challenging problems is to minimize congestion in the park. The addition of the trail will most likely increase use of the park and increase congestion. Locating the trail to minimize congestion was a key criteria. The other key criterion was resource protection.

The following criteria were identified to guide the location of the trail alignment through the park.

Provide access to the park; its resources and recreational opportunities.

Provide access to the contact station.

Provide access to the visitor center.

Provide direct access, away from congested area at the visitor center, to Ladyslipper Lodge and the LakeView Shelter (enclosed shelters near Lake Superior).

Provide a designated trailhead at the existing picnic area parking lot.

Minimize congestion in day use areas.

Provide connection to the campground. It is important to provide an off-road connection to both the campground and visitor center.

Use existing corridors where possible.

Protect sensitive plant species and communities.

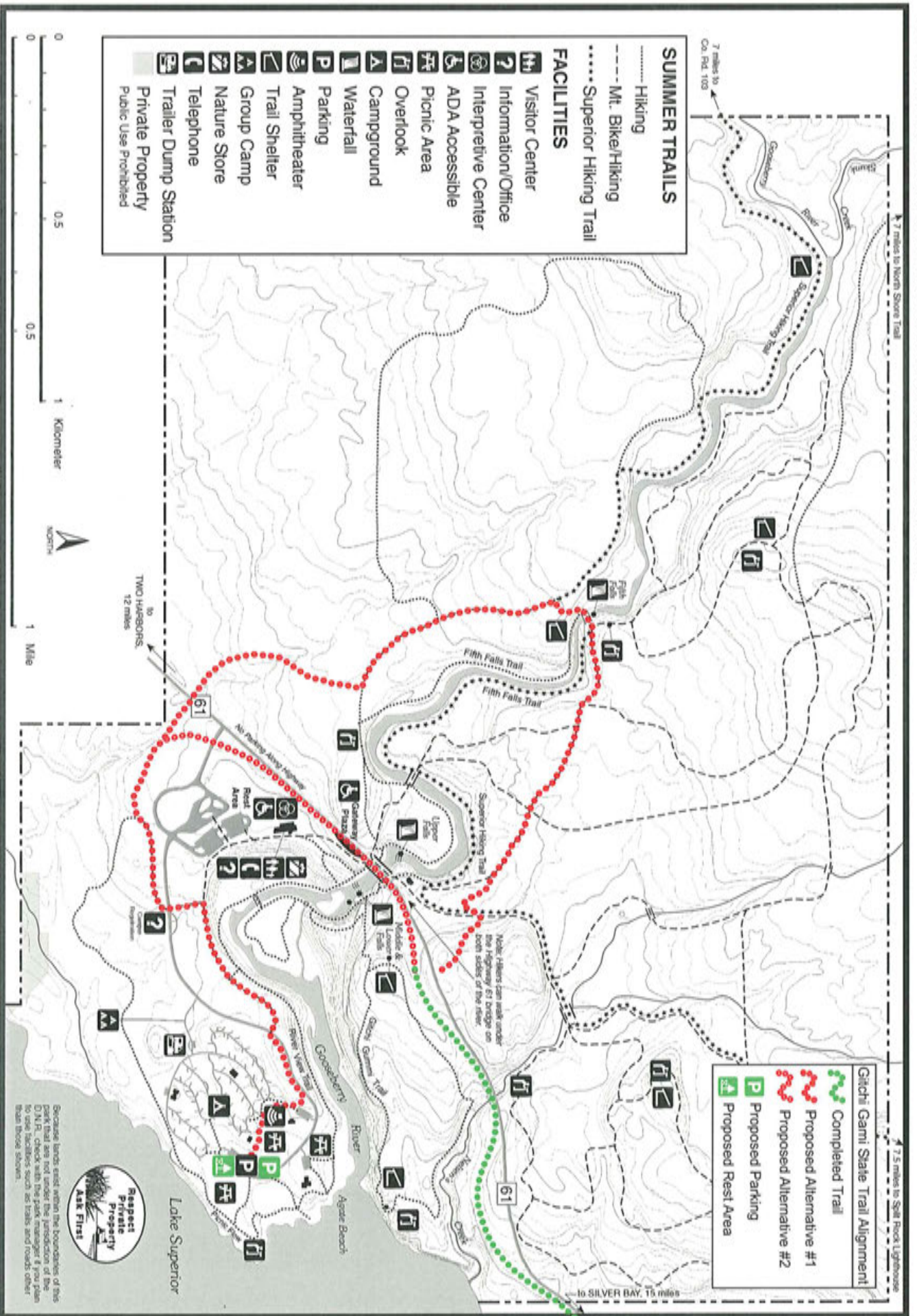
Protect archaeological resources, notably the CCC camp.

Provide a satisfying trail experience.

Avoid forest fragmentation.

Avoid old growth forest.

# GOOSEBERRY FALLS STATE PARK



## **Trail alignment**

After analyzing several alternative alignments, it was determined that two alternatives best met the criteria. See the map on page 57 for the location of these two alternatives.

### *Alternative 1*

Alternative 1 routes the trail on the inland side (northwest) of TH 61.

### *Alternative 2*

Alternative 2 stays within the road right-of-way and crosses the Gooseberry River on the existing bridge.

### *Recommendation*

At the time this plan was developed, there was not consensus as to which alternative alignment should be developed. Project partners (DNR, MnDOT and the trail association) will seek additional information to continue to analyze the alternatives.

### **Future Considerations**

The development of both alternatives may be the best solution, as both alternatives combined would best meet the criteria for the Gitchi-Gami State Trail in Gooseberry Falls State Park.

## **Interrelationship of the Gitchi-Gami State Trail and Split Rock Lighthouse State Park**

### **Park Highlights**

Split Rock Lighthouse is located within this state park. This celebrated lighthouse warned ships away from the rocky shore for 59 years. Managed by the Minnesota Historical Society, tours of the lighthouse are offered seasonally and an interpretive center augments the interpretive information available at the lighthouse. Camping facilities are available in the park in the form of backpacking tent sites and cart-in sites. Campsites are available in the park for kayakers, as the park is located along the Lake Superior Water Trail. Vistas of Lake Superior and the opportunity to access Lake Superior are also highlights of this park. The waterfalls, cascades, and quiet pools of the Split Rock River and Split Rock Creek are scenic resources in this park. Other interesting history includes the mining story associated with Corundum point.

### **Role of the Park**

Split Rock Lighthouse State Park will serve as a trailhead for users of the Gitchi-Gami State Trail. The existing parking area and trail center will serve as the trailhead. This area will also serve as a rest area. Trail orientation information, water, and picnic tables will be available at the trailhead. Trail users can camp in the park at the existing tent and cart-in sites. Hikers can access the Superior Hiking Trail via connecting trails within the park.

### **Criteria for Location of the Trail Alignment**

Provide access to the park and its resources.

Provide access to the historic site.

Provide access to the contact station.

Provide a rest area that has restrooms, water, information.

Provide connection to the camp sites.

Protect archaeological resources.

Use existing corridors.

Protect sensitive plant species and communities.

Provide views and vistas for trail users and a satisfying trail experience.

### **Trail Alignment**

A specific alignment has been determined for the segment of the Gitchi-Gami State Trail in the park. This segment of trail was completed in 2002. The map on page 61 illustrates the trail alignment. The trail through Split Rock Lighthouse State Park will provide trail users the opportunity to leave the highway right-of-way. The trail will use the alignment of approximately three miles of old TH 61. Highlights directly adjacent to the trail include a trail crossing of the Split Rock River and Split Rock Creek, and a vista and opportunity to access and hike up Day Hill. Other features of the park that trail users can explore include access to Lake Superior and the opportunity to tour Split Rock Lighthouse and the interpretive center.

**Future Considerations**

It is anticipated that the existing park facilities will serve needs of the current users of the park and the increased use generated by the trail. New facilities that would enhance trail experience in the park include a bike pad at the bottom of Day Hill. The addition of a vehicle campground to Split Rock Lighthouse State Park, as outlined in the management plan for the park, would complement the Gitchi-Gami State Trail and provide a greater capacity for access to the trail. Park orientation information at the southwestern part of the park should be provided for trail users accessing the park in the southwest, since the contact station and primary information source is located 2 1/2 miles further down the trail in the park. The Gitchi-Gami State Trail will be groomed for cross-country skiing from the park office to the Split Rock River.



