Cascade River State Park Management Plan

Minnesota Department of Natural Resources
Division of Parks and Recreation
February 2003

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Department of Natural Resources Approval
of Management Plan for Cascade River State Park

Minnesota Statutes 86A §09, Subdivision 1, requires that a master plan be prepared for units of Minnesota's outdoor recreation system, including state parks and state recreation areas. The Laws of Minnesota for 1957 (chapter 420, sections 1 & 2) established Cascade River State Park as part of Minnesota's Outdoor Recreation System (MS 85.013, subd.20a).

The Minnesota Department of Natural Resources worked in partnership with Minnesota citizens and an interdisciplinary resource team to develop a management plan for Cascade River State Park.

The management plan was approved by the Division of Parks and Recreation management team, and has been approved through the DNR's Statewide Interdisciplinary Review Service/Senior Managers' review process during December 2001.

Allen Garber, Commissioner
Minnesota Department of Natural Resources

9/5/02
Date

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ACKNOWLEDGEMENTS

Many individuals contributed to the development of this plan and we would like to acknowledge and thank them for their time and effort.

The members of the Citizens' Advisory Committee who spent many hours assisting the Minnesota Department of Natural Resources (DNR) in the development of this State Park Management Plan.

The DNR Integrated Resource Management Team and other resource professionals who committed time to lend technical expertise and creative ideas to the plan. Their input was vital to produce sustainable management goals for Cascade River State Park.

In addition, members of the Cook County Commissioner's Office and Minnesota Department of Transportation willingly contributed their time and expertise to this plan. We wish to thank these individuals for their assistance.

Student worker Shane Pittman helped to create the graphic component of the management plan.

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EXECUTIVE SUMMARY

Cascade River State Park is located in Cook County on the North Shore of Lake Superior, nine miles southwest of Grand Marais, Minnesota (Figure 1). It was officially established as a State Park by an act of the Minnesota State Legislature in 1957.

Today, the park consists of a 10.5 mile strip of land approximately one-half mile wide along the Highway 61 corridor. The statutory boundary of the park encompasses 2850 acres. All but 35 acres within the statutory boundary are in State Park ownership. Elevation ranges from 602 feet at the surface of Lake Superior to just under 1,200 feet along the northern boundary. A distinct topographic feature of the park is the steep-walled Cascade River gorge, formed as the Cascade River eroded through volcanic bedrock ledges. In the final quarter-mile stretch, the river plunges 120 feet through a deep, twisting gorge to Lake Superior, forming a spectacular series of cascades for which the river was named.

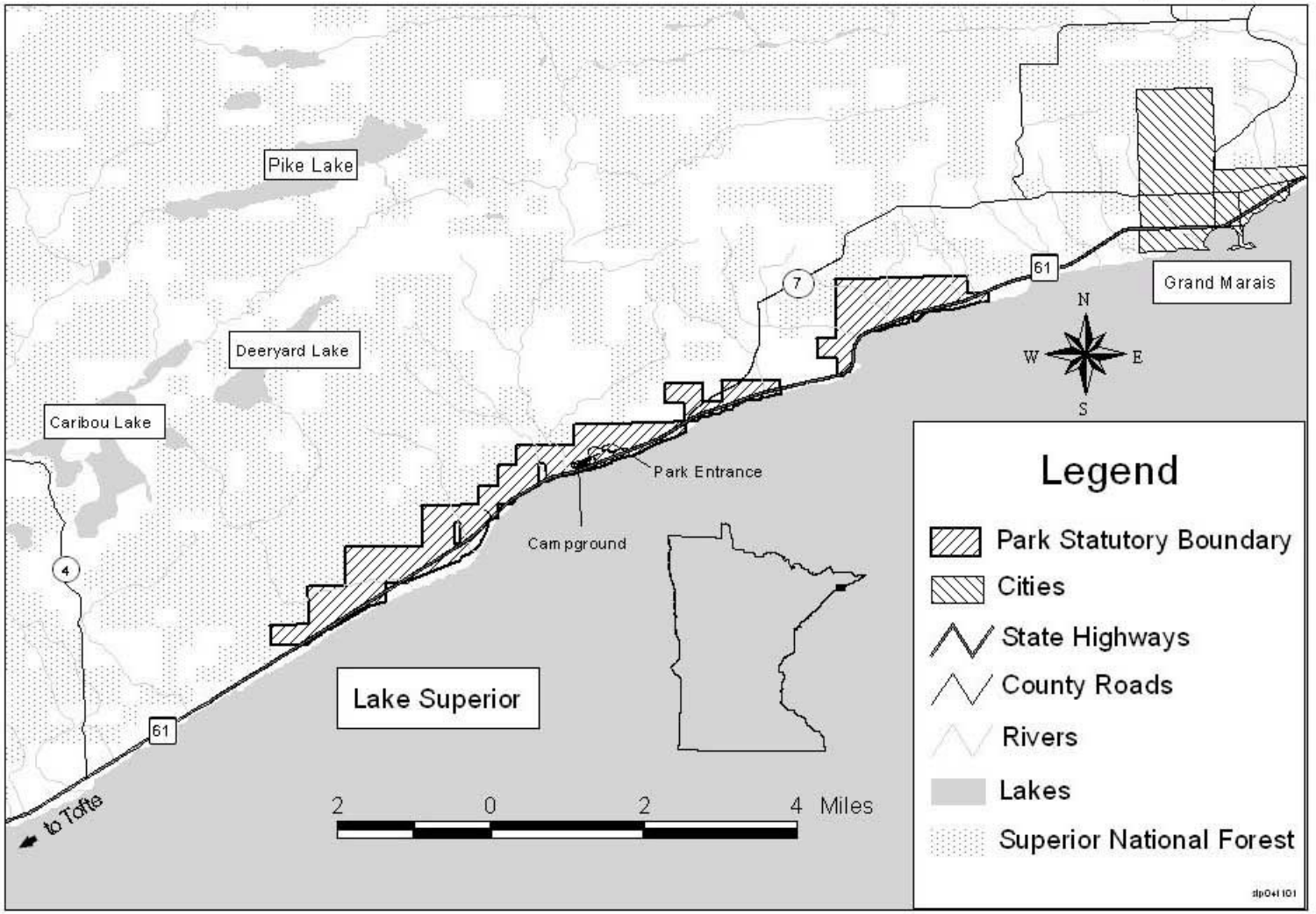
Management of state park lands, and the natural resource communities they harbor, is guided by the Outdoor Recreation Act (ORA) of 1975. The legislative language is defined in Minnesota Statutes, Chapter 86a. 05, Subdivision 2c, which says, in part, “State parks shall be administered by the commissioner of natural resources in a manner which is consistent with the purposes of this subdivision to preserve, perpetuate, and interpret natural features that existed in the area of the park prior to settlement and other significant natural, scenic, scientific, or historic features that are present. Management shall seek to maintain a balance among the plant and animal life of the park and to reestablish desirable plants and animals that were formerly indigenous to the park area but are now missing.”

The ORA also provides a framework for outdoor recreation in Minnesota State Parks, stating, “outdoor recreation activities to utilize the natural features of the park that can be accommodated without material disturbance of the natural features of the park or the introduction of undue artificiality into the natural scene may be permitted. Park use shall be primarily for aesthetic, cultural, and educational purposes, and shall not be designed to accommodate all forms or unlimited volumes of recreational use. Physical development shall be limited to those facilities necessary to complement the natural features and the values being preserved**.”**

The North Shore of Lake Superior is an internationally significant resource, and Cascade River State Park plays a key role in preserving areas of undeveloped shoreline and public access to the lake as well as the associated inland corridor between Lake Superior and the “ridgeline”. The focus of management in Cascade River State Park will be maintaining the integrity and character of the natural community with a low level of development, and ensuring that use levels do not destroy or compromise the park’s natural and cultural resources.

To maintain the integrity and character of the park, the plan prescribes management actions such as moving the campground to a more suitable location and preserving old growth forest structures. Interpretive programs play a key role in communicating the distinct qualities of the ecosystem within Cascade River State Park and the North Shore of Lake Superior, which leads to a sense of land stewardship among park visitors. To accomplish this, the management plan calls for stepped-up interpretive efforts in the park. During the planning process, local citizens and park users recommended a statutory boundary expansion. Statutory boundary expansion would incorporate existing recreational uses including hiking and hunting, and provide for additional areas for camping and trail activities. The majority of the lands being proposed for inclusion within the park boundary are currently owned and managed by either the US Forest Service or the Minnesota Department of Natural Resources (DNR), Division of Forestry.

Figure 1: Park Location



Summary of Major Recommendations

This plan is the result of a partnership-based planning process. Minnesota DNR Division of Parks and Recreation worked with a citizens' advisory committee, an integrated resource management team, local businesses, county governments and federal agencies to develop the recommendations made in this management plan. These management recommendations shape the vision of Cascade River State Park for the next 20 years.

Natural Resource Management Recommendations

Protect threatened, endangered, rare, and/or significant plant and animal species.

Continue forest management activities that perpetuate and expand forest diversity to be representative of pre-settlement conditions, including areas of Old Growth cedar and white pine.

Recommend general deer hunting season be allowed within a park expansion area.

Manage, improve and/ or restore river fishing opportunities for native fishes in the Cascade River and the smaller creeks within the park, working with the DNR Fisheries Manager.

Protect and/ or restore the Cascade River Corridor natural community, and other river and stream resources within the park.

Remove or control exotic species, monitor progress of non-native vegetation along corridors of disturbance including trails, roadways and power lines, and develop strategies for control.

Continue to expand natural resource inventories and data.

Cultural Resource Recommendations

Monitor and protect known cultural sites within the park, including Civilian Conservation Corps site(s), Cutface Creek Pits, and pre-contact sites.

Continue to survey for cultural resources during park development and management activities.

Interpretive Services Recommendations

Develop non-personal interpretive kiosks, brochures and information for park and Gitchi Gami Trail users.

Provide an occasional personal interpretive program.

Develop materials and information to inform the public about the park, including park features and facilities, park policies, rules and fees to help manage and match visitor's expectations.

Strengthen cooperative relationships

Recreation Use and Visitor Services Recommendations

Relocate campground, separate from day-use areas.

Offer a range of camping options in the park, including group camping, walk in and/ or cart in camping, and modern campsites.

Provide a day-use area in the location of the existing campground, incorporating Gitchi Gami and ski trail heads, fishing access and parking, and Cascades access.

Develop a Trail Center facility within the day-use area, providing year-round warming area and restroom facilities, non-personal interpretation and information.

Maintain the current trails system and current trail uses within the current park boundary.

Provide mountain bike trail spur to direct those seeking a mountain bike trail experience to designated trails outside the park, recognizing the need to coordinate with Cascade Lodge.

Consider finding a trail opportunity for other non-motorized user groups in a park expansion as compatible with the natural resource community, if demand exists.

Although details of the Gitchi Gami Trail alignment have yet to be determined outside of Cascade River State Park boundaries, and could influence park alignment decisions, an inland alignment is preferred within the park from the point the Trail enters the park from the south and west until north and east of the Cascade River, at which point the Trail would then cross under Highway 61 to access the lakeside picnic area and follow the highway right of way out of the park to the north and east on the lake side.

Provide access for pedestrians and Gitchi Gami Trail users to the lakeside day-use picnic facilities while Highway 61 reconstruction and Gitchi Gami Trail development occurs. Also provide walk-in access from the day-use parking area through a tunnel corridor bringing the Gitchi Gami Trail under Highway 61.

Make a portion of the Cascade River gorge accessible

Use existing facilities and areas of development to provide limited day and overnight facilities for Lake Superior Water Trail users.

Consider providing a small parking area for walk in access only to the northeast (upper) portion of park.

I. INTRODUCTION

Park Description

Cascade River State Park is located in Cook County on the North Shore of Lake Superior, nine miles southwest of Grand Marais, Minnesota. It was officially established as a State Park by an act of the Minnesota State Legislature in 1957.

The vast majority of what is now Cascade River State Park was originally acquired by the Minnesota State Highway Department (now called the Minnesota Department of Transportation) in the early 1930's. While completing U.S. Highway 61, the State Highway Department acquired approximately 2,300 acres of land near the mouth of the Cascade River in an effort to protect a significant area along the highway from private development. The original mouth of the Cascade River was relocated at that time as a part of the highway project. A Civilian Conservation Corps (CCC) camp was established in the area in 1934 to assist with eliminating roadway scars left by the highway construction effort. In addition to this work, CCC crews built the now historic rock retaining wall structures that are a part of the wayside rest area facility located just southwest of the Cascade River bridge on Highway 61. The CCC also was responsible for the construction of a limited number of recreational facilities in the area (a picnic area and a few foot trails). These CCC constructed facilities have been nominated for inclusion in the National Register of Historic Places. Beyond this, very little development occurred in the area between 1934 and 1957. Most of what can be seen today in the park (developed campground, extensive trails system, day-use facilities, etc.) was developed after the area was officially established as a State Park in 1957.

Today, the park consists of a 10.5 mile strip of land approximately one-half mile wide along the Highway 61 corridor. Currently, the statutory boundary of the park encompasses 2850 acres, all but about 35 acres in State Park ownership. Elevation ranges from 602 feet at the surface of Lake Superior to just under 1,200 feet along the northern boundary. A distinct topographic feature of the park is the steep-walled Cascade River gorge, formed as the Cascade River eroded through volcanic bedrock ledges. In the final quarter-mile stretch, the river plunges 120 feet through a deep, twisting gorge to Lake Superior, forming a spectacular series of cascades for which the river was named.

Cascade River State Park lies in the midst of a coniferous forest biome. Over the years, a number of factors have shaped the natural community of the area. Major agents of change likely included forest fires, wind, insects, and beavers. Human activities such as logging, fire suppression, and wildlife habitat manipulation have done much to alter environmental conditions. Once extensive stands of white pine, white cedar, and northern hardwoods have given way to a landscape dominated by a mixture of aspen-birch and spruce-fir. Very few pines and only scattered stands of white cedar are found today. These remnant pine and cedar serve as source trees for seedlings found today in the park. Browsing by deer, however, has limited the ability of these seedlings to survive or grow, and there is little or no natural age diversity in the forest. Ecologists believe that the future of the entire forest community is threatened, given a present reality of no forest regeneration in combination with impacts from deer browse, corridor openings (trails, roadways), introduced species, development, and more.

Legislative History

Session Laws of Minnesota for 1957, chapter 420, sections 1 & 2.

> Section 1. [85.178]. Transfer, state-owned lands for state park purposes. [Subdivision 1]. Administrative control over the following described state-owned lands, situated in Cook County, is hereby transferred from the Department of Highways to the Department of Conservation.
>
> Section 2. [Subd. 2]. These lands are hereby dedicated as the "Cascade River State Park," to be administered under the supervision and control of the commissioner of conservation as provided by law for state parks, for use by the people of the state.

Session Laws of Minnesota for 1969, chapter 524, section 2.

> Section 2. [85.012]. State parks. Subdivision 1. State parks heretofore established and hereby confirmed as state parks together with the counties in which they are situated are listed in this section and shall hereafter be named as indicated in this section. Subdivision 12. Cascade River state park, Cook county.

Session Laws of Minnesota for 1992, chapter 451, section 1.

> Subdivision 1. [85.012]. [Subd. 12}. CASCADE RIVER STATE PARK, COOK COUNTY. The following areas are deleted from Cascade River State Park: That part of the West 750 feet of Government Lot 4, Section 32, Township 61 North, Range 1 West, Cook County, Minnesota, lying southerly of the southerly right-of-way line of U.S. Highway 61; including all riparian rights to the contained 1.6 acres, more or less. Notwithstanding Minnesota Statutes, sections 94.09 to 94.16, the commissioner of natural resources may sell the land so deleted from the park to adjacent land owners. The land shall be conveyed in a form approved by the attorney general for a consideration of not less than the appraised value.

Session Laws of Minnesota for 1999, chapter 157, section 2.

> Subd. 3. [85.012]. [Subd. 12]. The following area is added to Cascade River state park, all in Section 34, Township 61 North, Range 1 West, Cook county.

Session Laws of Minnesota for 2001, chapter 182, section 3.

> Subd. 2. [85.012]. [Subd.12]. The following areas are added to Cascade River state park, all in Cook county

Role of Cascade River State Park in the Minnesota State Park System

The North Shore of Lake Superior is an internationally significant resource, and Cascade River State Park plays a key role in preserving areas of undeveloped shoreline and public access to the lake as well as the associated inland corridor between Lake Superior and the "ridgeline". Focus on maintaining the integrity and character of the natural community with a low level of development, and ensuring that use levels do not destroy or compromise the park's natural and cultural resources.

Mission and Vision Statements

Mission and vision statements help staff and the public understand the intent of an agency, facility or program, and serve to guide management and actions. There are a series of statements that taken together provide increasingly specific direction for Cascade River State Park, as follows:

Department of Natural Resources Mission Statement

> "The mission of the Minnesota Department of Natural Resources is to work with citizens to protect and manage the state's natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life."

Division of Parks Mission Statement

> The 1995 strategic plan for the Minnesota Division of Parks and Recreation establishes the following mission statement.
>
> "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".

Cascade River State Park Mission Statement

> "We will work with the people to manage Cascade River State Park so that its significant natural, scenic, and cultural resources are preserved for present and future generations while providing appropriate recreational and education opportunities".

Cascade River State Park Vision Statement

> Cascade River State Park management will be sensitive to the needs of current and future generations and guided by the following principles and values:
>
> - Preservation of opportunities for park visitors to experience wildness, quiet, and solitude.
> - Preservation of the natural and ecological integrity of rivers, streams, and other critical water resources found within the park and their associated plant, animal, and aquatic communities.
> - Preservation and/or restoration of the natural and ecological integrity of forest communities found within the park and their associated plant and animal communities. As much as possible, these communities should be representative of pre-European settlement conditions.
> - Preservation of cultural resources (e.g., pre-historical, archeological, historical) located within the park.
> - Preservation of the natural and undisturbed North Shore feeling along the Highway 61 corridor which runs through the park.
> - Strengthened partnerships with the Superior National Forest, the Minnesota Department of Transportation and park neighbors to help ensure that natural resource management activities and other activities that affect natural resources being conducted in areas immediately surrounding and adjacent to the park complement natural resource management goals and strategies.
> - Strengthened and expanded interpretation and education about the history of the park and important natural and cultural resources found within the park.

- Provision of varied and appropriate recreational opportunities for all people, including those with disabilities, in a way that will preserve natural and cultural resources.

- Provision of a balance between resource protection and recreational use/facility development within the park.

- Strengthened partnerships with local governments, businesses, neighboring communities, and other land management agencies in providing appropriate recreational opportunities and support services in the Cascade area, thus contributing to the area's economic vitality.

Unit Planning Process

The Cascade River State Park planning effort began in early February, 1999. Two planning teams were established to provide input into the process:

- Cascade Citizens Advisory Committee (CAC) consisting of representatives from the Superior National Forest, county and local governments, area tourism providers, various stakeholder groups, and the general public. This group met monthly to discuss management direction for the park. Members were self selected, according to their personal and professional interests in the planning effort. Collectively, the members represented a wide array of perspectives, volunteered their time throughout the planning effort, debated policy, and formulated recommendations for management goals, objectives, strategies for state park management's consideration.

- In addition to the CAC team, an Integrated Resource Management (IRM) team of Minnesota DNR staff met periodically to assist in making recommendations for the development of this management plan.

The result of numerous planning team meetings was a draft plan, reviewed by park management staff and made available for public review during a 30-day review period in January, 2001. Copies of the draft plan were distributed to a mailing list of nearly 250 individuals who had expressed an interest in the planning effort. Additionally, a public open house was held near Cascade River State Park to receive comments on the draft plan recommendations.

Following public review, the draft plan was revised and submitted for DNR review by the Statewide Interdisciplinary Review Service (SIRS). Comments were presented to park management for consideration. The Cascade River State Park Management Plan was approved by the Commissioner of Natural Resources in 2002.

A copy of the completed park plan and a "planning process file" which documents the planning effort is available at the DNR Central Office, the Grand Rapids State Park Regional Office, and at the Cascade River State Park office. Additionally, copies of the completed plan were distributed to individual citizens who requested the document for their personal use. The completed plan is also available at the DNR website at www.dnr.state.mn.us.

II. REGIONAL ANALYSIS

Cascade River State Park has national, statewide and local influence, with the greatest impact felt locally, by the ecological and socioeconomic regions in which it is located. This section of the plan describes both the ecological and socioeconomic regions in which Cascade resides and the primary relationships between the park and these regions. The ecological region is discussed in terms of the Minnesota Ecological Classification (ECS) system. The socioeconomic region is described using a regional population analysis and regional recreation and tourism opportunities.

Importance of the Park to the Surrounding Region and Minnesota

Cascade River State Park is one of a series of public parks, primarily state parks, along the North Shore. It is unique, however, in that it captures a substantial length of land immediately along the Lake Superior/ Highway 61 corridor. This results in a stretch of undeveloped landscape offering scenic, "natural" views to travelers along the corridor, to park visitors and to area residents. This has become a rare commodity as development continues to occur on most of the available lands along the corridor. In addition, Cascade River offers public camping opportunities in relatively close proximity to Lake Superior, rather than in more inland locations. The camping provided at Cascade River does not presently offer electric sites, nor does the campground have the ability to accommodate larger camping units. Most other regional camping providers, (such as the municipal campground in Grand Marais, and a private campground near Tofte), do offer electricity and accommodate large unit campers. Cascade River is thus distinguished by providing a less developed, more rustic camping experience, which is difficult to find in the region, and is yet valued by current park users.

Cascade River State Park is important to the state of Minnesota as a whole, as well. Park lands are noted for capturing significant examples of Minnesota's original natural and cultural heritage, including Old Growth Cedar, geologic formations, Lake Superior shoreline, various cultural sites and more. Visitors to the park originate from across the state and even internationally, supporting the value of the park as a destination point.

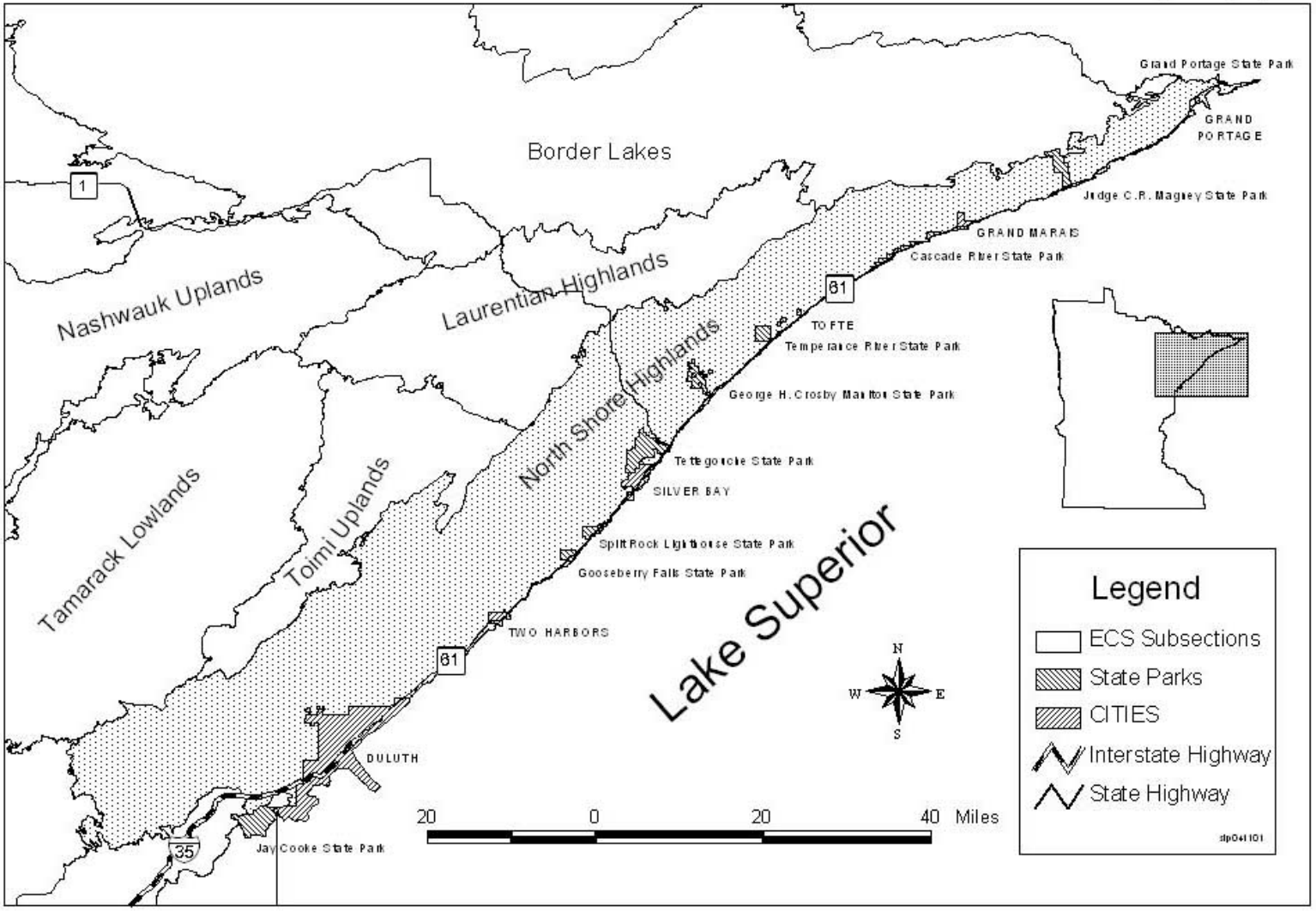
Finally, there is economic benefit gained at local, regional and state-wide levels because of the park. Some of these benefits are readily measurable, such as the jobs created by the park for the local area, and others are less so, such as the spending by visitors across the region and state as they travel to visit the park. A study completed by Van Pelt and Kelly in 1988 states that day visitors to a state park spend on average $22 per day, and overnight visitors an average of $27 per day as a result of the visit. Similar studies done more recently suggest that this level of spending has grown, and a study is currently underway in Minnesota State Parks to update this information.

