Minnesota Natural Resources Department: Environmental Assessment Files Regarding State Parks

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Version 3
August 20, 2018

ENVIRONMENTAL ASSESSMENT

SAND DUNES STATE FOREST

Minnesota Department of Natural Resources
Division of Forestry

June 1976

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ENVIRONMENTAL ASSESSMENT
SAND DUNES STATE FOREST

I. DESCRIPTION OF PROPOSED ACTION

A. Purpose of the Action

The Minnesota Department of Natural Resources intends to provide additional recreational and forest oriented opportunities in the Sand Dunes State Forest (hereafter referred to as the Forest) through the acquisition of private land within the Forest boundaries. Land to be purchased will be defined as the project area.

Justification for the action rests on three assumptions: (1) The proximity of the Forest to the Twin City Metropolitan Area will bring an increasing need for areas to support increased recreation and other forest services, (2) because of the light, sandy soil, existing agricultural operations will become minimal or non-existent which will result in abandoned fields and subsequent wind erosion of the soil and (3) there is a need to preserve open spaces from irreversible single-use residential development.

In addition to recreation, the forest will be managed for timber production, wildlife habitat, and soil and water conservation purposes.

The Bureau of Outdoor Recreation, as the Federal administering agency of the land and water conservation fund, proposes to participate with the State of Minnesota in the acquisition of land within the Forest.

B. Location and Magnitude of the Project

The Forest is located in Sherburne County in east-central Minnesota, about 40 miles northwest of the Minneapolis-St. Paul Metropolitan Area. It is three miles west of Zimmerman and six miles north of Elk River. The total area of the Forest is 10,800 acres of which 4,000 acres or 37% is presently State owned. The ultimate goal is to acquire 2,000 additional acres of

private land in the Forest for a total of 6,000 acres or nearly 56% of the total area. All private land in the Forest will not be acquired as some private ownership is desirable. Private landowners are a source of labor for forest fire suppression, farmers raise crops beneficial to wildlife, and loggers harvest timber from the forested area.

The current estimated cost for acquiring the 2,000 acres and relocating two owners is $900,000.

C. Timing of the Project

It is anticipated that about 1,800 acres of private land will be acquired by July 1, 1977, with current funds and the balance of the 2,000 acres by July 1, 1979, if additional funds are appropriated by the 1977 legislature. It is possible that some land owners who are currently unwilling sellers may decide to sell their land at some time in the future. Small acreages may therefore be available for purchase for several years after July 1, 1979. Since the Division of Forestry does not have the power of eminent domain (nor do they desire it), purchases will only be made from willing sellers.

D. Future Development

Future development will be directed towards managing the Forest for recreation, erosion control, timber production, and wildlife habitat.

Much of the present State ownership is scattered throughout the Forest. When ownership becomes contiguous through acquisition of private land, the recreational trail system will be expanded to all parts of the Forest totaling some 35 miles. A proposed snowmobile trail will have a warming house which will also serve as a location for a small corral and picnic area to provide a place for the increasing number of horseback riders. Where necessary, old fields and open areas will be reforested to control wind erosion of the soil, and for recreational, aesthetic, timber producing, and game management purposes.

Foresters will consult and work with recreational, soil conservation, and wildlife management specialists to accomplish the above goals.

E. Recreation Needs to be Served by the Proposal

The 1974 State Comprehensive Outdoor Recreation Plan (SCORP) estimates that there will be a deficiency of 2,669 picnic tables in Region 7 (a nine county region which includes Sherburne County) by 1975, and that deficiency will increase to 3,248 by 1980, and 4,552 by 1990. A deficiency of 989 campsites by 1975, 2,540 by 1980, and 5,064 by 1990 is projected, while a deficiency of 20 miles of hiking trail and 989 miles of snowmobile trails was projected for 1975.

As shown in table 1, there has been a steady increase in usage of the Ann Lake campground since 1961. This increase is due to the proximity of the Forest to the Twin City Metropolitan Area and the surrounding towns of St. Cloud, Elk River, Princeton, Cambridge, and Milaca. The Ann Lake campground is unique in that it provides a primitive type camping experience which is preferred by a large portion of the camping public. No electricity is provided and water is available only from a hand pump.

Other recreational needs which the Forest will provide are hiking, skiing, snowshoeing, snowmobiling, horseback riding, and bicycling. Many others will enjoy hunting, fishing, berry picking, bird watching, or perhaps just a leisurely automobile ride through the Forest.

II. DESCRIPTION OF THE ENVIRONMENT

A. Topography

The generally level to rolling topography was formed by receding glacial action. As the glacier receded a layer of fine sand known as the Anoka Sand Plain was deposited.

TABLE I

RECREATIONAL AREA CENSUS
SAND DUNES STATE FOREST

YEAR	CAMPING AREA	DAY USE AREA	DISPERSED AREA	TOTAL VISITS
1961				1,550
1962				1,220
1963				3,100
1964				2,730
1965				2,360
1966				1,910
1967				9,360
1968	2,576	320		2,896
1969	5,126	3,830	790	9,746
1970	3,303	2,260	2,700	8,263
1971	2,812	3,400	1,090	7,302
1972	3,807	4,650	1,064	9,521
1973	5,983	4,682	824	11,489
1974	4,075	4,247	1,082	9,404
1975	3,613	6,281	912	10,806

Information Calculated Using Recreational Area
Census and Division of Parks Procedure

Ann Lake, consisting of 226 acres, is centrally located in the Forest. The St. Francis River runs through the eastern and south-central portion of the Forest. The elevation of the Forest varies from 950 to 1,000 feet above sea level. (A topography map of the area is included in the appendix).

