



Minnesota Natural Resources
Department: Environmental
Assessment Files Regarding State
Parks

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ENVIRONMENTAL ASSESSMENT

Tettegouche State Park

I. Description of the Proposed Action

- A. Purpose of the Action - Tettegouche State Park was created by an act of the Minnesota State Legislature in 1979.

The Minnesota Department of Natural Resources intends to provide additional recreational opportunities at Tettegouche State Park through the acquisition and development of private and county tax-forfeited lands within the park's authorized boundaries.

The Heritage Conservation Recreation Service, as the Federal administering agency of the Land and Water Conservation Fund (LAWCON) proposes to participate with the State of Minnesota in the acquisition and development of Tettegouche State Park.

- B. Location and Magnitude of the Project - Tettegouche State Park is located in northeastern Minnesota (Lake County), Figures 1 & 2, approximately one mile east of Silver Bay, Minnesota on Highway 61.

The total authorized acreage for the park is 4,691 acres (Figure 3). Of this, 706 acres have been acquired and were formerly known as Baptism River State Park. It is proposed that the remaining 3,385 acres of privately owned land and 600 acres of county tax-forfeited land be acquired and developed with the assistance of LAWCON. The Department will lease approximately 40 acres of the park to a private non-profit organization for development of an

FIG. 1

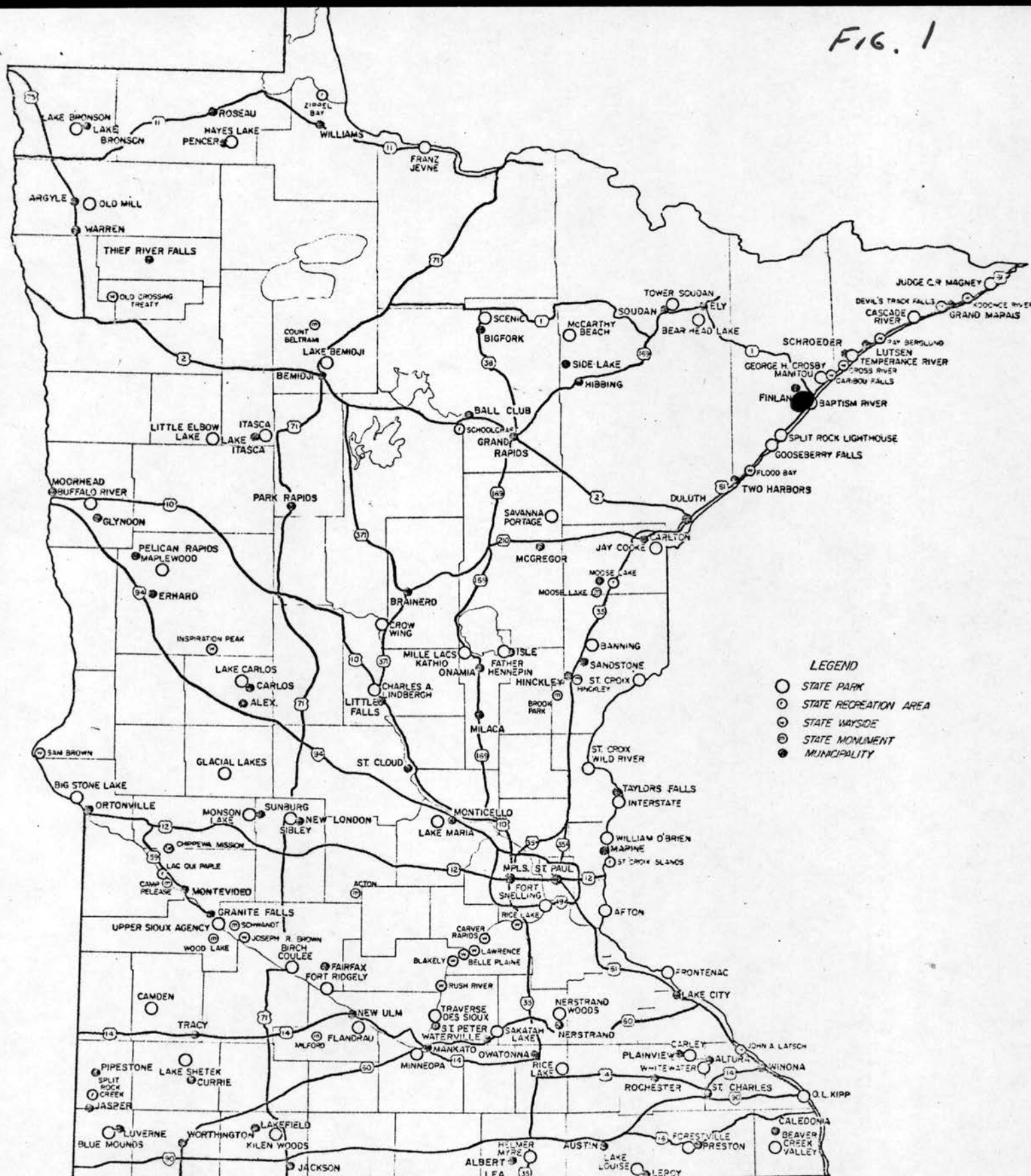
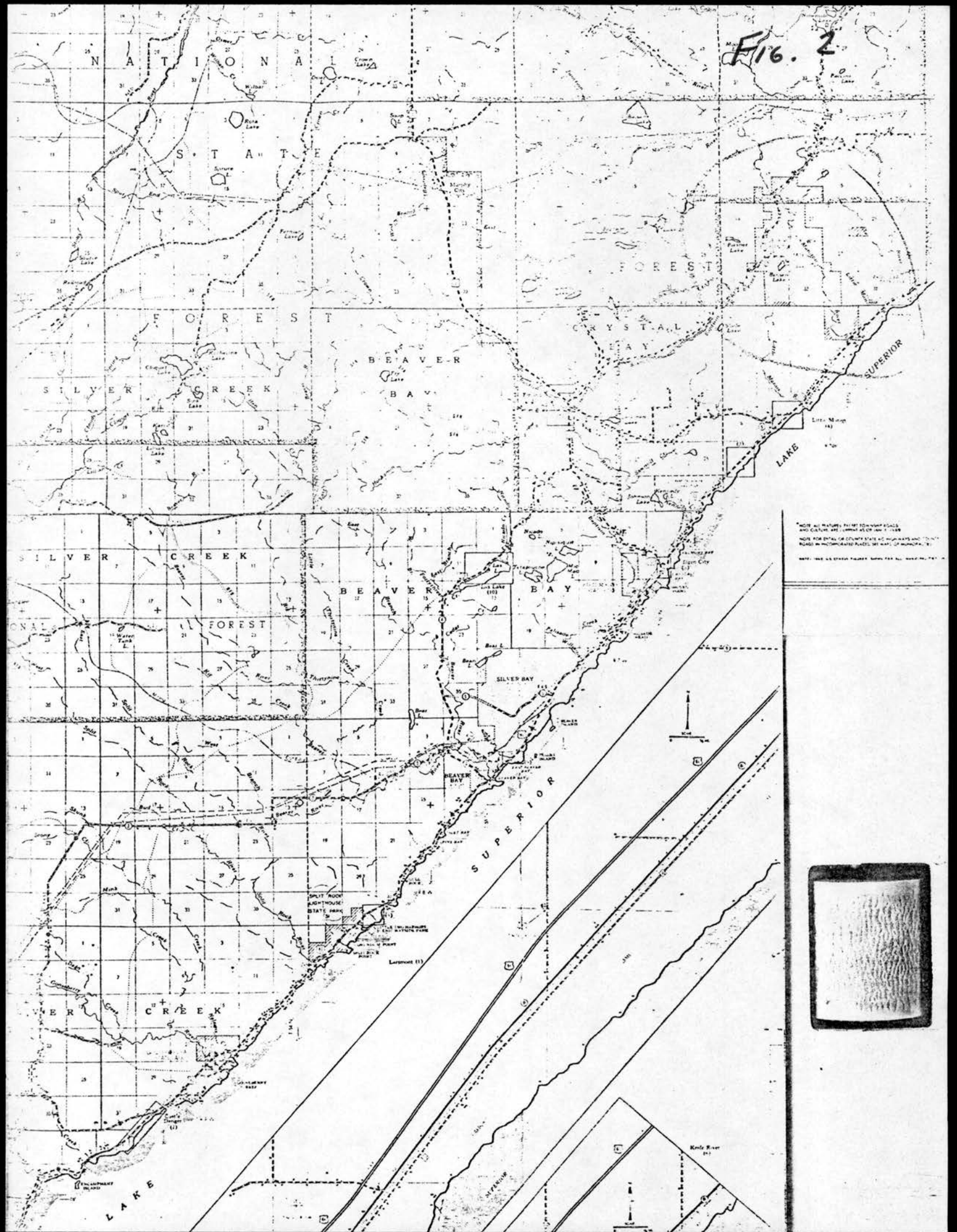
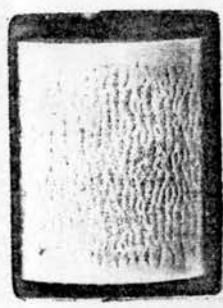