Ecological Subsection

Minnesota's ECS is part of a nationwide mapping initiative developed to improve our ability to manage all natural resources on a sustainable basis. It identifies and describes different landscapes, by integrating climatic, geologic, hydrologic and topographic, soil and vegetation information. The ECS is a management tool that: (1) describes the extent and content of various ecosystems, (2) improves resource managers abilities to predict how landscapes will change over time, and (3) allows resource managers to communicate more effectively with one another.

Minnesota is divided into 23 distinct ECS units called subsections. Cascade River State Park is located in the North Shore Highlands ECS subsection (Hargrave, 1996). This subsection occupies the area adjacent to Lake Superior (Figure 2). Lake Superior dominates this subsection. It moderates the climate throughout the year, acting as an air conditioner in summer and a heat sink in winter. In addition to Lake Superior, the region is known for it's rivers, each with distinctive gorges and dramatic waterfalls. The land

Figure 2: Ecological Classification System Subsections - North Shore Highlands



is gently rolling to steep, and exposed bedrock is common. Soils are shallow, formed of red and brown glacial till and rocky. Recognized for its biodiversity, the subsection contains significant northern hardwood and upland northern white cedar forests, much of which has been designated as Old Growth. Present land uses include recreation, tourism, and forestry.

Pre-European settlement vegetation consisted of white pine, red pine, jack pine, balsam fir, white spruce, and aspen-birch forests. Today, almost the entire subsection remains forested. However, following logging and other disturbances, white and red pine dominated forests have been replaced by forests of aspen-birch. Despite these changes, the wildlife population is relatively intact, supporting large predators such as wolves, bobcats, marten, and fishers, although the relative abundance of each species has changed. For instance, there were many more moose in this subsection prior to extensive logging activities and habitat alteration.

The North Shore Highlands has been identified by the Minnesota DNR Heritage Program as being a critical landscape for biodiversity protection with significant old-growth northern hardwoods and upland northern white cedar forests.

Regional Population Analysis

Cook County is the least populated county in Minnesota. According to the 2000 U.S. Bureau of the Census report, the total population in Cook County was 5,168 residents. By the year 2025, the U.S. Bureau of the Census estimates only a slight increase in the Cook County population. However, more recent population estimates show a somewhat higher growth rate than anticipated. The Minnesota Planning Agency recently estimated the population to be 4,595 residents in 1999, with a majority of residents living near the Lake Superior shore. Cook County has approximately 106,000 acres of privately owned land (about 11% of total lands in the county). Also within Cook County is the Superior National Forest, which includes the Boundary Waters Canoe Area Wilderness, (BWCAW), bringing the total of federally owned lands to about 648,000 acres, or 69% of total lands in the county.

Cook County is 1,450 square miles in size, averaging 3.17 people per square mile. The most populated city in the county is Grand Marais, which contains approximately 30 percent of the county's population. Directly to the southwest of Cook County is Lake County, which had an estimated 10,745 residents in 1999 according to the Minnesota Planning Agency. Directly to the north is Canada. The nearest major Canadian city is Thunder Bay, (about 100 miles from Cascade River State Park and 45 miles from the international border), with a population of 114,000.

Socio-Economic Region Description

Cascade River State Park is located in Cook County, approximately 80 miles northeast of Duluth, Minnesota, 100 miles southwest of Thunder Bay, Canada, and 265 miles northeast of Minneapolis-Saint Paul, Minnesota. The region's economy has always been based on natural resources–primarily tourism and timber. The Minnesota Department of Economic Security in 1997 stated that the greatest occupational absolute growth over the last decade in Cook County was in hotels, other lodging businesses, amusement services, and recreation services. Currently, 32 percent of the total Cook County workforce is employed by area recreation and tourism related businesses. The regional economy also relies on forestry related industries, retail trade businesses, contract construction companies, manufacturing firms, and small mining companies.

In 1998, The Minnesota Planning Agency reported the average income per capita in Cook County was just greater than $25,000 per year. Average total household income in the county is thirteen percent lower than for the State as a whole. Nearly one-fifth of households receive retirement income. Employment equals 70 percent of the population, suggesting a high participation rate in the work force and the presence of many non-county residents in the work force.

Regional Recreation and Tourism Opportunities

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

Overnight Use

Camping - Due to the location of the park within natural boundaries between a ridge land formation, the Boundary Waters Canoe Area, and Lake Superior; the ECS subsection was used to evaluate total camping opportunities present, rather than a circular radius around the park as is often used. There are 52 developed campgrounds located within the North Shore Highlands ECS subsection. Eight of these are State Park campgrounds (Table 1). Although State Parks are the most recognizable campgrounds along the North Shore, they account for a little less than 15 percent of the total number of drive-in campsites in the area.

Table 1. Camping Opportunities Within the North Shore Highlands ECS Subsection by Managing Agency

Managing Agency	**No. of Developed Camp-grounds**	**Number of Campsites**				
		Drive-In		**Backpack (Walk-In) (Canoe-In)**	**Cart-In**	**Group**
		Without Electricity	**With Electricity**			
State Parks (MN-DNR)	8	180	18	36	36	5
State Forests (MN-DNR)	4	67	0	0	0	0
State Trails & Waterways (MN-DNR)	0	0	0	43*	0	0
Superior National Forest	8	131	0	35	0	1
Grand Portage National Monument	0	0	0	3	0	0
Municipal	2	50	369	0	0	0
Private Ownership	23	258	297	0	0	0
TOTALS	52	686	684	117	36	6

*DNR Trails and Waterways manages 14 dispersed backpack/horseback campsites along the North Shore State Trail and the Superior Hiking Trail Foundation manages 29 backpack sites along the Superior Hiking Trail.

Non-Camping (Hotels/ Motels/ Resorts/Bed & Breakfast - There are over 135 privately owned businesses that provide overnight accommodations (non-camping) in Lake and Cook Counties**.** Facilities ranging from rustic cabins to hotels can be found primarily along the North Shore of Lake Superior. Cascade River State Park offers camping opportunities only. However, Cascade Lodge and Thomsonite Beach Motel and Resort, both offer overnight lodging, and are located adjacent to the park boundary. In addition, the nearby cities of Grand Marais and Lutsen offer numerous non-camping overnight accommodations.

Trail Opportunities

Hiking. There are nearly 530 miles of hiking trails within the North Shore Highlands ECS Section. Over 230 miles of this total are found in two long-distance trails, the Lake Superior Hiking Trail and the North Shore State Trail.

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

The North Shore State Trail is a 142 mile, multiple-use trail. Segments of the trail provide horseback riding and mountain biking opportunities. In the winter, the trail is groomed for snowmobile use. Seventy-five miles of the trail are open to hiking in the spring, summer, and fall seasons. The North Shore State Trail currently extends from Duluth to Grand Marais, and does not pass through Cascade River State Park.

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

Horseback **-** The North Shore Trail provides 75 miles of designated horseback riding trails at various places along it's present length between Duluth and Grand Marias. The Lutsen Village Inn offers three miles of private trails for horseback riding. Additional horseback riding opportunities exist along logging roads in the Superior National Forest; however, these logging roads are not officially designated horseback trails. There are no designated horseback riding trails in Cascade River State Park.

Snowmobiling - There are 617 miles of snowmobile trails along the North Shore, 142 miles of which are part of the previously mentioned North Shore State Trail. State Grant-In-Aid (GIA) provides 415 miles of snowmobile trails in this region. GIA trails are funded by snowmobile registrations and unrefunded gas taxes through the Minnesota DNR. Local units of government sponsor these trails and distribute the funds to local snowmobile clubs for trail development and maintenance. The GIA trails form a network that connects public lands and communities along the North Shore. Two miles of snowmobile trails exist in Cascade River State Park, primarily serving as a link to the larger trail network outside of the park.

Cross-Country Skiing - There are 470 miles of cross-country ski trails along the North Shore. The vast majority of these trails are groomed for classic or diagonal style use, although a few also offer skate style grooming. Although skiing is allowed on the North Shore State Trail, it is not groomed for this activity and no mileage is included in the total miles of North Shore cross-country ski trails. Cross-country skiing is not recommended on the Superior Hiking Trail because of its rugged alignment. A total of 17 miles of classic cross-country skiing trails are provided within Cascade River State Park.

Bicycling (Surfaced Trail or Road Shoulder) - The shoulder along the Scenic Highway 61 between Duluth and Two Harbors receives heavy use by bicyclists. The shoulder along Highway 61 is not an officially designated surfaced biking trail, and is therefore not included in the total bicycling miles for the North Shore. There are currently no significant surfaced biking trails along the North Shore north of Duluth, however in 1998, the Minnesota State Legislature designated the Gitchi Gami State Trail from Two Harbors to Grand Marais, a distance of 86.6 miles. Sections of this trail are currently being developed. Trail planners anticipate that State Parks will be destination attractions for trail users, and State Park staff will work with trail planners in identifying trail alignments through each park, including Cascade River State Park. No trail biking opportunities currently exist in Cascade River State Park.

Off-Road Bicycling (Mountain Biking) - There are 354 miles of off-road bicycling trails within the North Shore Highlands ECS Section. Seventy-five miles of the North Shore State Trail are open to mountain bike use between Two Harbors and Grand Marais. The Superior National Forest has four officially designated mountain bike trails that total 56 miles. There are also mountain biking opportunities along the logging roads within the Superior National Forest, but, because these are not officially designated mountain bike trails, they are not included in the total miles along the North Shore. No off-road biking opportunities exist in Cascade River State Park.

All-Terrain Vehicles/ Off- Highway Vehicles (ATVs/OHVs) - The Red Dot State Trail, near Silver Bay, is designated specifically for ATV use. The Red Dot Trail is a 28.9 mile Grant-In-Aid trail. State Forests also provide for ATV use between April 1 and December 1 on all State Forest roads and trails designated for multiple-use. The seasonal restriction applies because of potential conflicts and hazards between snowmobile users and ATV users. Grant-In-Aid snowmobile trails, the North Shore State Trail, and the Superior Hiking Trail are presently all closed to ATV use. A Cook County OHV plan is being developed, and will identify other potential OHV trails. OHVs are prohibited by statute from Minnesota State Parks, thus no OHV trails exist in Cascade River State Park.

Table 2. Trail Opportunities Within the North Shore Highlands ECS Subsection by Managing Agency.*

Managing Agency	**Hiking**	**Horse - back**	**X-C Skiing**	**Snow - mobiling**	**ATV**	**Bicycling**	
						Off-Road	**Surfaced**
State Parks (MN-DNR)	125.5	0	75.5	24	6.5	17.5	0
State Forests (MN-DNR)	2.5	0	0	23	0	0	0
State Trails & Waterways (MN-DNR)	237	75	59	142	0	75	0
Superior National Forest	47.5	0	14.9	12.5	0	56	0
Grand Portage National Monument	8.5	0	8.5	0	0	0	0
Grant-In-Aid	35	0	69.3	415.8	28.9	20.8	0
County (Cook and Lake)	0	0	148	0	0	56.9	0
Municipal	21.7	0	72.4	0	0	72.4	0
Private Ownership	51	3	23	0	0	56	0
TOTALS	528.7	78	470.6	617.3	35.4	354.6	0

* Trail miles from Minnesota DNR, Trails and Waterways Unit: “Border-to-Border Trail Study” July 1, 1999.

Other Day-Use Activities

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

Watercraft Access Facilities and Fishing Piers - Within the North Shore Highlands ECS subsection there are forty-four public watercraft access facilities. Eleven of these are boat ramps located on Lake Superior. In addition to Lake Superior, there are twenty-one boat ramps on a variety of inland lakes. The remaining twelve access facilities are carry-in access points (for smaller watercraft such as canoes and/or kayaks). There are a total of seven public fishing piers, only one of which is located on Lake Superior, at Grand Portage Bay.

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

Fishing - Numerous fishing opportunities exist in the North Shore ECS Section. There are over 140 fishable lakes and streams in Lake and Cook Counties. Eighty-five of these are state designated trout streams. Trout stream and Lake Superior fishing opportunities are available in Cascade River State Park. Limited stream fishing opportunities can also be found on smaller streams within the park, including Spruce, Cascade and Indian Camp Creeks.

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

Kayaking - 'Sea' kayaking is becoming more popular on Lake Superior. The Lake Superior Water Trail, authorized by the Minnesota Legislature in 1993, is a North Shore recreational opportunity that facilitates touring along the shore of Lake Superior. The facilities and extent of the Water Trail are still being defined, with a twenty mile Pilot Project Area between Gooseberry Falls and Tettegouche State Parks. This pilot area offers developed walk-in, backpack, and standard camp sites at Gooseberry Falls, Split Rock Lighthouse, and Tettegouche State Parks, as well as other public sites. Some of these campsites are available as "one-night maximum" rentals, and others for extended camping opportunities. Private lodges and resorts are also accessible from Lake Superior along the Lake Superior Water Trail. As this is a relatively new recreational opportunity along the North Shore, the pilot will allow Water Trail planners and public land managers to better understand the needs and impacts of water trail users, including types of facilities preferred.

In addition to 'sea' kayaking opportunities, the North Shore Highlands ECS Section provides many whitewater kayaking opportunities. The American Whitewater Affiliation lists four rivers in Lake and Cook Counties that are conducive to whitewater kayaking. Conditions are best in the springtime, and, to a lesser degree, during the summer and fall flood events. The Cascade River offers Class II - VI rapids for whitewater kayakers.

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

Visitor Use Patterns

Cascade River State Park is well known for the Cascade River and its waterfalls, flowing within a black volcanic rock gorge grown over with moss and ferns. There are numerous hiking trails along the river as well as trails that lead through birch, spruce, and remnant white cedar forest communities, many offering views of Lake Superior, the largest freshwater lake in the world. Most park trails connect with the Superior Hiking Trail and the North Shore State Trail, which make them popular among hikers and cross-country skiers. Drive-in and backpack campsites are available.

Recreational activities popular at Cascade River State Park include overnight camping, picnicking, hiking, skiing, fishing, wildlife observation, rock hounding, photography, and sight seeing. Visitor favorites include the waterfalls along the Cascade River, hiking to Lookout Mountain 600 feet above Lake Superior, and one-and-a-half miles of rugged Lake Superior shoreline.

Cascade River is a popular State Park, receiving over 140,000 visits in 2000. The vast majority of those were day-use visits. A little less than one percent (12,792 visits) were overnight visits. These figures have remained relatively static over the past ten years, although with multiple entry points it can be difficult to measure the exact number of day-users. Most visits to Cascade occur during the peak use summer months of July through September. During this time, the park campground is essentially at capacity most days of the week (especially weekends).

Table 3. Number of Day and Overnight Visitors to Cascade River State Park

Year	Day Visitors*	Overnight Visitors
2000	128,995	12,792
1999	145,813	13,123
1998	151,910	13,679
1997	149,393	13,824
1996	135,104	13,168
1995	154,952	13,941

*Estimates, day-useage is difficult to assess with multiple park entry points, and varying of staff available to conduct user counts

Campers are from a range of locations, with 5% from Northeastern Minnesota, 56% from the Twin Cities Metropolitan Area of Minnesota, 22% from Greater Minnesota and 22 % from outside Minnesota.

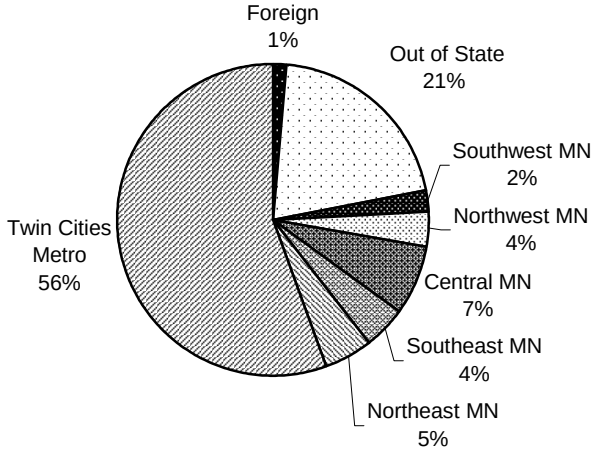


Table 4. Cascade River State Park 1998 Camper Origin

III. NATURAL RESOURCES

The following is an overview of what is presently understood about the natural features and resources of the Cascade River State Park area. The amount of information available for different segments of the park resources varies, with some aspects of the natural community studied and documented extensively (such as the geology) and others only generally (soils).

Inventory

Climate

Minnesota is subject to strong continental weather patterns including a wide range of possible temperatures, variable winds, and various precipitation including rain and snow. However, the relatively constant temperature of Lake Superior's water has a moderating effect on the lands adjacent to the lake, which includes much of Cascade River State Park. An example of this effect is that the inland areas typically experience below freezing temperatures two weeks sooner in the fall and two weeks later into the spring than do the areas near the lake.

At Cascade River State Park, typical temperature ranges are summer daytime highs in the low 70s and overnight lows in the 50s, to winter daytime highs in the mid 20s and overnight lows in the single digits. In nearby Grand Marais, there are recorded extremes of 100 degrees in January of 1935, and record low of -34 degrees in August of 1930.

The Cascade River State Park area generally receives 30 - 35 inches of precipitation per year, and can expect below freezing temperatures from late September to mid- May.

Geology

Dr. John Green's book, "Geology on Display, Geology and Scenery of Minnesota's North Shore State Parks" provides detailed explanation for Cascade River State Park, and is the source for the following text.

The bedrock belongs to the 1.1 billion -year-old North Shore Volcanic Group, as a sequence of unusually large and thick lava flows of basalt and a slightly more siliceous variety known as basaltic andesite. Thick layers of red sandstone were washed in by streams and deposited on the surface of the flow. This was followed by additional basalt lava flows. The sandstones exhibit cross bedding and ripple marks, evidence of deposition from a flowing stream, and have very little quartz in them. The sandstones are much more easily eroded than the lava flows, are so are topographically "recessive", forming coves along the shoreline.

The most prominent feature of the park area is a great basalt ridge known as the Terrace Point basalt flow with a steep north-facing slope, controlled largely by columnar jointing, and a more gentle southerly slope ("dip slope") toward the lake. This feature is known as a cuesta. Lookout Mountain is a point on this ridge that provides an excellent view of this feature. This cuesta, together with a series of others, are what give the area the name "Sawtooth Range." A major stream has cut through the cuesta, where the southerly dip of the basalt flow causes the scarp to bend in a downstream direction, creating a scalloped shape, or gaps. Examples include the gap in which County Road 7 lies, as well as those at the Cascade River, Indian Camp Creek, and Deer Yard (Spruce) Creek.

Another interesting feature within the Terrace Point basalt flow, the most erosion resistant layer, are the deposits of zeolite mineral Thomsonite in amygdules and other cavities. Although this (normally white), radiating, fibrous mineral is found in several other localities along the North Shore, the Thomsonite in this particular flow appears to be unique in showing the attractive concentric banding

and pink and light green coloring that make it a popular lapidary materials. Collecting is prohibited in the state park, although purchase opportunities are available nearby. At one time, consideration had been given to creating a Thomsonite Beach Scientific and Natural Area, however the idea was not pursued, and is no longer being discussed.

The spectacular gorge of the Cascade River is cut into the Terrace Point basalt. This seemingly unlikely situation may be explained by faults, where great blocks of rock have moved relative to each other. Displacement has caused crushing of the hard rocks, and probably had a major influence in localizing and facilitating the river's erosion of the basalt at this location.

Glacial and post-glacial deposits are another significant part of Cascade River State Park's geology. Ice sheets filled the basin north of the Terrace Point basalt cuesta with till, although in most of the rest of the park the ice was eroding, not depositing. In those places bedrock is either exposed or covered only with a thin soil, or else covered with post-glacial gravel and sand.

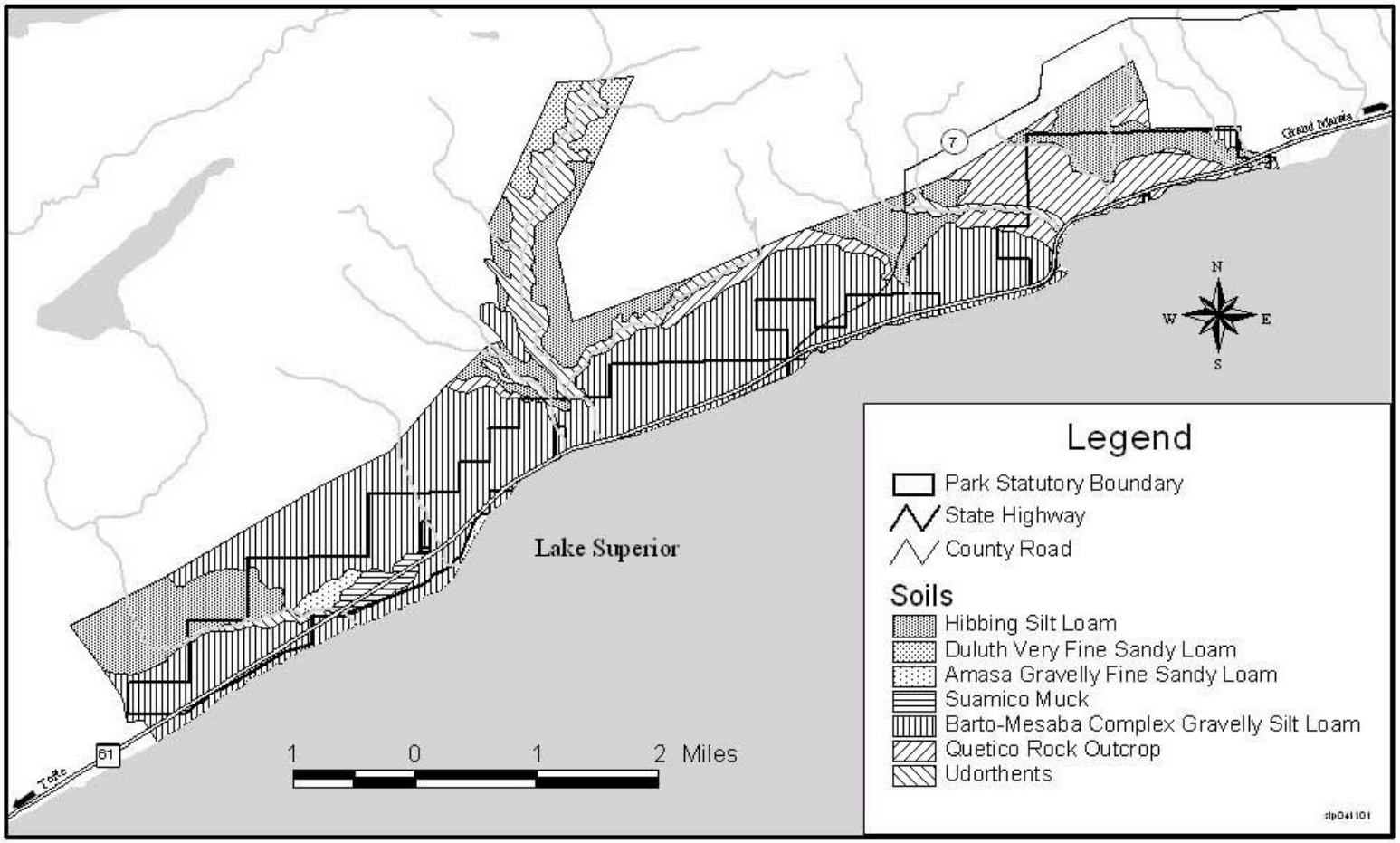
Sand and gravel deposits in the park, as at other areas along the North Shore, are related to the history of falling lake levels in the Lake Superior basin as ice was melting back to the northeast. Two deltas and some abandoned shoreline terraces representing higher lake stages are clearly expressed by gravel deposits within the park, including the big delta of the Cascade River itself. Walking along the Superior Hiking Trail as it follows the Cascade River corridor provides glimpses of these features. These terraces and deltas have attracted mining interests over the years, with over nine gravel pits once active in the park area.

