

Tettegouche State Park Management Plan

July 1997



Minnesota Department of Natural Resources / Division of Parks & Recreation



Minnesota Department of Natural Resources

OFFICE OF THE COMMISSIONER

500 Lafayette Road
St. Paul, Minnesota 55155-4037

RE: Department of Natural Resources Approval of Management Plan for Tettegouche State Park.

Minnesota Statutes 86A.09 requires that a master plan be prepared for units of Minnesota's outdoor recreation system. Laws of Minnesota for 1979 established Tettegouche State Park.

The recommendations in this plan are the result of a partnership based planning process. It was developed with the assistance of many citizens and technical experts from several agencies. The management plan was approved by the MnDNR Senior Managers Steering Committee review process during April, 1998.

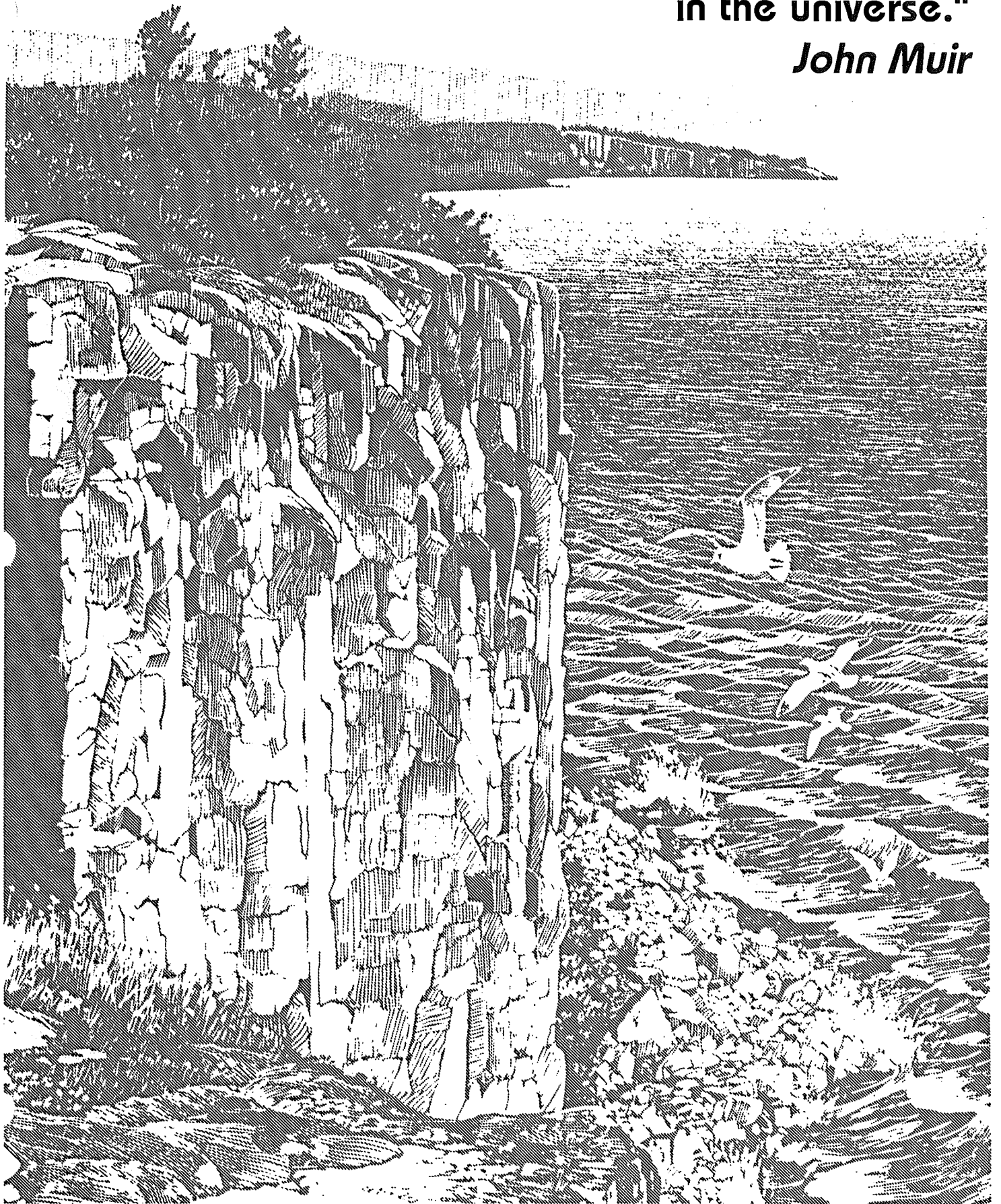
Rodney W. Sando, Commissioner
Minnesota Department of Natural Resources

Date



**"When we try to pick out anything by itself,
we find it hitched to everything else
in the universe."**

John Muir



Acknowledgments

A warm thank you to the members of the Citizen Advisory Committee for all the hours of their time that they donated to help guide the development of this plan.

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Also a special thank you to:

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For helping the Division of Parks and Recreation
move toward Benefits Based Management.

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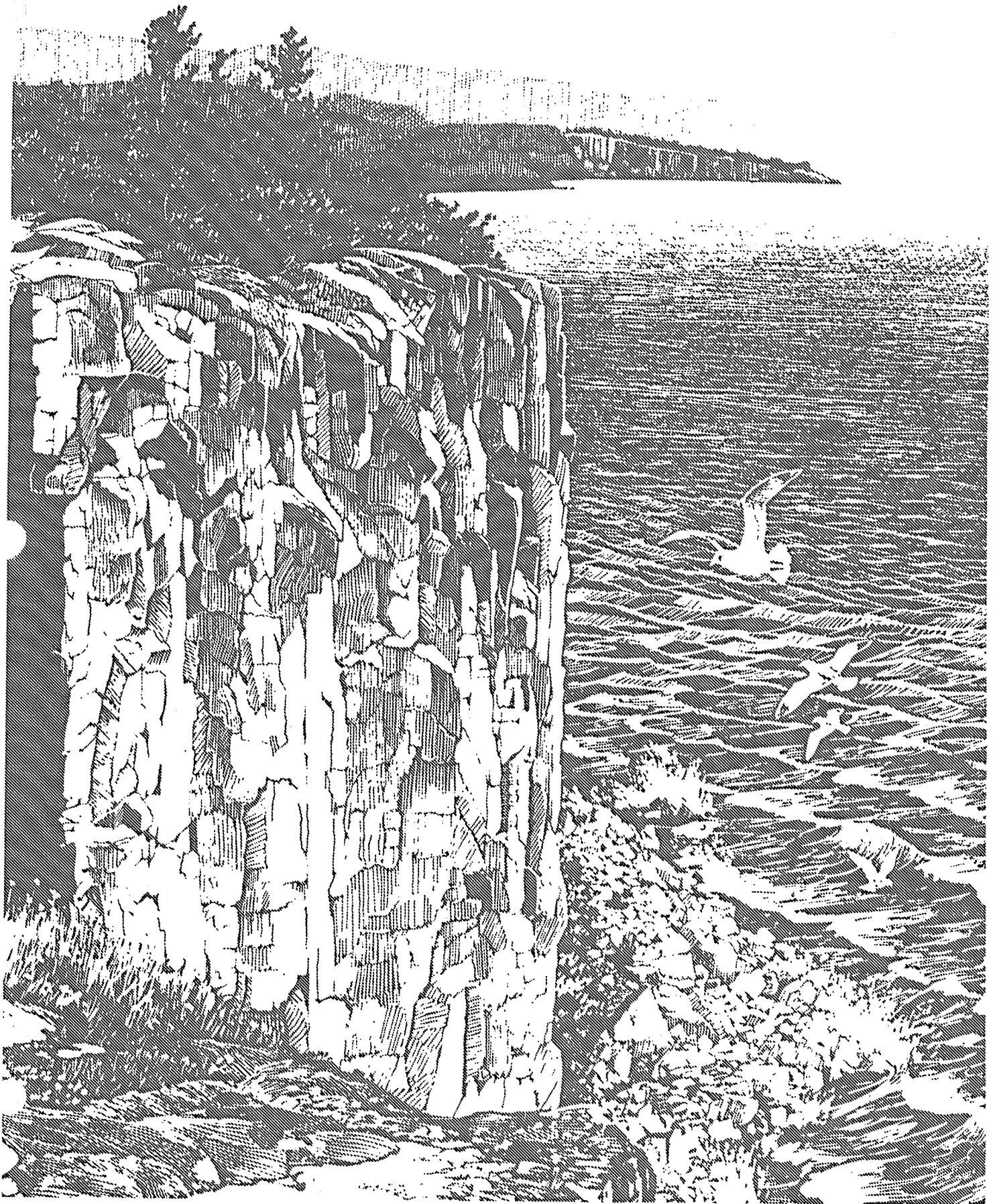
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Introduction



Park Description

Tettegouche State Park preserves over 9,000 acres of diverse natural areas, with recreational facilities that provide opportunities for people to enjoy and learn about nature. It is located in Lake County on the North Shore of Lake Superior. The park was established by an act of the Minnesota State Legislature in 1979 and recently expanded to include the Palisade Valley Unit and Palisade Head in 1991, and Crystal Bay in 1994.

Tettegouche State Park contains many spectacular natural resources, including;

- Palisade Head, a high rocky knob which provides spectacular views of Lake Superior, and excellent rock climbing opportunities.
- Shovel Point, which extends into Lake Superior, providing casual hiking opportunities in a fantastic windswept rocky environment, spectacular vistas, great rock climbing and unique vegetation in an area that is readily accessible from the MnDOT Wayside Rest Area.
- High Falls, the highest waterfall entirely within Minnesota. Visitors can hike to overlooks where they can experience the power and magnificence of the waterfall.
- The six spring fed lakes provide the opportunity for water recreation in a remote rustic setting.
- Palisade Valley Unit is a remote valley surrounded by high rugged hills that provides for a variety of year-round trail opportunities.
- A turn of the century retreat has been restored and is open for walk-in lodging at Tettegouche Camp.

Park facilities include vehicular and cart-in campgrounds, remote rental cabins, trails for hiking, cross-country skiing, snowmobiling, ATV riding, and mountain bike riding. The park is home to several plants and plant communities that are of special concern. Information displays at the park office, a self-guided trail on Shovel Point, and interpretive signs and kiosk at Tettegouche Camp are some of the interpretive information available. This park provides opportunities for a wide variety of outdoor experiences and benefits for park visitors, and a variety of benefits to the local community and adjacent landowners.

Management Description

The Minnesota Department of Natural Resources has a goal of managing Minnesota resources in a way that is sustainable for future generations. Ecosystem-based management (EBM) is the approach DNR is using to achieve this goal. The EBM approach takes a broader perspective and addresses entire ecosystems, rather than focusing only on individual plant or animal species or small parts of the ecosystem. This approach shifts emphasis to the variety of benefits the park provides to the environment, communities, economies, and people. To accomplish this will require balancing three fundamental outcomes:

- An environment that supports human, animal and plant life;
- an economy that is strong and sustainable;
- and a community that provides a high quality of life.

Tettegouche State Park addresses these three outcomes somewhat now. The goal of this planning process is to decide how to manage Tettegouche to sustain healthy ecosystems into the future. Ecosystems include all the living organisms (plants, animals, microorganisms, people) and their physical surroundings (soil, water, air) and the processes that maintain them. Ecosystems may be small (a rotting log or an isolated pond) medium-sized (a forest stand or watershed) or large (Northeastern Minnesota). When people think about ecosystems, the first thing they consider are the natural aspects of the environment (e.g., soil, wildlife, and vegetation); however, EBM also includes humans in its framework. It is based on the assumption that humans have a unique effect on the ecosystem and are affected by the health of the ecosystem. Healthy ecosystems will

provide the services people expect of the park: to get away and relieve stress, to learn new things, to enjoy family activities, to view beautiful scenery, to relax while fishing, to provide opportunities to see wildlife, to hike in a variety of natural settings, plant and animal habitat, and to learn more about natural systems. A healthy ecosystem in the park also affects neighboring communities, the North Shore Region, Minnesota, and the country. An EBM approach to the management and planning of Tettegouche State Park provides a framework in which all these effects can be considered.

This EBM perspective forces us to look at Tettegouche State Park not as an island but as an integral and beneficial part of a larger ecosystem. In addition, the approach calls upon us to articulate how the park specifically benefits the ecosystem. For instance: changes in visitor services provided at the park may affect the economic impact visitors have on Silver Bay, changes in vegetation management within the park can affect the bear or deer population that use the park as part of their habitat. Sustaining a healthy ecosystem within Tettegouche State Park helps maintain the ecological and social health of a much broader area.

Attempting to gain an understanding of all of the potential effects Tettegouche has in the short and long term and in local areas and regionally is an overwhelming task. Benefits Based Management (BBM) is one way to address what human expectations can be accommodated within Tettegouche State Park on a sustainable basis. This approach identifies those benefits park resources at Tettegouche can accommodate and which are a high priority for customers. It also provides a framework to allow managers to understand how characteristics of the setting and activities in the setting help people attain desired benefits. Park management staff are working to better understand what benefits customers receive, how to maximize these benefits while preserving the park resources, and understanding what impact these benefits have on customers and their communities.

Within BBM, a benefit is a "desirable change of state:" an improved condition or state of an individual, a group of individuals, a society, or even non-human organisms. The natural environment plays a vital role in what and how benefits are produced. Different activities are conducted in different types of settings, which result in certain kinds of benefits. Many benefits analyzed in Tettegouche can lead to life-long benefits. For example, a long trail through the backcountry of Tettegouche may help a person feel that he or she is escaping civilization and reducing the stress created by working. In the longer term, that person may feel mentally relaxed when returning back to work and become a more efficient employee. Another example may include a more developed area where there are many interpretive signs and exhibits. This interpretive development helps people learn more about nature. A better informed society may result from the fact that many people learned about nature in Tettegouche, and these people may then treat nature with better care. This change in behavior can benefit the environment itself, and future generations who live in that environment.

The list of potential benefits to society is massive, and too large to be fully addressed here, but this plan does use information regarding the benefits people most desire and believe are the most important. Since the setting plays a vital role in the production of all benefits associated with Tettegouche State Park, alterations to it may have a large effect on what benefits society may realize. Therefore, any changes in the setting must be evaluated in terms of its effect on the benefits to users of Tettegouche State Park.

Minnesota State Parks have been partners in two pilot projects. Both projects are being done with the participation of the DNR, Division of Parks and Recreation; the University of Minnesota, Department of Forest Resources; USDA Forest Service, Rocky Mountain Forest and Range Experiment Station; and the US Department of Interior, Bureau of Land Management, Colorado State Office. The 1993 Study of Visitor Experiences and Benefits¹ surveyed park visitors in six Minnesota State Parks, including Tettegouche, to identify what benefits they desired and received by visiting state parks. The Community Benefits² of Minnesota State Parks Study surveyed community leaders and tourism industry

businesses, including those in Silver Bay, to identify how rural communities benefit from state parks. The results from these studies are still coming in. They will be used by park staff to develop park management goals that work directly at providing specific benefits for customers and their communities. The results of these studies will also have to be communicated to decision makers so that the limited funds available for recreation and leisure services are used to produce the greatest benefit.

Unit Planning Process

This management plan was developed through an open public process. Two committees were established to provide input into the process, the Tettegouche Citizen Advisory Committee (CAC), and the Integrated Resources Management (IRM) team. The Tettegouche Citizen Advisory Committee is comprised of people that are primarily from the local area, but also from Duluth & the Twin City Metro Area. These individuals represent a variety of perspectives that is intended to represent the diversity that is found in the public at large. The committee members unselfishly spent many hours over the course of two years to analyze and give their recommendations on a variety of environmental and recreational issues. The IRM team is comprised of technical experts from each division of DNR, as well as the US Forest Service, Minnesota Department of Transportation, Soil and Water Conservation District, and Lake County Board. Both of these committees helped identify the major issues that needed to be addressed during the planning process. They then discussed the pros and cons of various ways of addressing each issue. The result of this discussion was a draft plan that was sent out for public review.

Public open houses will be held in Silver Bay, and St. Paul to review the draft plan, and solicit public opinion on the proposals. Copies of the draft plan will be available for review for 30 days.

The revised draft plan was then reviewed by DNR staff and signed by the Commissioner of Natural Resources.

A completed park plan and "planning process file" documenting the 1994-95 planning process and pertinent background information will be distributed to the following locations: Tettegouche State Park Office, State Park Regional Park Manager's Office in the Grand Rapids Regional DNR Office, State Park Planning Section in St. Paul, and DNR Bureau of Engineering in St. Paul.

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

Mission and Vision Statements

DNR Vision Statement

“We will work with the people to manage the state’s diverse natural resources for a sustainable quality of life.”

Division of Parks and Recreation Mission / Vision

Division of Parks & Recreation Mission

“We will work with people to provide a state park system which preserves and manages Minnesota’s natural, scenic and cultural resources for present and future generations while providing appropriate recreational and educational opportunities.”

Division of Parks & Recreation Vision

“We will continue to work with the people of Minnesota to ensure that the Minnesota State Park System will be sensitive to the needs of current and future generations and guided by the following principles and values:

- A commitment to ensure deliberate and effective natural, cultural, historical and archaeological resource management;
- A commitment to provide appropriate recreational opportunities;
- A commitment to maintain a proper balance between resource protection and recreational use of state park lands;
- A conscious recognition of our responsibility to the public for wise and prudent acquisition and development of state park lands;
- A recognition of our educational and interpretive roles;
- A conscious and continuous effort to respect the valuable human resources embodied in our employees and the public;
- A continued desire to actively seek and adopt innovative, effective and efficient management practices;
- A realization of our responsibility to secure and maintain the resources necessary to implement our mandates and mission;
- A pledge to provide high quality public service; and
- A promise to consistently seek public involvement and support in decision making.

Tettegouche State Park Mission / Vision

Tettegouche State Park Mission

"We will work with the people to manage Tettegouche State Park so that its significant natural and cultural and scenic resources are protected and enhanced for future generations while providing diverse recreational and educational opportunities without impairing park resources."

Tettegouche State Park Vision

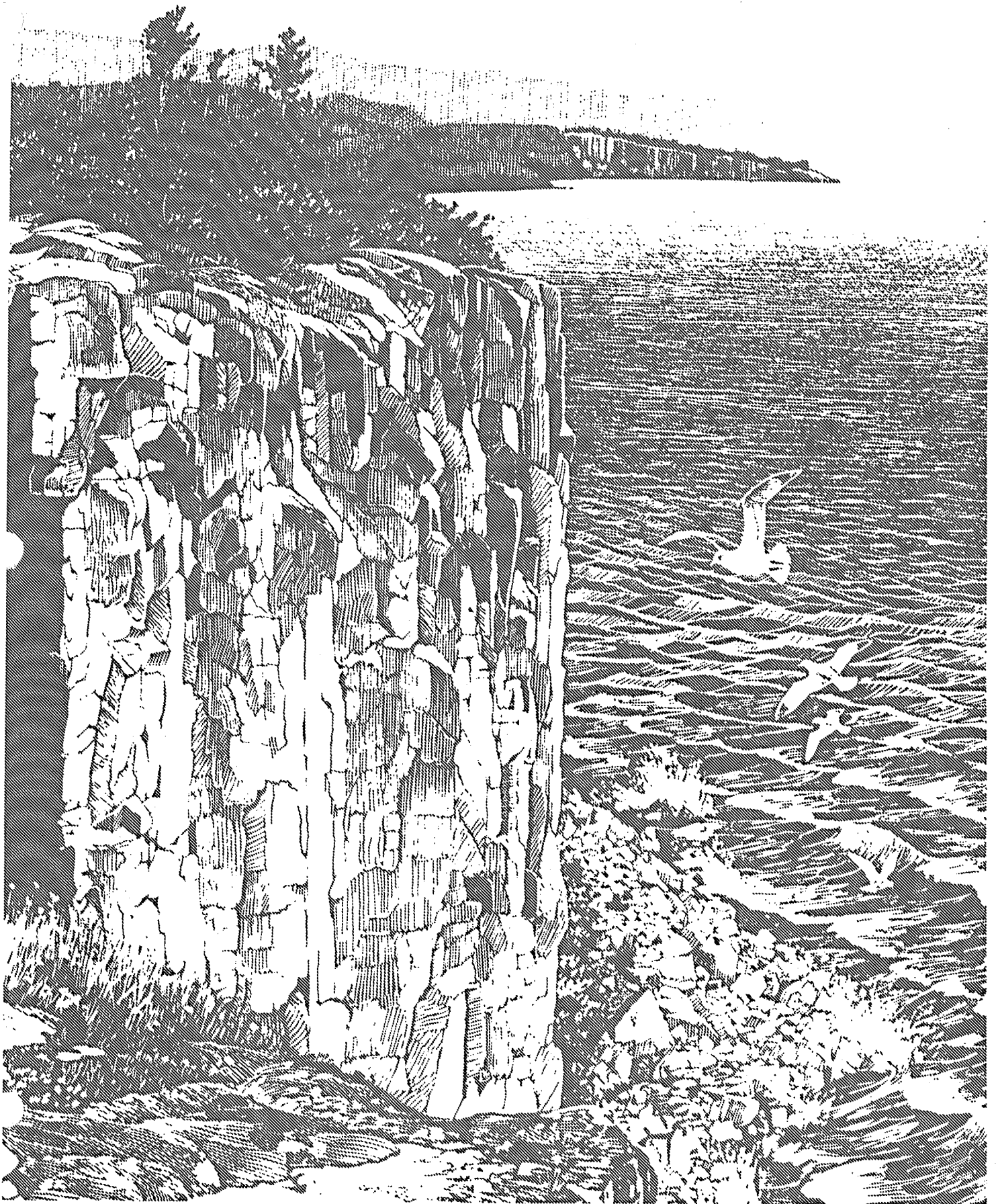
Tettegouche State Park management will be sensitive to the needs of the current and future generations and guided by the following principles and values:

1. Continue to develop partnerships and cooperative strategies for enhancing scientific research, resource management, education, and sustainable tourism within the Lake Superior basin.
2. Protect and enhance the natural, cultural and scenic resources that contribute to the state-wide significance of the park.
3. Provide recreational opportunities to make park resources accessible to all visitors including those with disabilities in a way that will not impair significant resources.
4. Maintain proper balance between resource protection and recreational use of the park.
5. Recognize Tettegouche's role in the management of the North Shore Highlands Ecosystem.
6. Recognize our responsibility to the public for wise and prudent acquisition of park lands of special resource significance.
7. Recognize our educational and interpretive roles in promoting a sense of stewardship among park visitors.
8. Respect and value our employees and the public.
9. Actively seek and adopt innovative, effective and efficient management practices.
10. Strive to secure and maintain the funding and staff level necessary to implement our mandates and mission.
11. Provide high quality public service.
12. Consistently seek public involvement and support in decision making.

Tettegouche State Park Strategies

1. Manage sections (zones) of the park at varying levels of intensity to protect and enhance the resource base and visitor experiences.
2. Direct park acquisition efforts to areas that provide opportunities to protect and enhance outstanding resource or recreational values.
3. Concentrate resource management efforts on protecting and enhancing communities that contribute to the parks state-wide significance (i.e.; old-growth northern hardwoods, white pine and cedar re-establishment, Peregrine Falcon nesting areas).
4. Manage scenic resources to provide visitor access while preserving the scenic value of the resource.
5. Contribute to efforts to manage the areas resources on a watershed and ecosystem basis.
6. Recognize the role Tettegouche State Park plays in providing recreational opportunities that are both unique and complementary to opportunities provided elsewhere in the region.
7. Provide a variety of interpretive opportunities to promote increased understanding, appreciation and enjoyment of Tettegouche's natural and cultural resources.
8. Promote public understanding of and support for, the Minnesota Department of Natural Resources and its Division of Parks and Recreation, through the interpretive program.

Beyond Park Boundaries



North Shore Highlands Ecological Subsection

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 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, and aspen-birch. Present land uses include recreation, tourism and forestry.³

The ground moraine and end moraine of the Superior lobe cover much of the subsection.⁴ 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.

Marschner (1974) recorded aspen-birch forest, white pine-red pine forest, mixed hardwood-pine forest, conifer bogs and swamp. White pine-red pine forest was most common on the clay lake plain and on thin soil over bedrock in the southern half of the subsection. Mixed hardwood-pine forest, with sugar maple, was concentrated on the ridges of the dissected clay lake plain and the Highland Flats. In the northern half of the subsection, aspen-birch was dominant, with very little white pine-red pine forest or mixed hardwood-pine forest. Mixed hardwood-pine forest persisted in areas within 6-10 miles of the shoreline on ridge tops.

