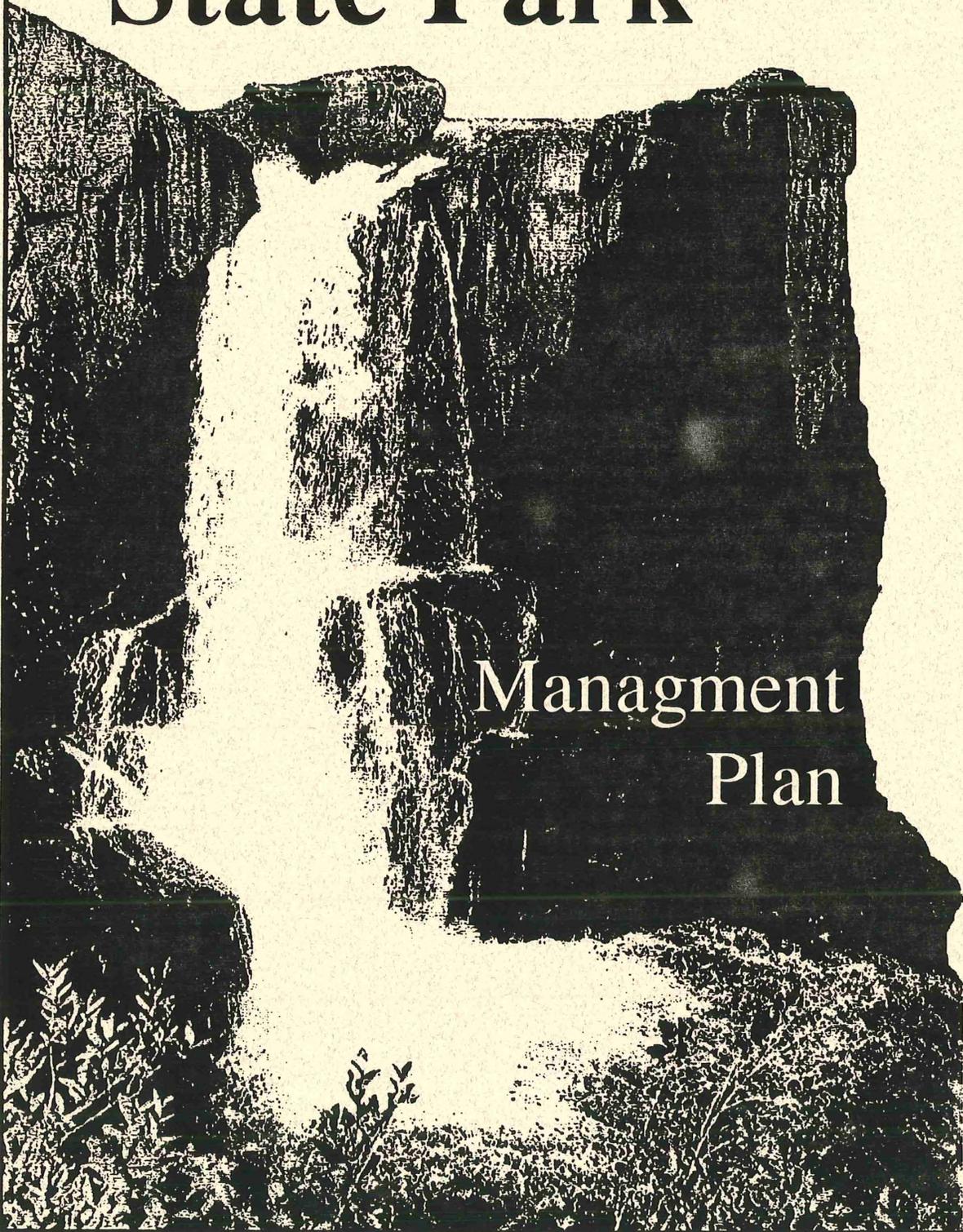


7/22/91

DRAFT

Grand Portage State Park



Managment
Plan

CONTENTS

I. Introduction	2
Park Description	2
Advisory Committee	4
The Law	5
II. Regional Analysis	7
The Surrounding Area	7
Supply and Demand of Recreational Facilities	10
III. Park Resources	11
Resource Management Objectives	11
Climate	12
Geology	13
Soils	15
Vegetation	18
Wildlife	20
Water/Fisheries	21
History/Archaeology	22
IV. Physical Development and Recreation Management	26
Recreation Management Objectives	26
Existing Development	27
Proposed Development	29
Interpretive Services	32
V. Operations and Staffing	33
Maintenance and Operations	33
Staffing	34
VI. Cost and Phasing Summary	36

Park Description

Grand Portage State Park is in the most Northeast region of Minnesota on the United States and Canadian Border 42 miles north of Grand Marais on Highway 61. The park is encompassed within the Grand Portage Indian Reservation with Lake Superior on the East and the Pigeon River and Canada to the North.

The park totals approximately 300 acres with frontage on both sides of U.S. Highway 61 for about 2,000 feet. Frontage on the Pigeon River totals about 13,000 feet. Park land surrounds the U.S. Customs and Immigration Station. The park is close to Lake Superior and is located on the "Circle Route" tour around the lake.

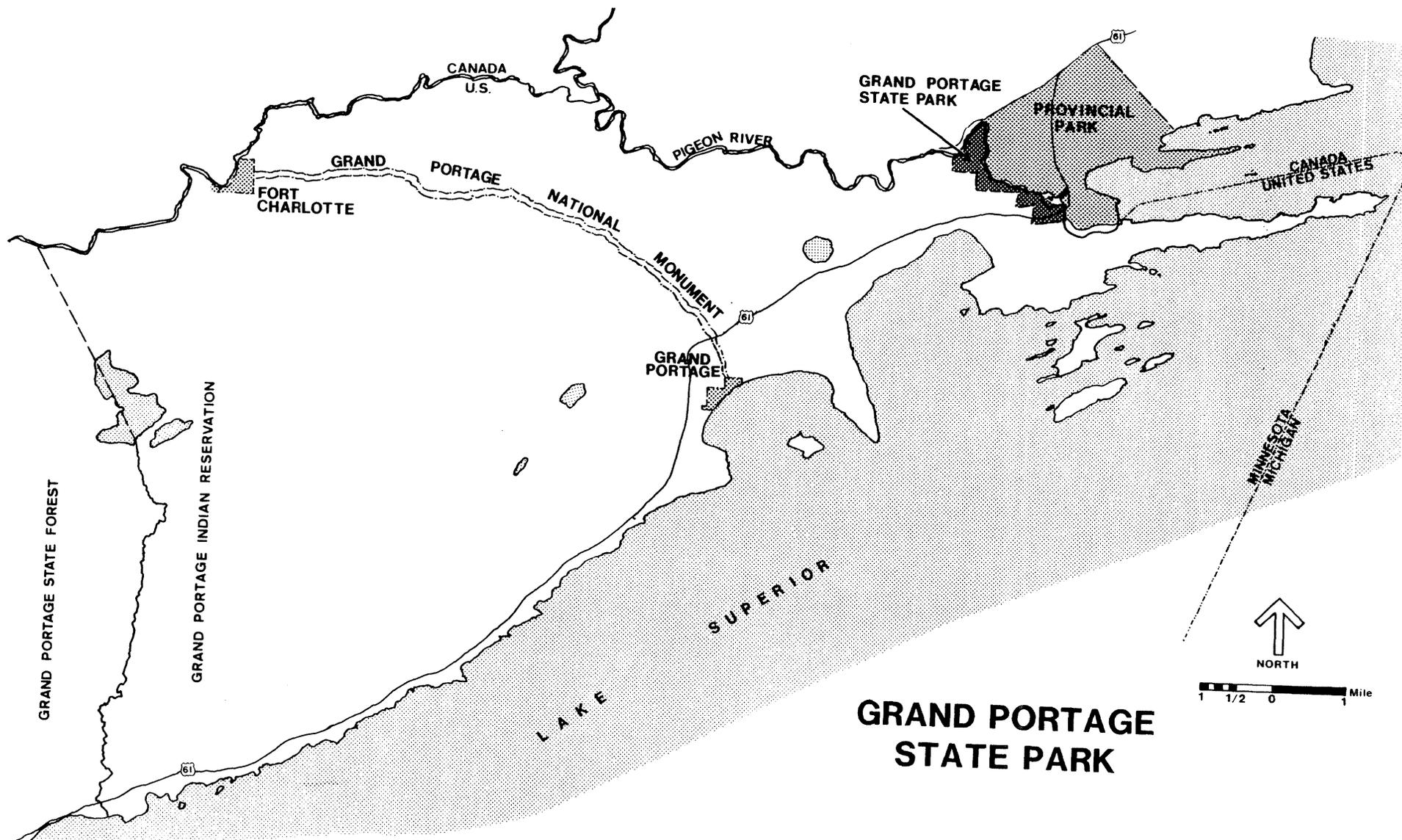
Most of the property is heavily wooded and has not been logged for nearly 50 years. The park has unique qualities, such as the highest waterfalls in Minnesota, Pigeon Falls (estimated at 100 feet). The park also offers deep river gorges and high bluffs with breathtaking views.