There is an extensive post-glacial lake sequence record to be found in the many shorelines documented along Lake Superior. These shorelines tell a story of the varying lake depth, and also help provide context for archaeological study of human activity along the lake. These lake shorelines or geomorphic features, continue to erode, as the entire Lake Superior basin continues a deformation process, with the northeastern side still rising 10.6" per century and the Duluth area subsiding 8.6" per century.

Soils

Soil information beyond general classifications is not available for much of the park area, although the Lake Superior Shoreline and limited distances up the river valleys were surveyed by the USDA in 1977. The soil type map shows the portion of the park that has been surveyed, and the soils types identified (Figure 3).

Figure 3: Soils



The soils of Cascade River State Park are shallow, with soil depths ranging from exposed bedrock to 40 inches. As is true along most of the North Shore, the soils generally are poorly suited for development of facilities including buildings, water treatment facilities, and even trails. Limitations include the shallow depths, stony nature or poor drainage characteristics.

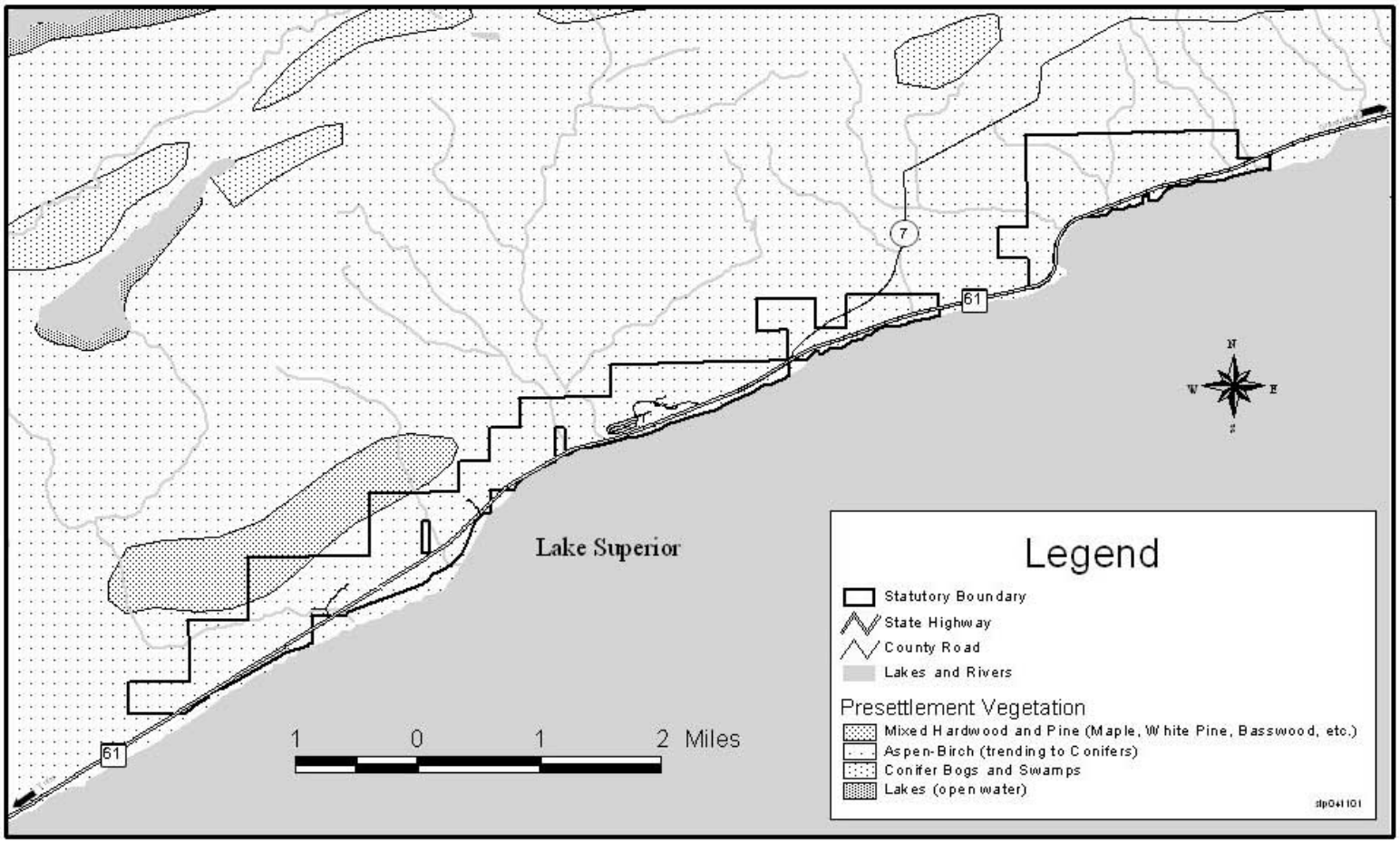
Table 5. Cascade River State Park Soil Types and General Characteristics

soil type	general characteristics	slope	development suitability comments
Hibbing Silt Loam 254B	well drained soil, subsoil 55-60% clay	2-6%	exhibits slow percolation, low bearing strength, high shrink-swell potential, suitable for trails if surface erosion is controlled
Barto-Mesaba Complex Gravelly Silt Loam 890BD	complex pattern with differing character, excessively well drained, seepage over bedrock common	2-18%	slow permeability rate, variations in characteristics and depth limit structural suitability. The Barto series tends to be susceptible to wind and water erosion.
Duluth Very Fine Sandy Loam 504BC	deep, well drained soil typically with layer of plant remains	2-12%	moderate to slight limitations for development, slow permeability, compaction, shrink-swell, low bearing strength and erosion tendencies.
Amass Gravelly Fine Sandy Loam 512BC	deep, well drained soils, loam over stratified sand and gravel. Low water capacity and low natural fertility	2-12%	rapid percolation rate in underlying materials, good potential for development and trails.
Quetico Rock Outcrop 952BD and 952EF	very shallow soils and surface bedrock, steep slopes, surface run-off rapid, seepage common	2-18% 18-60%	severe limitations to development, trails possible with erosion, safety concerns likely.
Udorthents 1020	steep slopes in clayey sediment, in steep valleys, somewhat to very poorly drained	18-45%	severe limitations to development, limited trails possible, requiring minimization of erosion.
Suamico Muck 550	nearly level, very poorly drained, herbaceous organic materials over clay.	0-1%	severe limitations to development, due to wetness, flooding, excess humus and low bearing strength.

Vegetation

Pre-settlement Vegetation - The natural vegetation of Cascade River and the surrounding area at the time of Euro-American contact included vast forest communities dominated by white pine, white cedar, sugar maple, birch, spruce, and fir (Figure 4). Like all forests, it included not only the obvious canopy trees but also the numerous soil, herb, shrub and understory components. Relatively little is known about this forest complex, although ecologists believe that the old forest community was the most biologically diverse stage of the successional sequence. Fires, wind, insects and other forces interacted with the vegetation, resulting in a dynamic community that flourished across a broad expanse of land. A description made by surveyors in the late 1800's says, “The soil in this township is of very good quality being composed principally of sand and gravelly loam. The surface slopes gradually towards the lake which gives it a fine appearance from the lake. The timber is principally white birch, spruce, fir, cedar, aspen and white pine–undergrowth spotted maple, fir, alder and hazel, which is distributed very equally over the township. There are several small streams which flow with a quick and rapid current in a southeasterly direction through the township and enter Lake Superior...”

Figure 4: Pre-Settlement Vegetation



In the late 1800's, logging activity began in earnest, and the forest underwent sweeping changes. First pines, then other species of trees were logged, and vast areas were opened up. These openings invited regrowth by aspen-birch, pine, and cedar successional communities. Intense fires were documented in many areas of young forest, inhibiting the survival of thepine and cedar seedlings in competition with early successional species such as the aspen and birch. Further change occurred as deer, not common to the older boreal forest community, now moved into this new forest structure, and were further able to flourish as wolf populations were reduced by hunting and trapping. This deer population browsed on the new growth, further inhibiting the success of the pine and cedar.

Over time, the logging industry adapted to the changed forest community, more people settled in the region, controlling the fires that were once a major agent of change. Forest and tree diseases and pests began to appear, such as white pine blister rust and spruce bud worms. A variety of ownerships were established over the years, including DNR forestry, parks and trust fund status on some lands, United State Forest Service owning others, and still more forest land owned by private commercial interests. These varying ownerships have different management strategies and goals, and have brought the region to the present, somewhat fragmented community.

Existing Vegetation - In 1998, field survey work was completed under contract for Minnesota State Parks at and surrounding Cascade River State Park. This work found that although there has been significant disturbance to the area through timber harvest, wildlife management, fires and other activities, some high quality natural community fragments exist within and surrounding the park, including some relatively undisturbed patches of forest communities that pre-date settlement. While the forest community likely existed as a mosaic due to soil conditions, drainage, and fire patterns, the implementation of different management actions based on boundaries determined by ownership rather than ecological nature has significantly altered the make-up of the forest mosaic. The 1998 survey documented the following natural communities (Figure 5).

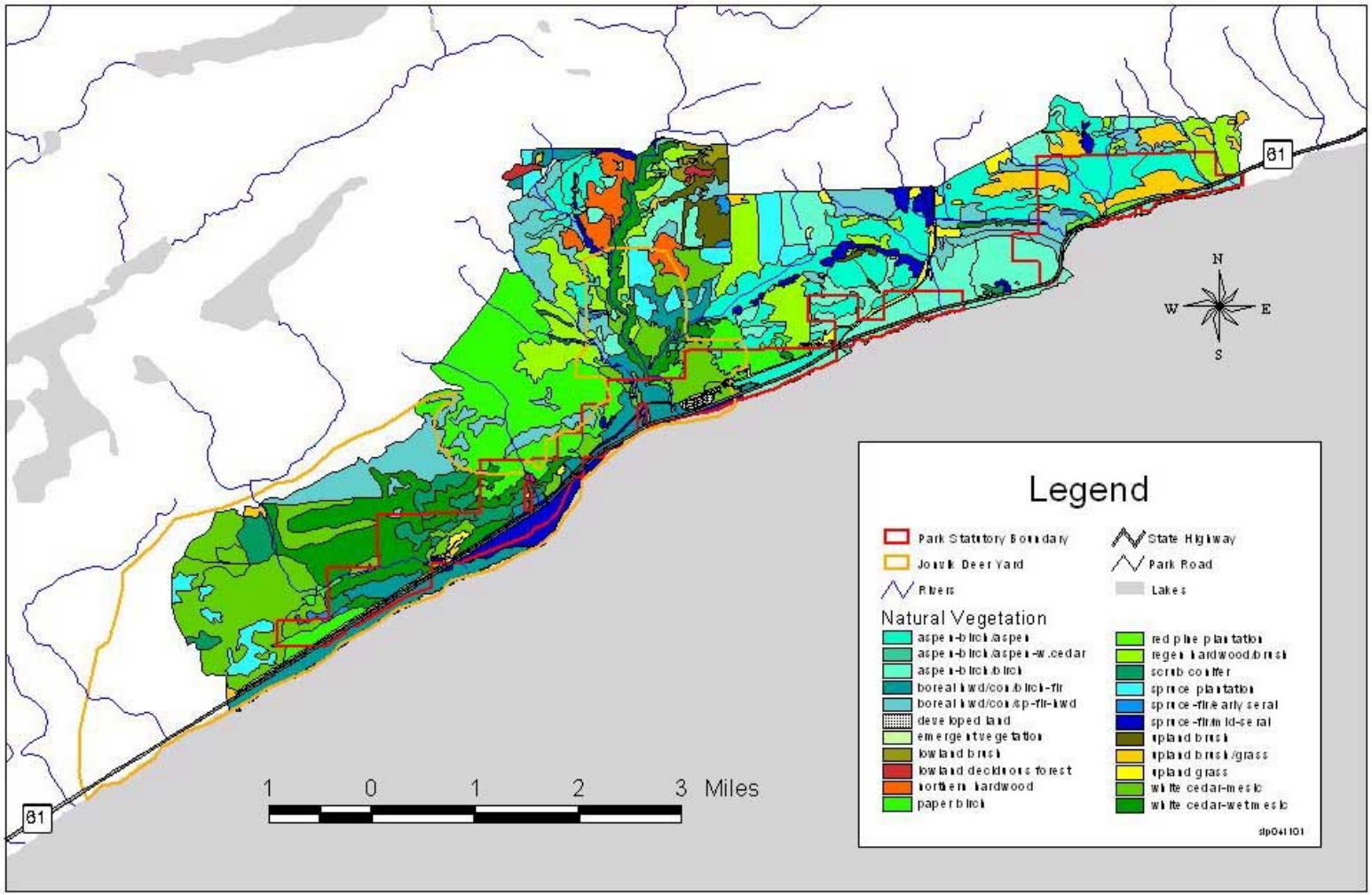
The white cedar forests occur along flat areas adjacent to the Cascade River and on steep slopes rising from the river flats to the top of the gorge. Ecologists and forest managers recognize the values of old forests, and in 1999, portions of the cedar communities with old forest characteristics were designated as Old Growth Forest, Cedar type. This designation requires that careful attention be paid to sustaining old forest characteristics, in keeping with the legislative requirement to set aside and manage significant areas of old forest in Minnesota.

In general, old growth is a forest that has developed relatively free of stand replacement disturbance over a long period of time, and consists of late successional stages of naturally occurring forests dominated by long-lived tree species. The forest is interspersed with old (120 years +), usually large trees and tree fall gaps. The gaps may be filled with a variety of tree, shrub, and herbaceous species. Old growth exhibits multiple canopy layers, structural diversity, a high frequency of snags and down logs in varying states of decay.

In Cascade, there are cedar forest areas that presently exhibit old growth characteristics, whether officially designated or not, and other areas that are developing old growth characteristics, and are candidates as future old growth. Because of the dynamic nature of forest communities, including old growth, there will be changes within the forest complex that will include early successional forest stages as well. In order to ensure that the old growth forest is sustained, forest managers agree that a number of representative complexes should be identified and managed. Cascade River State Park works with the MN DNR's Old Growth Forest Guidelines, and continues to seek opportunities to partner with other forested land managers, leveraging each agency's Old Growth efforts.

High impact, human disturbances to the forest community (such as logging or roadway development) are limited within the park, but there continue to be extensive impacts to the forest by deer. For decades, deer have sought winter shelter under the canopy of mature conifers in a yard area known as the Jonvik. The extent of the Jonvik is generally identified as shown on Figure 5, and includes portions of the western and southern portions of the park. Further discussion of deer is found later in this document, in the mammals portion, and in the recommendations chapter.

Figure 5: Existing Vegetation



The Jonvik has been extensively managed over the years, using methods that increase deer browse in winter, such as shearing, hand cutting, deer preferred plantings and rock raking. Wintering deer browse on nearly all vegetation within reach, including any naturally regenerating white pine and cedar seedlings. This has resulted in a forest community that is unable to regrow these trees, with the few seedlings able to survive the browsing doing so as stunted, dwarfed shrubs. Resource managers agree that establishing a healthy diverse forest will require limiting deer browse. Managers also note that the white pine (and cedar) presently serving as seed sources for the regrowth are mature to over mature, and efforts to re-capture a more biologically and age diverse community must be undertaken while these source trees exist.

Another area of note within the present park are the old gravel pits sites within the park. Located within the general bounds of the traditional deer yard, the original intent by area DNR Wildlife managers was to maintain these areas as a wildlife pond. However, over time this proved to be ineffectual, and currently, seedling white pine are found at the site. DNR Parks resource managers along with other area DNR managers agree that effort should be made to assist these seedlings survival, using methods such as deer exclosures and seedling cages. Additionally, park resource managers are working to identify and plan for other areas that may benefit from excluding deer to prevent browse during the crucial growth periods.

The Cascade corridor itself presents an interesting natural community and has been the focus of extensive efforts both in preventing compaction and erosion and in protecting seedling white pine through individual cages.

Additional forest vegetation details can be found in the report of the 1998 survey, and details of the Lake Superior shoreline are contained in the Butterwort Cliffs Scientific and Natural Areas resource inventory.

Water

Surface Water - Lake Superior, as mentioned earlier, dominates the North Shore Highlands landscape region and the region's climate, and it is a defining feature for Cascade River State Park, providing the park's eastern border. As the largest freshwater lake in the world, Lake Superior is 350 miles long, 160 miles wide, with an average depth of 489 feet and a maximum depth of 1,335 feet. Total shoreline is 2,726 miles and is largely uninhabited, due to poor soils, thick forests and rugged shorelines. Cascade River State Park lies within the Lake Superior watershed, as does most of the arrowhead region of Minnesota.

The Cascade River is a 17.2 mile-long river flowing through mostly public lands and draining into Lake Superior. River and stream water quality is generally good. It drops a total of 1400 feet, with over 900 feet of the drop in the last three miles. A 1996 assessment of the Lake Superior Basin and associated tributaries found the Cascade River to generally support aquatic life that would be present under the most natural conditions, although it recognized that unless care is taken to ensure that sound forestry practices are followed in the river's watershed, this could quickly change. Fisheries personnel from the DNR have managed for various native and non-native game fish over the years as well. Some sedimentation has been noted resulting from erosion at the river near County Road 45. The 1996 assessment also found the Cascade River water quality to be good for swimming. However, waterfalls, rapids and other natural features in the lower one-quarter mile represent hazards, and swimming is discouraged in and near those areas.

Several small streams occur in Cascade River State Park, including Spruce (or Deer Yard), Indian Camp, Cutface (or Good Harbor) creeks and five unnamed creeks. Spruce, Indian Camp and Cutface creeks are typical North Shore streams, three to five miles long, with diminished or intermittent flows in summer, and occasional falls and cascades. Both Spruce and Cutface creeks have natural barriers to lake run fish. Little study or management has been given to the unnamed creeks. The streams and rivers in this lower portion of the Lake Superior watershed have little storage capacity, and respond quickly to rainfall events, as well as having low flow during drier seasons.

Natural seepage or spring areas are found at various locations in the park**.** One such area is the eastern end of the present campground. This has resulted in a need to build up roadways and camping spurs, which in turn are barriers to natural drainage.

Ground Water - Ground water at Cascade River State Park, as for much of the shoreline of Lake Superior, is from the Keweenawan Aquifer, and is difficult to attain and of inconsistent quality, and can be a limiting factor in development proposals. Well depths required typically are great, capacity is often low and variable, and the water itself is often salinic due to the characteristics of the minerals in the soils. Recharge tends to be slow as well, in areas of clay deposits over bedrock or till.

There are several wells at Cascade River State Park, as follows:

Table 6. Cascade River State Park Well Information

Location	Depth	Year	Capacity
Campground	196'	1967	1.5 gallons/minute at wellhead
Shop	270'	1982	15 gallons/minute
Contact Station	430'	1985	Unknown

Wildlife

Mammals - The forest community of Cascade River State Park and surrounding region has traditionally supported large mammals including black bear, moose, and wolf. Also documented in the region are many other species, such as bobcat, pine martens, weasels, and rodents including beaver, red squirrels and various voles, shrews and mice. As mentioned, although large expanses of forest remain largely undeveloped, there have been habitat changes. Two species in particular are affected, the timber wolf and the white-tailed deer. Wolf populations were nearly decimated due to hunting pressure, and were listed as a federally endangered species and Minnesota threatened species. In recent years, however, protective management has allowed their numbers to rebound. Presently, wildlife managers believe that the wolf population has recovered to a level that will allow it to be removed from the endangered species list. A wolf management plan will help guide actions as this large predator lives within a more “settled” forest landscape including towns, recreational trails, farms, homes and roadways.

Very few white-tailed deer were known in the Cascade River State Park area around 1900, with a 1914 estimate of only 900 animals in the entire Superior National Forest. However, the changed forest community following logging, intense fires and subsequent regrowth proved more hospitable to deer, and in 1929, more than 7,800 deer were estimated in the Superior National Forest. In order to survive the deep snow, low temperatures and other winter conditions, deer sought out yards, areas with natural thermal cover from mature cedars, south facing slopes, and shelter from wind, (although yards do not always provide adequate food and browse). The Jonvik is perhaps the largest such area in Minnesota, encompassing over 5,000 acres.

By 1929, notes indicate that young and seedling white cedar had practically disappeared from the Jonvik due to browse pressure. Wildlife, park and forest managers alike were concerned about the sustainability of the forest community, and along with it, the deer, under the changed conditions. The first deer exclosure was built in 1939, and various other management techniques have been applied in the intervening years to address the survivability of both forest and deer. In the 1970s, management plans were written to address the concern, calling for a DNR team approach, utilizing the knowledge of wildlife, park, and forest specialists. The previous Cascade River State Park management plan recommended several actions related to white-tailed deer issues, including a reconfiguration of park boundaries, taking some areas of the Jonvik deer yard out of the park. This would have allowed more manipulative management of the forest for deer benefit to occur in those

areas, a practice not consistent with State Parks' purpose as defined by the Outdoor Recreation Act of 1975. Due to funding shortages, changing forest management philosophy, increasing diversity of recreational interests, and other factors, only minor portions of these original plans were completed.

White-tailed deer management along the North Shore continues to be a challenge, with roadway mortality, loss of winter cover, inadequate browse, and more to consider. Deer are a component in the present day, multi- faceted, dynamic forest landscape.

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

Black bear are year-round residents of the park. Oak woods have been shown to be regionally important to bears preparing for hibernation; they will travel many miles to feed on 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.

Birds - The highest general bird species richness for any area north of Mexico is found in the Northern Superior Uplands ecoregion, with 121 species known to utilize the vast areas of boreal forest, lakes and rivers. Thus, birds constitute a major component of the northeastern Minnesota's biodiversity, including the Lake Superior Highlands, and Cascade River State Park. Although a formal bird count and survey has not been completed for Cascade River State Park, it can be assumed that many of the known species in the ecoregion are found at the park. The Superior National Forest reports indicate that birds make up nearly 70% of the vertebrate species in the forest. A few are permanent residents, such as Ruffed Grouse, the Great Gray Owl and Boreal Chickadees, while many others are migrants, either short distance (continental) or long distance (neotropical). These forest birds have drawn attention in recent years as habitat needs are studied, with particular attention being paid to the neotropical migrants, whose southern range habitat is increasingly threatened. The forest community at Cascade River State Park and the surrounding landscape provides large blocks of habitat, including old forest areas, that are known to be important for many forest interior bird species. Further study and understanding is required to ensure that the forest/ bird resource is sustained and benefited, especially as land management practices including timber harvest and development pressures increase in the northern forest area.