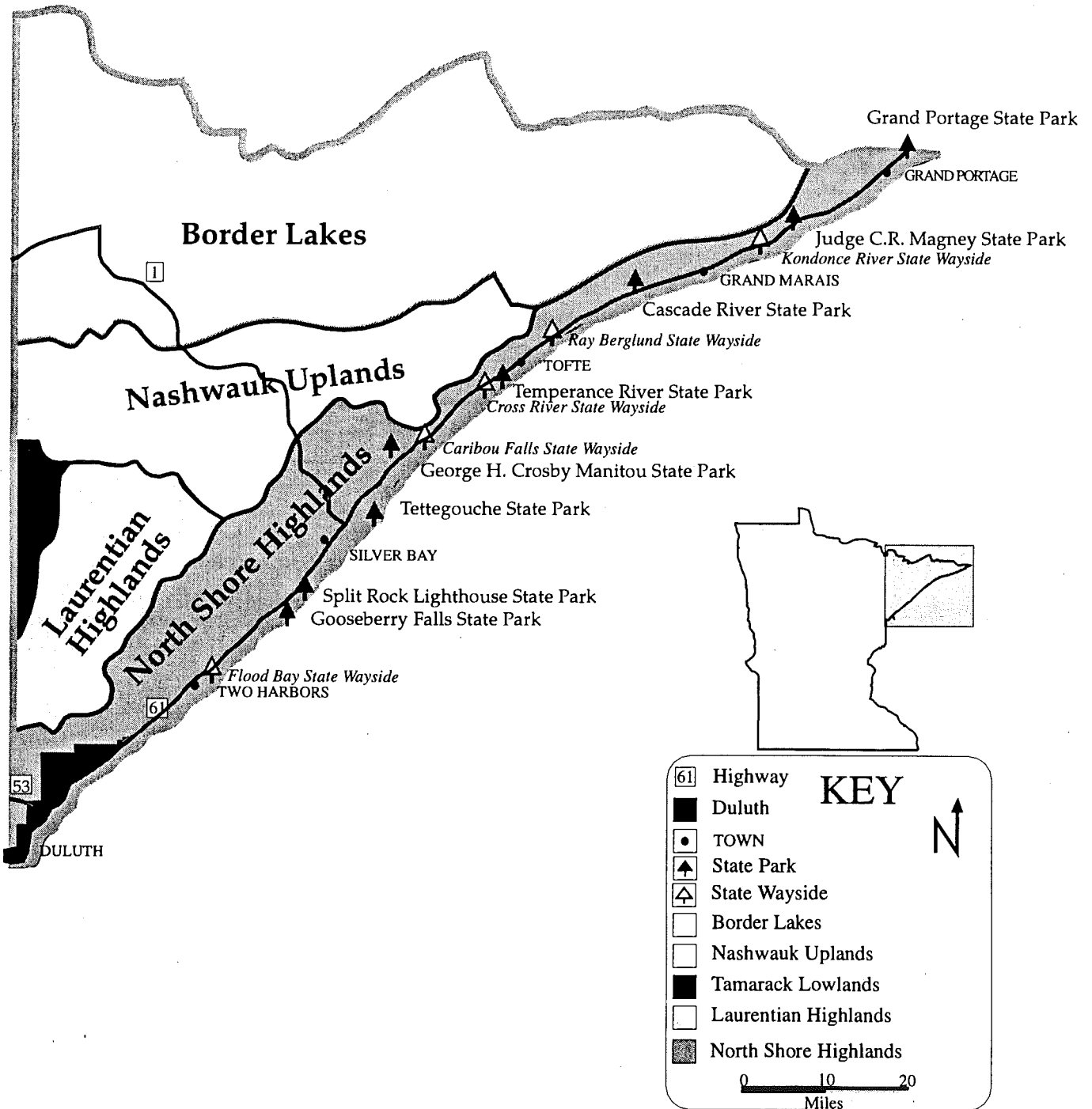
Almost the entire subsection remains forested, with forest management and recreation as the major land uses. Following logging, the extensive white pine-red pine forests have been replaced by forests of trembling aspen-birch. The Lake Superior Highlands is identified, by the MN DNR Heritage Program, as critical landscape for biodiversity protection because of the significant old-growth northern hardwoods and upland northern white cedar forest. 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 Minnesota Iron 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.

Regional Population Analysis

Tettegouche State Park is located in Lake County, Minnesota, 68 miles northeast from the city of Duluth, which in 1990 had a population of 85,493. It is 194 miles southwest from Thunder Bay, Canada, which had a population of 113,946 in 1990. Lake County had a total estimated population of 10,363 residents in 1993. This population was distributed as follows:

City of Beaver Bay	149 people
Beaver Bay Township	503 people
Crystal Bay Township	445 people
Fall Lake Township	453 people
City of Silver Bay	1,898 people
Silver Creek Township	1,097 people
Stony River Township	203 people
City of Two Harbors	3,630 people
unorganized territory	1,985 people ⁵

North Shore Highlands Landscape Region



Regional Recreation Resources

The North Shore Highlands is a long slender region that is primarily accessible from State Highway 61. There is minimal access into the interior from secondary hard surfaced and gravel roads, with the exception of State Highway 1 (just north of Silver Bay). Traffic volumes along Highway 61 decrease steadily from Duluth northeast to the Canadian border. At Duluth, the average daily traffic volume was 5,755 commercial and private vehicles in 1995. At Beaver Bay, (53 miles northeast of Duluth and seven miles south of Tettegouche State Park), the volume decreased to 4,565 vehicles; at Grand Marais there were 2,930 vehicles; and at Grand Portage there were 1,470 vehicles.

Overnight Use

Camping - There are 30 campgrounds in the North Shore Highlands. Only 23% of these are state park campgrounds. Although state parks are often the best known campgrounds along the North Shore, the following chart shows that they provide only 20% of the drive-in camping opportunities and only 3% of the campsites with electricity. State parks provide 31 backpacking sites which is 35% of the more primitive campsites.

1995 North Shore Campground Opportunities by Management

	# Camp grounds	% Camp- grounds	# Drive-in Sites	% Drive-in Sites	# Electric Sites	% Electric Sites	# Cart-in Sites	% Cart-in Sites	# Backpack Sites	% Backpack Sites
Private	14	47%	465	41%	284	44%	0	0%	5	6%
Municipal	2	7%	319	28%	342	53%	0	0%	0	0%
State Parks	7	23%	221	20%	18	3%	34	100%	31	35%
State Forestry	2	7%	86	8%	0	0%	0	0%	0	0%
State Trails & Waterways	0	0%	0	0%	0	0%	0	0%	14	16%
Superior Hiking Trail	0	0%	0	0%	0	0%	0	0%	39	44%
U.S.F.S.	5	17%	40	4%	0	0%	0	0%	0	0%
Total	30	101%	1131	101%	644	100%	34	100%	89	101%

Trails

Hiking -There are 628 miles of hiking trails along the North Shore. Over 360 miles of this total are found in two Minnesota long-distance trails, the Lake 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 October, 1995, this rugged hiking and backpacking trail was 190 miles long, and when completed it will extend nearly 300 miles from Duluth to the Canadian border. The Superior Hiking Trail passes through Tettegouche State Park providing 25 miles of hiking trail within the park.

The North Shore Trail is a 170 mile long multiple-use trail. It is groomed for snowmobile use in the winter and is available for hiking in the summer. This trail currently extends from Duluth to Grand Marais.

Several public and private trails connect these long-distance trails with state parks and communities along the North Shore.

Horseback - On the North Shore Trail there are 53 miles of designated horseback riding trails. There are 3 miles of private trail available for horseback riding at the Lutsen Village Inn within the North Shore Highlands. The Superior National Forest provides horseback riding opportunities on logging roads; however, there are no designated horseback riding trails.

Cross-Country Skiing - There are 409 miles of cross-country ski trails along the North Shore, the majority (63%) administered by grants-in-aid. The Northwoods Ski Club maintains a 12.5 mile Cross-Country ski trail. Three and one half (3.5) miles of this trail passes through Tettegouche State Park. Although skiing is allowed on the North Shore Trail, it is not groomed for this activity and no mileage is included in the total miles of cross-country ski trails. Cross-Country skiing is not recommended on the Superior Hiking Trail because of its rugged alignment.

Snowmobiling - There are 665 miles of snowmobile trails along the North Shore, 170 miles of which are a part of the previously mentioned North Shore Trail. There are also 407 miles of State Grant-In-Aid (GIA) snowmobile trail opportunities in this region. GIA trails are funded by snowmobile registrations and unrefunded gas taxes through the Minnesota DNR. Local units of government sponsor these trails and distribute the funds to local snowmobile clubs for trail development and maintenance. The Silver Trail Riders Club maintains 40 miles of snowmobile trails. Sixteen (16) miles of the trail are within Tettegouche State Park. The GIA trails form a trail network that connects public lands and communities with the North Shore Trail

Bicycling (Surfaced trail or shoulder) - The Western Waterfront Trail (2.5 miles), and the Willard Munger Trail (14.5 miles), both located in the Duluth area, are the only two paved bike trails within the North Shore Highlands Region. The shoulder along the Scenic Highway 61 between Duluth and Two Harbors receives heavy use by bicyclists. There are no other significant surfaced bike trails along the North Shore north of Duluth. As Minnesota Department of Transportation upgrades Highway 61, new construction will provide for better use of the highway for bicycles.

Off-road Bicycling (Mountain Biking) - There are 365 miles of off-road bicycling opportunities, as the following table shows, within the North Shore Highlands. The two largest providers of off-road bicycling opportunities are Superior National Forest (48%), which provides 176 miles of mountain bike routes which include both logging roads and designated mountain biking trails, and the North Shore State Trail (35%), which provides 130 miles of mountain biking from south of Two Harbors to Grand Marais. Tettegouche State Park provides 1.5 miles of designated mountain bike opportunity on the Tettegouche Camp service road.

All-terrain vehicles (ATV's) - One trail that is designated specifically for ATV use is the Red Dot trail. The Red Dot ATV Grant-In-Aid Trail is 26.5 miles long. A 6.5 mile section of one loop of this trail passes through Tettegouche State Park. State forests also provide for ATV use, between April 1 and December 1, on all state forest roads and trails which are designated multiuse. The seasonal restriction applies due to potential conflicts and hazards of allowing both snowmobile and ATV use on the same trails. Grant-In-Aid snowmobile trails, the North Shore Trail and Superior Hiking Trail are all closed to ATV use.

Trail Recreation Opportunities Within The North Shore Highlands Ecological Region

Trail Miles														
Admin.	Hiking	% of trail miles	Horse-back	% of trail miles	X-C Skiing	% of trail miles	Snow-mobile	% of trail miles	ATV	% of trail miles	Mt. Biking	% of trail miles	Surfaced Bike Trails	% of trail miles
Private	20.0	3.2%	3.0	5.7%	13.9	3.4%	0.0	0.0%	0.0	0.0%	27.9	7.6%	0.0	0.0%
Municipal	31.5	5.0%	0.0	0.0%	19.4	4.7%	10.0	1.5%	0.0	0.0%	0.0	0.0%	2.5	15%
Superior Hiking Tr. Association	190.0	30.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
North Shore State Trail	170.0	27.0%	50.0	94.3%	0.0	0.0%	170.0	25.5%	0.0	0.0%	130.0	35.5%	0.0	0.0%
State Parks/Forestry/T&WW	121.6	19.3%	0.0	0.0%	87.5	21.4%	78.5	11.8%	6.5	40%	32.0	8.7%	14.5	85.3%
Grand Portage Indian Reservation	28	4.5%	0.0	0.0%	28.0	6.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
National Park Service	9.0	1.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
US Forest Service	14.0	2.2%	0.0	0.0%	2.5	0.6%	0.0	0.0%	0.0	0.0%	176.0	48.1%	0.0	0.0%
Grant-In-Aid	44.7	7.1%	0.0	0.0%	257.4	63.0%	407.1	61.2%	10.0	60%	0.0	0.0%	0.0	0.0%
Total	628.8	100%	53.0	100%	408.7	100%	665.6	100%	22.5	100%	365.9	100%	17.0	100%

The following chart compares the amount of trails within Tettegouche with the rest of the region.

Tettegouche State Park	23	4%	0	0%	15.5	3%	12.5	2%	6.5	29%	8	2%	0	0%
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Data was collected from DNR Parks & Recreation, Forestry, Trails & Waterways, Information & Education, Management Information Systems; US Forest Service; National Park Service; and various tourism brochures. The list of USFS trail mileage includes only trails that are specifically designated for a particular use. Forty-four miles of Grant-In-Aid Hiking Trails are Cross-Country Ski trails which are hikable during other seasons.

Other Day-Use

Boat Access Ramps and Fishing Piers - Within the North Shore Highlands, there are 44 public boat access ramps, 21 inland boat accesses, 12 carry-in accesses, and 11 Lake Superior accesses. There is only one fishing pier on Lake Superior within the North Shore Highlands, which is publicly owned.

Hunting and trapping - Hunting and trapping opportunities occur within St. Louis, Lake and Cook counties in the Cloquet Valley, Finland, Pat Bayle, and Grand Portage State Forests; and in the Superior National Forest. Hunting and trapping also occur in designated areas within the boundaries of Tettegouche State Park, which was authorized by the Minnesota Legislature in 1991, and in the Palisade Valley Unit (State Recreation Area) as authorized in 1994 (see map page 24).

Whitewater Kayaking - There is a significant amount of whitewater kayaking on the Baptism River in the spring and to a lesser degree in the fall and during summer flood events. River access is generally where Highway 1 crosses the Baptism River, north of the park boundary, with egress near the mouth of Baptism River and the park office.

Sea Kayaking - Sea Kayaking is becoming more popular on Lake Superior. The Lake Superior Water Trail, which was authorized by the Minnesota Legislature in 1993, is a relatively new North Shore recreational opportunity that facilitates kayak touring along the shore of Lake Superior between Gooseberry Falls and one mile north of Tettegouche State Park. Within this 20 mile Pilot Project Area there are walk-in, backpack, or standard campsites at Gooseberry Falls, Split Rock Lighthouse, and Tettegouche State Parks. Campsites in these parks provide both "one-night maximum" and extended camping opportunities. Private lodges and resorts are also accessible from Lake Superior along the Lake Superior Water Trail. If this pilot is successful, eventually the water trail may be designated around the entire Lake.

Picnic Grounds and Beaches - There are over 50 public picnic grounds and only 3 public swimming beaches (the low number of beaches is due to the fact that Lake Superior remains relatively cold throughout the year and few other lakes are near population centers). There are approximately 20 privately owned picnic grounds and beaches as well as a public pool in Grand Marais.

Rock Climbing - The North Shore Highlands 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 (which both are located 2 miles north of Little Marais off of County Road 6), and Johnson Lake (northeast of Finland off Highway 1).

Regional Recreation Patterns

The majority of recreational visitors access the North Shore from the south and drive north-east up the shore during their visit. There is a secondary flow of visitors that drive south west from Thunder Bay, but this is a much smaller group. Visitors generally travel up the shore then turn around and drive back over the same Highway 61 route. Because of the up and back travel pattern, the part of the North Shore that is closest to Duluth receives the most use. The amount of highway use continues to decline up to the Canadian Border. The recreational opportunities that depend on easy access get the most use close to Duluth, such as camping and pleasure hiking at Gooseberry Falls State Park, or visiting the historic site at Split Rock Lighthouse State Park. The recreational opportunities that depend on a sense of remoteness get more use further northeast up the North Shore. For instance, canoeing in the Boundary Waters Canoe Area, or going dog mushing through the state and national forests near Hovland.

In 1991 the DNR Division of Parks and Recreation, Minnesota Office of Tourism and Minnesota Association of Campground Owners (MACO) together surveyed Minnesota campers. Campers from all across the state who stayed in MACO, local public, State Park, Corps of Engineers and US Forest Service campgrounds were surveyed.

Minnesota Campers Analyzed by Region They Camped In

Compared to the rest of Minnesota, campers in the Arrowhead Tourism Region spend the most money during their camping trips. Those who camped in the Arrowhead are the least likely to camp in a self-contained unit (48%-Tent, 22% Tent Trailer, 13% Motor Home, 11% Travel Trailer, 12% Truck Camper, 1% Fifth Wheel). Twenty percent of Arrowhead

campers are non-residents, usually from Wisconsin. The region draws very well from the Twin Cities Metro area with almost half (47%) of the campers originating there. Arrowhead campers are more likely than campers in other regions to hike and participate in self-guided nature observation.

Minnesota Campers Analyzed by Type of Campground Chosen

Compared to campers camping in other types of campgrounds, Minnesota Association of Campground Owners (MACO) campers are most likely to be non-residents who travel from the farthest origins, camp in self-contained units, are new to the campground, and spend the most money. MACO and local public campground campers both strongly desire facilities which support self-contained camping units and only moderately desire outdoor recreation facilities. They were also more oriented to social activities and purchasing goods and services such as visiting with other campers, eating in a restaurant, and shopping for items other than food.

The survey also determined that local public (city and county managed) campground campers are most likely to:

- be seniors
- camp without children
- spend the most money in the local area on a per party per day basis and spend the second most on an overall basis
- have somewhat lower median income levels than other campers
- return to the same campground

State/national forest campers were found to:

- be mostly Minnesota residents
- be active in outdoor recreational activities
- camp in tents versus self-contained units
- be younger than 65
- spend the least amount of money in the local area on a per party per day and an overall basis
- exceed the participation rates of all campers in fishing and boating

According to the campground survey results State Park campers:

- are mostly Minnesota residents
- camp in tents versus self-contained units
- have children in their party
- extensively participate in outdoor recreation activities while camping
- have a high desire for outdoor recreation facilities
- are more likely to hike, swim, bicycle, sightsee
- participate in guided and self-directed nature observation
- are more likely to canoe more than campers who use other types of campgrounds.

Supply and Demand of Recreational Facilities

The demand for recreational facilities on the North Shore is quite significant. Data are available for campgrounds, which show that during 1994, campgrounds in the seven North Shore parks averaged 56% occupancy which compares to a state wide average of 37%. This high rate of occupancy for the North Shore parks shows a need for additional camping accommodations along with recreational facilities in order to fulfill the current demand. The number of private campgrounds on the North Shore has decreased during the last 5 years.

Tettegouche's Role In The Region

To correctly apply the concepts associated with ecosystem based management and benefits based management into park planning, an understanding of how Tettegouche State Park impacts people other than tourists is needed. Obviously, the opportunities for on-site recreation visitors to benefit from recreating in Tettegouche needs to be of prime importance when planning the future management of the park, but surrounding residents also need to be considered in planning. Since local residents are the people whose day-to-day lives are affected by the park, it is important to understand exactly how the park can create appropriate opportunities for the local community to benefit as well as park visitors.

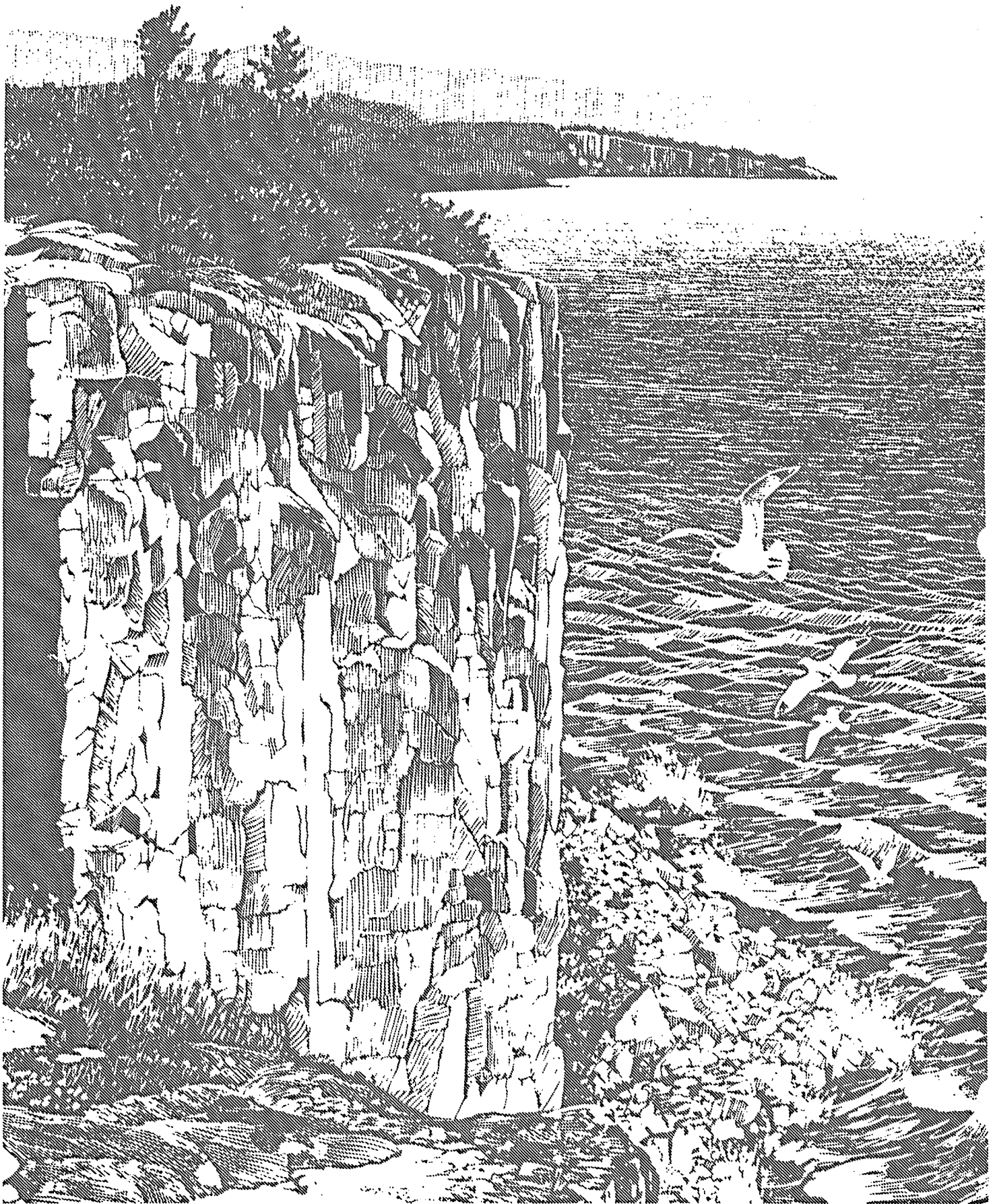
A study to identify how communities benefit from Tettegouche was conducted in 1995. To achieve this understanding, groups of people who lived around Tettegouche State Park were invited to focus group meetings where they were asked to describe how they believe the park benefits their communities. Using their comments, a questionnaire containing a list of 24 community benefits was mailed to a larger number of community members. Members were asked to list the degree they believe the park contributes to producing each of 24 benefits and what benefits they believe are the most important to their community. This section will only provide a cursory overview of the study's results in order to better clarify Tettegouche's role in the region.

This information helps to provide a better indication of how local residents perceive Tettegouche. It helps to clarify how Tettegouche positively impacts communities in the North Shore area. It also helps to define what local residents believe are the most important benefits Tettegouche can provide and whether or not the park is helping to create opportunities for the communities to attain these benefits.

Residents living in Silver Bay and other nearby areas believe a diversity of community benefits are important and that the park contributes to helping communities achieve them. Benefits associated with preserving nature, along with benefits associated with attracting economic revenue, were identified as two of the most important benefits Tettegouche contributes to surrounding communities. Residents do not see the park only contributing to a certain type of benefit (e.g., economic). For example, providing opportunities for communities to receive economic benefits does not outweigh the fact that communities also receive other types of non-economic benefits from the park, such as community pride, recreational opportunities and outdoor oriented lifestyles.

While residents do believe a diversity of community benefits are contributed by Tettegouche and that these benefits are important to their communities, many of them are significantly linked to protecting the natural ecosystem in the park. Residents are proud that they live close to an aesthetic natural area, they feel it helps to maintain their outdoor lifestyles, and they use Tettegouche for unique outdoor recreation opportunities. All of these benefits would not exist if it were not for the natural qualities that Tettegouche holds.

Within Park Boundaries



Zoning

Zoning is used to identify the resource management emphasis, visitor expectations and the level of management activities to be undertaken in various areas of the park. The location of recreational facilities and activities, type of resource management actions, and the degree of trail development for resource protection and visitor safety are each directed through zoning.

Classification

Tettegouche is divided into two different areas by legislation. The original Tettegouche was established in 1979 as a State Park, while the Palisade Valley Unit added in 1991 was designated a State Recreation Area. These two designations have different definitions in Minnesota Statutes and direct the management of these areas in slightly different directions. Throughout this document and in general usage, Tettegouche State Park is used to refer to both the original Tettegouche State Park, and the Palisade Valley Unit. Under the Outdoor Recreation Act:

The purpose for a State Park is:

“A state park shall be established to protect and perpetuate extensive areas of the state possessing those resources which illustrate and exemplify Minnesota's natural phenomena and to provide for the use, enjoyment, and understanding of such resources without impairment for the enjoyment and recreation of future generations.”

The purpose of a State Recreation Area is:

“A state recreation area shall be established to provide a broad selection of outdoor recreation opportunities in a natural setting which may be used by large numbers of people.”