B. Soils

The soils in the Forest are classified as Zimmerman sands. They have developed from water-and-wind deposited fine sands of the glacial outwash plains. These soils are unusually uniform in profile characteristics. Drainage is excessive. The topography is gently sloping to sloping. The deep, droughty, somewhat dunelike Zimmerman fine sands are of less agricultural value than the Zimmerman loamy fine sands and fine sands. Erosion by wind or water is a serious hazard on unprotected areas of these soils, so deep gullies and blowouts will form unless erosion is controlled. The general fertility of these soils is low.

C. Mineral Resources

There are no known or suspected mineral resources of economic significance in the Forest.

D. Water Resources

Ann Lake is located in the north-central portion of the Forest. It contains 226 acres and has a maximum depth of 26 feet. Ann Lake is classified as a bass-panfish lake. In addition to its fisheries resource, it supports a waterfowl population, particularly in the southern portion which is partially covered by emergent vegetation.

The St. Francis River flows through the eastern and south-central portion of the Forest. This is a rather slow moving, meandering river which supports fishing as well as waterfowl hunting. The river is canoeable except for a period during the dry summer months.

Several other ponds are located within the forest boundaries but are quite shallow and have very little recreational potential other than viewing and as a prime habitat for wildlife.

No recent data is available regarding water quality. The Minnesota Pollution Control Agency, however, has classified Ann Lake and the St. Francis River as 2B, meaning that the water quality is such that it "permits the propagation and maintenance of cool or warm water sport or commercial fishes and is suitable for acquatic recreation of all kinds including bathing for which the water may be useful" (Pollution Control Regulation WPC 14). No problems are therefore anticipated in the use of these waters for recreational purposes.

E. Flora

The flora within the Forest are chiefly highland timber types consisting of jack and Norway pine, aspen, oak, and associated highland species. To date, some 6,000,000 trees have been planted in the Forest. Of the area planted, approximately 1,600 acres are now established with full stocking. Many of these planted trees are now being harvested commercially for fence posts and pulpwood.

There are no known rare, threatened, or endangered plant species in the forests.

F. Fauna

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

The species of birds using the area are those commonly found in a pine-aspen-hardwood timber type. A good population of ruffed grouse exists in the Forest. The species of terrestrial mammals commonly found are the white tail deer; red and grey fox; racoon; skunk; grey, red, fox, and flying squirrels;

cottontail; jack, and snowshoe rabbits; mice and shrews. Acquatic mammals which are found in the area are muskrat and mink.

Fish species which are commonly found in Ann Lake are largemouth bass, northern pike, perch, pumpkin seed, bluegill, crappie, bullhead, carp, and shiners. The lake is subject to periodic winter kill. Natural reproduction varies as to species, but is generally fair. Fish species found in the St. Francis River include northern pike, carp, and other rough fish. Northern pike, walleye, and sunfish have been stocked in the lake in the past.

Species of acquatic mammals commonly found in the St. Francis River are mink, beaver, and muskrat. There are no known rare, threatened, or endangered species of wildlife in the Forest area.

G. Climate and Air Quality

The climate of the Forest area is classified as a continental-type climate. As in all parts of Minnesota, the area is subject to frequent outbreaks of continental polar air throughout the year, with occasional Artic outbreaks during the cold season. Occasional periods of prolonged heat occur during summer when warm air pushes northward from the Gulf of Mexico and the Southwestern United States. Pacific Ocean air masses that move across the Western United States produce comparatively mild and dry weather at all seasons.1/

The average annual temperature is 42°F. Mean July temperatures are 85°F maximum and 60°F minimum. Average January temperatures are 20°F maximum and 0°F minimum. Average annual precipitation amounts to 28 inches. Extreme seasonal variations of climate provide opportunities for both warm and cold weather recreational activities in the Forest. Camping, hiking, and picnicking occur most frequently throughout the summer months. An

1/ From Climate of Minnesota by Earl L. Kuehnast, Climatologist of Minnesota

average annual snowfall of 45 inches permits snowmobiling, cross-country skiing and snowshoeing. Subfreezing winter temperatures allow ice fishing.

The Minnesota Pollution Control Agency states that the levels of hydrocarbons and carbon monoxide in the forest area have not been assessed but they are not expected to be in violation of acceptable levels. The values of photochemical oxidants near Becker (about 8 miles southwest of the Forest) exceeded the standard (.07) by a factor of two (.14). Transport of precursor pollutants, nitrogen oxides and hydrocarbines (non-methane), from the Twin City Metropolitan Area combined with photochemical reaction create the photochemical oxidant problem downwind of the metro area. However, these oxident values are consistent with national values for rural areas, so this condition is not expected to have any effect on Forest activities.

H. Historical and Archeological Resources

The Minnesota Legislature established the Sand Dunes State Forest in 1943. Much of the land in the Forest was once farmed. However, during the drouth years of the 1930's, the light sandy soil tended to blow and drifted into dunes--hence the name Sand Dunes State Forest. An intensive reforestation program was initiated by the Division of Forestry on state land in the early 1940's which resulted in the stabilization of the drifting dunes. The Division of Forestry has left in a natural state the last remaining sand dune (see enclosed brochure) in the Forest to depict the area as it was prior to the planting program. It has been suggested that this area be nominated for the Minnesota Scientific and Natural Areas System.

There is an old cart trail running north and south through the southwest corner of section 35 of Orrock Township which used to be a main road north from Elk River.