The land on the other side of the Pigeon River is part of the Ontario Provincial Park system, but at present there is no easy access to Pigeon Falls on the Canadian side of the river. This close connection to the Ontario Provincial Park will open the opportunity for establishing an international park in the future.

The creation of this park is unique. This will be the only state park not owned by the State of Minnesota. The land is part of the Grand Portage Indian Reservation and will be leased from the Band and developed and run by the Department of Natural Resources, Division of Parks and Recreation. At no time in the past has a state park been developed under these conditions. This cooperative effort with the state and the Indian community will make this one of the most unique and interesting state parks.

Grand Portage State Park will enable thousands of people to see two beautiful waterfalls and enjoy the spectacular qualities unique to this park. There is ample space to develop parking, picnicking facilities and to serve as the trail head for regional hiking, cross-country skiing and snowmobile trails.

The area's diverse cultural background (Native American, French, British and early American) and history of the fur and logging industries offers numerous educational opportunities for the nearly half-million people who cross the border at this location every year.



GRAND PORTAGE STATE PARK

Advisory Committee

The Grand Portage State Park advisory committee was established by Chapter 259 subd. 5 of the 1989 Laws of Minnesota. This advisory committee will provide direction on the establishment, planning, development and operation of the park.

The committee is made up of five individuals whose organizations will have direct influence on or be influenced by the park. The chair of the committee is appointed by the commissioner of natural resources. Two members, a representative of the Grand Portage Band and a citizen of the state are designated by the Band. The final two members are made up of a citizen of Cook County, designated by the county board and, for the first five years following authorization of the park, a member of the Minnesota Parks and Trails Council and Foundation.

The committee has met on several occasions to establish a set of priorities for development and park management. The committee has worked together to acquire funding for a cultural survey of the area and to get the park moving forward.

LAWS of MINNESOTA for 1989
Chapter 259—H.F. No. 450

Subd. 27a. Grand Portage State Park. Cook County.
Sec. 7. **GRAND PORTAGE STATE PARK.**

Subdivision 1. **BOUNDARY.** Grand Portage State Park is established and the following described lands are located within the boundaries of the park:

- In Township 64 North, Range 6 East:
 - All of Government Lots 2, 3, and 4, and the East half of Government Lot 1 of section 24.
- In Township 64 North Range 7 East:
 - All of Government Lot 1 of Section 19. All of Government Lot 5 of Section 29. All of Government Lot 3 of Section 30. All of Government Lot 2 of Section 30

Subd. 2. **ACQUISITION.** (a) Except as provided in paragraph (b), the Commissioner of Natural Resources is authorized to acquire by gift or purchase the lands for Grand Portage State Park.

(b) Except as provided in paragraphs (c) and (d) of this subdivision, the commissioner of natural resources may not acquire a fee simple interest in land of the United States or the Grand Portage Band within the boundaries of Grand Portage State Park for park purposes. The commissioner may not limit access by the Grand Portage Band across Government Lot 2, Section 30, or Government Lot 5, Section 29, both in Township 64 North, Range 7 East. However, the Commissioner may acquire leasehold or other lesser interests in lands of the United States or the Band as may be necessary for development or operation of the park.

(c) After the land is acquired, the commissioner shall transfer title by quitclaim deed in the name of the state to the United States of America in trust for the Grand Portage Band of Chippewa Indians on condition that the Band, with the approval of the appropriate agency of the United States, must lease the land at a nominal consideration of not to exceed \$100 per year, to the state for not less than 25 years, with the option to renew for an additional 25 years, for management and operation as a state park in the same manner as other state parks are administered.

(d) If at any time after termination of the lease the land is not used for public purposes consistent with its past park use, it shall revert to the state and be used for public park purposes consistent with the park plan. This reverter is perpetual notwithstanding the provisions of Minnesota Statutes, sections 500.20, 541.023, or any other laws to the contrary.

Subd. 3. **PAYMENT IN LIEU OF TAXES FOR PRIVATE TRACTS.**

(a) If a tract or lot of privately owned land is acquired for inclusion within Grand Portage State Park and, as a result of the acquisition, taxes are no longer assessed against the tract or lot or improvements on the tract or lot, the following amount shall be paid by the commissioner of natural resources to Cook county for distribution to the taxing districts:

- (1) in the first year after taxes are last required to be paid on the property, 80 percent of the last required payment;
- (2) in the second year after taxes are last required to be paid on the property, 60 percent of the last required payment;
- (3) in the third year after taxes are last required to be paid on the property, 40 percent of the last required payment; and
- (4) in the fourth year after taxes are last required to be paid on the property, 20 percent of the last required payment.

(b) The commissioner shall make the payments from money appropriated for state park maintenance and operation. The county auditor shall certify to the commissioner of natural resources the total amount due to a county on or before March 30 of the year in which money must be paid pursuant to this section. Money received by a county pursuant to this subdivision shall be distributed to the various taxing districts in the same proportion as the levy on the property in the last year taxes were required to be paid on the property.

Subd. 4. COOPERATION REQUIRED. For the purpose of maximizing public outdoor recreational opportunities in the vicinity of the Pigeon River, at the request of the Grand Portage Band, the commissioner of natural resources shall cooperate, to the greatest extent possible, with the Grand Portage Band and Cook county in regard to outdoor recreation and tourism development such as the Superior Hiking Trail.

Subd. 5. ADVISORY COMMITTEE. The commissioner of natural resources must create an advisory committee to provide direction on the establishment, planning, development, and operation of the park. The commissioner of natural resources or the commissioner's designated representative is the chair of the advisory committee and the membership must include:

- (1) a representative of the Grand Portage Band, appointed by the Band;
- (2) a citizen of the state, designated by the Grand Portage Band;
- (3) a citizen of Cook county, designated by the county board; and
- (4) for the first five years following the authorization of the park, a member of the Minnesota Parks and Trails Council and Foundation, designated by the foundation.

Sec. 9. APPROPRIATION

Subdivision 1. \$350,000 is appropriated from the land acquisition account in the special revenue fund to the commissioner of natural resources to acquire lands and interests in lands within Grand Portage State Park as established in this act.

Sec. 11. EFFECTIVE DATE

This act is effective the day following final enactment.
Presented to the governor May 23, 1989
Signed by the governor May 25, 1989, 6:15 p.m.

Surrounding Area

POPULATION Cook County hosted a total estimated population of 4,286 residents in 1983. This population is broken down into the city of Grand Marais 1,479 people, Schroeder Township 358 people, Tofte Township 294 people, and the unorganized territory 2,155 people. More than one-half the county is unorganized territory which suggests that the population is very low and widely dispersed. The local population will not make up a big portion of park visitors.