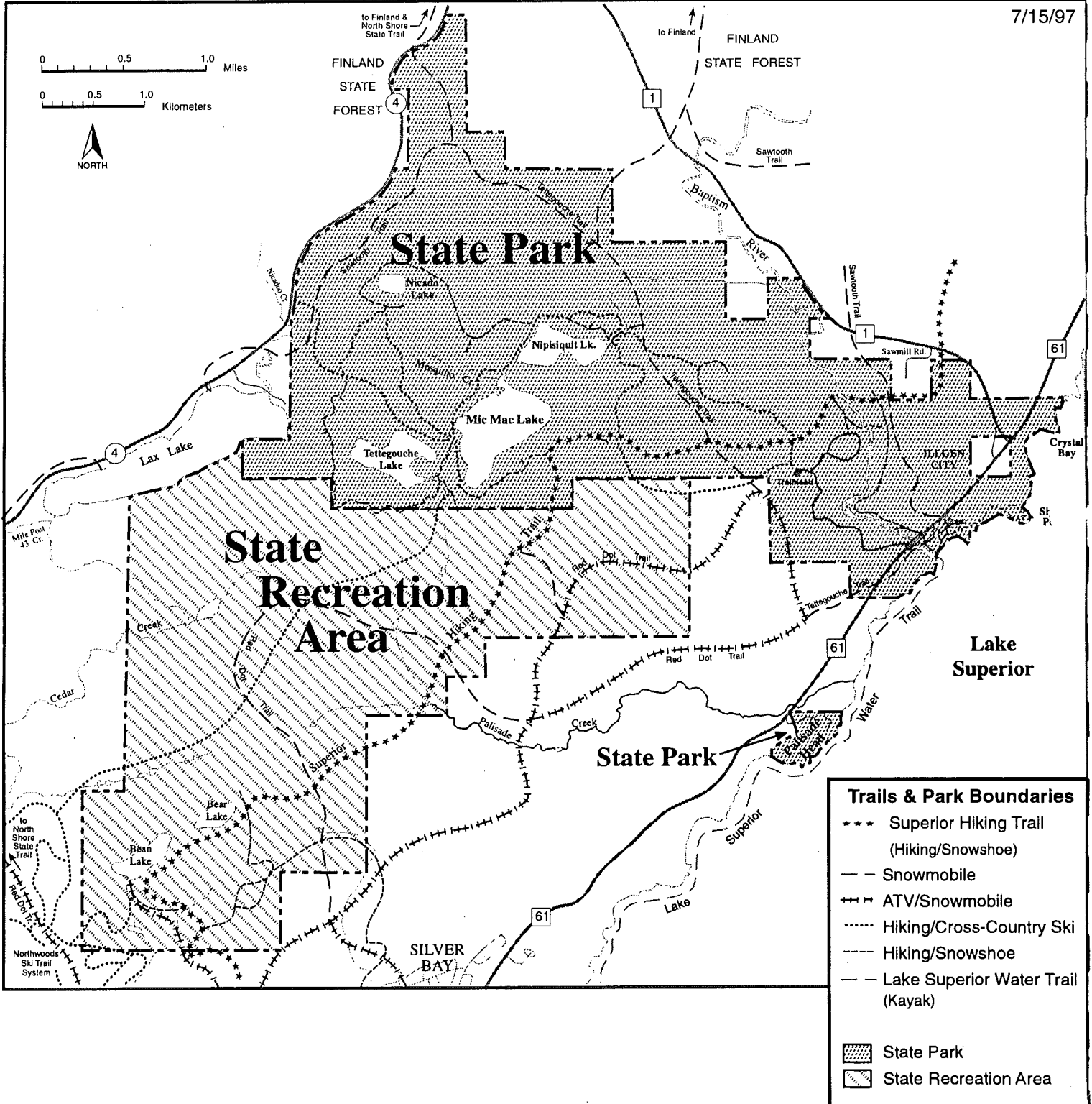
The Palisade Valley Unit was designated a State Recreation Area to allow the continuation of existing traditional uses of the area such as hunting, trapping, ATV/Snowmobile trails and hunting cabin leases that were present when the legislation was enacted.

Present Zoning

The present Tettegouche Management Plan identified three specialized management areas within Tettegouche State Park. They are: Development, Lake Preservation, and Tettegouche Camp. These management areas were established before the Palisade Valley was added to the park, so that area was not addressed. The development area enclosed all the major physical development except for remote campsites, trails, and a potential canoe landing. The Lake Preservation area was established to preserve the lakes, yet make them available for public use. It was identified as a major reason for establishing Tettegouche State Park. Resource management was focused on restoring natural systems in the area. Development within the Lake Preservation area was limited to trails, a small picnic area and future consideration of canoe rentals. The future of Tettegouche Lodge was in question, so this area was identified as a question mark with the development and use to be established in the future.

Tettegouche State Park & Recreation Area Boundaries

7/15/97



Proposed Zoning

The following zones are proposed to support the original concept of the park, to reflect the two different legal classifications, and to guide future park development and management. They continue to focus most intensive development near Highway 61, and maintain the remote backcountry character of the interior of the park. Two types of zones are used. The Visitor Experience Zones describe the intensity and character of visitor use that will be accommodated in different areas of the park. The Resource Management Zones describe areas of the park where particular resources will receive management priority. Where these zones overlay, the management directions for each will guide future decisions. For instance, trail development through the Old Forest Zone will be implemented in such a way that large trees are not removed, and that the canopy remains closed. Trail development through the Historic Tettegouche Camp Zone will consider preserving the historic character of the site. Trails within the Visitor Services Zone will typically be more developed with board walks, steps and decks to protect resources and provide for higher levels of visitor use.

Visitor Experience Zones

Visitor Services Zone

Recreational Facilities Sub-Zone

Major facilities such as campgrounds, trail/interpretive center and park office/visitor center will be located in the Recreational Facilities Sub-Zone. New facilities will be designed to blend into the natural setting. Facilities will be designed to allow shared parking lots and utilities where possible and to minimize the need for new road development.. Parking will be provided in small bays integrated into the site instead of large open expanses of pavement, lighting will be limited to low-intensity lights necessary to identify building entrances. Visual impacts from overlooks and trails will be considered when designing new facilities. Existing developments such as decks and hand rails on trails and overlooks will be evaluated and may be redesigned to minimize the visual impacts of the structures while maintaining visitor safety and resource protection.

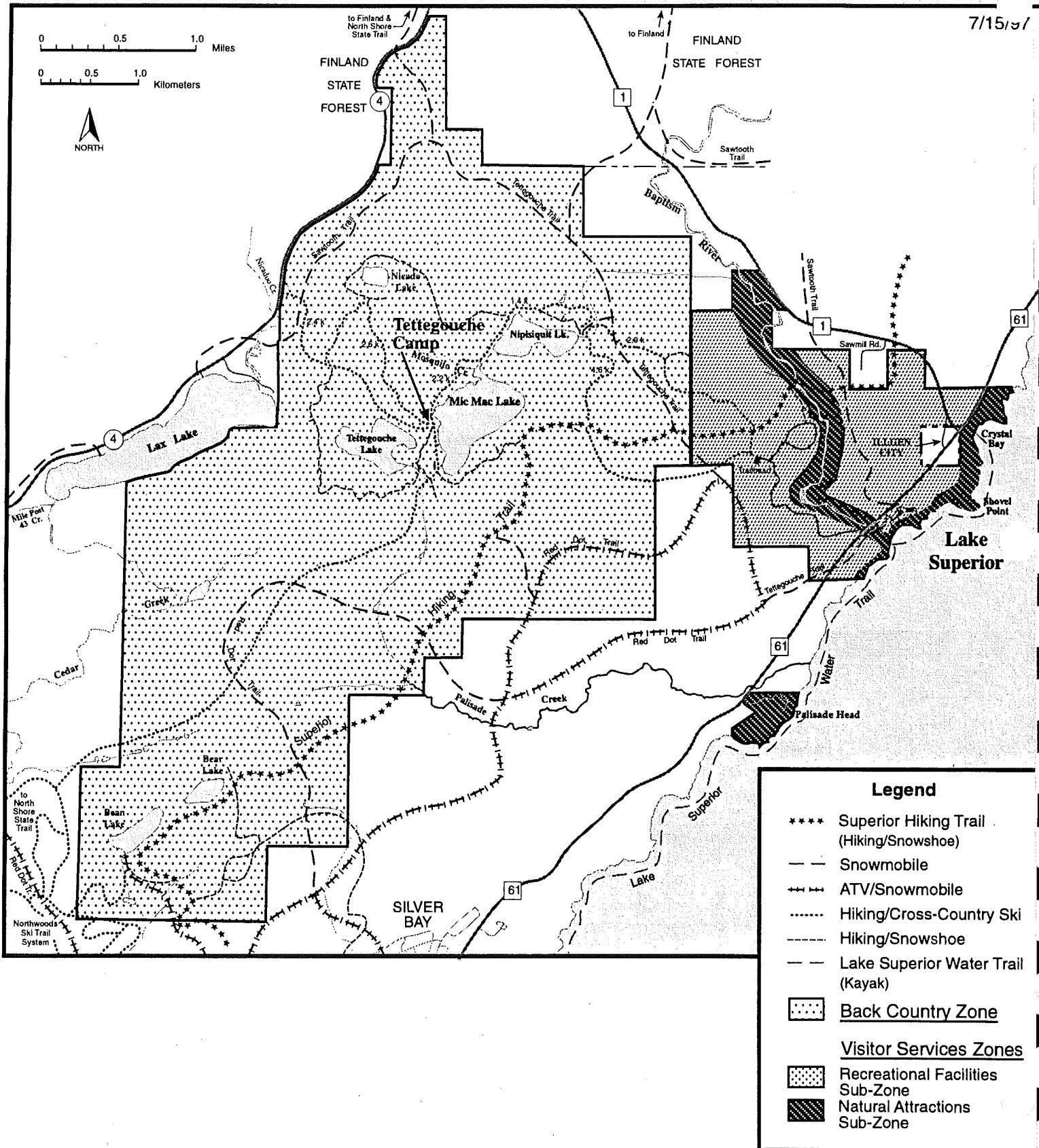
Natural Attractions Sub-Zone

The Natural Attractions Sub-Zone contains those park resources that attract large numbers of visitors. These are some of the most spectacular and sensitive resources in the park. The High Falls of the Baptism River, the Cascades, the Baptism River Valley, Shovel Point, the shore of Lake Superior and Palisade Head are all resources that attract intensive use by visitors. Great care must be taken to develop facilities that allow intensive use of these areas without major resource degradation. The access to some resources will be more difficult to minimize the use of these areas. Visitors will be made aware of the sensitivity of these areas so they choose to minimize their impact.

In the Visitor Services Zone, park visitors will have the opportunity: to affiliate with others and build family togetherness, but with also for privacy; to learn about natural and cultural resources in a variety of ways; to experience new and different things; to escape from the usual demands of life, get away from crowds and rest mentally. The features in the Natural Attractions Sub-Zone attract visitors to an area and are important to both the parks and communities identity and to tourism.

Visitor Experience Zones

7/15/97



Legend

- **** Superior Hiking Trail (Hiking/Snowshoe)
- Snowmobile
- +++ ATV/Snowmobile
- Hiking/Cross-Country Ski
- Hiking/Snowshoe
- - - Lake Superior Water Trail (Kayak)
- [Dotted Box] Back Country Zone

Visitor Services Zones

- [Stippled Box] Recreational Facilities Sub-Zone
- [Hatched Box] Natural Attractions Sub-Zone

Backcountry Zone

The majority of the park is designated Backcountry Zone. Development in this area will be limited to maintain the remote character of the zone so that park visitors feel removed from modern society. Although the proximity to Lake Superior and Highway 61 allow the sound of trucks, ore boats and airplanes to be heard, visitors may still feel a sense of isolation. Facilities will be limited to trails, remote picnic and campsites and support facilities such as latrines and trail shelters. A variety of trail opportunities, both motorized and non-motorized will be provided, but will be dispersed to minimize conflict. The Tettegouche Camp Historic Zone will continue to exist within the Backcountry Zone. Facilities in the Backcountry Zone will be low impact and will be located to minimize the visual evidence of man-made facilities from scenic vistas and lakes.

In the Backcountry Zone, park visitors will have the opportunity: to escape, to experience solitude, get away from crowds, and enjoy the smells and sounds of nature; to learn about nature through experience and personal interaction; to enhance physical and mental health through physical exercise, building a sense of self-pride, and gain a greater sense of independence.

Resource Zones

Lake Preservation Zone

The Lake Preservation Zone will preserve the lakes, yet continue to make them available for non-motorized public use. These lakes were a major reason for establishing Tettegouche State Park. Facilities will be limited to trails, remote picnic and campsites and support facilities such as latrines and trail shelters, canoe rentals and a carry-in boat access. Resource management will focus on preserving the water quality of the lakes, and restoring natural communities. Chemical use for facility and resource management that might affect the water quality will be minimized.

Old Forest Protection Zone

This part of Tettegouche State Park contains mature northern hardwoods, pine and white cedar communities. Protection of these old forest stands is a priority in this zone. Primary natural resource management activities will be monitoring and research. Limited recreational access will be provided to allow visitors the opportunity to experience and learn about old forest communities. New recreational development will be restricted. Visitors will be able to experience the majestic mature trees, with a relatively open understory, allowing them to see into the undisturbed community around them.

Tettegouche Camp Historic Zone

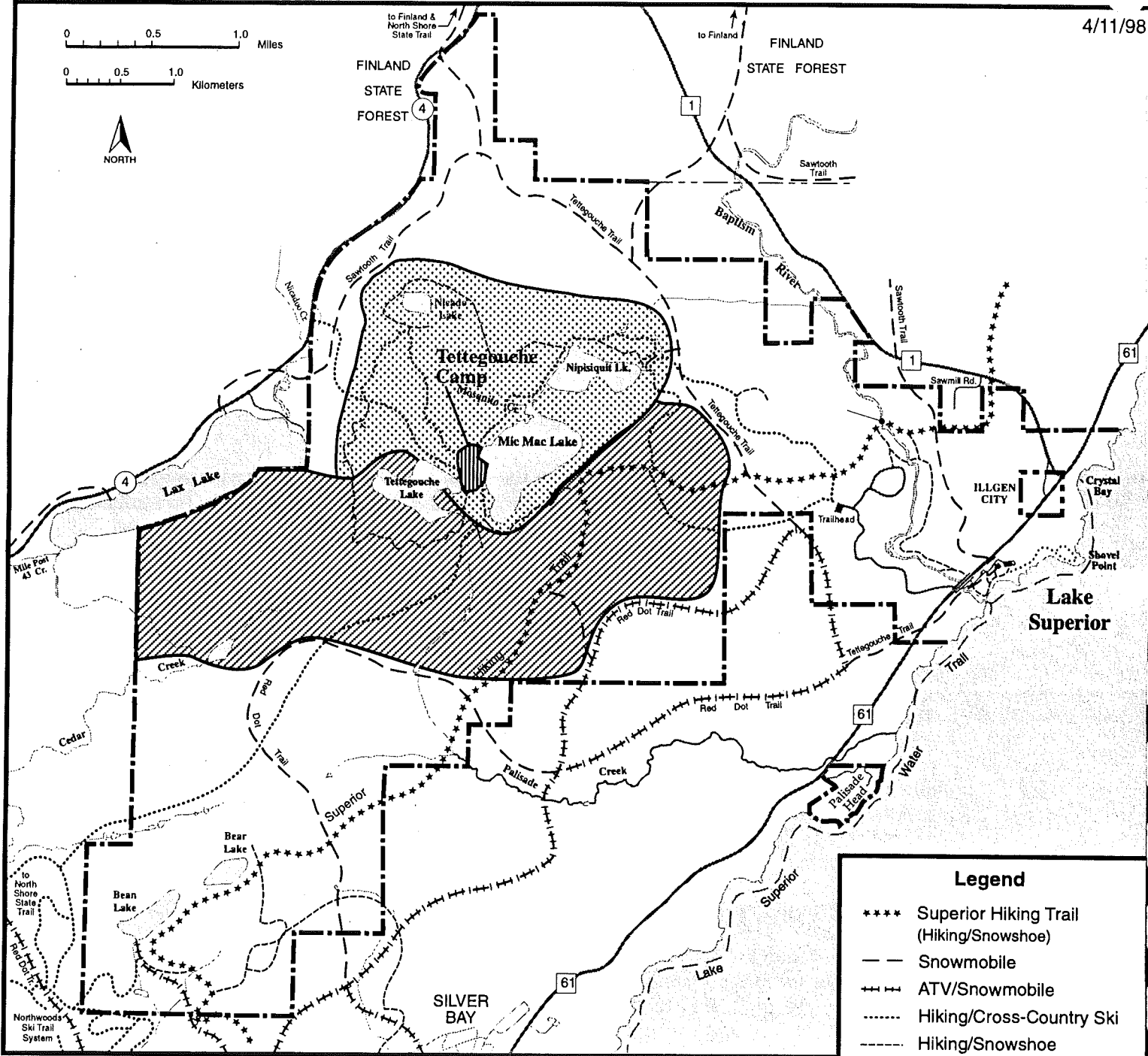
This will continue to be a small pocket of development within the Lake Preservation Area, preserved for its cultural significance. This collection of historic cabins and facilities are listed on the National Register of Historic Places, and will be maintained as a remote rustic camp. Visitors will have the opportunity to escape from the modern world and step back in time as they hike, snowshoe, or ski to this retreat. All development will be assessed to ensure minimum impact on the water quality of the park lakes.

Resource Management Zones

4/11/98

0 0.5 1.0 Miles

0 0.5 1.0 Kilometers



Legend

- **** Superior Hiking Trail (Hiking/Snowshoe)
- Snowmobile
- +++ ATV/Snowmobile
- Hiking/Cross-Country Ski
- Hiking/Snowshoe
- - - Lake Superior Water Trail (Kayak)
-  Lake Preservation Zone
-  Old Forest Protection Zone
-  Tettegouche Camp Historic Zone

Inventory

Recreational Activity Opportunities

The following tables show the existing recreational activity opportunities available in Tettegouche State Park, and the management zones they are located in.

Existing Camping Facilities By Zone

Camping	Visitor Service Zone		Back Country Zone	Lake Preservation Zone	Old Forest Protection Zone	Tettegouche Camp Hist. Zone
	Recreational Facilities Sub-Zone	Natural Attractions Sub-Zone				
<p>Semi-modern drive-in campground located 1.5 miles inland from Lake Superior above the Baptism River gorge Year-round toilet/showers 28 Drive in campsites 6 Walk in campsites 14 cart-in campsites (under development) - located along Lake Superior shoreline southwest of the Baptism River. Several sites are accessible by kayak from the Lake Superior Water Trail</p>						

Existing Tettegouche Camp Facilities By Zone

Tettegouche Camp	Visitor Service Zone		Back Country Zone	Lake Preservation Zone	Old Forest Protection Zone	Tettegouche Camp Hist. Zone
	Recreational Facilities Sub-Zone	Natural Attractions Sub-Zone				
<p>Located on the western shore of Mic Mac Lake in the park's interior - accessible by hiking, mountain biking or skiing 1.5 mile service road from County Road 4 on west side of park; or hiking or skiing 3 miles from park trailhead. This is a National Historic District, and there are 11 buildings on the National Register of Historic Places. 4 Year-round cabins Year-round toilet/showers Tettegouche Lodge-trail shelter Canoe rentals (2)</p>						

Existing Picnic Facilities By Zone

Picnic Facilities	Visitor Service Zone		Back Country Zone	Lake Preservation Zone	Old Forest Protection Zone	Tettegouche Camp Hist. Zone
	Recreational Facilities Sub-Zone	Natural Attractions Sub-Zone				
Picnic facilities are provided in four locations in the park. Only the Tettegouche Camp offers a shelter.						
Baptism River Rest Area 12 tables (1 ADA accessible), cooking grills, restrooms, water						
Trail head picnic area 4 tables, firerings, vault toilets						
Nipisiquit Lake picnic area 4 tables, firerings, pit toilet - hike, ski, snowmobile accessible						
Tettegouche Camp 6 tables, shelter, vault toilet, water - hike, ski, bike accessible						

Existing Rest Area By Zone

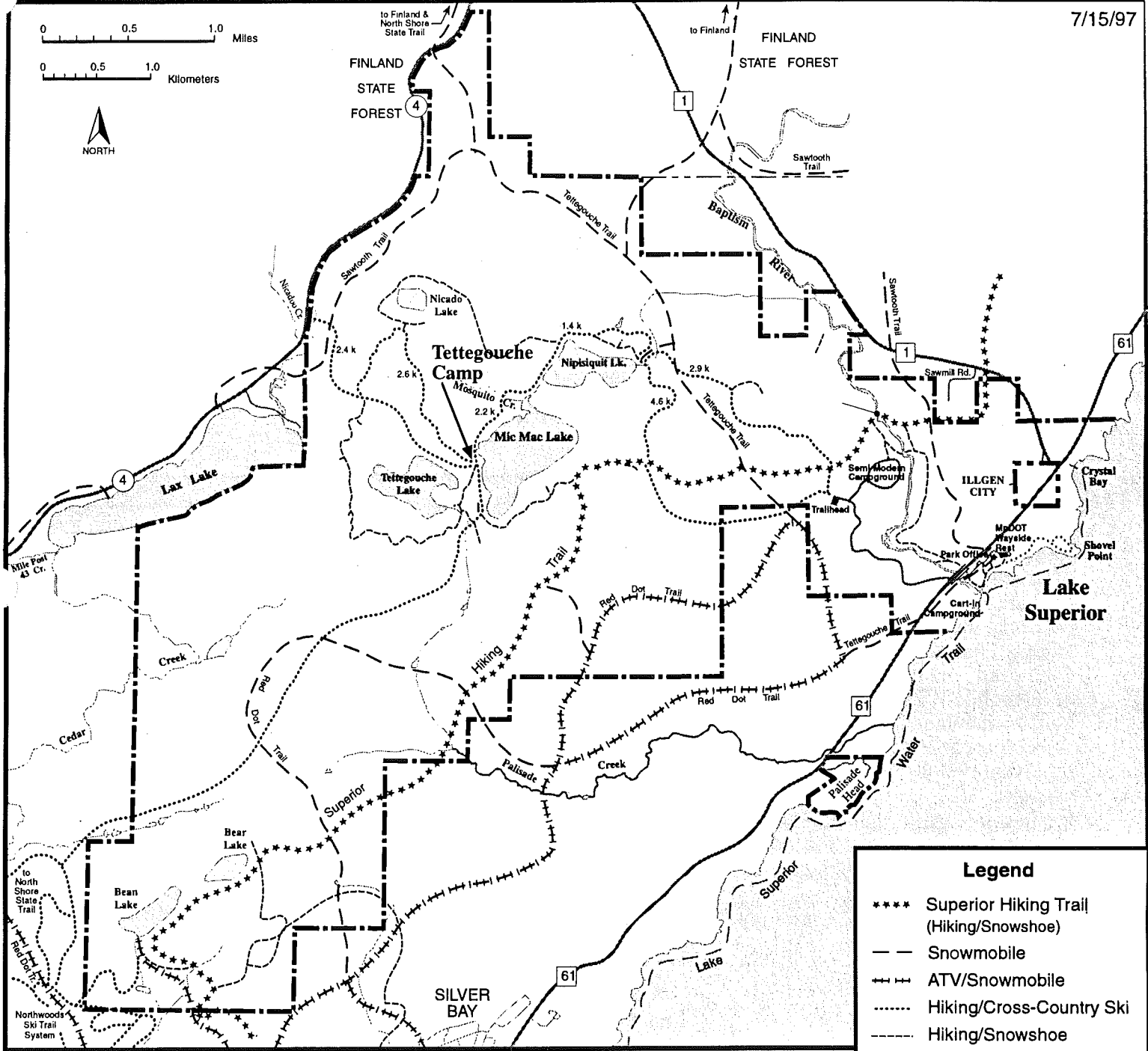
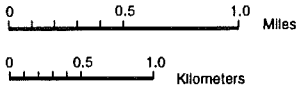
Rest Area	Visitor Service Zone		Back Country Zone	Lake Preservation Zone	Old Forest Protection Zone	Tettegouche Camp Hist. Zone
	Recreational Facilities Sub-Zone	Natural Attractions Sub-Zone				
A Class I Highway Rest Area is provided at the Baptism River. MnDOT and DNR jointly developed and manage this area to provide services to the traveling public and park visitors. Rest area facilities are available 24 hours/day, 365 days/year.						

Existing Trails By Zone

Trails	Visitor Service Zone		Back Country Zone	Lake Preservation Zone	Old Forest Protection Zone	Tettegouche Camp Hist. Zone
	Recreational Facilities Sub-Zone	Natural Attractions Sub-Zone				
15 miles of foot trails, 4 miles of are the Superior Hiking Trail						
12 miles of cross country ski trails, 4 miles of which are available for skate skiing						
6 miles of snowmobile trails						
1.5 miles of park roads are used by mountain bikes						

Existing Development

7/15/97



Legend

- **** Superior Hiking Trail (Hiking/Snowshoe)
- Snowmobile
- + + + + ATV/Snowmobile
- Hiking/Cross-Country Ski
- . - . Hiking/Snowshoe
- - - - Lake Superior Water Trail (Kayak)

Existing Palisade Valley Unit Facilities By Zone

Palisade Valley Unit

	Visitor Service Zone		Back Country Zone	Lake Preservation Zone	Old Forest Protection Zone	Tettegouche Camp Hist. Zone
	Recreational Facilities Sub-Zone	Natural Attractions Sub-Zone				
<p>Camping 4 backpack campsites provided by Superior Hiking Trail - Campsites are located near Bean Lake, Bear Lake, Round Mountain and Palisade Creek. Each site has space for 1-3 tents and a fire pit. Water is available from a lake or creek near the site. Use of the campsites is on a first-come, first-use basis. The sites are posted for one night only and there is no fee for camping at these sites.</p> <p>Picnic Facilities Picnic area on Bean Lake - accessible by ATV, snowmobile, and hiking trails. Development is limited to fire ring and benches.</p> <p>Trails All trails within the Palisade Valley Unit are sections of larger trail networks including the Superior Hiking Trail, the Northwoods Ski Club Trail, and the Silver Trail Riders Snowmobile/ATV Trail. Each of the trails is maintained by the respective association or club under the supervision of the Tettegouche park manager</p> <p>8 miles of Superior Hiking Trail 3.5 miles of cross country ski trails 6.5 miles of snowmobile trails 6.5 miles of ATV trails</p>			<div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 10px;"></div> <div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 10px;"></div> <div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 10px;"></div> <div style="border: 1px solid black; width: 100px; height: 20px;"></div>			<div style="border: 1px solid black; width: 100px; height: 20px; margin-bottom: 10px;"></div> <div style="border: 1px solid black; width: 100px; height: 20px;"></div>

Existing Infrastructure Facilities By Zone

Infrastructure	Visitor Service Zone		Back Country Zone	Lake Preservation Zone	Old Forest Protection Zone	Tettegouche Camp Hist. Zone
	Recreational Facilities Sub-Zone	Natural Attractions Sub-Zone				
Roads						
Paved 2 mi.						
Gravel 2.5 mi.						
Former Hwy. 61 Bridge						
Buildings						
>100 sq. ft 14						
< 100 sq. ft 9						
Total Square Feet 13,248						
5 Wells						
4 Waste Water Systems						
6 Septic Tanks						
4 Lift Stations						
1 mile Collection Line						
1.7 miles State Owned Power Line						
1.7 miles State Owned Phone Line						

Visitor Characteristics

As part of the State Park Visitor Benefits Study Survey in 1993, information was collected on park visitors. The most common park visitor are Caucasian families.