# SPLIT ROCK LIGHTHOUSE STATE PARK

## EXISTING TRAILS

- ..... Hiking/Sung Mt. Biking
- ◆◆◆◆ Hiking/Skiing
- Hiking only
- \*\*\*\*\* Superior Hiking Trail
- ~~~~~ Lake Superior Water Trail
- PRIVATE PROPERTY  
Public Use Prohibited

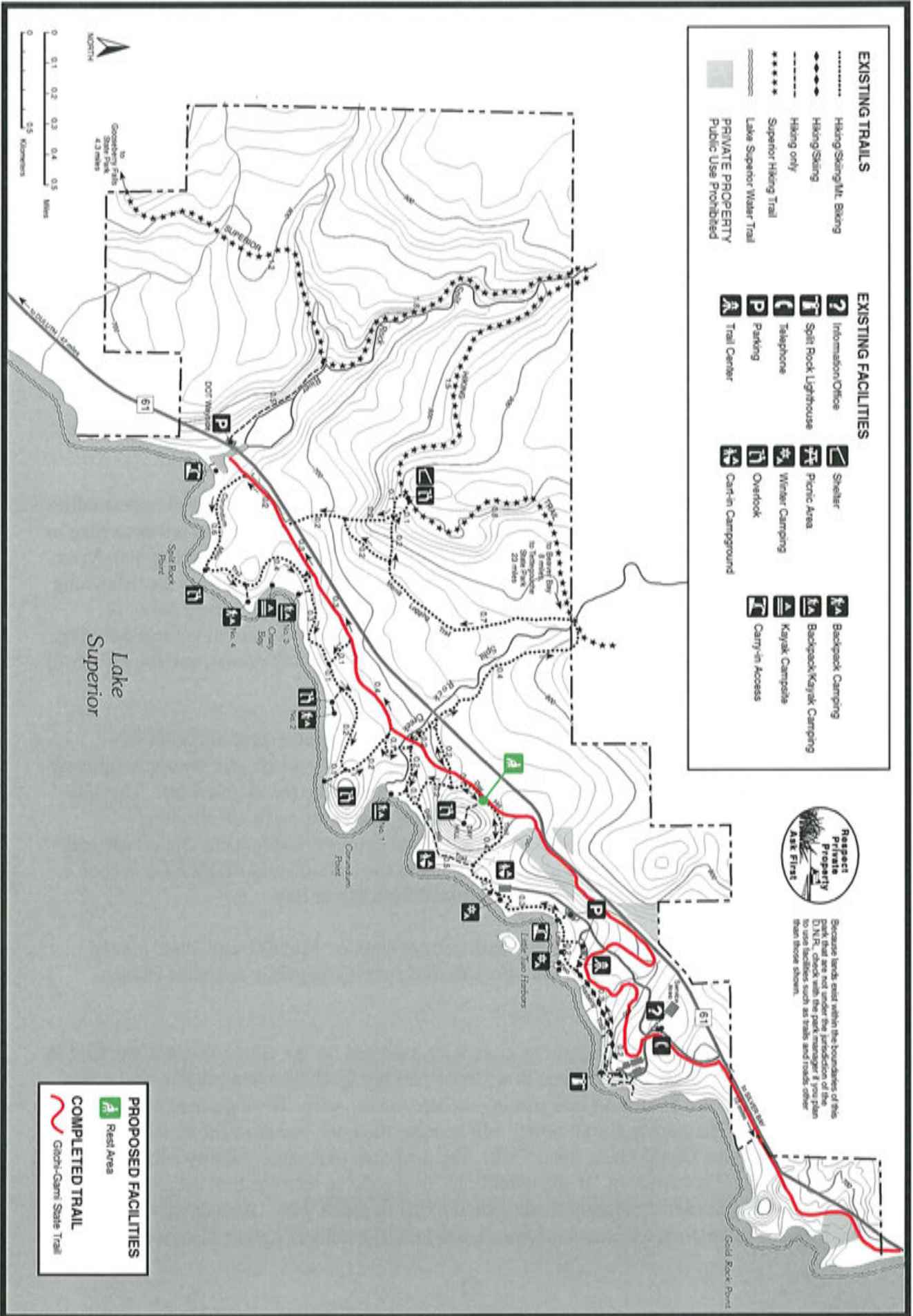
## EXISTING FACILITIES

- ❓ Information Office
- 🏠 Split Rock Lighthouse
- ☎ Telephone
- P Parking
- 🏠 Trail Center
- 🏠 Shelter
- 🏠 Picnic Area
- 🏠 Weather Camping
- 🏠 Overlook
- 🚗 Car-In Campground
- 🏠 Backpack Camping
- 🏠 Backpack/Kayak Camping
- 🏠 Kayak Campsite
- 🏠 Camp-In Access



Because lands exist within the boundaries of the park that are not under the jurisdiction of the D.N.R., check with the park manager if you plan to use facilities such as trails and roads other than those shown.

- ### PROPOSED FACILITIES
- 🏠 Rest Area
- ### COMPLETED TRAIL
- 👉 Gitchi-Gami State Trail



## **Interrelationship of the Gitchi-Gami State Trail and Tettegouche State Park**

### **Park Highlights**

Lake Superior, the Baptism River, waterfalls, and six inland lakes - spectacular water resources-define this 9,346 acre state park. Four waterfalls along the Baptism River are located in this park. The Baptism River High Falls are one of the highest in Minnesota. Large patches of undisturbed old growth forest exist within the park. The park must be experienced by trail, as there is very limited road development. All six inland lakes are accessible by trail only. Trails with numerous scenic overlooks provide access to the river and lakes and the opportunity to experience the vistas, forests, and geology of the North Shore landscape by foot, cross-county ski, snowshoe, snowmobile, and all-terrain vehicle (ATV). An interpretive hiking trail has been developed to Shovel Point, a distinctive lichen studded peninsula that juts out into Lake Superior. Shovel Point is also popular for rock climbing. The Lake Superior Water Trail parallels the shore and kayak campsites are located within the park. The Superior Hiking Trail and Red Dot Snowmobile/ATV Trail traverse the park.

There are a variety of other diverse recreational opportunities in addition to the trail opportunities just described. Angling opportunities in the park include fishing for walleye and northern pike in four of the inland lakes and fishing for salmon and trout in Lake Superior and the Baptism River. Five picnic areas are located within the park, four of which are located near lakes. Birdwatching in the park is rewarding year round, and the rare Peregrine falcon can be observed here. A variety of camping opportunities are available from remote hike-in to cart-in to vehicle camping. Cabins are available for rent at Tettegouche Camp, a turn of the century retreat, and the history of this site is fascinating to discover.

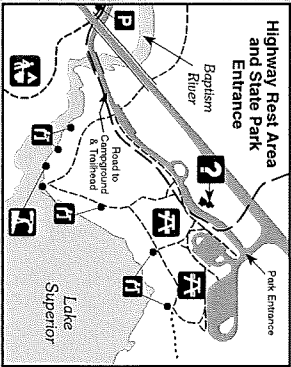
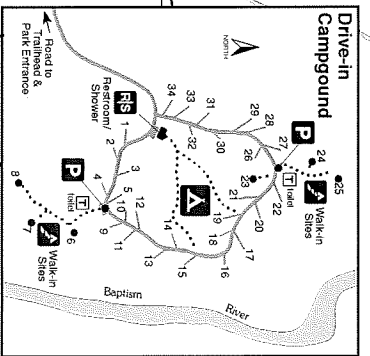
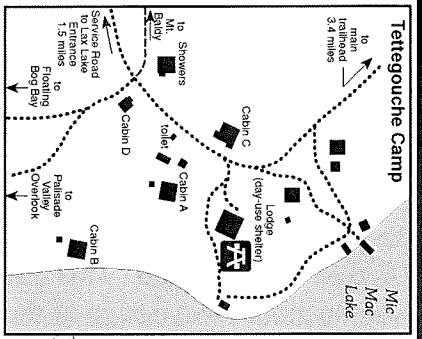
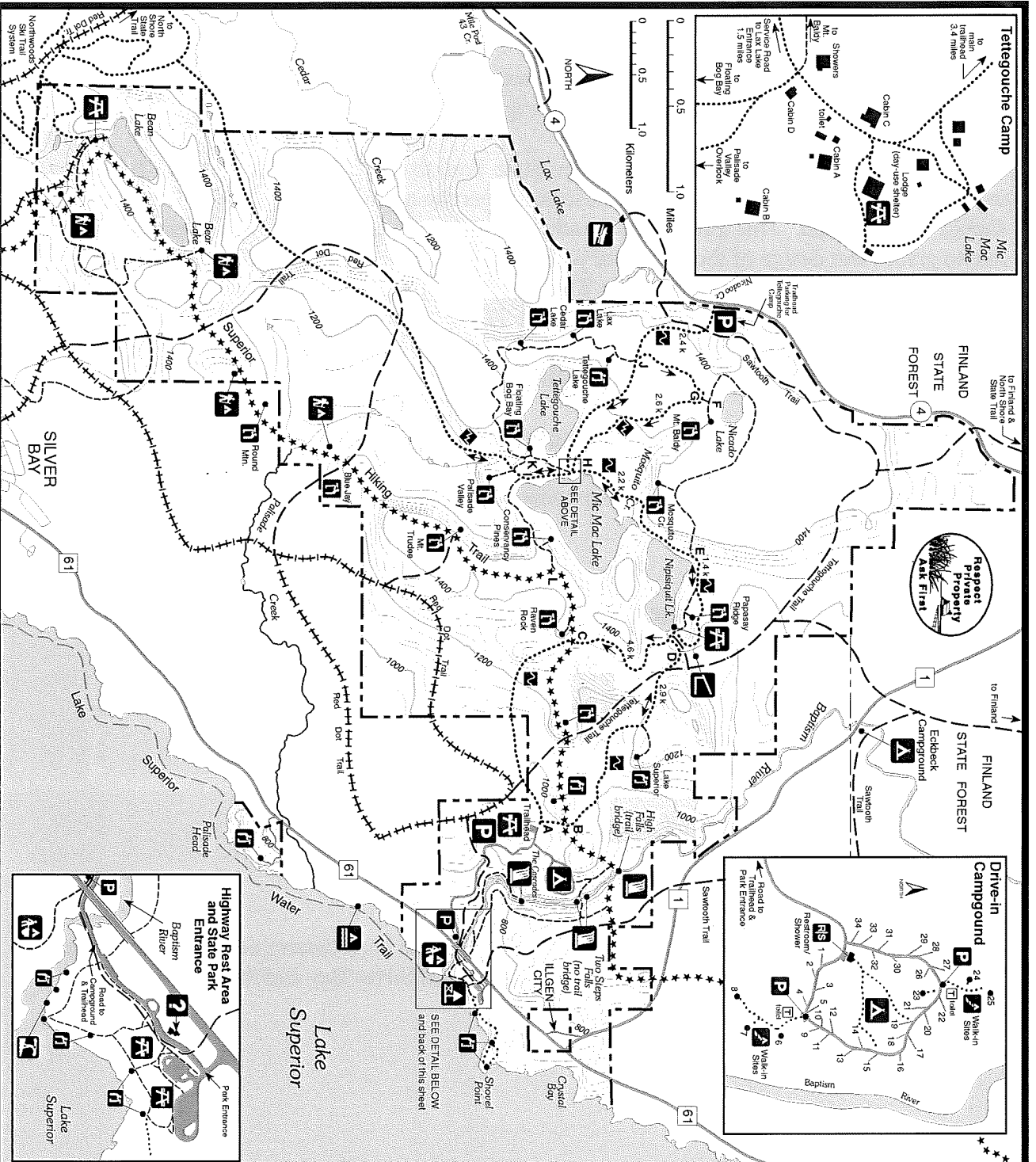
Palisade Head, located between TH 61 and Lake Superior, is a popular stopping point for travelers along the North Shore. It is separated from the main body of the park by approximately one mile. A narrow, steep, winding road ends at a parking lot to the scenic overlook. This site provides one of the best overlooks of Lake Superior along the Shore and rock climbing opportunities. A non-motorized trail should be developed between Tettegouche State Park and Palisade Head. This trail could be the main trail if it is in the right-of-way of TH 61 or a spur trail from the park if the alignment is developed inland from Silver Bay.

A Highway Rest Area is co-located with the park contact station. MnDOT and DNR jointly developed and manage this area to provide services to the traveling public and park visitors.

### **Role of the Park**

It is envisioned that Tettegouche will serve as a major trailhead for the Gitchi-Gami State Trail in the future. However, at the present, there is a lack of parking space to accommodate trail users. Currently, park facilities and associated parking are used to capacity. Development of additional parking is needed. The proposed trail center will become the main trailhead for all trails within the park, including the Gitchi-Gami State Trail. The proposed trail center facility will provide restrooms, water and information. If site conditions limit parking near the trail center, additional parking could be constructed adjacent to the existing cart-in parking lot. A vault toilet could be located here and restrooms, water and information would be available a short distance away at

# TETTEGOUCHE STATE PARK



- TRAILS**
- A Trail Junctions
  - \*\*\* Superior Hiking Trail (Hiking/Snowshoe)
  - Snowmobile
  - ATV/Snowmobile
  - ..... Hiking/Cross-Country Ski
  - easy
  - more difficult
  - ◇ most difficult
  - Hiking/Snowshoe
  - ..... Self-guided Interpretive (Hiking/Snowshoe)
  - Lake Superior Water Trail (kayak)
- FACILITIES**
- ? Information/Office
  - ⌂ Highway Rest Area
  - ⌂ Picnic Area
  - P Parking
  - ⌂ Overlook
  - ⌂ Waterfall
  - ⌂ Campground
  - ⌂ Backpack Campsites
  - ⌂ Boat Ramp
  - ⌂ Carry-in Access (kayak)
  - ⌂ Kayak Campsite
  - ⌂ Car-in Campground
  - ⌂ Private Property
  - ⌂ Public Use Prohibited (except on designated trails)
- Because of the size and age of the park, there are not under the jurisdiction of the D.N.R. camp, picnic, or other public use facilities such as trails and roads other than those shown.

the Rest Area. The Rest Area parking lots are near capacity during peak times so, use of this area for parking by trail users should be discouraged.

An access trail that connects the Gitchi-Gami State Trail to the drive-in campground, trail center/trailhead, future group camp (to be located near the trailhead), and the TH 61 rest area should be developed. This trail should be adjacent to, but separate from the park entrance road due to grades and design of the park road which makes vehicle and bicycle traffic on the same surface problematical. The access under TH 61 and across the Baptism River is a challenge for trail design. The current pedestrian access under TH 61 is narrow and insufficient to accommodate a paved trail. This could be redesigned to allow access to both the Gitchi-Gami State Trail and the current cart-in campground access.

The park bridge over the Baptism River has a very narrow pedestrian access along the downstream side of the ridge. This bridge serves as a snowmobile access in winter. Redesign of this access should be considered to accommodate the Gitchi-Gami State Trail and snowmobile needs.

#### **Criteria for Location of the Trail Alignment**

Provide access to the park and its resources (by providing access to the parks trailhead).

Provide access to the contact station.

Provide a rest area that has restrooms, water, information.

Provide connection to the drive-in campground.

Protect archaeological resources.

Use existing corridors.

Protect sensitive plant species and communities.

Provide vistas and view and satisfying trail experience.

#### **Trail Alignment**

A specific alignment through Tettegouche State Park has not been determined. Two concepts have been proposed. The first is an inland alignment from Silver Bay and the other is TH 61 right-of-way.



## **Interrelationship of the Gitchi-Gami State Trail and Temperance River State Park**

### **Park Highlights**

Two North Shore rivers, (the Cross River and Temperance River), waterfalls, and Lake Superior are highlights of Temperance River State Park. Interesting geologic features of this park are another highlight. These geologic features include the narrow, steep gorge and adjacent potholes of the Temperance River and Carlton Peak. Carlton Peak is a large, rounded hill of anorthosite rock, an unusual igneous rock with large crystals. Camping is one recreational opportunity available in this park. A drive-in campground, located between TH 61 and Lake Superior, is a key feature of this park. In addition to the drive-in campground, the park offers cart-in camp sites. Two long distance trails traverse the park; the Lynx Grant-in-Aid Trail and the Superior Hiking Trail. Additional trail opportunities allow park visitors to explore the scenic resources of the North Shore.

### **Role of the Park**

Temperance River State Park will serve as a rest area for the Gitchi-Gami State Trail. Students from the Birch Grove Elementary School will have access to Temperance River State Park for environmental classes.

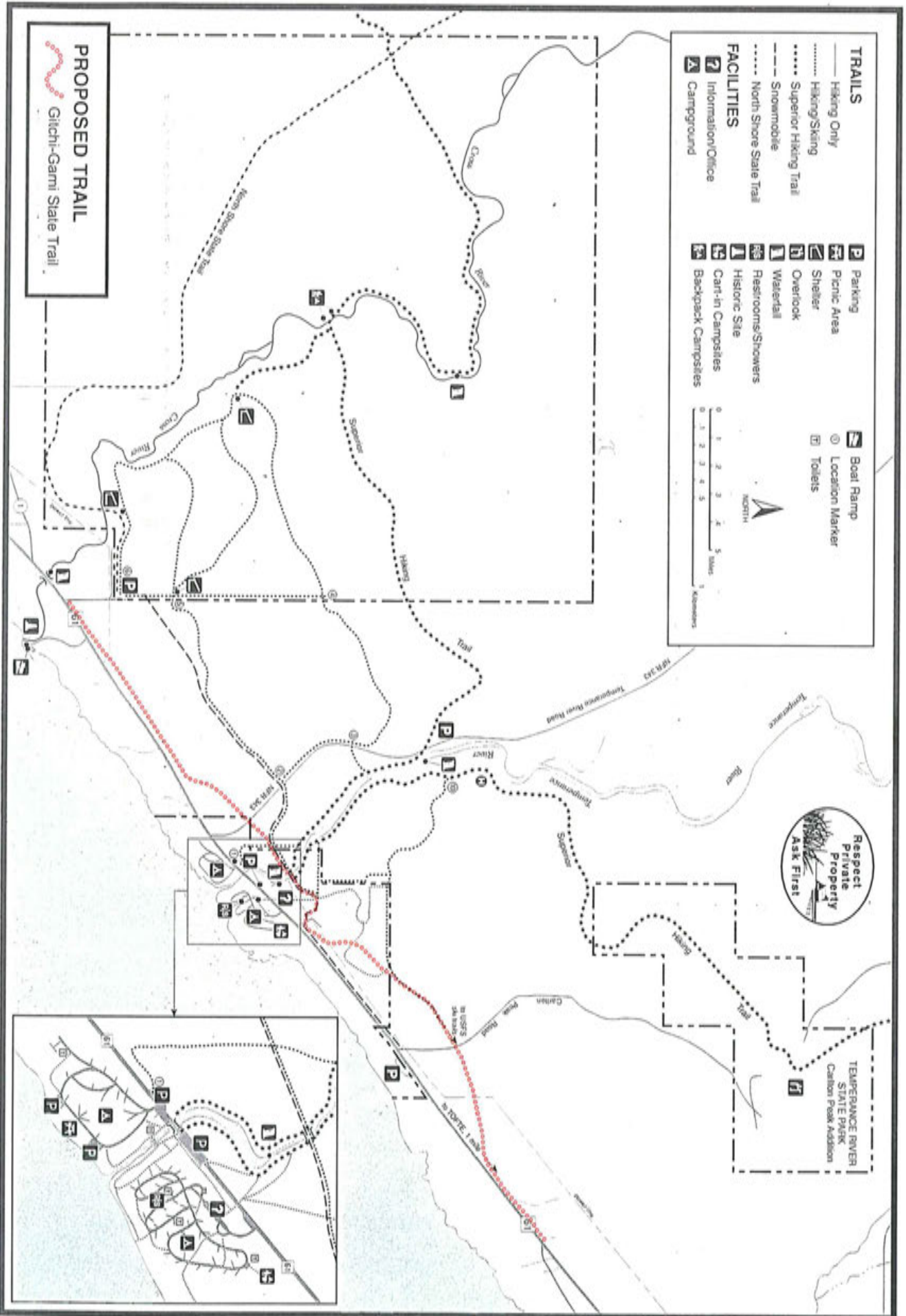
### **Criteria for Location of the Trail Alignment**

- Provide access to the park and its resources.
- Provide access to the contact station.
- Provide a rest area that has restrooms, water, information.
- Provide connection to the camp sites.
- Protect archaeological resources.
- Use existing corridors.
- Protect sensitive plant species and communities.
- Protect the shoreline plant communities.
- Provide views and vistas of Carlton Peak and Lake Superior.

### **Trail Alignment**

The preliminary alignment from Schroeder will follow the powerline that parallels TH 61 after the trail crosses the Cross River. The alignment will follow the powerline in a northeasterly direction, crossing the Temperance River at the existing trail bridge. The trail alignment in the park will be a combination of existing trails and new trail construction. As the trail exits the park on the northeast side, the trail crosses U.S. Forest Service land. The trail will provide a view of Carlton Peak. As the trail travels northeast, it enters the southwest corner of the Birch Grove Elementary School. The trail will be located adjacent to TH 61 in front of the Birch Grove Elementary School and the U.S. Forest Service Tofte Ranger Station. The trail will provide access to the Tofte Park and access to Lake Superior's shoreline.

# TEMPERANCE RIVER STATE PARK



# **Interrelationship of the Gitchi-Gami State Trail and Cascade River State Park**

## **Park Highlights**

The Cascade River corridor defined by a steep, rocky gorge, waterfalls, and cascades is a main attraction of the park. Not only is it significant because of scenic beauty, the terrain and microclimate of the gorge create habitat for unique plant species and cedar seedlings. The park includes 1½ miles of Lake Superior shoreline with associated cobblestone beaches and fragile shoreline plant communities. Picnic sites with views and access to the shore are available. There are significant cultural sites in the park including a former camp of the Civilian Conservation Corp, (CCC), Spruce Creek and their enduring projects such as walls, steps, and a bridge/culvert. The forest resource in the park is significant and includes remnant cedar and white pine stands with some areas of cedar designated as Old Growth. The mature conifer forest in the park provides winter shelter for deer and is part of a significant deer yard known as the Jonvik deer yard which may be the largest congregation of deer in the winter in the state. Trail opportunities provide access to the scenic features in the park as well as allow trail users to travel through the forest.

## **Role of the Park**

Cascade River State Park will, similarly to the other state parks along the trail, serve as a trail head and rest area for Gitchi-Gami State Trail users. The recently completed Cascade River State Park Management Plan identifies the future day use area, located at the existing campground site, to serve as a trail head with parking, and information. This area will serve as a rest area as well. In addition, there will be other opportunities for trail users to use the park as a rest area. The plan recommends that pedestrian and Gitchi-Gami trail access to the lakeside day use picnic facilities be provided.

## **Criteria for Location of the Trail Alignment**

Provide access to the park and its resources.

Provide access to the contact station.

Provide a rest area that includes restrooms, water, information.

Provide connection to the camp sites.

Protect archaeological resources.

Use existing corridors.

Protect sensitive plant species and communities and the Jonvik deer yard.

Protect the shoreline plant communities.

Provide views and vistas of Lake Superior.

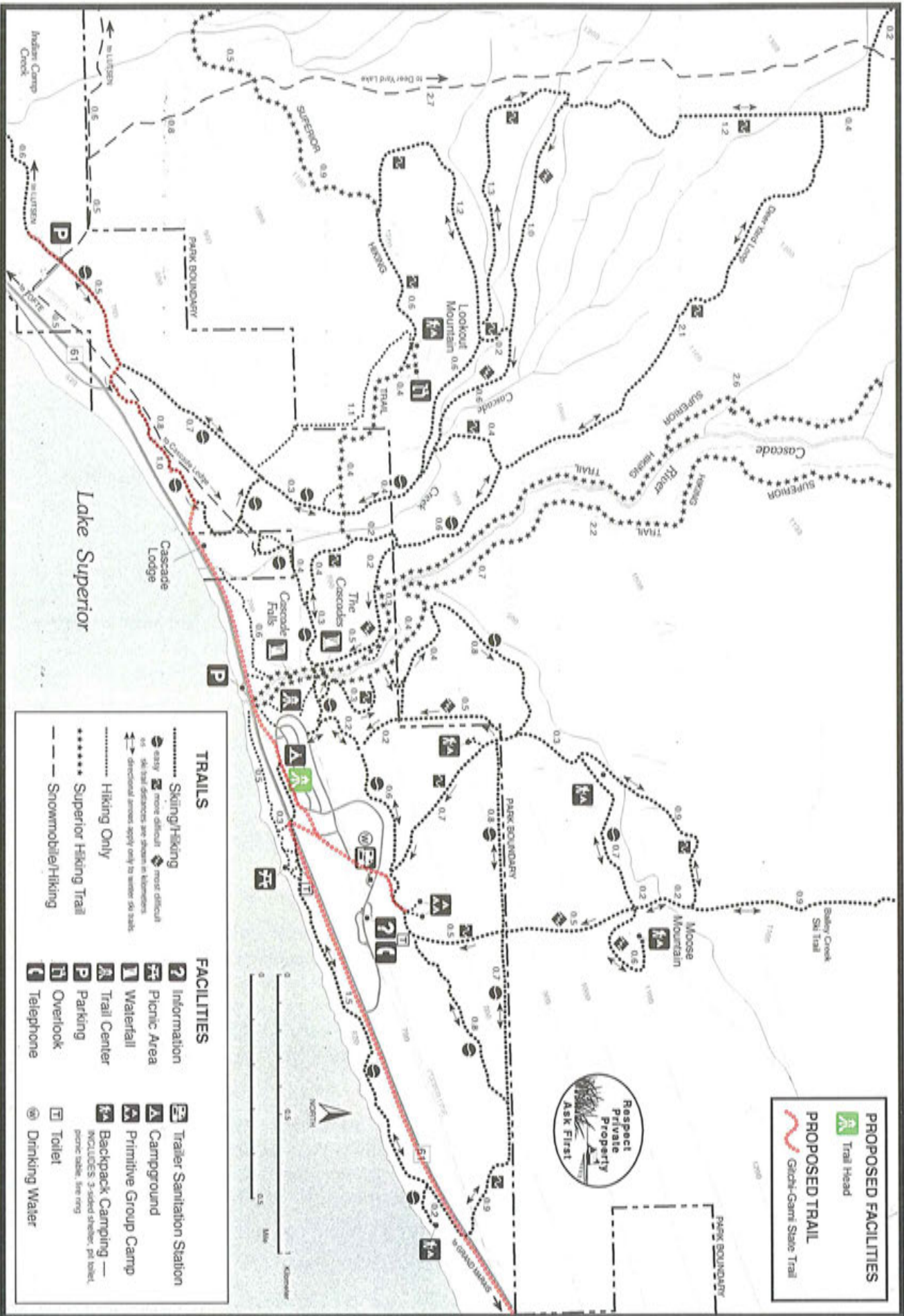
## **Trail Alignment**

Following is a description of the Gitchi-Gami State Trail alignment as stated in the Cascade State Park Management Plan. "Although details of the Gitchi-Gami Trail alignment have yet to be determined outside of Cascade River State Park boundaries and could influence park alignment decisions within the park, an inland alignment is preferred from the point the trail enters the park from the south and west until after the Cascade River with the trail then crossing under TH 61 to access the lakeside picnic area and follow the highway right-of-way out of the park to the north and east on the lake side."

An off-road trail connection to the campground and major sites should be developed in the future.



# CASCADE RIVER STATE PARK



**TRAILS**

- ..... Skating/Hiking
- ..... easy
- ..... more difficult
- ..... most difficult
- ..... distance shown in kilometers
- ..... directional arrows apply only to water ski trails

**FACILITIES**

- ..... Hiking Only
- ..... Superior Hiking Trail
- ..... Snowmobiler/Hiking
- ..... Information
- ..... Picnic Area
- ..... Waterfall
- ..... Trail Center
- ..... Parking
- ..... Overlook
- ..... Telephone
- ..... Trailer Sanitation Station
- ..... Campground
- ..... Primitive Group Camp
- ..... Backpack Camping — INCLUDES 3-sided shelter, pit toilet, picnic table, fire ring
- ..... Toilet
- ..... Drinking Water

**PROPOSED FACILITIES**

- ..... Trail Head

**PROPOSED TRAIL**

- ..... Gatch-Garn State Trail



## **Interrelationship of the Gitchi-Gami State Trail and Scientific and Natural Areas**

Scientific and natural areas (SNAs) are units of the outdoor recreation system. Minnesota Statutes 86A, Subdivision 5 states their purpose. "A state scientific and natural area shall be established to protect and perpetuate in an undisturbed natural state those natural features which possess exceptional scientific or educational value." Scientific and natural areas are designated as one of three types: research unit, educational unit or public use unit. Use of research units is limited to programs conducted by scientists and college graduate and postgraduate students. In addition to the uses allowed in a research unit, educational units include primary, secondary and college undergraduate programs. In addition to the uses allowed in an educational unit, permitted uses of a public use unit include interpretive programs for the general public. Interpretive trails are the only development allowed in a scientific and natural area.

There are four scientific and natural areas adjacent to or within close proximity of the Gitchi-Gami State Trail. They are: Iona's Beach, Sugarloaf Point, Lutsen, and Butterwort Cliffs. The significance of each of the scientific and natural areas and its interrelationship with the Gitchi-Gami State Trail is described below.

### **Iona's Beach Scientific and Natural Area**

Iona's Beach is a large beach located between Gooseberry Falls and Split Rock Lighthouse State Park. The beach is comprised predominately of pink rhyolite pebbles. Rhyolite is hardened lava with a higher silica content in comparison to basalt. A rhyolite cliff to the north of the beach is the source of the pebbles. Winds and waves erode chunks of pink rhyolite from the cliff, shape and smooth them, and wash them downshore up on the beach.

The Gitchi-Gami State Trail comes within close proximity to this SNA and parallels its border for a short distance. Trail users will be made aware of the location and significance of this site. Bicycle parking will be provided and trail users can take a walking trail to the beach.

### **Sugarloaf Point**

Basalt lava flows, volcanic rocks, beach ridges and evidence of glacial activity can be studied at Sugarloaf SNA. Trail users will have the opportunity to access Lake Superior and study the variety of boulders, cobbles and pebbles located here and learn about efforts to restore native vegetation. The Sugar Loaf Interpretive Association owns property adjacent to the SNA. An interpretive trail begins here and winds through the SNA. An interpretive center and kiosk are being developed on the Association Property.

### **Lutsen**

This scientific and natural area is a 720 acre parcel including an upland, old-growth hardwood forest, one of the largest in the North Shore Highlands. Interpretive information about the Lutsen Scientific and Natural Area, located one mile inland from the trail should be provided at the intersection of the trail and CSAH 36. Trail users may want to detour to visit one of the largest known acreages of upland old growth hardwood forest along the North Shore with trees up to 300 years old. Bike racks should be provided so bicyclists could lock their bicycles and explore the area on foot.