Fig. 2



NOTE: ALL FEATURES, EXCEPT ROADWAYS AND CULTURE ARE CORRECT AS OF 1958.
NOTE: FOR DETAILS OF COUNTY STATE AND HIGHWAYS AND TOWNSHIP ROADS IN UNINCORPORATED AREAS, SEE MAP OF MONTANA, 1:500,000.
NOTE: USE AN STRAIN GAUGE, SENSITIVE FOR ALL ROADWAY DATA.



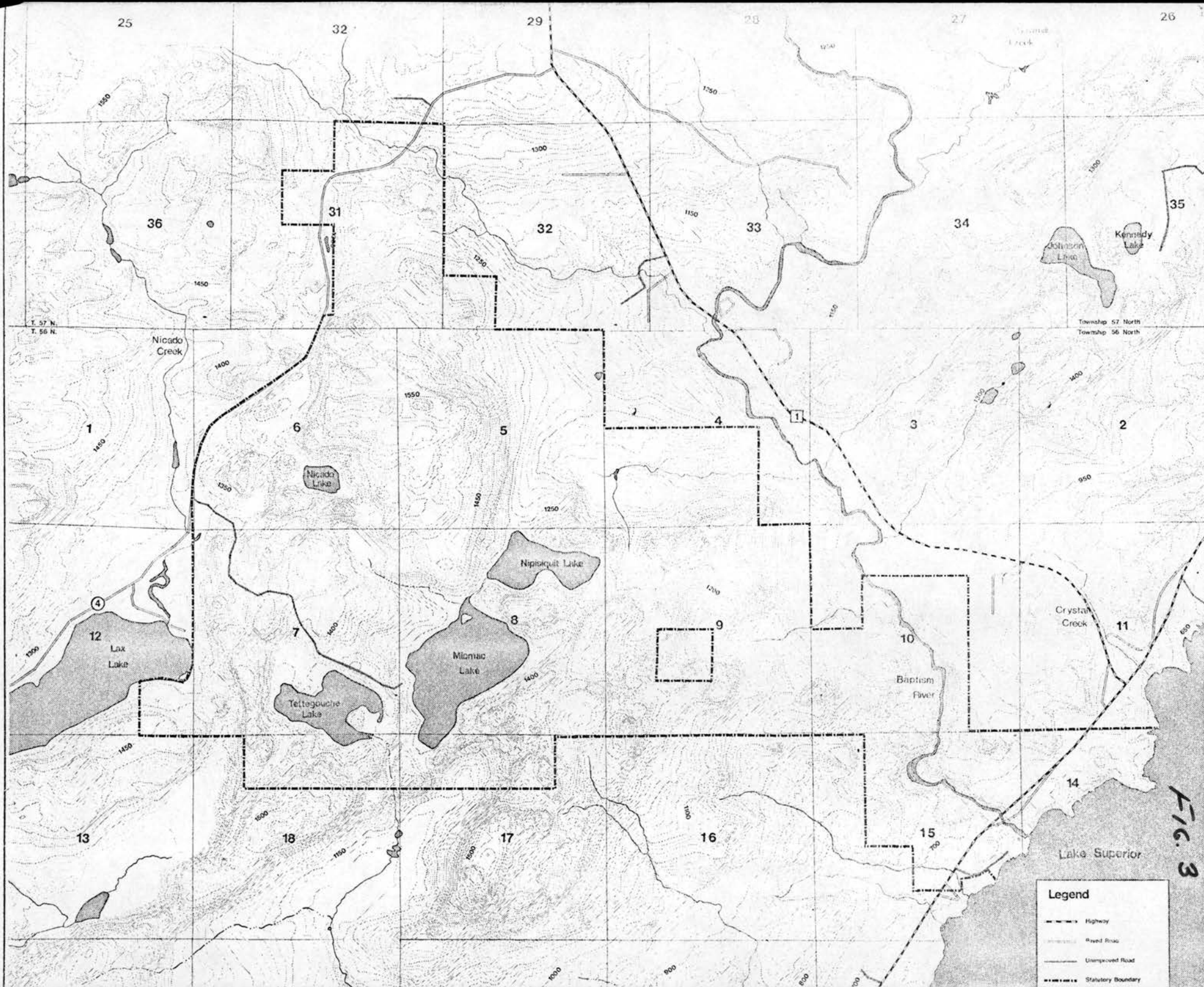


FIG. 3

(2)

environmental learning center. The specifics are not known at this time. The park plan will make the detailed decisions.