Of those surveyed;

- 94% were Caucasian,
- 47% were married with children,
- 18% were married without children,
- 24% were single with no children.

Type of group:

- Alone 8%
- Family 61.5%
- Family and Friends 10%
- Friends 19.5%

As for group size;

- 77% were 2-5 people in the party,
- 7% were traveling alone,
- 14% traveled in groups of 6-9,
- 2% traveled in larger groups.

Over half (53%) of the people were return visitors and 47% were first time visitors.

Of those return visitors;

- 50% had been there 1-3 times
- 25% had been there 4-8 times
- 25% had been there more than 9 times.⁶

Visitor Use Patterns

Tettegouche State Park has approximately 260,000 visitors per year. Most of these are day-users. A recent camper survey found that the majority, about 84%, of the users are from Minnesota, while many of the remaining 16% were from neighboring states and Canada. Visitors come throughout the year, with the summer months the busiest.

As part of the State Park Visitor Benefits Study Survey in 1993⁷, information was collected on what activities Tettegouche park visitors participated in. The activities that more than half the visitors participated in were:

Sight-seeing	91%
Hiking	80%
Walking	75%
Looking at Wildflowers	70%
Visiting Rest Area	62%
Visiting Visitor Center	59%
Participating in Photography	57%
Driving for Pleasure	52%
Visiting Tourism Information Center	51%

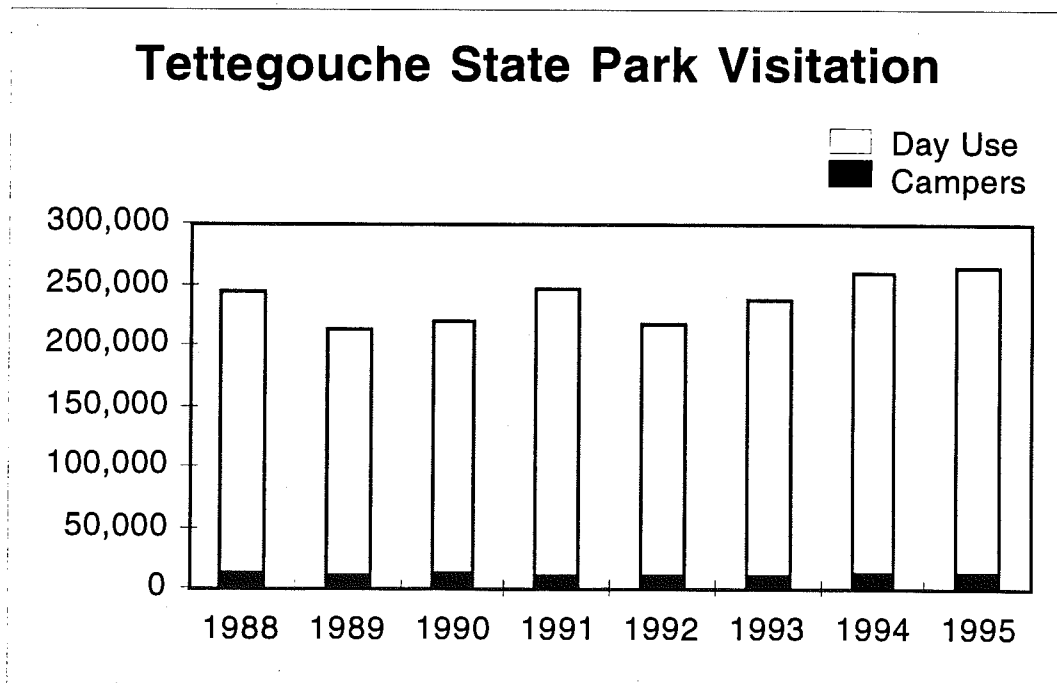
Of those surveyed, 6% had engaged in technical rock climbing.

For most of these activities visitors engaged in them for less than 1 hour. Except for Sightseeing and hiking;

- 49% went sightseeing for 1-4 hours,
- 56% hiked for 1-4 hours,
- 20% hiked for 5-10 hours.

Of those visitors who were surveyed who were camping, 18% camped in the drive-in campground, 6% at walk-in sites, and 4% at back pack sites. When asked about the number of campsites, 17% felt more campsites were needed, but 8% felt there were too many.

Most visitors felt there was enough written information, but 20-23% wanted more brochures and interpretive materials. The largest dissatisfied group, 31%, wanted more information on the cultural resources and history of the park. As for interpretation, 22.2% wanted more educational opportunities.⁸



Cultural Resources

Archaeology

Background

This background section is excerpted from "Tettegouche: A Records Check and Recommendations For Archaeological Surveys" by Jan Streiff & Elden Johnson, 1981. The Tettegouche area may have been occupied by humans as long ago as the last glacial retreat (10,000) years ago. In the Reservoir Lakes Area north of Duluth, for example, sites dating from 8,000-5,000 BC have been reported. These people lived in a moderating climate, hunting moose and caribou. They were associated with the Big Game or Paleo-Indian culture best known in the West and Southwest United States.⁹

The Archaic Period (5,000-1,000 BC) is also known in the same area. A distinctive attribute of the late Archaic Culture is the use of native copper for tools. The people of the Archaic Culture gathered wild foods, fished, and hunted in a pattern of seasonal movement in very small groups to localities of available food.

By 1,000 BC the people had entered an era called the Woodland Period. This period lasted in northern Minnesota until the Europeans arrived in the 17th century. This culture is characterized by the use of burial mounds, distinctive ceramics, and seasonal, semi-sedentary villages. Wild rice was the major grain and fish were a major source of protein.

By the 16th or 17th centuries, the Dakota were being displaced from the area by the Cree and other tribes moving west along the Great Lakes, and by 1700 AD the Ojibway (Chippewa) were on both the north and south shores of Lake Superior and entering Fond du Lac.

The Ojibway concentrated in small villages along the North Shore at Beaver Bay, Grand Marais, and Grand Portage. Fishing was the major subsistence activity for these Lake Superior dwelling Indians. The people congregated in the villages in summer and early fall then split into small family groups for hunting, gathering, and trapping the rest of the year.

The Ojibway worked with the Europeans to expand the fur trade. The French and later the British and Americans, brought European goods to the posts at Grand Portage and Fond du Lac, to exchange for animal pelts. This trade concentrated in northeast Minnesota. But by 1870 the animals were being depleted and Americans began assessing the other values in the area. Business was soon to turn to lumbering, then mining.

Identified Sites

Six archaeological sites have been identified within Tettegouche State Park. These sites were found during regular archaeological field testing prior to park development. Often sites selected for recreational development were also sites favored for use by people using the landscape in the past. One site is at Tettegouche Lake Overlook, where a jasper taconite scraper was found. The overlook provides a view to the southeast over the Tettegouche Lake basin. A second site was located at the east end of Nipisiquit Lake on the north bank of the stream. This was a small site just off the trail where worked stone material was found (a lithic site). A third site was located in an area proposed for the southern campground loop expansion. It is a small lithic site on the broad slope between the campground approach road and the edge of the steep valley down to the Baptism River just below the Cascades. This would have been near what was the Baptism River mouth when water filled the Superior basin during the Manitou Lake stage at an elevation of 820 feet.¹⁰ A fourth site was identified during the summer of 1996 while examining a proposed cart-in campground site between Lake Superior and T. H. 61 on the south side of the Baptism River. This site yielded nearly 300 lithic (stone chips) artifacts and represents a small knapping (stone tool making) site. This site is the richest Precontact American Indian site

thus far identified on Minnesota's North Shore of Lake Superior. Two historic archaeological sites have been identified in Tettegouche State Park. An Alger-Smith logging camp, located on the east end of Nipisiquit Lake, was identified during a survey for a proposed park trail and the Baptism River Club, started in 1886, was recorded during the 1996 survey for the cart-in campground.

Area History

In 1898 the Michigan lumber company, Alger-Smith, moved into northeast Minnesota to harvest trees. They began by building a railroad along the shore of Lake Superior and as they moved northeast from Duluth, they logged off the land along the tributaries emptying into Lake Superior. In 1895 a logging camp was established near the east shore of Nipisiquit Lake in the park. The company completed logging the white and red pine and moved out of the Tettegouche area around 1905.

The Alger-Smith staff were from eastern Canada and named local natural features for the areas back home. One of their logging camps was on the shores of a lake they named Mic Mac after the major Indian tribe from their native New Brunswick. They took the Mic Mac's Algonquin names for New Brunswick landmarks and gave them to Minnesota lakes: Tettegouche River became Tettegouche Lake; Nigadoo River became Nicado Lake and Nepisiquit River became Nipisiquit Lake. All these New Brunswick rivers flow eastward into the Nepisiquit/Chaleur Bay north of Bathurst.¹¹

While the Alger-Smith Company continued operations in Minnesota until 1926, in 1910 they sold the logging camp at Mic Mac Lake to the Tettegouche Club (see below).

Park History

1700's First recorded inhabitants of the Tettegouche area were groups of Chippewa Indians who moved into the area to hunt, fish, and make maple syrup.¹²

Late 1800's The Waxlaxes were 1st to homestead the Tettegouche area.¹³

1895-1905 Alger, Smith and Company logged over the area. The Smith family gave the lakes names for the Mic Mac Indian Language of their native New Brunswick.¹

1886 Baptism River Club house ("St. Paul Club") constructed at the mouth of the Baptism River. "the purpose of the club, according to its charter, was 'the breeding, preserving and propagating of brook trout and other fish in the streams and lakes within the state of Minnesota.'" Members, limited to 70 (all St. Paul men except one from Duluth):¹⁴

1902 Minnesota Mining & Manufacturing (3M) began to mine what they thought was corundum near Crystal Bay. They abandoned the site two years later, after finding that the mine contained anorthosite, which is a much softer material. Anorthosite, which is used in making sandpaper, was also mined by 3M at Carlton Peak near Tofte.

1910 The Tettegouche Club was formed about 1910. The purpose of the club was "to sensitively use the area's natural resources and to promote conservation of its scenic beauty and inherent wilderness qualities while allowing recreational fishing" (Koop, M., Tettegouche Camp National Register Nomination). The emphasis on conservation was unusual and it remains the pivotal factor in ongoing management of the site. The purchase of 1,000 acres of cut over land between Mic Mac and Tettegouche Lakes was the club's first activity. The land was formerly owned by Alger-Smith and Company, a lumber firm based in Michigan and was ideally suited for development of a camp. Creation of a compound of log and half-log structures was the club's second major undertaking. The first buildings included a lodge, Kitchen/Dining Hall, Sleeping Cabin, Root Cellar and Boat House. A log Barn and

- Filer's Shack from the nearby Alger-Smith Logging Camp on Nipisiquit Lake are thought to have been moved to the camp during its initial development
- 1921 Ownership of the camp shifted to club member Clement K. Quinn. Quinn had a strong interest in preserving the area surrounding Tettegouche Camp as a wilderness and added several hundred acres to it.
- 1923 MnDOT built a 380' x 21.3' Highway 61 bridge over the Baptism River (bridge #3459).¹⁵
- 1925 Around 1925, Tettegouche camp was expanded with construction of several log buildings including two Cabins, a Garage, an Outhouse, a Boat Shelter, and a Breezeway between the Lodge and Kitchen/Dining Hall.
- 1945 Minnesota DNR established Baptism River State Park with an additional 506 acres within T56N, R7W.**¹⁶
- 1950 In about 1950 a half-log Bath House and half-log Dog House were added to the Tettegouche Camp complex.
- 1962 As early as 1962, efforts were underway to acquire Tettegouche Camp as part of a major state park that would encompass areas around Baptism River State Wayside. Negotiations with local concerns and approval by the state legislature spanned seventeen years
- 1969 Minnesota DNR acquired additional land (T56N, R7W) adjacent to Baptism River State Park.¹⁷
- 1970 A small shop and ice house at Tettegouche Camp were removed.¹⁸
- 1971 John & Karl (John's father) deLaittre purchased Tettegouche Club from Clement Quinn.
- 1973 New Highway 61 bridge constructed.¹⁹
- 1974 Minnesota Department of Highways transferred ownership of Old Highway 61 Bridge No. 3459 to Minnesota DNR.²⁰
- 1975 Tettegouche property was considered for a Reserve Mining Company on-land tailings site. It is located about 4 miles northeast of the "Milepost Seven" site which was selected.²¹
- 1976 Tettegouche Camp was offered for sale on the open market at \$2,145,000 by John deLaittre.²²
- 1978 The Nature Conservancy obtained an option on the deLaittre property known as Tettegouche Camp, consisting of 3,385 acres. Option ran out on July 1, 1979.²³
- 1979 Establishment of Tettegouche State Park by the Minnesota Legislature.**²⁴
- 1983 Demolition of Bridge #3459 over Baptism River had been scheduled for 1969. This was delayed, until an agreement could be developed to maintain it for snowmobile and pedestrian traffic only (restrictive barrier was put in place).²⁵
- 1984 Minnesota DNR acquired land within (T56N, R7W); in exchange to Lake County, for land within (T56N, R8W) which resulted in a statutory boundary of 4734.25 acres.²⁶
- 1986 Grand opening of the joint DNR/MnDOT wayside and state park office.**²⁷
- 1989 The Tettegouche Camp is placed on the National Register of Historic Places.²⁸
- 1991 The 1991 legislature added Palisade Head, Martin Pahl Property, and Palisade Valley Unit to Tettegouche State Park.**²⁹ The Palisade Valley addition was a culmination of a cooperative effort between the people of Silver Bay, Nature Conservancy, Minnesota Parks and Trails Council, Lake County and DNR.
- 1993 The cliffs of Palisade Head at Tettegouche State Park was the location for a scene from "The Good Son" a Twentieth Century Fox motion picture.³⁰
- 1994 3M Company donated Crystal Bay to the state of Minnesota,³¹ and it was added to Tettegouche State Park.**³²
- 1994 Historical Tettegouche Camp restored for reuse as an overnight and day-use facility.³³

Natural Resources Description

Climate

Although Tettegouche State Park is subject to the strong continental weather patterns influencing all of Minnesota, the local climate is moderated by Lake Superior. The water temperature of the lake remains relatively constant throughout the year. Tettegouche receives warming breezes off Lake Superior in the winter and cooling breezes in the summer. Generally, temperatures in Tettegouche are 10 degrees F. warmer in the winter and 10 degrees cooler in the summer than inland areas of northeastern Minnesota.

Geology

Similar to many other places along the North Shore, there are two types of bedrock underlying Tettegouche State Park. All the bedrock is of Keweenawan age (1.1 billion years old) and was formed by volcanic action as part of the great Mid-Continent Rift System.

The North Shore Volcanic Group underlies the area along Lake Superior and extends about 2 miles up the Baptism River. This dark basaltic rock, formed from volcanic lava, is exposed in many places along the shore and river. Within this main rock structure are areas of harder rock which was formed later. The intrusions are dikes and sills of diabase and related rocks.

The inland portion of the park is underlain by the Duluth Complex, which is very hard and erosion resistant. It is this resistance to erosion that has created the steep knobs and ridges characteristic of the area.

Many of the prominent knobs, such as Mount Baldy, Raven Rock, and Mount Trudy, are made of anorthosite. In contrast, the "Lake Superior overlook" is held up by diabase -- as are the ridges above Palisade Creek and Bean and Bear Lakes. Along the lake shore, Palisade Head and Shovel Point are made up of a fine-grained, maroon-colored rhyolite.

The bedrock in a major portion of the park is covered by ground and end moraines comprised of glacial till. Most of these areas are covered by less than 6 ft of soil. Other areas of the park contain deeper, clayey soils that may have formed on former lake floors. See the following section on soils for more detailed information.

The topography in the park is rugged. Elevations range from 600 ft mean sea level at Lake Superior (the lowest area in Minnesota) to 1,600 ft mean sea level in the northwest part of the park. The numerous knobs and ridges rise sharply 100 to 200 ft. throughout the park, creating slopes greater than 12 percent.

Unlike many formations in northeastern Minnesota, the two types of bedrock in the park are not likely to contain deposits of valuable minerals. Available information indicates that there is only a fair potential, with good geologic reliability, for economically recoverable deposits of copper, silver, nickel, tin, iron, vanadium and platinum in these formations.

In the early 1900's, the 3M Company thought it had discovered deposits of the abrasive mineral corundum at a site along the Baptism River Valley. The rock turned out to be anorthosite, however, and a quarrying operation was short-lived. See the History section for more information on the 3M Crystal Bay Site.

The geomorphology of Tettegouche State Park³⁴ and two other North Shore state parks, Judge C. R. Magney and Grand Portage, have been studied. In addition, a background paper summarizing the geomorphology of the entire North Shore is also available.³⁵

Soils

The soils information currently available is general for most of the park. The area which was formerly Baptism River State Park (T56N R7W, Sections 10, 14, and 15) has been inventoried in detail. The rest of the park has only been generally mapped. Where the two interface, the inventory has been adjusted according to the topography and soil characteristics.

The major soil type is the Mesaba-Barto association, found primarily in the interior of the park. The Mesaba soils are gently sloping and rolling with reddish brown or brown sandy loam subsoils overlying bedrock within 40 inches. Barto soils are similar but bedrock is nearer the surface. There are also extensive exposures of bare rock, particularly along the crests of sharp topographic ridges. The absorption properties of the Mesaba-Barto soils are good, thus if the soil is mounded it is suitable for drain fields. Also, on the flatter, less stony areas, the soil will support campground and picnic area development. However, the shallowness and steep slopes of the Mesaba-Barto association make large areas generally unsuitable for development.

The next largest soil group is the Ontonagon-Bergland Association/Hibbing clays. The general survey calls these clay soils Ontonagon-Bergland while the detailed survey lists them as Hibbing. The Ontonagon soils are nearly level to gently sloping with reddish brown clay subsoils and calcareous substrata. These form about 75% of the association. The Bergland soils are slightly depressional and wet. They also have reddish brown clay subsoils and calcareous strata. The Ontonagon-Bergland soils can be found along Palisade Creek and along portions of the Baptism River.

The Bergland soil is generally too wet for any development except sewage lagoons. The Ontonagon soils are good for trails and picnic areas, but they have limitations for the construction of buildings. They are not suited for campground development because their slow percolation rate would be further reduced by the compaction which occurs in campgrounds. Around the mouth of the Baptism River and east beyond Shovel Point, the soils are mostly shallow loam and clays over bedrock -- designated as the Ontonagon-Barto Association. Bedrock is generally 2 to 3 feet below the Ontonagon soils in this area, and 8 to 20 inches below the Barto soils. Also included in this association are rolling to steeply sloping loamy Quetico soils (underlain by bedrock at 4 to 8 inches) and other, mostly wet, soils.

A fourth soil type is the Duluth-Dusler association. This association is found primarily in the northeast side of the park, in the vicinity of the intersection of the Baptism River and Highway 61. The Duluth soils are gently sloping and rolling, consisting of reddish-brown loam or clay loam subsoils. The Dusler soils are slightly depressional, wet, and have brown loam or clay loam subsoils.

The Duluth soils are fair to good for all recreational development, including sewage lagoons. The Dusler and other soils are not good for development except for carefully aligned trails.

Another association is the Ahmeek-Ronneby. These deep, clayey soils, associated with lake deposits, and are found near Lax Lake. The subsoils are reddish-brown sandy loams. The Ahmeek soils are good for all development and fairly good for sewage facilities. The Ronneby and others are generally too wet for any development except trails.

The four remaining soil types are all poor for development. Many of the knobs and steep ridge tops are thinly covered with rocky Quetico soils. The steep valley sides of the Baptism River are covered with Udorthent clays. Suamico and Seelyville-Greenwood soils are found in depressions and are nearly always wet.

Water Resources

Ground water

Groundwater 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 (200 feet) wells must be drilled. They are usually low volume and very expensive to drill. The well at Tettegouche Camp is 200 feet deep and 6 inches in diameter. The volume is 2.3 gallons per minute. According to an area well-driller, the lodge well would probably yield a slightly higher volume if drilled deeper.

The groundwater supply problem is increased by the shallow soils in the park. Year-round useable water lines are very expensive to lay, because they may have to be blasted into rock. Most Tettegouche facilities will require summer-only water supplies.

Potable water for the park office and MnDOT rest stop is taken directly out of Lake Superior. It is filtered and chlorinated to ensure its purity. This system takes significant maintenance and testing, but does provide good quantities of excellent water.

Surface Water

Six lakes and a few small ponds are located within the park. Four of the lakes, Mic Mac, Tettegouche, Nipisiquit and Nicado, are located in the central portion of the park, and Bean and Bear Lakes are found in the Palisade Valley Unit. Streams that flow through the park include the Baptism River, Palisade Creek, and a few other small streams. The lakes, ponds and streams in the park have naturally low fertility, which affects their biological productivity. The watersheds of the lakes are small and lie entirely within the park.

Mic Mac Lake is the largest of the six lakes, covering 121 acres. The majority of the lake is only 4.5 to 6 feet deep. However, there is a long, narrow trough along the east side that is up to 20 feet deep. Tettegouche Lake is 68 acres in size and slightly deeper. It averages 8 to 9 ft deep, and there is a 15 ft hole in the northeast quarter and a 14 ft deep trough along the south side. At the east end of this trough is a 20 ft deep hole. Nipisiquit Lake is 50 acres in size and mostly 16 to 19 ft deep, with a 20 ft deep trough along the east end. Nicado Lake is the smallest of the lakes at 13 acres. It has an average depth of 10 feet and contains a 18 ft deep hole in the south central area of the lake. Bean Lake, in the Palisade Valley Unit, is 26 acres in size and has a maximum depth of 26 feet. Bear Lake, also in the Palisade Valley Unit, is smaller in size, covering 17 acres and having a maximum depth of 69 feet.

The Baptism River flows 26.5 miles from its source into Lake Superior. The lower 1.8 miles flows through the eastern portion of the park. Only the last 0.8 of a mile, from the mouth to the first barrier, Two Steps Falls, has been surveyed, this section has an average depth of 20.2 inches. The Baptism has little water storage capacity in its headwaters, so water levels fluctuate greatly over the course of the year. For instance, on May 1, 1990 the flow of water was a record high of 1,190 cubic feet per second, but by August it dropped to 9.6 cubic feet per second. A recent assessment of water quality in Minnesota's Lake Superior watershed identified the Baptism as a river that currently supports the demands placed on it, but that water quality is threatened.

Palisade Creek flows from Tettegouche Lake about 4.5 miles to the mouth at Lake Superior and has a grade of 157 feet per mile. The creek meanders through the Palisade Valley and then drops more swiftly into Lake Superior.

Vegetation--Changes Over Time

The landscape that the early European explorers and settlers found along the shores of Lake Superior was similar to what we see today, at first glance. George Adair, the man who in 1858 performed the General Land Office Survey of the area where Tettegouche now lies, described it like this:

The surface of this township is rolling, rocky and bluffy and has the appearance of being once burnt over. The soil is second rate clay and loam. The timber is small and scrubby and has the appearance of second growth. (Trees include) white birch, aspen, spruce, white pine, gilead, cedar, fir, yellow birch, sugar etc. The streams are quick and rapid, good water....

Despite the fact that Tettegouche is still forested by white birch and aspen, spruce, white pine and the others, the forests that George Adair described were, in profound ways, different than what we have today. Forests result from complex interactions between the life histories of different trees, shrubs and herbs and the environment. This environment includes factors like climate, soils, slope and aspect, plant competitors, insect outbreaks, diseases, herbivores, windstorms, and fire: none of these factors stays constant. In addition, these interactions take place on spatial scales that range from square inches to hundreds of square miles and time scales that range from hours to centuries.

Beginning in the late 1800's important changes came to the forests in and around Tettegouche. First the pine, and then other trees species were logged. Intense fires followed, that burned the young forests and eliminated many of the young pine that likely had sprouted after logging. Aspen and birch colonized the area; their light, wind-blown seeds allowed them to take advantage of the open, bare ground. Deer, which had not been common, moved into the new forests. Wolves, which preyed on the deer, were hunted and trapped. Fires no longer burned as they had before settlers arrived. Forest diseases, such as white pine blister rust, were introduced and other pests, such as spruce budworm, may have become more widespread.

Existing Plant Communities

The following discussion of existing plant communities is based on DNR Forestry's Cooperative Stand Assessments and similar information from Lake County on former county lands. Palisade Head had a separate assessment made of its resources. These descriptions provide a broad brush view of the park's vegetation composition based on the dominant tree species, their sizes and ages.