TRAFFIC

Traffic volumes in the Grand Portage area, particularly along Highway 61 decrease steadily from the Duluth area north. At Duluth the average daily traffic volume is 5,755 commercial and private vehicles. At Beaver Bay the volume decreases to 4,565, at Grand Marais 2,930, and at the Port of Entry 1,470 vehicles. This shows a decrease of more than 75% over the 150 mile stretch from Duluth to Grand Portage.

TOURISM

The majority of visitors to Grand Portage State Park are going to come from outside the local area. A 1981 survey of the North Shore by Sea Grant Program found that a total of 1.36 million people visited the area and spent an average of two days per person. Of this 1.36 million, 80% came from Minnesota, 15% from all other states and about 5% from Canada. Of the 15% from other states Wisconsin and Iowa made up 4% and 3% respectively. The remaining 8% came from all over the country. Grand Portage in particular may receive a higher percentage of Canadian visitors than the 5% average for the entire North Shore.

The same survey listed Grand Portage as having the most unusual and varied features of any area along the North Shore, including: the High Falls, the Canadian Border, and dependable snow and a substantial cross-country skiing market.

LAKE SUPERIOR HIKING TRAIL

Grand Portage State Park will be a trail head for the Superior Hiking Trail. When completed this trail will extend from Grand Portage State Park to the Knife River, about 220 miles. During the summer of 1991 the Superior Hiking Trail Association will construct a trail from Grand Portage State Park to Grand Portage National Monument and Grand Portage Lodge. The trail will be extended southwest to Grand Marais during the summer of 1992.

This trail has broad based grass roots support. Development funding was provided by the Legislative Commission on Minnesota Resources (LCMR). Trail easements were provided by the hundreds of landowners along the shore. One coordinating position is funded by the DNR. The Iron Range Resources Rehabilitation Bureau (IRRRB) and numerous service organizations have helped on specific projects as needed. Project direction and support have come from the Superior Hiking Trail Association.

NORTH SHORE TRAIL

The North Shore Trail is a continuous 150 mile trail from Duluth to Grand Marais. The entire trail is groomed for snowmobile use during the winter. The portions suggested for summer hiking and horseback-riding are from Duluth to the French River, approximately 14 miles. Extending the trail from Grand Marais to Grand Portage has been requested by snowmobilers for many years. The development of Grand Portage State Park could serve as an excellent trail head if the trail can be extended that far east.

Local Attractions

Miles From Grand Portage	Name	Description
27	Judge Magney State Park	Scenic Vistas of Lake Superior. Facilities include a campground, picnic areas, fishing, and hiking and cross-county ski trails.
27	Naniboujou Lodge North	Shore cuisine. Facilities include twenty-nine rooms, solarium/library, and home cooking.
17	Reservation River Resort	Facilities include modern cabins on Lake Superior at the edge of Reservation River.
17	Hollow Rock Resort	Facilities include modern cottages, completely equipped and have beautiful vistas. Campgrounds for tents and all types of RV's are available.
6	Grand Portage Lodge	Facilities include 100 rooms on Lake Superior. Meeting rooms, marina and charter fishing.
6	Grand Portage National Monument	First white settlement in Minnesota, est-1731. Starting point of historic portage from Lake Superior to Fort Charlotte.
6	Isle Royale Boat Service	"WENONAH" and "VOYAGEUER" boats depart and return daily to Isle Royale National Park.
Adjacent to	Rydens	Duty free store, restaurant and service station. Merchandise available only to travelers going into Canada.
Adjacent to	Grand Portage Port of Entry	The border is open 24 hours a day. The Canadian government requires any visitor entering Canada to be in possession of adequate funds to maintain their visitor status for the time they will be in Canada.

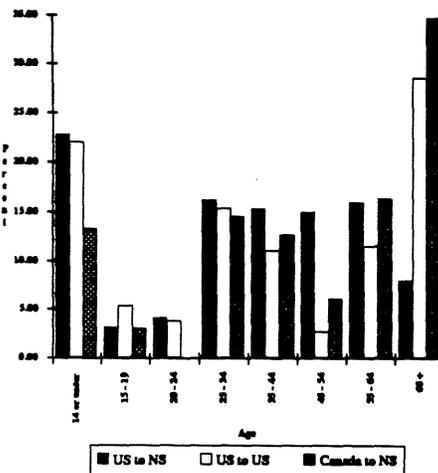
Supply and Demand of Recreational Facilities

Demand

The demand for recreational facilities on the north shore is quite significant. For 1990, campgrounds in the seven north shore parks averaged 61% occupancy which compares to a statewide average of 34%. The north shore parks also on average had reservations for 52% of all campsites, which compares to 38% statewide. For the past five years, 20% of all state park visits were in north shore parks. This high use rate shows a great deal of people who will be looking for additional attractions on the north shore, Grand Portage State Park will fill that need.

Visitor Profile

Age of North Shore Visitors

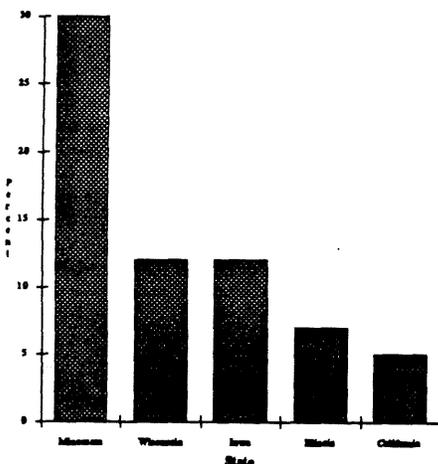


The information used for this visitor profile was from a survey done by North of Superior Tourism, an Ontario private sector organization, during the summer of 1990. The survey addressed three markets: United States Visitors in the United States, United States Visitors on the North Shore and Canadian Visitors on the North Shore.

Canadians tend to remain within Canada, however the United States is a very significant destination. United States visitors are more inclined to travel by truck/van/RV than Canadian visitors. United States visitors are more likely to stay in a campground and Canadian visitors are more likely to stay in a hotel/motel.

There is a wide range of information sources used by the North Shore visitor, but the primary source for the United States visitor is the Automobile Associations, with an average of more than 47%. Other major sources include: Ontario Government Literature (40%), word of mouth (20%), Travel Agents (18%) and Circle Tour Publications (13%).

Origination of Visitors



The makeup of the North Shore visitor is somewhat interesting in that females constitute over 55% of all North Shore visitors with predominant groups of single couples; 1 male, 1 female (36%), or two couples; 2 males and 2 females (23%). The age breakdown of visitors is slightly different between Canadian and United States visitors. For the United States visitor, most age groups are represented well and a satisfaction with the area is noted. One age group that does not seem to be attracted to the North Shore area is the 45 to 54 age group (2.7%). The one age group that was consistent in both United States and Canadian visitors was the 65+ group (32%).

Of the communities in which United States visitors came from, the top five showed something very interesting; 1-Minnesota (30%), 2-Wisconsin (12%), 3-Iowa (12%), 4-Illinois (7%) and 5-California (5%). This shows a nationwide interest in Minnesota and a strong positive view of the North Shore.

* All percentages concerning both United States and Canadian visitors are averages.

Resource Management Objectives

- Provide the minimum development necessary to provide access, protect the resources, and retain the primitive setting (also a development objective).
- Identify and protect significant natural resources.
- Identify degraded resources and design resource management actions to restore them.
- Prioritize resource management objectives.
- Concentrate all park development on the west side of U.S. Highway 61.