Other than the above, there are no known historical or archeological sites in the Forest.

I. Transportation and Utilities

The Sand Dunes State Forest occupies parts of an area defined by U.S. Highway #169 on the east, U.S. Highway #10 on the south, State Highway 25 on the west, State Highway #95 on the north and is directly linked to the Minneapolis-St. Paul area by Interstate 94. Sherburne County roads number 4 and 5 directly serve the Forest. Of the total 32 miles of roads directly serving the project area, 10 miles are county, 20 miles are township, and two miles are Forest road. Highways in the area are adequate to serve passenger needs at this time, but as recreational use increases, upgrading of county, township, and forest roads may be needed.

Passenger rail service does not exist in Sherburne County at this time; however, freight rail service is provided by the Burlington Northern Railroad through Zimmerman and Big Lake.

No water or sewer development exists within the project area. Telephone and electric lines serve the scattered residential sites but should have no impact on the acquisition program.

J. Socio-economic Factors

The Sherburne County Zoning Office's population projections shown below indicate steady growth for Sherburne County through the year 2000.

Sherburne County Population Trends

1960 - 12,861
1970 - 18,344
1976 - 24,031
1980 - 25,500
1985 - 29,600
1990 - 34,000
2000 - 45,300

Average income - $10,000/year
Average age - 24 years
Employment - Diverse agriculture and professional commuters.
Importance of tourism - Tourism is important. 19 campgrounds are located in the county.

K. Land Uses and Development Trends

1. Agricultural - 120 acres or 6% of the total project area are presently used for agricultural purposes. The major products are corn, soy beans, alphalfa, brome hay, oats, and rye. However, the light sandy soil is not prime agricultural land. Consequently crop yields are low and of poor quality so many farmers in the Forest have gone out of business. Many of them allowed their land to forfeit to the County for non-payment of taxes. Under the provisions of Minnesota Statutes Section 89.034, counties may transfer tax-forfeited land to the Commissioner of Natural Resources for management as State Forests. 1975 estimated value of agricultural production in the project area is $5,580. The average farm size is 40 acres.

2. Residential - 2 households are located in the project area. About 40 acres or 2% of the project area are presently used for residential purposes. Other year-round residential homes located in the Forest are occupied by farmers, retired people, and commuters working primarily in the Minneapolis-St. Paul Metro Area. These other residential homes are located on approximately 500 acres, or 5% of the total Forest area.

3. Commercial/Industrial - There is no present commercial or industrial development within the project area. However, because of the presence of the Forest, a pole and post treating facility has been developed in Zimmerman, and a 1 million dollar per year Christmas Tree industry exists in Sherburne County. The anticipated growth in the county is expected to bring added pressure to transportation systems, recreational facilities, and other services provided by local communities. Residential housing demands will continue to increase within the Forest. Rural land will continue to be purchased outside of corporate village and city limits for single use, residential development. Building permits for home

construction within the project area have increased and then stabilized over the last five years. A summary of building permits for residential construction issued by Orrock Township (where the Forest is located) is as follows:

1971 - 3
1972 - 29
1973 - 32
1974 - 20
1975 - 22

L. Existing Recreational Development

4,000 acres, or 37%, of the Forest is currently in public ownership for recreational purposes.

Existing public development consists of a picnic area, a primitive camping area near Ann Lake, and an extensive trail system throughout the Forest. This development consists of 26 campsites, a picnic area with 7 tables, a swimming beach, 16 miles of snowmobile trails, and 3 miles of hiking trail.

The Forest is located south and west of the Sherburne National Wildlife Refuge. The Refuge offers an additional 30,000 acres of open land adjacent to the Forest. Recreational opportunities available within the Refuge include cross country skiing, sightseeing, rest stops with picnic tables, hunting, fishing, environmental education, photography, canoeing, and bird watching.

No private recreational developments exist within the Forest at this time, but several large campgrounds are located within a ten mile radius of the Forest.

The land within the Forest is presently zoned A-1 Agricultural-Conservation land. The objective of this zoning is to preserve the land for conservation purposes and discourage non-farm development. Non-farm development is allowed with a minimum 5 acre lot size plus a conditional use permit. The purchasing of land by the State in the Forest is consistent with present County zoning objectives.

Present zoning has not been effective in preserving the agricultural land. Because of the poor quality of the soils involved, the value of the land for residential development purposes is greater than the value for agricultural purposes. The privately owned land within the Forest is being steadily withdrawn from multiple-use management and development for single-use residential purposes.

III. ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION

A. Impact on the Physical Environment

A major impact of the proposed acquisition will be a change in land use from residential/agricultural to public outdoor recreation use. The lands to be purchased will be allowed to assume a natural character or reforested which will have the effect of increasing the habitat for animals common to the area and improving the Forest's aesthetic quality.

The structures acquired on property purchased will be sold and removed. Areas in which the buildings are removed will be returned to natural conditions through planting. The 903 acres of existing timber will be managed to ensure its continued existence. The small ponds and marsh areas will be protected from drainage and filling. Some of the fields will be left in their natural state while some will be reforested with native tree species.

Water quality of surrounding lakes, including Ann Lake, will be improved by eliminating agricultural and residential use adjacent to these waters. The eutrophic process will be slowed by removing the highly fertile run-off from these two uses. The Forest will improve the environment by returning the water cycle closer to the natural system.