- C. Timing of the Project - The private and county lands will be acquired within the 1980-81 biennium.
- D. Facilities to be Developed - The park is presently being planned. The plan will be completed by July, 1980. Until the plan is completed, the type and level of development is uncertain.
- E. Recreational Needs to be Served by the Proposal - Tettegouche State Park is located in an area of the North Shore which is impacted by demands for day-use as well as overnight use. The park should be a popular day-use destination for residents of Duluth and other neighboring communities within 50 miles of the park.

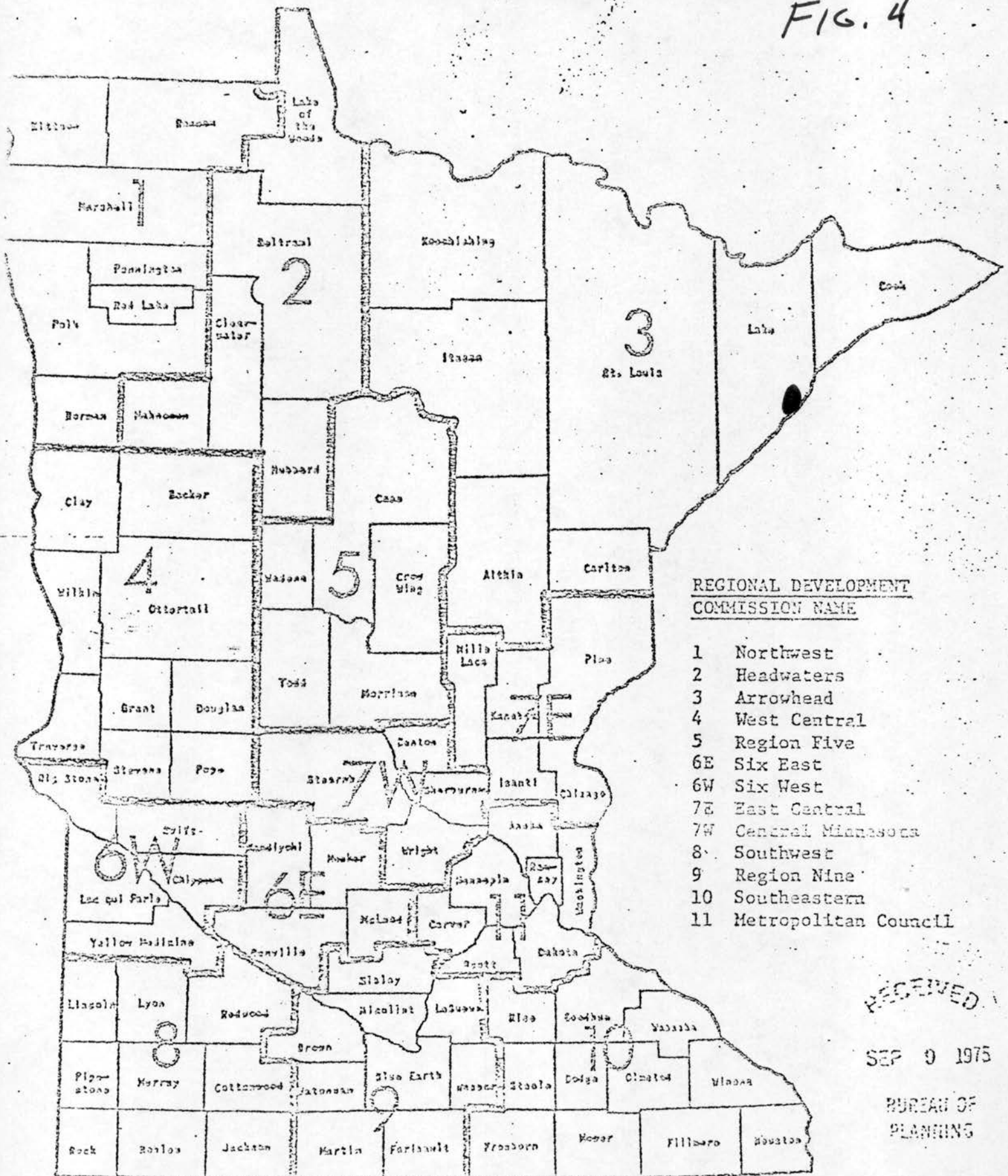
SCORP identified Economic Development Region 3 (Figure 4) as having the highest need for additional camping, picnicking, and trail facilities of any region in the State. Only eight percent of state park land is on the North Shore while the use on the North Shore is 20 percent of the total statewide.