Although Grand Portage State Park is subject to the strong continental weather patterns that influence all of Minnesota, the local climate is moderated by Lake Superior. The park receives warming breezes off Lake Superior in the winter and cooling breezes in the summer. Generally, temperatures in Grand Portage are 6 to 8 degrees warmer in the winter and cooler in the summer than inland areas of north-eastern Minnesota. The following temperatures recorded at Grand Marais, Minnesota should reflect the general temperature variations to be expected at a park near Lake Superior. The more inland the area of the park, the slightly cooler the temperature will be in the winter

Temperature variation for Grand Marais, Minnesota

Mean January Maximum	20°F
Mean January Minimum	2°F
Mean July Maximum	72°F
Mean July Minimum	54°F

The average annual precipitation (rain and snow) in the Grand Marais area is 27 inches.

The area in and around Grand Portage State Park is dominated by two striking natural features: the Pigeon River with its two waterfalls and narrow gorges, and high rocky ridge. The entire area is forested. Elevations vary over 400 feet from about 615' to 1040'.

The Pigeon River has the second largest watershed of any Minnesota tributary to Lake Superior (the St. Louis River, which enters at Duluth, is the largest)¹. Although its discharge varies considerably with season (low in Feb./early March, highest during April/early May snow melt) it is always impressive. Two of the three largest falls are within the park area, High Falls (about 30-39 m, 100-130 ft) and Middle Falls (about 9m or 30 ft).

Solid rock is exposed in the area only on the high ridge and at the waterfalls and gorges of the Pigeon River. With the exception of areas on the north slope of the ridge where rock fragments fell from a cliff or steep slope, the rest of the area is covered by glacial till of the Superior lobe of the Late Wisconsin ice sheet, and overlying that, several feet of red lacustrine clay in the lower areas (Grout, Sharp, and Schwartz, 1959).

Both waterfalls were formed, when, about 1.9 billion years ago, molten rock rose up from the depths of the earth and pushed between layers of the sedimentary rock and filled existing faults. This rock cooled slowly and formed much harder areas in the bedrock called dikes. It's the intersection of these dikes that formed the waterfalls. A sill, which is a similar molten intrusion, formed tubular areas of hard rock that crossed layers of the Rove formation. Along with the dikes, these sills make up Middle Falls. The river first cascades over a 3-m (10 ft) drop, then over the main 6-m (20 ft) free-fall. In the gorge downstream the river has cut primarily into the Rove shales, which are made up of a fine grained layered sedimentary rock formed from clay, silt, or mud, but at least one diabase sill, a northeast-trending dike, and a fault, which trends NNW parallel to the river, are also present and have influenced the river's course and character. The walls of the gorge are 18-25 m (60 to 80 ft) high and largely vertical. The mountainous topography of this region is largely the result of the resistance of these great dikes and sills among the softer slate. (See figure 1.)

At High Falls the river plunges over a large, vertical, ENE-trending diabase dike into a deep gorge cut into the Rove shales. Spray is

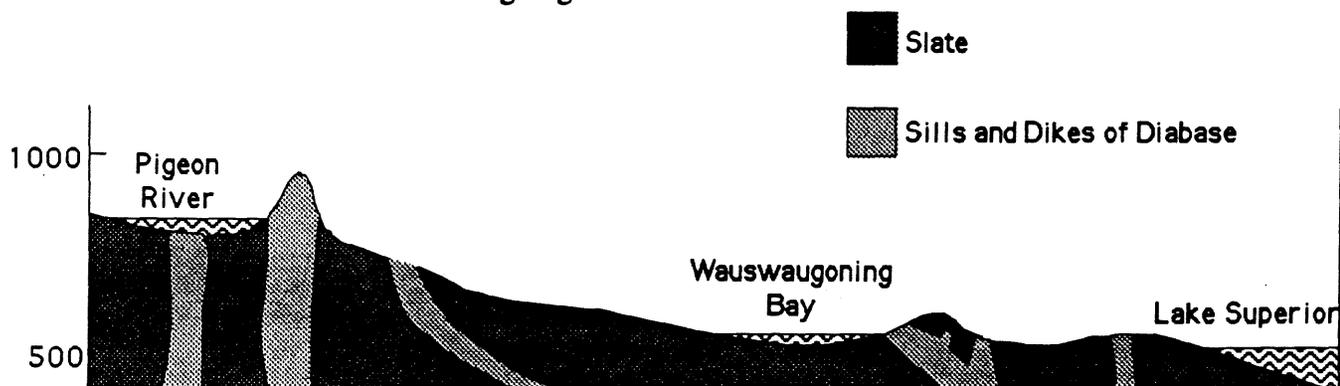
1. Green, John C., *Evaluation of the Pigeon River High Falls Area, Cook County, Minnesota as a Potential National Natural Landmark*, Duluth, Minnesota, December, 1989, pg 2-3.

always present, with rainbows under appropriate sun conditions. Another dike, trending NW, forms the west side of the upper part of the gorge. This gorge, which soon angles to the left (ENE), is about 150 m (500ft) long and 15-25 m (50-80 ft) deep. Below the gorge, and upstream between the falls and the upper gorge mentioned above, the river flows on a wider, bouldery bed with low banks.

The E-W ridge west of High Falls is held up by the same dike that forms the falls. It has steep, rocky sides and a rocky, mostly forested crest with occasional open areas which provide dramatic views in all directions.

Thus, the geological history can be outlined as follows:

- a. Sedimentation of muds, silts, and sands in the Animikie basin sea, about 1.9 billion years ago (Early Proterozoic) formed the Rove Formation.
- b. Some uplift of the earth's crust and slight erosion; general stability.
- c. Initiation of the Mid-continent Rift, about 1109 million years ago (Davis and Sutcliffe, 1985); Logan diabase sills and some dikes intruded into the Rove Formation. Eruption of flood basalts to the south and east; these probably spread over the present Pigeon Falls area.
- d. More intrusion of diabase to form the larger dikes at about 1096 million years ago as the Midcontinent Rift continued. More flood basalt eruptions.
- e. The earth's crust was strengthened and stopped moving in this area. A long period of stability ensued during which the overlying flood basalts and some of the Rove Formation were weathered and eroded away.
- f. Continental glaciation during the Pleistocene Epoch (last 2 million years); erosion of all weathered material, steepening of cliffs by plucking, erosion of the Lake Superior basin, and deposition of till over the entire area except the tops of high ridges.
- g. Lakes of glacial meltwater covered the area, depositing a layer of clay sediment over the glacial till. This was about 10,000 years ago.
- h. Development of the modern Pigeon River drainage, with active down-cutting where gradients were the most steep, forming deep gorges in easily erodible till and Rove shales. Diabase dikes resisted erosion, forming large waterfalls.



Cross Section of Rove Slate Area

Fig. 1

The following list describes all types of soils that can be found inside Grand Portage State Park. The soils within the park range from a level, well drained soil with good development possibilities to a rock outcrop with an extreme slope and little to no development possibilities. The chart at the end of the list breaks down each type of soil and the limitations on certain types of development on the soil¹. A map of the park and the soil types is included in the plan.

254B HIBBING SILT LOAM

A deep well drained soil formed in calcareous, reddish brown clayey lake sediment on gently sloping, convex areas. 2 to 6 percent slope. Erosion can be a potential hazard when these soils are used for some cultivated crops. If properly managed, soil has a good potential for some cultivated crops, hay and pasture.

512 AMASA GRAVELLY FINE SANDY LOAM

A deep, nearly level, well drained soil formed in 12 to 24 inches of loamy material over stratified sand and gravel. This soil is found on beaches, terraces and deltas. 0 to 2 percent slope. These soils have good potential for development. Select flatter areas for ease of development and use.

550 SUAMICO MUCK

Consists of nearly level, very poorly drained soil formed in 16 to 50 inches of herbaceous organic material over clayey material. Found in depressions on lake plains. 0 to 1 percent slope. This soil has a high water table for most of the growing season. Most areas are woodland and wildlife habitats.

890BD BARTO-MESABA COMPLEX GRAVELLY SILT LOAMS

Consists of Barto soil (8 to 20 inches to bedrock), Mesaba soil (20 to 40 inches to bedrock) and Quetico soil (4 to 8 inches to bedrock) in such a complex pattern that it is not practical to separate them. 2 to 18 percent slope. Most areas of these soils are in forest. These areas have many limitations for development. The many stones and slope are critical factors.