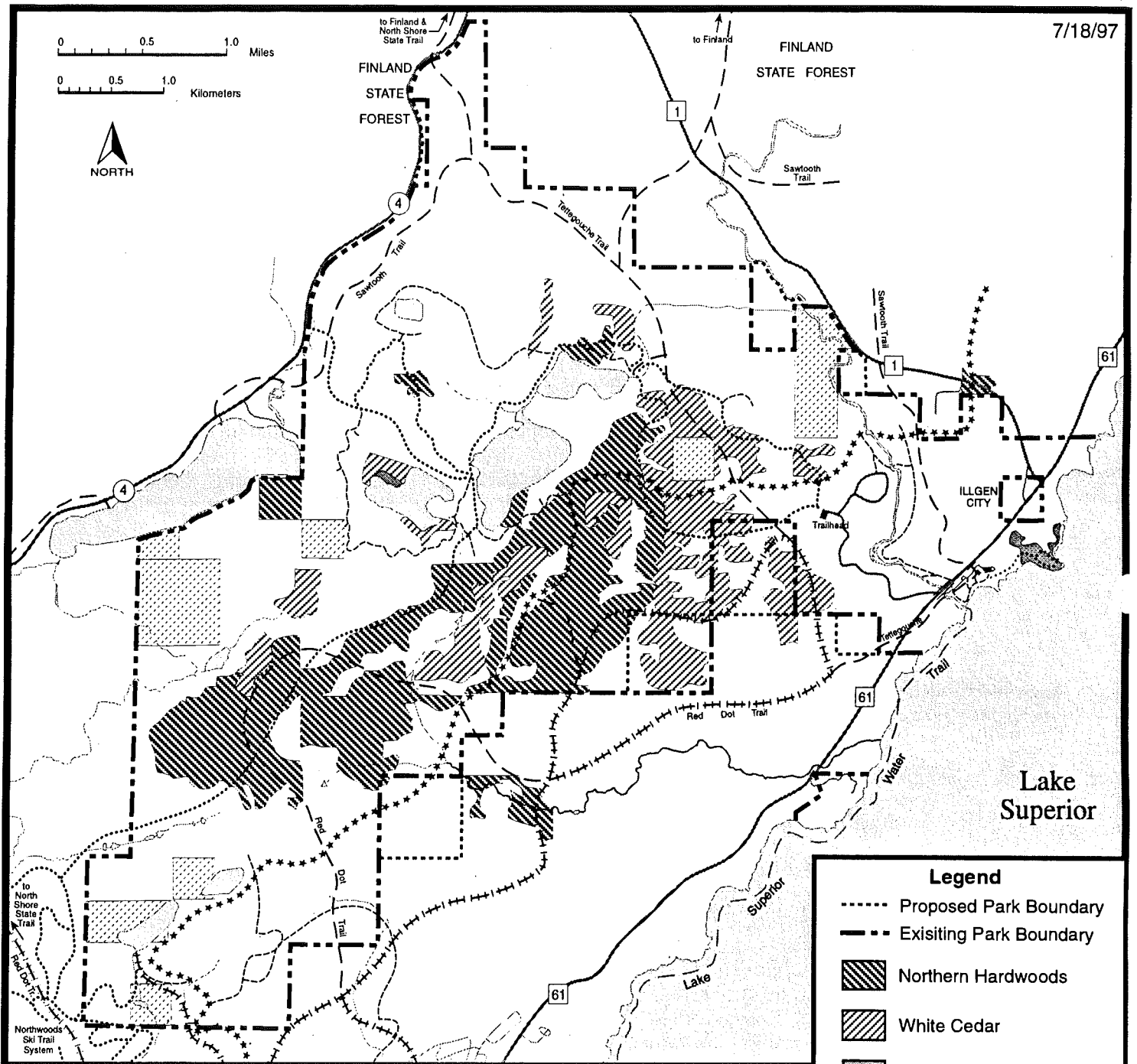
One of the important natural resources at Tettegouche is the extent of older forest habitats that it offers (refer to stands over 80 years map p.42). Some are old enough and undisturbed enough by logging to be considered for old-growth designation by the DNR. Many other stands are reaching the age where they are developing characteristics that typify older forests--characteristics like standing dead trees, logs in various states of decay, and a complex "vertical structure" that includes herbs, shrubs, saplings, and trees of various sizes and ages. Some of these old forest characteristics can develop in any forest type, but they are best exhibited in stands of longer-lived species like maple, white cedar and white pine.

Birch and aspen dominated stands are the most common forest type in the park. Many of these stands are growing old and changes in species composition will be occurring over the next few years as the birch and aspen die and are replaced. The specific changes depend on what other tree species are present in the stand.

Extensive areas of northern hardwoods range through the middle of the park. These stands are dominated by sugar maple with a component of yellow birch. The hardwoods are a

Stands Over 80 Years

7/18/97



long-lived community that should persist until a disturbance--such as a major windstorm--blows them down and allows pioneering species like birch and aspen to colonize.

The ridge tops of the park's interior grow red oak, an unusual forest type in northeastern Minnesota. These stands are regionally important as wildlife feeding areas because of the acorns that the oaks produce. Black bear have been shown to travel many miles to feed in these stands.

Pine are scattered throughout the park. Red pine are present on rocky ridge tops, but not in extensive stands. White pine are a component of many forest stands, with 1 or 2 large pines per acre. Some regeneration of white pine has been observed in the park, principally in places where there is a relatively open canopy and the seedlings are somehow protected from browsing deer.

White cedar grows in upland stands as well as in wetland situations. The cedar stands in the park are mostly quite old. Little if any cedar regeneration has been observed, either inside a stand or extending outward from a stand. Research is currently being conducted in the park to understand what factors are preventing regeneration.

The lowland areas of the park have a rich variety of vegetation types ranging from ash to black spruce and tamarack. Beaver damming maintains areas along drainage ways in a shrubby and grassy condition. Floating bogs are present on the edges of several of the interior lakes.

Rock outcrop communities provide a hostile growing environment, yet are habitat for some of the park's most unique plants. A recent survey of Palisade Head identified at least 200 species of plants growing there--many of which are rare or unique. A number may be relicts from a past glacial age.

Animals

Despite many changes since European settlement, northeastern Minnesota's fauna is still relatively intact when compared with other parts of the state or even the United States. There are few regions in the United States still able to support food chains that have large predators such as wolves, bobcats, marten and fishers at the top.

Tettegouche offers a wide variety of habitats for animals associated with forests. There are forest stands that range from early successional hardwoods to conifers to large blocks of old northern hardwoods. There are wetland habitats that range from hardwood swamps to beaver meadows to open lakes and streams. There are open, rocky areas and large rotting logs. Comprehensive surveys of the Park's fauna have not been completed, so the following discussions are fairly general.

Mammals

A wide variety of mammals live in Tettegouche, ranging in size from tiny, insect-eating shrews to moose. The following species are ones that have demanded management attention in the past and are expected to continue to be of management concern in the future.

White tailed deer

White-tailed deer are common throughout Minnesota, including the Arrowhead. Population levels in the mid 1990's are probably as high as they have been in the last several hundred years. In fact, there were no or very few deer here before the area was logged. No population estimates for the park have been made, although there is a well-documented seasonal increase in portions of the park as deer migrate to the Shore for the winter to take advantage of south-facing hillsides and slightly milder conditions. Browsing deer have been shown to have negative impacts on a variety of forest plants, including

species that are of concern within Tettegouche: white cedar, white pine, yellow birch and others. While deer browse is certainly not the only reason some of these species aren't regenerating in the park, it is a major factor.

Beaver

Beaver populations are also high in Northeastern Minnesota. Research being done at Voyageur's National Park is showing that over time, and in the absence of trapping, beaver will occupy, abandon, and reoccupy virtually every damnable spot on the landscape. Through their activities beaver create open, grassy or shrubby habitats that can be biologically very rich. Beaver are common at Tettegouche and damming and flooding should be anticipated throughout the park's valleys.

Black bear

Black bear are year-round residents of the park. The oak woods in the park have been shown to be regionally important to bears preparing for hibernation; they will travel many miles to feed on the acorn crops. Periodically, bears become a nuisance in the heavily used areas of the park and, as a last resort, are sometimes trapped and relocated.

Bats

Four species of bats hibernate in two small caves in Palisade Head. Approximately 300 individuals were tallied in a survey conducted in the winter of 1990. In decreasing order of abundance they were: little brown, Northern myotis (special concern), big brown, and Eastern pipistrelle (special concern). Hibernating bats require high humidity, minimal disturbance, and low, stable and above-freezing temperatures; sites that provide all of these conditions are not common. Protecting hibernacula from disturbance is critical to the long-term health of bat populations.

Birds

Birds are a major component of the biological diversity in northeastern Minnesota. The Superior National Forest reports that they account for almost 70% of the vertebrate species on the forest. In addition, the Upper Great Lakes Region in general has the highest bird species richness of any area north of Mexico. Thus, consideration of bird conservation at Tettegouche is important, not only for the park, but also for helping to maintain the diversity of species in the region.

Birds play an important role in maintaining the health of forest ecosystems, although the specifics of that role are still being discovered. Forest songbirds, several species of warblers in particular, have been shown to help control spruce budworms in the intervals between outbreaks; and they may help lengthen the time between outbreaks. Birds are also important parts of food webs, not only eating insects and seeds, but being eaten by other birds, mammals and snakes.

Among the birds for which there is most conservation concern are those that rely on large blocks of forested habitat and those that require features of older forests, such as hollow trees. Many of these bird species are unequipped to deal with the nest predators and nest parasites that move into an area when large forest habitats are broken into smaller blocks. Examples of these predators are raccoons, skunks and domestic cats that can find and destroy nests on the ground. Brown-headed cowbirds like a mix of open country and forest; they lay their eggs in other birds' nests and their young out-compete and kill the original occupants.

While there is still much research and discussion of the specifics of how large blocks of forest need to be to ensure the continued presence of various birds, it is clear that Tettegouche provides an important forest-bird resource. This resource will become more significant as development and forest harvest activities increase in northeastern Minnesota.

Some of the forest interior/mature forest species that are of concern:

- Pileated Woodpecker
- Least Flycatcher
- Veery
- Wood Thrush
- Solitary Vireo
- Red-Eyed Vireo
- Black-throated Blue Warbler
- Black-throated Green Warbler

Reptiles and Amphibians

Northeastern Minnesota has fewer reptiles and amphibian species than other parts of the state. No survey of the park's reptiles or amphibians has been conducted, but the following list represents those species known from Lake County, and so might be expected in the park.

Amphibians

- Blue-spotted salamander
- Tiger salamander
- Red-backed salamander
- Eastern newt
- American toad
- Gray treefrog
- Spring peeper
- Western chorus frog
- Green frog
- Northern leopard frog
- Mink frog
- Wood frog

Reptiles

- Snapping turtle
- Painted turtle
- Ring-neck snake
- Redbelly snake
- Common garter snake

Fish

The lakes in the park support a moderate recreational fishery. In the days when the park was a private retreat, game fish stocking took place periodically. There are records of largemouth bass being stocked in Mic Mac and Tettegouche lakes and brook trout were released in Nicado Lake. Since the area came under state control, no further stocking has been done. Recent fish surveys and population assessments identified the following species:

<u>Mic Mac</u>	<u>Tettegouche</u>	<u>Nipisiquit</u>	<u>Nicado</u>
Northern Pike	Northern Pike	Northern Pike	Northern Pike
Yellow Perch	Yellow Perch	Yellow Perch	White Sucker
White Sucker		White Sucker	Pumpkinseed
		Walleye	

Some of the limitations to the fishery that the survey work has identified are low winter oxygen levels and the low fertility of the lakes.

Bean and Bear Lakes are managed for put-and-take stream trout fishing. There is strong local support for this management program. Bear Lake was stocked with brook and lake trout in 1959 and for several years afterwards. Rainbow trout were stocked in most years from 1965 to 1979. Since then splake and rainbow trout have stocked in alternate years. Bean Lake was chemically treated in 1979 to remove a fish community dominated by white suckers and subsequently stocked with splake and rainbow trout.

The Baptism River, especially the section below the barrier falls, is one of the most heavily fished streams on the North Shore. Brook trout were first stocked in 1900, rainbow trout in 1916, and brown trout in 1921. Stocking of these species continued intermittently until 1942. Rainbows, browns and steelhead were stocked during the 1960's and 70's. Since then rainbow trout and chinook salmon have been stocked on a regular basis until 1991, when rainbow trout stocking was discontinued.

Palisade Creek has not had an active fisheries management program. A recent survey identified rainbow trout, white sucker and northern redbelly dace.

Endangered, Threatened and Special Concern Species

The Minnesota Natural Heritage Nongame Research (NHNGR), Nongame Wildlife Program, and Minnesota County Biological Survey document locations of rare features, including rare plants and animals, natural communities, and selected animal aggregations and geologic features. Each entity is termed an "element" and is included on an official register maintained by the NHNGR program. Statewide locations of these elements are stored in a geographic computerized database, known as the Rare Features Database.

Known Rare Features within Park Boundary

Plants

Holboell's Rock-cress (*Arabis holboelli*)-Status: Threatened

This plant is known from only a handful of sites in Minnesota. In the northeastern part of the state it has been found in crevices on cliffs. A few plants were seen at Palisade Head on the talus below the cliff.

Braun's Holly Fern a(*Polysticum braunii* var. *purshii*)-Status: Endangered

This fern has a limited range in North America and is considered rare or local over most of that range. It is known from only a very few locations in Minnesota. At Tettegouche it was discovered growing in a moist draw in a hardwood stand.

Long-leaved arnica (*Arnica lonchophylla*)-Status: Threatened

The Minnesota populations of arnica are widely separated from the plant's principal range--subarctic areas hundreds of miles away. It grows in exposed, rocky habitats. At Tettegouche it was found at Palisade Head, growing on narrow ledges and in crevices. The population there seems to be well established and in good health.

Maidenhair Spleenwort (*Asplenium trichomanes*)-Status: Threatened

Maidenhair spleenwort is a small, evergreen fern. It ranges widely across North America, and grows on cliffs. A very few individual plants were identified at Palisade Head.

Rock whitlow-grass (*Draba arabisans*)-Status: Special concern

This member of the mustard family grows in open areas with little soil. At Tettegouche, populations have been found at Palisade Head and Shovel Point.

Animals

Peregrine Falcon (*Falco peregrinus*)-Status: State Threatened, Federally Endangered

Peregrine falcons are distributed around the world, but they came very close to extinction in the United States--mostly due accumulations of DDT in food chains which were linked to nonbreeding adults and eggshells too thin to survive. Reintroduction attempts began in the mid-1970's, with more concentrated efforts beginning in 1982.

Historically, peregrines nested on the cliffs at Palisade Head and Shovel Point. Records do not show whether both nesting sites were active at the same time, but it's not likely, given how close they are to one another. The last known historic nesting in the park was at Shovel Point in 1951. Nesting began again in 1988 at Palisade Head. Since then at least 15 young have been fledged, making this one of the more successful nesting cliffs in the state. The birds have used different portions of the cliff face since 1988.

Gray Wolf (*Canis lupus*)-Status: State Special Concern, Federally Threatened

Gray wolves are sighted regularly in and around Tettegouche. Their primary prey in Minnesota are deer and beaver. Principal causes of mortality for wolves involve people, either car kills or shooting.

Northern Myotis (*Myotis septentrionalis*)-Status: Special concern

Northern myotis bats are a widespread species in North America. In Minnesota it is generally associated with forested habitats. In summer it roosts under tree bark and in and around buildings. In winter it hibernates in caves and mines, uncommon features on the landscape that are susceptible to human disturbance. At Tettegouche northern myotis hibernate in two small caves in Palisade Head. They probably return to the hibernacula in late August or September and leave in May.

Eastern Pipistrelle (*Pipistrellus subflavus*)-Status: Special concern

Eastern pipistrelle bats range over most of the eastern United State; Minnesota is at the northern and western edge of that range. Pipistrelles also hibernate in caves and mines; they have been found wintering in the caves in Palisade Head.

Management Objectives and Recommendations

Resource Management

The goal of the resource management program at Tettegouche is to sustain healthy ecosystems into the future. Ecosystems include all the living organisms (plants, animals, microorganisms, people) and their physical surroundings (soil, water, air), plus the processes that maintain them. Ecosystems may be small (a rotting log or an isolated pond) medium-sized (a forest stand or watershed) or large (Northeastern Minnesota). Healthy ecosystems will provide the services we demand of the park: beautiful scenery, recreational fishery, opportunities to see wildflowers and wildlife, and more.

Sustaining healthy ecosystems means not only keeping the land and water resources at Tettegouche healthy; it means recognizing that Tettegouche plays a role in maintaining the ecological health of a much broader area. This goal cannot be achieved in isolation--the park is intimately tied to its surroundings--so communication and the support and cooperation of neighbors and neighboring public land managers is critically important.

The objectives and recommendations that follow are intended to provide general direction for the resource management activities that will be conducted in the park. Annual work planning meetings will use these recommendations to set short-term goals and priorities. Some management activities are quite specific, and the resources and steps needed to ensure its maintenance are known. Other resources we know less about, and specific management actions will be developed as better information is obtained.

1. Sustain a variety of healthy natural communities.

Management and protection efforts will emphasize communities that are present at Tettegouche but are less common elsewhere on the landscape. DNR Parks' forest management guidelines provide general direction for the range of management practices we will consider using in the park. DNR's Old Growth Guidelines provide more specific guidance for areas designated as old growth.

- Identify and protect old growth forest stands in accordance with DNR's Old Growth guidelines; develop management plans for Old Growth stands.
- Protect the unique natural communities at Palisade Head and Shovel Point. These communities are especially vulnerable to trampling. Raising treadways, fencing sensitive areas, and providing educational signing are all means that may be used to restrict habitat degradation and encourage habitat recovery.
- Perpetuate and increase uncommon forest types or components. White cedar, white pine and yellow birch are examples of important forest tree species that are becoming less common on the landscape. As aspen and birch stands begin to age and decline in health, there may be opportunities to encourage less common species in these stands.
- Implement research that will improve our ability to manage natural communities.
- Work to recognize and understand natural disturbances and processes and their role in maintaining healthy natural communities. Where possible, allow these disturbances and processes to operate in the park. Some examples of what this means: not salvaging timber after a blowdown, planning for beaver activity when laying out trails and reintroducing fire where appropriate (examples are oak stands, to encourage oak regeneration; in mixed white pine/hardwoods to encourage pine regeneration; in beaver meadows to maintain open, grass and shrubby habitats).

2. Encourage the development and maintenance of older forests, late-successional stage forests and large contiguous forest blocks, so that landscape-scale diversity is maintained. The forests around Tettegouche are generally younger and more fragmented than those within the park. This is a trend that will become more pronounced as time goes on.

- Concentrate park development so that large blocks of land are left relatively undisturbed.
- Care will be taken to limit the amount of soil disturbance during recreational development or resource management projects.
- Limit activities that open the forest canopy, for example, trail construction, deer exclosure construction, creating or maintaining deer browse areas.
- Participate in DNR area timber management planning meetings. DNR has old growth and extended rotation forest management goals that are best reached by considering the resources of as many land administrators as possible. For example, forest stands on park administered lands may help DNR reach landscape level old-growth acreage goals; another possibility is that DNR Forestry could designate extended rotation forest stands near Tettegouche, to help buffer the park from disturbance and to increase the amount of older forest habitat in the area.

3. Sustain healthy and diverse native animal and plant populations.

- Encourage and in some cases implement surveys to identify locations and habitats of the rare plants and animals within Tettegouche. The most likely means of accomplishing this work is through cooperation with the DNR's County Biological Survey.
- Protect known occurrences of rare plants and animals. Examples of current efforts include signing at Palisade Head that prohibits rock climbing on the cliff face where peregrines nest; rock climber registration materials that identify the bat caves in Palisade Head and prohibit entry during hibernation (September-May); informational signs and raised boardwalks that help protect the rare plants at Shovel Point.
- Work with DNR's Section of Wildlife to develop and implement strategies for managing people/animal conflicts with species like beaver and bear. For beaver, emphasis will be placed on avoiding beaver-prone areas when constructing trail and using devices like Clemson levelers. In the case of bear, emphasis will be placed on visitor education, construction of bear-proof food boxes and similar strategies. Bear removal is sometimes necessary, but is the least desirable tool.
- Work with DNR's Section of Wildlife to achieve and maintain relatively low numbers of deer in the park. Observations at Tettegouche strongly suggest that deer are having a significant, negative impact on forest species, including white pine and white cedar. We will work to reach deer population levels that are low enough to allow forest regeneration, including the white pine and cedar components, to occur. State statute and guidelines developed by DNR Parks and Wildlife have set a framework that allows deer to be managed in parks by public hunting. Hunt options range from holding special hunts, as Tettegouche has for the past few years, to simply opening the park during the regular firearms season. The Palisade Valley Unit is open to public hunting and is not affected by this policy.
- Continue to conduct natural resource evaluations before new development occurs. The Division of Parks has a resource assessment process it follows before new development is initiated. Office research and field checks of a proposed development site are made to determine what sorts of natural resource impacts are expected. Recommendations for avoiding and minimizing resource impacts are made--including recommendations of no development.
- Monitor known populations of rare plants and animals.
- Use native species and genotypes in landscaping and habitat restoration.
- Monitor exotic species populations.
- Encourage and in some cases implement research that will improve our ability to manage plant and animal species.

4. Maintain healthy and diverse aquatic systems.

- Work with DNR Fisheries to identify and implement strategies that protect and maintain the park's recreational fishery while protecting other park resources. Fisheries has developed management plans for the Baptism River and for each of the park's lakes. In general, these call for periodic sample netting to track fish species abundance and community structure and creel surveys to assess angling pressure and success. The plans for Bean and Bear lakes call for continued stocking of splake and rainbow trout.
- Encourage survey efforts to identify locations and habitats of the park's rare aquatic plants and animals.
- Comply with DNR, state and federal laws and guidelines on wetland filling and draining.
- Identify and correct erosion problems along streams and lakes.
- Critically evaluate new park development for impacts to aquatic resources; take steps to eliminate or mitigate impacts.
- Evaluate existing infrastructure for potential impacts to aquatic resources, for example, runoff from parking lots.
- Participate in watershed and coastal zone management planning efforts.
- Encourage water quality monitoring (including community-based monitoring programs like Riverwatch).
- Encourage research that will improve our ability to manage aquatic systems.

5. Explore ways to involve a variety of people in the resource management work at Tettegouche. Every year groups and individuals approach the park looking for ways they can help. We need to find activities and projects that accomplish real work in the park as well as meet the needs of the people who are offering help.

- Develop a list of natural resource-related projects and tasks that can be performed by volunteers.
- Work with DNR's volunteer program to advertise these opportunities.

6. Research and monitoring is a key to long-term, successful stewardship of the park's natural resources. It's very important that good science is available to us as we make decisions that affect the resources in our care. It's also critical that we measure the results of the management actions that we take, so that we can learn from (and not repeat) our mistakes, and build on our successes.

- Encourage survey efforts to identify locations and habitats of the park's rare plants and animals.
- Develop or acquire practical methods of monitoring key resource concerns. Examples of identified concerns include: deer impacts to vegetation; visitor impacts to vegetation at Palisade Head and Shovel Point and the High Falls; trail erosion; and the success of restoration projects.
- Implement monitoring program for key resource concerns. Tie information gained from monitoring to management decisions such as: funding requests for resource maintenance and restoration; trail maintenance priorities and funding needs; and whether to improve or limit access to certain areas.
- Work to strengthen and develop relationships with colleges and universities and encourage them to use Tettegouche as a study site.
- Develop a catalog of research and monitoring priorities so that the park's needs become better known by those in the research and educational communities.
- Work with other divisions in DNR and other agencies to conduct research and share findings.

7. Maintain high use areas like campgrounds, picnic areas and heavily used trails so that natural resource degradation is minimized and visitor safety, enjoyment is enhanced.

- Enhance the safety of park visitors by conducting regular evaluations of high-use areas for hazard trees and remove or prune trees as needed.
- Maintain vegetation in high use areas that complements the natural communities surrounding it as well as providing "visitor service" functions like screening campsites and landscaping. Plant materials will be native, and of local origin whenever possible. Strong efforts will be made to prevent the introduction of invasive nonnative species.
- Maintain turf areas so that they can withstand the pressures placed on them. Reduce mown areas where possible and replace with native plant species.
- Minimize the impact of high use areas on aquatic communities through vegetation management.
- Manage vegetation in high use areas to enhance the esthetic qualities of views and settings.

8. Protect Tettegouche's scenic and aesthetic qualities so that evidence of human influences is minimized.

- Work with other land managers and agencies (such as MnDOT & Lake County) to protect views from the park.
- Redesign boardwalk and overlook railings to reduce their visual impact when seen from Lake Superior or other vantage points.
- Site new development so that it is not visible from long distances.
- Use informational and educational signs judiciously, so that they enhance rather than intrude on visitors' experience.
- Assess lighting needs so that appropriate levels of light are provided but that light pollution is minimized.

9. Cultural resources are an important legacy of the human history at Tettegouche. Cultural resources differ in at least one very significant way from most natural resources: once they are disturbed or destroyed, they are lost forever. Management at Tettegouche will strive to identify and protect the park's cultural resources.

- Identify and protect cultural resources
- Work with Parks archaeologists to ensure that park development activities do not negatively impact cultural resources.
- Continue to maintain and restore, where appropriate, cultural features at Tettegouche Camp.
- Collect oral histories and historic materials from people connected to Tettegouche Camp
- Develop interpretive materials about the park's cultural resources

Recreation Management

Tettegouche provides park visitors with a diversity of recreational opportunities. The park's rugged terrain and the remote backcountry character of the interior provide both non-motorized and motorized trail users access to scenic vistas and points of interest. It provides challenging activities like rock climbing and sea kayaking, the quiet solitude of small inland lakes and opportunities for nature observation and interpretation. Overnight visitors can enjoy one of several types of campsites or a rustic cabin.