Baptism River State Park which is not part of Tettegouche State Park has maintained a constant attendance the last five years:

1978 - 22,400 visitors
1977 - 19,980 visitors
1976 - 18,930 visitors
1975 - 19,045 visitors
1974 - 18,786 visitors

19828
4 miles trail
picnic sites

FIG. 4



REGIONAL DEVELOPMENT
COMMISSION NAME

- 1 Northwest
- 2 Headwaters
- 3 Arrowhead
- 4 West Central
- 5 Region Five
- 6E Six East
- 6W Six West
- 7E East Central
- 7W Central Minnesota
- 8 Southwest
- 9 Region Nine
- 10 Southeastern
- 11 Metropolitan Council

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II. Description of the Environment

- A. Topography - The park topography is of a glacial nature and characterized by very extreme relief. The park rises from 600 feet above sea level at Lake Superior to a maximum of 1,600 feet (Figure 3).
- B. Soils - The park was an area of scour and erosion by glaciers, rather than one of deposition. This resulted in a thin cover of glacial drift in comparison to other areas of the State.

Four major types of glacial soils are likely present in the park. Characteristics and the probable origin of the four types of glacial soils are as follows:

1. Ice Contacts Deposits - Water sorted sediments deposited when in direct contact with glacial ice. These consist of sand and gravel or sand gravel boulders.
 2. Outwash - Water sorted sediments deposited in front of the terminus of the glacier, composed of sand or sand and gravel.
 3. Boulder Sandy Till - Represents a non-sorted deposit of ice incorporated debris, characterized by low clay content and numerous large boulders.
 4. Clay Till - Also represents a non-sorted deposit of ice incorporated debris, characterized by clay content of ten to forty percent.
- C. Mineral Resources - No known mineral deposits within the park.
- D. Water Resources - The park contains four lakes and three watersheds all draining into Lake Superior.

	<u>Acres</u>
Tettegouche Lake	68
Nicado Lake	13
Mic Mac Lake	121
Nipissiquit Lake	50

Three watersheds flow through or originate in the park.

The Baptism River flows through the park and drains the north and east section of the park. It is a trout stream and serves trout and salmon from Lake Superior as a spawning area.

Palisade Creek originates in Tettegouche Lake and drains the south section of the park. This is a trout stream and spawning area for trout from Lake Superior.

Nicado Creek drains the western section of the park and also flows into Lake Superior.

The water quality of the park's lakes and streams is not known. Since there are no potential sources of pollution nearby and trout are supported, the water quality is assumed to be good.

- E. Flora - The flora of the undisturbed areas within the park's boundaries are those typically associated with the northern boreal forest. Major habitat types represented are early to mid-successional mixed conifer/hardwood communities. Aspen-paper birch is the most abundant forest type within the park. Other types found in the park are balsam poplar, yellow birch, black ash, black spruce, white cedar, balsam fir, basswood, red oak, and sugar maple. The forest habitat has potential for marketable products such as pulp, paneling, firewood, etc; however, types found within the park are

found in abundance in northeastern Minnesota. Market conditions especially for aspen along the North Shore are considered not as good as other areas of the State. Operatability for logging within the park is poor because of the rugged terrain; consequently, much of these timbered areas overmature and remain unharvested. These forest types also provide habitat for fauna and are important in providing nesting cover for birds. The age class of most forest types in the park is past the prime for maximum white tail deer or ruffed grouse production (common game species of the area). In general, the value of the habitat for these species in the park is probably declining due to the increasing age of forest types. There are no known rare, threatened, or endangered plant species in the area.

- F. Fauna - The variety of wildlife habitat throughout the project area provides suitable conditions for numerous wildlife forms, all of which contribute significantly to the quality of the environment and recreation experience.