Some forest bird species that are associated with large blocks of mature forest and are of particular concern include:

- Pileated Woodpecker
- Least Flycatcher
- Veery
- Solitary Vireo
- Red-Eyed Vireo
- Black- Throated Blue Warbler
- Black & White Warbler
- Blackburnian Warbler
- Black-Throated Green Warbler
- Ovenbird

Reptiles and Amphibians - Relatively few reptiles and amphibians (known collectively as herpetofauna) are typical residents of the natural community types found in Northeastern Minnesota. Herpetological surveys have not been completed for Cascade River State Park. Cook County, however, does have a herpetofauna species list, as shown here, and many or most of these may be expected at the park. The Snapping turtle is presently listed as a Special Concern species within Minnesota.

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

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

Fish

Cascade River - Fish surveys and assessments have been done several times and at differing locations on the Cascade River. The Cascade River has long been managed as a fishery with stocking taking place off and on since 1906. Different river segments are suitable for different species. The first 13 miles are coldwater miles, supporting native brook trout. Trout require clean, cold, well oxygenated water, with brook trout seeking temperatures below 68 degrees F and DO at 6-7 ppm, although they can survive limited exposure to higher temperatures of lower oxygen levels. The eggs require water temperatures below 53 degrees Fahrenheit, and can take 50-100 or more days to hatch, depending on temperatures. The final four miles is of warmwater stream type and supports northern pike. Additional fisheries management includes assessment of steelhead in the lowest three miles of the river, and stocking of chinook salmon at the three point six mile point. Fisheries staff hope to maintain fishing opportunities in the Cascade, specifically steelhead, chinook salmon and brook trout, as detailed in stream management plans.

The following species have been documented, including some game species introduced by stocking, as noted. The non-native species may only be present during times of active stocking, although some exhibit natural reproduction after an initial stocking event.

River/Inland Lake Species
Brown Trout (introduced)
Brook Trout
Central Mudminnow
Finescale Dace
Blacknose Dace
Longnose Dace
Longnose Sucker
Mottled and Slimy Sculpin
Common Shiner
Smallmouth Bass
Walleye
Creek Chub
Darters (spp.)
White Sucker
Yellow Perch

Anadromous Species
Steelhead (Lake Superior strain of rainbow trout)(introduced)
Pink Salmon (introduced)
Chinook Salmon (introduced)
Rainbow Trout (introduced)

Creeks - Several small streams and creeks are found all or in part in Cascade River State Park, including Spruce, Deer Yard, Little Cascade, Cutface and Indian Camp. Less attention has been paid to these smaller waterways as fisheries, although some brook trout habitat improvement work has been undertaken at Spruce Creek. Cutface Creek has been stocked periodically, although little active management has taken place in recent years, and the completed roadwork on Highway 61 recently altered stream flow. A 1987 fisheries report for this 3.2 mile stream indicated that rainbow trout and brook trout were present, although stream flows were noted to be quite variable and limited the establishment of a brook trout population.

Lake Superior - Lake Superior is a complex lake environment. Much activity and interest has surrounded the lake's fishery, with such native species as lake trout and lake whitefish being economically and culturally significant, and introduced species (including the harmful sea lamprey) also significant. The following is excerpted from the DNR's 1995 Fisheries Management Plan for the Minnesota Waters of Lake Superior:

"The Lake Superior fish community has undergone dramatic changes since the mid-1900's due to over-fishing, introduction of non-native species, pollution, and land-use changes in the watershed. Since the 1950's the Lake Superior fish community has become much more complex, and is now composed of both native and non-native species. The most devastating introduction to the Lake Superior community has been the sea lamprey, which virtually eliminated the lake trout in all but a few isolated areas of Lake Superior. Since the 1960's rehabilitation efforts, including sea lamprey control, harvest regulations, and stocking programs, along with stricter pollution standards and best management practices for land use, have led to partial restoration of healthy fish stocks.

Lake Superior is the least productive but most pristine of the Great Lakes and has demonstrated the capacity to support self-sustaining fish populations through natural reproduction. The plan emphasizes the continued need for habitat protection and the desire for managing self-sustaining fish populations that are best suited to the lake's environment."

Invertebrates - Little data exist for invertebrates in Cascade River State Park and the surrounding natural communities, although there are several species of butterflies known to utilize bog / peatland habitat in Northeastern Minnesota. However, detailed data on actual presence or abundance of butterflies, habitat needs, and land use impacts on that habitat is not available.

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 geological 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 database, known as the Rare Features Database. The County Biological Survey is presently working in Cook County, however, it is difficult to ensure that survey work for animal and plant species is comprehensive, and the lack of data shall not be construed to mean that no significant features are present. There are two identified landscape features in the database, the Cascade River falls themselves, and a depositional sediment formation.

There are a number of mammals currently listed as special concern status in Minnesota that might be expected in or near the park. This list includes the Northern Myotis, a species of bat, the Heather Vole, Rock Vole, and the Marten.

Known Rare Plants within the Park -

Hudson Bay Eyebright (*Euphrasia husoniana*) State Status : Special Concern
An arctic-alpine species with southern range including the northwestern shore of Lake Superior, populations of this plant grow on rocks and in rock crevices along the shoreline.

Franklin's Phacelia (*Phacelia franklinii*) State Status: Special Concern
Known to occur in park vicinity, although not recently reconfirmed.

Intermediate Sedge (*Carex media*) State Status: none
Observed along rock shore of Lake Superior.

Pale Sedge (*Carex palescence*) State Status: to be determined
Observed in park.

Neat Spike-Rush (*Eleocharis nitida*) State Status: Threatened
Found in moist to wet clay loam soil habitats in shallow waters and marshy spots with sparse vegetation.

Small Flowered Woodrush (*Luzula parviflora ssp. Melanocarpa*) State Status: Special Concern
Found along trails in open canopy of mixed boreal hardwood and old conifer forest.

Butterwort *(Pinguicula vulgaris)* State Status: Special Concern
Found along the shore rocks of Lake Superior, rooted in fragile vegetation mats.

Known Rare Animals within the Park -

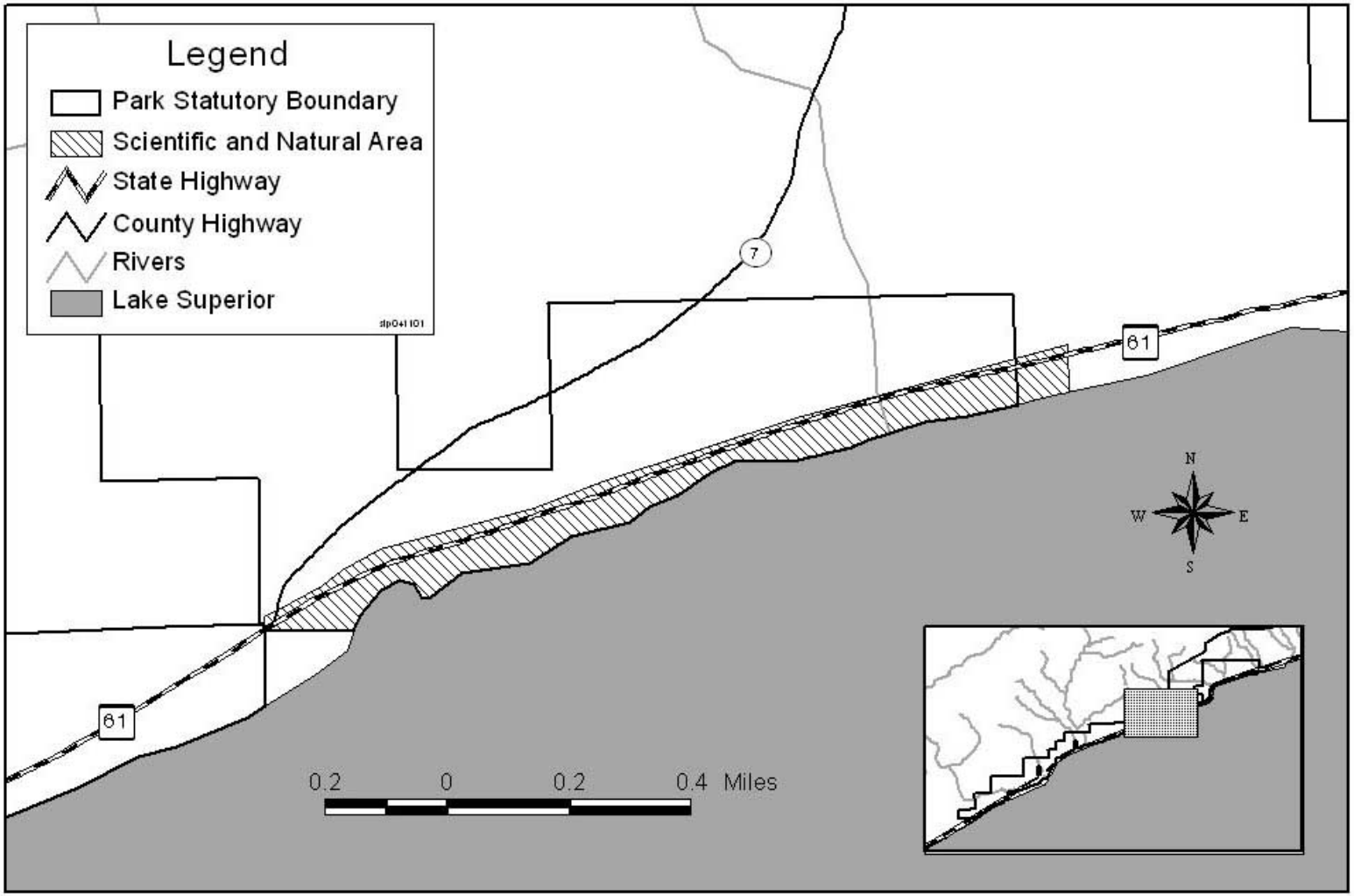
Timber Wolf (*Canis lupus*) Federal Status: Threatened (in process of being de-listed) State Status: Special Concern Wolves are sighted in and around Cascade River State Park on a regular basis. Many public discussions have been held recently in developing a state wolf management plan. Once this is adopted, federal de-listing will occur.

Butterwort Cliffs Scientific and Natural Area

Within the boundaries of Cascade River State Park is the Butterwort Cliffs Scientific and Natural Area, or SNA (Figure 6). The SNA includes 50 acres of land in a narrow strip between Highway 61 and Lake Superior. Natural community types found there include a wet rock shore immediately adjacent to Lake Superior, and Aspen-Birch forest. The bare basalt rocks and wave-swept rocky ledges of the shore provide habitat for rare arctic-alpine plants, lichens and mosses. Additionally, a Herring Gull nesting site is supported there, and the semi-precious mineral, Thomsonite, is found in the underlying igneous rock formation of the SNA. The forested portion of the SNA primarily includes 50 - 70 year old stands of quaking aspen and paper birch, likely appearing as a result of logging and wildfires**.**

There is little pedestrian traffic in the SNA, with no developed trails or parking provided. The gull nesting site is closed to public access from May 15 - July 15, and collection of Thomsonite on state land is prohibited, although some unauthorized collection likely still occurs. Several species of special status designation in Minnesota have been recorded at the SNA, including the SNA's namesake Butterwort plant, and are detailed in the preceding section describing Endangered, Threatened and Special Concern Species.

Figure 6: Butterwort Cliffs Scientific and Natural Area



Goals and Objectives

Management of state park lands, and the natural resource communities they harbor, is guided by language defined in Minnesota Statutes, Chapter 86a. 05, Subdivision 2c), which says, in part, “State parks shall be administered by the commissioner of natural resources in a manner which is consistent with the purposes of this subdivision to preserve, perpetuate, and interpret natural features that existed in the area of the park prior to settlement and other significant natural, scenic, scientific, or historic features that are present. Management shall seek to maintain a balance among the plant and animal life of the park and to reestablish desirable plants and animals that were formerly indigenous to the park area but are now missing.”

Given this broad directive, park and resource managers have identified areas and actions that will ensure that park land management is consistent with this mandate. The significant areas mapping chapter outlines some of these areas, as shown on the 20-year Outlook Map for Natural and Cultural Resources, on page 56. The level of funding, time and staffing available will limit the volume of actions possible during the life of this plan, but over-all goals are clear. Park staff should be pro-active in managing the natural resources of the park and set an example for private landowners, park visitors and other land managers to emulate. This might include working with interested neighbors and volunteers to monitor and manage exotic species, to assist with forest re-growth efforts such as white pine caging projects or to protect known significant features, such as orchids that are found in the powerline corridor.

There are many techniques and tools available to resource managers today, such as deer exclosures, prescribed fire, bud capping, and selective cutting. Over time, new tools will likely be developed as well. Resource managers should draw from this collection of management options to best manage resources, within the park and as a part of the larger forest landscape. The following recommendations have been defined by park staff, resource managers and the CAC. No order of priority is given.

Natural Resource Management Recommendations

Protect threatened, endangered, rare, and/or significant plant and animal species.

> Discussions with staff and citizens along with information from general public comments indicated a desire for the park to identify, protect and perpetuate rare or unusual natural features. As articulated by the park vision, the park should be a place where visitors may experience the dynamics of the natural community as it existed prior to European settlement. This recommendation stems from a desire to see the ecological integrity of the ECS region captured at the park, acknowledging that some features or species may have been limited in range even under original natural conditions**.**

Continue forest management activities that perpetuate and expand forest diversity to be representative of pre-settlement conditions, including areas of Old Growth cedar and white pine.

> Emphasize and retain the undeveloped character of many portions of the park. Consider a range of resource management tools. The dynamic nature of forests needs to be understood and valued by park visitors, and the park can serve as a place for these visitors to experience and learn about northern forest communities, growth and successional patterns, diversity of forest fauna and forest management techniques and impacts.

Recommend general deer hunting season be allowed within a park expansion area.

> Do not include the present park lands, including developed areas of campgrounds and high visitation areas. As deer became more prevalent in the northern forest region, deer hunting became a highly valued, traditional recreational use in the forest areas adjacent to the original park. Local residents and wildlife managers recount a history of attention and concern for the Jonvik deer yard area. There is also an identified public safety concern with an increase in deer numbers, as statistics document an

increase in the number of deer- vehicle collisions in the vicinity of the deer yard and the park.

State parks are defined in Minnesota Statutes as game preserves, although the Commissioner of the DNR can authorize special management hunts. Deer hunts can provide state parks with another management tool, helping to reduce browse impacts by reducing the number of deer within an area. There is no change to present hunting status on non-park owned lands, even if within a proposed expansion area or within a park statutory boundary.

Manage, improve and/ or restore river fishing opportunities for native fishes in the Cascade River and the smaller creeks within the park, working with the DNR Fisheries Manager.

State Parks value fish as a component of the larger ecosystem managed within the park landscape. Fishing opportunities, for native and for naturalized and stocked species, are recognized recreation choices for park visitors. The Division of Fisheries has stream plans developed for the Cascade River, and State Parks will continue to work with the fisheries staff to coordinate management efforts. State Parks place particular interest in the fish native to the streams and rivers at Cascade. These species can be benefitted by management actions such as restoration of original riffle and pool areas in streams and restoration of original flow patterns and pathways (many streams were manipulated during periods of intense logging, both intentionally and incidentally). As the natural communities are managed within the watershed of the streams and rivers, attention will be given to benefitting the stream and river habitats themselves.

Protect and/ or restore the Cascade River Corridor natural community, and other river and stream resources within the park.

The Cascade River, although relatively short at just over 17 miles in length, supports a unique and varying community along that length. The CAC understood that the river has been and will continue to be a visitor attraction, concentrating traffic in this sensitive area. Over time, the number of visits to the river and river overlooks has increased, and trends indicate will continue to increase. This visitor use has impacts, including compacting soils, limiting vegetation regrowth, and more. Additionally, deer browse has impacted the cedar and white pine regeneration in the corridor itself, although the steepness of the slope can self-limit the ability of deer to access the river.

Remove or control exotic species, monitor progress of non-native vegetation along corridors of disturbance including trails, roadways and power lines, and develop strategies for control.

Resource staff state that any corridor created in and through natural areas becomes a conduit for non-native vegetation, particularly when the corridor is maintained as a broad opening, such as roadways and powerlines. Resource managers acknowledge that it is very difficult to prevent or completely stop many aggressive non-native species, and it is preferable to limit the number of corridor openings required.

Continue to expand natural resource inventories and data.

Develop techniques to monitor and evaluate natural resource management actions. As new information becomes available it enables a better understanding of the interactions of components in the natural community, and the management efforts used. Currently, the County Biological Survey is underway in Cook County, and when completed, will vastly expand the base knowledge of the natural communities within the region. However, this will provide only baseline data for sites surveyed. As a dynamic system, the natural community will require further inventories and study to continue to grow the understanding of management actions and practices. This is true for all areas of the park, although in regions with intense visitor use, such as along the Cascade corridor itself, or with radically altered communities, such as old gravel pit areas, it is a vital need. Resource managers must have the ability to compare and evaluate actions and impacts in these areas to ensure retention and improvements to the natural communities themselves.

Research and Monitoring Needs

Research and monitoring activities are key to long-term stewardship success for the park's natural resources. Using the best science available, and measuring the results of management actions is essential as managers seek to provide the best resource management possible.A clear record of what is known, what has been learned and what is anticipated will make it possible for managers to adapt over time, as the resource needs change or are better understood.

Suggested research and monitoring includes:

- Encourage inventory 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 on vegetation, visitor impacts along the Cascade River gorge, trail erosion, exotic species, and the success of conifer caging efforts.)

- Implement monitoring program for key resource concerns. Link knowledge gained from monitoring to management decisions including: funding requests for resource maintenance and restoration; trail maintenance priorities and funding needs; and decisions on limiting or improving access to high quality resource areas.

- Work to strengthen and develop relationships with colleges and universities and encourage them to use Cascade River State Park 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.

IV. CULTURAL RESOURCES

Archaeological and Historical Setting

The Cascade River State Park area has been the site of human activity for thousands of years, although information and data are limited for some periods of history. Evidence suggests that people have occupied the region since the most recent glacial retreat of about 10,000 years ago. Groups likely to have been present include those associated with the PaleoIndian tradition of 8,000 - 5,000 years BC, the Archaic people of 5,000 - 1,000 years BC, and the Woodland Culture of 1,000 BC to the 17th century.

In the 16th and 17th centuries, the Cree and other tribes moving west along the Great Lakes were displacing the Dakota, and by 1700 AD the Ojibwe people were on both the north and south shores of Lake Superior. The Ojibwe lived in small villages along Lake Superior's North Shore in the location of the present day communities of Beaver Bay, Grand Marais and Grand Portage. During this time, Europeans, including the French and later the British, established trading posts working with the Indians trading European goods for furs. This fur trade, largely concentrated in northeast Minnesota, continued until the 1870's, when the depletion of fur-bearing animals brought trade to a halt. Americans then looked to other economic opportunities in the region, and focused on activities including lumbering and mining.

Evidence of these logging days is found in many places, including the various sawmill and homestead sites that are documented in the vicinity of the park. Mail was delivered by the famed John Beargrease, along a route that passed through Cascade River State Park. A dogsled monument in his honor is found north of the park.

During the Depression era of the 1930's, the Cascade River was a focal point for CCC projects and camps. Remains from these camps as well as the construction that was completed by the workers can be found today in and near the park.

Identified Cultural Resource Sites

There are three documented cultural resource sites at Cascade River State Park, and an additional four sites in the proposed expansion area. Much of the park remains unsurveyed. Regular archaeological field testing prior to park facility development and roadway development led to the discovery of most of the known sites. Surveys by helicopter fly-overs and pedestrian coverage have been done for portions of the federally-owned land in the proposed expansion area, resulting in the four identified sites. A brief overview of the known sites follows.

Pre-Euro-American contact site

Located on a beach terrace dated to about 5,000 B.P. and identified as shoreline of the Deronda Phase of the Algonquin lake stage of Glacial Lake Duluth, this site in the present day campground area has revealed lithic artifacts. The artifacts, including basalt and jasper taconite flakes, were recovered in surface collection. No boundaries for site 21CK372 have been definitively determined, and further testing is recommended. This site is in a present day high use area, and it is recommended that efforts be made to minimize contact and conflict between present uses and the site.

Civilian Conservation Corps

There are several CCC sites in and near Cascade River State Park, located near the mouth of the Cascade River. The location of the former Spruce Creek Camp, a part of site 21CK372, is in the present day campground. The Spruce Creek Camp consisted of ten small structures that served as barracks for workers, and was operated by the highway department. The site today consists primarily of foundations, and further testing is recommended.

Several features that were constructed at the mouth of the river by CCC workers remain today, and have been nominated for inclusion in the National Register of Historic Places. A structure or facility included on the Register is preserved and maintained in the fashion it was constructed. At Cascade River, these include a bridge/culvert, an overlook wall, retaining wall, curb and stone, trail steps and more. These structures are largely intact, although some alteration has taken place, and many are a part of a highway pull-off and parking area on the southern side of Highway 61. With current plans to reconstruct the highway in this section, this wayside will be closed to vehicular access. It is recommended that the wayside historic elements be preserved, and made available to pedestrians only. The wayside, including the CCC trail along the Cascade River, is currently eligible and being considered for listing on the National Register of Historic Places.

Cut Face Creek Pits

Pit features were discovered during the reconstruction of Highway 61 in the Cut Face Creek area. Roadway design was altered to avoid impact to the sites. An archaeological investigation was undertaken to determine the extent and possible origin of the features. Generally, researchers agreed that the pit features could be compared to similar features in the region, known as “Pukaskwa Pits”. Recommendations include further, more intensive investigation of the features noted at this site, and exploration of another possible pit feature. Once the origin and significance of these features are determined, review of the archaeological survey report will detail recommended management.

Proposed Park Expansion Area Sites -

Site #	Name
09.09.02.379	Indian Camp Creek Camp
09.09.02.659	Possible Side Depressions
09.09.02.579	CR Wildlife Area Homestead/Dump
09.09.02.183	Good Harbor CCC Camp (This site is located on private property, and contains remnants of buildings).

It is recommended that if the proposed park expansion is completed, further investigation be undertaken at these sites, to determine level of protection and interpretation appropriate.

Goals and Objectives

Minnesota Statutes, Chapter 86a. 05, Subdivision 2c) outlines the expectation for historic or cultural resource management as well. Parks are to be managed in order “to preserve, perpetuate, and interpret natural features that existed in the area of the park prior to settlement and other significant natural, scenic, scientific, or historic features that are present. State park policy requires that cultural resource surveys be completed prior to facility development. Although demands across the Division of Parks & Recreation for their time are great, state park archaeologists are available to complete these surveys, and to prepare reports and make recommendations which assist park field staff in fulfilling the statutory mandates and Federal review requirements.

Cultural Resource Management Recommendations

Monitor and protect known cultural sites within the park, including CCC site(s), Cutface Creek Pits, and pre-contact sites.

In the early years of park development at Cascade, there was limited attention given to the existence of cultural sites in areas proposed for modern use. Upon recent examination, we find that high use areas of the park today were areas that historically attracted use as well. This has resulted in a layering of present, historic and pre-historic sites in some areas. Given that state parks seek to preserve, perpetuate and interpret sites such as this, efforts should be taken to reduce and eliminate present day impacts to known sites. A recommendation in the facility section regarding the high use area along the Cascade River is made, in part, to fulfill this mandate to protect cultural sites.

Continue to survey for cultural resources during park development and management activities.

This is standard practice in all state parks. When a cultural site survey determines the presence of cultural activities, the park manager and staff should work with the archaeologists in determining the best course of action to take in preserving, perpetuating and interpreting the cultural site.

V. INTERPRETIVE SERVICES

The Minnesota State Park System Interpretive Services Plan assesses the interpretive needs and niche of each park unit operated by the Division of Parks & Recreation. The Interpretive Services Plan used an analysis of the natural and cultural resource identity of the park, along with an analysis of the current and potential visitor use at the park. This plan indicates that Cascade River State Park falls within a group of parks that exhibit medium to high resource significance and high visitor use with seasonal peaks, and would merit programming 4-7 days a week during peak season. Parks in this category would also merit a seasonal interpretive center, indoor displays and exhibits, audio-visual programming, self-guiding trails and wayside exhibits.