While it is necessary for the park to provide a diversity of recreation activities, park management must also ensure that by taking part in certain activities, visitors are still able to attain the benefits they most desire. For example, providing a trail gives people the opportunity to hike, but if the trail is heavily used and degraded, the people who use the trail may not attain desired benefits like *experiencing nature* and *reducing stress*. Therefore, the ultimate goal of designing recreation management objectives is to ensure that Tettegouche State Park provides opportunities for people to attain a diversity of desired benefits.

The following management recommendations are designed to create appropriate recreation opportunities to attain their desired benefits. According to the 1992 Visitor Benefits Study, visitors to Tettegouche identified six types of benefits as most desirable. In order of most desirable to least desirable they are 1) get away/stress relief, 2) learn new things, 3) enjoy different things, 4) bond with family, 5) improve physical/mental state, and 6) be with others/experience excitement.

To ensure that people have the opportunity to attain these benefits the following management recommendations are proposed:

- Focus major facility development in the Visitor Service zone. Locate and design facilities to have minimal negative effect on the park's natural and cultural resources. Visitors will still have good opportunities to venture into undeveloped areas of Tettegouche to realize desired benefits (e.g., get away/stress relief), but major facilities will still be constructed to allow visitors to be with others, experience excitement, and enjoy different things.
- Provide recreational facilities and opportunities to make park resources accessible to visitors while protecting significant resources. This ensures the Park will continue to provide the opportunity for visitors to enjoy different things. It will also help maintain Tettegouche's pristine setting, which will allow visitors to attain get away/stress relief benefits.
- When possible, develop facilities that are accessible by persons with disabilities. Everybody who visits Tettegouche State Park should have the opportunity to benefit from their experience in the park; therefore, facilities will be designed so persons with disabilities can attain all the benefits listed above.
- Provide diverse trail opportunities in the Backcountry Zone that are well separated so visitors can experience the remote park interior with minimal impact. Management will continue to maintain the Backcountry Zone in a remote state, which will continue to provide benefit opportunities associated with getting away and relieving stress. By not focusing on any one activity, visitors can enjoy different things by participating in a variety of different activities (e.g., hiking, backpacking, snowmobiling, etc.).
- Emphasize interpretation to promote stewardship of the park's natural and cultural resources. Not only will visitors be able to learn new things, they will also become better caretakers of Tettegouche helping to ensure that it will exist in a desirable condition for generations to come.

- Provide facilities for the safe use and enjoyment of the park. A safe environment is essential for visitors to attain most of the desired benefits.
- Maintain infrastructure to protect the public investment. While it is important that current visitors to the park benefit and enjoy Tettegouche, this use can not detract from the ability of future generations to benefit from the park.

The above management recommendations both indirectly and directly provide people with opportunities to attain the six most desired benefit types. It is rare that a specific setting characteristic will only relate to a single type of benefit. For example, a pristine natural area can provide benefits associated with stress relief and enjoying different things. Table 1 shows whether or not each management objective directly provides an opportunity, indirectly provides an opportunity, or does not provide an opportunity for visitors to attain each benefit type.

Relationship of Benefits and Management Objectives

Management Objectives	Benefits					
	Get away/ stress relief	Learn new things	Enjoy different things	Bond with family	Improve physical/ mental state	Be with others/ experience excitement
Provide recreational facilities and opportunities to make park resources accessible to visitors while protecting significant resources.	Direct Benefit	Indirect Benefit	Direct Benefit	Indirect Benefit	Indirect Benefit	
Focus major facility development in the Recreational Facilities Sub-Zone. Locate and design facilities to have minimal negative effect on the park's natural and cultural resources.	Direct Benefit	Indirect Benefit	Direct Benefit	Indirect Benefit		Direct Benefit
When possible, develop facilities that are accessible by persons with disabilities.	Direct Benefit	Direct Benefit	Direct Benefit	Direct Benefit	Direct Benefit	Direct Benefit
Create a diversity of development consistent with the natural character of the Backcountry Zone, so visitors can experience the remote park interior with minimal level of human impact.	Direct Benefit		Direct Benefit		Indirect Benefit	
Emphasize interpretation to promote stewardship of the park's natural and cultural resources.		Direct Benefit	Indirect Benefit			
Provide facilities for the safe use and enjoyment of the park.	Indirect Benefit	Indirect Benefit	Direct Benefit	Indirect Benefit	Indirect Benefit	Indirect Benefit
Maintain infrastructure to protect the public investment.	Indirect Benefit	Indirect Benefit	Indirect Benefit	Indirect Benefit	Indirect Benefit	Indirect Benefit

Direct Benefit = creates a direct opportunity to benefit

Indirect Benefit = creates a indirect opportunity to benefit

Community members stressed that diverse unique outdoor recreation opportunities need to be provided, but they also believe that Tettegouche is a place to preserve/conservate various natural and unique ecosystems. The recommendations proposed here help provide for both of these important benefits. For example, by concentrating development in the Recreational Facilities Sub-Zone, the number of recreational opportunities will be increased, but the natural areas, sensitive to development, will be left alone.

These are only broad recommendations for park management. Specific management actions to achieve the recreation objectives are still required, and will be conducted using the BBM framework. In other words, Tettegouche managers and staff will always consider how the people who live close to the park and those who visit the park are affected by management of Tettegouche's resources.

Recreation Management Actions

Facility development is planned to achieve the park's recreation management objectives. Facilities will be developed to make park resources accessible to visitors, promote understanding, stewardship and protection of the park's resources, and to maintain the remote qualities of the Backcountry Zone.

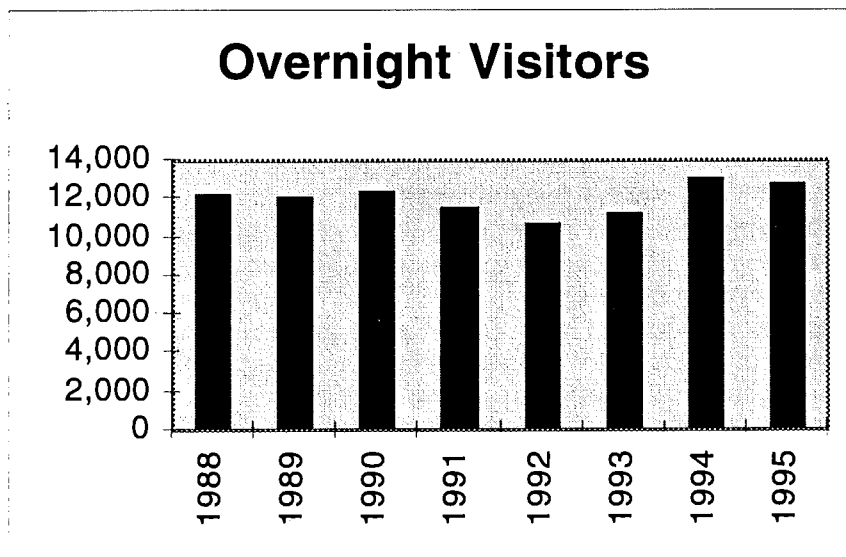
Vehicle traffic is limited to access to major public use facilities, such as camping, picnicking areas and trail center parking areas. The trail system provides a variety of recreational opportunities and access to park resources and attractions.

Camping

Camping facilities have not been fully developed as proposed in the original park management plan. Tettegouche campground receives heavy use. Camping occupancy levels at Tettegouche are among the highest in Minnesota State Parks. During peak camping months of May-September, between 1989-1994, Tettegouche received the second highest week day occupancy rate of all Minnesota State Parks, with an average occupancy rate of 65%. Gooseberry Falls ranked number one with an average of 66%. On weekends, Tettegouche ranked 4th with 87% occupancy. During the peak camping season of July and August, Tettegouche had an occupancy rate of 98%. Camping visitation has been rather stable at Tettegouche, primarily because the high occupancy rate does not allow for much variation.

Trends such as camper origin, season of use, group size, and equipment associated with Tettegouche State Park were identified by park staff by analyzing 20% of the camping cards from 1988 through 1994. It was found that:

- 84% of campers were from Minnesota and 16% originated outside of Minnesota, mostly from Canada or the adjacent states of Wisconsin, North Dakota and Iowa.
- The size of camper parties showed a decline in the percentage of couples and an increase in the number and size of families.
- The use of RV's has decreased from 20.1% in 1988 to 11.3% in 1994 and the use of tents has increased from 59.4% in 1988 to 65.6% in 1994. Pickup campers and tent trailer use has remained relatively constant.³⁶



Occupancy levels of the back-pack campsites within the Palisade Valley Unit are high during the summer months and on fall weekends. These sites will be monitored to assess the need for additional campsites. The park receives a large number of requests for

backpack camping opportunities. Most requests are from destination campers rather than people hiking through on the Superior Hiking Trail.

Action 1: Add an additional loop of approximately 20 campsites with electricity to the present 34 site campground. Sites will be widely spaced with a minimum amount of disturbance between the sites. Each site will include a 40 foot diameter clearing, a fire ring, tent pad, table and 75 foot long level parking spur. Barrier free sites that comply with ADA standards will be provided. Toilet/Shower facilities for this campground expansion can be accommodated by the existing campground shower building. Additional vault toilets will be added to meet MN Dept. of Health codes for minimum distances to toilets.

Rationale: Camping is a primary recreational experience for visitors to state parks. It makes park resources accessible to visitors and provides opportunities for a variety of personal, social, economic and environmental benefits. Currently, Tettegouche provides limited camping opportunities. Tettegouche has one of the smallest campgrounds in the park system while being one of the larger park units. Campsites with electrical hook ups will provide opportunities to campers, often elderly, no longer camping in tents. It will also provide service for off peak seasons of spring, fall and winter when power is needed for heaters.

Action 2: Develop approximately 6 backpack sites in the interior of the park. Sites will be located away from the interior lakes in locations that are not visible from park vistas. They will be provided with a tent pad, bear pole, picnic table and a field latrine. To minimize impact on the surrounding vegetation and to reduce visual impacts, no open fires will be allowed. Cooking will be limited to campstoves.

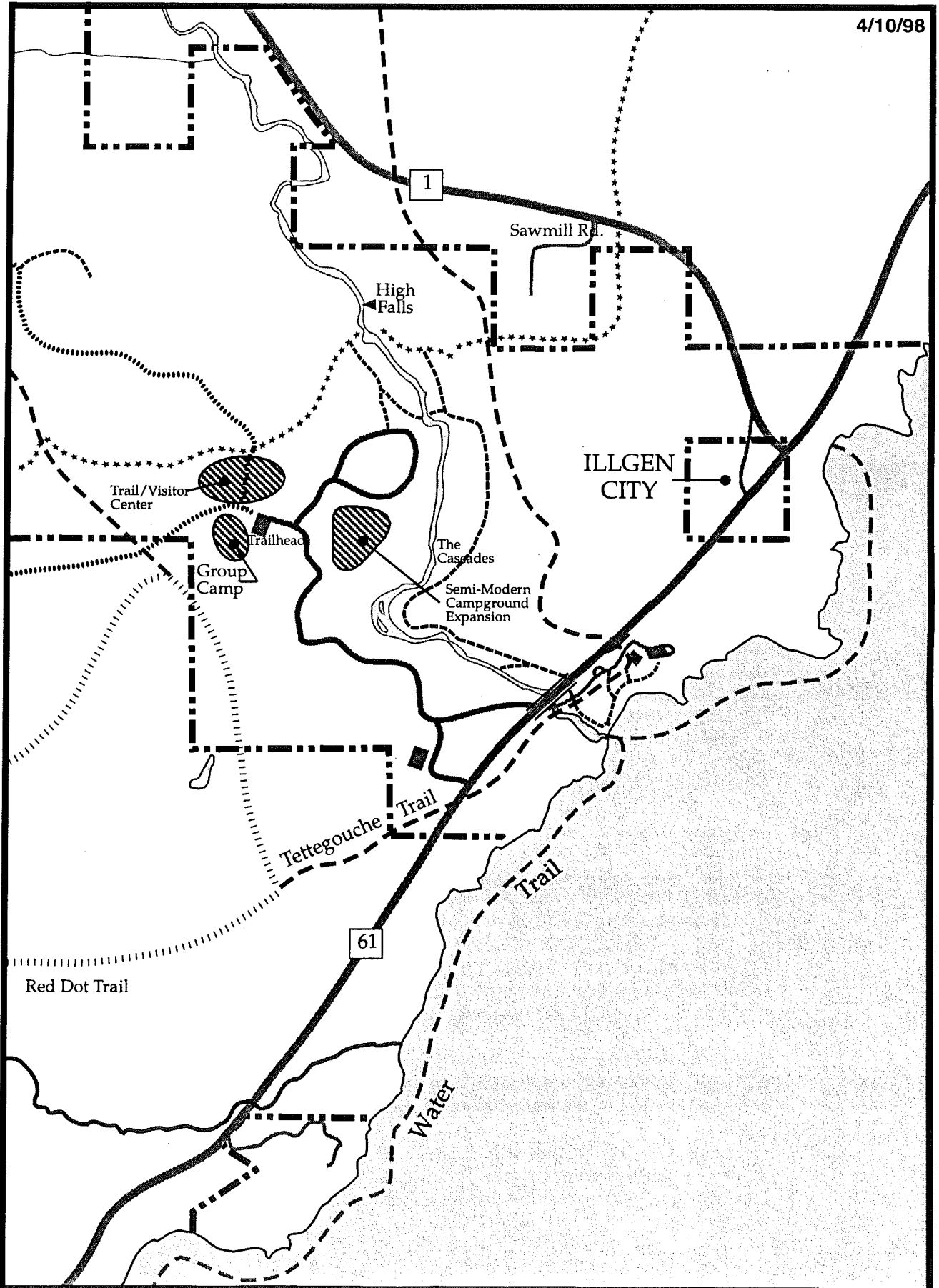
Rationale: Tettegouche offers excellent opportunities for low impact, remote camping while providing no facilities. The only remote sites in the park currently, are part of the Superior Hiking Trail which have become destination sites instead of sites for through hikers. Sites in the park interior will reduce pressure from destination campers on Superior Hiking Trail campsites and allow them to provide transient camping for trail hikers.

Action 3: Develop a primitive group camp facility. The group camp will contain 3 individual campsites each large enough for about 20 campers. Each site will be designed with several small tent pads surrounding a larger, centralized clearing. Each campsite will contain a tenting area, picnic tables, fire rings, and vault toilets. A water supply will be shared with the proposed trail center if feasible. The group camp will be developed in the area near the existing trail head parking lot. It will share the existing trail head parking lot with the proposed trail center. The campsites will be developed as cart-in accessible campsites with no roads built beyond the existing parking lot. One of the sites will utilize the existing picnic area near the trail head parking lot, which will be replaced by picnicking opportunities at the proposed trail center. The other two sites will be developed near the existing site.

Rationale: Camping needs for groups are considerably different than the needs for family camping. These two types of camping are not compatible and should be separated. Currently, groups camp in the family campground. There is a need for group camping facilities on the North Shore. Group camp facilities are often used by youth groups in conjunction with other activities such as hiking on the Superior Hiking Trail or rock climbing. State park group camps also serve as destination camping trips. Groups utilize state park group camps as staging areas for trips into the BWCA. Group camping provides an excellent opportunity to educate young people in stewardship of our natural resources through outdoor education activities. In addition, many groups such as MCC and Outward Bound provide the park with much needed volunteer service projects as part of their camping experience.

Proposed Development

4/10/98



Hunting, Trapping and Fishing

Hunting, trapping and fishing are popular activities in and around Tettegouche State Park. When the Palisade Valley Unit was added to Tettegouche State Park, the enacting legislation required that it be open for hunting and trapping. This area will continue to be open for hunting and trapping under the normal rules and regulations for the vicinity.

Fishing is allowed on all lakes and streams in Tettegouche under normal rules and regulations for the vicinity. Special rules pertaining to use of motors, power augers, and ice fishing houses are included under surface water use section of the plan (See page 60).

When the original Tettegouche State Park was established, an area on the northern boundary of the park was designated open to firearm deer hunting under normal hunting regulations for the vicinity. The area open to deer hunting was equivalent to the number of acres of county managed land that had been transferred to the state. The park is interested in incorporating this deer hunting area into the parks special deer management hunt.

The park is sensitive to the local tradition of hunting in this area and has met with many of the affected hunters. There is an understanding that for the next 5 years the park will attempt to include the area in the special hunt. Hunters wishing to hunt there will be required to apply for the special hunt permit. If after five years, there continues to be a problem with people getting permits to hunt in that area, the park will consider a request for a permanent rule to open the area to firearm deer hunting according to rules for the zone.

Action 1: The park will review plans for special deer management hunts with the local community and the Park Advisory Committee annually. The park will make decisions on hunting seasons and rules after considering their input.

Rational: This recommendation will reduce confusion for people over which rules apply in various sections of the park. It will also reduce the cost of administering and enforcing special hunting rules for a small area of the park. How and where hunting will be allowed in Tettegouche State Park will be determined each year. For the next several years at least, deer management will focus on establishing deer hunts that will control the number of deer within the park, allowing plant species that are preferred deer browse to regenerate. Under existing resource management plans, deer hunting will be allowed in most of the original Tettegouche as a management hunt where the number of hunters and special permits for hunting either sex or multiple animals can be established. The Palisade Valley Unit will continue to be open to all hunting and trapping available under law.

Picnicking

The 1981 park management plan proposed development of picnic facilities in three areas including along the Baptism River, at Nipisiquit Lake and at the Baptism River Rest Area. The facilities along the river were to include a picnic shelter building with toilet facilities.

Development of picnic facilities will be limited to improvements to existing areas. Indoor picnic opportunities will be provided as part of the proposed trail shelter instead of providing a separate facility as was proposed in the 1981 plan.

Action 1: Incorporate picnic facilities into design of proposed trail shelter facility. This will include open air picnic sites with tables and fire rings and room for picnicking in the enclosed portion of the trail shelter. Toilet facilities should be provided.

Rationale: The trail center will be the facility for day-use visitors to Tettegouche. It will serve as a starting point for trail activities as well as a place to have lunch. Currently groups use the Tettegouche Visitor Center for picnic which it is not designed to handle.

Action 2: Develop 2-3 small open-air picnic shelters with 2 tables each at the Baptism River Rest Area. These shelters should be ADA accessible.

Rationale: Highway travelers and park visitors need protection from the sun and weather while picnicking at the Rest Area.

Action 3: Improve Nipisiquit Lake picnic area. Develop 5-6 secluded small picnic sites with tables. A small picnic shelter with room for two tables will also be included. Vault toilets will be provided near the main park trail, at a point accessible by service vehicles. This shelter will be located so it is not visible from main park overlooks.

Rationale: This picnic area is a destination point on Nipisiquit Lake. The present picnic sites are ill-defined, and the present pit toilet is inappropriately located. A small shelter will provide protection from the unexpected rain for summer visitors and will provide a shelter for skiers during the winter.

Action 4: Improve Bean Lake picnic area. This site has received heavy use and suffers from soil compaction and erosion problems. Provide 3-4 picnic tables and firerings, manage the erosion and restore soil porosity. A vault toilet and small shelter may be added in the future if demand warrants.

Rationale: This picnic area is a destination point on Bean Lake. ATV use in this area will increase pressure on the site. A small shelter will provide shelter from the unexpected rain and will provide shelter for snowmobilers and ice anglers in the winter.

Rock Climbing

The North Shore Highland's geologic features provide excellent rock climbing opportunities for beginners to advanced climbers. Two of the premier climbing areas on the North Shore are located within Tettegouche State Park: Palisade Head and Shovel Point. Carlton Peak located in Temperance River State Park is also open to rock climbing.

Access to the climbing areas at Palisade Head is via the narrow winding road from Highway 61 to the parking lot at the scenic overlook. Crude trails lead from the parking lot along the cliff edge in both directions. Ninety-four climbing routes have been mapped and described in "Superior Climbs-A Climber's Guide to the North Shore," by D. Pagel, University of Minnesota, Duluth Outdoor Program 1991.

Access to climbing areas at Shovel Point is from a hiking trail from the Baptism River Rest Area parking lot. 25 climbing routes have been mapped and described in "Superior Climbs-A Climber's Guide to the North Shore" by D. Pagel, University of Minnesota, Duluth Outdoor Program 1991.

Action 1: Rock climbing at Palisade Head, and Shovel Point will be managed through the Minnesota State Parks Rock Climbing Policy.

Action 2: Rock climbers and park staff will document rare plant and animal sites on the cliff faces and control use in those areas.

Action 3: Rock climbers and park staff will also work on techniques to manage the cliff edge; for safety, recreational enjoyment and resource preservation while preserving the aesthetic qualities of the cliffs.

Scuba Diving

Scuba divers, as well as swimmers and casual hikers use the cobble beach at Crystal Bay. They park on the Highway 61 shoulder and work their way down the highway embankment on a user-made trail to the beach area of Crystal Bay.

Diver access is also provided at the mouth of the Baptism River via a trail from the parking lot next to the Baptism River bridge.

Action 1: Develop a simple hiking trail to provide safe access to the Crystal Bay beach from Highway 61. This is not an area that can accommodate large amounts of use so the trail will be developed but not advertised on park handout maps.

Sea Kayaking

The Superior Water Trail established in 1993 by the Minnesota Legislature will eventually extend from the St. Louis Bay in Duluth to the Pigeon River on the Canadian border. The first phase of the trail opened in 1994 connecting Gooseberry Falls State Park and Tettegouche State Park, a distance of approximately 20 miles. The spectacular cliffs of Palisade Head and Shovel Point and beaches at Crystal Bay and the Baptism River are attractions for kayakers.

Sea kayak access is available at the mouth of the Baptism River via a trail from the parking lot near the Baptism River bridge. The mouth of the river offers a protected launching area for kayaks.

Camping in state parks is only allowed in designated campsites. Camping opportunities for sea kayaks in Tettegouche State Park, are provided in the cart-in campground being

developed along the Lake Superior shoreline southwest of the Baptism River. These sites will accommodate camping by sea kayakers off the shoreline, protecting the sensitive Lake Superior shoreline, and the views of other lake users.

Surface Water Use

Public road access is not provided to any of the six interior park lakes. Access to Tettegouche, Mic Mac and Nicado Lakes is by hiking or skiing. Snowmobile access is provided near Nipisiquit Lake. Bean and Bear Lakes in the Palisade Valley Unit are accessible by snowmobile and Bean Lake by ATV. Rental canoes are available on Mic Mac Lake.

Action 1: On Tettegouche, Mic Mac, Nipisiquit and Nicado Lakes prohibit motors, including power ice augers. Allow canoes on the lakes. Canoes brought in by day visitors must be removed from the park at night. Permanent fish houses are not allowed and portable houses and waste must be removed at night.

Action 2: On Bean and Bear Lakes allow motors, including power ice augers. Canoes and boats must be removed from the park at night. Permanent fish houses are not allowed and portable houses must be removed at night. The water access is a carry-in only, which will limit the size of boats and motors used on the lakes.

Tettegouche Camp

Action 1: Restore historic docks on Mic Mac and Tettegouche Lakes to provide visitors access to the lakes and minimize shoreline erosion.

Action 2: Restore historic boathouse to preserve its unique character and status on National Register.

Action 3: Replace existing sauna. Locate new sauna in accordance with shoreline regulations.

Trail Recreation

Vehicle traffic is limited to access to major public use facilities, such as camping, picnicking areas and trail center parking areas. The trail system provides a variety of recreational opportunities and access to park resources and attractions

The Law authorizing the Palisade Valley Unit directs the DNR to manage the unit as a Recreational State Park. This designation allows for intensive recreational use while protecting its resources. The law specifically calls for the continued use of snowmobiles and all-terrain vehicles (ATV) on roads and designated trails existing on the effective date of the legislation including trails to Bean and Bear Lake.

To ensure local input in decisions regarding the trail systems, the trail corridors are recorded as Trail Easements to Lake County on the titles of the property. Lake County will act as the Local Unit of Government (Sponsor) for ATV/snowmobile and cross-country ski trails through the State of Minnesota Trail Assistance Program (Grant-In-Aid) administered by the DNR.

Action 1: Tettegouche Park Manager will coordinate with Lake County through its Land Commissioner to monitor and resolve any problems related to the trail easements. The Palisade Valley Advisory Committee will make recommendations to the above parties regarding possible actions related to the trail easements and future trail issues.

Trail / Visitor Center

The question of whether or not to develop a Trail /Visitor Center and its location if built were discussed at length in the Management Plan Advisory Committee without achieving consensus. Four alternative locations were reviewed by park management, planning and engineering staff. The trail center location near the existing trailhead parking lot was the only alternative that met the public service objectives of DNR staff. During the public review process, the public was only asked therefore whether or not to build a trail center in the park at this location.

Action 1: Develop a Trail Center designed to serve as a trail center, picnic shelter and an interpretive center. The building will be winterized with a display area and a large room where interpretive programs can be conducted. The center will include toilet facilities and drinking water. Picnic tables and fire rings will be located nearby. Parking will be provided for up to 50 cars. It will utilize the existing parking lot and small parking bays which are screened and integrated into the site.

Rationale: Tettegouche is a trail oriented park. The majority of the park is accessible by its trail system. The road system provides limited access to the park. A trail center will serve as a focal point for trail activities. It will provide an opportunity to explain the parks resources and proper stewardship of the park to protect those resources.

The trail center will be the day-use building in the park. It will provide restrooms and picnic facilities for day visitors. Often groups include people with different levels of hiking or skiing abilities. A trail center will provide a location for part of a group to wait for others who venture further into the park. It will also serve as a picnic facility for groups using the park and as a warming shelter for skiers and snowmobilers. ATV access will not be provided to the trail center, because these trails are only designated in the Palisade Valley portion of the park.