952BD QUETICO-ROCK OUTCROP

Very shallow Quetico soil (4 to 8 inches to bedrock) and rock outcrop in such a complex pattern that it is impractical to separate them in mapping. Has severe limitations for woodland suitability when considering erosion hazard, equipment limitations, seeding mortality, windthrow hazard and yield. 2 to 18 percent slope. Vegetation disturbance should be kept to a minimum.

1. Lewis, R., Jacobsen, A., Bovee, T., Trender, D., *Soil Survey of the North Shore of Lake Superior, Coastal Management Area*, USDA Soil Conservation Service in Cooperation with Minnesota Agricultural Experiment Station, 1977.

952EF QUETICO-ROCK OUTCROP

Very shallow Quetico soil (4 to 8 inches to bedrock) and rock outcrop in such a complex pattern that it is impractical to separate them in mapping. Has severe limitations for woodland suitability when considering erosion hazard, equipment limitations, seeding mortality, windthrow hazard and yield. 18 to 60 percent slope. Unsuitable for cultivated crops, most engineering use and building sites. Timber management problems are severe.

1020 UDORTHENTS

Steep soils formed in clayey sediment. They are long, narrow, V-shaped valleys. Soil formation is restricted to steep slope. Most areas of this soil are in forests. This soil has severe limitations for most uses because of steep slopes. Hiking trails are possible, though a severe problem of erosion control on steep slopes does exist.

Soil Type	254B Silt Loam	512 Sandy Loam	550 Muck	890BD Silt Loam	952BD Rock Outcrop	952EF Rock Outcrop	1020 Clay
Slope (percent)	2 to 6	0 to 2	0 to 1	2 to 18	2 to 18	18 to 60	18 to 45
Depth (inches)	6 to 20	12 to 24	16 to 50	4 to 40	4 to 8	8 to 24	4 to 12
Excavations	M	M	S	S	S	S	S
Structures Without Basements	M-S	L	S	M-S	S	S	S
Structures With Basements	M-S	L	S	S	S	S	S
Local Roads & Streets	S	L	S	M-S	M-S	S	S
Campground & Picnic Area	M-S	L	S	M	S	S	S
Paths & Trails	L	L	S	L	M	M	M
Sewage Disposal	S	L	S	S	S	S	S
L----- Low limitations or problems							
M----- Moderate Limitations or Problems							
S----- Severe Limitations or Problems							
Source: Soil Survey of North Shore of Lake Superior 1977, USDA Soil Conservation Service							

The following ecological communities were identified Dr. John Green in Grand Portage State Park during his brief survey in August of 1989:

- Mixed Hardwood Forest (lowlands and slopes);
- Boreal Forest (on slopes and uplands);
- Xeric Rock-cliff Communities (exposed ridge-tops, talus);
- Mesic Rock-cliff Communities (shady north slopes, rocky stream banks);
- Stream banks and Alluvial Bottomlands.

This survey is incomplete in detail, but does describe the basic structure of the parks vegetative communities. Most of the trees are not exceptionally large or old. There are scattered mature trees in the park, particularly the old open grown birch near the park entrance, which is the second largest birch in Minnesota. The forests are fairly typical of northeastern Minnesota.

There were floristic studies in this general area are previously by Butters and Abbe (1953) and Soper et al. (1989). These studies did not concentrate on the Pigeon Falls area, however¹.

The Mixed Hardwood Forest, which covers the most area in the site, is dominated by White (Paper) Birch and Quaking Aspen, with occasional White Spruce, Balsam Fir, White Cedar, Balsam Poplar and Black Ash, with diameters (dbh) of up to about 20". Common understory species are Mountain-Ash, Mountain Maple, Speckled Alder, Red-Osier Dogwood, Thimbleberry and Raspberry. The typical old-growth Northern Hardwood species of Sugar Maple, Yellow Birch, Basswood, and Oak were not found in the area.

The Boreal Forest Community occupies much of the slopes and crest of the large ridge and knob in the southern part of the area. It is dominated by White Spruce, Black Spruce, Balsam Fir, White Pine, Red Pine, White Cedar, White Birch, Trembling Aspen, and Mountain-Ash. These ridges contain several more rocky, open patches treated separately under Xeric Rock-Cliff Communities. Typical boreal ground cover includes abundant Clintonia, Bunchberry, Canada Mayflower, pyrolas, Wild Sarsaparilla, Twinflower, and clubmosses.

1. Green, John C., *Evaluation of the Pigeon River High Falls Area, Cook County, Minnesota as a Potential National Natural Landmark*, Duluth, Minnesota, December, 1989, pg 4.

The more xeric Rock Cliff Community, found in open and rocky areas on the ridges and talus include most of the same tree species as above. Other common species are Bearberry, Low Juniper, Juneberry, Pincherry, Blueberry, Bush Honeysuckle, Columbine, and several ferns: Common Polypody, Fragile Fern, Fragrant Cliff Fern, and Rusty Cliff Fern.

Moister Rock Cliff Communities are shadier and characterized by some of the same boreal species but especially the ferns: Fragile Fern, Oak Fern, Spinulose Woodfern, Long Beach Fern, Slender Cliff-brake, Common Polypody, and Bulblet Fern. Butters and Abbe (1953) found several rare species elsewhere in northern Cook County in this habitat; a more thorough examination might discover some of these rarities within the state park.

Moist, Alluvial Bottomlands along the Pigeon River, especially northeast of Middle Falls and to a lesser extent west of High Falls, contain a rather distinct flora for the area, more typical of mature hardwood communities well to the south. Part of this community is dominated by large (up to 24" dbh) Green Ash with or without Black Ash, with an understory of Mountain Maple and Speckled Alder over ground cover of Ostrich Fern and Blue Cohosh with Wild Ginger beneath. In other, more rocky or bouldery parts of the bottomlands large White Cedar is abundant and occasional large White Spruce and White Birch (20-24") are found. Several large dead American Elms remain standing; a few small live saplings were seen. More open, disturbed edges have a wide variety of species.

Proposed Management

1. Inventory Vegetation

Complete a detailed inventory of plant communities and associated species.

2. Survey areas to be disturbed

Complete a detailed assessment of significant plant species within the areas proposed for development or other disturbance..

3. Perpetuate Wolf Tree

Perpetuate the large birch tree near the park entrance. This will require avoiding compaction or fill over the feeder roots, protecting from lawn mower damage, and may require mulching and fertilizing.

Note: Additional management actions will be identified after the detailed inventory is completed.

The variety of plant communities in the park vegetation study area provides habitat for a diversity of wildlife species. No formal study of the area has been done, but some of the larger, more common mammals that would be expected would be beaver, white-tail deer, moose, and black bear. Populations of each species are not known. No rare and endangered species are known to inhabit the area.

Proposed Management

1. Survey Animals

Complete a detailed survey of the area to make sure that no endangered or rare species are disturbed

Note: Additional management actions will be identified after the detailed inventory is completed.

The water flow of the Pigeon River is measured at an international gaging station in cooperation with Canada at Middle Falls, 2.5 miles upstream from Highway 61. The Pigeon River drains a basin of approximately 600 square miles (384,000 acres) into Lake Superior. The average slope of the river is approximately 13.0 ft./mile. This figure would suggest a fast moving river, but because of the two large waterfalls on the river (Middle Falls: 30 ft. and Pigeon Falls: 100 ft.), this number is deceiving. The Pigeon river is a very unique river that offers a habitat not found in any other North Shore River, in that it is very slow moving and relatively wide.