A Park Unit Interpretive Plan (PUIP) for Cascade River State Park was in draft stage when this management plan was completed. The PUIP expands on the material discussed in this chapter, and explains more prescriptive measures for park interpretive staff.

Existing Interpretive Services

Currently, there is only limited non-personal interpretation at Cascade River State Park, including such things as trail center signage, displays and posters, regional brochures and information, and limited resource management interpretation. The Interpretive Services Plan proposes that Cascade River expand that interpretive effort to include being staffed with a seasonal naturalist or have occasional interpretive programming from a North Shore area naturalist, and increase non-personal interpretive efforts.

Goals and Objectives

Minnesota Statutes 86a, commonly known as the Outdoor Recreation Act of 1975 (ORA) together with the State Park mission statement defines the responsibility of State Park's to provide environmental education to the public. M.S. 86a.05 Subd 2, 3c requires management that "is consistent with the purposes of this subdivision to preserve, perpetuate, and interpret natural features that existed in the area of the park prior to settlement and other significant natural, scenic, scientific, or historic features that are present." The Division of Parks & Recreation views interpretation as a site specific, DNR sponsored, communication process, and has identified the following interpretive program mission:

"To provide accessible interpretive services which create a sense of stewardship for Minnesota's natural and cultural heritage by illuminating the changing relationships between people and landscapes over time."

Interpretive program goals are:

- To promote increased understanding, appreciation and enjoyment of natural and cultural resources in Minnesota by providing interpretive services that focus on specific park resources and park interpretive themes.

- To assist in protecting each state park's resources by providing interpretive services that focus on visitor and resource management.

- To promote public understanding of, involvement in, and support for, the Minnesota DNR and it's Division of Parks & Recreation through programs, information materials and by working with other divisions, agencies, and institutions on common resource and recreation issues.

- To increase public awareness of critical environmental problems on a local, state, national and

worldwide scope as a major provider of environmental educational experiences that explore the interrelationships between human activities and ecological systems.

Interpretive Themes

In attempting to fulfill this interpretive mission and work toward these interpretive goals, each state park interpretive program identifies the primary themes or stories that represent the resources of the park, and are relevant to the resource, the area, the visitor and the interpreter. At Cascade River State Park the primary resources themes are:

- The rocky Cascade River gorge with it's spectacular waterfalls was cut over time by water action.
- Unique geology including the complex story of Lake Superior's many basin changes is evidenced by formations at and near Cascade River State Park.
- The Lake Superior shoreline both provides habitat for fragile ecological communities and withstands the rugged forces of water and wave action.
- Panoramic views of the Sawtooth Mountains and the North Shore of Lake Superior can be seen from overlooks and trails within the park.
- Old forest communities, including cedar and white pine types, provide a diversity of life and forest structure important to the ecological health of the region.
- People's actions over time have resulted in many changes to the forest ecosystem.
- Known cultural sites at Cascade River State Park indicate that people have been present in the region for thousands of years.
- A unique mineral, Thompsonite, prized by rock and gem collectors, can be found in and near Cascade River State Park.
- Changes in forest composition and wildlife management have resulted in an increased deer population in the region. This population seeks winter protection in and near portions of Cascade River State Park, which collectively reduces the forest diversity as seedling trees are browsed.

Interpretive Services Recommendations

The CAC and park staff agree that interpretation is a vital component in ensuring that residents are environmentally literate and committed to environmental stewardship. Additionally, the CAC expressed a desire for the park to partner with the surrounding land owners and managers in natural community management, as well as with the local community in providing recreational offerings such that one interpretive effort complements another. The CAC felt that this partnership might best be enabled through the efforts of a staff person with job responsibilities dedicated to educational efforts, such as a park naturalist. The following recommendations detail the primary methods of achieving the goals outlined in the CAC vision statement.

Develop non-personal interpretive kiosks, brochures and information for park and Gitchi Gami Trail users.

Highlight park resources and themes, including geology, river and lakeshore, archaeology, and forest elements. To build a more environmentally informed and aware public, the CAC supported development of park specific materials to inform park visitors about resources, the development of materials that could be used by schools and other direct educational providers such as scouting

groups, and the development of materials that could be available in the local community at resorts and visitor information areas.

Provide an occasional personal interpretive program.

As outlined in the Division of Parks and Recreation Statewide Interpretive Plan, this programming would be available for both park visitors and the local community. Programming should be provided by a North Shore Area Naturalist, shared by parks within a reasonably close proximity and similar area of the landscape region. (Cascade River, Temperance River and Tettegouche State Parks.) Other resources should be utilized as well, including other DNR staff within the local area, community members and volunteers, and staff as available from other agencies including the US Forest Service and the National Park Service.

Develop materials and information to inform the public about the park, including park features and facilities, park policies, rules and fees to help manage and match visitor's expectations.

The CAC was concerned that park users and local residents may not always comply with park policies and rules, and thus have a negative impact on other user's experiences and on the park features themselves. It is preferable to have users *choose* rule compliance rather than needing *to enforce* compliance. Informed user groups are most likely to choose to comply with park policies and rules. The CAC wanted to ensure that park staff were empowered to develop and provide background and educational materials for park visitors regarding management policies and decisions. Additionally, the CAC acknowledged that changes are inevitable at Cascade River State Park and along the entire North Shore, whether as a result of Highway 61 roadwork, this planning effort, or larger sociological, natural and economic conditions. Special effort will be needed to foster an understanding of these changes, and to assist park users in respecting and valuing the efforts taken to maintain opportunities for future visitors to experience Cascade River State Park as it is today.

Strengthen cooperative relationships

To benefit the entire region, encourage cooperative relationships between the park, the Superior National Forest, and Cook County. Communication should be strengthened between the park and neighbor communities through news releases, websites and other mediums. The CAC felt there was an economic gain for all parties if accurate, timely information was available and provided through frequent and open communication.

VI. RECREATIONAL USE AND VISITOR SERVICES

Existing Facilities

Cascade River State Park currently provides the following recreation opportunities and facilities (Figure 7).

General Day-use Facilities

Picnic Area - A series of seven sites along the shoreline of Lake Superior (on the opposite side of Highway 61 from the main park, including the park office) were developed by the CCC. Presently these sites are accessed by car from Highway 61, or by foot trail from the main park. When the highway is re-constructed, the vehicle access will be eliminated, as it is does not allow adequate sight lines for motorists. Although number of users has not been measured, these sites are quite popular, and provide one of the few picnic opportunities directly adjacent to Lake Superior,.

Enclosed Picnic Shelter - Located within the main use area of the park, this shelter also serves as a warming house in winter, with a fireplace for heat. Typical users include family groups camping in the park, and day visitors. The shelter also provides some limited exhibit space. It can be reserved for a fee, but is reserved infrequently during the summer season.

Lake, River, Stream Fishing - Cascade River State Park offers several fishing opportunities near the mouth of the river, at the lake itself, and further upstream on the Cascade River. Number of users has not been measured. Walk-in access from roadside parking is available. However, due to the re-construction of Highway 61, some changes to the parking availability will occur. Recommendations for accommodating anglers are addressed later in the plan.

Waterfalls, Overlooks - The most widely recognized feature at Cascade River State Park is the series of waterfalls for which the river is named. These waterfalls are the primary draw for day visitors. Several strategically placed overlooks have been constructed to provide visitors with photo points and views, while minimizing vegetation impacts and safety concerns. Over 700 people per weekend day are estimated to visit the cascades area during the summer months.

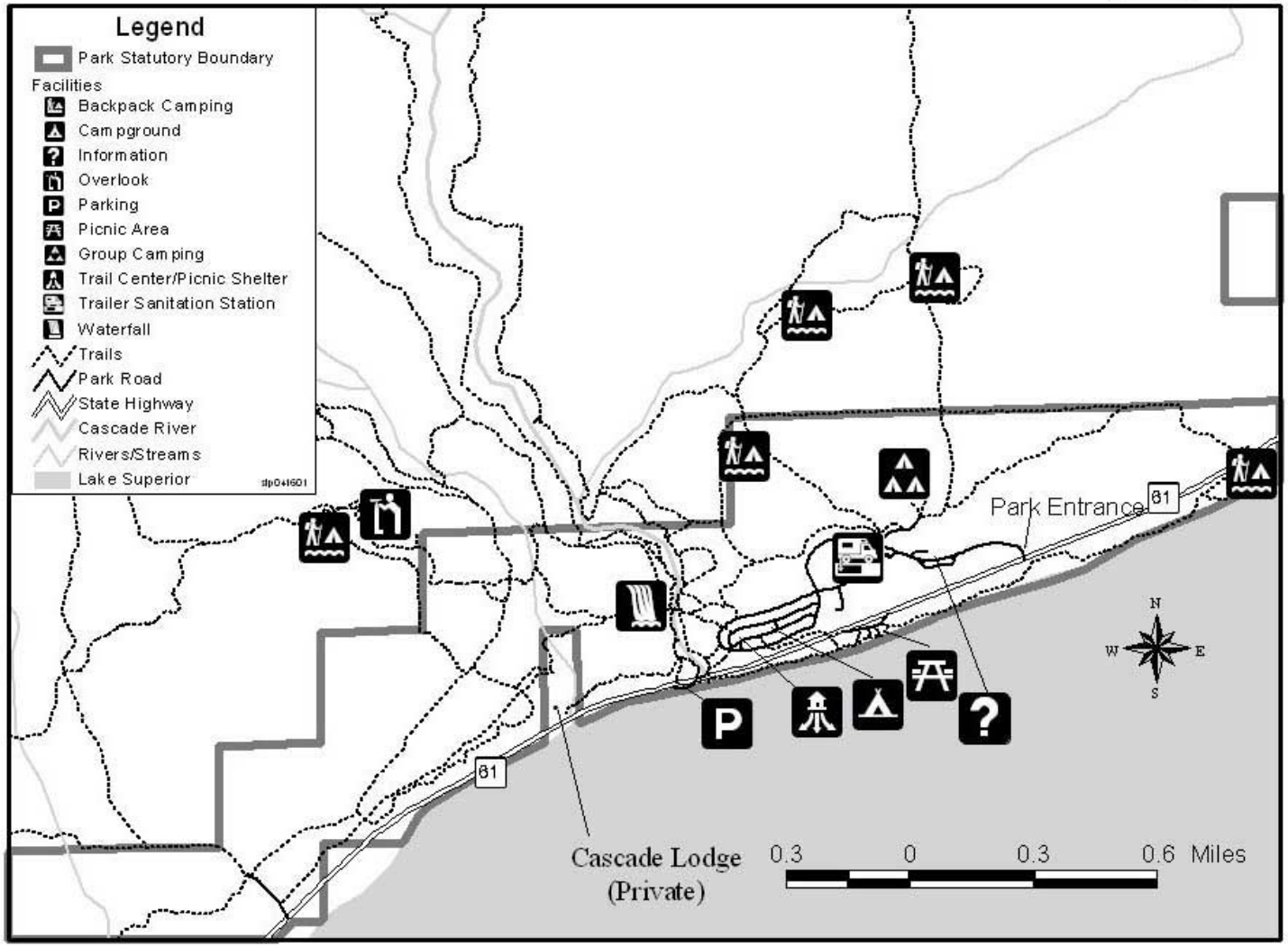
Overnight Camping Facilities

Most visits to Cascade occur during the peak use summer months (July through September). During this time, the park campground is at capacity most days of the week

Drive-in Sites – The campground offers a total of 40 non-electric sites. In winter, five sites are kept open and available in the A-Loop. There are three pull-through sites, with a 35 foot maximum recreational vehicle (RV) length, measured from front of tow vehicle to rear of vehicle being towed. The campground sites are generally unable to accommodate large motor-homes or RV's, and do not offer electricity, resulting in a self-selection for tents and other small camping units.

Backpack Sites - Five walk-in sites are located .5 to 1.5 miles from the parking area, including one near Lake Superior and one along the Superior Hiking Trail. Three of the sites are actually located outside of the park boundary on State Forest land, although park staff provides maintenance and park visitors are generally unaware of the distinction. The sites are all reservable, and are quite popular, especially during the fall color season. The site along the Superior Hiking Trail is frequently used by Superior Hiking Trail through hikers. The number of users has not been measured. Fire rings, "slammer" style toilets, and small three-sided shelters are found at each of the sites as well.

Figure 7: Existing Facilities



Group Camping - Cascade River State Park provides two group sites, each accommodating 20 people. These are open seasonally, can be reserved, and are popular among youth and scout groups. They are occupied most weekends throughout the summer.

Sanitation Facilities - Many users reference the “rustic” experience offered at Cascade River State Park, however, modern facilities are available. A seasonal sanitation building with showers and flush toilets is located in the campground. This building was constructed in 1973, and will require replacement or refurbishment in the near future. A seasonal dump station is also available at the park, constructed in 1987. Additionally, vault toilets are available year-round in the park, located in the campground and at the group camp.

Trails

Cascade River State Park is known for rugged trails opportunities, providing scenic views for day hikers, backpackers, cross country skiers, and snowshoers. A total of eighteen miles of summer hiking trails take the hiker through a variety of terrain, and connect to the larger trail network including the Superior Hiking Trail (Figure 8). Only 1.5 miles of the Superior Hiking Trail are actually located inside the park boundary. The remainder of miles, including the Lookout Mountain overlook area, are on Forest Service lands. Park visitors are usually unaware of the distinction. An estimated three-quarters of park visitors hike some portion of the trail system.

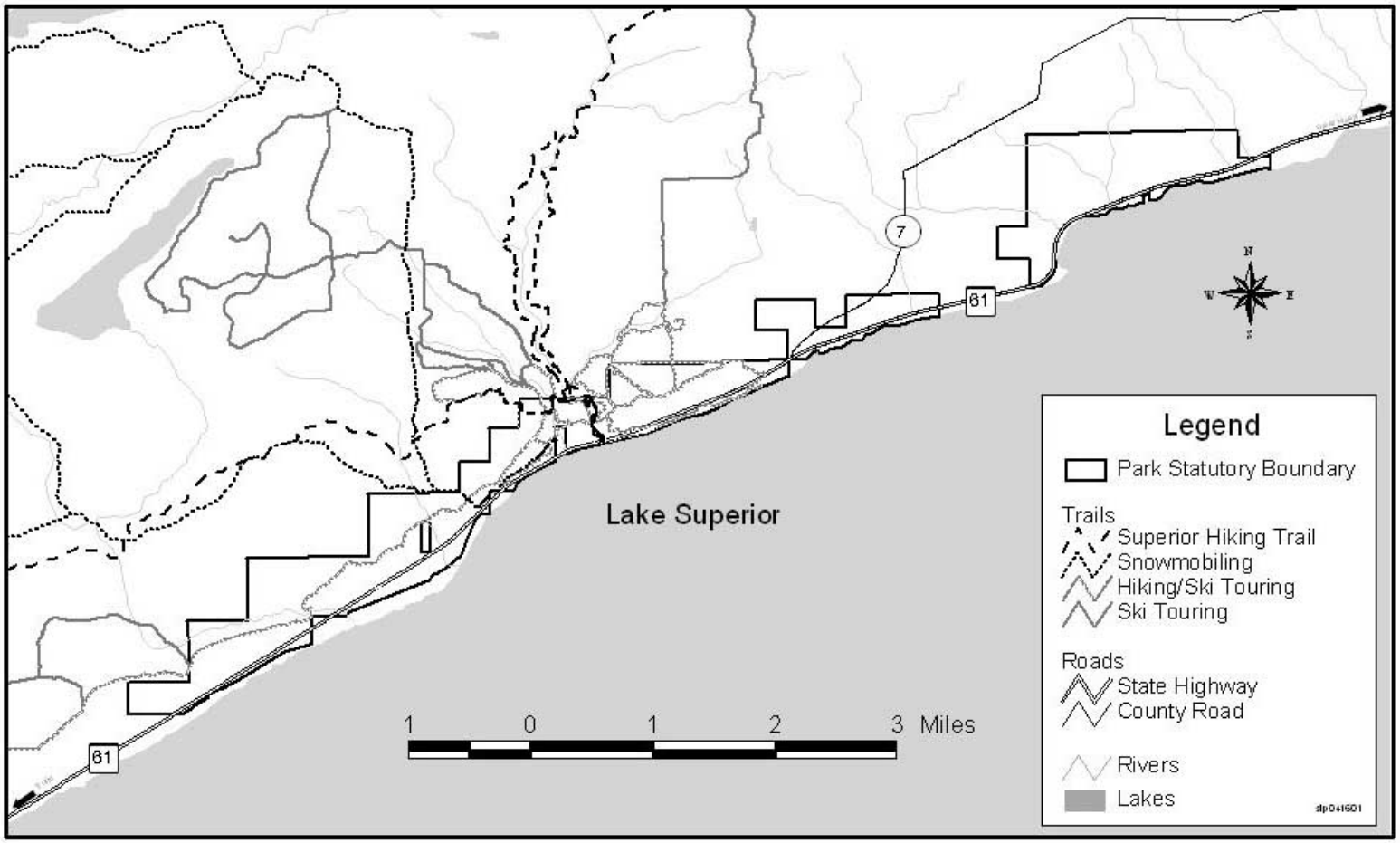
Cross country skiing is a popular activity at Cascade River State Park, typically attracting 2,500 to 3,000 skiers each year. Seventeen miles of trails ranging from easy to difficult are found at Cascade River, although some portions of these trails lie outside the park boundary. One loop is available for the less experienced skier. Snowshoeing is becoming increasingly popular, and is allowed anywhere except on groomed trails.

Snowmobiling trails are primarily found outside the park, with only a short two mile trail segment in the park that connects a trail parking area to the larger trail network beyond the park. Typically, 200-300 snowmobilers use park trails each year.

Water Recreation

Opportunities for water recreation include sea kayaking in Lake Superior, some whitewater kayaking in portions of the Cascade River, and very limited swimming in the Cascade River. The Lake Superior Water Trail has been officially designated along the North Shore by the Minnesota legislature, and studies are underway to learn what this user group prefers, what facilities they require, and to determine ways in which the Water Trail can provide for those needs and preferences. The rugged shoreline and poor beach/landing areas at Cascade River State Park limit the types of kayak services and facilities possible in this area. However, the length of undeveloped lake shore found at the park is relatively uncommon, and the park will continue to make this vista available to water trail users passing along the shore. Additionally, there is an existing remote campsite along the shore available for all users, which is also appropriate for water trail users.

Figure 8: Trails



Goals and Objectives

The ORA provides a framework for outdoor recreation in Minnesota State Parks, stating, "outdoor recreation activities to utilize the natural features of the park that can be accommodated without material disturbance of the natural features of the park or the introduction of undue artificiality into the natural scene may be permitted. Park use shall be primarily for aesthetic, cultural, and educational purposes, and shall not be designed to accommodate all forms or unlimited volumes of recreational use. Physical development shall be limited to those facilities necessary to complement the natural features and the values being preserved**."**

As this language clearly states, each park must be able to care for the natural features and values of the park when providing recreation opportunities. This plan has addressed those features and values for Cascade River State Park throughout the document. The following recommendations have been made by the DNR, Division of Parks and Recreation and the CAC within the context of the mission and vision for Cascade River State Park, and with an understanding of the natural, cultural and educational features of the park.

Recreation Use and Visitor Services Recommendations

Relocate campground, *separate from day-use areas.*

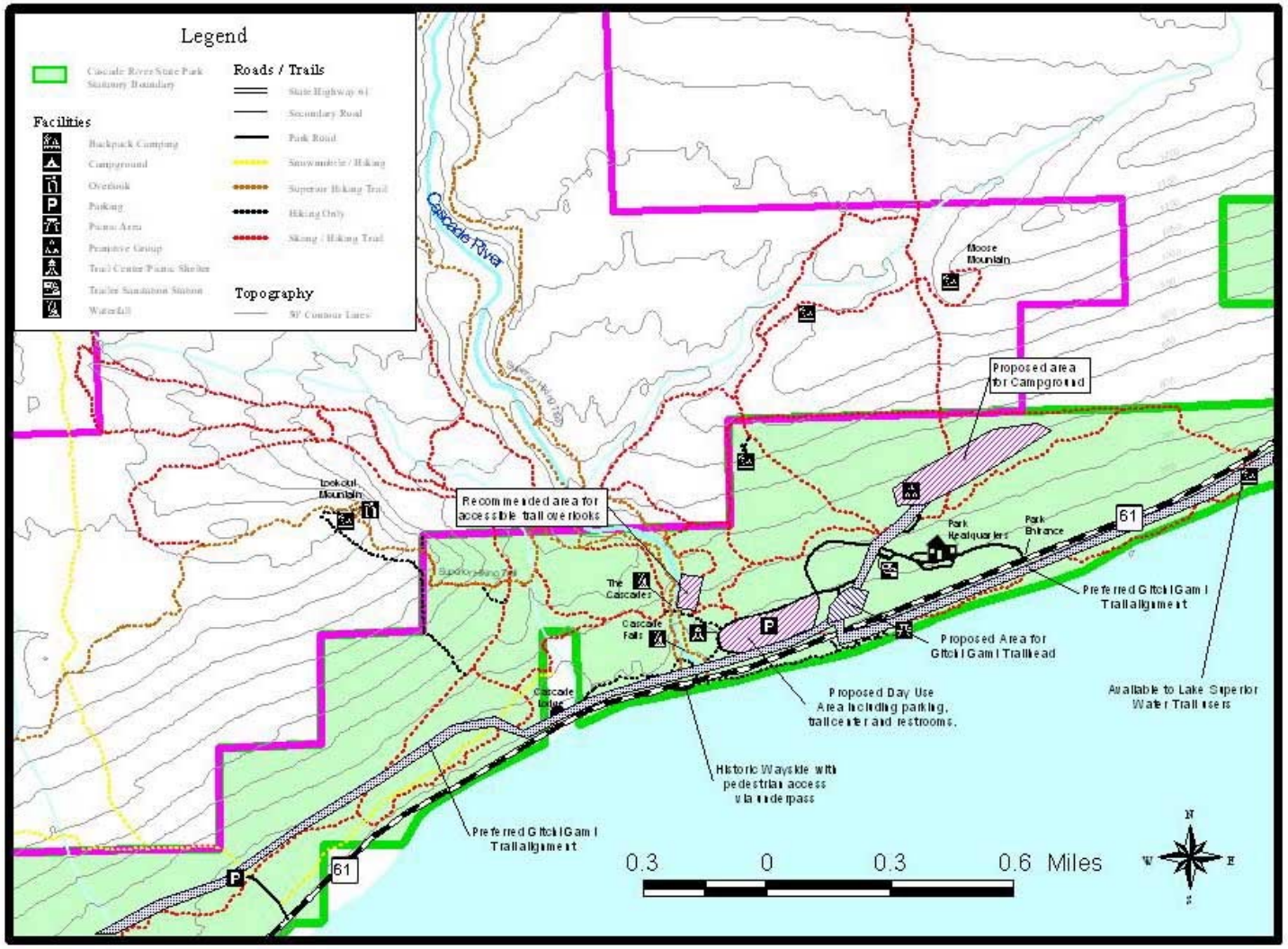
First preference is a location in the vicinity of present group camp sites. The preferred design is one that works with the landscape and provides campsite separation and privacy.

The present campground is located near the river gorge, overlooking Lake Superior from a perch just above Highway 61. Many campers are attached to this location because of its proximity to both the river and Lake Superior. However, there are many existing and anticipated conflicts associated with this site. The campground is in a high traffic area, with day-users, anglers, and trail users all using the same space. It sits atop significant cultural resources. The soils and slope are not well suited to development. Further, the heavy traffic in the area has limited the ability of the natural community to regenerate. The improvements planned for Highway 61 include removal of vegetation which will impact some areas of the present campground. Finally, the Gitchi Gami Trail will bring additional users to the area, and will require access, parking, and right-of-way space, thus compounding the problem of mixing day and overnight users in one area.