Underground and surface hydrology will be impaired little through the implementation of this project because the concentrated recreational activity

areas will not be expanded. The increased recreational activity will be dispersed so the environment will not be greatly affected. The importance, however, lies with a long term gain preventing certain uses which may affect surface and ground water resources. Drainage of potholes and marshes for agriculture would have a direct bearing on recharging of ground water, but to what extent is unknown. Potholes and marshes which are maintained in the Forest will assist in retaining the rainfall for the region and to recharge underground sources. Reduced residential development will benefit ground water levels by reducing soil compacting activities such as new road and home construction.

Too little is known to make any relevant conclusions on air quality. However, thrifty, actively growing, timber stands and accompanying vegetation will help to maintain clean air by acting as a natural air purifier in the area. Increase in Forest visitations would cause some air quality deterioration because of auto emissions. However, this type of deterioration will not present a problem. No major construction projects are planned so no air quality deterioration will result from this type of activity.

Ann Lake presently receives moderate fishing pressure. The effect of increased pressure by additional Forest use will not affect fishing success.

Increased visitor use will affect other natural elements such as soil, vegetation, and wildlife. The heavy use areas such as the campground, picnic area, and trails will experience soil compaction, destruction of fragile vegetation, and the loss of wildlife. However, the affected area (43 acres) will be a small percentage (.4%) of the total Forest area so the total damage will be minimal.

B. Impact on the Tax Base

The total 1975 taxes on the affected Forest acreage (the project area) amounted to $5,996.33 and were distributed as follows:

County	$1,652.52
School District	3,834.48
Township	509.33
Total	$5,996.33

These taxes represent .1 percent of the County's total tax revenue, 4 percent of the school districts, and 4 percent of the townships.

The proposed acquisition will have little effect on the total tax revenue for two reasons. One, the total tax revenue that will be lost is a small percentage of the total tax revenue for the county. Two, 50% of the total receipts from the Forests operations (such as timber sales, leases, and permits) are returned to the County. In F.Y. 1975, this amounted to $2,200. Sherburne County will also receive 50% of the revenue from the additional land acquired by purchase through this project, and will benefit from the improved management techniques that will be applied to the purchased land which will increase product and revenue yields.

It is expected that the surrounding area will become more desirable for development of residential dwellings because of the proximity to a dedicated area of open space. Experience shows that the preservation of open space not only preserves, but generally enhances, residential values. This increases the property tax yield which is a major source of revenue for local governments.

C. Impact on the Economy,

The Forest will have a continuing affect on the county's economy. As more tree plantations reach merchantable size, the increased allowable cut will provide increased economic gain for the State, the County, local timber harvesters, and local industry, (one pole and post treating operation now exists in Zimmerman which was a direct result of early Forest plantings and

a$1 million per year Christmas Tree industry exists within the County as a direct result of early Forest plantings.) Surrounding service operations, (such as stores, gas stations, etc.) will benefit from increased Forest usage. An added economic factor will be the need to employ additional labor for forest development purposes. Most of this labor will come from the local labor force.

D. Impact on Roads, Traffic, Utilities, and Other Services

It is anticipated that no township road mileage will be abandoned due to the purchase of additional private property for the Forest. The need for road construction and maintenance for expanding residential development will be reduced.

The increase in traffic flow caused by the additional land purchases and recreational use will increase road maintenance costs within the affected area.

No new developments will take place during this biennium until needs are fully studied and a new Forest Management Plan prepared. Trail development is the only anticipated project being considered at this time.

There is no other anticipated impact on other types of utilities.

Services provided by local governmental units will be less than if the Forest area was allowed to develop into scattered, residential buildings. Normal police protection of the Forest is provided by the Forest Officer in Zimmerman. Local law enforcement officers are called upon for assistance in controlling unusual disturbances. This situation will also exist in the case of fire protection, road maintenance, and traffic control.

E. Impact on Historical or Archaeological Resources

There are now known historical or archeological sites.

Implementation of this project will help assure the preservation of the one remaining natural sand dune in the Forest.

F. Social Impact

The project area contains only 2 tracts totaling 40 acres where relocation of the owners will be necessary. These two owners will be eligible for relocation and moving cost reimbursement. The Department of Natural Resources does not have the power of eminent domain so it must wait until owners are willing to sell. Because the owners are not forced to sell to the State, but may sell to anyone, it is questionable whether these people "suffer" any hardship at all. If they decide to sell to the State they are eligible for relocation and replacement housing assistance under Public Law 91-646.

The acquisition and subsequent multiple-use management of the Forest will provide expanded opportunities for hiking, trail riding, general use and enjoyment of open spaces, and timber management. Ultimate annual visitation is expected to be 12,000.

The impact of the Forest acquisition program on local residents will not be great. No major construction projects are planned at this time so no noise and dust pollution problems are anticipated. Littering, vandalism, and increased traffic problems should not increase dramatically because one of the main reasons for purchasing land within the Forest at this time is to block off State ownership to reduce the possibility of intermingling single-use residential development with multiple-use Forest development.

IV. MITIGATING MEASURES INCLUDED IN THE PROPOSED ACTION

Because of the significance of residential development on the local economy, much of the mitigative efforts will be designed to lessen the impact of reducing the present and future tax base.

To help reduce the impact of lost tax revenue to the county, the county will receive 50% of all revenue that is generated from acquired State land. Such income is derived from the sale of timber, gravel, and other products, and from

income from land use leases or permits. In fiscal year 1975, Sherburne County received $2,200 as their 50% share of receipts from Forest lands. Sherburne County will also receive 50% of the revenue from additional land acquired by purchase through this project. This yearly income will increase steadily as the planted trees within the Forest reach merchantable size. The revenue from renewable timber resources will be an increasing source of revenue to both the State and County in the future.