The project area, typical of northeastern Minnesota, provides habitat for a large number of birds. Approximately 230 species of birds are found in the area during some seasons of the year. There are 30 species which are year-around residents including grouse, owls, woodpeckers, and smaller bird species. Approximately 143 other species including bald eagles, breed within this portion of the State. The remainder being either winter residents or migrants. The mammalian component is composed of over 50 species. Seven of these are considered game animals and 15 are furbearers.

Other mammalian species are primarily small rodents, shrews, and bats. There is one animal specie which occurs in the local area and may be found in the park and is classified as endangered nationally: the peregrine falcon. The peregrine falcon migrates through this area.

Common game species of the project area include ruffed grouse, spruce grouse, snowshoe hare, black bear, moose, and white-tailed deer.

Northeastern Minnesota has few amphibians and reptiles with only twelve species and five species represented respectively. Four species of salamanders, eight species of frogs and toads, three snake species and two turtle species have geographic ranges which include the project area. Among the more familiar are the green frog, wood frog, American toad, western painted turtle, snapping turtle, and western garter snake. This group has very little direct economic importance; however, they are important in the food web, both as consumers of insects and rodents and as prey species for some predators.

- G. Climate and Air Quality - The climate of the project area is classified as continental producing comparatively mild and dry weather at all seasons. Occasional periods of prolonged heat occur during summer. The average annual temperature is 40°. Mean July temperatures are 76°F maximum and 54°F minimum. Mean January temperatures are 22°F maximum and 2°F minimum. Average annual precipitation amounts to 28 inches. Because of the local influence of Lake Superior, the project area averages 10° cooler in summer and 10°

warmer in winter than interior areas of the state.

Extreme seasonal variations of climate provide opportunities for both warm weather recreation activities and cold weather recreational pursuits in the park. Camping, hiking, picnicking would be most likely during the summer months. An average annual snowfall of 70 inches would permit snowmobiling, cross-country skiing, and snowshoeing.

Statistics or measurements of air quality are limited for the park area. Empirically, air quality of the area may be considered as being better than most areas of the country or state. The area is predominately rural with no refining plants or manufacturing plants to contribute to air pollution in the immediate area. Reserve Mining Company operates a taconite pellet processing plant at Silver Bay, three miles south of the park. Traffic volume is light with auto emissions causing little effect on the quality of air.

Since 1972, Reserve Mining Company has operated a network of stations in and around Silver Bay, Minnesota to measure total suspended particulates (TSP). All of the reported mean concentrations are well below the primary standard (concentration limits which protect public health) and the secondary standard (limits designed to protect public welfare); however, some of the stations recorded concentrations exceeding the maximum 24-hour concentration prescribed by the primary standard. These concentrations do not present any considerable hazard to the public health or welfare of park visitors.

- H. Historical and Archaeological Resources - The area has not been surveyed for historical and archaeological resources. Such searches will be done during the planning process and on a site specific basis for all development. Presently, no sites are known to exist in the park.
- I. Transportation and Utilities - Tettegouche State Park is served by the United States Highway #61 and Lake County Road #4.

Transmission lines and telephone lines pass through the park parallel to Highway 61. The only utility lines which presently serve the park are from County Road #4 to the cabins on Mic Mac Lake. Bus service is provided to the communities along United States Highway #61. Commercial airline service is available at Duluth.

- J. Socio-economic Factors - The Minnesota State Planning Agency's 1975 population projections shown below indicate little or no growth in Region III and Lake County with possible declines occurring around the year 2000.

	<u>LAKE COUNTY</u>	<u>REGION III</u>
1970	13,400	329,600
1975	13,500	331,100
1980	13,700	330,300
1990	14,200	332,400
2000	13,900	325,400

The 1970 population contained 5,750 or 43.1 percent under twenty years of age. Projections indicate a decline of this age group to 4,284 or 31.3 percent by 1980 with decline

continuing through the year 2000. Persons over sixty-five represented 1,109 or 8.3 percent of the 1970 population. Projections indicate an increase to 1,545 or 11.3 percent by 1980 with further increases continuing until the year 2000. This trend is similar for the region indicating a lack of employment opportunities for the young in northeastern Minnesota.

Lake County ranks 64th of 87 counties in population yet is 5th in 87 in land area indicating sparse settlement at 6.4 persons per square mile (rank 83 of 87). General land use of the county is almost exclusively relegated to forest and water with 82.5 percent and 15.9 percent respectively. Less than .5 percent is cultivated for pasture and open land. Property tax payable in 1974 is \$1,603,632 with the average mill rate for a parcel of land in the county at 73.29 mills.