The preferred location for a new campground would correct most of these concerns (Figure 9). As the significant area mapping chapter will show, the proposed location is outside the area of cedar old growth, and contains soils, slope and drainage more suitable for a campground foundation. It would allow access via a short trail to the Cascade Gorge, and to Lake Superior, and will provide overnight users a distinct, separate space apart from incidental day-use traffic.

The CAC was very committed to a design that minimized impacts on the landscape, using the existing vegetation as well as new plantings to separate and screen campsites. A slight increase from the present number of campsites is acceptable, but the new campground should be designedto offer a sense of privacy at each campsite. If at some point there is demand for electric sites, the campground should be designed to ensure that those higher service sites can be located apart from the tent/non-electric sites. The drainage may serve to limit the size of the campground as well. The proposed location should use an existing trail alignment as a campground roadway. This trail is presently an important component in the ski trail system, and some method of retaining that trail linkage is required, possibly grooming the campground road as a ski trail.

Figure 9: Proposed Facilities



Offer a range of camping options in the park, including group camping, walk in and/ or cart in camping, and modern campsites.

The CAC supported retaining group camping opportunities at Cascade River State Park, possibly as a component of a relocated campground, although not necessarily in the existing location. Additionally, the CAC felt strongly that all aspects of the park development should complement the vision statement which articulates that Cascade River should "preserve opportunities for park visitors to experience wildness, quiet and solitude". Providing remote campsites, such as cart in/walk in sites, is consistent with this vision.

Provide a day-use area in the location of the existing campground, *incorporating Gitchi Gami and ski trail heads, fishing access and parking, and Cascades access.*

Campground design should, as possible, work with natural and cultural features of the area, including existing trees and terrain. The area nearest the mouth of the Cascade River has been a popular attraction for decades. In the 1930's the CCC worked to develop day-use access areas, including a pull out for motorists. Although people still value the experience provided by these facilities, the CCC-built access areas have become unsafe for pedestrians due to increased traffic and visitation. Also, an increase in resource degradation has led to efforts to direct use through developed overlooks and walkways. Park staff has struggled with ensuring that vehicles in the park area along the Highway display the required permit as well. As Highway 61 is redone, the wayside pull-out will no longer be open to cars. These issues required the CAC and the Division of Parks and Recreation to search for alternatives for day-use access, and resulted in the recommendation to provide those facilities in the location of the present campground, in proximity to the Gitchi Gami Trail. This recommendation will require users to adapt to a slightly different method of accessing the Cascades area, having to enter the park drive, purchase a vehicle permit and travel a short distance to the day-use area. These users will then have access to park day-use facilities, including parking, restrooms, an accessible trail (as recommended in this plan), trail heads and interpretive exhibits. Informational materials will need to be developed to assist users in making this transition.

The fishing community has expressed concern over the loss of roadside access points as the highway is redone and the wayside pull-out closed to vehicles. Discussions about this concern resulted in an understanding with the Minnesota Department of Transportation to sign the roadside as "no parking" during the high traffic summer season, and to remove the restriction during the lighter traffic spring, fall and winter seasons. This restriction should coincide with the peak of fishing season. As the fishing community adjusts to vehicle parking and water access being provided within the park (and adjusts to the requirement to display a valid park sticker), pressure for roadside parking will diminish. It is also likely that some or most of the fishing community will appreciate the amenities provided within the park, which includes restrooms and secure parking spaces.

Develop a Trail Center facility within the day-use area, *providing year-round warming area and restroom facilities, non-personal interpretation and information.*

Remove the existing buildings including the trail center, campground sanitation station, and former residence. The CAC and Division of Parks and Recreation envision a facility designed to meet the needs of both summer and winter park trail users.

Maintain the current trails system and current trail uses within the current park boundary.

The CAC felt that the existing quantity and type of trail opportunities at Cascade River State Park, primarily hiking and cross country skiing, were acceptable and should be maintained. Snowmobiling is also allowed in the park, but only as a connection to the larger network of trails outside the current park boundary, and the CAC preferred no change to this use. Finally, snowshoeing is allowed in the park, although few if any trails are specifically designated as snowshoe only, and snowshoes are not allowed on trails groomed for cross country skiing.

Provide mountain bike trail spur to direct those seeking a mountain bike trail experience to designated trails outside the park, recognizing the need to coordinate with Cascade Lodge.

Some area recreation providers encourage mountain bike use, and have developed a network of mountain bike trail opportunities outside of the park boundary. This recommendation recognizes the need to direct park guests to the developed mountain biking network adjacent to the park, and recognizes a value in encouraging users to bike to the trails rather than require use of a car to access nearby trails. Park users are welcome to ride bicycles on park roads, but there is no support for providing any further mountain bike trails within the park itself.

Consider finding a trail opportunity for other non-motorized user groups in a park expansion as compatible with the natural resource community, if demand exists.

The CAC and Division of Parks and Recreation recognize that trails exist within the proposed expansion area, and felt the existing level and type of use on these trails acceptable, including segments of the snowmobile trail. The CAC and Division of Parks and Recreation felt that the proposed expansion area could support additional non-motorized trails, such as hiking, snowshoeing and skiing. Any discussion of other trail types would occur in response to an identified demand, and require a more thorough understanding of not only the suitability of the terrain and soils, but an examination of similar facilities in the park vicinity. CAC members concur with and support the rule that prohibits OHV's from State Park lands.

Although details of the Gitchi Gami Trail alignment have yet to be determined outside of Cascade River State Park boundaries, and could influence park alignment decisions, an inland alignment is preferred within the park from the point the Trail enters the park from the south and west until north and east of the Cascade River, at which point the Trail would then cross under Highway 61 to access the lakeside picnic area and follow the highway right of way out of the park to the north and east on the lake side.

Also, provide pedestrian access under the highway to historic wayside. This inland alignment should be sensitive to wetland impacts, cedar and pine regrowth, and wildlife needs. Final alignment of the Gitchi Gami Trail within Cascade River State Park will be determined by the Division of Parks and Recreation, taking into consideration resource and visitor impacts.

Provide access for pedestrians and Gitchi Gami Trail users to the lakeside day-use picnic facilities while Highway 61 reconstruction and Gitchi Gami Trail development occurs. Also provide walk-in access from the day-use parking area through a tunnel corridor bringing the Gitchi Gami Trail under Highway 61.

In addressing this issue, the primary concern of the CAC and Division of Parks and Recreation was to ensure the natural community was not compromised. In addition, there was concern for visitor safety, and for preventing user congestion. Exact locations for the Gitchi Gami Trail alignment and access points will be determined by on-site needs including sight lines, drainage, and natural community features. However, pedestrian access to the lake side picnic area should be provided regardless of Gitchi Gami alignment with an under the highway corridor. This corridor should be included as a part of the highway project that connects the main park to the picnic area, allowing park visitors to safely leave vehicles in the day-use parking area and bring picnic materials on foot or by cart to the lake side picnic area.

Make a portion of the Cascade River gorge accessible

Measure accessibility of park facilities and park resources for persons with disabilities, providing an opportunity to experience the sight and sound of the falls area. The initial CAC preference was to provide an accessible path to the lower falls area, but they discovered it is unlikely that this could be accomplished without great impacts to the natural community, and so the CAC supports providing an accessible path where feasible. Park and resource staff have proposed investigating an option that would bring an accessible trail to an area overlooking the upper falls, and although it may provide only a partial view of the falls, the sound and spray would be accessible. Additionally, the CAC

supports making the new trail center and restrooms accessible, a position consistent with state park policy and guidelines.

Use existing facilities and areas of development to provide limited day and overnight facilities for Lake Superior Water Trail users.

As mentioned in the discussion of water recreation earlier in this document, there needs to be an understanding of the desired facilities and needs of water trail users, primarily sea kayakers. The CAC and park staff agreed that this information will be crucial in assessing what can be provided for water trail users. However, the recommendation is to use existing facilities when meeting the needs of Water Trail users, including making an existing lake side campsite available and accessible to water trail users as well as walk in users. A key value of the expanse of Lake Superior shoreline contained within Cascade River State Park is it's undeveloped nature, and the CAC desired to keep the shoreline undeveloped. This includes not only buildings but also additional recreational facilities. The CAC suggested that there might be more appropriate locations for additional overnight facilities or more day-use shoreline pull-outs at sites in the vicinity of the park. The water trail planners are encouraged to seek out these alternate locations, allowing the park to continue to provide a length of undeveloped shoreline that paddlers can enjoy, free from campfires, restrooms and tents. Beyond the desire to retain an undeveloped expanse of lakeshore, the rock and shoreline features themselves are not ideal for kayak landing areas, and the rugged nature of the expanse in Cascade River may make other locations more suitable as well, although information suggests there may be limited areas with ideal conditions along much of the Lake Superior shore in the park's vicinity.

Consider providing a small parking area for walk in access only to the northeast (upper) portion of park.

The CAC found value in retaining this non-contiguous portion of the park by virtue of it providing additional area of undeveloped landscape for highway 61 travelers. However, there was interest in providing some point of foot traffic access to the parcel. The CAC did not suggest a need to develop trail systems, but to provide an access point for people seeking to hike in an undeveloped area. Typically, state parks prefer to limit the number of uncontrolled access points to better ensure safety and park appropriate behavior. However, as this parcel cannot be accessed from the main park, the CAC recommends consideration be given to providing an access point.

VII. PARK BOUNDARY ISSUES

Existing Boundary and Land Ownership Issues

The dimension and make up of Minnesota State Parks is established by the Minnesota Legislature. A legal park boundary defined in Minnesota Statutes provides staff, citizens and policy makers with a common understanding of which lands are appropriate for inclusion in the park. It is the policy of state parks to include within a statutory boundary only those lands where the landowner has requested inclusion. State parks are then authorized to negotiate with willing sellers for acquisition of lands contained within that statutory boundary. Being within a park boundary does not have any impact on the landowner, who retains full ownership and rights to the land unless they decide to sell to the park.

As a part of the planning process, the citizen advisory group reviews the existing state park land base, and considers what boundary alteration should be considered to ensure that the natural features, recreational and educational opportunities consistent with the park's mission can be provided. This is only a recommendation, and at such time as a boundary modification would be made, the Division of Parks and Recreation will contact landowners affected and ask for documented support. Local units of government would also be contacted for support.

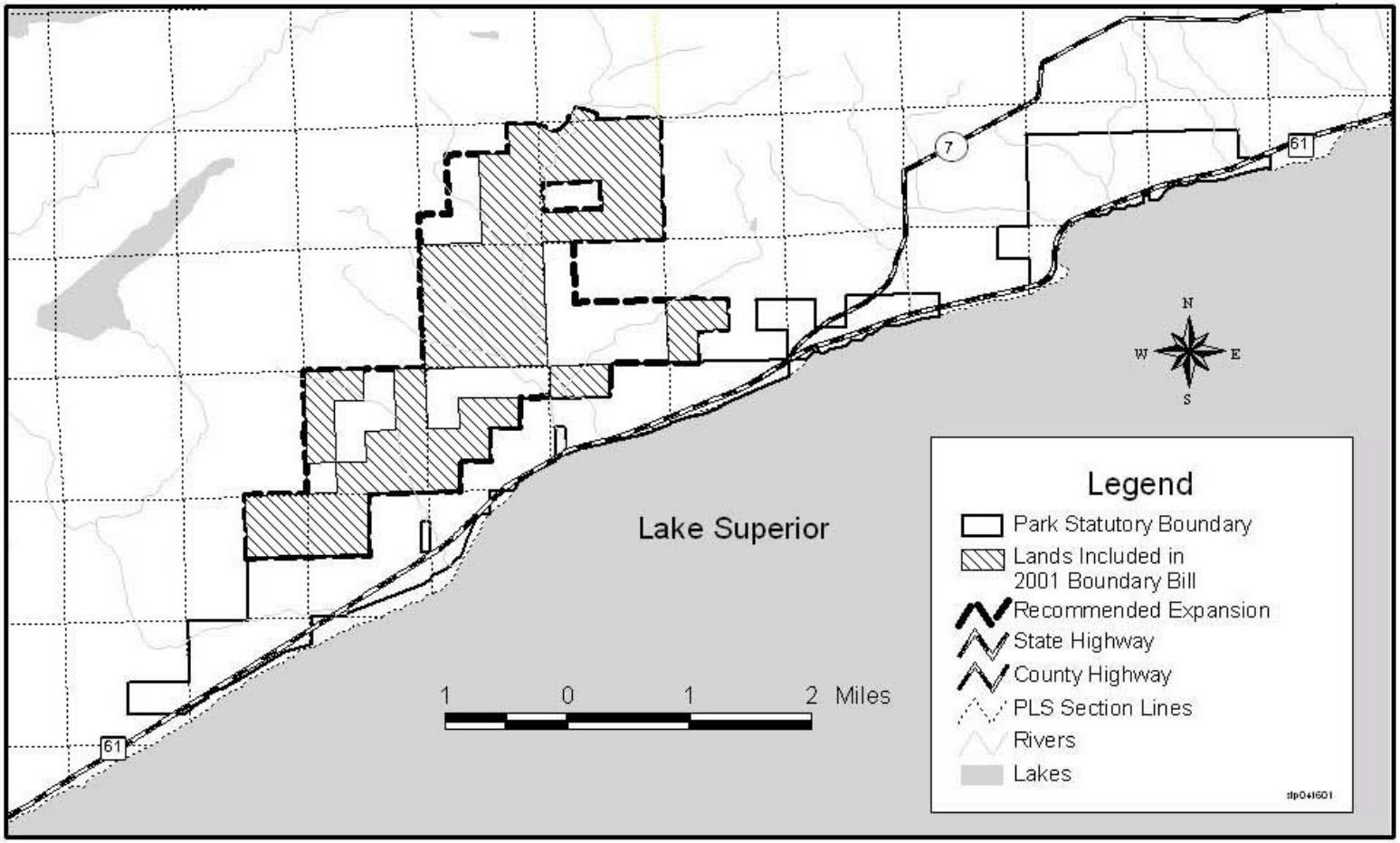
Proposed Boundary Modification

Protect the Cascade River corridor, areas of significant natural and cultural communities, and areas of existing trails and overlooks. Ensure the portion of the Superior Hiking Trail adjacent to the Cascade River and an associated buffer is protected to provide Superior Hiking Trail users and park visitors with a primitive trail experience.

Local citizens and park users recommend a statutory boundary expansion to accomplish this, and suggest an expansion should incorporate existing recreational uses, including hiking and hunting, and provide for additional areas for camping and trail opportunities. The expansion would include areas of private and public lands within the park statutory boundary, if landowners are willing. The majority of the lands being proposed for inclusion within the park boundary are currently owned and managed by either the US Forest Service or the DNR, Division of Forestry (Figure 10). Effecting an exchange of management and ownership from one agency to another would require a series of approvals and agreements. However, there has been interest from each agency to pursue a mutually beneficial arrangement of land management, and including these lands within the state park offers a site that could serve to pilot an exchange process at some point in the future.

As this plan was being written, there was support to pursue this boundary change with legislation. Landowners were contacted, and those interested in participating submitted a letter indicating their willingness to be included inside the statutory boundary. As a part of the plan review process, an Open House was held to allow comments on the proposed expansion as well as other recommendations proposed in the plan. Additionally, a presentation was given to the Cook County Board of Commissioners. The area included in 2001 legislation as part of the statutory boundary change at Cascade River State Park is shown on the following map.

Figure 10: Proposed Boundary Modification - Recommended Expansion



VIII. SIGNIFICANT AREAS MAPPING

Introduction

Minnesota Statutes 86A.01 subd. 2c assert that the primary purpose of state parks is to preserve, perpetuate and interpret the natural, cultural and scenic features present at the time of European settlement and that state parks shall not be designed to accommodate all forms or unlimited volumes of recreational use. Further, physical development shall be limited to those facilities necessary to complement the natural features and the values being preserved.

Significant Areas Mapping (SAM) is a planning tool used by Minnesota State Parks to assist in maintaining the integrity of the natural and cultural resources, ensuring consistency with the Division's Mission Statement and Statutory requirements. The SAM process requires information on ecosystem structure, function and sensitivity, as well as the needs and impacts of existing and potential visitor experiences in order to provide a framework for the feature-specific application of resource management, interpretation, recreation and research, direction for the activities of park staff and park visitors.

SAM is an integrated approach by which the natural and cultural resources in a park are first identified and assessed in terms of their regional significance and then assessed in terms of their capability to provide opportunities for visitor experiences. When completed, with input from the public, the process should also point out the areas in the park where there is a current conflict or anticipated conflict between resource preservation/management and visitor use (typically areas with high natural resource value or sensitivity and high visitor use). Again, with input from the public, the process should lead to a discussion of how to resolve this conflict: possibly by relocating (or modifying) the visitor use, or by monitoring the visitor use and defining impact management strategies. It may also bring to light recreational opportunities that the public wants to maintain in a park. Interpretation, either personal or nonpersonal, may play a key role in modifying both visitor expectations and impacts. If, through monitoring, resource or experiential impacts are identified, specific management tactics can be applied, such as:

- *site management* (facility design, site hardening, site closure, vegetation barriers, etc.)
- *rationing and allocation* (reservations, queuing, pricing)
- *regulation* (the number of people, the location or timing of visits, visitor behavior)
- *deterrence and enforcement* (signs, sanctions)
- *visitor education* (interpretation that promotes appropriate behavior or provides information regarding use conditions)

The appropriate strategy for managing impacts in a given conflict area can be determined using the SAM analysis and description along with the park's mission as guides.

Assessing Present Conditions

The CAC spent several meetings discussing mapping of visitor use and sensitive resources with park staff. Background information was provided that highlighted the natural and cultural resources currently found in the park and the current recreational opportunities at the park and in the area. During these discussions, a general sense of the resource-appropriate, preferred visitor opportunities and experiences was developed. The input provided by the CAC was used in the analysis of the present park area, and for an expansion area that was later identified.

Significant Natural and Cultural Resources

The entire land base of Cascade River State Park is managed according to the direction set in Minnesota Statutes, in a manner that "perpetuates...the natural features that existed in the area of the park prior to settlement and other significant natural, scenic, scientific, or historic features that are present." Park and resource managers work within this mandate to manage the entire park. Details of the preferred management for the entire land base can be found in the natural resource chapter of this plan. In the SAM chapter, resource staff have identified certain natural communities or elements within the park land base that stand out as significant natural or cultural resource features (Figure 11).

Feature A: Cascade River corridor/gorge - The Cascade River corridor is significant for many reasons. The plant communities that thrive in the narrow, humid gorge itself are unlike those found in the upland areas, and include rare and unique species. Cedar seedlings are also found in the corridor, especially in areas that prove too steep for deer to access. In order to understand what difficulties exist in perpetuating and managing this natural feature, a knowledge of the accessibility, benefits, and experiences the feature provides to park visitors is needed.

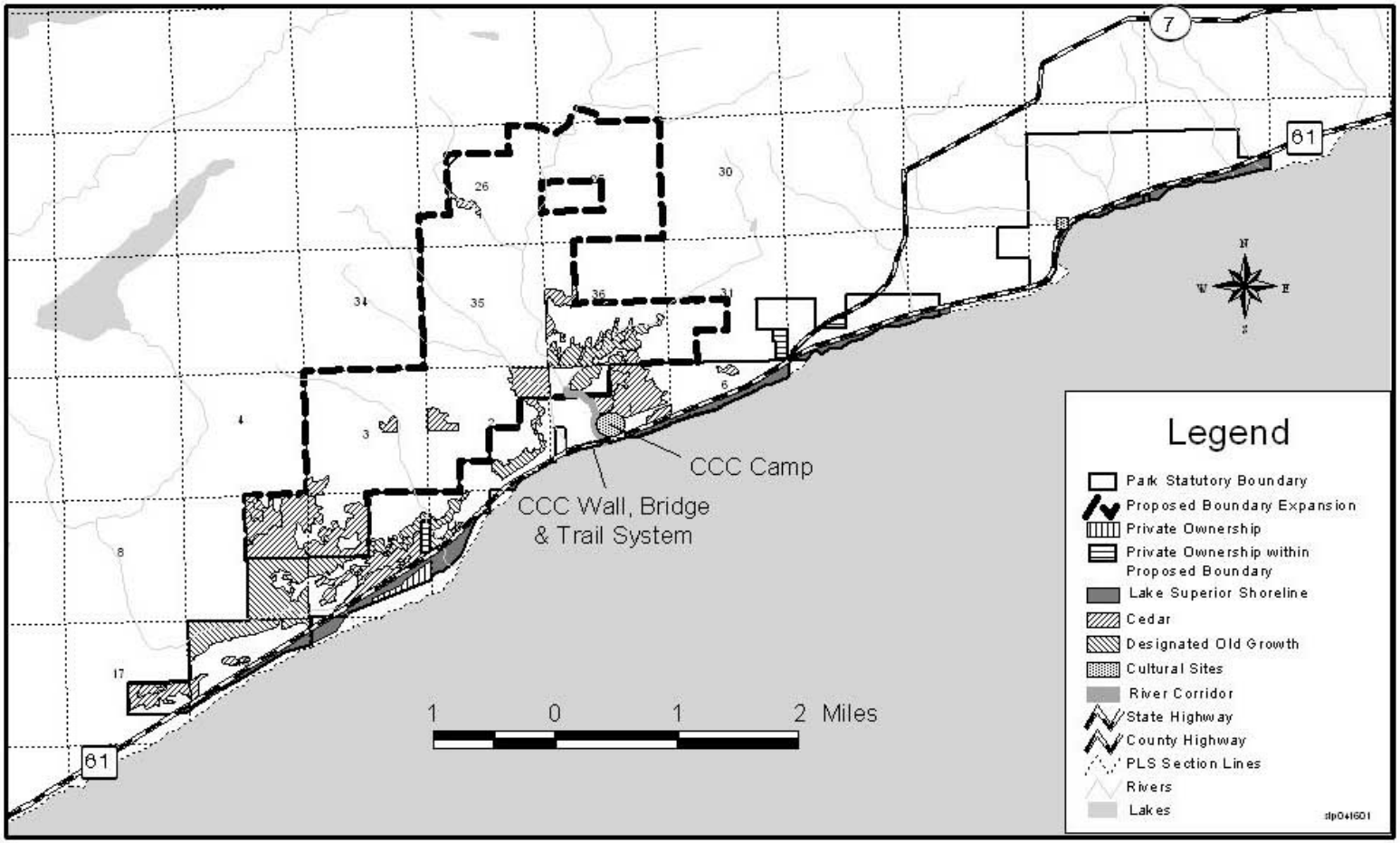
Feature B: Cedar Forest community – This community was once a large component of the boreal forest community across much of the region. Today, only limited areas of cedar forest persist. This community type is an old growth community, and, as such, has a diversity of plant and animal life dependant on the old forest for survival. Efforts are underway to preserve and perpetuate remaining stands, including many acres of cedar at Cascade River. The DNR has recognized this significance as well, and has designated some areas as cedar type Old Growth Forest, a designation that requires specific management for old growth characteristics.

Feature C: Lake Superior shoreline - The Lake Superior shoreline exhibits a dichotomy of rugged rock and cliff features that are slowly being weathered by the forces of Lake Superior wave and wind action, and fragile biotic communities that may be damaged by a misplaced footstep. This balance of fragility and durability presents challenges for management, and requires careful attention to human use patterns and management. With a steadily increasing number of developments and construction on the shoreline, there are relatively few lengths of Lake Superior shoreline harboring intact natural elements. The shoreline within Cascade River State Park is a key parcel for preserving and perpetuating shoreline elements. A Scientific and Natural Area, Butterwort Cliffs, has been designated to further support and protect the resource values of this feature. Details of the SNA are covered in the resource chapter of this plan.

Feature D: Cultural sites – The Division of Parks and Recreation is committed to protecting cultural sites within State Parks. At Cascade several cultural or historic sites have been identified, with varying amount of study completed for each. As is often the case, most of these sites were discovered as a result of required archeological surveys prior to facility development or a significant land use change. In one instance, a recreational facility had been developed on a site many years ago, and when the location was surveyed, a significant cultural site was identified. Careful management is required at this site to ensure that the present day recreational use of the area does not impact the historic and pre-contact site identified. The historic Civilian Conservation Corp development within the park is presently eligible for listing on the National Register of Historic Places. Once a site is listed on the National Register, careful review and management is required to preserve the original construction and integrity.