The State of Minnesota shares with the school districts a per pupil unit cost of education. Because of the acquisition in the project area, the affected school districts will experience a loss of property valuation which will reduce their revenue generating capabilities. However, the negative impact of this loss of valuation will be partially offset by the State Equalized Foundation Aid and Equalized Transporation Aid Formulas. The State, in this case, will increase these aids, mitigating the school districts' tax revenue loss caused by the lower property valuation within the land acquisition area.2/

Most open lands that are purchased during the project will be reforested. The new plantings will reduce the chances for soil erosion, and will lead to more efficient land use by helping to maximize land use capabilities.

Where the purchase of farm land will cause undue hardship because of the loss of agricultural income, the affected farm owner will be allowed to lease the land for a specified period of time. However, because of the insignificant amount of active agricultural land that will be purchased, this will not be a major problem.

All other owners and tenants who must be relocated because of the project action will be entitled to receive relocation assistance payments under the Uniform Relocation Assistance and Real Property Acquisition Policies Act.

Because of the nature and lack of intensive historical/archaeology site surveys, site testing, and excavation, some new sites may be discovered during

2/ Information from Minnesota Department of Education

future use or development. This is particularly true of previously inaccessible areas that will be opened up by trail development and of previously developed sites where all surface features have been obscured by landscape changes. All Forest personnel engaged in any sort of construction development, and private contractors constructing or developing facilities for the Forest, are required to watch for archaeological materials, and if any such materials are unearthed, are instructed to halt work and report the findings to the State Archaeologist immediately. Work will not be restarted until confirmation is received from the Minnesota State Historical Society. At this time, the procedure outlined by the Agreement between Minnesota Department of Natural Resources and Minnesota Historical Society dated December 27, 1971, will be followed. This procedure will include; having the area delineated by and put on an inventory of the Minnesota Historical Society; preparing a plan designed to avoid and minimize depredation or damage to the historic and/or archaeological areas; obtaining for the DNR by the Minnesota Historical Society a licensed, qualified professional archaeologist to help preserve these sites; and notifying the Society by the Department at least forty days prior to the offering for sale or lease State lands under its jurisdiction, timber, minerals, or gravel, or the altering of any body of water within a designated historic and/or archaeological site or area.

Future development will be carried out in such a manner as to assure that the integrity of the natural resources will be maintained and protected to the fullest extent possible. For example, open areas that are subject to erosion will be reforested to protect the light soils from wind erosion, fuelbreaks consisting of deciduous trees of low flamability will be planted as a fire prevention measure to break up contiguous acreages of coniferous plantation, and areas that will be adversely affected by extensive recreational pressure,

such as stream banks and hillsides will be protected from future development.

Forest user activities which could have deleterious effects on the natural resource base and which could prove a disruptive influence on nearby residences will be controlled by Forest Officers and local law enforcement officials.

V. ADVERSE ENVIRONMENTAL EFFECT WHICH CANNOT BE AVOIDED SHOULD THE PROPOSAL BE IMPLEMENTED

The project will cause the eventual relocation of only two landowners within the Forest. Acquisition of the entire Forest Area will be an unreachable objective since the Department does not have the power of eminent domain. Two possible relocations could take place this biennium (1976-1977) with the consent of the willing sellers and within funding limitations.

The 120 acres within the project area presently being utilized for agricultural production will eventually be lost to these purposes. The two present residential buildings would no longer provide residential accommodations and the former occupants will have to find housing elsewhere.

Local governmental taxing units will lose an estimated $5,996.33 per year as a result of the acquisition. This loss is not considered significant. This loss will be minimized by reducing the need for governmental expenditures for services in the affected area, and by utilizing improved land management techniques to increase the output of products from the acquired lands which will increase the value of the county's 50% share of the income. It is also expected that the losses will be partially offset by the increased value of surrounding lands due to the preservation of nearby open land.

The addition of land to the Forest should increase public use of the area. Even though an increase of visitors will bring economic benefit to the area, they will also place an additional burden on the governmental units providing services to area residents. The most apparent burdens would be on the transportation network and on law enforcement organizations.

Some seasonal farm employment would be lost.

Some disruption of the physical environment is unavoidable as recreational use increases.

Some littering could occur which might affect adjoining properties. Trespassing may create problems for residents with property contiguous to the Forest boundary. The adverse social impacts, reduction of privacy, and the increased use of the local roads appear to be unavoidable.

VI. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG TERM PRODUCTIVITY

Short-term uses of the environment in relationship to maintenance and enhancement of long-term productivity are considered not in terms of years but rather in terms of what must be sacrificed to gain certain benefits, i.e. trade-offs.

Gains	Losses
1. Preservation in perpetuity of about 2,000 additional acres of open space to provide a variety of outdoor recreation opportunities to approximately 12,000 visitors annually.	1. Loss of 120 acres of cropland, 80 acres of pasture and idle land, and 20 acres of building sites.
2. Reforestation or reversion to natural conditions of about 200 acres currently in row crops or pasture.	2. Loss of additional farm land surrounding the Forest due to accelerated residential growth.
3. Preservation of 2,000 additional acres for fish and wildlife habitat, subject to disturbances caused by development activities and Forest user activities.	3. Relocation of two families.
4. Improvement of the water quality of lakes in the Forest due to a reduction of agricultural and residential run-off.	4. Expenditure of $900,000.00 dollars in public funds for acquisition.
5. Infusion of money into the local economy due to development and operation of the Forest.	5. Loss of 4% of tax revenue for the school districts, 4% of tax revenue for the Township. .1% of tax revenue for the County.