### **Butterwort Cliffs**

Rare arctic-alpine plants grow in the wet rock shore habitat on Lake Superior. Butterwort and Hudson Bay eyebright are two of the species found here. The sticky yellow-green leaves of the butterwort trap insects the plant uses as a nutritional supplement. The SNA is closed May 1<sup>st</sup> through August 15<sup>th</sup> to protect a herring gull nesting colony. An interpretive sign describing the significance of this SNA could be located here.

## Interrelationship of the Gitchi-Gami State Trail and the North Shore Scenic Drive

The North Shore Scenic Drive between Canal Park in Duluth and Grand Portage is designated an All American Road. The entire route of the Gitchi-Gami State Trail runs parallel to the North Shore Scenic Drive along TH 61. The U.S. Secretary of Transportation designates qualifying roads based on the archaeological, cultural, historic, natural, recreational, and scenic qualities associated with the road. The All-American Road Designation indicates that the North Shore Scenic Drive is unique in the nation as is a "destination unto itself." There are only 20 All-American Roads in the nation. The Lake Superior All-American Road (LSAAR) Planning Council is a grassroots group of citizens, elected officials, business owners, and members of the tourism industry. The Planning Council works on a variety of projects relating to the North Shore Scenic Drive.

Coordination with the National Scenic Byways Program and the LSAAR Planning Council is important because there are many opportunities to provide facilities that would serve both byway and trail users. Both byway visitors and trail users will want to access many of the same archaeological, cultural, historic, natural, recreational, and scenic resources associated with the TH 61 corridor. Information and facility development could be planned, designed, developed and managed to serve both users in some cases. For example, interpretive displays could be used by both. Visitor information centers/trailheads within the communities could be developed to accommodate both. Marketing materials could serve both byway users and trail users. A coordinated and integrated approach would serve byway and trail users, communities, and the resources well.

The Gitchi-Gami State Trail could benefit from funding opportunities available through the National Scenic Byways Program. According to the National Scenic Byways Program website, <http://www.byways.org/grants/index.html> funding and technical assistance are available for:

"Development and implementation of a corridor management plan to maintain the scenic, historical, recreational, cultural, natural and archaeological characteristics of a byway corridor while providing for accommodation of increased tourism and development of related amenities.

Safety improvements to the extent that the improvements are necessary to accommodate increased traffic and changes in the types of vehicles using the highway as a result of the designation.

Construction along a scenic byway of a facility for pedestrians and bicyclists, rest areas, turnouts, highway shoulder improvements, passing lanes, overlooks, and interpretive facilities.

Improvements to the scenic byway that will enhance access to an area for the purpose of recreation, including water-related recreation.

Protection of scenic, historical, recreational, cultural, natural, and archaeological resources in an area adjacent to a scenic byway.

Developing and providing tourist information to the public, including interpretive information about the scenic byway.

Development and implementation of a scenic byway marketing program."

## **Two Harbors**

### **History**

Agate Bay and Burlington Bay are the two harbors in this location from which the community derives its name. Both names (Agate Bay and Burlington Bay) served as former names of the settlement that developed into the community of Two Harbors. The village of Burlington was platted on the site in 1856. Its name was later changed to Agate Bay in 1888. It became Two Harbors in 1907.

Thomas Sexton was the first white settler at Agate Bay. In 1863 John D. and Anna Howard of Superior, Wisconsin sold 160 acres of land to Sexton for \$155. Sexton built the first dwelling in Agate Bay, a fourteen by sixteen foot shack, near the present Edna G. dock site. The earliest pioneers were mostly Swedes, Norwegians, Danes, and French or English from Canada.

Timber and iron ore were the two natural resources that spurred the growth and development of Two Harbors. Logs were transported from the adjacent forests to a sawmill at Burlington Bay.

Two Harbors was the first iron ore port in Minnesota. A railroad between Tower and Two Harbors was completed in 1884. A steam engine named the 3 Spot delivered the first load of iron to the ore docks that year. Two Harbors became home to the largest iron ore docks in the world.

In 1886 the county seat was moved from Beaver Bay to Two Harbors, and the town was incorporated in 1888. The Two Harbors lighthouse was built in 1892. It is the oldest operating Minnesota lighthouse on the North Shore.

Another significant Minnesota company began in Two Harbors, the 3M Mining Company.

In 1924 TH 61 was under construction, and tourism became Two Harbors' fourth largest resource. With the decline of iron ore mining, tourism has become an important industry to Two Harbors and the surrounding area.

### **The Community Today**

Two Harbors, with a 1990 population of 3,616, is the largest community along the North Shore of Lake Superior. Today's major employers are the Lake Superior School Dist. #381, La Bounty Mfg. Inc., First Plan of MN/ Community Health Center, Lake View Memorial Hospital, and the Louisiana- Pacific Corp.

The Two Harbors Marina on Agate Bay is currently in the planning phase of development and will provide another significant tourism resource.

### **The Trail Alignment**

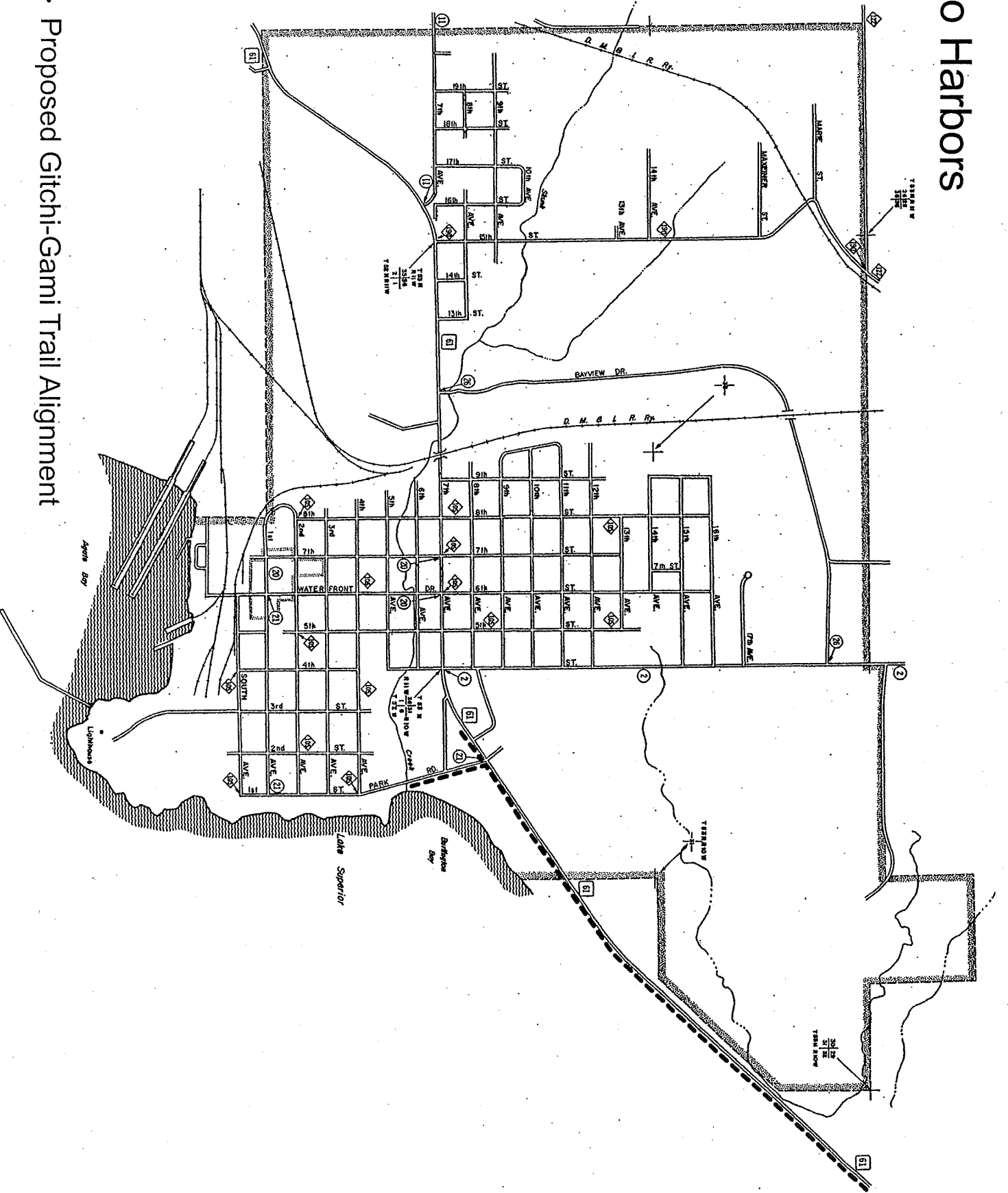
The trail head for the Gitchi-Gami State Trail will be located at the future R.J. Houle Visitors Center located on the northeast edge of Two Harbors adjacent to Lake Superior's Burlington Bay. The trail will be located in TH 61 right-of-way in this segment.

### **The Role of the Community**

The city of Two Harbors offers a wide variety of businesses and services for trail users. A wide variety of restaurants are available in the Two Harbors area. The Burlington Bay Campground is located adjacent to the Gitchi-Gami State Trail and trailhead. Other attractions include the Lake County Historical Museum, 3M Museum, the Two Harbors Depot, the Edna G., the Two Harbors Lighthouse, and the ore docks.

The city of Two Harbors is currently developing an extension of the Sonju Trail a pedestrian/bike trail, from Agate Bay to the under pass on 7<sup>th</sup> Avenue. The Gitchi-Gami State Trail will be connected by the Sonju Trail to Agate Bay and the historic and cultural resources located there.

# Two Harbors



----- Proposed Gitchi-Gami Trail Alignment

# Beaver Bay

## History

Beaver Bay is the oldest continuous settlement on the North Shore of Lake Superior. On June 24, 1856, the side wheel steamer Illinois arrived in Beaver Bay with 25 passengers of German and Swiss descent, their household goods, livestock and farm implements. The families made their homes and farms along the Beaver River as far as Lax Lake.

Two sawmills were built and the lumber produced was shipped to Duluth, upper Michigan, and Thunder Bay. Logging was important until the end of the century and there were several logging camps in the area. The last load of logs was shipped out of Beaver Bay in 1910. In 1869, a 30-inch burrstone was installed in one mill and ground grain. A small tannery tanned leather millbelts, leather boots, and shoes.

The first Lake County government was organized in August 1866. Beaver Bay remained the county seat until 1886 when it was moved to Two Harbors by a petition of only 24 signatures. The first school district was organized on August 28, 1865, a year before either the township or county government was organized. The first school, built in 1876, was destroyed by fire and rebuilt in 1878. This school was then replaced by another one-room building in 1892. The last school was built in 1928, now serves as a commercial building.

A new industry began in the 1890's with the settlement of Scandinavian fishing families. Commercial fishing was an important industry along the North Shore until the late 1960's, when fish populations were depleted by sea lampreys.

With the completion of TH 61 in 1924, the tourist industry became important in Beaver Bay and continues today.

## The Community Today

Beaver Bay, population 300, provides access to several trail systems in the area; the Superior Hiking Trail, the Red Dot Snowmobile Trail, and the Lake Superior Water Trail. The Bay Area Historical Society is currently constructing a visitors center on the east edge of town. The visitors center building is a historical Civilian Conservation Corps (CCC) building previously located in the Finland CCC Camp. The CCC building was donated to the Bay Area Historical Society. The visitors center will also be developed as a trail head for the Gitchi-Gami State Trail. The visitors center will have information on the Gitchi-Gami State Trail and provide parking for trail users.

## Trail Alignment

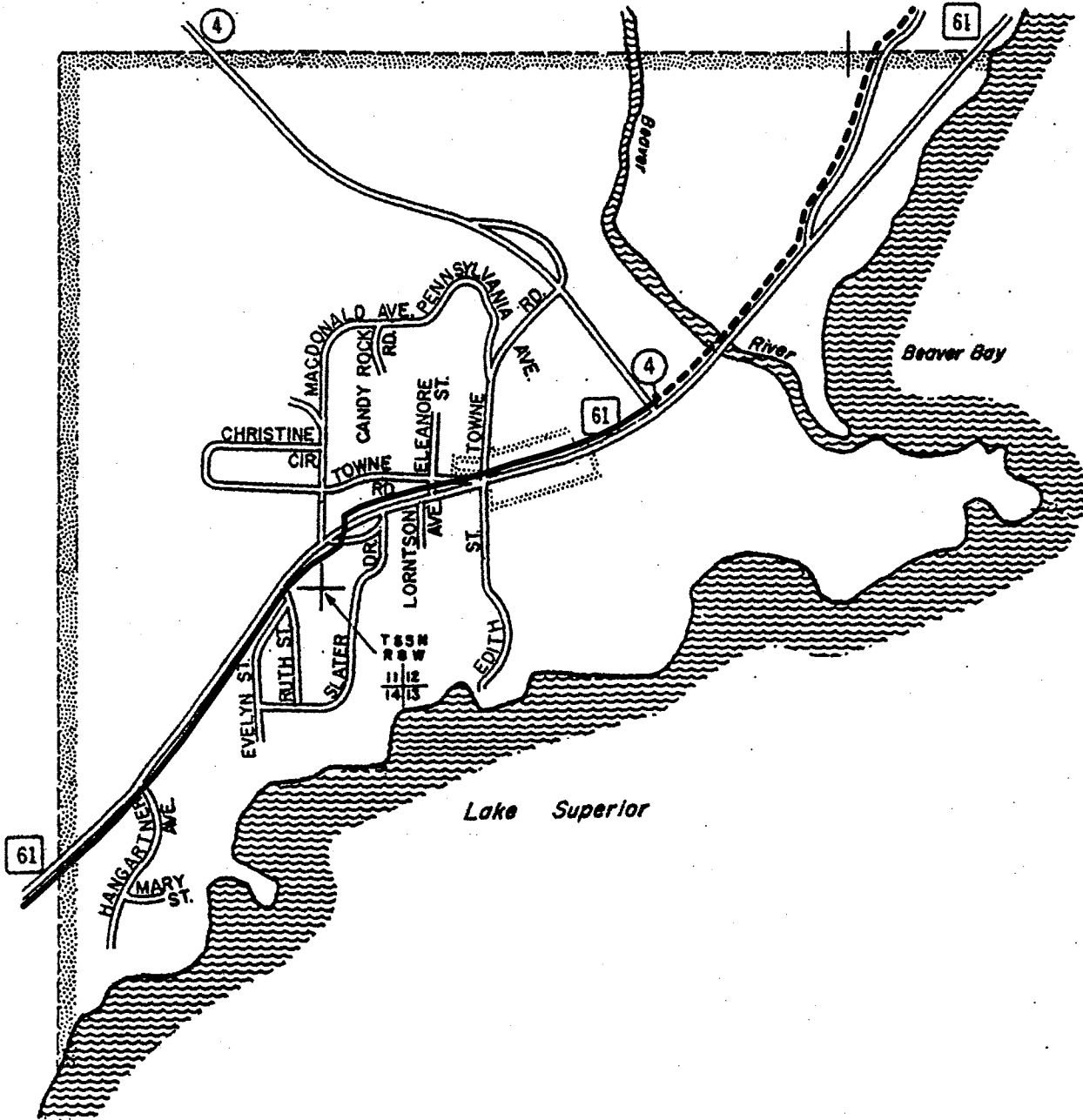
The Gitchi-Gami State Trail will enter the City of Beaver Bay from the southwest on the lake side of TH 61. The entire alignment through Beaver Bay will be within the MnDOT right-of-way. The trail crosses TH 61 to access the Beaver Bay Community Center then travel on the inland side of the highway to the trailhead area located by the Beaver River.

## Role of the Community

Beaver Bay offers many services to trail users. A community center, lodging facility, restaurants, the Beaver River, a visitor/historical center, and retail opportunities will provide trail users with needed services and additional recreational opportunities. The community has a vision for enhancing the trailhead area. They would like to provide better access to the Beaver River, restore a grist mill, and connect the Superior Hiking Trail to this trailhead area along the Beaver River.

The trail will also serve the residents and visitors of Beaver Bay. The trail will provide a safe non motorized transportation corridor to the businesses and amenities of Beaver Bay. The community sees the trail as a sidewalk through the community. Currently pedestrian access to area restaurants and business is very limited.

# Beaver Bay



- Completed Gitchi-Gami Trail Alignment
- - - Proposed Gitchi-Gami Trail Alignment

## **Silver Bay**

### **History**

In 1946, Reserve Mining Company surveyors began laying out stakes to build a taconite processing plant. Clearing of the plant site and town site began early 1951 and continued night and day until it was substantially completed in October 1955. Reserve Mining built barracks-style housing with a cafeteria and dormitories. Homes were also constructed by Reserve Mining for sale to employees with no down payment. The city of Silver Bay was scattered throughout the valley and the plant was located along the shore.

On May 1, 1954, it was announced that Reserve's new town on the shore would be named Silver Bay. Until that time, the city was known as the Beaver Bay housing project. In 1956, Silver Bay dedicated a new elementary school thereby eliminating the over crowded, small two-room school in Beaver Bay. The City of Silver Bay also incorporated with a mayor-council form of government. In 1958, William Kelly High School, named for Reserve's first president, was constructed eliminating the long 28 mile bus ride to Two Harbors.

Reserve Mining Company owned and operated a taconite plant in the community for nearly 30 years, until the mid 1980's, when the plant and nearly 40% of the population left the area. Today, North Shore Mining Company owns and operates the plant. A Veterans Home has been established and many small businesses are developing in the area.

### **The Community Today**

The population of Silver Bay in 1990 was 1,894. The major industry of the Silver Bay area was and still is mining (taconite production).

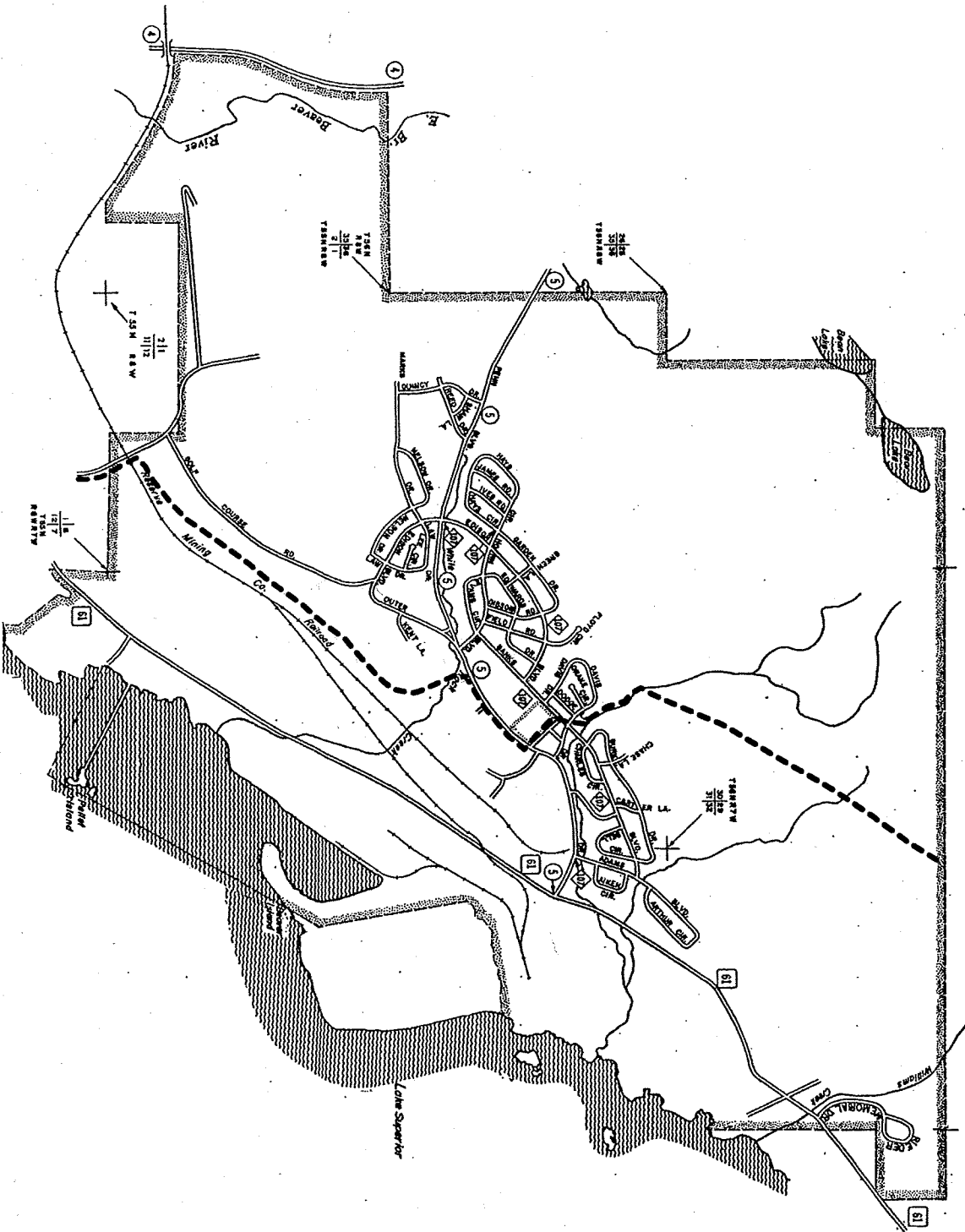
In August of 1999 the Minnesota DNR and Army Corps of Engineers opened the Silver Bay Marina for business. The marina offers facilities for boaters on Lake Superior. A spur trail will be developed to the marina and trail users will have access to the marina facilities. The marina area offers restrooms, pop machines, indoor and outdoor picnic facilities.

### **The Role of the Community**

The Silver Bay area has a variety of restaurants and other services for trail users. Several resorts and other lodging is available in the area. Tourism information is available at the Silver Bay Visitors Center.



# Silver Bay



----- Proposed Gitchi-Gami Trail Alignment

## **Grand Marais**

### **History**

Grand Marais is a French word meaning “big marsh” and reflects what the French explorers and fur traders saw when they approached this area from the natural harbor. A fur trading post was established early on and later logging and commercial fishing were the major industries.

### **The Community Today**

Grand Marais is noted for its scenic beauty. It is located on a harbor of Lake Superior and surrounded by the Sawtooth Mountains. There are numerous and diverse recreational opportunities nearby including fishing, hiking, bicycling, snowmobiling, cross-country skiing, kayaking, sailing, and wildlife watching. Grand Marais is one of the gateways to the Boundary Waters Canoe Area Wilderness and just 40 miles from the Canadian border. Grand Marais is also a community of the arts. There are many arts-related activities and special events. Notable opportunities the community offers include a walk on the breakwater, visiting the Cook County Museum, shopping for art, attending a performance and dining at a variety of restaurants.

### **Trail Alignment**

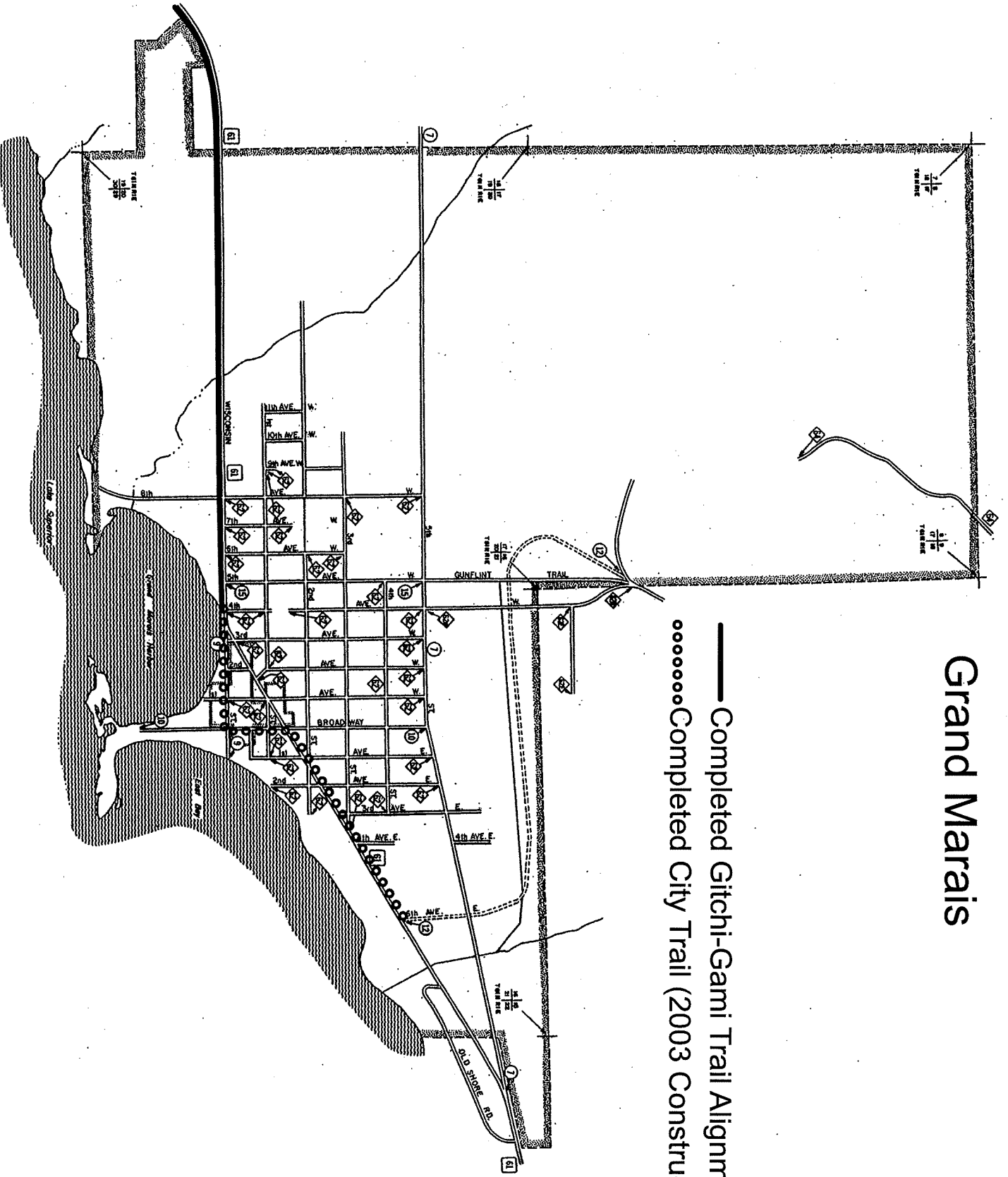
The community is currently in the process of determining a trail alignment within the community that will connect with segment 17 of the Gitchi-Gami State Trail which ends at 8<sup>th</sup> Avenue. The trail will provide access to the downtown area and waterfront.

### **The Role of the Community**

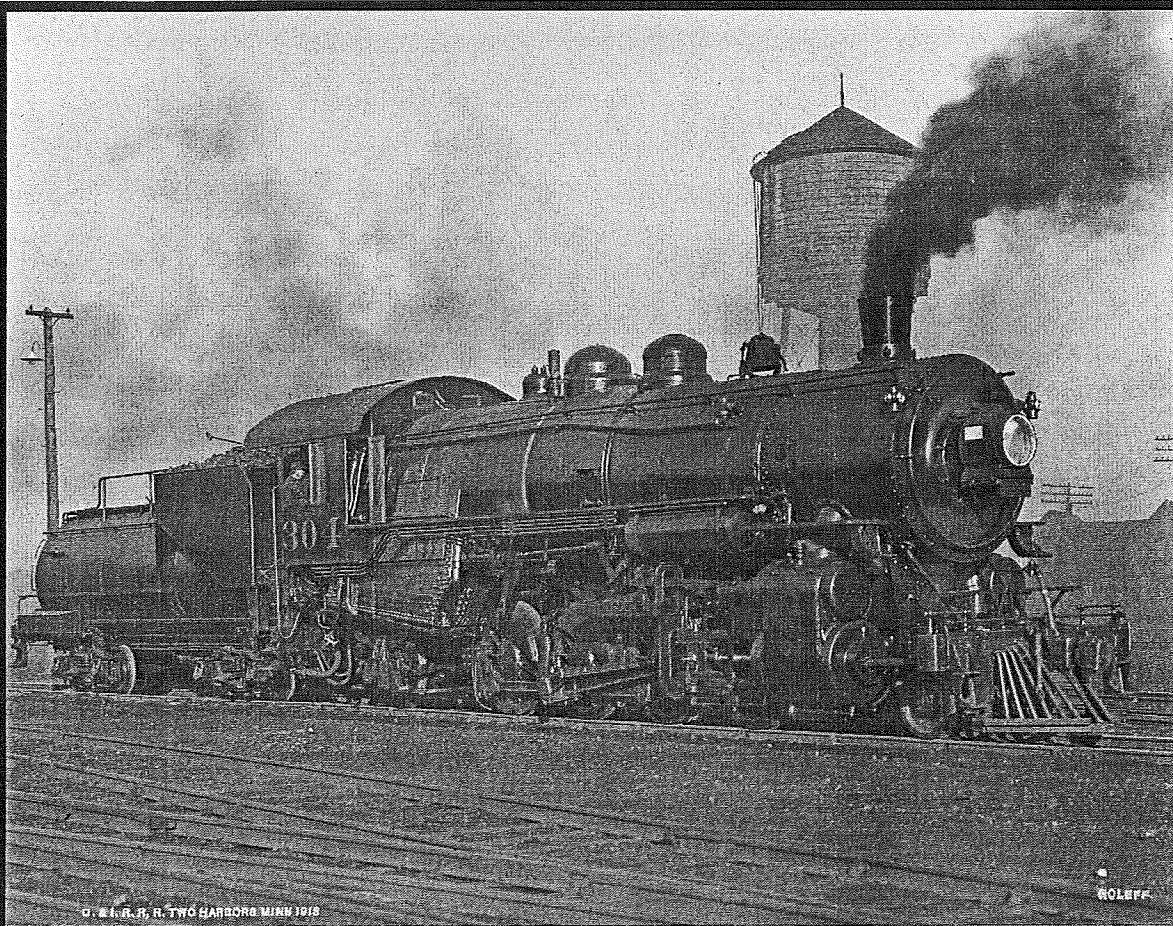
Grand Marais is one of the major gateways to the Gitchi-Gami State Trail. Trail users will take advantage of the many services the community has to offer including lodging and camping, restaurants, and other recreational opportunities. There are currently no specific plans for a formal trailhead in the community. Limited parking is an issue for the downtown area of Grand Marais and a barrier to identifying parking for trail users.

# Grand Marais

- Completed Gitchi-Gami Trail Alignment
- o o o o o Completed City Trail (2003 Construction)





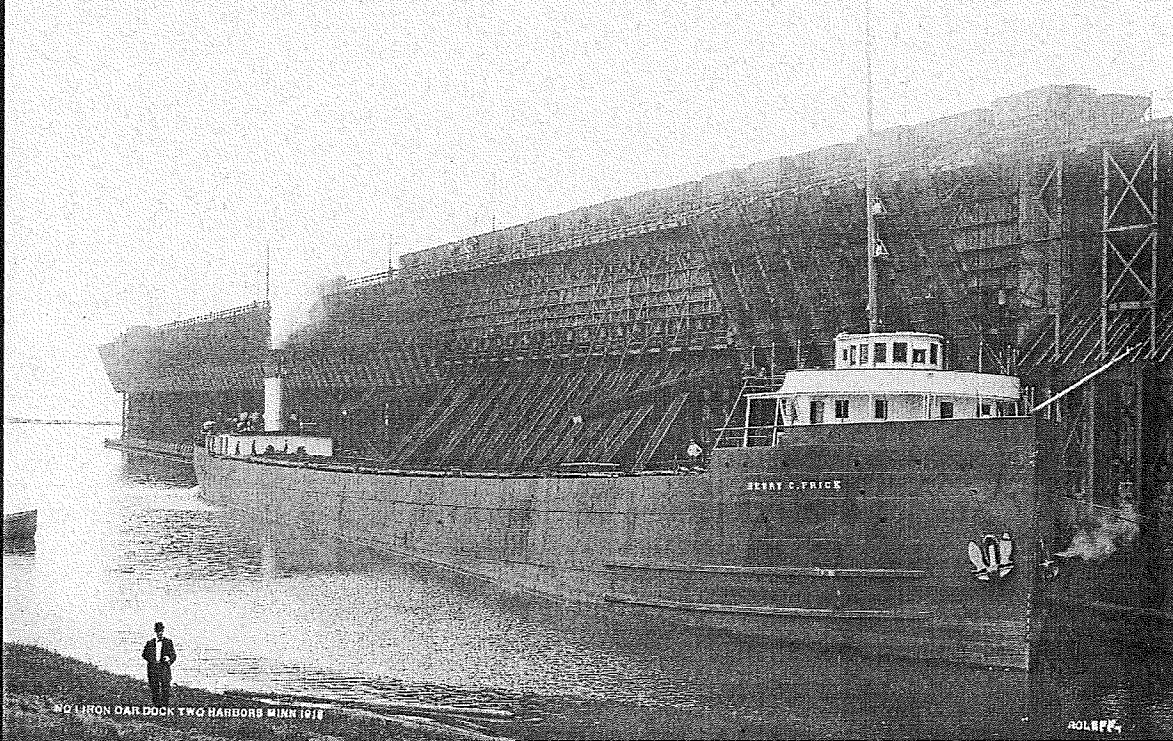


D. & I. R. R., R. TWO HARBORS MINN 1918

ROLEFF

Locomotive #304, Duluth & Iron Range Railroad, Two Harbors 1918. Photo by William Roleff, Minnesota Historical Society.

*Trail management includes developing interpretive information about the significant historical events and historic sites along the trail corridor. Iron ore mining and shipping are significant historical themes.*

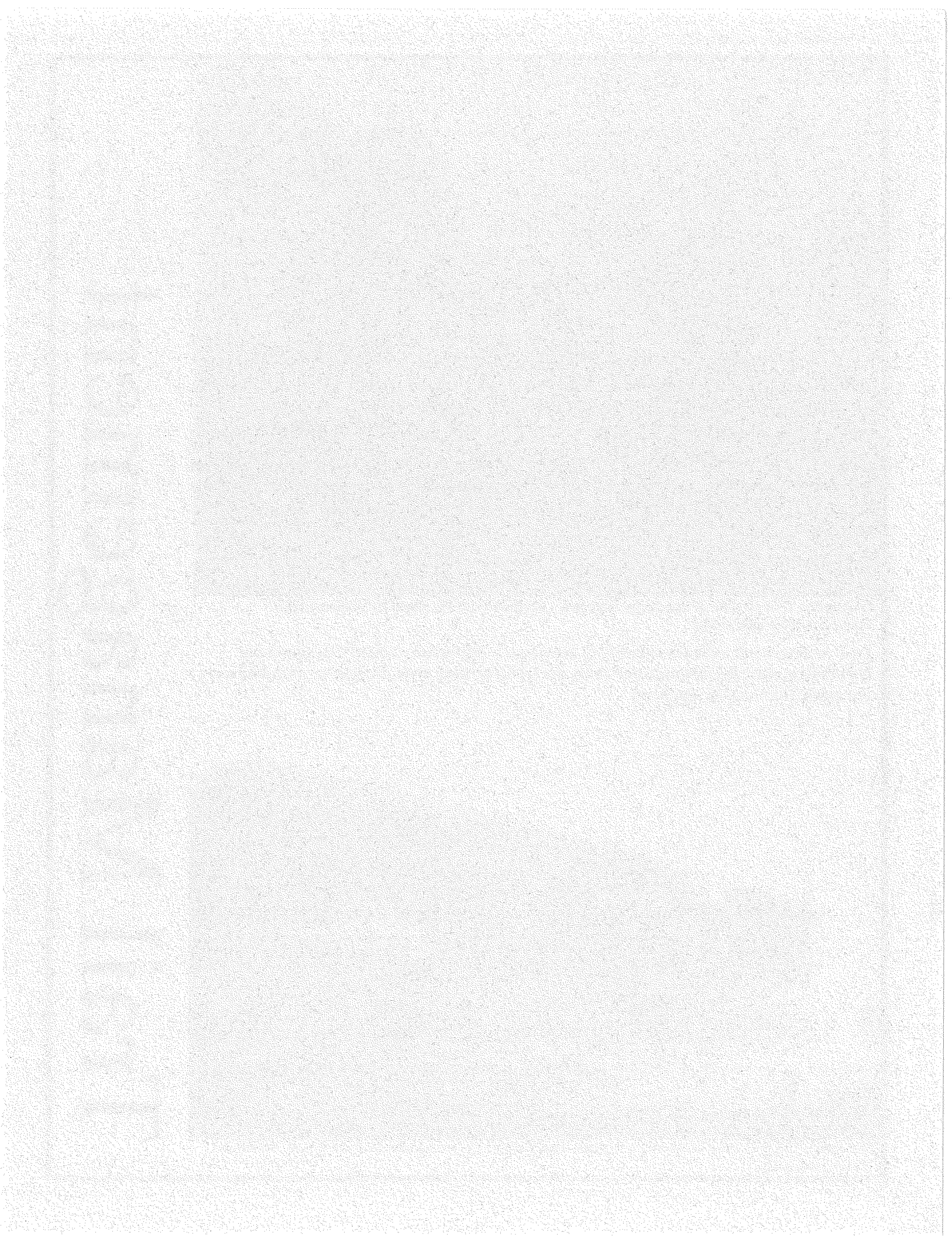


NO. 1 IRON DOCK TWO HARBORS MINN 1918

ROLEFF

Ore carrier Henry C. Frick at the iron ore docks, Two Harbors 1918. Photo by William Roleff, Minnesota Historical Society.

# Trail Management



# Projected Trail Use

## State Trail Use As an Indicator of Future Use

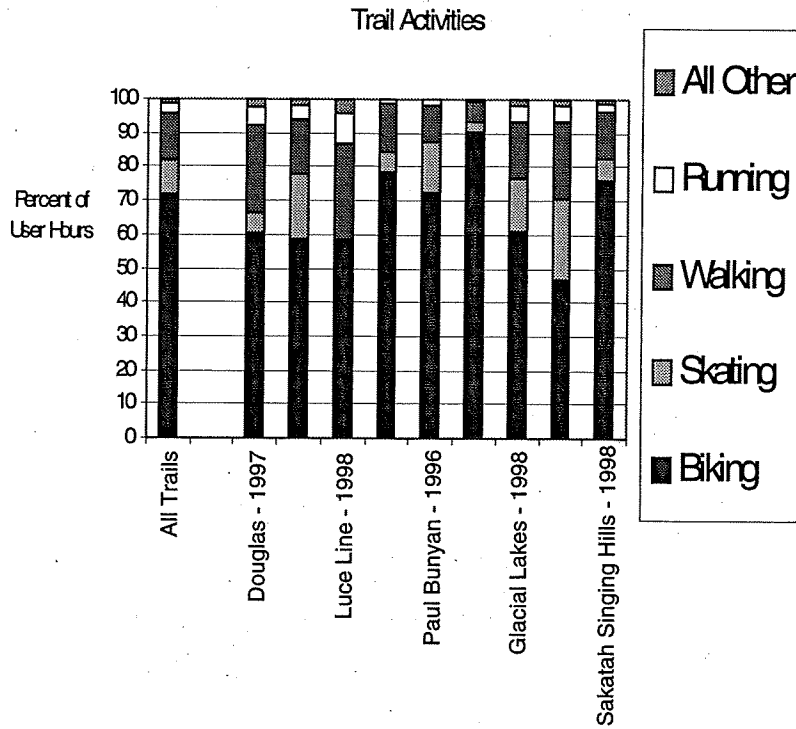
It is anticipated that the number of trail users and pattern of use will be similar to what is occurring on other state trails. The following table summarizes the summer use (Memorial Day to Labor Day) for the other asphalt trails in the state system. Use is measured in user hours. (A trail user spending one hour on the trail is a user hour).

### Trail User Hours

	<u>Total Seasonal User Hours</u>	<u>Miles of Trail in Survey</u>	<u>User Hours per Trail Mile</u>
<b><u>High Local Use</u></b>			
Douglas - Summer 1997	42,910	12.5	3,433
Gateway - Summer 1997	181,952	18.5	9,835
Luce Line - Summer 1998	65,120	29.0	2,246
<b><u>High Tourist Use</u></b>			
Heartland - Summer 1998	125,381	27.0	4,644
Paul Bunyan - Summer 1996	155,268	46.4	3,346
Root River - Summer 1997	178,761	40.8	4,381
<b><u>Mix Local/Tourist Use</u></b>			
Glacial Lakes - Summer 1998	33,858	18.0	1,881
Paul Bunyan segment, near Lake Bemidji State Park - Summer 1998	17,488	5.3	3,300
Sakatah Singing Hills - Summer 1998	95,634	38.0	2,517
<b><i>All Trails</i></b>	<b><i>896,373</i></b>	<b><i>236</i></b>	<b><i>3,806</i></b>