The proposed location was chosen for several reasons:

- Located at the furthest extent of the road system into the park. It is near the main trail access to the park interior. If a trail center was located in any other area, it would not work well. Trail users would still want to drive as far as possible which would require additional parking at the trailhead.
- Allow use of existing parking lot.
- Allow sharing of parking lot with proposed primitive group camp.
- Allow easy walking access from campground for any interpretive activities.
- Allow shared restroom and utilities with primitive group camp.
- Limits intensive visitor facilities (campground, group camp and trail center) to small area.
- Provides access to a variety of trails including: hiking, skiing and snowmobiling, a trail connection will not be provided to the Palisade Valley ATV trails.
- Improves access to High Falls for elderly and physically challenged.
- Can be developed without impacting significant resources.
- Location provides good winter exposure for passive solar heating.
- Design will blend in with natural setting.

Trail, Superior Hiking

The Superior Hiking Trail, a long-distance footpath, envisioned to stretch from Duluth Minnesota to the Canadian border is substantially completed, with only a few small gaps, from Two Harbors on the southwest to the Canadian border on the northeast. The segment of trail from Silver Bay to Tettegouche is one of the more heavily used sections of the Trail. The 10 mile segment traverses the Palisade Valley Unit and Tettegouche State Park. It includes spur trails from the neighborhoods of Silver Bay. Four overnight campsites are located along the trail in the Palisade Valley Unit (see Camping). The trail features impressive overlooks above Bean & Bear Lakes, Mount Trudee, and Round Mountain (just outside the Unit), including dramatic views of the

Palisade Creek Valley, inland lakes and Lake Superior. Its dominant sugar maple forests make it a very popular fall color hike.

The Superior Hiking Trail Association (SHTA) was incorporated in 1986 to coordinate construction of the Trail and continues to be responsible for maintenance of the trail as well as completing the original trail vision. An easement was granted by the DNR to the SHTA to develop the trail across state park lands. The agreement stipulates that state parks will assume responsibility for on-going maintenance of the trail within park boundaries.

Action 1: Develop a Cooperative Management Agreement between the Superior Hiking Trail Association and Tettegouche State Park to define the relationships and responsibilities of each party.

Trails, Hiking

Action 1: Connect hiking trail from the Cascades on the Baptism River to High Falls trail from the campground.

Action 2: Consider extending hiking trail from High Falls to Illgen Falls if land is acquired to allow it.

Action 3: Improve access to High Falls from proposed trail center. This trail should be accessible to physically impaired if possible.

Trails, Cross Country Ski

There are 15.5 miles of cross country ski trails within Tettegouche State Park. Three and one half miles of these trails within the Palisade Valley Unit are part of the Northwoods Ski Trail managed by the Northwoods Ski Touring Club of Silver Bay. (see Map__) The trails provide access to Bean Lake and a trail through the Palisade Creek Valley that connects to the Tettegouche trail system near Tettegouche Lake south of the Tettegouche Camp. The Northwoods Ski Trail system is maintained by the Northwoods Ski Touring Club through the Minnesota Trails Assistance Program (Grant-In-Aid) administered by the DNR. Lake County is the designated Local Unit of Government (sponsor) for the grant program.

Maintenance of the ski trails within the Palisade Valley Unit will continue to be accomplished by the Northwoods Ski Touring Club under the Grant-In-Aid program. Ski trails will be designed and maintained to the standards defined for cross-country Ski Grant-In-Aid trails.

Action 1: Develop a Cooperative Management Agreement between the Northwoods Ski Touring Club and Tettegouche State Park to define the relationships and responsibilities of each party.

Action 2: Realign the Palisade Valley Trail in Section 24, Township 56N, Range 8W to minimize user conflict with Palisade Valley Loop (George's Gorge) Snowmobile/ATV trail. The ski trail would be re-aligned to stay west of snowmobile trail. Minor trail re-routing around wet areas and beaver ponds will be necessary on the trail to Bean Lake and the Palisade Valley Trail.

Action 3: Construct 3/4 mile of cross country ski trail from Tettegouche Camp around the southern end of Mic Mac Lake to create a figure eight ski trail system.

Trails, Snowmobile / ATV

There are 12 miles of snowmobile trails within Tettegouche State Park. 6.5 miles of these trails are designed to be used by ATVs during the summer. Three segments (approximately 4 miles) of the Silver Trail Riders Club snowmobile/ATV trail system lie within the Palisade Valley Unit including an access trail to Bean Lake, Palisade Valley Loop (George's Gorge) and the Blue Jay Vista trail. (see map) The trails are part of a trail system maintained by the Silver Trail Riders through the Minnesota Trail Assistance Program (Grant-In-Aid) administered by the DNR for snowmobile and ATV trails. Lake County is the designated Local Unit of Government (sponsor) for the grant program. Maintenance of the snowmobile/ATV trails within the Palisade Valley Unit will continue to be accomplished by the Silver Trail Riders Club under the Grant-In-Aid program. Trails will be designed and maintained to the standards defined for Snowmobile and ATV Grant-In-Aid trails.

Action 1: Develop a Cooperative Management Agreement between the Silver Trail Riders Club and Tettegouche State Park to define the relationships and responsibilities of each party.

Action 2: Do not retain the saddle trail that connects George's Gorge trail directly to Lax Lake as a snowmobile trail. It can't be brought up to grants-in-aid standards, and the Silver Trail Riders Club do not have the funds to maintain it now. The grade (such as it is) will not be obliterated in case the cost of reconstructing and maintaining this alignment can be justified in the future. Good access to Lax Lake from Silver Bay is provided by the Silver Trail Riders trail system.

Bean Lake Trail

Action 3: Develop a small parking area for ATVs near Bean Lake. The parking area will be located 100 feet away from lake with ATVs limited to this area. A gate will be provided at the parking area to limit ATV travel beyond that point. Winter ATV access to this parking area was considered, but is not recommended in accordance with the existing agreement between Lake Co. and the Silver Trail Riders Club.

Palisade Valley Loop (George's Gorge)

Action 4: Develop a bridge over Palisade Creek.

Action 5: Realign segments of the existing trail. Implement general trail improvements to meet Grant-In-Aid design standards for snowmobile/ATV trails. This will include improving drainage and the trail treadway. Re-align sections of snowmobile/ATV trail through Palisade Valley to eliminate crossing several beaver bonds and wet areas. In Section 18, Township 56N, Range 7W, re-align trail to the south to avoid crossing the broad open valley. This will reduce the visual and noise impacts in the valley. Realign the section of Palisade Valley Loop in Section 24, Township 56N, Range 8W to minimize user conflict with Northwoods Ski Trail (Palisade Valley Trail) caused by the two trail systems crossing. The ski trail would be re-aligned to stay west of snowmobile trail.

Action 6: Provide a rest area near the location of the flowing spring in Section 24, Township 56N, Range 8W. Provide an adirondack shelter, pit toilet and fire ring. The rest area should be located on the snowmobile trail but accessible for those skiers who want it. It should not be visible from the ski trail where it may be obtrusive to some skiers.

Action 7: Provide small area for snowmobile/ATV parking at the end of the unimproved Bear Lake ATV trail or where it crosses the Superior Hiking Trail, for access to Bear Lake. Close the Bear Lake Trail to motorized use.

Blue Jay Vista Trail

Action 8: General trail improvements to meet Grant-In-Aid design standards for snowmobile and ATV trails. This will include improving drainage and trail treadway. It will also include bridging 5 small intermittent streams.

Action 9: Minor improvements to Blue Jay Vista Overlook trail. Trail will be signed to limit use and speed on this narrow trail. Access will be limited to snowmobiles. No ATV access will be allowed on this trail.

Support Facilities

Action 10: Monitor need for additional parking for snowmobile/ATV trails near the park. An area may be developed across from MnDOT Illgen City Truck Station.

Trails, Mountain Bike

Primary day-use in the Palisade Valley is trail related. As mentioned above hiking, skiing, and ATV riding are established recreational activities. Demand for mountain bike trails in the area is high. Mountain bike use is not a designated use on the snowmobile, ATV, or Cross country ski Grant-In-Aid trails that pass through the park. A Mountain bike trail system will not be provided within Tettegouche State Park, but some trail segments of other trail networks that pass through the park may be accommodated. Mountain bike use will be monitored to assess environmental impact and reassessed in the future. The Superior Hiking Trail will continue to be closed to all non-pedestrian uses.

Action 1: If the Silver Trail Riders Club and the Northwoods Ski Club ski revise their rules and easements to accommodate mountain bike trails, then mountain bike use will be accommodated on the portions of their trail systems that lie within the Palisade Valley Unit, except for the Palisade Valley Ski Trail.

Action 2: If mountain bike trails are designated in the Palisade Valley Unit, then allow them to access the system of trails from the park service road via the Silver Trail Riders Club snowmobile trail on the powerline corridor.

Action 3: If and when the trail center is constructed, consider mountain bike access from the trail center area to the potential mountain bike trail system in the Palisade Valley Unit.

Other Development

Action 1: Construct unheated storage building in park service court. This building will provide storage for park equipment and firewood.

Action 2: Pave park service court.

Action 3: Review all the signs within the park. Make sure all signs are necessary for park visitor information, and that they are in compliance with the DNR sign manual.

ADA Requirements

The Department of Natural Resources follows the American Disabilities Act of 1992 to make public facilities accessible. All DNR development follows the guidelines as described in the "American With Disabilities Act Accessibility Guidelines For Buildings And Facilities"³⁷. In addition, recreational development also follows the recommendations and guidelines proposed in "Recreational Facilities and Outdoor Developed Areas"³⁸. These guidelines were developed to address those outdoor facilities that are not adequately covered by the Building and Facilities guidelines. The recommendations for recreational facilities were developed in 1994, but haven't been approved yet. The proposed guidelines are being followed as they are now. As any changes or revisions are made, they will be incorporated.

Emergency Management Plan

Emergency planning is essential to the safety of the 260,000 visitors to the park each year. It is also essential to the role of protecting the park's natural and cultural resources for future generations and the park's facilities. The park emergency plan addresses each of these areas.

Park staff may be expected to respond to incidents ranging from lost hikers, minor injuries and medical conditions, to major trauma of rock climbing or trail accidents and wildfires or structure fires involving or threatening park buildings. The park works closely with the law enforcement, local rescue squads and fire departments to develop emergency response plans.

Action 1: The park will work with law enforcement, local rescue squads and fire departments to ensure that emergency plans are up to date and that emergency response is coordinated. The park will cooperate with the agencies on training and education.

Action 2: The park will work with the DNR Divisions of Forestry, and Fish and Wildlife; to develop an emergency fire management response plan for Tettegouche State Park. The plan will address the level of response appropriate for various locations in the park. It will address the level of attack appropriate to ensure visitor and facility protection while not irreparably damaging the park resources.

Research Needs and Priorities

Continued research is important to understand and provide for visitor and community needs in a sustainable fashion.

Some of the future recreation research needs include:

- Further assessment of Benefits Based Management
- monitor and document the level of visitor satisfaction with park service and recreational experiences.
- Changing Visitor trends
- Monitor and document surface water quality trends.
- Inventory, monitor and document rare plant, animal and mature community occurrences.
- Analyze the abilities of various communities to accommodate public use and identify mitigation techniques.
- Analyze park visitors' sensitivity to interaction with other visitors depending on location and activity.

Interpretive and Environmental Education Services

Introduction

The purpose of an Interpretive Services Plan is to provide a working document that clearly describes the level of interpretation at a specific park. As the largest state park in the North Shore Highlands Landscape Region, Tettegouche State Park has a significant role in interpreting the natural, geologic and cultural resources of the region. This plan identifies the park's resource themes and the strategies and methods recommended to interpret them to park visitors. The resources and themes listed in the interpretive plan, along with individual work plans, will communicate the expectations for interpretation at the park. It is intended to supplement the statewide interpretive plan.

The DNR And The Division Of Parks And Recreation

As a division of the Minnesota Department of Natural Resources, the Minnesota State Parks and Recreation system seeks to contribute to the DNR's mission. A significant tool in achieving this goal is interpretation. Minnesota State Parks Interpretive Services provides first-hand, resource-based interpretation for all state park clientele in order to help establish a sense of stewardship for the state's natural and cultural resources. Interpretive services provided in state parks, and off-site outreach programs, are recognized as environmental education opportunities that serve all park clientele.

Tettegouche State Park Purpose

Tettegouche State Park was established in 1979 to preserve an outstanding example of the North Shore Highlands Ecosystem Region. The 9,346 acres within the statutory boundary contain a number of natural features: rugged, semi-mountainous terrain, 2.5 miles of Lake Superior shoreline with steep cliffs and rocky beaches, six jewel-like inland lakes, cascading rivers and waterfalls, old-growth northern hardwood and eastern white-cedar forests and several protected species of wildlife and plants.

Historical and cultural resources include the Tettegouche Camp, National Historic District, a complex of Adirondack style log buildings representative of Minnesota's early resort industry, remnants of an Alger-Smith Company logging camp dating to the late 1800's and the original 3M mine and processing site near Crystal Bay.

Minnesota State Parks Interpretive Services Goals

The Division of Parks and Recreation views Interpretation as a site-specific, DNR sponsored communication process using recreational and environmental experiences to reveal the meanings and relationships of our natural and cultural heritage. To fulfill the DNR's legislated obligation to provide environmental education and interpretation in state parks, the Division's interpretive programs aim at four goals:

1. To promote increased understanding, appreciation and enjoyment of natural and cultural resources in Minnesota.
2. To assist in protecting each State Park's resources.
3. To promote public understanding of, and support for, the Minnesota Department of Natural Resources and its Division of Parks and Recreation.
4. To increase public awareness of critical environmental problems on a local, state, national and worldwide scope.

Interpretive Themes

The themes listed are for the primary resources listed in the Park Resources section. A theme is a statement or question that is stated simply and clearly, and contains one major idea or concept. Themes should be easily identified and relevant to the resource, the area, the visitor, and the interpreter. The interpretive theme is the title to the story you want to tell.

Natural

- What is special about the North Shore Highlands Landscape Region?
- How does Lake Superior influence the climate here?
- Logging has changed the landscape dramatically.
- Volcanic rock makes up the rock along Shovel Point and Palisade Head.
- The 3M company started mining operations in Tettegouche.
- Why is the river brown?
- Four waterfalls are in the park along the Baptism River, including the highest completely inside the state.
- Before Europeans came to the North Shore, White and Red Pine covered much of the landscape. What kinds of trees are in the park now?
- Why are the Birch trees dying?
- What is old growth forest?
- Peregrine Falcons nest on the cliffs of Palisade Head.
- Bears are one of the many mammals in the park.
- Wolves play an important role in the food chain.
- The caves along the base of Palisade Head are important for bat hibernation.
- Tettegouche contains one of the two best black bear feeding areas in the state.
- Many animals feed heavily on the acorns from the Northern Red Oak trees.
- Why don't I see many small pine trees growing?
- Tettegouche is the home of a variety of unusual birds.
- Many types of raptors can be seen here during fall migration.
- The rocks on the North Shore were formed over a billion years ago when North America nearly split apart.

Cultural

- The various historic Lake Superior shorelines have had a rich history of human occupation.
- The Alger-Smith Logging Company set up here in the late 1800's.
- The Tettegouche Club began in 1910 as a conservation minded men's sporting club.
- The Baptism River Club began along the shores of Lake Superior and the Baptism River to propagate and protect fish in the area.
- How did the loggers get the trees to market?
- Fur trading in the area played an important role in early days of the North Shore
- The 3M company began here at Crystal Bay mining what they thought was corundum, but was really a much softer anorthosite.
- The 3M mining company got the mined rock down to the lake via a tramway. Some of its towers are still in place.

Summary Of Existing Interpretive Services

Personal Interpretation

There are no interpretive staff assigned to Tettegouche State Park. Non-personal interpretive services are in place. Occasional programming is provided by the management staff of the park. It is focused on presentations to outside community groups and school

groups on a special request basis. Opportunities are many, but due to time limitations, only a small number of presentations are given each year.

Non-Personal Interpretation

The park office area contains several panels that describe the park, and its features. The panels also include a map of the park and North Shore.

A newly installed touch screen computer kiosk that allows park visitors to explore the park, the North Shore, and the parks of the region. Little if any cultural or natural resources are interpreted at this time, but there is potential.

One popular trail out to Shovel Point is a self guided interpretive trail, with imbedded fiberglass panels located at significant spots along the trail. These signs and the board walk together have helped to prevent, and even reverse, damage done by foot traffic to plants on Shovel Point.

A six sided kiosk is being built for use at the Tettegouche Camp. It will interpret the lakes, Tettegouche Camp, Palisade Valley, and logging. Four signs will also be placed along the service road into the Tettegouche Camp focusing on significant resource sites along the road.

Staff

Three staff members, the park manager, assistant manager, and lead worker conduct off-site presentations about park activities and events.

Facilities

No facilities, other than the park office, exist for interpretive activities.

Resource Management

Silk-screened signs located throughout the park explain the effects of deer browsing and birch tree die back.

Cooperative Interpretive / Environmental Education Analysis

Within 50 miles of Tettegouche State Park are few museums. There are four Lake County Historical Society museums in Two Harbors that focus on cultural interpretation. Few formal programs are conducted. One private museum in Two Harbors deals specifically with the fur trade. The Minnesota Historical Society has a historic site at Split Rock Lighthouse. They deal with site-specific history, as well as some shipping history. The Lighthouse has full-time staff, with year-round hours, increasing in the summer. A newly built private museum in Tofte will interpret the commercial fishing history of Lake Superior. The Sugar Loaf Interpretive Center Association has plans for natural history and cultural interpretation facilities at Sugar Loaf Landing in the future.

The only environmental education services in the area are at the Wolf Ridge Environmental Learning Center near Finland. The private non-profit center offers formal programs to schools throughout the state, with a very limited number of programs available to other groups. At the present time, we do not do too much with them as far as cooperative programming goes. Almost all of Wolf Ridge's programs are done on their site, with groups scheduled far in advance. They have residence facilities for their users.

Five other State Parks are within 50 miles of Tettegouche. These are Gooseberry Falls, Split Rock Lighthouse, George Crosby-Manitou, Temperance River, and Cascade River. Only Gooseberry Falls has naturalist programs, with a year-round naturalist. All parks offer non-personal interpretation in the form of self-guiding trails or displays. Some

additional cooperative work with the naturalist at Gooseberry Falls is more likely in the future, because this position is now year-round.

Tettegouche State Park staff are involved in several cooperative projects, however, none are environmental education or interpretation based. Both DNR Fisheries and Forestry have facilities/offices in nearby Finland, about seven miles northwest. Tettegouche is uniquely situated with its high visitation, location and educational mission to help other DNR Divisions reach their interpretive goals.

Interpretive Services Proposals And Project Priorities

According to the Minnesota State Park Interpretive Services Plan, recommended actions are to increase non-personal efforts; to create a larger interpretive center; to provide occasional programming from a North Shore area naturalist and/or add one seasonal naturalist position.

Park office/entrance area

Action 1: Expanded interpretive/information area in park office including additional display area, park naturalist office and prep area. This location will serve the traveling public and tourists visiting the North Shore. In conjunction with interpretive displays in the proposed trail center, it will provide information on the park's resources as well as information on other North Shore state parks and attractions.

Interpretive/Trail Center

Action 2: Include interpretive area in proposed trail center. Trail activities are a central focus of recreational opportunities at Tettegouche. The proposed trail center should incorporate interpretive displays on park resources as well as an area for presentations and meetings. This multipurpose facility will serve all trail users and will provide visitors interpretation away from the busy activities of the highway rest area.

Staffing

Action 3: The statewide Interpretive Service Plan proposes occasional programming from an area naturalist or a seasonal position at Tettegouche. The park's outstanding resources, its year-round clientele and opportunities for interpretation at neighboring parks justify a year-round position to be shared with Split Rock Lighthouse, Crosby-Manitou and Temperance River. In the short term, occasional programming from the Gooseberry Falls naturalist or a seasonal naturalist for the above parks is recommended.

Action 4: Occasional special programs put on by volunteer local experts, will be organized by park staff.

Non-Personal Interpretation

Action 5: Add to existing non-personal electronic kiosk themes for interpreting the parks natural and cultural resources, or add an additional kiosk.

Action 6: Develop non-personal interpretive materials covering the park's natural and cultural resources. This would include such topics as the park fishery, geology, old growth, birch die back, logging history, 3M history, DOT site association with DNR, DNR mission in general and parks attractions.

Action 7: Develop kiosks at various locations throughout the park where information can be made available to large numbers of visitors. Locate kiosks at:

- Locate a kiosk near the park office, with emphasis on Lake Superior, Baptism River
- Locate a kiosk on Palisade Head featuring rock climbing, geology, blueberry picking, main park features and Lake Superior.
- Locate a kiosk in the main campground describing camping ethics, general information, park attractions, area attractions, resource management, bears and wildlife exclosures.

Action 8: Research park and area history, document and develop display. Include information on Alger-Smith Logging Company history and 3M history on the North Shore. Continue research on history of Tettegouche Camp and develop historical brochure and interpretive signing. Research further, and build interpretive display at the foundation site of the St. Paul (Baptism River) Club.

Other Actions

Action 9: Cultivate cooperative agreements and programs with other area providers for environmental education and interpretation.

Evaluation Of Actions

Evaluation of the recommendations and actions outlined in the plan will be done on an ongoing basis by the park management team, regional naturalist and interpretive operations coordinator. This plan is intended to be a guide for planning and implementing interpretive services. Position descriptions and work plans will need to be developed and consulted.

Cumulative Impacts

The goal of this management plan, as stated in the Tettegouche State Park Mission Statement, is to "... manage the park so that its natural, cultural and scenic resources are protected and enhanced while providing recreational and educational opportunities for park visitors. As objectives were developed for natural and cultural resource management and protection and for recreation resource management, their effects on the park were considered. This section considers the cumulative effect these objectives will have on park resources and visitor experiences.

Natural and cultural resource management and protection

The resource direction and actions in the plan represent a commitment to:

- manage large block for old forest values with minimal human impacts
- focus on maintain high water quality on pristine interior lakes by through land management in their watersheds and prohibiting motors
- maintain diverse and healthy native plant and animal populations with a focus on species of special importance, i.e. peregrines, bats, uncommon shoreline and cliff plant communities
- using research and monitoring to guide management decisions ranging from wildlife to trail construction and maintenance techniques, to decisions on future development
- protect and, where appropriate, restore the park's cultural resources
- maintain natural aesthetic and scenic qualities

Recreation Resource management

The plan allows for a diversity of visitor experiences, while renewing and strengthening our commitment to manage the park interior for opportunities for solitude. The development proposed in this management plan includes:

- expansion of vehicle accessible camping
- development of a four season trail center
- construction of a group camp
- establishment of backpack camping sites
- minor trail realignment and construction.

Through the use of zoning, major visitor service facilities such as the trail center, group camp and expanded campground will be developed in the area already served by roads and utilities. This will reduce the impact that would be caused by developing roads deeper into the parks interior. Most of the park will continue to be managed for its remote back country character with very limited development.

Development of new visitor facilities will result in some negative natural resource impacts resulting directly from the construction of the facilities and associated parking and utilities. The plan recommends that parking areas be developed in small bays integrated into the site to avoid the large expanses of pavement. Lighting will be limited to low-intensity lights necessary for visitor safety.

These developments will also result in some increased visitor use, although the amount that can be ascribed to the proposed developments is not clear. If all proposed camping facilities are developed, based on current levels of use in comparable facilities on the North Shore, the number of camping activity nights is projected to increase from 18,500 to 29,100 annually. This figure (29,100) represents approximately 10% of current park visitation. Regardless of what the Division does, park attendance is expected to increase as tourism on the North Shore increases.

Specific impacts or areas of impact are uncertain, but based on existing use, the area between the campground and the Baptism River High Falls will likely see the greatest increase in use due to its proximity to the proposed facilities. Increases in use and corresponding impacts should be less in the interior areas of the park.

Some trails, such as those to the High Falls area, are expected to require additional development to accommodate the use they receive. Trail work will be aimed at preventing trail erosion and widening, and at eliminating unnecessary obstacles to visitor access.

The Division of Parks and Recreation believes that the level of development proposed in this plan is consistent with our mission to provide appropriate recreational opportunities while protecting the state's outstanding resources. We believe that the proposed development is a measured and conservative response to the large and growing demand for new recreational facilities and opportunities on the North Shore.

We recognize that the proposed development may have negative impacts on some visitor experiences. By concentrating the physical development in one area, the level of visitor use and interaction in and near those facilities will increase. This may result in changed experiences for visitors in these areas. Conversely, with concentrated development, the quality of back country experiences should be maintained near present levels.

As visitor service and resource management actions are implemented, we will continue to monitor their impacts on the parks resources and on visitor experiences. With this information, we can adjust our management to ensure that the parks resources are maintained and enhanced for future generations and that visitor experiences are maintained.

Park Boundary

The existing boundary of Tettegouche State Park includes approximately 9,346 acres. Included within this statutory boundary are 797 acres of private land.

Proposed Boundary Modifications

State Park boundaries are established by the Minnesota Legislature. Statutory boundaries serve to identify lands appropriate for inclusion in the park. State parks are authorized to negotiate acquisition of land only within the boundary. The state does not have the authority to acquire park land except from willing sellers nor can they be required to sell to the state. Inclusion in a park boundary does not limit what private landowners do with their property.

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

The following boundary adjustments are proposed for Tettegouche State Park: (see map) This proposed boundary represents Minnesota State Park's goal for resource and facility protection and enhancement for many years in the future.

Palisade Coast

Join the main portion of Tettegouche to Palisade Head by acquiring the shoreline area between the two sites. Protection of the shoreline is critical to preserving the famous views from Palisade Head, Shovel Point and the mouth of the Baptism River. State Highway 61 would form the western boundary of this section.