The river has a very windy pattern. In a straight line it is nine miles from Fort Charlotte to the mouth of the Pigeon River. The Pigeon River flows nearly 20 miles to connect these same points. The average discharge of the river from 1924-84 was 507 ft³/second¹. The maximum discharge was recorded on May 5, 1934 at 11,000 ft³/second, the minimum was recorded on January 15-21, 1977 at 1.0 ft³/second (essentially dry).

Boat fishing in Pigeon River is limited to the lower portion near Lake Superior; here the river widens and becomes very slow moving and warm. Fish are located in other parts of the river, but are more difficult to get at and probably not as abundant.

Proposed Management

1. Survey Aquatic Populations

Survey the population of various fish species in the Pigeon River both above and bellow the falls.

Note: Additional management actions will be identified after the detailed inventory is completed.

1. Hydrological-Data Station Records Streams Tributary to Lake Superior, Pigeon River at Middle Falls, Near Grand Portage, Minnesota, 1977.

Nearly 200 years ago the Grand Portage, one of the oldest and most important highways in North America, was abandoned. Today, deer, bear, and moose wander across the route of this ancient forest highway, which was once used by thousands of Indians; including Dakota and Chippewa, along with fur traders and voyageurs. Majestic pines, spruce, and white birch line the trail over which passed the traffic of half a continent.

The area surrounding the park has a colorful and historic background. As far back as the early 1700's French explorers and voyageurs visited the area. During the British fur trading period (1750-1850), the Hudson Bay Trail from Grand Portage to Fort William passed through the park. The Webster-Ashburton treaty of 1842 established the Pigeon River as the boundary between the United States and Canada with the boundary land and waters open to citizens of both nations.

One of the early settlements of the area was a trading post. Its location was on the east side of U. S. Highway 61 on the eastern edge of the park. It was originally established about 1680. Around 1837, a man named Walter Parker opened a store and fur trading post at the same location and the area then became known as Parkerville. The local post office was located in Parkerville from 1856 until the town was abandoned in 1876.

Walter Parker and his family had a farm on the Pigeon River, which was famous for potatoes, vegetables, trees and flowers. Many of the plants and trees he planted were exotic varieties from Europe, most of which were removed by logging.

The Dakota Indians first occupied the forests of Minnesota and were driven out by the Chippewa Indians during long generations of sporadic warfare. The border lakes were the sites of many Sioux and Chippewa battles. When the Indians ceded their lands to the United States at the treaty of La Pointe in 1854, the Grand Portage Indian Reservation was provided for them.

On August 13, 1898, Alger-Smith Logging announced their move from Georgian Bay to Pigeon River. It was claimed that the company owned about 150,000,000 feet of good pine in the area beyond the Chippewa Reservation. Alger-Smith and Company operated in the area from 1898 to 1902.

As the Alger-Smith Company was logging its timber on the Pigeon River, another large firm, Pigeon River Lumber, began serious logging in 1900. At the same time the Pigeon River Company began negotiations with the government of Ontario to acquire all future water power rights on the Pigeon River below Fowl Lake, but was not successful until 1908. By 1902 Alger-Smith Company had cut most of the best pine in its area and decided to sell out to the Pigeon River Lumber Company.

In 1908 a widespread forest fire destroyed the Gunflint and Lake Superior railroad, which cut short the operation of the Pigeon River Lumber Company. In 1936 another fire on the Pigeon River Watershed burned about 11,000 more acres. Remains of old flumes near Pigeon Falls (High Falls) recall the importance of the site to the logging industry, from the late 1800's to the last drive down river in 1949. Most of the property is now heavily wooded and has not been logged for 50 years.

Proposed Management

1. Cultural Resource Inventory-

Survey park area for potential historic sites.

2. Survey areas to be disturbed

Shovel test proposed development areas to determine cultural significance of sites.

Note: Additional management actions will be identified after the survey is completed.

GRAND PORTAGE TIME LINE

4.5 billion	Creation of earth	1794	Treaty of Greenville—> the rights of the Indians to hunt, fish, gather roots and berries, make maple sugar, and harvest wild rice
500 million	Shelled creatures appear		
2 million	Glaciers covered northern U.S.		
20-40,000	First people from Asia to North America	1802	Became a crime to hunt or destroy game on Indian land
5000	Metal workers first appeared	1824	Bureau of Indian Affairs is set up within the Department of War
2500	Potting skills passed on from the east	1840's	Grand Portage Chippewa gave up their right to Isle Royale
1500's	Europeans reach North America		
1600's	French fur traders reached Grand Portage area	1842	Webster-Ashburton Treaty establishes the boundary between the United States and Canada
1731-1804	Fur trading and use of Grand Portage Trail	1854	Treaty signed at La Pointe gave the land from the western tip of Lake Superior north to the border to the U.S. with two areas set aside for reservations (Fond Du Lac and Grand Portage)
1700's	Chippewa moved into Northern Wisconsin forcing Dakota out		
1745	Dakota leave the region		
1763	King of England proclaimed the right of Indians to live on their land without being disturbed	1858	Minnesota becomes a state
1783	U.S. treaty with England giving control of now U.S land controlled by England to U.S.	1862	Homestead Act—> Gave 160 acres to anyone who would farm the land for 6 months
1786	U.S. agrees to not settle west of the Ohio River	1887	General Allotment Act—> divided tribal land up into parcels for individual Indians and any land that was left over was sold by the Government
1787	North West Ordinance—> recognized the Indians right to occupancy	1889	Nelson Act—> moved all but the Red Lake Chippewa to White Earth reservation
1787-1803	Indian Trade and Intercourse Act—> set up licensing of traders and penalties for trading without a license.	1902	Nelson Act is suspended, Grand Portage reservation remained

1902-1909	Grand Portage Indians had excellent crops, smallpox scares, and good timber sales	1953	Resolution 108—> called for an end to Indian ward status. It asked the Indian people to fully assume their responsibilities as American citizens
1919	Congress granted citizenship to Indians who served in WWI if they so requested	1963	Grand Portage Reservation Business Committee is formed to provide technical and financial assistance for reservation projects
1921	Snyder Act—> gave funds to the BIA for the benefit, care, and assistance of Indians	1968	Public Law 280—> gave states jurisdiction over Indian reservations
1924	Indian Citizenship Act—> gave the rights and duties of U.S. citizenship to all Indians	1970's	Grand Portage Indian Housing Authority is formed to work with the Federal Governments Housing and Urban Development Program
1930's	Constitution of Minnesota Chippewa is set up	1975	Indian Self-Determination Act—> gave United States Indian Tribes funds for services and the power to handle the money and set priorities for its use
1933	Civilian Conservation Corps Indian Division is set up and run by the BIA		
1934	Indian Reorganization Act—> gave tribes adopting a constitution the right to elect leaders and govern themselves, subject to approval by the BIA		
1934	Johnson-O'Malley Act—> gave responsibility for Indian education to states and local school districts		
1935	Works Progress Administration is formed and brings schooling and jobs to the reservations		
1941	1100 Indians fight in WW II		
1946	Indian Claims Commission is established to hear and settle claims of Indians against the United States		

PHYSICAL DEVELOPMENT & ²⁶ RECREATION MANAGEMENT

Recreation Management Objectives

Development Objectives

- Provide the minimum development necessary to provide access, protect the resources and retain the primitive setting (also a resource management objective).
- Cooperate with local concerns for park design, development and operation.
- Develop facilities that allow access for the handicapped, where practical.
- Tie park trails into others (Grand Portage Trail, North Shore Trail, Lake Superior Hiking Trail) and other regional recreational activities.
- Concentrate all park development on the north side of US Highway 61.

Interpretive Objectives

- Interpret the unique geology of the park.
- Interpret the cultural heritage of the area with emphasis on Native American heritage, in a way that compliments, without duplicating, the Grand Portage Monument's displays.
- Provide coordinated interpretive programs at several locations in the reservation including the Lodge and Grand Portage National Monument.
- Interpret secondary themes that address geology, logging history, and Parkerville.