It is anticipated that the Gitchi-Gami State Trail will experience the high use patterns of the Root River State Trail and Gateway State Trail. High use is anticipated because of the amount of tourism that occurs along the North Shore. Segments of the trail may even be used as intensively as the Gateway, an urban trail. The segment between Gooseberry State Park and Split Rock Lighthouse State Park is a likely candidate for intense use as indicated by park visitation numbers and the proximity to Duluth. There will likely be segments of trail that are not used as intensively due to their lack of proximity, or greater distance to population centers, state parks, resorts, and other development.

The use pattern observed on other state trails can also provide insight into the mix of trail activities that can be expected. As the table below illustrates, bicycling will most likely be the predominant activity, followed by walking and then in-line skating.



**Annual Visits to Minnesota State Parks Along the Gitchi-Gami Trail**

<i>State Park</i>	<i>Annual Visits</i>
Gooseberry Falls State Park	573,571
Split Rock Lighthouse State Park	314,477
Tettegouche State Park	263,598
Temperance River State Park	289,910
Cascade River State Park	136,345

2001 Attendance Figures



# Trail Maintenance

Adequate maintenance of the Gitchi-Gami State Trail is critical to provide and sustain the experience trail users appreciate. Maintenance activities are numerous and diverse, as the following list illustrates. Specifically, maintaining the Gitchi-Gami State Trail will include:

- Monitoring trail conditions, which includes scheduling and documentation of inspections; monitoring the condition of railings, bridges, trail surfaces, and signage; hazard tree inspection; and removal of debris such as downed trees
- Scheduling of maintenance tasks
- Mowing of vegetation: shoulders, rest areas, parking lots, and parallel treadways
- Winter grooming and plowing
- Tree and shrub pruning
- Trash removal
- Trail repair - fixing washouts and controlling erosion are examples
- Maintaining bridge decking and railings
- Trail drainage control
- Trail surface maintenance
- Repair of animal damage to trail or facilities
- Checking and repairing fence lines and gates,
- Mowing and brushing farm crossings
- Cleaning out ditches and culverts, replacing failing culverts
- Controlling noxious weeds
- Maintaining equipment
- Painting posts and picnic tables
- Graffiti control and vandalism repair, especially to signs
- Maintaining boundary signs, and working to resolve encroachment issues
- Coordination of volunteer efforts
- Training and supervision of employees, Minnesota Conservation Corps, or Sentence-to-Service crews doing maintenance work
- Sweeping the asphalt surface

***Recommendation 1: Additional maintenance funds will be required to maintain the trail after it is developed.***

***Recommendation 2: The Division of Trails and Waterways is responsible for maintenance and management of designated state trails. However, portions of this trail cross several state parks, which are managed by the Division of Parks and Recreation. To assure appropriate protection of state park resources, view sheds and facilities immediately adjacent to the trail, trail managers will work with park staff to establish standards and parameters for maintenance activities on state trails within or segments of state trails passing through state parks. Local trail managers will plan, schedule and coordinate maintenance activities following these guidelines with the appropriate park manager.***

***Recommendation 3: A memorandum of understanding will be developed between the two Divisions to address these trail maintenance issues, as well as other issues related to the operation of the state trail within the state parks.***

# Information and Education

## **Identification of Services**

Trail users benefit from knowing where they can obtain services (medical assistance, telephones, gasoline, food, lodging, rest rooms, campgrounds, repair facilities, or other retail) and local businesses benefit from an increase in customers. A listing of the services available in each community developed, maintained and updated by the community could be displayed on information boards at parking areas in each community.

## **Trail User Orientation**

Trail users must have good information about the trail system so they can make choices about destinations appropriate for their time frame, skill level, need for services such as food and lodging, and the type of scenery and other recreational opportunities available along the route. This type of information should be displayed on information boards at parking areas, in communities, and at trail junctions. It should be available on maps, and on the DNR Website (<http://www.dnr.state.mn.us>). It should include distances between communities, options for other trail connections, and locations of services.

If any significant deviation from the typical trail design occurs resulting in a change in user experience, it should be noted on the informational kiosks to assist trail users in understanding what the trail experience will be. For example, if there is a change when the trail enters a community.

## **Trail Rules and Regulations and Trail Courtesies**

Trail courtesy and safety display boards aimed at educating trail users about appropriate behavior, promoting safe trail use, and protecting the quality of the trail environment should be developed. These user-friendly versions of the rules applying to state trails should be posted at information kiosks along the trail, and included in trail maps.

Volunteer patrols could be used to distribute information on appropriate trail behavior and etiquette relative to specific problems such as unleashed dogs, or all trail users keeping to the right and warning others when passing.

## **Interpretation of Natural and Cultural Resources**

There are many natural and cultural resources of significance and interest along the trail. These include creeks, rivers, wetlands, vegetation and wildlife of the North Shore Highlands. In addition, there are several places that tell the history of this region. Providing information about these resources can add enjoyment to the trail experience.

An interpretive theme is identified for state trails during the planning process. The interpretive theme helps tie together spatially separated interpretive sites and provides a continuity in the messages.

Recommended interpretive themes for the Gitchi-Gami State Trail are:

- The interrelationship of Lake Superior, the natural resources of the North Shore Highlands, and the land use history of the region.
- Logging history, fishing, mining, and tourism
- The importance of protecting biological diversity
- Geology of the North Shore

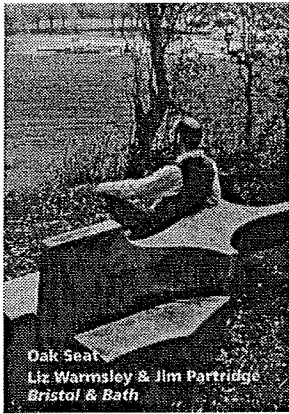
Interpretive signs will be developed in consultation with other DNR divisions, and the Minnesota Historical Society (MHS). Some initial ideas are listed in the development summary. Additional sites will be interpreted over time.

Each state park has interpretive themes, programs, and signage for interpreting its cultural and natural resource setting, covering the themes identified for the state trail as well as others. Coordination between the Divisions of Parks and Recreation and Trails and Waterways in developing interpretive displays and programming will benefit park visitors and trail users.

### **Environmental Education**

The trail has great potential for environmental education. Learning stations with curriculum and hands on projects can be done by students.

## Trailside Art



The use of sculpture along the trail can be an effective way to provide interpretive information about the resources and history of the trail. Practical and functional objects such as benches, gates, water fountains, and tables, can be designed in a way so that they are attractive aesthetically and provide information about the area through design and use of materials. Sculpture or earth works for purely aesthetic purposes can also fulfill this purpose. The following illustrations provide examples of ways art can be integrated into trail development. The illustrations are from a brochure entitled *Art and The Travelling Landscape, Millennium Sculpture and the National Cycle Network*, Sustrans, Bristol, England.

*Benches can be works of art and interpretive displays as well as functional amenities.*



*Art can be used to define access points, entryways and gateways to the trail and/or communities.*



## ***Information and Education Recommendations***

***Recommendation 1: Develop a kiosk design that reflects the interpretive theme for the trail that can be used in the communities along the trail.***

***Recommendation 2: Community services information, trail orientation, and trail rule and trail courtesy information should be developed and installed on a kiosk at the same time the trail is developed.***

***Recommendation 3: Trails and Waterways should work cooperatively with a community arts group to develop trailside art in the right-of-way within the community.***

***Recommendation 4: Trails and Waterways should serve as a catalyst to find schools to use the trail for environmental education purposes.***

***Recommendation 5: Interpret the natural and cultural features along the trail.***

***- Include information on the fishing opportunities of the trail. The Division of Fisheries local offices and MinnAqua staff should be consulted as resources.***

# Enforcement

Enforcement activities are a vital aspect of maintaining a safe and secure trail environment. Enforcement of state trail rules and regulations, information and education, trail design, trail maintenance, and the mix of trail uses are all factors that contribute to the maintenance of a safe, secure trail environment. DNR has the primary responsibility for law enforcement on DNR owned and operated recreation areas.

Adequate enforcement was cited by participants of the planning process as a way of resolving potential problems and addressing concerns. User conflicts, unauthorized uses of the trail, trail users leaving the treadway designated for their use, were among the concerns identified during the planning process as likely areas where enforcement attention would be needed.

Funding for law enforcement on state trails has not kept pace with the need created by new trail development. When miles are added to the system, funds for the additional law enforcement needed have not been appropriated. A negative impact on public safety and natural resources can result due to the lack of sufficient law enforcement. A solution promoting law enforcement coverage with trail development must be found.

***Recommendation 1: Provide an adequate level of enforcement via a multifaceted approach, to help maintain a safe and secure trail environment, and to encourage trail users to understand and obey trail rules, and respect other trail users and adjoining properties.***

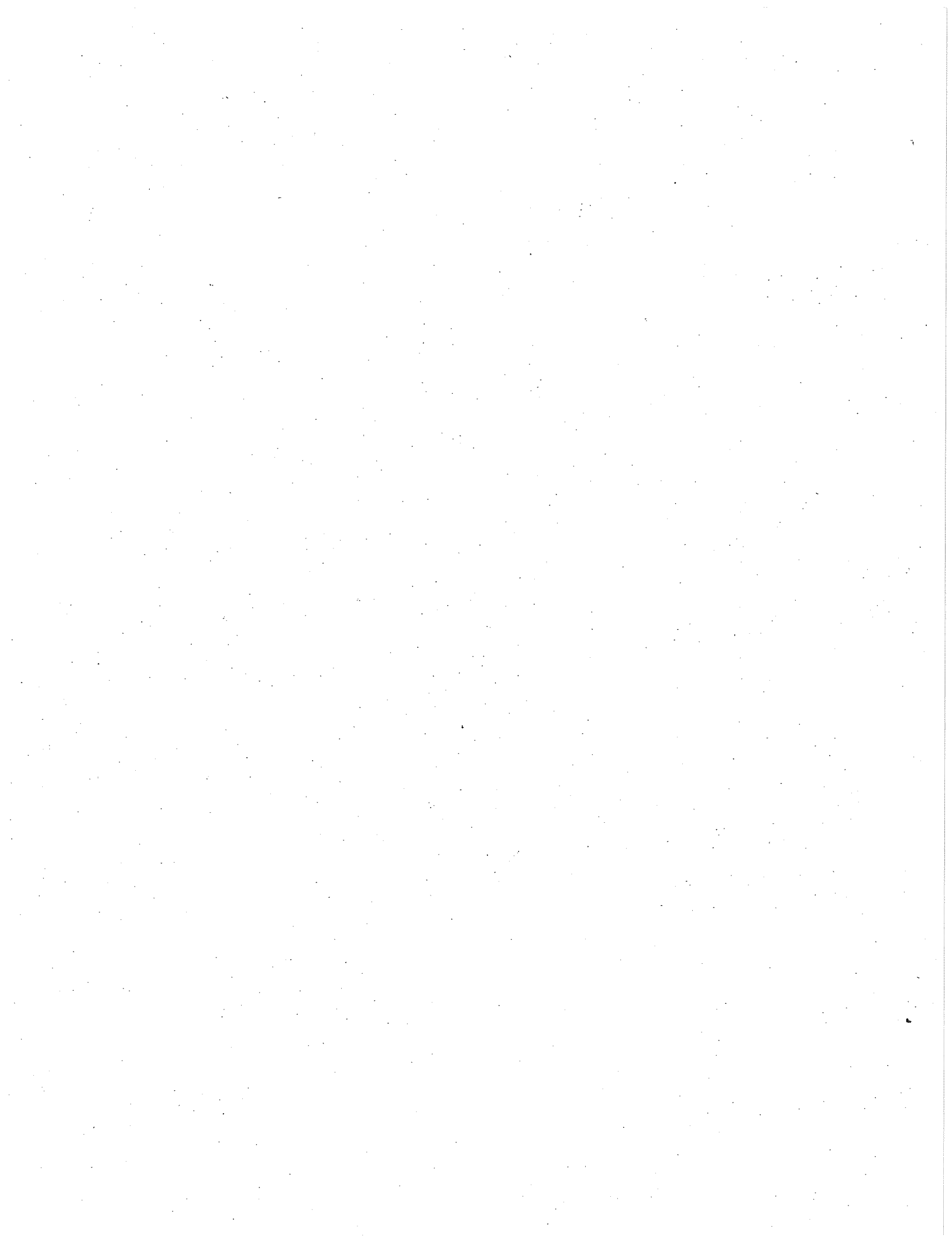
***Recommendation 2: Develop on-site information that targets important trail courtesies and rules necessary for a safe and enjoyable experience, specific to uses of a particular segment and problems and conflicts occurring there.***

***Recommendation 3: Use increased visibility of Trails and Waterways staff during peak use times for an enforcement effect.***

***Recommendation 4: Additional enforcement officers are required to address the enforcement needs of the expanding trail system.***

***Recommendation 5: Trails and Waterways will include the cost of enforcement when providing information about the cost of the trail when communicating with legislators, trail advocates and local government officials.***

***Recommendation 6: Trails and Waterways will work with state park staff to coordinate enforcement and oversight of other trail related activities so that the safety of trail users and successful operation of the state trail will be ensured. This will be addressed in the operational memorandum of understanding between the Division of Trails and Waterways and the Division of Parks and Recreation. (See Recommendation #3 page 84).***







Skidding logs, Nestor Brothers Lumber Company, north of Two Harbors. Photo by Crandell Fletcher, Minnesota Historical Society.

*Trail users will have many opportunities to experience and learn about the natural resources of the North Shore Highlands. Historically, the forest and fisheries resource drew people to the area.*



Fishing on the North Shore ca 1940. Photo by Gallagher Studio, Minnesota Historical Society.

# Natural and Cultural Resources Inventory



# North Shore Highlands

The Gitchi-Gami State Trail is located in the North Shore Highlands subsection of the state's ecological classification system. See the map on the next page. An ecological subsection is defined by vegetation, geology and other resource criteria. A description of the subsection is important for trail planning purposes because it provides the context for trail alignment recommendations, trail development recommendations and resource inventory and resource management recommendations.

The source of the following description of the North Shore Highlands is found on the DNR website <http://www.dnr.state.mn.us>

"The boundary of this subsection follows the Highland Moraine up along the shore of Lake Superior. In general, the boundary parallels the shore about 20 to 25 miles inland.

This subsection occupies the area adjacent to Lake Superior. It is gently rolling to steep. Bedrock outcroppings are common and soils are commonly shallow. Soils are formed in red and brown glacial till and are very rocky. Lake Superior dominates this region. It moderates the climate throughout the year, acting as an air conditioner in summer and a heat sink in winter. Presettlement vegetation was forest, consisting of white pine, red pine, jack pine, balsam fir, white spruce, white cedar, sugar maple and aspen-birch.

Present land uses include recreation, tourism and forestry.

## Landform

Ground moraine and end moraine of the Superior lobe cover much of the subsection (Hobbs and Goebel, 1982). Clay lake plain forms a broad band along the Lake Superior shoreline in the southern half of the subsection. The clay plain is flat to rolling, with steep, narrow ravines along many streams. There are also outwash deposits along the western edge of the subsection.

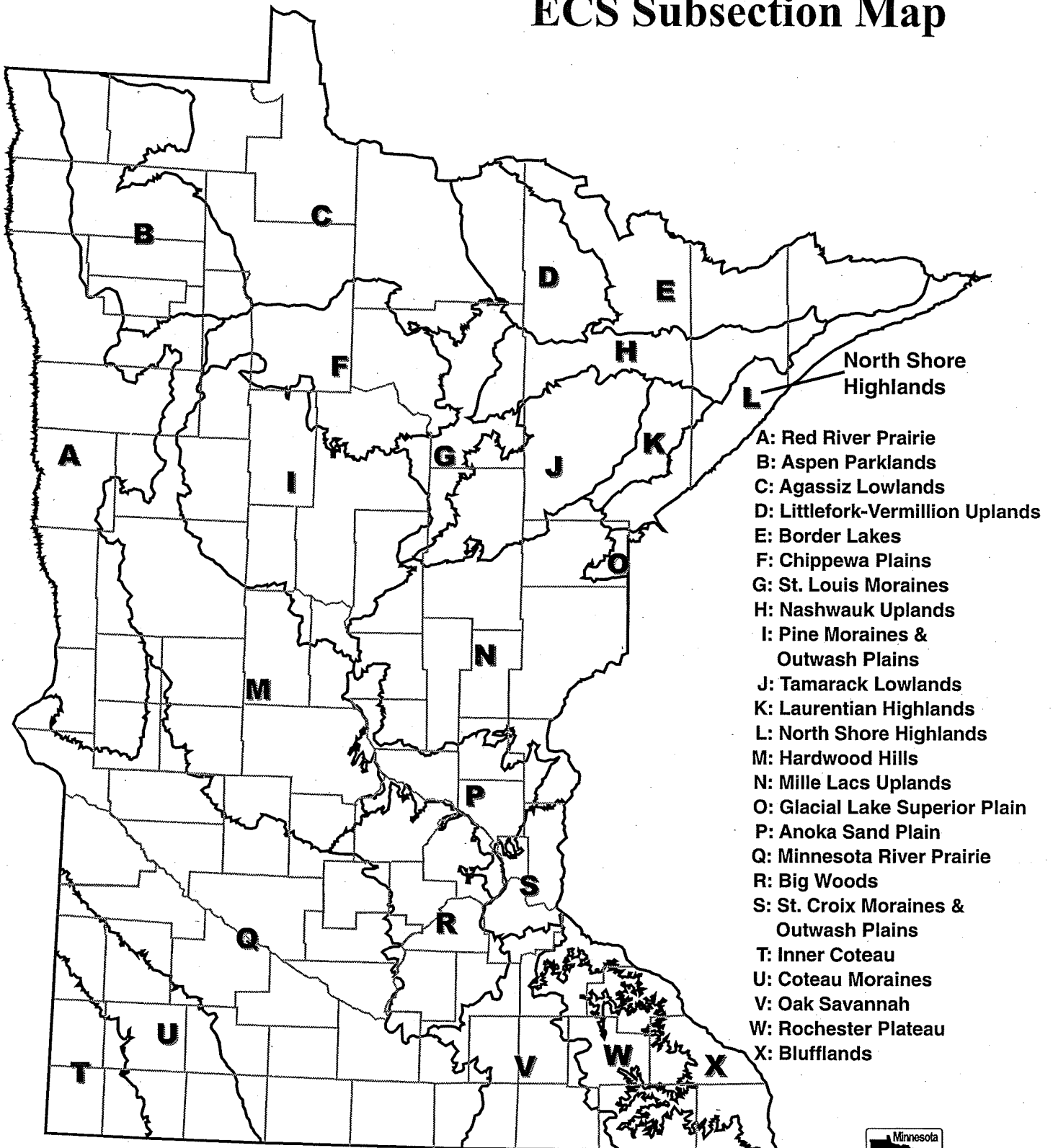
## Bedrock geology

Glacial drift is thin over the entire subsection, and bedrock is exposed or near the surface in large areas. The underlying bedrock consists of Upper Precambrian (Middle Proterozoic) basalt, rhyolite, gabbro, diabase, anorthosite, granite, sandstone, and shale (Morey 1976).

## Soils

The soils are developed from rocky, red tills of the Superior lobe- textures range from sand to clay (Hobbs and Goebel, 1982). Loams and sandy loams are the most common soil textures on the moraines, which occupy most of the subsection. The Highland Flutes, along the eastern edge of the subsection, have a predominance of thin soils over bedrock and clayey soils (Dept. of Soil Science, Univ. of Minnesota 1981b). The Nemadji-Duluth Lacustrine Plain has about 95 percent clayey soils. The most common soils in the subsection are classified as Orthents, Ochrepts, and Boralfs (Anderson and Grigal 1984).

# ECS Subsection Map



**Hydrology**

Lakes make up about 2-3 percent of the subsection- there are 20 lakes larger than 160 acres in size. Seventeen of these are located on the Highland Moraine (Dept. of Soil Science, Univ. of Minnesota 1981b). Numerous short streams, 10-15 miles long, lead directly from the highland to the shores of Lake Superior. Most of them have water falls near the shoreline (Wright 1972).

**Present vegetation and land use**

Almost the entire subsection remains forested, with forest management and recreation as the major land uses. Following logging, the extensive conifer forests have been replaced by forests of trembling aspen-paper birch. Tourism and mining are the other important land uses. There are no mines within the subsection, but ports were set up to get the iron ore from the range to steel mills in Indiana and Ohio. The city of Duluth has a large port area and ships significant amounts of agricultural commodities, as well as iron ore.

**Natural disturbance**

Fire was an important disturbance. This is readily apparent in the northern half of the subsection, where there was a dominance of aspen-birch stands, which are pioneer species. Spruce budworm defoliation was and continues to be a significant disturbance to stands of balsam fir and spruce.

**Conservation concerns**

Lake Superior Highlands was identified as a critical landscape for biodiversity protection by the Minnesota Natural Heritage Program. The subsection contains significant old-growth northern hardwood and upland northern white cedar forest.”