Gains	Losses
6. Payment to the County of 50% of the income generated by the Forest operations.	6. Increased demand on local governmental units for some services.

VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The acquisition and development of the project area would result in the permanent conversion of present land uses into forest and recreation purposes for Minnesota residents for which the Forest was orginally established by legislative action.

Another commitment to recreation and open space is required by participation in the Land and Water Conservation Fund Act. As amended, the Act states that approval of the Secretary of the Interior must be granted before a change in use of any fund associated lands can be made.

Land developed with facilities of some permanence, such as parking lots, roads, trails, shelters, etc. could, for all practical purposes, be considered irretrievable. The vegetation in the areas requiring clearing for development would be irretrieveably lost. A commensurate loss in timber production and wildlife habitat would be lost.

Manpower, fuel, materials, and funds involved in the planning, acquisition, and development of the Forest would be irretrievably committed to the project.

VIII. ALTERNATIVES TO THE PROPOSED ACTION

The major alternatives to the proposed action are: (a) no action, (b) acquisition with no development, (c) project of a smaller scope, (d) project of a larger scope, and (e) less-than-fee acquisition.

A. No Action

No action would eliminate any possibility of acquiring lands which are still relatively undeveloped and obtainable. Residential

development is expected to continue to increase in the project area which will increase the value of the remaining, available land. The problems associated with managing scattered blocks of land within one management unit will not be decreased.

B. Acquisition With No Development

This alternative involves the acquisition of the remaining private lands within the Forest with no further forest or recreational development. The expected major impacts of this alternative would be overuse of existing facilities, environmental deterioration through indiscriminate use of newly acquired lands, continued soil erosion on the open lands, and the loss of timber production capabilities on the open lands.

C. Project of a Smaller Scope

Because of the area still under private ownership within the Forest boundaries, this alternative is feasible. The impact of this alternative would be the loss of additional land to single-use residential development, the possible over-crowding of existing recreational facilities, and the continued problem of managing scattered blocks of land as a single management unit. Recreation, timber, and wildlife management potentials would be decreased. No reduction in the relocation of people is anticipated.

D. Project of a Larger Scope

This alternative is feasible because of the acreage still in private ownership within the Forest boundaries. Funding and present residential development would be limiting factors. The impact of a larger project would allow for additional recreational and forest development and expanded wildlife habitat improvement and preservation. Sherburne County would lose additional tax revenue but would receive additional revenue from their 50% share of the gross receipts from Forest income.

The potential for additional forestry related industrial development would increase. There is a possibility of more relocation of people.

E. Less-than-fee-Acquisition

This is not a feasible alternative due to present management goals concerning multiple-use management.