Existing Development

1-Log Cabins

There are three log cabins within the park boundaries that were built in 1933. The smallest was used as a power house and the two larger as rental guest cabins. These buildings have no identified use within the state park. They will be documented with photographs and drawings for future interpretation and then moved out onto the reservation trail system. On the trail system they will be used as summer cabins and winter shelters.

2-Overlooks

Two overlooks were developed near Pigeon Falls in 1977 when the park was managed as a family campground. They are supported by cedar logs and are in fair to poor condition. The trails leading to the overlooks are in very poor condition and must be replaced. The overlooks will be left in place to provide some security for visitors until funds are available to replace them, they must be replaced before the park is opened.

3-Vehicular Bridge

There is a small vehicular bridge over an intermittent stream on the access road to Pigeon Falls overlook. The deck for this bridge was covered with birch logs laid as corduroy. They are now rotted and are unsafe for vehicular traffic. This will need to be replaced by a bridge suitable for pedestrian and service vehicle use.

4-House

A two bedroom prefabricated house was constructed in 1977. A detailed assessment has not been done, but it appears to be in fair condition. This house has limited suitability as a public use structure, and a manager's residence will probably not be justified for this park. This house will have some utility in the short term for a park office and storage, but should be removed once a quality public use building is constructed.

CANADA

UNITED STATES

Pigeon Falls

Pigeon River

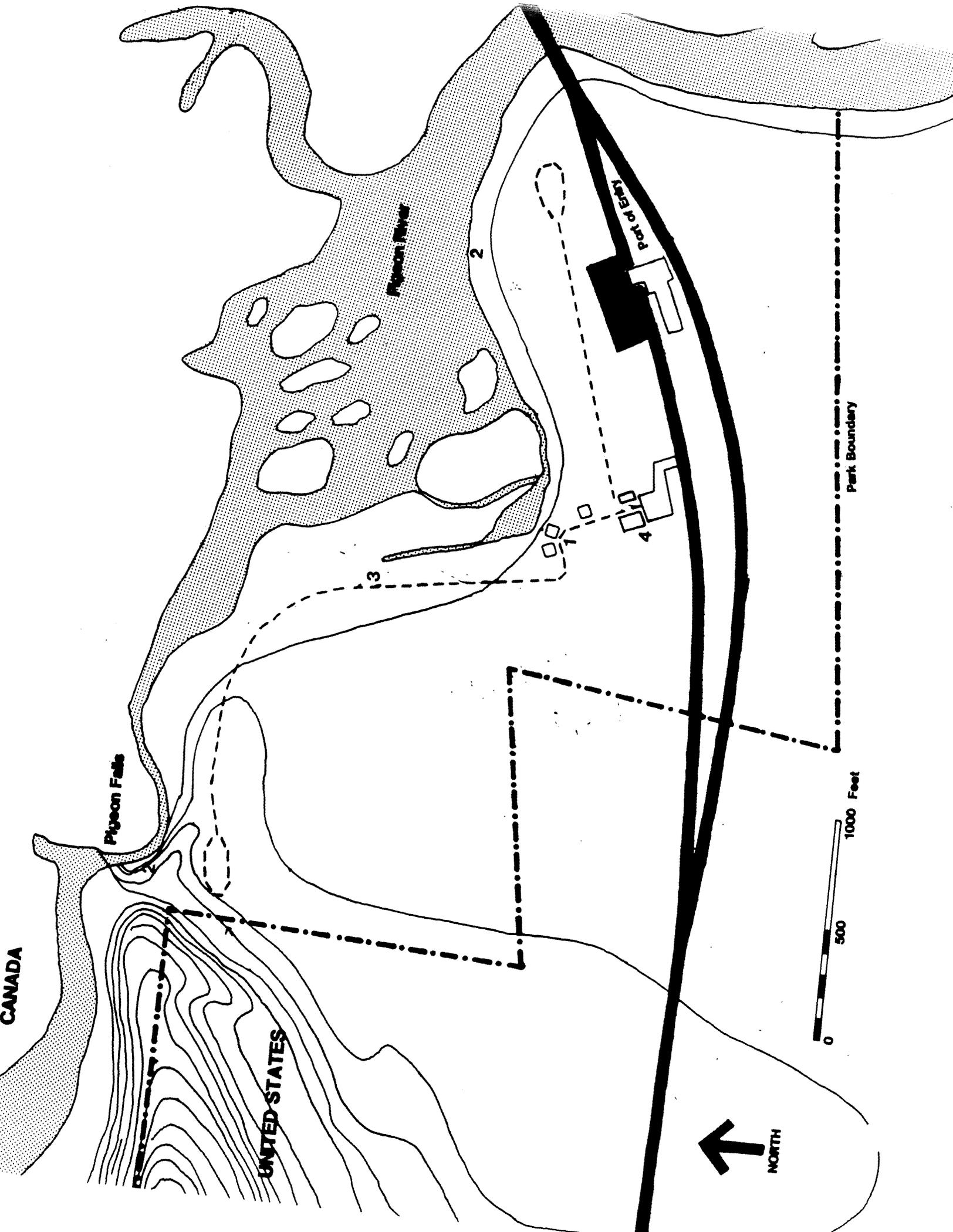
Port of Entry

Park Boundary

1000 Feet

500

0



Proposed Development

29

PARK HEADQUARTERS - Construction Cost:\$440,000

Displays: \$25,000

This building will be located at the park entrance. One building which serves all the below functions will save construction, heating, maintenance, and staff costs. It will focus all visitor information and service requests in one area and minimize development sprawl.

•**VISITOR CENTER** The visitor center will provide interpretive displays, a meeting room, and a display preparation area.

•**PUBLIC CONTACT AREA** The contact station is one area of the office, designed for easy observation of incoming traffic and sales of vehicular permits and park merchandise.

•**ADMINISTRATIVE** The office space is for the park manager and assistant manager to perform administrative functions while being accessible to the public.

•**TOILETS** Public toilets near a visitor's first stop are very important. Combining them in the same building with the offices and visitor center will be more convenient, cost effective, and justify keeping them open and maintained throughout the year.

HIKING TRAILS - Construction Cost:\$60,000

Trails will be developed to Pigeon Falls, Middle Falls, and to good overlooks along the river. The trail to Pigeon Falls overlook will be a handicapped accessible trail. The park will also act as a trail head for the Lake Superior Hiking Trail, and informal hiking through the Grand Portage Reservation. The terrain in the park is very rugged and will require extensive steps and tread surface leveling to accommodate the amount of use expected at this particular park. This development must be designed to provide good access with the least visual and physical impact on the park's natural resources.

OVER LOOKS - Construction Cost: \$30,000

The very rugged nature of Grand Portage State Park allows spectacular views. The best views, of course, are also the most hazardous areas in the park. Overlooks must be developed that provide park visitors great views from safe platforms. These overlooks must also be designed for minimum visibility from other parts of the park and the Canadian shore.

PICNIC AREA - Construction & Equipment Costs: \$60,000

A small picnic area near the parking lot and along the Pigeon River will be a convenient and scenic setting. It will be close enough to the main visitor center so additional toilets will not be needed specifically for picnickers.

PARK ENTRANCE ROAD-Construction Cost: \$11,000

The present road system in the park must be revised. The main entrance road will leave Highway 61, pass the park headquarters building and provide access to the parking lot. A service road needs to be developed from the park headquarters to the service court. The other existing roads need to be obliterated or revised for trail use.

PARKING LOT-Construction Cost: \$25,000

A parking lot will be developed in the vicinity of the existing deer pen. This lot will accommodate 20 cars and will be designed to allow future expansion when needed.

SERVICE AREA-Construction Cost: \$182,000

Construct a park service area that is close to the major use area, but out of sight from most park users. This area will include a shop building which can be heated for winter maintenance and equipment repair, and an unheated storage building. A gravel parking area will connect the two buildings, and will serve as both equipment parking and graveled access to the buildings. The first phase would develop the shop and gravel parking area. In the next biennium the unheated storage building would be built.