At the time this plan was proposed, one landowner was not in favor of having their land included in the park statutory boundary. Prior to requesting a boundary change through the state legislature, DNR Division of Park and Recreation will confirm each landowner's wish and will not propose a boundary that includes land whose owner wishes to remain outside the park boundary.

Baptism River

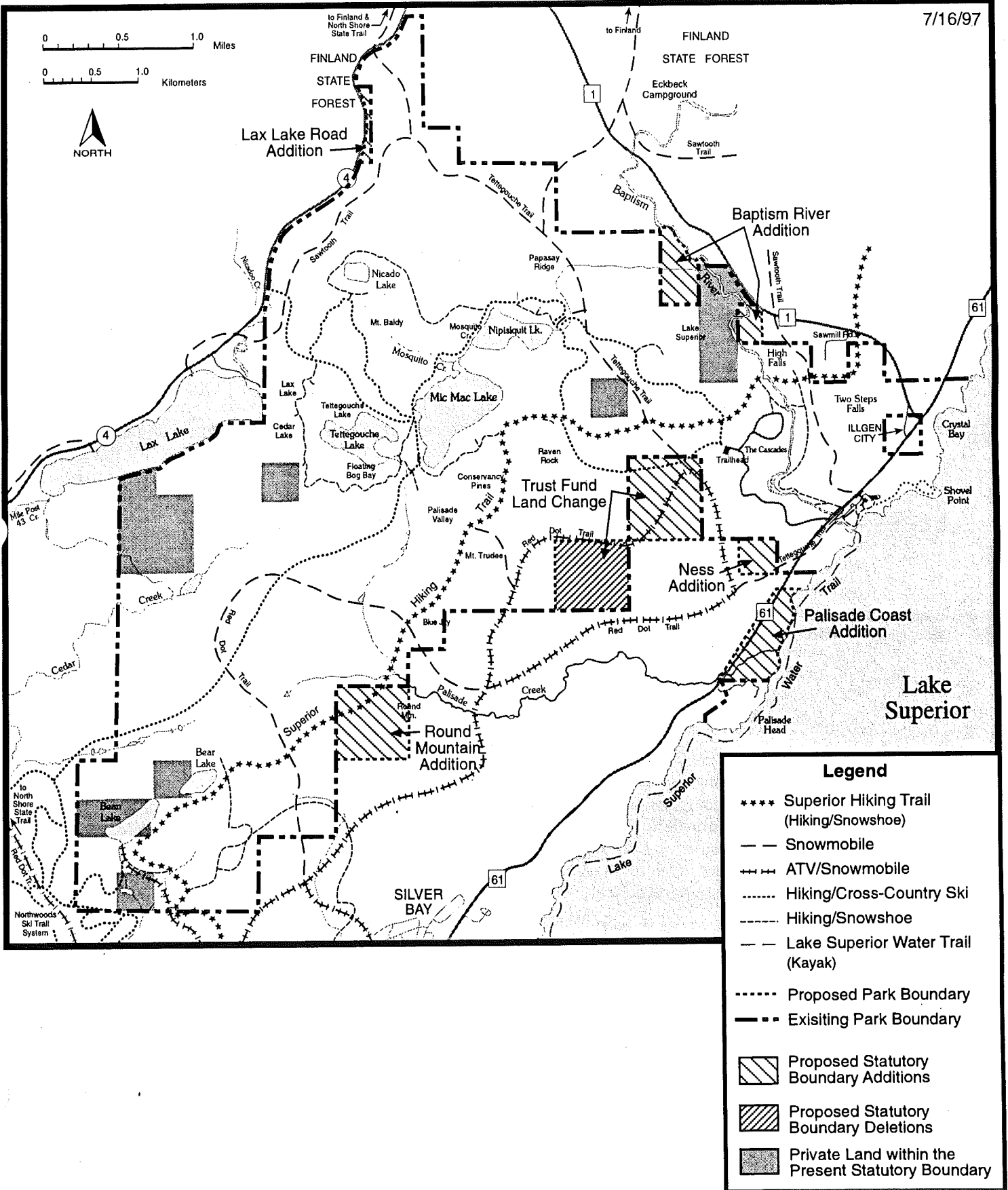
Extend the park boundary to the Baptism River in the southern half of Section 4, T56N, R7W and follow the west side of the river to the current boundary of the Illgen Falls property. Extend boundary to include Gene Roach's property adjacent to Illgen Falls. This proposal protects the Baptism River gorge and views from Illgen Falls.

Ness

Include the NE1/4, SW1/4, Section 15, T56N, R7W. This will take care of trail easement issues for snowmobile/ATV trails.

Statutory Boundary Modifications

7/16/97



Legend

- **** Superior Hiking Trail (Hiking/Snowshoe)
- - - Snowmobile
- + + + ATV/Snowmobile
- Hiking/Cross-Country Ski
- . - . Hiking/Snowshoe
- - - Lake Superior Water Trail (Kayak)
- Proposed Park Boundary
- - - Existing Park Boundary
- [Diagonal Lines] Proposed Statutory Boundary Additions
- [Cross-hatch] Proposed Statutory Boundary Deletions
- [Gray Shaded] Private Land within the Present Statutory Boundary

Lax Lake Road

Extend the park boundary to Lax Lake Road in NE1/4, SW1/4 Section 31, T57N, R7W. This boundary change would add two small old gravel pits to the state park statutory boundary. Eventual acquisition of these parcels would make County Road 4 the western boundary of the park in this area. This would be a clear understandable boundary for visitors, and eliminate some present trespass issues in the old gravel pits.

Round Mountain

Extend boundary to include the SE1/4 Section 19, T56N, R7W. This protects the Superior Hiking trail at Round Mountain and the views from several overlooks in the Palisade Valley. This proposal was included in the initial Palisade Valley Unit boundary but was removed because of the Silver Mountain Ski Hill proposal. The development proposal was not completed.

Trust Fund Land

Include NE1/4, Section 16, T56N, R7W and remove SW1/4, Section 16, T56N, R7W. This is to correct an error in the original boundary of the Palisade Valley Unit. DNR Forestry and State Parks intended for the north half section to be included in the unit and south half section to continue to be managed by Forestry. The School Trust Fund designation on this land will be removed, by either purchase, or by exchanging the designation to other DNR lands of equal value which would generate income for the Permanent School Trust Fund.

Access to Palisade Head

Visitors driving into state park properties larger than 40 acres are required to have a state park permit on their vehicle. When Palisade Head was transferred to the custodial control of the Division of Parks & Recreation from the Department of Transportation the division became responsible for enforcing the permit requirement. There has been a tradition of people being accustomed to visiting this unit without acquiring a permit. The Division has not begun enforcing the permit requirement until this planning process can be completed and clear understanding of the public's desire can be forwarded to the Minnesota Legislature for its consideration.

Action 1: The Citizen Advisory Committee for the Tettegouche Management Plan are strongly in favor of recommending that the Minnesota State Legislature consider passing legislation that exempts DNR Division of Parks and Recreation from enforcing the permit requirement for vehicles parking at Palisade Head. If legislation is not passed that exempts DNR from enforcing the permit requirement at Palisade Head, then a self registration system will be implemented that would allow visitors to purchase daily permits at Palisade Head, or at the park office.

Palisade Valley Hunting Cabins

When legislation establishing the Palisade Valley Unit was enacted, there were three hunting cabin leases administered by Lake County through its Land Commissioner on tax-forfeited land within the Unit. The cabin leases are located as follows:

1. Ronald Bock - NW1/4, NW1/4, Section 24, Township 56N, Range 8 W.
2. Jon M. Mattila - SE1/4, SE1/4, Section 24, Township 56N, Range 8 W.
3. Dean Carter - SW1/4, NE1/4, Section 19, Township 56N, Range 7 W.

The Statute (Chapter 275, Subd. 5. [85.012] [Subd. 55a]), provides for continued leasing of these hunting cabins for not more than 40 years after the effective date of the legislation. During negotiations on the Palisade Valley land exchanges it was agreed by all parties that the leases would continue to be administered by Lake County.

Upon completion of the land exchange between the Nature Conservancy and Lake County, leases were granted on the affected parcels by the Nature Conservancy to Lake County to allow the county to continue to sub-lease the hunting cabin sites through the term described in the statute.

When the State of Minnesota completed purchase of the property from the Nature Conservancy, the responsibility of landlord and lease holder was assigned to the DNR, Division of Parks & Recreation. The DNR, through the Tettegouche State Park Manager will supervise the terms of the leases to Lake County with the Lake County Land Commissioner administering the sub-leases to the individual cabin owners.

The sub-leases from Lake County to the individual lessees are for the current lease holder and their heirs or successors. The leases are non-transferable. Each lease to Lake County will expire at the time the associated sub-lease is terminated or expires.

Lease holders will be allowed continued use of the access trails to their hunting cabins for the term of the lease. The lease holders will be responsible for all maintenance of the trails. No improvements or extensions of the trails is permitted without the written approval of the park manager. All trails used by the lease holders except their primary access trail are limited to use during hunting season. The trails will be monitored for overuse and impacts, with restrictions imposed if necessary to protect the resources.

Facility and Building Management

Management Objectives

- Provide facilities for the safe use and enjoyment of the park.
- Maintain infrastructure to protect the public investment.

Proposed Development

Action 1: Maintain park infrastructure through annual work plan development.

Action 2: Submit rehabilitation requests for maintenance of park infrastructure as needed.

Future Building Concepts/Themes

The architectural theme of park buildings should reflect the style of the park office and campground shower building. The design should be modern and functional, but should include natural elements of native stone, and log construction with massive beams and cedar siding.

Service area buildings should be built for functionality using steel siding and roofing and pole construction with less emphasis on architectural elements.

Historic Register Buildings

The Tettegouche Camp was entered on the National Register of Historic Places in 1989. It consisted of 15 log and half-log buildings on the west shore of Mic Mac Lake. The Tettegouche Camp is important for its representation of northern Minnesota's vital turn-of-the-century resort industry. All of the Tettegouche Camp buildings constructed by 1925 exemplified the vernacular Rustic design that was popularized in the Adirondack region of northern New York from 1870 to 1930. The Tettegouche Camp buildings characterize the style through their use of log construction (horizontal and vertical) with open corner joints, overhanging roofs and wide eaves, simply proportioned, multi-paned, double hung windows, screened porches, and the use of native stone for the Lodge chimney and fireplace. Hand-made log furniture inside the buildings enhances the Rustic characteristics of the property.³⁹

After extensive study and analysis, it was decided to preserve the Tettegouche Camp character and most of the camp buildings, by rehabilitating four buildings for re-use as rental cabins. Three structures were removed because they were in serious states of disrepair and were public safety hazards. A split rail fence was built around the shed and root cellar so they could be left standing, but not restored. A modern shower building with appropriate log exterior was built to service the four cabins. This work was done during 1993 and 1994. The only public access to this remote retreat is by hiking 3 miles from the park trailhead, or one and one-half miles from the Lax Lake Road parking lot.

The cabins were first opened for rental on August 1, 1994. Cabin renters have been very satisfied with the experience of stepping back in time to use this preserved rustic camp.

Operations, Staffing and Costs

Current Organizational Structure

Tettegouche State Park staff includes a full time park manager and assistant park manager. In addition, year-round staff includes a part-time clerk, and a full-time building & grounds worker. Several seasonal positions are needed to provide public services, facility maintenance and resource management activities.

Minnesota State Parks budget development process (Standards) identifies 16,385 hours for operation of Tettegouche State Park. Due to limited budgets, 15,237 were funded in FY 96. \$49,500 was budgeted for supplies and expenses in FY 96.

Custodial services at the Baptism River Rest Area are funded by the Minnesota Department of Transportation. Greenview Incorporated contracts to provide the service under the direction of the park manager. A foreman directs the day to day work of the custodians. Custodians are on duty from 8 am to midnight, 365 days a year.

The park manager and assistant park managers are licensed law enforcement officers within the Tettegouche State Park boundary. They call on other law enforcement agencies, particularly DNR Conservation Officers as necessary to assist with law enforcement within Tettegouche State Park. DNR Conservation Officers now primarily help enforce fishing, hunting, and trail use rules and regulations.

Future Needs

As new facilities are developed, additional staff hours will be needed. State park staff hours will be identified through the Standards Budgeting Process. Additional law enforcement officer time may also be needed as new laws are created and park visitation grows. In addition, consideration should be given to providing an Interpretive Specialist in the future. (See Interpretive Plan section). Resource management efforts would be enhanced with the addition of a Resource Specialist either at the park or as an area position. (See Resource Management section)

Park's Status Under Law

The Baptism State Wayside was established in 1945 (Chapter 256 subdivision 1). This was a small rest area on the lake side of Highway 61. Tettegouche State Park was established by the Minnesota State Legislature in 1979. It included Baptism State Wayside, but this legislation expanded the unit to include the Tettegouche Camp and vicinity, for a total of 4,613 acres. Then in 1991 The Palisade Valley Unit State Recreation Area was added to Tettegouche State Park. This resulted in a statutory boundary that enclosed 9,346 acres. In 1994 3M donated their Crystal Bay property to the Nature Conservancy who transferred it to the State of Minnesota. Tettegouche statutory boundary was expanded to include this parcel, and a parcel which enclosed Illgen Falls (Chapter 448 subdivision 1).

1945 (Chapter 256 - H.F. No. 432, Section 1):
Acquired property in Lake County. Established Baptism River State Park (currently Tettegouche State Park).

1969 (Chapter 524 - H.F. No. 1252, Section 2 [85.102], Subdivisions 1 and 3):
Confirmed name of park as Baptism River State Park. Repealed Minnesota Statutes of 1967 (MS 85.03).

1969 (Chapter 879 - H.F. No. 1338, Section 1 [85.1872], Subdivisions 1 and 2):
Acquired additional land in T56N, R7W, adjacent to Baptism River State Park.

1979 (Chapter 301 - H.F. No. 1253, Section 10, Subdivisions 1-8):
Five major points were established in this legislation that differ from the typical legislation for establishing State Parks as follows:

1. Tax-forfeited land within Tettegouche boundaries is transferred by the Tettegouche Park Act to DNR effective upon payment by the State to the County of the fair market value of the tax-forfeited land.
2. Payment of real estate taxes to the County on a declining scale for the privately-owned Tettegouche Camp for a ten-year period.
3. Public sale of presently administered State lands within Lake County equal in value or acreage to the Tettegouche Camp properties to be purchased for the park.
4. The Commissioner shall lease land, not to exceed 400 acres, for use of an environmental learning center.
5. A public informational meeting must be held in Silver Bay concerning Tettegouche State Park before the Commissioner shall determine to acquire Tettegouche Camp.

1981 (Chapter 110 - H.F. No. 150, Section 1):
Authority to lease lands within Tettegouche State Park is removed; repealing Laws 1979, Chapter 301, Section 10, Subdivision 7.

1984 (Chapter 599 - SF No. 1414, Section 1, Subdivision 7 [85.012] [Subd. 55a]):
Land is acquired within T56N, R7W; in exchange, to Lake County, for land within T56N, R8W.

1991 (Chapter 275 - H.F. No. 1009, Section 1, Subdivision 5 [85.012] [Subd. 55a, 55b, and 55c]):

(Subd. 55a. s 1) Area (referred to as the Palisade Head) is added to Tettegouche State Park within T56N, R7W.

(Subd. 55a. s 2) Area (referred to as the Martin Pahl Property) is added to Tettegouche State Park within T56N, R7W.

(Subd. 55b) Area (referred to as the Palisade Valley Unit) is added to Tettegouche State Park within T56N, R7W.

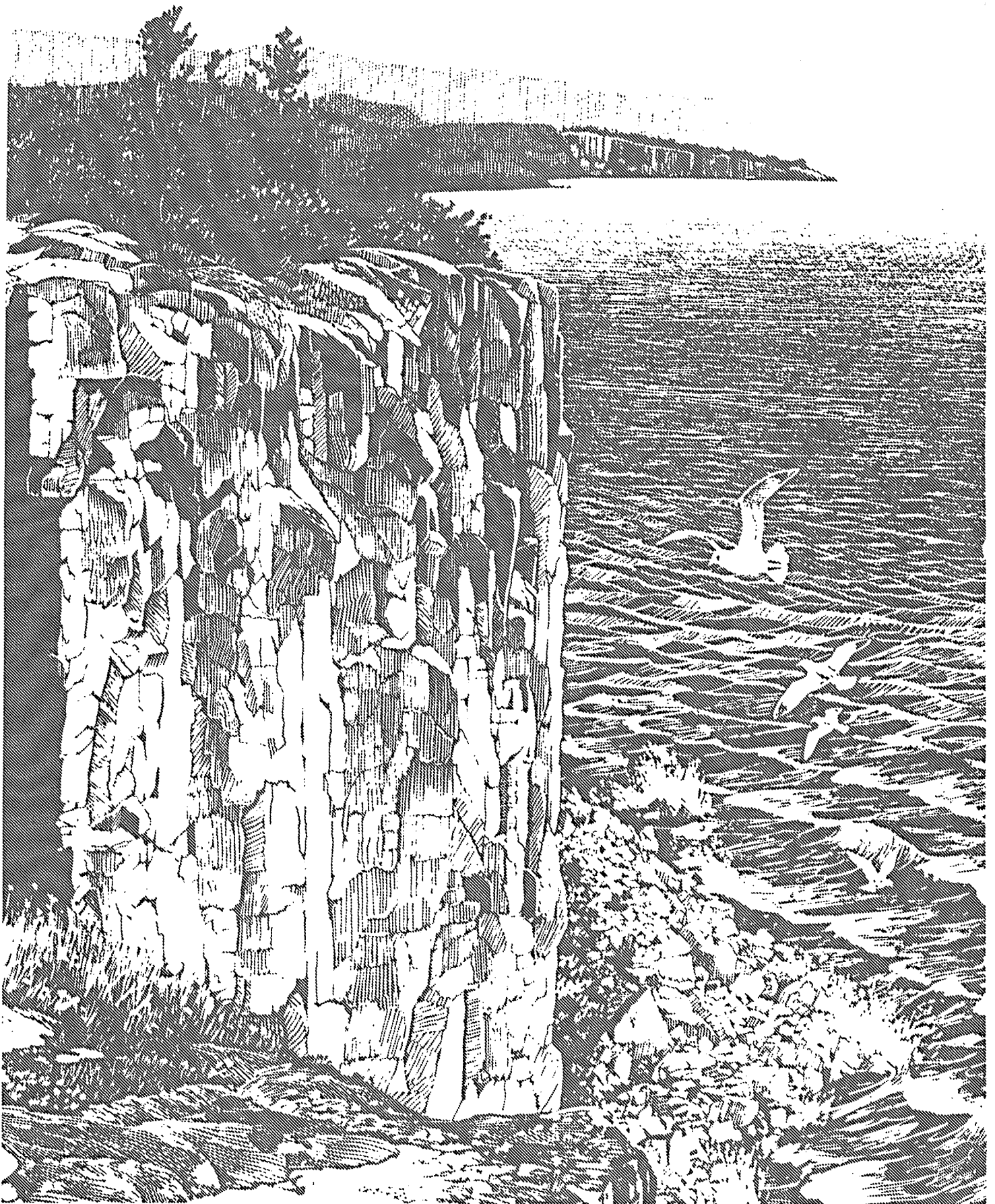
(Subd. 55c) The commissioner shall establish an advisory committee to provide advice regarding the planning, development, and operation of Tettegouche State Park.

The following quote from Chapter 275, Subd. 5. [85.012] [Subd. 55b] gives some atypical direction as to how the Palisade Valley Unit should be used and managed:

“Notwithstanding the provisions of section 85.012, subdivision 1, tax-forfeited land located within the Palisade Valley Unit is not withdrawn from sale and transferred from the custody of the county board. The commissioner shall manage the unit as a recreational state park as provided in section 86A.05, subdivision 3, but without major new development such as roads or campgrounds, other than hiking trails and backpack-only campsites. In addition to other activities authorized within Tettegouche state park, the following activities are permitted in the Palisade Valley Unit: (1) public hunting, trapping, and fishing; (2) the continued leasing of hunting cabins on tax-forfeited land for not more than 40 Years after the effective date of this section; and (3) the continued use of snowmobiles and all-terrain vehicles on roads and designated trails existing on the effective date of this section, including existing routes to Bear and Bean lakes. The commissioner shall promulgate rules for the Palisade Valley Unit that are consistent with this section.”

1994 (Chapter 448 - H.F. No. 2665, Section 1, Subdivision 8 [85.012] [Subd. 55a]): Illgen Falls and Crystal Bay properties are added to Tettegouche State Park in T56N, R7W.

Plan Modification Process



Plan Modification Process

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

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

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

Major Plan Amendments

Criteria for Major Plan Amendments

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

The proposed change:

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

Management Plan Amendment Process

1. Division of Parks and Recreation Initial Step: Review plan amendment at the park and regional level. Determine which stakeholders potentially have a major concern and how those concerns should be addressed. If the major concerns are within the Division of Parks and Recreation, the issue should be resolved within the division. Review the proposed approach with central office managers.
2. If the proposed change issue involves DNR Divisions, the issue should be resolved by staff and approved by the Division Directors. This may require one or two area/regional integrated resource management team meetings. The Division Directors will determine whether the proposed change should go through the departmental review process (CTECH/Senior Manager).
3. If the proposed change issue involves other state agencies, the issue should be resolved by staff and approved by the appropriate Division Directors.
4. If the proposed change is potentially controversial among elected boards, park user groups, or the public, the park advisory committee should discuss the proposed change and attend an open house forum that is advertised in the local and regional area. Following the open house, the Division of Parks and Recreation Director will determine whether the proposed change should be reviewed by the department.
5. All plan amendments should be coordinated, documented and distributed by the Division of Parks planning staff.

Plan Revisions

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

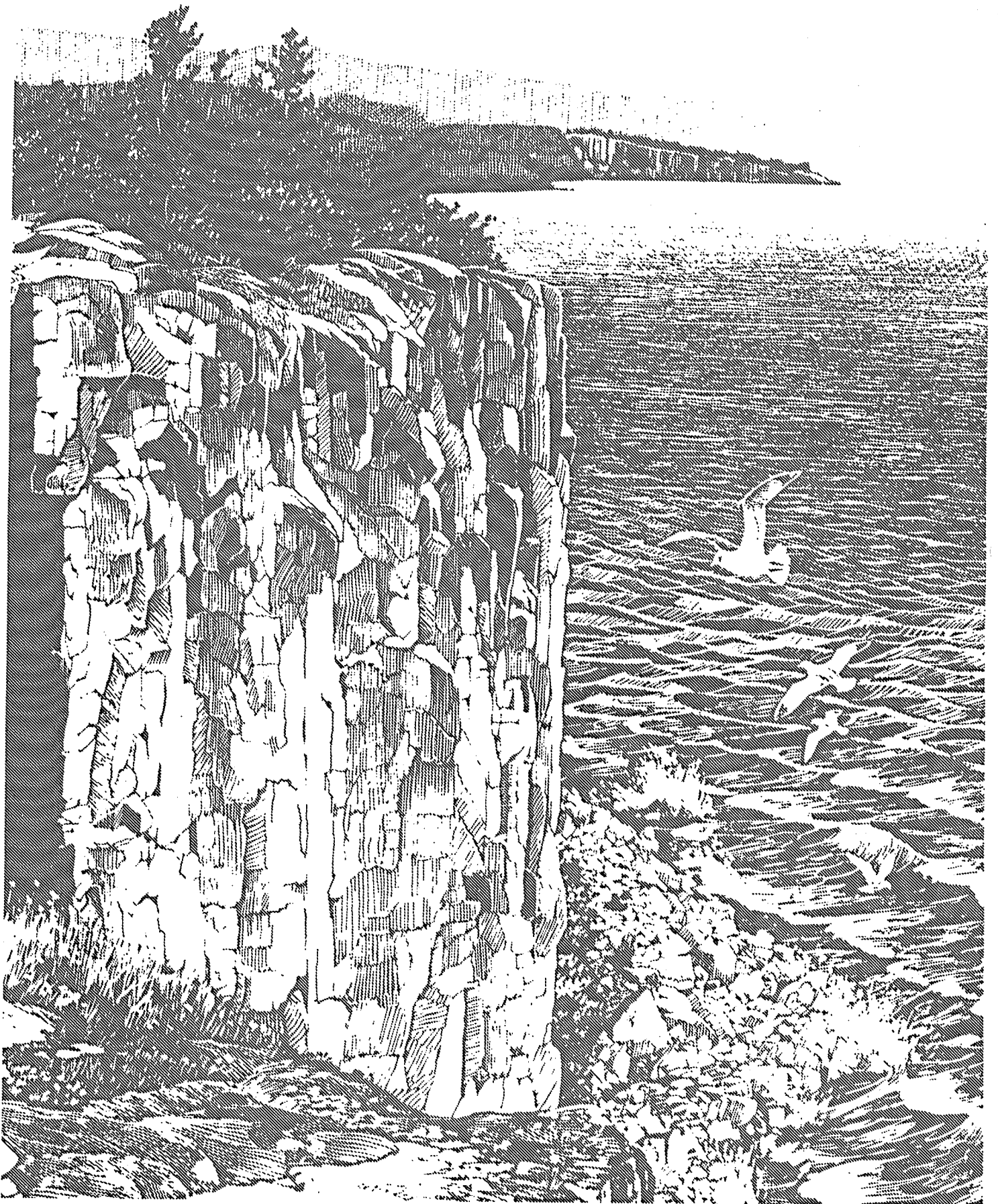
Revisions related to physical development constraints and resource protection

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

Program Chapter Revisions

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

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