Finally, it is likely that additional cultural sites exist in the park, but are not known at this time. When such sites are identified, they should be included in the significant areas map along with presently know sites, and managed accordingly.

Figure 11: Present Conditions - Significant Natural and Cultural Resources



The following chart offers an analysis of the recreational experience, potential, and value each significant natural or cultural feature offers. Although recreational potential may be identified related to a given natural feature, it may be found inappropriate for the natural feature, inconsistent with the mission and vision for the park, or contrary to the mandate of MN Statutes requiring that "park use shall be primarily for aesthetic, cultural, and educational purposes, and shall not be designed to accommodate all forms or unlimited volumes of recreational use". An understanding of recreational potential is important to anticipate visitor use and determine appropriate management strategies.

Table 7. Recreation Analysis for Significant Natural and Cultural Features

Analysis Item	**Cascade Corridor**	**Cedar Forest Community**	**Lake Superior Shoreline**	**Cultural Site**
experiences provided to visitors	aesthetic, desired by each park visitor (~150,000/yr), short viewing and walking experiences, expect to see other visitors and limited development to accommodate safety and traffic	hiking, more solitary, connection to old community, sense of place/timelessness, fewer interactions with other people	connection to Lake Superior (extreme weather, power, sense of agelessness) walking experience, solitude opportunity	interpretive/educational opportunities
relative availability a) in the region b) in the park	a) waterfalls are found along the shore, although each is unique b) one of a kind, easily accessible	a) limited availability, some not publicly accessible b) moderate availability, not all easily accessible	a) broadly available, but limited to few public access points b) readily available	a) limited to rare b) limited to rare
ability to withstand visitor use	highly susceptible to trail compaction and erosion, undesignated trails common, vegetation and tree regrowth impacted by visitor levels	fairly tolerant of trail/foot traffic	general tolerant of random traffic, although vegetation impacted by continued contact, gull nesting area disturbed in nesting season	if properly managed, highly tolerant, if not managed, highly intolerant
official designations	none	some areas of designated Old Growth, as per MN Statutes	one segment is Butterwort Cliffs Scientific & Natural Area	CCC sites nominated to National Register of Historic Places
interest to the public	key attraction, primarily in the lower 1/4 mile of the corridor	experience is valued, although understanding of the community may be weak, people desire to hike many miles through the forest area.	high interest to public, but generally as point specific or small area destination. (people reach the lake and walk only a few hundred yards along the shore,sit and observe the water/waves.)	mixed, largely dependant on outreach with educational materials
relative importance to the park niche	extremely high importance	high importance	high importance	medium importance

Visitor Use Levels and Experience

Working with park staff and the CAC, a relative measure of visitor use levels and general understanding of the visitor experience was outlined (Figure 12). The use levels were assigned for the entire park area, and are intended to represent a typical day during the temperate seasons, understanding that peak fall color days or a rainy day in spring may fall well outside this general categorization.

The following map illustrates the present conditions for visitor use at Cascade River State Park.

High density - Presently, temperate season visitors experience scenic views and low levels of structural development, although with high visitor use, along the lower 1/2 mile of the Cascade River gorge, where facilities include a campground, short walking trails and overlooks, and a trail center. An easily accessible and highly utilized Lake Superior shoreline experience is found at and near the picnic sites.

Medium density - An experience providing scenic views, with medium use levels is experienced on the hiking trails to the “mountain” overlooks.

Low density - The outlying regions provide the most remote, primitive experience, being either accessible by hiking trail or with no developed access, and exhibiting low visitor levels.

(It should be noted that winter alters these experience and use levels. A typical winter experience at Cascade includes opportunities for quiet, non-motorized outdoor recreation. Cross country skiing is the primary activity of park visitors. Moderate levels of use are found on ski trails near the parking area and trail center, while low levels are experienced on the other trails.)

Opportunities and Conflicts

When looking at the intersection of significant resources locations with the present day high visitor use areas, several areas of potential conflict are apparent (Figure 13).

This mapping and analysis process is a tool to better understand an existing situation, to anticipate potential conflicts, and to guide park planning to minimize impacts on natural and cultural resources while seeking to provide appropriate recreational opportunities. Through discussion of the conflict areas as well as the visitor experience opportunities and trends, park staff and the public were able to explore options, and develop a guiding philosophy for this management plan.

Figure 12: Present Conditions - Visitor Use Levels

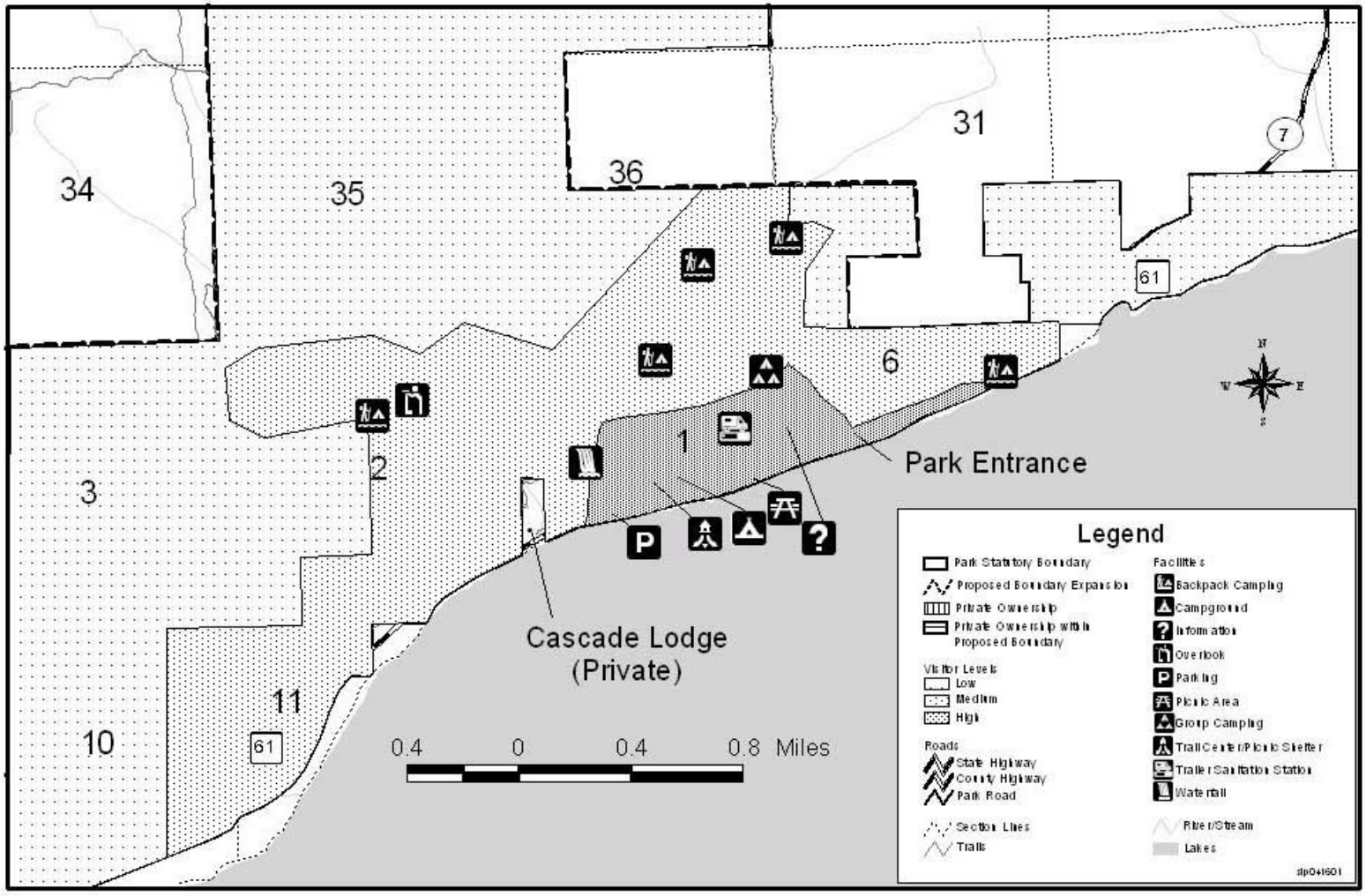
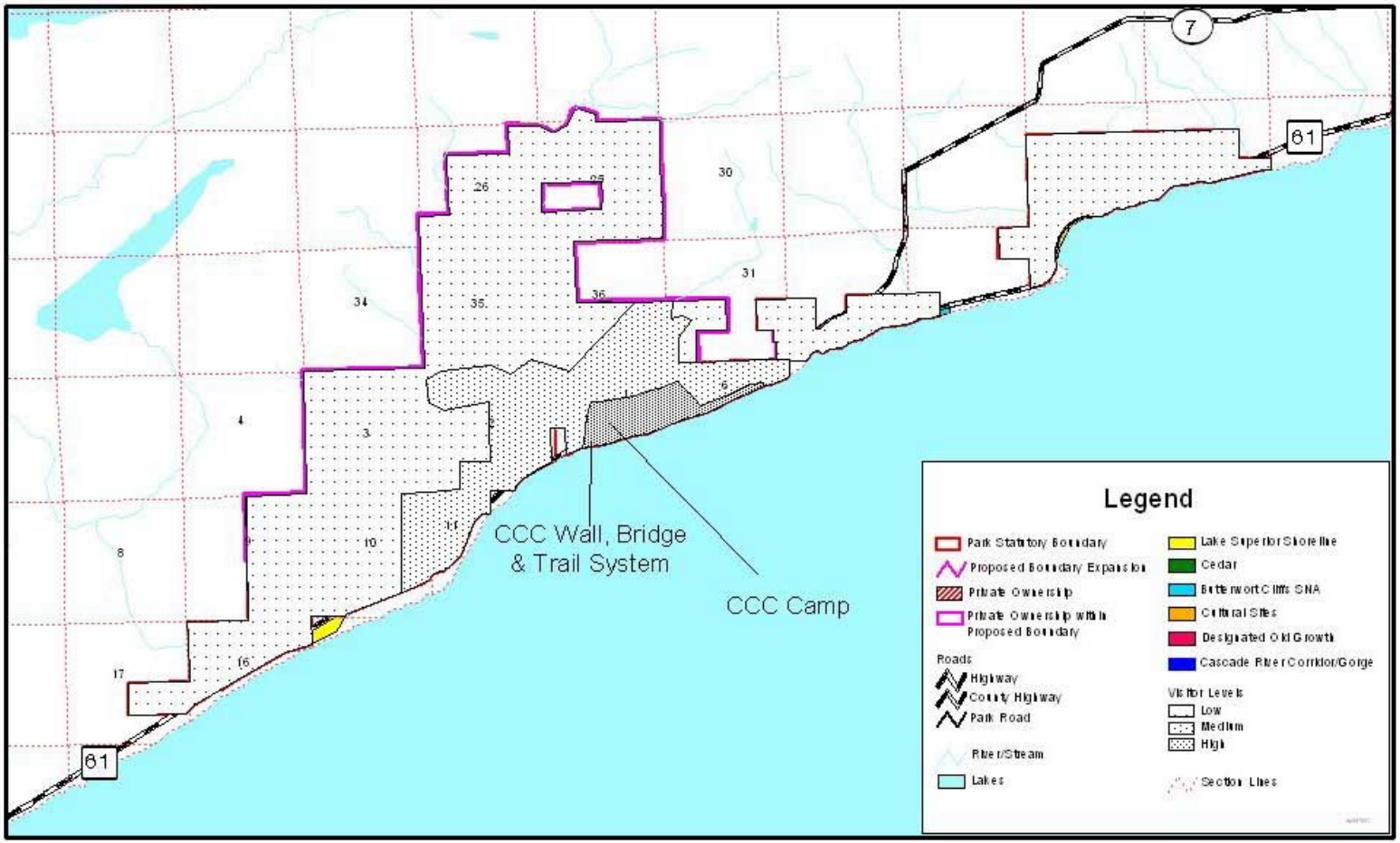


Figure 13: Present Conditions - Significant Resources and Visitor Levels



Assessing Future Conditions

Significant Natural and Cultural Resources

The natural communities of the park lands are described in their entirety in the natural resources chapter of the park plan. Details of the characteristics of the resources and the natural communities, and background on ongoing or routine management on park lands are also described in the natural resource chapter. The SAM map shown here does not address the entire park, but instead focuses on those areas that are the priority areas for management efforts during the life of this management plan (Figure 14). Resource management efforts undertaken during the life of this plan will be targeted at qualitative changes in present natural communities, rather than wholesale conversion of a natural community type. Discussion of the management direction for each significant feature is as follows:

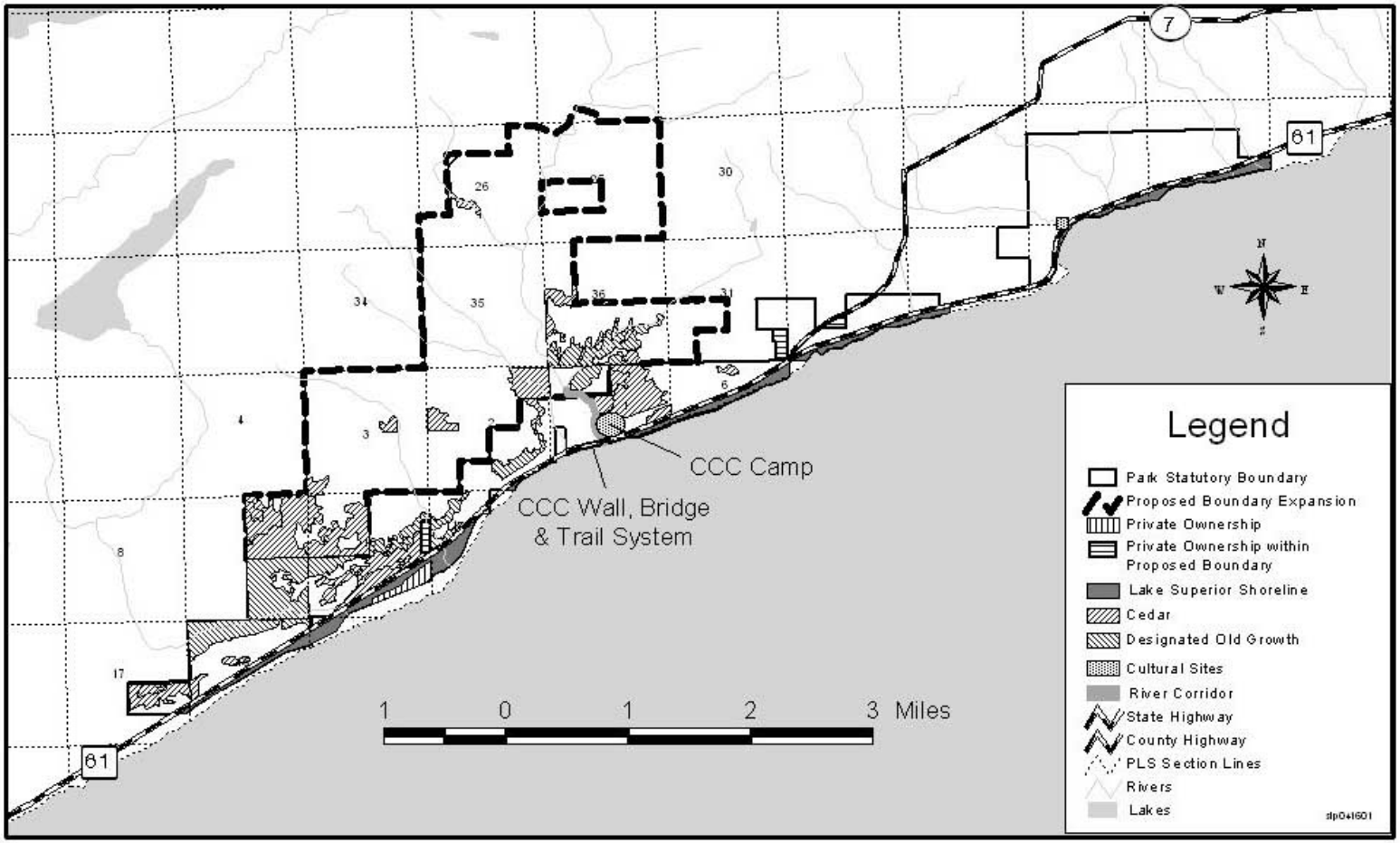
Feature A: There are natural community elements identified at Cascade River State Park that exemplify the original northern forest communities of the North Shore Highlands subsection, including remnant cedar and white pine stands, with some areas of cedar designated as Old Growth. The Department is developing specific management goals and strategies for designated Old Growth stands, and it is likely that these goals will be consistent with the state park goals for similar communities, whether designated as Old Growth or not. Some threats to these communities have been identified, including over browsing by deer, fragmentation, and lack of data. Efforts will seek to perpetuate and expand areas of cedar and white pine; assess, monitor and manage for the impacts of deer browse on the natural community; and expand the knowledge base for the natural resource and the effect of management efforts undertaken.

Feature B: The Cascade River corridor is a key feature at the park. Desired future conditions for the river itself include improving native fisheries, and maintaining or improving water quality. The associated corridor along the river's length supports heavy foot traffic, leading to soil compaction, vegetation loss, and erosion concerns. A qualitative improvement in these areas is desired. Additionally, white pine and cedar seedlings are found in the immediate vicinity of the river, (largely because the terrain makes the area inaccessible for deer), and efforts will be made to improve the survival rate of these trees.

Feature C: The Lake Superior shoreline has both fragile and nearly indestructible resource elements. Some of these resource elements can be found within the Butterwort Cliffs SNA. While the rock and cobble itself is basically unscathed by foot traffic and slow to weather, the lichen, plant and animal communities that thrive in that area are readily damaged by foot travel and human activity. It is important that the living communities along the shoreline within Cascade River are stable and healthy. This can be achieved by ensuring that the human activity level in that area is minimal, and directed away from fragile areas.

Feature D: Protection of the cultural sites in Cascade River State Park is desired. Facility location, design and scope must accommodate the known cultural sites to ensure that there is no impact to the cultural site. Prior to any facility development, surveys must be completed to determine if additional cultural sites exist. Cultural sites may also be interpreted.

Figure 14: Future Conditions - Significant Natural and Cultural Resources



Visitor Use Levels and Experience

Increased use levels are anticipated at Cascade River State Park, both for presently offered experiences and for new experiences (the Gitchi Gami bicycle trail), yet the desired future condition for visitor use and experiences is to maintain the existing quality of the visitor experience. Anticipated visitor use levels over the next 20 years are shown on Figure 15.

Opportunities and Conflicts

The following map illustrates a preferred alternative for minimizing the conflict areas highlighted during the significant areas mapping process (Figure 16).

Visitor facilities will be relocated to ensure that less overlap occurs between types of users. Visitor density in the highest traffic areas near the Cascade River will be reduced by expanding the area of high use levels.

Figure 15: Future Conditions - Visitor Use Levels

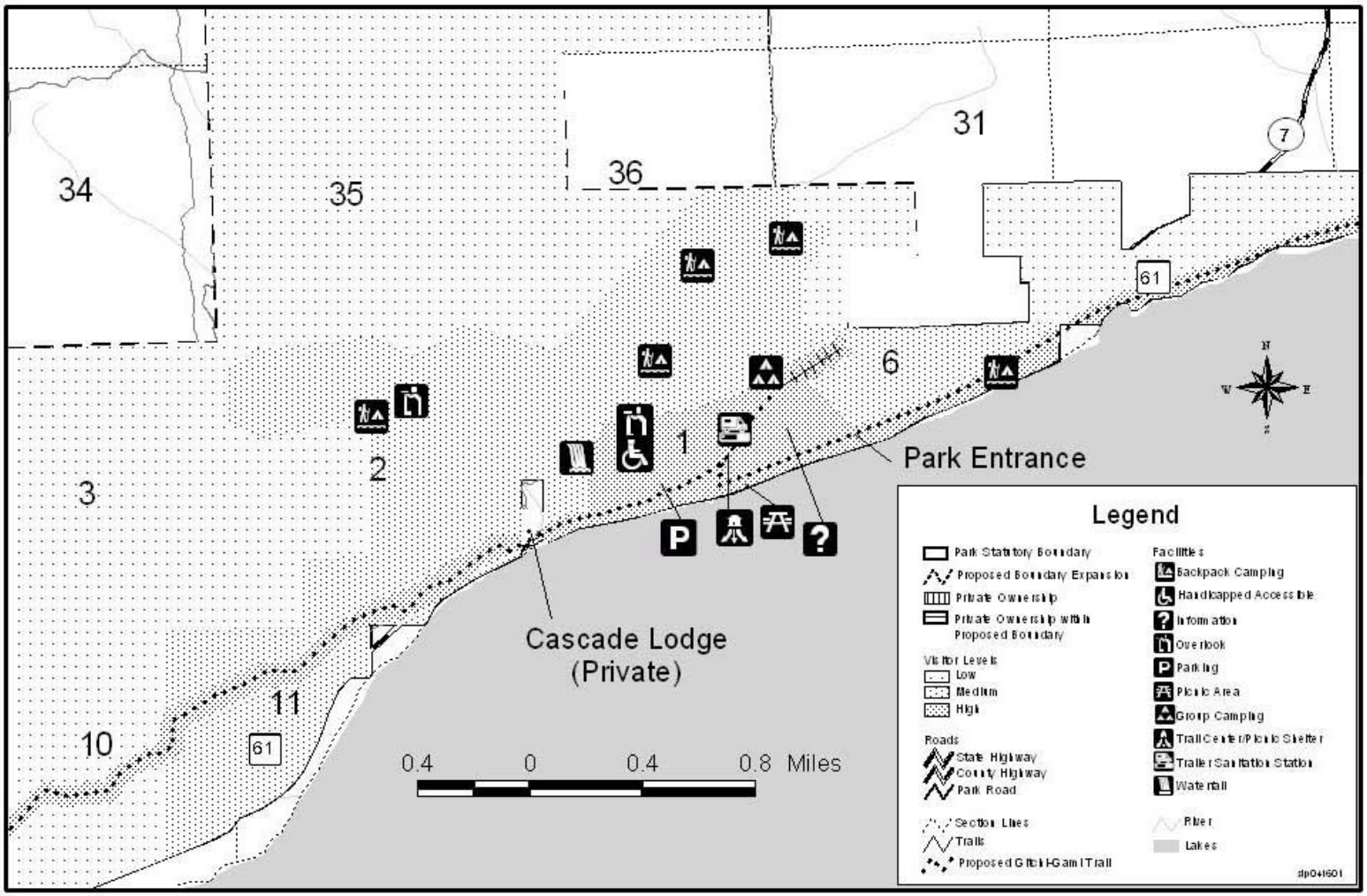
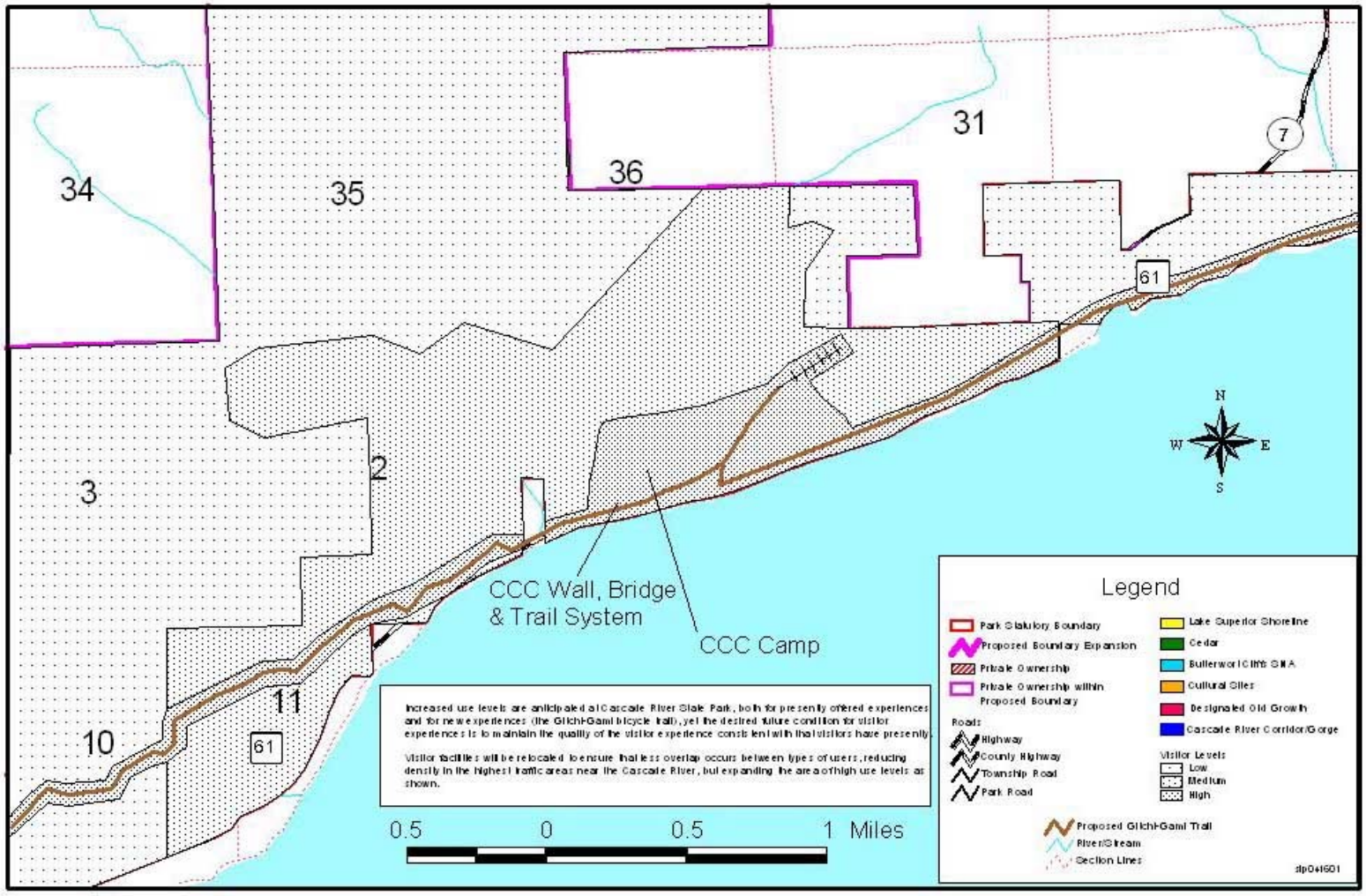


Figure 16: Future Conditions - Significant Resources and Visitor Levels



IX. PARK OPERATIONS

Current Organizational Structure

Cascade River State Park currently has two full time, year-round staff: the park manager and assistant park manager. Additional staffing consists of a variety of seasonal positions. The Minnesota State Park budget development process (Standards) identified a need for staff hours equivalent to 4.98 full time position equivalents (FTEs) in order to operate the park year-round. Actual funding is limited by budget availability, and 4.65 FTE's were actually funded in fiscal year 2001. This represents a slightly higher level of staffing than has been typically funded at Cascade, although this still remains at a level below the minimum staffing needed to operate.