# Climate

The North Shore of Lake Superior is subject to the state's continental weather patterns, which are influenced by cold Arctic air masses in winter and hot Gulf of Mexico air masses in summer. However, Lake Superior has a significant effect on the weather of the North Shore. The Lake moderates temperature. Thus, the North Shore is cooler in the summer - 10 degrees cooler on average, and warmer in the winter, in comparison to inland areas of northeastern Minnesota. The following table lists the average January and July temperatures for Grand Marais, Two Harbors and St. Cloud and illustrates this moderating effect.

	January	July
Grand Marais	13.1 degrees F	61.3 degrees F
Two Harbors	12.7 degrees F	64.4 degrees F
St. Cloud	8.1 degrees F	71.1 degrees F.

The average annual precipitation (rainfall plus the water equivalent found in snowfall) in Minnesota ranges from nearly 18 inches in the far northwest to more than 32 inches in the southeast. Average annual precipitation for the North Shore area is approximately 28 inches. The lake also affects the precipitation. As wind blows across Lake Superior, it picks up moisture. As the moisture laden air moves onshore and up the slope, the air cools and snow or rain results.

The North Shore Highlands receives the highest amount of snow in the state. The average annual snowfall statewide varies from 36 inches in the southwest to more than 70 inches along the North Shore. The following chart illustrates the mean number of snow cover days for various snow depths.

	1"	3"	6"	12"	24"
Grand Marais	130	117	94	56	11
Duluth	138	125	109	74	17
St. Cloud	103	84	56	24	3

The snow lasts longer on the North Shore Highlands too. The average date of occurrence of the last 3 inch snow depth on the shore is April 10th - 20<sup>th</sup>, contrasted with central Minnesota, which is approximately March 21<sup>st</sup>. (Kuehnast, Baker, Zandlow, p 14).

There are a number of implications for trail users. The North Shore is often cooler and thus more comfortable for summer trail activities, however cold and wet conditions and rapid shifts in conditions that can occur throughout the summer may take some users by surprise. Winter trail activities are available longer into the spring compared to much of the rest of the state.

# Geology

The geologic features of the North Shore are one of the major attractions of the region. People love to scramble along the lava flows adjacent to Lake Superior or along the North Shore streams; walk along the cobble beaches; climb the hills, mountains and knobs for vistas of the landscape and Lake Superior; stroll along the beaches and scrutinize individual rocks and stones looking for agates and thomsonite or simply marvelling at the beauty of the amygdaloidal basalt and rhyolite. Visitors to the North Shore come to explore and recognize the individual features such as Gold Rock Point, Shovel Point, Day Hill, Carlton Peak, Palisade Head, and the Sawtooth Mountains.

Providing an understanding of the geology will enhance the experience of trail users on the Gitchi-Gami State Trail whether they understand the basics, such as the fact that the North Shore is made up of 1.1 billion year old volcanic rock or more complicated geologic stories. The Gitchi-Gami State Trail will connect many of the significant geologic features of the Shore. Traveling along the Gitchi-Gami State Trail will allow trail users to experience and learn about the variety of geological resources that combine to define this landscape.

## North Shore Volcanics

The rock outcrops seen along the North Shore were formed 1.1 billion years ago as the North American continent began to split apart and lava flowed from the resulting rift in the earth. This rift, known as the Midcontinent Rift System, was crescent shaped and located along a line running from northeastern Kansas to Michigan, forming a hook in the location that is now Lake Superior. For 20 million years, lava flowed out of fissures along this rift. There were hundreds of individual flows varying in thickness. They occurred at different locations and at different times along the rift. The build-up of surface flows was coupled with continuous subsidence along the axis - the sinking of the thinly stretched crust under the weight of the surface flows - tilting the edges of the rift system toward the center, gradually widening out to become a basin. The result of these processes has been described as "tilted overlapping stacks of pancakes" (Waters, 1987, p.15). Subsidence continued long after rifting stopped. Huge amounts of sediments were washed into and filled the still sinking basin, which would eventually be reshaped and hold Lake Superior and its precursors.

Other geologic events occurred further molding and forming the landscape. Faults pushed up chunks of land forming mountains. Intrusions of molten rock along fractures and faults and between layers of older rock occurred. This process formed diabase dikes (vertical lengths of lava rock) and sills (horizontal segments of lava rock). The differences in hardness between the lava flows, dikes and sills caused the rocks to erode at different rates, a process that created the waterfalls and cascades (Waters, 1987, p.17). Volcanically, the region has been stable for the last billion years.

## Glaciation

Periods of glaciation shaped the landscape during the last two million years. An advance and retreat of the Superior Lobe of the Wisconsin glaciation was the last glacial event to shape the landscape,

receding 10,000 years ago. Glaciers affected the landscape by grinding, scouring and transporting rocks away from the area and also by bringing in and depositing material from areas further north. The tops of the lava flows were ground up and transported by the ice sheet. Rocks found on the beaches of the North Shore are not only formed from local bedrock but include rocks transported from further north.

Meltwater from the glaciers also affected the landscape. Water from melting glaciers eroded soil and bedrock and filled depressions. The Midcontinent Rift created a basin which was scooped out by the glacial advances, became home to a series of post-glacial lakes differentiated by their successive level, and now contains Lake Superior. The first of these, known as Glacial Lake Duluth was much higher. Skyline Drive in Duluth is a 12,000 year old beach ridge that is 500 feet above the current lake level. Other beach terraces, now high and dry formed as lake levels became lower. TH 61 between Schroeder and Temperance is located on a beach ridge from the Nipissing Stage.

### **Agates and Thomsonite**

There are two rocks that are of particular interest to North Shore visitors - agates and Thomsonite. Agates are reddish rocks with concentric layers of red and white bands. Agates were formed in holes in the volcanic rock. These holes were created by gas bubbles rising through molten rock and captured as holes as the lava hardened. Water with differing mineral composition flowed through the rock periodically. Minerals were deposited and collected in the holes, hardening under temperature and pressure over time.

Thomsonite, a zeolite mineral, was formed similarly, but is much rarer. It is pink and green in color with fine radiating lines.



# Water Resources

## Ground Water

“Ground water all along the North Shore varies greatly in quality and quantity, but is generally inadequate for potable water needs. Many of the area wells are artesian or flowing wells and, if drilled into bedrock, may contain high concentrations of salt. There are few areas where salt-free, good volume surface wells (about 40 feet deep) can be drilled. More often, very deep wells (200 feet) must be drilled. They are usually low volume and very expensive to drill.” (Minnesota Department of Natural Resources, Division of Parks and Recreation, 1997, p.40).

## Surface Water

The Gitchi-Gami State Trail corridor lies within the Lake Superior North and Lake Superior South Major Watersheds. These two watersheds are comprised of many streams which lead from the highlands directly to the shores of Lake Superior. The streams have cut through glacial drift deposits and have eroded bedrock in some places creating gorges of varying widths and depths.

Characteristically, the streams are short in length, averaging a main stem length of 20 miles, and have an average gradient of 50-100 feet per mile. Waterfalls are also a main component in the lower segments of many of the North Shore streams and can be viewed from TH 61. Other waterfalls can be observed by taking a short hike inland.

Stream characteristics change moving northeast from the Duluth area towards Canada along Highway 61. Streams near the Duluth area are “flashy and poorly regulated” (Waters, 1977) meaning that they are swollen and flood-prone during heavy rain events and very low during times of drought. Very few lakes exist in the headwaters of this area. Lakes act like natural regulators in that they hold water during times of heavy rain or snow melt and release water during times of drought. As we move northeast, streams become more stable, having less dramatic fluctuation in stream flow because there are lakes and marshes in the headwaters acting as regulators. However, land use practices have altered these conditions in some cases, creating “flashier” conditions.

## Lakes

There are 20 lakes larger than 160 acres in size in the North Shore subsection. (Dept. of Soil Science, University of Minnesota, 1981). The majority of these lakes are not located close to the Gitchi-Gami State Trail. They are located further inland from the shore of Lake Superior.

Opportunities exist for recreation along many of the North Shore streams and lakes. Fishing is a main activity, whether it be for trout, northern pike, or smelt. *See Fisheries section for further detail.* Canoeing and kayaking are other activities but many of the streams have dangerous rapids or portages. Others find opportunities for hiking and picnicking.

## **Lake Superior**

The French named it *le lac superieur*, which means "upper lake," because it was the uppermost lake in the chain of Great Lakes. The Ojibwe called it *gitchi gami* which means "great lake." Obviously, the existing name of the lake is adapted from the French meaning.

The following facts about Lake Superior help to define its character and significance:

Length - 350 miles

Width - 160 miles

Average Depth - 483 feet

Maximum Depth - 1,332 feet

Area - 31,500 square miles, the largest of the world's freshwater lakes

Volume - 2,900 cubic miles

Height Above Sea Level - 602 feet

Average Temperature - 43°F

Shoreline (including islands) - 2,726 miles

10% of the world's surface freshwater.

# Vegetation

## **Vegetation of the North Shore Highlands at the Time of European Settlement**

Two vegetation types covered most of the North Shore at the time of European settlement. The boreal hardwood-conifer forest comprised of aspen, birch, balsam fir, white spruce and white cedar was one type. The great lakes pine forest comprised of white pine, red pine, paper birch and aspen was the other type. There were also pockets of northern hardwood forest that included sugar maple, yellow birch, basswood, and scattered white pine. Conifer bogs and swamps were also present. See the map on page 100 for the pre-settlement vegetation pattern that existed along the North Shore at this time. (Marschner's Map - interpretation of public land survey 1895)

## **Existing Vegetation**

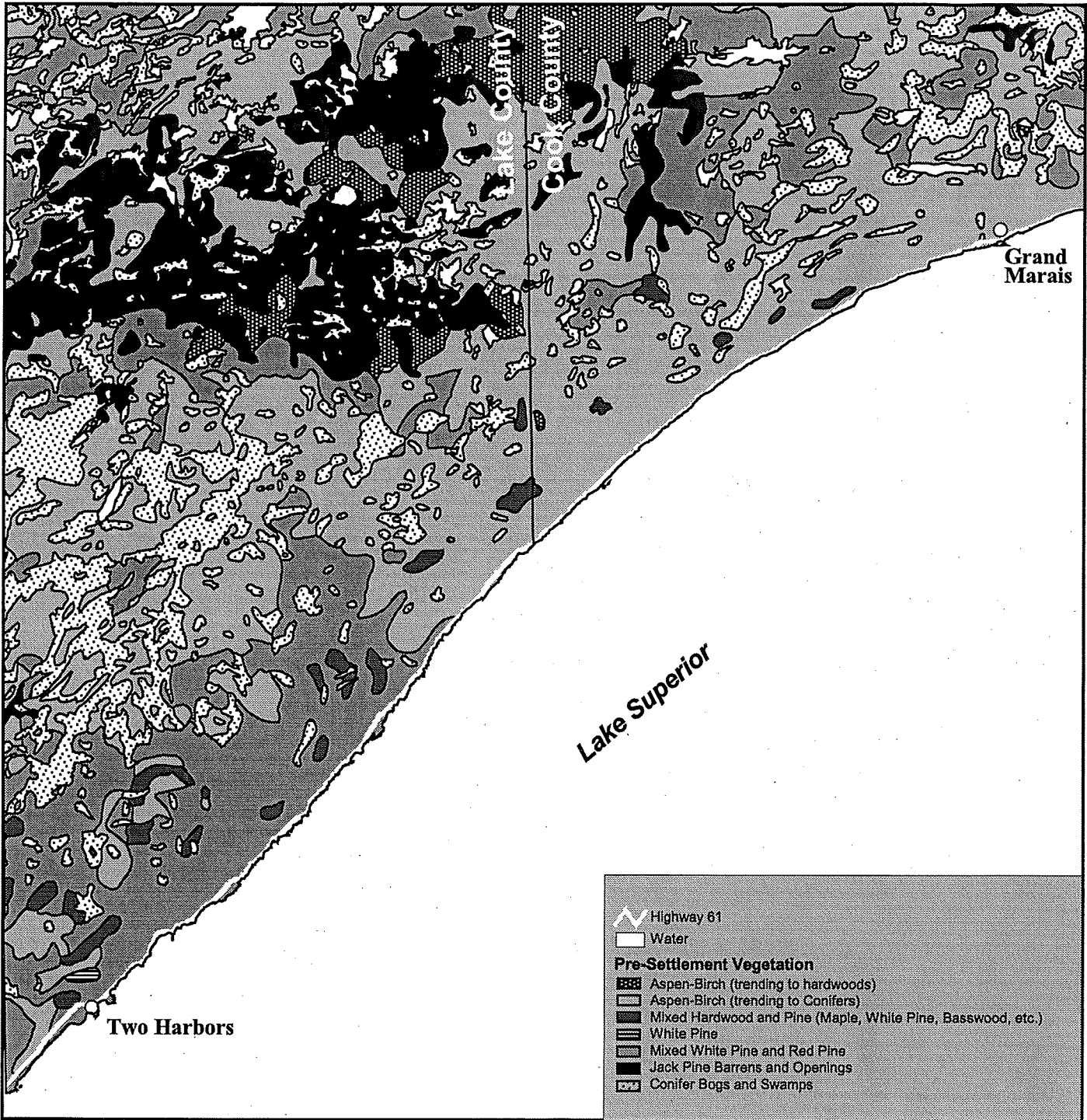
Much of the North Shore is forested today, but the vegetation pattern that existed at the time of European settlement has been drastically altered by logging, subsequent fires, and development. White pine and red pine are scarce in today's landscape due to a variety of factors including: intensive logging around the settlement period, post-logging fires that destroyed regenerating conifers, an absence of seed trees for regeneration due to harvest and fires, and increased browsing by herbivores. The aspen/birch community that is dominant today is the forest community which became established following the intense and widespread logging, post-logging fires and clearing of the early 20<sup>th</sup> century.

Changes as a result of these events as well as more recent changes associated with development and climate, will likely continue to affect the forest along the North Shore in the future. For example, in the absence of disturbance, this aspen/birch community would typically transition to one with more conifers, particularly spruce, fir and cedar, and white pine in some areas. However, this transition appears to be stalled since there is limited regeneration of all these species, including spruce and fir. Where they do become established, white-tailed deer often heavily browse them, effectively preventing them from growing to maturity, and leading the transition to another forest community. Snowshoe hares also do significant browsing of some of these species during their population peaks.

Meanwhile, the shorter-lived birch and aspen continue to age and are not adapted to regenerate in their own shade. In some areas there is also significant premature dieback of the birch, which are sensitive to changes (particularly increases) in temperature, and drought stress. Along the North Shore, dieback is most common around canopy openings, and the larger the opening, the warmer and drier the local microclimate becomes. Such changes have accompanied the creation of corridors for roads, powerlines, trails, housing and other developments along the Shore. The future composition of the plant communities along the Shore in these areas is difficult to predict, but it is unlikely it will resemble anything we are familiar with.

## **Old Growth**

The Old Growth cedar community is of significance along the North Shore. Old Growth forest is defined as a late successional stage forest dominated by long lived tree species, and accompanying habitat conditions that require long periods with little disturbance to develop, and are not found in younger forests. There are white cedar communities with old growth characteristics along the North



**Gitchi-Gami State Trail Corridor  
Pre-Settlement Vegetation Map**

Shore, one of the most noticeable in the area of Cascade River State Park. It is a state legislative requirement that some of these communities on state land be set aside and managed to sustain the Old Growth characteristics.

**Rare Plant Species Along Gitchi-Gami Trail Corridor (One-mile buffer of TH 61)**

A search of the Minnesota Natural Heritage data base indicated that there are thirty endangered, threatened or special concern species that have been documented within one mile of the TH 61 corridor, where most of the trail will be located. These documented occurrences of rare species demonstrate that a variety of habitats along the North Shore support a concentration of rare species. Systematic survey of rare features is currently underway and will likely document additional occurrences.

Scientific Name	Common Name	Minnesota Legal Status
<i>Agrostis geminata</i>	Twin bentgrass	Special Concern
<i>Arnica lonchophylla</i>	Long-leaved arnica	Threatened
<i>Asplenium trichomanes</i>	Maidenhair spleenwort	Threatened
<i>Botrychium lunaria</i>	Common moonwort	Threatened
<i>Botrychium minganense</i>	Mingan moonwort	Special Concern
<i>Botrychium pallidum</i>	Pale moonwort	Endangered
<i>Botrychium simplex</i>	Least moonwort	Special Concern
<i>Calamagrostis lacustris</i>	Marsh reedgrass	Special Concern
<i>Carex flava</i>	Yellow sedge	Special Concern
<i>Carex michauxiana</i>	Michaux's sedge	Special Concern
<i>Carex pallescens</i>	Pale sedge	Endangered
<i>Crataegus douglasii</i>	Black hawthorn	Threatened
<i>Draba arabisans</i>	Rock whitlow-grass	Special Concern
<i>Eleocharis nitida</i>	Neat spike-rush	Threatened
<i>Euphrasia hudsoniana</i>	Hudson Bay eyebright	Special Concern
<i>Juniperus horizontalis</i>	Creeping juniper	Special Concern
<i>Luzula parviflora ssp. melanocarpa</i>	Small-flowered woodrush	Special Concern
<i>Peltigera venosa</i>	Species of lichen	Special Concern
<i>Phacelia franklinii</i>	Franklin's phacelia	Special Concern

<i>Pinguicula vulgaris</i>	Butterwort	Special Concern
<i>Poa wolfii</i>	Wolf's bluegrass	Special Concern
<i>Polygonum viviparum</i>	Alpine bistort	Special Concern
<i>Pyrola minor</i>	Small shinleaf	Special Concern
<i>Sagina nodosa ssp. borealis</i>	Knotty pearlwort	Endangered
<i>Salix pellita</i>	Satiny willow	Special Concern
<i>Saxifraga paniculata</i>	Encrusted saxifrage	Threatened
<i>Senecio indecorus</i>	Elegant groundsel	Special Concern
<i>Tofieldia pusilla</i>	Small false asphodel	Endangered
<i>Woodsia alpina</i>	Alpine woodsia	Special Concern
<i>Woodsia glabella</i>	Smooth woodsia	Threatened