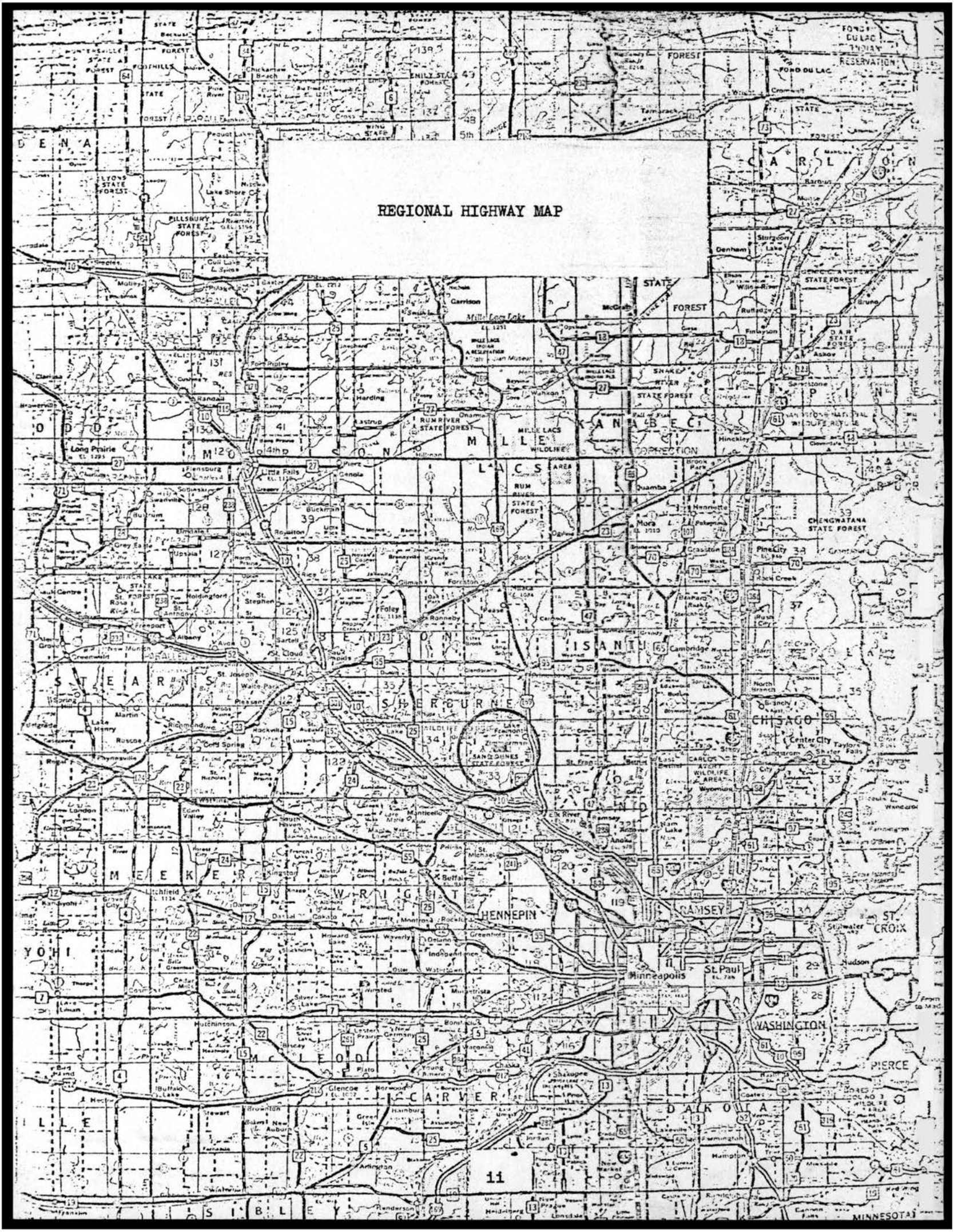
A P P E N D I X

List of Parcels Purchased or to be Purchased

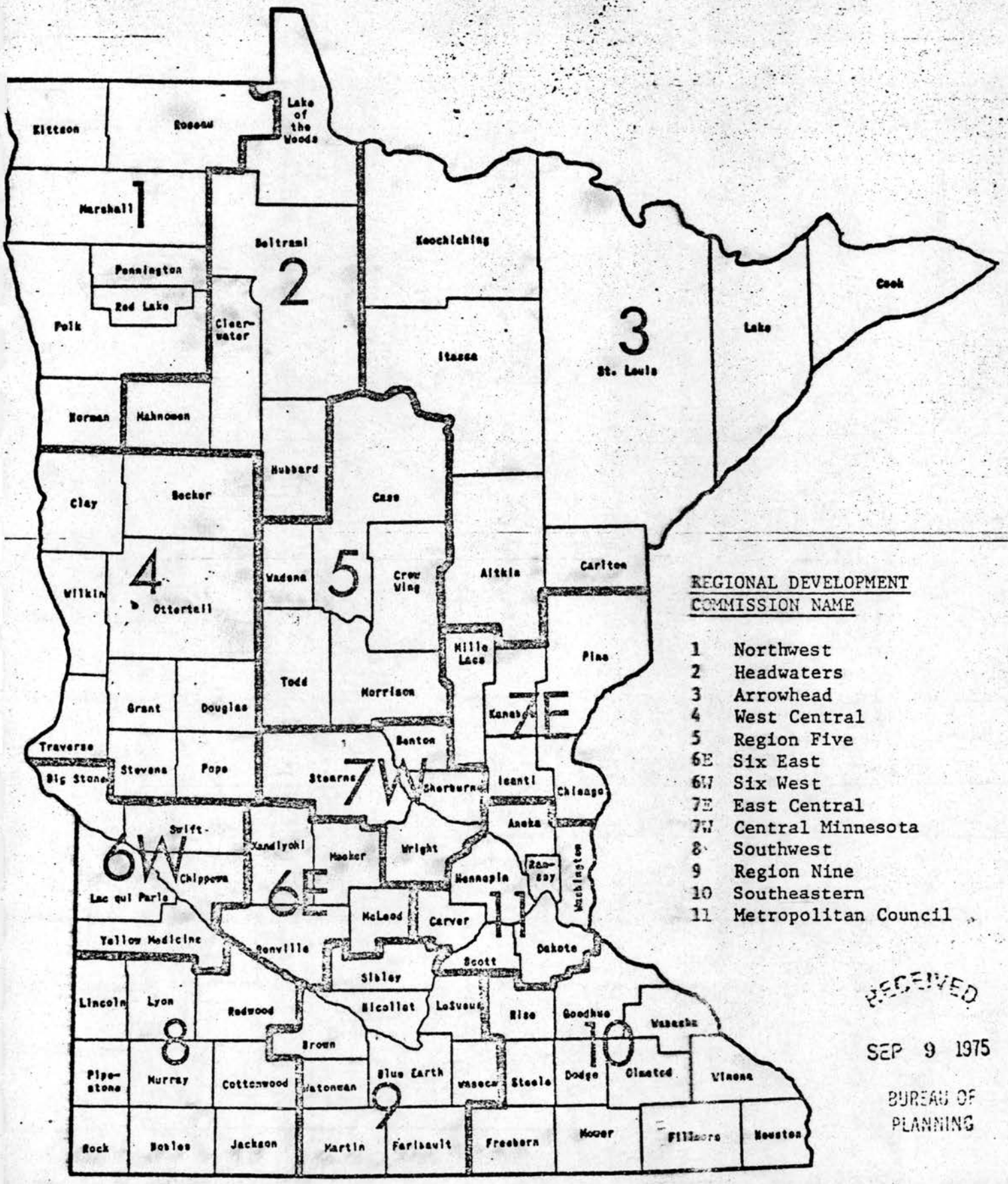
Parcel Number	County	Acres	Cost
1	Sherburne	40	$ 8,250.01
2	Sherburne	40	17,600.01
3	Sherburne	20	9,500.00
4	Sherburne	80	25,200.01
6	Sherburne	40	12,700.01
7	Sherburne	160	59,200.01
8	Sherburne	40	12,900.01
9 and 9A	Sherburne	80	33,000.01
10	Sherburne	100	50,000.01
11	Sherburne	80	38,000.00
13	Sherburne		Exchange
14	Sherburne	20	11,000.00
16	Sherburne	40	16,000.01
17	Sherburne	80	32,000.01
18	Sherburne	80	38,000.01
18A	Sherburne	40	20,000.00
19	Sherburne	80	28,600.00
20	Sherburne	72	26,000.01
21	Sherburne	40	16,000.01
22	Sherburne	80	39,600.01
23	Sherburne	20	8,500.00
24	Sherburne	18	2,750.01
25	Sherburne	28	11,265.01
26	Sherburne	40	11,000.00
27	Sherburne	29	15,000.00
28	Sherburne	40	25,450.01
30	Sherburne	40	20,000.00
31	Sherburne	40	13,550.00
33	Sherburne	34	15,500.00
34	Sherburne	40	12,000.00
35	Sherburne	20	8,250.00
37	Sherburne	40	22,000.01
38	Sherburne	160	38,500.00
39	Sherburne	20	27,900.00
		1,791	$725,215.18*