Resource Management

Resource management at Cascade River State Park is accomplished by a combination of on-site staff, the North Shore Parks Resource Manager, and various temporary and special season work crews. A legislative audit of the Minnesota State Park system that was completed in 1999 indicated that additional time and funding should be applied to resource management activities at state parks. To accomplish this, additional staff time would need to be funded and directed to resource management activities.

Enforcement And Emergency Response

The park manager and assistant park manager are Level 2 enforcement officers, authorized by the DNR to enforce rules and regulations within the park boundary. Park staff call on other law enforcement officers, primarily DNR Conservation Officers and also County Sheriff staff and State Highway Patrol, to assist with other enforcement needs. Park staff has been able to meet enforcement needs without requiring outside assistance, typically dealing with permit enforcement. Conservation Officers primarily assist in enforcing hunting, fishing and trail use rules and regulations.

Each Minnesota State Park has an emergency response plan. At Cascade River State Park, staff are trained in basic emergency response, including first aid and C.P.R. Response to incidents such as vehicle accidents and river emergencies is handled through a coordination of efforts including park staff, local law enforcement and Cook County Search and Rescue (a volunteer agency). The rugged park landscape, proximity of the park to Highway 61, and in recent years, an increase in park usage and area vehicle traffic are all factors that have contributed to emergencies, but Cascade River State Park has generally experienced very few incidents.

Future Needs

The level of staffing called for in the MN State Parks Standards process would meet minimum needs for existing level of park use and facilities. Increasing numbers of users and facilities will add demand for staff time, and will likely result in a need for additional staff persons.

X. PLAN MODIFICATION PROCESS

State Park and State Recreation Area 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 effect some of the plan recommendations or even an entire plan. Plans need to acknowledge changing conditions, and be flexible enough to allow for modifications as needed.

There are two scales or types of plan modifications: plan revisions and plan amendments. Minor plan revisions concern less controversial issues and can generally be made within the Division of Parks and Recreation as plan modifications. Larger issues that represent changes in management direction or involve other portions of the Department or other state agencies are addressed as plan amendments. The Division of Parks and Recreation Planning Manager will make the decision of whether a plan amendment or plan revision is appropriate

To maintain consistency between plans and processes, all revisions and amendments will 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 in the Central Office, St. Paul.

Plan Amendments

Plan Amendment Criteria

The criteria outlined below will be used to determine whether the proposed change warrants a plan amendment:

The proposed change:

- Alters the park mission, vision, goals, specific management objectives, or proposed development plans outlined in the plan;
- Is controversial between elected officials and boards, park user groups, the public, adjacent landowners, other DNR divisions or state agencies; or
- Directly affects other state agencies (e.g., Minnesota Historical Society).

Plan Amendment Process

The plan amendment process has a series of steps.

1. Review the proposed change 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, with input from the public. The proposed change is then reviewed with the Division Central Office Management Team
2. If the proposed change involves other DNR Divisions, the issue should be resolved by staff and approved by the affected Division Directors. This may require one or two area/regional integrated resource management team meetings. The proposed change will be reviewed through the Department's review process (Statewide Interdisciplinary Review Service or SIRS).

3. If the proposed change issue involves other state agencies, the issue should be resolved by staff and approved by the Division Central Office Management Team - with input from the public - and reviewed by SIRS.

4. If the proposed change is potentially controversial among elected boards, park user groups, adjacent landowners or the public, an open house will be held that is advertised in the local and regional area.

5. All plan amendments should be coordinated, documented, and distributed by the Division of Parks and Recreation 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 common. 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/archeological artifacts. If any are found, the planned project may have to be revised to accommodate the protection of these resources.

Program Revisions

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

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APPENDIX A : PLAN RECOMMENDATIONS

Natural Resource Management Recommendations

Protect threatened, endangered, rare, and/or significant plant and animal species.

Discussions with staff and citizens along with information from general public comments indicated a desire for the park to identify, protect and perpetuate rare or unusual natural features. As articulated by the park vision, the park should be a place where visitors may experience the dynamics of the natural community as it existed prior to European settlement. This recommendation stems from a desire to see the ecological integrity of the ECS region captured at the park, acknowledging that some features or species may have been limited in range even under original natural conditions**.**

Continue forest management activities that perpetuate and expand forest diversity to be representative of pre-settlement conditions, including areas of Old Growth cedar and white pine.

Emphasize and retain the undeveloped character of many portions of the park. Consider a range of resource management tools. The dynamic nature of forests needs to be understood and valued by park visitors, and the park can serve as a place for these visitors to experience and learn about northern forest communities, growth and successional patterns, diversity of forest fauna and forest management techniques and impacts.

Recommend general deer hunting season be allowed within a park expansion area.

Do not include the present park lands, including developed areas of campgrounds and high visitation areas. As deer became more prevalent in the northern forest region, deer hunting became a highly valued, traditional recreational use in the forest areas adjacent to the original park. Local residents and wildlife managers recount a history of attention and concern for the Jonvik deer yard area. There is also an identified public safety concern with an increase in deer numbers, as statistics document an increase in the number of deer- vehicle collisions in the vicinity of the deer yard and the park.

State parks are defined in Minnesota Statutes as game preserves, although the Commissioner of the DNR can authorize special management hunts. Deer hunts can provide state parks with another management tool, helping to reduce browse impacts by reducing the number of deer within an area. There is no change to present hunting status on non-park owned lands, even if within a proposed expansion area or within a park statutory boundary.

Manage, improve and/ or restore river fishing opportunities for native fishes in the Cascade River and the smaller creeks within the park, working with the DNR Fisheries Manager.

State Parks value fish as a component of the larger ecosystem managed within the park landscape. Fishing opportunities, for native and for naturalized and stocked species, are recognized recreation choices for park visitors. The Division of Fisheries has stream plans developed for the Cascade River, and State Parks will continue to work with the fisheries staff to coordinate management efforts. State Parks place particular interest in the fish native to the streams and rivers at Cascade. These species can be benefitted by management actions such as restoration of original riffle and pool areas in streams and restoration of original flow patterns and pathways (many streams were manipulated during periods of intense logging, both intentionally and incidentally). As the natural communities are managed within the watershed of the streams and rivers, attention will be given to benefitting the stream and river habitats themselves.

Protect and/ or restore the Cascade River Corridor natural community, and other river and stream resources within the park.

The Cascade River, although relatively short at just over 17 miles in length, supports a unique and varying community along that length. The CAC understood that the river has been and will continue to be a visitor attraction, concentrating traffic in this sensitive area. Over time, the number of visits to the river and river overlooks has increased, and trends indicate will continue to increase. This visitor use has impacts, including compacting soils, limiting vegetation regrowth, and more. Additionally, deer browse has impacted the cedar and white pine regeneration in the corridor itself, although the steepness of the slope can self-limit the ability of deer to access the river.

Remove or control exotic species, monitor progress of non-native vegetation along corridors of disturbance including trails, roadways and power lines, and develop strategies for control.

Resource staff state that any corridor created in and through natural areas becomes a conduit for non-native vegetation, particularly when the corridor is maintained as a broad opening, such as roadways and powerlines. Resource managers acknowledge that it is very difficult to prevent or completely stop many aggressive non-native species, and it is preferable to limit the number of corridor openings required.

Continue to expand natural resource inventories and data.

Develop techniques to monitor and evaluate natural resource management actions. As new information becomes available it enables a better understanding of the interactions of components in the natural community, and the management efforts used. Currently, the County Biological Survey is underway in Cook County, and when completed, will vastly expand the base knowledge of the natural communities within the region. However, this will provide only baseline data for sites surveyed. As a dynamic system, the natural community will require further inventories and study to continue to grow the understanding of management actions and practices. This is true for all areas of the park, although in regions with intense visitor use, such as along the Cascade corridor itself, or with radically altered communities, such as old gravel pit areas, it is a vital need. Resource managers must have the ability to compare and evaluate actions and impacts in these areas to ensure retention and improvements to the natural communities themselves.

Cultural Resource Recommendations

Monitor and protect known cultural sites within the park, including CCC site(s), Cutface Creek Pits, and pre-contact sites.

In the early years of park development at Cascade, there was limited attention given to the existence of cultural sites in areas proposed for modern use. Upon recent examination, we find that high use areas of the park today were areas that historically attracted use as well. This has resulted in a layering of present, historic and pre-historic sites in some areas. Given that state parks seek to preserve, perpetuate and interpret sites such as this, efforts should be taken to reduce and eliminate present day impacts to known sites. A recommendation in the facility section regarding the high use area along the Cascade River is made, in part, to fulfill this mandate to protect cultural sites.

Continue to survey for cultural resources during park development and management activities.

This is standard practice in all state parks. When a cultural site survey determines the presence of cultural activities, the park manager and staff should work with the archaeologists in determining the best course of action to take in preserving, perpetuating and interpreting the cultural site.

Interpretive Services Recommendations

The CAC and park staff agree that interpretation is a vital component in ensuring that residents are environmentally literate and committed to environmental stewardship. Additionally, the CAC expressed a desire for the park to partner with the surrounding land owners and managers in natural community management, as well as with the local community in providing recreational offerings such that one interpretive effort complements another. The CAC felt that this partnership might best be enabled through the efforts of a staff person with job responsibilities dedicated to educational efforts, such as a park naturalist. The following recommendations detail the primary methods of achieving the goals outlined in the CAC vision statement.

Develop non-personal interpretive kiosks, brochures and information for park and Gitchi Gami Trail users.

Highlight park resources and themes, including geology, river and lakeshore, archaeology, and forest elements. To build a more environmentally informed and aware public, the CAC supported development of park specific materials to inform park visitors about resources, the development of materials that could be used by schools and other direct educational providers such as scouting groups, and the development of materials that could be available in the local community at resorts and visitor information areas.

Provide an occasional personal interpretive program.

As outlined in the Division of Parks and Recreation Statewide Interpretive Plan, this programming would be available for both park visitors and the local community. Programming should be provided by a North Shore Area Naturalist, shared by parks within a reasonably close proximity and similar area of the landscape region. (Cascade River, Temperance River and Tettegouche State Parks.) Other resources should be utilized as well, including other DNR staff within the local area, community members and volunteers, and staff as available from other agencies including the US Forest Service and the National Park Service.

Develop materials and information to inform the public about the park, including park features and facilities, park policies, rules and fees to help manage and match visitor's expectations.

The CAC was concerned that park users and local residents may not always comply with park policies and rules, and thus have a negative impact on other user's experiences and on the park features themselves. It is preferable to have users *choose* rule compliance rather than needing *to enforce* compliance. Informed user groups are most likely to choose to comply with park policies and rules. The CAC wanted to ensure that park staff were empowered to develop and provide background and educational materials for park visitors regarding management policies and decisions. Additionally, the CAC acknowledged that changes are inevitable at Cascade River State Park and along the entire North Shore, whether as a result of Highway 61 roadwork, this planning effort, or larger sociological, natural and economic conditions. Special effort will be needed to foster an understanding of these changes, and to assist park users in respecting and valuing the efforts taken to maintain opportunities for future visitors to experience Cascade River State Park as it is today.

Strengthen cooperative relationships

To benefit the entire region, encourage cooperative relationships between the park, the Superior National Forest, and Cook County. Communication should be strengthened between the park and neighbor communities through news releases, websites and other mediums. The CAC felt there was an economic gain for all parties if accurate, timely information was available and provided through frequent and open communication.

Recreation Use and Visitor Services Recommendations

Relocate campground, *separate from day-use areas.*

First preference is a location in the vicinity of present group camp sites. The preferred design is one that works with the landscape and provides campsite separation and privacy.

The present campground is located near the river gorge, overlooking Lake Superior from a perch just above Highway 61. Many campers are attached to this location because of its proximity to both the river and Lake Superior. However, there are many existing and anticipated conflicts associated with this site. The campground is in a high traffic area, with day-users, anglers, and trail users all using the same space. It sits atop significant cultural resources. The soils and slope are not well suited to development. Further, the heavy traffic in the area has limited the ability of the natural community to regenerate. The improvements planned for Highway 61 include removal of vegetation which will impact some areas of the present campground. Finally, the Gitchi Gami Trail will bring additional users to the area, and will require access, parking, and right-of-way space, thus compounding the problem of mixing day and overnight users in one area.

The preferred location for a new campground would correct most of these concerns. As the significant area mapping chapter will show, the proposed location is outside the area of cedar old growth, and contains soils, slope and drainage more suitable for a campground foundation. It would allow access via a short trail to the Cascade Gorge, and to Lake Superior, and will provide overnight users a distinct, separate space apart from incidental day-use traffic.

The CAC was very committed to a design that minimized impacts on the landscape, using the existing vegetation as well as new plantings to separate and screen campsites. A slight increase from the present number of campsites is acceptable, but the new campground should be designedto offer a sense of privacy at each campsite. If at some point there is demand for electric sites, the campground should be designed to ensure that those higher service sites can be located apart from the tent/non-electric sites. The drainage may serve to limit the size of the campground as well. The proposed location should use an existing trail alignment as a campground roadway. This trail is presently an important component in the ski trail system, and some method of retaining that trail linkage is required, possibly grooming the campground road as a ski trail.

Offer a range of camping options in the park, including group camping, walk in and/ or cart in camping, and modern campsites.

The CAC supported retaining group camping opportunities at Cascade River State Park, possibly as a component of a relocated campground, although not necessarily in the existing location. Additionally, the CAC felt strongly that all aspects of the park development should complement the vision statement which articulates that Cascade River should “preserve opportunities for park visitors to experience wildness, quiet and solitude”. Providing remote campsites, such as cart in/walk in sites, is consistent with this vision.

Provide a day-use area in the location of the existing campground, *incorporating Gitchi Gami and ski trail heads, fishing access and parking, and Cascades access.*

Campground design should, as possible, work with natural and cultural features of the area, including existing trees and terrain. The area nearest the mouth of the Cascade River has been a popular attraction for decades. In the 1930's the CCC worked to develop day-use access areas, including a pull out for motorists. Although people still value the experience provided by these facilities, the CCC-built access areas have become unsafe for pedestrians due to increased traffic and visitation. Also, an increase in resource degradation has led to efforts to direct use through developed overlooks and walkways. Park staff has struggled with ensuring that vehicles in the park area along the Highway display the required permit as well. As Highway 61 is redone, the wayside pull-out will no longer be open to cars. These issues required the CAC and the Division of Parks and Recreation to search for

alternatives for day-use access, and resulted in the recommendation to provide those facilities in the location of the present campground, in proximity to the Gitchi Gami Trail. This recommendation will require users to adapt to a slightly different method of accessing the Cascades area, having to enter the park drive, purchase a vehicle permit and travel a short distance to the day-use area. These users will then have access to park day-use facilities, including parking, restrooms, an accessible trail (as recommended in this plan), trail heads and interpretive exhibits. Informational materials will need to be developed to assist users in making this transition.

The fishing community has expressed concern over the loss of roadside access points as the highway is redone and the wayside pull-out closed to vehicles. Discussions about this concern resulted in an understanding with the Minnesota Department of Transportation to sign the roadside as "no parking" during the high traffic summer season, and to remove the restriction during the lighter traffic spring, fall and winter seasons. This restriction should coincide with the peak of fishing season. As the fishing community adjusts to vehicle parking and water access being provided within the park (and adjusts to the requirement to display a valid park sticker), pressure for roadside parking will diminish. It is also likely that some or most of the fishing community will appreciate the amenities provided within the park, which includes restrooms and secure parking spaces.

Develop a Trail Center facility within the day-use area, *providing year-round warming area and restroom facilities, non-personal interpretation and information.*

Remove the existing buildings including the trail center, campground sanitation station, and former residence. The CAC and Division of Parks and Recreation envision a facility designed to meet the needs of both summer and winter park trail users.

Maintain the current trails system and current trail uses within the current park boundary.

The CAC felt that the existing quantity and type of trail opportunities at Cascade River State Park, primarily hiking and cross country skiing, were acceptable and should be maintained. Snowmobiling is also allowed in the park, but only as a connection to the larger network of trails outside the current park boundary, and the CAC preferred no change to this use. Finally, snowshoeing is allowed in the park, although few if any trails are specifically designated as snowshoe only, and snowshoes are not allowed on trails groomed for cross country skiing.

Provide mountain bike trail spur to direct those seeking a mountain bike trail experience to designated trails outside the park, recognizing the need to coordinate with Cascade Lodge.

Some area recreation providers encourage mountain bike use, and have developed a network of mountain bike trail opportunities outside of the park boundary. This recommendation recognizes the need to direct park guests to the developed mountain biking network adjacent to the park, and recognizes a value in encouraging users to bike to the trails rather than require use of a car to access nearby trails. Park users are welcome to ride bicycles on park roads, but there is no support for providing any further mountain bike trails within the park itself.

Consider finding a trail opportunity for other non-motorized user groups in a park expansion as compatible with the natural resource community, if demand exists.

The CAC and Division of Parks and Recreation recognize that trails exist within the proposed expansion area, and felt the existing level and type of use on these trails acceptable, including segments of the snowmobile trail. The CAC and Division of Parks and Recreation felt that the proposed expansion area could support additional non-motorized trails, such as hiking, snowshoeing and skiing. Any discussion of other trail types would occur in response to an identified demand, and require a more thorough understanding of not only the suitability of the terrain and soils, but an examination of similar facilities in the park vicinity. CAC members concur with and support the rule that prohibits OHV's from State Park lands.

Although details of the Gitchi Gami Trail alignment have yet to be determined outside of Cascade River State Park boundaries, and could influence park alignment decisions, an inland alignment is preferred within the park from the point the Trail enters the park from the south and west until north and east of the Cascade River, at which point the Trail would then cross under Highway 61 to access the lakeside picnic area and follow the highway right of way out of the park to the north and east on the lake side.

Also, provide pedestrian access under highway to historic wayside. This inland alignment should be sensitive to wetland impacts, cedar and pine regrowth, and wildlife needs.

Provide access for pedestrians and Gitchi Gami Trail users to the lakeside day-use picnic facilities while Highway 61 reconstruction and Gitchi Gami Trail development occurs. Also provide walk-in access from the day-use parking area through a tunnel corridor bringing the Gitchi Gami Trail under Highway 61.

In addressing this issue, the primary concern of the CAC and Division of Parks and Recreation was to ensure the natural community was not compromised. In addition, there was concern for visitor safety, and for preventing user congestion. Exact locations for the Gitchi Gami Trail alignment and access points will be determined by on-site needs including sight lines, drainage, and natural community features. However, pedestrian access to the lake side picnic area should be provided regardless of Gitchi Gami alignment with an under the highway corridor. This corridor should be included as a part of the highway project that connects the main park to the picnic area, allowing park visitors to safely leave vehicles in the day-use parking area and bring picnic materials on foot or by cart to the lake side picnic area.

Make a portion of the Cascade River gorge accessible

Measure accessibility of park facilities and park resources for persons with disabilities, providing an opportunity to experience the sight and sound of the falls area. The initial CAC preference was to provide an accessible path to the lower falls area, but they discovered it is unlikely that this could be accomplished without great impacts to the natural community, and so the CAC supports providing an accessible path where feasible. Park and resource staff have proposed investigating an option that would bring an accessible trail to an area overlooking the upper falls, and although it may provide only a partial view of the falls, the sound and spray would be accessible. Additionally, the CAC supports making the new trail center and restrooms accessible, a position consistent with state park policy and guidelines.

Use existing facilities and areas of development to provide limited day and overnight facilities for Lake Superior Water Trail users.

As mentioned in the discussion of water recreation earlier in this document, there needs to be an understanding of the desired facilities and needs of water trail users, primarily sea kayakers. The CAC and park staff agreed that this information will be crucial in assessing what can be provided for water trail users. However, the recommendation is to use existing facilities when meeting the needs of Water Trail users, including making an existing lake side campsite available and accessible to water trail users as well as walk in users. A key value of the expanse of Lake Superior shoreline contained within Cascade River State Park is it's undeveloped nature, and the CAC desired to keep the shoreline undeveloped. This includes not only buildings but also additional recreational facilities. The CAC suggested that there might be more appropriate locations for additional overnight facilities or more day-use shoreline pull-outs at sites in the vicinity of the park. The water trail planners are encouraged to seek out these alternate locations, allowing the park to continue to provide a length of undeveloped shoreline that paddlers can enjoy, free from campfires, restrooms and tents. Beyond the desire to retain an undeveloped expanse of lakeshore, the rock and shoreline features themselves are not ideal for kayak landing areas, and the rugged nature of the expanse in Cascade River may make other locations more suitable as well, although information suggests there may be limited areas with ideal conditions along much of the Lake Superior shore in the park's vicinity.

Consider providing a small parking area for walk in access only to the northeast (upper) portion of park.

The CAC found value in retaining this non-contiguous portion of the park by virtue of it providing additional area of undeveloped landscape for highway 61 travelers. However, there was interest in providing some point of foot traffic access to the parcel. The CAC did not suggest a need to develop trail systems, but to provide an access point for people seeking to hike in an undeveloped area. Typically, state parks prefer to limit the number of uncontrolled access points to better ensure safety and park appropriate behavior. However, as this parcel cannot be accessed from the main park, the CAC recommends consideration be given to providing an access point.