CANADA

UNITED STATES

Pigeon River

Pigeon Falls

Overlook

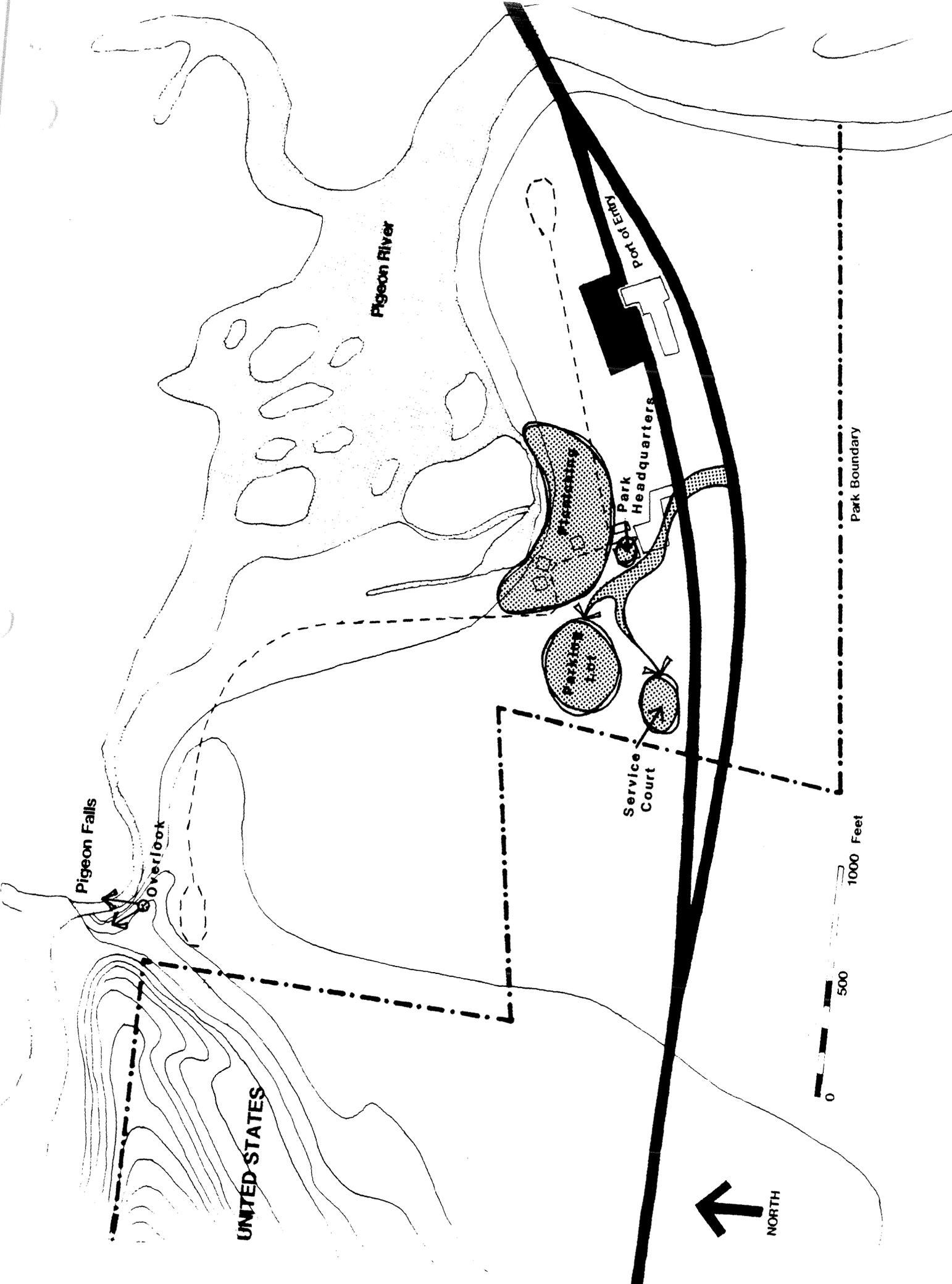
Park
Lot

Service
Court

Park
Headquarters

Port of Entry

Park Boundary



Interpretive Services

Interpretation of parks resources will be very important for Grand Portage State Park. Four initial steps will be taken to plan the interpretive services program for Grand Portage State Park :

1. Inventory park resources and other interpretive programs in the area to determine the appropriate themes for the park.
2. Identify what specific information park visitors should have to avoid management problems.
3. Determine appropriate interpretive media for each theme:
 - indoor in the visitor center through exhibits and information exchange.
 - outdoors through self guided trails and information literature.
4. Direct contact program services such as evening programs and conducted hikes will be designed only after the assessment and resource inventory.

OPERATIONS AND STAFFING 33

Budget Summary

Maintenance and Operations

	<u>Annual Cost</u>	<u>1992-93 Biennial Cost</u>	<u>1994-95 Biennial Cost</u>
Staff			
Manager	\$32,500	\$65,000	\$69,000
Naturalist	\$31,000	\$62,000	\$66,000
Seasonal (3,800 hrs.)	45,500	\$91,000	\$96,500
 Operating Costs (supplies, communications, duplicating, vehicle rental)			
Operations	\$18,000	\$36,000	\$38,000
Resource and Interpretive programs	\$6,000	\$12,000	\$12,500
 M & O Total	\$133,000	\$266,000	\$282,000
 <u>Equipment</u> (one-time cost)		\$80,000	
 <u>Development</u>			
Construct Park Headquarters		\$296,000	
Develop Hiking Trails		\$35,000	\$25,000
Construct Overlooks		\$30,000	
Construct Picnic Area		\$33,000	\$27,000
Park Entrance Road		\$11,000	
Construct Parking Lot		\$25,000	
Service Area		\$122,000	\$60,000
 Capital Budget Total		<u><u>\$632,000</u></u>	<u><u>\$112,000</u></u>
 Total Biennial Need		\$898,000	\$394,000

Park Manager

This position will be responsible for administering all programs and activities at Grand Portage State Park. These will include: operations, maintenance, personnel, staff supervision, revenues, budget preparation, expenditures, public relations, marketing, resource management, interpretation, and development.

The park will primarily be a day-use facility including picnic grounds, trails, and overlooks with observation decks along the Pigeon River. The park will serve as a terminus for the North Shore Trail, the North Shore Hiking Trail, and trails within the Reservation. Park Headquarters, when built, will serve as an important trail head for the trail systems and provide information to trail users and other visitors. Trail connections with Grand Portage Reservation will require a good working relationship between the Indian community, State, Federal, and local government agencies and private groups. Resource management and interpretation will also be an important part of the park operation because of the park's resources and its historical and cultural significance.

Park Naturalist

The Pigeon River area of northeastern Minnesota is noted for its beauty, special plant communities and historic background. Interpreting the geology and natural history of the area to the park visitors and local community members will be the position's primary responsibility. Visitor service is particularly important in this park, because this facility will be the first or last impression visitors receive as they enter or leave Minnesota and the U.S. The naturalist will assist in the interpretive development at the other state parks along the North Shore as well as working with Grand Portage Lodge, Grand Portage National Monument, and local schools.

Seasonal Staff

Seasonal staff will be needed for a variety of tasks to keep the park open for the public seven days a week and fourteen hours a day. The following list breaks down the various tasks that need to be accomplished at Grand Portage State Park. Most of these hours will be needed during the busy summer season.

Public Contact	1,208 Hours
Grounds Maintenance	496 Hours
Clerical	438 Hours
Trail Maintenance	323 Hours
Equipment	316 Hours
Resource Management	235 Hours
Sanitation & Bldg. Cleaning	179 Hours
Bldg. & Facility Maintenance	176 Hours
Roads & Parking	172 Hours
Training	156 Hours
Garbage Collection	<u>101 Hours</u>
	3,800 Hours