Populations of these plants are protected by state law, and should be considered during all phases of trail planning, development and maintenance. The principle threats to these species on the North Shore are: direct impacts to populations e.g. trail construction/maintenance damage; visitor impacts via foot traffic or bike traffic; direct or indirect habitat destruction; and introduction of exotic species. All of these threats should be addressed in the trail alignment identification process, development and management.

### ***Vegetation Management Recommendations***

***Recommendation 1: Use native plant species, consistent with the native plant communities of the North Shore Highlands subsection to vegetate areas disturbed by erosion, overuse, and construction and in the landscaping of parking areas and waysides.***

**Recommendation 2: Avoid planting and try to eradicate any of the plants listed below. These plants are aggressive introduced species which will crowd out native species.**

<i>Acer ginnala</i> (Amur maple)	<i>Eleagnus angustifolia</i> (Russian olive)
<i>Lonicera tartarica</i> (Tartarian honeysuckle)	<i>Lonicera morrowii</i> (Exotic honeysuckle)
<i>Lonicera x bella</i> (Exotic honeysuckle)	<i>Rhamnus cathartica</i> (Common buckthorn)
<i>Rhamnus frangula</i> (European buckthorn)	<i>Robinia pseudoacacia</i> (Black locust)
<i>Ulmus pumila</i> (Siberian elm)	<i>Agropyron repens</i> (Quackgrass)
<i>Alliaria petiolata</i> (Garlic mustard)	<i>Berteroa incana</i> (Hoary alyssum)
<i>Bromus inermis</i> (Smooth brome)	<i>Carduus acanthoides</i> (Plumeless thistle)
<i>Carduus nutans</i> (Musk thistle)	<i>Centaurea maculosa</i> (Spotted knapweed)
<i>Chrysanthemum leucanthemum</i> (Ox-eye daisy)	<i>Cirsium arvense</i> (Canada thistle)
<i>Coronilla varia</i> (Crown vetch)	<i>Daucus carota</i> (Queen Anne's lace)
<i>Euphorbia esula</i> (Leafy spurge)	<i>Glechoma hederacea</i> (Creeping Charlie)
<i>Lotus corniculatus</i> (Bird's foot trefoil)	<i>Lythrum salicaria</i> (Purple loosestrife)
<i>Melilotus alba</i> (White sweet clover)	<i>Melilotus officinalis</i> (Yellow sweet clover)
<i>Pastinaca sativa</i> (Wild parsnip)	<i>Phalaris arundinacea</i> (Reed canary grass)
<i>Poa compressa</i> (Canada bluegrass)	<i>Poa pratensis</i> (Kentucky bluegrass)
<i>Vicia villosa</i> (Hairy vetch)	

**Recommendation 3: Use new plantings of local, habitat appropriate native species to screen unsightly areas, deter encroachment by adjoining landowners, deter trespassing by trail users and help retain snow cover along the trail as well as improve the quality of the trail corridor.**

**Recommendation 4: Restore, or if necessary recreate native woodland or wetland communities along the trail to minimize maintenance, minimize the use of pesticides, control noxious weeds, and enhance natural species abundance and biodiversity for enhanced user experience.**

**Recommendation 5: A wetland mitigation plan will be prepared to address any identified impacted wetlands.**

**Recommendation 6: Develop a detailed resource management plan with a description of desired future conditions, outlines of vegetation management practices to attain these conditions, and opportunities for cooperative projects. A more detailed inventory of native plant communities and species found within the right-of-way will be needed.**

**Recommendation 7: Minimize size of canopy opening and disturbance to soils and native plant communities during construction of the trail. Protection of native plant communities is a key component of efforts to protect Minnesota's natural biodiversity.**

**Recommendation 8: Work cooperatively with other DNR land managers to establish a native plant nursery so that native plantings can be used during construction of the trail and to enhance the trail corridor in accordance with the vegetation management plan.**

# Wildlife

In addition to the many wildlife species that are commonly seen throughout Minnesota, there are some uncommon or even unique species in this part of the state including pine martens, fishers, moose, and wolves. Peregrine falcons nest on the rocky cliffs of the North Shore.

Sound vegetation management of plant communities will meet most habitat needs for biodiversity. An important issue for wildlife habitat is forest and habitat fragmentation. Creation of edge, predator corridors and deforestation can have negative effects on microhabitats.

## Mammals

As you move north in Minnesota the species of mammals change in diversity. Some species range throughout the state. There are some species found only in southeastern Minnesota where they are at their northern limit and not found in northern Minnesota. By the same token, there are some mammals whose range includes only northern Minnesota and neighboring Canada, such as moose, black bear, and snowshoe hare.

The state of Minnesota recognizes 58 nongame mammals in the state. These species include those that generally are not hunted, are protected by law, or may be killed throughout the year.

Abundant or common nongame mammals likely to be seen by trail users include eastern chipmunk, least chipmunk, and a variety of shrews, mice, and voles.

The wolf is of special interest due to the controversy surrounding its management in Minnesota. At one time, the numbers of wolves had drastically declined due to formal persecution of wolves, sanctioned by government as a bounty was offered to reduce its numbers. Its federal status under the Endangered Species Act is threatened in Minnesota and endangered in Wisconsin and Michigan. Wolves were removed from the State of Minnesota's endangered and threatened list in 1996. The population has recovered and numbers have increased and its range expanded. It may be removed from the federal threatened list when a state management plan is in place. The state management plan was legislatively authorized in 2000, and completed by DNR in 2001. This plan will not be substantially implemented until Federal delisting occurs, as much of the new state law created in 2000 is superceded by Federal law. The U.S. Fish and Wildlife Service has not yet begun a formal delisting process.

Of the 20 species for which the DNR has set hunting or trapping seasons, most are found in northeastern Minnesota. Moose, white-tailed deer, red fox, muskrat, river otter, beaver, mink, fisher, pine marten, and snowshoe hare are common. White-tailed deer winter along the North Shore. Deer seek white cedars and other conifer cover, notably the 5,000 acre Jonvik deer yard between Lutsen and Grand Marais.



## **Birds**

The following text, quoted from the DNR website, provides a good overview of the bird species of the North Shore.

“The first spring migrants arrive in early April with the "big push" of migration in late May, when more than 150 species may be present in the park (Gooseberry) at once. Summer nesting specialties along the North Shore include Bald Eagles, Peregrine Falcons, many wood warblers, and ore. During fall look for the Common Nighthawk migration in late August, when thousands can fill the sky on warm evenings; the flood of songbirds heading south in early September; the peak of raptor migration in September and October, when the North Shore is one of the best places in North America to see migrating hawks; and the Arctic birds beginning to arrive in late October. In winter, northern owls and winter finches sometimes visit from Canada.

### **Raptors**

The North Shore is one of the best places in North America to observe the fall raptor migration. Hawks, eagles, and falcons are concentrated here by the Lake, and on a good day (northwest winds) in September or October, it is possible to see thousands. Species include Osprey, Bald Eagle, Northern Harrier, Sharp-shinned Hawk, Cooper's Hawk, Northern Goshawk, Broad-winged Hawk, Red-tailed Hawk, Golden Eagle, American Kestrel, Merlin, and Peregrine Falcon.

### **Loons**

Loons do not nest on Lake Superior, but the Big Lake is still a great place to find them. Common loons are common in spring and fall migration, as well as in mid-to-late summer, when adults who did not breed come out to the lake to fish. Red-throated Loons and Pacific Loons are rare migrants in the spring and fall.

### **Shorebirds**

More than 20 kinds of shorebirds are seen along the North Shore. Shorebirds are sandpipers, plovers, and other wading birds. At Gooseberry, look near the mouth of the river, on the gravel bar, or on the Picnic Flow. The best times to look are in April and May, and again in August and September. However, Killdeers and Spotted Sandpipers are around all summer, and birds migrating south can turn up as early as late June.

### **Herring Gulls**

The most easily-seen bird at Gooseberry, Herring Gulls are big, gray-backed gulls with pink legs. They nest on the cliff by the mouth of the river, and they are present year-round, but are not very common in winter. Sometimes other gulls stop here when they see the flock of Herring Gulls. Ring-billed Gulls, which nest in Duluth, sometimes visit here in summer. In winter, northern gulls, such as Glaucous Gulls, Thayer's Gulls, and Iceland Gulls sometimes make brief appearances. Great Black-backed Gulls show up on rare occasions, but their range is expanding from the east, so eventually they may be regular residents on the North Shore.

### **Wood Warblers**

More than 25 kinds of wood warblers can be seen in migration at Gooseberry, and almost 20 kinds nest here. Most eat only insects and are only here during the time that insects are abundant (late May through early September).

### **Winter Ducks**

From late October into January, Lake Superior hosts several kinds of ducks that nest in the far north and are seen more often on the oceans. Harlequin Ducks, Long-tailed Ducks (formerly called Oldsquaws), White-winged Scoters, Black Scoters, and Surf Scoters are all seen almost every year along the North Shore.

### **Ruffed Grouse**

These birds (sometimes called partridge) are very common in the forests of Gooseberry Falls. They are well-camouflaged and often sit still until you are almost upon them, when they fly in a loud blur of flapping wings. In the spring, the males "drum" (actually, flap their wings) as they perch on a downed log, trying to attract a mate. The sound they make has been described as similar to a "two-cycle engine starting up;" it's a sound you feel before you even hear it.

### **Common Raven**

Ravens are present year-round in Northeastern Minnesota. They can be distinguished from American Crows by their massive bills; long, stretched-out wings; and by their tails, which come to a V (like the V in raven) behind them."

## **Reptiles and Amphibians**

Of 45 species that occur statewide, 17 species are found here. There are not as many species found in northeastern Minnesota in comparison to the number found in southeastern Minnesota, due to the colder climate. Turtles include the common snapping turtle and painted turtle.

Redback and blue-spotted salamanders can be found under logs and bark in the forest. Tiger salamanders spend their time mostly underground in burrows, except for early spring and fall. Eastern newts are present as well.

Two species of snakes are commonly seen, the common garter snake and red bellied snake. The ringneck snake also can be found in northeastern Minnesota.

Species of toads and frogs present include: American toad, spring peeper, common tree frog, green frog, leopard frog, mink frog, wood frog, and western chorus frog.

## **Fisheries**

The fisheries resource is very significant in the North Shore Highlands, both historically and at the present time. Historically, it provided a significant food source for the Native American residents of the North Shore and for the explorers, fur traders, loggers, miners, and subsequent settlers. It provided a livelihood for commercial fisherman and attracted settlers to the area. Lake Superior, the North Shore Streams, and inland lakes provide a diversity of habitat. Today, the fisheries resource provides diverse recreation opportunities and supports a small commercial fishing industry.

“The Lake Superior fish community has undergone dramatic changes since the mid 1900's due to over-fishing, introduction of non-native species, pollution and land use changes in the watershed. Since the 1950's, the Lake Superior fish community has become much more complex, and is now composed of both native and non-native species. The most devastating introduction to the Lake Superior community has been the sea lamprey, which virtually eliminated the lake trout in all but a few isolated areas of Lake Superior. Harvest regulations and stocking programs, along with stricter pollution standards and best management practices for land use, have led to partial restoration of healthy fish stocks.” (Minnesota Department of Natural Resources, 1995, p.1)

The species composition of Lake Superior present in the mid-1800s evolved over the 10,000 years since the last glacier. The fish community of Lake Superior and tributaries that existed in the mid-1800s included over 70 species, some with locally adapted forms. (Lake Superior Committee, 2002, p.5) Lake trout were the top predators and could be found in a variety of depths throughout the lake. Lake whitefish lived in water less than 100 meters deep. Lake herring and deepwater ciscoes lived in the area of the lake not near shoreland. Deeper lake habitat was occupied by sculpins, sticklebacks, burbot, suckers and pygmy whitefish. Brook trout, walleye, lake sturgeon, yellow perch and norther pike were found in the rivers, bays, and along the coast.

A number of factors negatively affected the fisheries resource after the mid-1800s resulting in a dramatic decline of fish populations. Commercial fishing and sport angling were factors in the decline of a number of species. Destruction of habitat from logging and other land use practices was another factor. Logging caused sedimentation, erosion, higher temperatures, and varying

flows in the rivers which had a negative impact on habitat and was devastating to some fish species. Pollution from paper mills and from other sources played a role in the declines. Mining, agriculture, transportation, and urbanization also had a negative impact on habitat.

The introduction of non native species (notably the sea lamprey) to Lake Superior drastically affected the fish population. The sea lamprey is a primitive fish that preys on other fish by attaching itself to its prey with sucker like jaws and feeding on the blood and body fluids of its victims. Sea lampreys kill their prey. The sea lamprey migrated through the Great Lakes from east to west. Numbers of lake trout and other fish drastically declined. Commercial fishing for lake trout ceased as a viable activity due to the reduced number of fish available starting in 1962. A variety of control efforts were tried and in 1962, a chemical control method using TFM determined to be a viable approach. This method was tried in Lake Superior before the other Great Lakes because there was still a viable population of lake trout there, unlike the other great lakes. Forty-four streams were identified as producing lamprey - four on the North Shore (Gooseberry River, Split Rock River, Poplar River, Brule River). Stocking was used to rehabilitate the population. This method proved to be successful for control of lamprey. Lamprey populations are down to 5-10% of what they were and lake trout and whitefish populations have rebounded. Natural reproduction of trout is occurring.

“Today, fish habitat is much improved. Critical factors in the recovery include the suppression of sea lamprey, the regulation of fisheries by provincial, state, and tribal governments, stocking of lake trout, improved recruitment of lake herring, abatement of pollution, a lessening of habitat destruction and reforestation.” (Lake Superior Committee, 2002, p.7).

The following species are popular for recreational anglers today.

*Lake trout* - Lake trout were native to the lake and are the species most sought after by anglers today. They have made a remarkable recovery and are no longer stocked in most of Lake Superior including northern Minnesota.

*Salmon (pink, coho, and chinook)* - These species were introduced to the lake and are popular with recreational anglers.

*Kamloops rainbow trout* - These fish are popular for recreational anglers today. They are reared in the hatchery and provide a put, grow, and take fishery for stream and shore anglers.

*Steelhead rainbow trout* - Steelhead can be caught in more than 50 North Shore streams. Approximately 145 stream miles can be reached by steelhead migrants from Lake Superior.

*Brook trout* - Brook trout are native to Lake Superior and its tributaries. Most streams have brook trout in the upper reaches. They are a small fish ranging from 6"-15 “.

*Brown trout* - Brown trout are not native to the North Shore. There was an attempt to establish populations in the North Shore streams that met with limited success. The upper reaches of North Shore Streams are the best locations to fish for this species.

*Walleye and northern pike* - Walleye and northern pike can be found in the shallow waters of Lake Superior and in the inland lakes.