Information provided by the Minnesota State Planning Agency indicates that in 1970, 3,022 or 96.5 percent of the male work force was employed. Employment within the female work force was 100% for 1,484 females with another 1,779 females capable of working but not included as part of the work force.

The average family income for 1970 was \$9,557 with the median being \$8,000. Average income of unrelated individuals was \$3,494 with a median of \$1,000. The average income of males was \$6,160 and the average income for female \$1,555 accounting for the low average figure for unrelated individuals.

Because of the unique scenic features found in northeastern Minnesota, this area is attractive to tourists. Expenditures for tourist travel during 1974 in economic development Region III were estimated at over \$120 million or 12.1 percent of the State total. Lake County ranks 39th of 87 counties by expenditures.

Lake County's importance of tourist travel expenditures is evident by their ranking according to the percent of expenditures as a percent of county gross sales and according to the level of tourist-travel expenditures relative to the county's resident population. Lake County ranks 14th out of 87 counties with 8.4 percent of gross sales, well above the State average of 3.2 percent of gross sales. In the second category the county compares evenly with the State average of \$256.54 per county resident. In this aspect, the county ranks 23rd out of 87 counties.

- K. Land Use and Development Trends - Presently land uses in the park's vicinity are rural residential, seasonal homes, forestry and mineral processing. The park land in private ownership was used for a seasonal retreat. It is now owned by the Nature Conservancy.
- L. Existing Development - Existing public development consists of four picnic sites and four miles of hiking trail, all located in the former Baptism River State Park.

Existing private development is located at the former private retreat on Mic Mac Lake. The development consists of a lodge, four cabins, a barn, a garage, a boat house, and several small out buildings.

III. Environmental Impact of the Proposed Action

- A. Impact on the Physical Environment - There will be no impact from the state's acquisition. The impacts resulting from development and public use will not be known until the park plan is completed.
- B. Impact on the Tax Base - There will be a benefit to the local tax base. The local tax base will benefit in three ways:
 - 1) The state will sell lands to the public, equal in value to those acquired.
 - 2) The state will pay the taxes on the private lands acquired for ten years with a 10% reduction every year.
 - 3) The state will pay the counties \$3 per acre on acquired lands, each year, in lieu of taxes.
- C. Impact on Local Economy - The private and tax-forfeit lands included in the park add little to the local economy. An increase in tourist visitation should have a positive impact on the local economy.



STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES

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Region II Headquarters
1201 East Highway 2
Grand Rapids, MN 55744

File No. _____

July 20, 1982

Mr. Brian Asmus
Forestry Department
Minnesota Power Company
30 West Superior Street
Duluth, MN 55802

Dear Brian,

Enclosed you will find the planting plan for the Minnesota Power corridor through the North Shore state parks of Tettegouche, Crosby Manitou, and Caribou Falls. It contains details of species, locations and numbers for shrub screen plantings alluded to in our original agreement as well as proposed solutions to problems we are having with the two accesses at Tettegouche. Also included is our plan to revegetate the abandoned portion of the old UPA line in Tettegouche.

I must admit I was quite pleased with the results of your individual basal herbicide application on the existing line. If we are careful not to damage existing shrubs during the line placement procedure we could end up with the model shrub-grass community envisioned in our powerline vegetation management plan. The addition of the shrub screens requested in this planting plan should help the process.

This plan includes site preparation and plantings in four locations at Tettegouche and one at Caribou Falls. The Crosby Manitou portion seems to be revegetating quite nicely and is quite removed from most tourist traffic.

A summary of materials necessary to complete this planting plan can be obtained by reading the materials needed sections. In most cases, survival will be better if Roundup herbicide is used to prepare the sites for planting. The exact locations for the plantings can be determined by coordinating the herbicide application with Dave Klett,

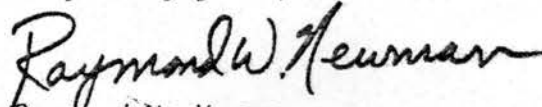
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TETTEGOUCHE
and

July 20, 1982

the Tettegouche Park Manager. He is willing to accompany the herbicide crews to direct the operation. The park number is (218) 353-7386.

If you have any questions about this, please let me know.