### North Shore Streams

One of the defining characteristics of the North Shore are the numerous streams and rivers that cascade into Lake Superior from the adjacent upland. Twenty nine of these streams and rivers have been designated trout streams between Two Harbors and Grand Marais:

Stewart River, Silver Creek, Encampment River, Crow Creek, Castle Danger Creek, Gooseberry River, Two Points Creek, Split Rock River, Beaver River, Palisade Creek, Baptism River, Little Marais River, Dragon Creek, Manitou River, Little Manitou River, Caribou River, Two Island River, Cross River, Temperance River, Onion Creek, Rollins Creek, Poplar River, Jonvick Creek, Deer Yard Creek, Indian Camp Creek, Cascade River, Cut Face Creek, Rosebush Creek

Different segments of the rivers are suitable for different species of fish. The colder segments support trout.

### Interrelationship of the Gitchi-Gami State Trail and the Fisheries Resource

According to the Fisheries Management Plan for the Minnesota Waters of Lake Superior "The long term goal for fisheries management in the Minnesota waters of Lake Superior is:

To protect the Lake Superior ecosystem and to develop a diverse, stable, self-sustaining fish community that provides both recreational and commercial fishing opportunities". (Minnesota Department of Natural Resources, Section of Fisheries, 1995, p.iv.

Development and management actions for the trail should contribute to this goal. The timing of construction and maintenance should take into account the impact on the fisheries resource, and minimize this impact. The trail can promote accessibility by anglers to some fishing locations. There are places along the trail that will provide access to the shore for anglers. Where the trail and fishing locations intersect, there is an opportunity for education about the fisheries resource of Lake Superior through interpretive materials, such as signing.

### Rare Animal Species Along Gitchi-Gami Trail Corridor (One-mile buffer of Hwy 61)

Scientific Name	Common Name	Minnesota Legal Status
<i>Coregonus kiyi</i>	Kiyi	Special Concern
<i>Coregonus zenithicus</i>	Shortjaw cisco	Special Concern
<i>Falco peregrinus</i>	Peregrine falcon	Threatened
<i>Myotis septentrionalis</i>	Northern myotis	Special Concern
<i>Pipistrellus subflavus</i>	Eastern pipistrelle	Special Concern

## ***Wildlife and Fisheries Management Recommendations***

***Recommendation 1: Trail construction at water crossings should be timed so that it does not coincide with spawning or migration of fish species. Silt plumes that may result can negatively affect fish and habitat, or native mussel species. When at all possible, use bridges rather than culverts because it keeps the stream intact. Create angling and education opportunities where the trail intersects fishing opportunities.***

***Recommendation 2: Both bat species (pipistrelle and myotis) identified as rare species, are predominantly solitary species. The eastern pipistrelle is rarely observed in man-made structures whereas the northern myotis will roost in buildings, bridges, culverts and other structures on occasions. Both species use tree foliage, caves, hollow trees and loose bark for roosting. In wooded areas with either species, it is important to keep large or older trees whose bark usually gets shaggy with age. Also, snags and hollow trees should be left standing, if possible, for potential roosting areas.***

***Recommendation 3: Avoid impact to peregrine falcon cliff nesting sites and habitat. Peregrine falcons are listed as endangered by federal law and threatened by the state. There is record of a peregrine falcon nesting site on a cliff along the North Shore. Nest sites on natural features are relatively rare. Of the 24 pairs in Minnesota in 1998, 18 were associated with man-made structures.***

***Recommendation 4: If appropriate, include mitigations for creation of edge, predator corridors and forest fragmentation in the detailed resource management plan required by Vegetation Management***

***Recommendation 5: Develop interpretive signs regarding the fisheries resource at locations along the trail (intersections with streams for example) in cooperation with the Division of Fisheries, MnAqua Program, and Trails and Waterways.***

## **Process for Coordination with Resource Managers:**

### **Introduction**

The status of the trail alignment for 17 segments is documented in the master plan. The alignment status varies from construction completed or in process to a preliminary alignment determined to only a conceptual idea determined - no lines on a map yet. The following process outlines the approach that will be used to ensure early coordination with resource managers on segments of trail as the development process begins. Resource managers include, but are not limited to the DNR area fisheries manager, area forester, area wildlife manager, nongame specialist, plant ecologist, area hydrologist, area enforcement officer, Division of Parks and Recreation park manager, regional resource specialist, and archaeological staff. Resource opportunities and constraints were identified during the master planning process used in locating preliminary alignments.

1. Segment "comes on line" for development. Generally this means funding has been obtained for trail development. Often trail development is coordinated with TH 61 reconstruction.
2. Trails and Waterways Development Specialist informs resource managers the trail development process is beginning. Information provided will include:
  - Identification of the segment with a map.
  - Timeline.
  - Gitchi-Gami's Alignment Committee (Project Partners) preferred alignment.
  - Rare species occurrences.
  - Construction constraints.
3. Resource managers provide input/feedback
4. Preliminary alignment is evaluated in light of information and adjusted if possible.
5. Trails and Waterways conducts natural and cultural resource inventory, including a vegetation inventory conducted by the Trails and Waterways Natural Communities Coordinator.
6. Trails and Waterways communicates the vegetation inventory and schedules field trip with resource managers if necessary.
7. Issues and concerns identified and alignment is adjusted if possible.
8. Trails and Waterways identifies final preliminary alignment and this is communicated to resource managers.
9. Trails and Waterways forwards input to engineering design.
10. Trails and Waterways circulates construction plans and specifications to resource managers for review and comment.
11. Final modifications to plans are made.

# Cultural Resources

## American Indian History

Far from the first people to see Lake Superior, the French explorers looked upon a landscape continuously inhabited for more than 9,000 years. Five thousand years before the construction of Stonehenge in England, northeastern Minnesota was inhabited. The earliest of these people, called paleo-Indians by archaeologists, probably followed the large mammals who in turn, grazed in the cool tundra-like area along the margins of the meltwaters of the retreating glaciers.

These paleo-Indians were nomadic, living in small bands. They used stone-tipped spears and were, in other respects, probably similar to the caribou-hunting eskimos of today.

About 7,000 years ago a change in climate occurred. The climate warmed further which in turn, caused a change in the plants and animals of northeastern Minnesota. Along with the change in flora and fauna came a change in the lifestyles of the human inhabitants. This change in lifestyle produced a culture called the Archaic Period. These Archaic Indians also used stone tools (spearheads, axes, etc.) but, more significantly, began the first use of copper in the region. Thus they were able to use a wider variety of tools, which included fish hooks and knives. As there was no technology of copper smelting, the Archaic Indians had to cold-pound copper into shape. For this, pure copper is needed, and it was probably supplied by deposits on Isle Royal. With the new tools came a change in lifestyle. The people began to fish and gather wild vegetable foods. As a result the Archaic population increased.

Two thousand to 2,500 years ago the culture of the inhabitants of northeastern Minnesota further evolved. This cultural period is called the Woodland Period and it lasted until about 1500 AD. This cultural period is distinguished by pottery making, mound burial and the later use of wild rice.

One aspect of the Woodland Period in northeastern Minnesota has been distinguished and called the Lural Culture. This culture takes its name from a town on the Big Fork River near the mouth of the Rainy River. Lural is used to name a prehistoric mound group that includes the Grand Mound. This cultural aspect is similar to sites in Manitoba, Ontario, and upper Michigan. The Lural people were the first to make pottery in northern Minnesota. This was probably in response to climactic changes that enabled wild rice to become abundant. The pottery was used to parch the rice.

The cycles of the seasons guided the people of the Lural culture. They made their camps where the seasonal resources were most abundant. Spring probably found them near streams where the fish runs occur. Fall found them near the wild rice lakes.

## American Indians in Northeastern Minnesota, 1650 - 1854

Contact between French explorers and the Lake Superior American Indians took place during the last half of the 17<sup>th</sup> century. Pierre Esprit Radisson and Medard Chouart, Sieur des Grosseillers were the first Europeans to leave a written record of the initial contact. Radisson and Grosseillers traveled in the fall of



1659 to Chequamegon Bay where they met with the Ojibway of the region. This helped begin a relationship between the French and the Ojibway that was to last nearly 200 years.

In the spring of 1660, Radisson and Grosseillers spent six weeks with the Santee Dakota somewhere in northeastern Minnesota. Some have speculated that the trail to this meeting began somewhere in the vicinity of Two Harbors. Later that spring after returning to Chequamegon Bay, they once more traveled to the western end of Lake Superior to meet with the Cree Indians. It is probably the case that after crossing Lake Superior, Radisson and Grosseillers put in at Cross River.

Much of the post-contact American Indian history in northeastern Minnesota must be understood in terms of the bitter inter-tribal warfare that occurred. On the one hand, the Ojibway were driven east by the Iroquois who, in turn were squeezed by white settlement on the eastern seaboard. Two hundred years of conflict between the Dakota and Ojibway ensued. In the end, the Ojibway completely supplanted the Cree and Dakota in northern Minnesota. (Minnesota Department of Natural Resources, Trails and Waterways Division, 1986).

There are many reasons for the conflict between the Dakota and Ojibway, not least among these is the role of the French fur trade. The Ojibway and Dakota found it necessary to compete for beaver skins to trade.

### **Fur trading**

Lake Superior was an important travel route to many cultures. The American Indians utilized Lake Superior long before the European explorers discovered it. The Europeans were looking for an alternative water route to the Orient when they discovered Lake Superior.

Fur trading became a major activity for the Europeans around the early 1600's. The French set up a fur post at the present-day Grand Portage. Various other fur posts were established along the shore. As the demand for beaver pelts and the pressure on the resources increased, exploration continued inland to seek other water routes and more pelts. The explorers moved farther west and made alliances with the American Indian tribes. The tribes, realizing the value of the goods that the Europeans were trading, joined the trade business. The French, as well as the English, had posts set up all over the Great Lakes area and the Midwest.

The fur trade began to collapse in the 1830's due to a decline in demand for the pelts and a depletion of the resources. The posts were slowly abandoned or converted into other uses such as fishing villages or native settlements. Eventually, most trading posts were abandoned completely.

### **Fishing**

The commercial fishing industry along Lake Superior wasn't a strong influence until around 1880. Prior to that, fishing was associated with trading posts and mineral exploration. Once the economy became stable and railroads were established in the area, the fishing industry became more of a commercial venture. The fishing industry in Duluth grew tremendously between 1879 and 1885. Other ventures were established along the Minnesota, Michigan and Canadian shores of Lake Superior. The fish were transported via railroad and sold in Minneapolis, St. Paul, Chicago, St. Louis, and Kansas City. Fishing continued to be a prosperous business until around the 1920's. The volume of fish caught continued to

decline until the 1950s when an even bigger problem arose in Lake Superior. The lamprey eel had a devastating effect on the population of trout and added to the decline of commercial fishing. Over-harvesting also had a detrimental effect on the industry. By 1975, commercial fishing had declined. Sport fishing regulations of the time also had a negative effect on the industry.

### **Logging**

The white pine of the North Shore attracted loggers in the late 1800s and early 1900s. As supplies of white pine in the eastern United States became depleted, the logging industry moved west to meet the demand for lumber used to build a growing nation. Numerous logging companies came to the North Shore. At first, the logging activity occurred near the shore of Lake Superior. Timber was cut near the shore and the logs rafted to sawmills via the lake. Accessing timber further inland posed a problem. The commonly used method of transporting logs by floating them down rivers and streams did not work very well on the North Shore. North Shore streams were not conducive to this method because of the numerous waterfalls and cascades. Logjams and damage to the logs that resulted from their rough and rocky journey down the streams was problematical. The answer - the logging railroad.

Logging railroads revolutionized the logging industry by providing access to the vast pine stands of the region. Several logging companies operated along the shore. Railroad lines and spur tracks were built to transport logs from the pine stands. The logs were either transported to landings on Lake Superior and rafted to sawmills in Duluth, Ashland, Wisconsin or Baraga, Michigan or transported to mills directly by rail. Landing sites included Knife River, Two Harbors, Gooseberry River, Split Rock River and Beaver Bay.

One of the largest logging companies operating on the North Shore was the Alger-Smith lumber company based in Michigan. The main line of their railroad, the Duluth & Northern Minnesota Railway extended 100 miles northeast from the town of Knife River on the shore of Lake Superior. This line, when combined with 350 miles of branch lines formed an efficient transportation network to move logs from the forest to their main yard at Knife River and on to the sawmills in Duluth. They also rafted logs down the lake shore to Duluth. The Split Rock Lumber Company and Split Rock & Northern Railroad operated near the Split Rock River for seven years. The Gooseberry River area was logged by a company called the Estate of Thomas Nester. They rafted logs to Ashland, Wisconsin and Baraga, Michigan for approximately 10 years. The Brooks-Scanlon Lumber Company operated along the headwaters of the Sucker River. Logs were transported to Scanlon by the Minnesota and North Wisconsin Railroad. Other smaller lumber companies and associated railroads built tracks into the forest, and transported logs to sawmills, via railroad or lake. One company did use the method of using rivers to move logs to Lake Superior as described above. The Schroeder Lumber Company logged in the Cross River area. A series of dams was used to create a series of pools. The dams were opened and water released to move logs on down to the next pool and ultimately to Lake Superior. Logging in the Cascade River Area was conducted by the General Logging Company and the Duluth and Northeastern Railroad. Logs were transported by rail to Cloquet between 1927- 1928 (Waters, 1987, p.116).

Most of the logging railroads were gone by mid 1920s. However, some of the corridors found other uses. The North Shore State Trail uses approximately 20 miles of the Alger Smith main line.