Very truly yours,

A handwritten signature in dark ink, reading "Raymond W. Newman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Raymond W. Newman
Resource Coordinator
Parks/Recreation

RWN:cmr

Enc.

cc: David Klett
Park Manager
Tettegouche State Park

STATE PARK PLANTING PLAN FOR MINNESOTA POWER COMPANY
#128 LINE THRU TETTEGOUCHE, CROSBY MANITOU AND CARIBOU FALLS STATE PARKS

TETTEGOUCHE STATE PARK

Station 168+00 (Southern Access Point)

Description of Area: The access from Highway 61 includes a winter snowmobile trail that uses the powerline ROW for 200 yards going west and then angles off the ROW. The line of sight looking northeast from the trail entrance onto the ROW includes the proposed new park entrance route (approximately stations 174+00 → 177+00). A wet drainage crosses the powerline at approximately station 171+00.

Planting Plan: A shrub screen should be encouraged immediately northeast of station 168+00. Also, shrub screens would be desirable on either side of the wet drainage at station 171+00. Backblading the snowmobile trail access, the addition of some fill and crowning the trail will be necessary. It should then be seeded to a good soil stabilization mix.

Materials Needed: One hundred shrubs of the 3' → 4' size class to be planted on 3' → 4' circles prepared with Roundup herbicide. Desirable species in order of descending preference are: mountain ash, june berry, choke cherry, red osier dogwood, pincherry, alder, hazel.

Station 186+00 → 187+00 (Trail Crossing on
Top of Ravine on the Northeast Side of Baptism River)

Description of Area: The selective basal herbicide application practiced in the spring of 1982 has left a pretty good shrub screen on the Baptism side of the trail and a developing screen on the other side. If care is taken during pole placement not to damage the shrubs already in place, only minimal shrub additions are necessary.

Planting Plan: Forty 3' → 4' shrubs of the same species used at crossing 168+00 should be added on the northeast side of the trail. On the river side of the trail ten larger shrubs 10' → 12' should be added to screen the pole(s).

Materials Needed: Smaller shrub species same as station 168+00. Larger shrub species should be june berry, pincherry, or choke cherry.

Station 196+00 → 200+00 (Main Access Road
and Powerline Portion near Where Line Makes Sharp Bend)

Description of Area: Most of the line from Station 186+00 to Station 196+00 is in pretty good shape. Shrubs are coming in nicely and are beginning to provide good screens. One problem area is the entrance to

State Park Planting Plan for Minnesota Power Company Continued

the new construction portion. Some of the shrub screens were damaged during construction and others were chemically removed during maintenance. This has allowed a long sight line up the corridor. The gate has also been a problem in that 120 feet of open land between the woods lines has allowed people to drive right around the gate. We have materials to finish the gate (4 inch well casings and cable) but have been unable to find a way to drill the holes. Twelve 4" to 6" holes four feet deep are needed (every ten feet).

Planting Plan: Forty tall shrub screens are needed at the point where the powerline turns (the inside corner) to adequately screen the new construction.

Materials Needed: Hole drilling equipment. Forty tall shrubs (a mixture of those species used for station 168+00).

Station 200+00 going 700 Feet Northeast (Abandoned Portion)

Description of Area: Almost the entire 700 feet is a steep southwest facing hillside. It was previously a birch stand with scattered large white spruce and white pine. The ground is now covered with a heavy mixture of raspberry, thimbleberry, and various herbs and grasses.

Planting Plan: Herbicide will be necessary. One method might be to spray 4' → 5' circles on a 10' → 12' spacing, thus creating a micro-environment for each seedling. Roundup is recommended because of its short half-life.

Circles should be at a random spacing so no rows show up. The plantable acreage on the old line is somewhat less than 1½ acres. On a 10' → 12' spacing, 500 trees should cover it.

Materials Needed: Herbicide (Roundup) at rate recommended on label for woody vegetation. Tree transplants, preferably 3-3 or 3-2 stock.

70% white birch = 350 transplants
20% white spruce = 100 transplants
10% white pine = 50 transplants
Total: 500

CARIBOU FALLS

Station 829+00 → 831+00 (Northeast Bank of Caribou River, Caribou Falls State Wayside)

Description of Area: This wayside is rather heavily used during the summer and plans are to mark out more clearly a trail that leads to the falls

State Park Planning Plan for Minnesota Power Company Continued

upstream on the Caribou River. The long line of site east up the power-line could be broken up by the introduction of the same size and species of shrub.

Planting Plan: Site preparation with Roundup will be necessary. Fifty tall shrubs of the species used at station 168+00 should be planted.

Materials Needed: Herbicide and 50 shrubs.