### **Mining**

North Shore mining history includes the quest for copper, silver, gold, courundum, and most notably, iron ore, and taconite. Small amounts of copper deposits were mined along the Canadian Shore, with minimal yields. Copper was mined on Isle Royal in the latter part of the 1800s. Silver mining occurred in Canada, west of Thunder Bay. Silver Islet, a small island off the shore of Sibley Peninsula had the richest producing silver mine in the world. Silver was mined here for fifteen years. This mine produced more than the other Thunder Bay mines. The silver boom was over by the early 1900s. The quest for gold centered in the Lake Vermillion area. Gold was produced here until 1936. There were also gold mines between Wawa Lake and the Michipicoten River that operated for two or three years. A second rush occurred in the 1930s.

Iron mining was and remains a significant element in the economy and cultural identity of northeast Minnesota, as well as the history of the Great Lakes. The communities of Two Harbors and Silver Bay were founded as ports for shipping iron ore. Railroads were built connecting Lake Superior and its shipping routes to the iron mines located inland. Iron ore loading facilities are obvious features at several points along the state trail route. The first iron mine in the Lake Superior area was the Helen Mine located on the eastern shore in Canada.

Minnesota iron mines soon outpaced ore production on the eastern shore. The Vermilion and Mesabi ranges were the largest and richest source of iron in North America. Charlemagne Tower formed the Minnesota Iron Company in 1882 and authorized the construction of the Duluth and Iron Range Railroad from Two Harbors to Vermilion Lake. Tower then extended the line to Duluth and built ore docks on Agate Bay in Two Harbors. In 1884 the first trainload of Minnesota iron ore left the Soudan Mine. Two steamers carried ore to blast furnaces on the lower lakes.

The rich iron ore of the Mesabi Range was discovered by the Merritts in 1890. The Merritts built the Duluth, Missabe and Northern Railway, providing a connection to docks in Superior, Wisconsin and to the Great Lakes. They went bankrupt in the 1893 depression. Their interest and holdings were acquired by John D. Rockefeller. The U. S. Steel Corporation was formed. More mines were opened and an influx of miners to the area ensued. A vast iron ore transportation network between the mines and the blast furnaces of the lower lakes and eastern cities was developed. The Mesabi produced over half of the U. S. iron ore in the early 20<sup>th</sup> century. Mesabi ore was the richest in the world. Soon, the soft ore was depleted. The remaining, taconite contained 30% iron. A technological process was developed that crushed, ground, then magnetically separated the iron and then aggregated it with bentonite. The resulting pellet was 63% iron. Reserve Mining Company acquired the Mesabi Iron Company and began processing taconite. Reserve Mining Company picked a location on Lake Superior, which became Silver Bay, to develop a processing plant as vast amounts of water are needed. (Waters, 1987, pp. 83-103).

### **Historic Sites**

There are many cultural resources in the trail corridor relating to the American Indian, fur trading, logging, fishing, mining, and tourism themes. Several state parks contain significant cultural resources. There are structures built by the Civilian Conservation Corps (CCC) in the day use area in Cascade River State Park. Tettegouche camp in Tettegouche State Park is on the National Register of Historic Places and has a number of buildings that are on the Register. The lighthouse in Split Rock Lighthouse State Park is on the National Register of Historic Places. Gooseberry Falls State Park contains a number of CCC rustic style structures that are on the National Register of Historic Places. There are also a number of National Register of Historic Place sites outside of the state parks along the trail route. There are twelve sites on the National Register of Historic Places in Cook County, four within Grand Marais, three others along TH 61, and two shipwrecks near shore. There are sixteen sites on the National Register of Historic Places within Lake County, six near the trail within the city of Two Harbors, five shipwrecks, and many CCC structures in Gooseberry Falls State Park. (Minnesota Historical Society, National Register of Historic Places website). These resources need to be considered in the location, design and interpretation of the trail.

**Socioeconomic Resources** (This section is excerpted from the Cascade River State Park Management Plan, Department of Natural Resources, Division of Parks and Recreation, 2001.) Any additional comments are indicated in italics)

### **Economic**

The Gitchi-Gami State Trail is located in Cook and Lake counties. The regions' economy is primarily based on logging and tourism. The presence of forest related industries, retail trade businesses, contract construction companies, manufacturing firms, and small mining companies also define the economy.

### **Population**

The population of the two counties the Gitchi-Gami State Trail is located in is 16,226. Of that total, 11,058 reside in Lake County and 5,168 reside in Cook County. Both counties showed an increase in population from 1990 - 2000, 6% for Lake and a 34% increase for Cook. The majority of these residents live along the TH 61 corridor.

### **Regional Recreation and Tourism Opportunities**

The North Shore Highlands (ECS) Subsection offers numerous outdoor recreation and tourism opportunities which are provided by both public and private entities. These opportunities attract large numbers of visitors to the area, who in turn contribute greatly to the region's economy.

### **Overnight Recreational Opportunities**

#### **Camping**

There are 52 developed campgrounds located within the North Shore Highlands ECS subsection. Eight of these are State Park campgrounds (Table 3). Although State Parks are the most recognizable campgrounds along the North Shore, they account for a little less than 15 percent of the total number of drive-in campsites in the area.

#### **NonCamping (Hotels/Motels/Resorts/Bed & Breakfast).**

There are over 135 privately owned businesses that provide overnight accommodations (non-camping) in Lake and Cook Counties. Facilities ranging from rustic cabins to hotels can be found primarily along the North Shore of Lake Superior.

### **Traditional Day-Use Recreational Opportunities**

**Picnic Areas and Beaches.** There are over fifty public picnic areas and three public swimming beaches in Lake and Cook Counties. There are few public beaches in the region as relatively few inland lakes are located near population centers and Lake Superior's water temperature is cold. There is one public swimming pool located in Grand Marais, Minnesota. Private entities manage approximately twenty picnic areas and beaches in the North Shore Highlands ECS.

**Watercraft Access Facilities and Fishing Piers.** Within the North Shore Highlands ECS subsection there are forty-four public watercraft access facilities. Eleven of these are boat ramps located on Lake Superior.

In addition to Lake Superior, there are twenty one boat ramps on a variety of inland lakes. The remaining twelve access facilities are carry-in access points (for smaller watercraft such as canoes and/or kayaks).

There are a total of seven public fishing piers, only one of which is located on Lake Superior, at Grand Portage Bay.

**Visitor Information Centers, Interpretive Centers and Museums.** Gooseberry Falls State Park offers a Visitor Center with interpretive exhibits and year around, on-site interpretive staff. The Minnesota Historical Society at Split Rock Lighthouse State Park Visitor Center is open seasonally with interpretive exhibits and on-site interpretive staff. Split Rock Lighthouse, Tettegouche, Temperance River, Cascade River and Grand Portage State Parks each offer visitor contact stations. The Superior National Forest has ranger stations in both Tofte and Grand Marais, Minnesota. These stations provide visitor information as well as a limited number of interpretive exhibits and/or displays. The Sugarloaf Interpretive Center offers a monthly series of programs. Grand Portage National Monument offers reconstructed historic buildings, interpreters, interpretive displays, hands-on exhibits, and video programs. Two privately owned science and nature centers can be found along the North Shore: (1) The North House Folk School and Freshwater Learning Center (Tofte) and the Wolf Ridge Environmental Learning Center (Finland). The Grand Portage Travel Information Center is open seasonally.

### **Trail Opportunities**

**Hiking.** There are over 550 miles of hiking trails within the North Shore Highlands ECS Subsection. Over 265 miles of this total are found in two State of Minnesota long distance trails: the Superior Hiking Trail and the North Shore State Trail.

The Superior Hiking Trail is being developed by a private foundation, the Superior Hiking Trail Association. As of February, 1999, this rugged hiking and backpacking trail was 220 miles long. Upon completion, the trail will extend nearly 300 miles from Duluth to the Canadian border.

The North Shore State Trail is a 170 mile, multiple-use trail. Segments of the trail provide horseback riding and mountain biking opportunities. In the winter the trail is groomed for snowmobile use. Seventy-five miles of the trail are open to hiking in the spring, summer, and fall seasons. The North Shore State Trail currently extends from the Duluth to Grand Marais. Several public and private trails connect these long-distance trails with state parks and communities along the North Shore.

**Horseback.** The North Shore State Trail provides 75 miles of designated horseback riding trails. The Lutsen Village Inn offers three miles of private trails for horseback riding. Additional horseback riding opportunities exist along logging roads in the Superior National Forest; however, these logging roads are not officially designated horseback trails.

**Snowmobiling.** There are 621 miles of snowmobile trails along the North Shore, 146 miles of which are part of the previously mentioned North Shore State Trail. State Grant-In-Aid (GIA) provides 415 miles of snowmobile trails in this region. GIA trails are funded by snowmobile registrations and unrefunded gas taxes through the DNR. Local units of government sponsor these trails and distribute the funds to local snowmobile clubs for trail development and maintenance. The GIA trails form a network that connects public lands and communities along the North Shore.

**Bicycling (Surfaced Trail or Road Shoulder).** The shoulder along the Scenic Highway 61 between Duluth and Two Harbors receives heavy use by bicyclists. The shoulder along Highway 61 is not an officially designated surfaced biking trail and is therefore not included in the total along the North Shore north of Duluth. *The city of Two Harbors has developed a one mile trail connecting the campground and Lake Superior Waterfront.*

**Off-Road Bicycling (Mountain Biking).** There are 354 miles of off-road bicycling trails within the North Shore Highlands ECS Subsection. Seventy-five miles of the North Shore State Trail are open to mountain bike use between Two Harbors and Grand Marais. The Superior National Forest has four officially designated mountain bike trails that total 56 miles. There are also mountain biking opportunities along the logging roads within the Superior National Forest, but, because these are not officially designated mountain bike trails, are not included in the total miles along the North Shore.

## **OTHER RECREATIONAL AND TOURISM OPPORTUNITIES**

**Fishing.** Numerous fishing opportunities exist in the North Shore ECS Subsection. There are over 140 fishable lakes and streams in Lake and Cook Counties. Eight-five of these are state designated trout streams.

**Hunting and Trapping.** Public hunting (including small game, deer, moose, and bear) and trapping opportunities occur within Lake and Cook Counties in the Finland, Pat Bayle, and Grand Portage State Forests, and the Superior National Forest. These public lands provide hunting opportunities on many thousands of acres across the region. However, the deer population congregates (or yards) near Lake Superior during the winter, effectively reducing the prime deer hunting opportunities to the area "below the ridgeline". As the majority of the lands along the North Shore of Lake Superior are privately owned, relatively few public lands are available for these prime deer hunting opportunities. Local wildlife managers have worked with park and forestry staff in managing these deer yard areas.

**Rock Climbing.** The North Shore Highland's geologic features provide excellent rock climbing opportunities for beginner to advanced climbers. Main areas of emphasis include: Shovel Point and Palisade Head in Tettegouche State Park, Carlton Peak in Temperance River State Park, Sawmill Creek Dome and Section Thirteen (both located two miles north of Little Marais off County Road 6) and Johnson Lake (northeast of Finland off Highway 1).

**Kayaking.**

*Lake Superior Water Trail. "Established by the Minnesota Legislature in 1993, the Minnesota portion of the Lake Superior Water Trail will eventually extend from the St. Louis Bay in Duluth to the Pigeon River on the Canadian border, a distance of approximately 150 miles. Cooperative efforts in Ontario, Wisconsin, Michigan and First Nations will develop a Water Trail completely around Lake Superior, primarily for use by sea kayakers. The development and maintenance of the Water Trail is a joint effort of the Minnesota Department of Natural Resources and the Lake Superior Water Trail Association of Minnesota." (Minnesota Department of Natural Resources, Lake Superior Water Trail, Two Harbors to Caribou River, Map 2).*

*Whitewater Kayaking.* In addition to sea kayaking opportunities, the North Shore Highlands ECS Section provides many whitewater kayaking opportunities. The American Whitewater Affiliation lists four rivers in Lake and Cook Counties that are conducive to whitewater kayaking. Conditions are best in the springtime, and, to a lesser degree, during the summer and fall flood events.

Managing Agency	Hiking	Horse-back	X-C Skiing	Snow-mobiling	ORV	Off-Road	Surfaced
State Parks (MN-DNR)	125.5	0	75.5	24	6.5	17.5	0
State Forests (MN-DNR)	2.5	0	0	23	0	0	0
Trails and Waterways (MN-DNR)	265	75	59	146	0	75	0
Superior National Forest	47.5	0	14.9	12.5	0	56	0
Grand Portage National Monument	8.5	0	8.5	0	0	0	0
Grant-In-Aid	35	0	69.3	415.8	28.9	20.8	0
County (Cook and Lake)	0	0	148	0	0	56.9	0
Municipal	21.7	0	72.4	0	0	72.4	1
Private Ownership	51	3	23	0	0	56	0
<b>TOTALS</b>	<b>556.7</b>	<b>78</b>	<b>470.6</b>	<b>621.3</b>	<b>35.4</b>	<b>354.6</b>	<b>1</b>



**Golf.** There are four golf courses available to visitors of the North Shore Highlands ECS Section. The most well-known of these is Superior National Golf Course in Lutsen. Superior National provides 27 holes of golf that are open to the public. Other public golf courses are located in Silver Bay, Grand Marais, and Two Harbors. There are a total of 63 holes of golf in Lake and Cook Counties.

**Downhill Skiing.** Downhill skiing is offered at Lutsen Mountain in Lake County. This privately owned ski area consists of four mountains and 68 runs, serving skiers of all skill levels.

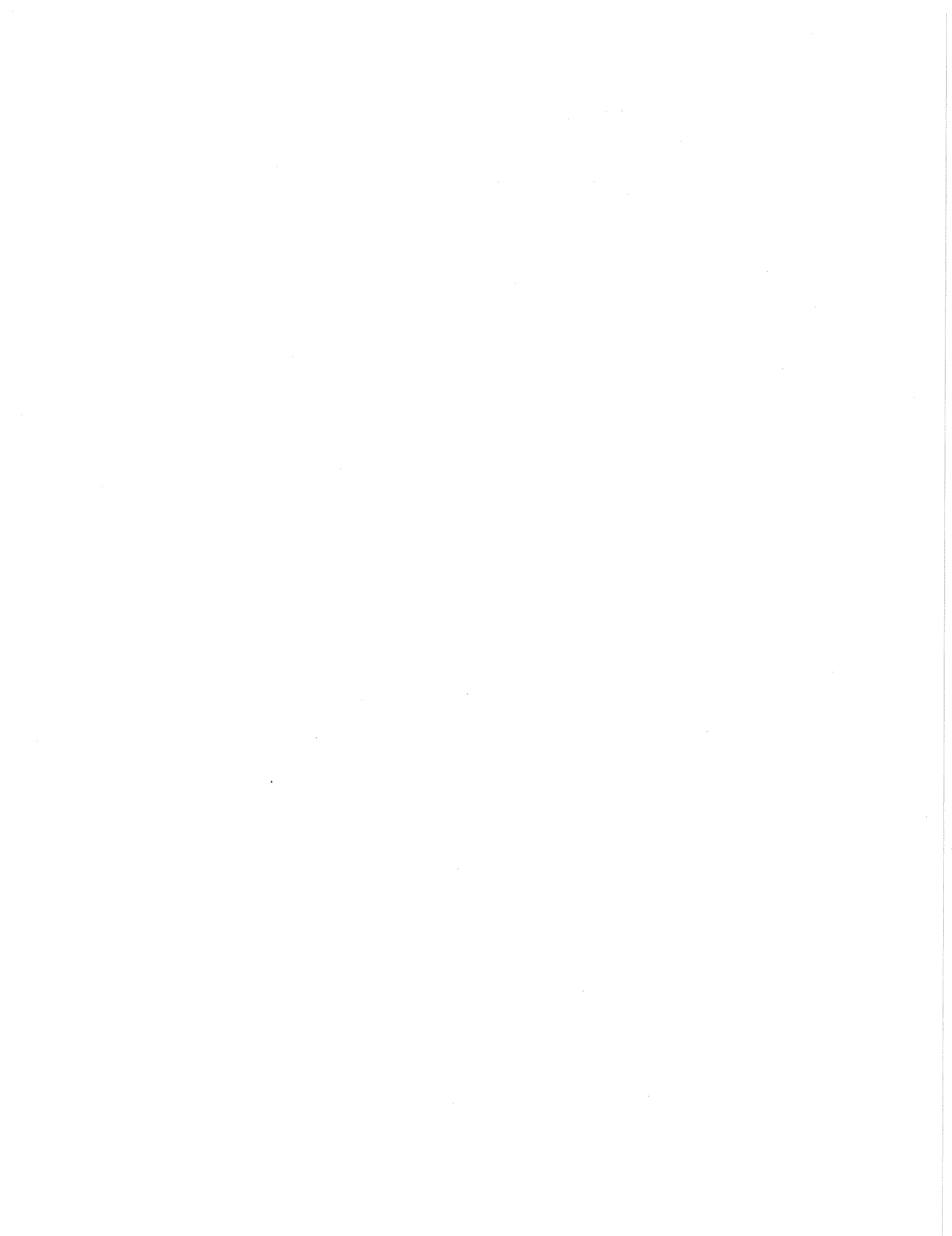
**Casinos.** Grand Portage Lodge and Casino is the only casino in Lake and Cook Counties and is under tribal ownership.

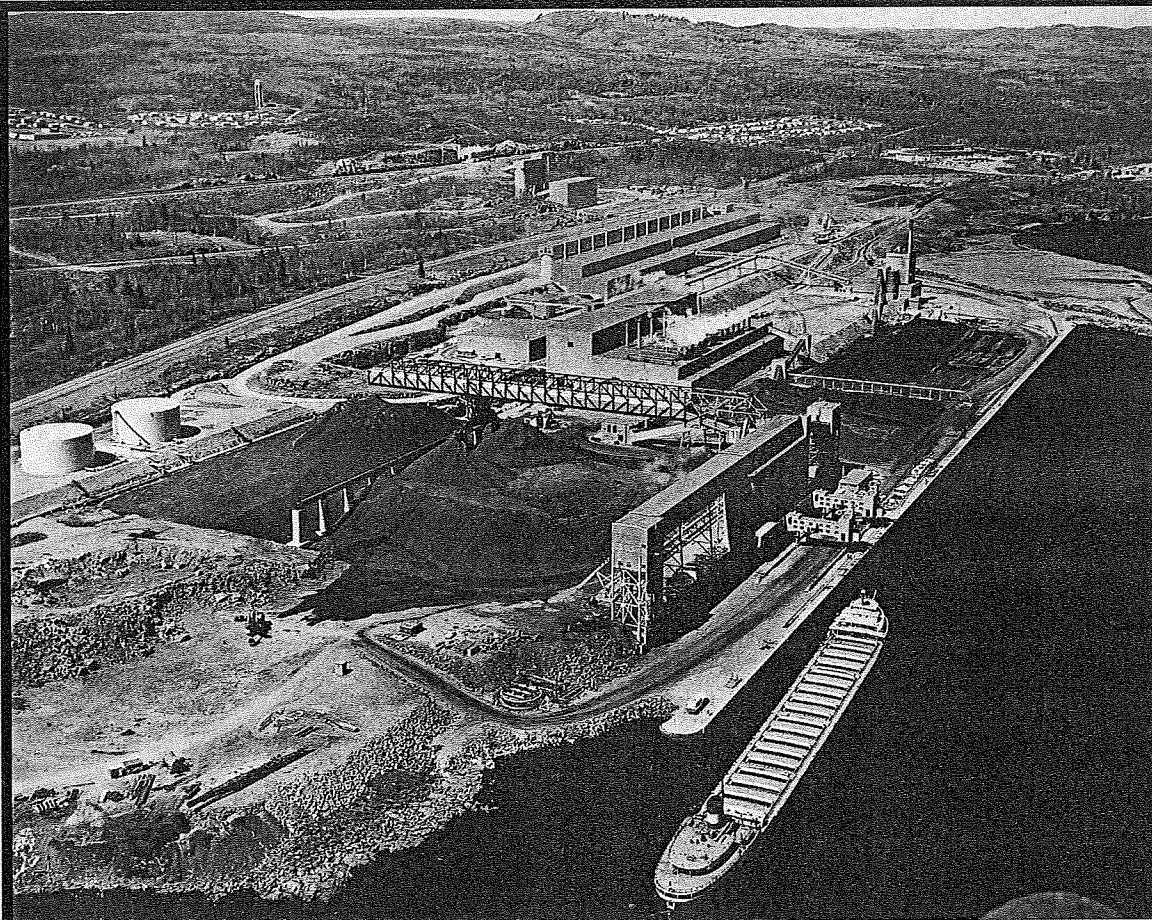
**Theater Arts.** There are two opportunities to experience theater arts in the North Shore ECS Section. The Grand Marais Playhouse, in Grand Marais, is less than 10 miles away from Cascade River State Park. The North Shore Music Association organizes and produces performances in Lake and Cook Counties.

**Outfitters and Guide Services.** Due to the heavy recreational use of the North Shore each year, outfitter and guide services have flourished. The town of Grand Marais and the Gunflint Trail offer 21 outfitter businesses where visitors can rent or purchase gear necessary to their trip. Guide services are also a popular attraction on the North Shore. Recreational visitors can pay for guided fishing charters, backpacking trips, or horseback rides along the North Shore trail network. Scenic tours by car, boat, or sled dog are also available.

#### **The Future of Recreation.**

Over time, additional recreational activities and sports will become popular as interests and technology changes. There are recreational activities, not included in this listing, that may reach a level of use or intensity of use that requires consideration and monitoring to ensure that the park resources and visitor experiences are preserved. Some examples of newly emerging or growing activities include the use of off-trail in-line skates, ski touring, and electric bicycles.

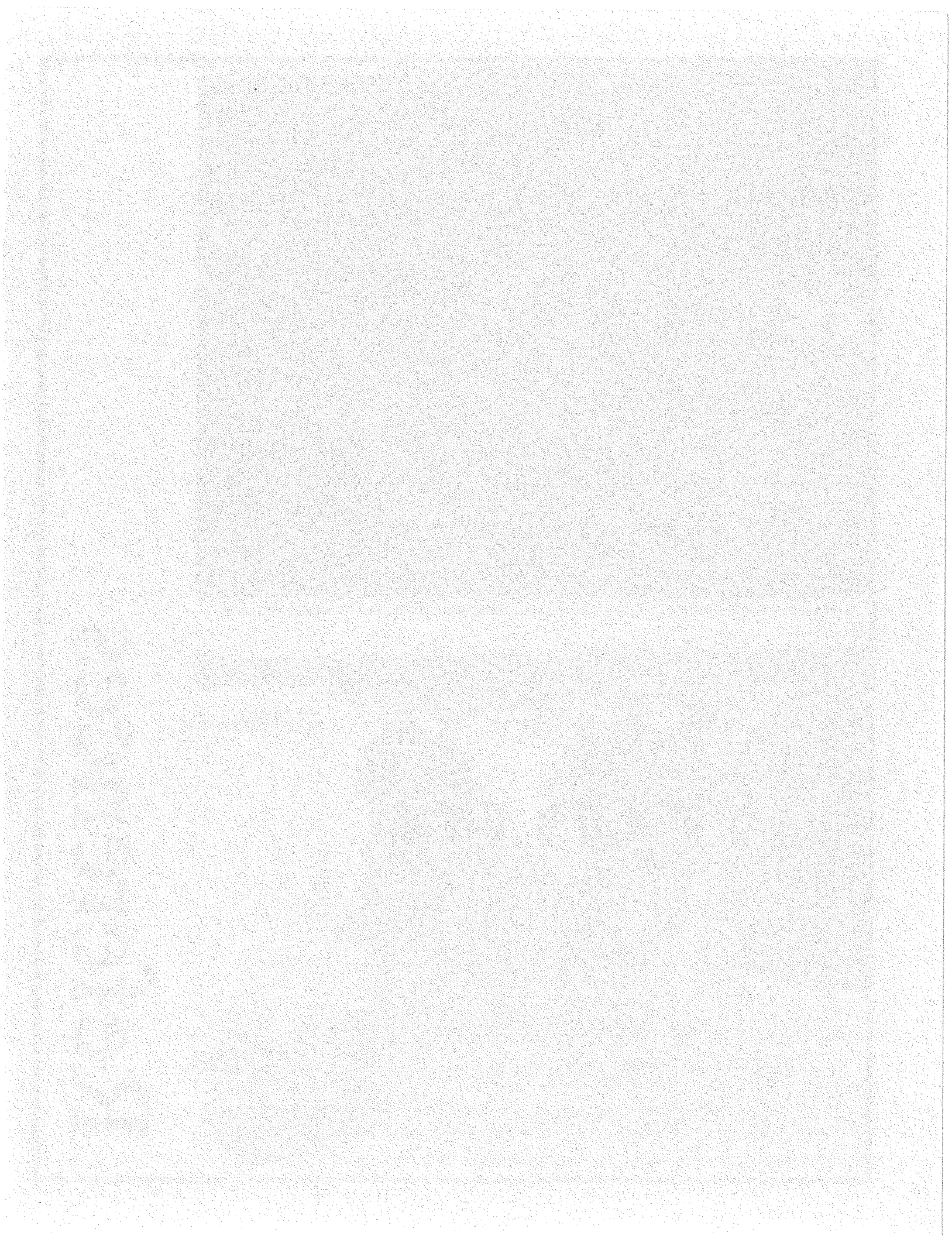




Aerial view of Reserve Mining Company's taconite processing plant, Silver Bay. Minnesota Historical Society.



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