Ave. Price/Acre = 404.92

*Current estimated cost. Cost will increase if land is not immediately acquired.


REGIONAL HIGHWAY MAP
Minneapolis
St Paul
HENNEPIN
RAMSEY
WASHINGTON
CARVER
SCOTT
DAKOTA
WRIGHT
SHERBURNE
STEARNS
MEEKER
MCLEOD
SIBLEY
ISANTI
CHISAGO
PINE
CARLTON
KANABEC
MILLE LACS
BENTON
MORRISON
TODD
WADENA
CASS
ITASCA
HUBBARD
BECKER
CLAY
WILKIN
OTTER TAIL
PIERCE
ST CROIX
MINNESOTA
11

Minnesota Development Regions

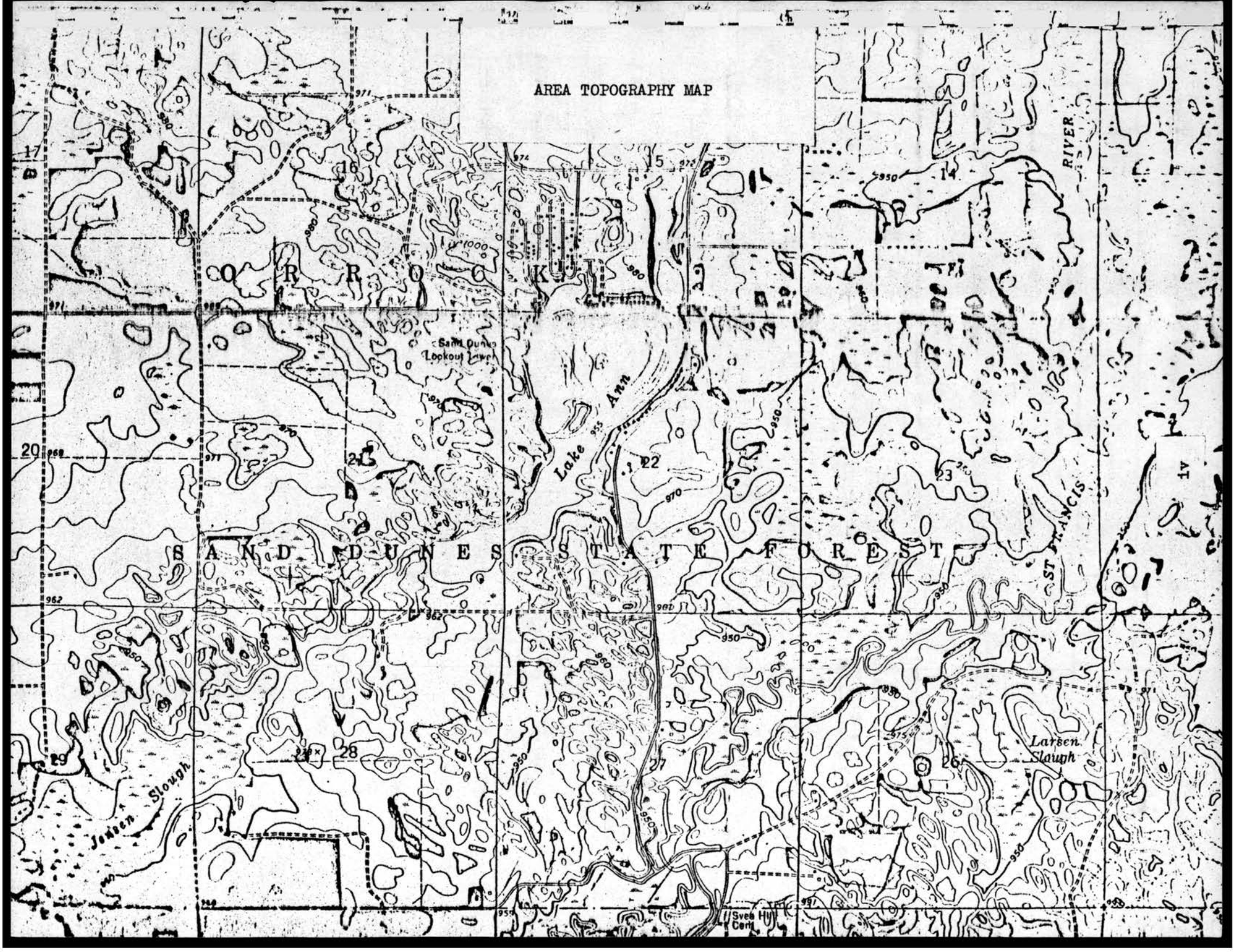


REGIONAL DEVELOPMENT COMMISSION NAME

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

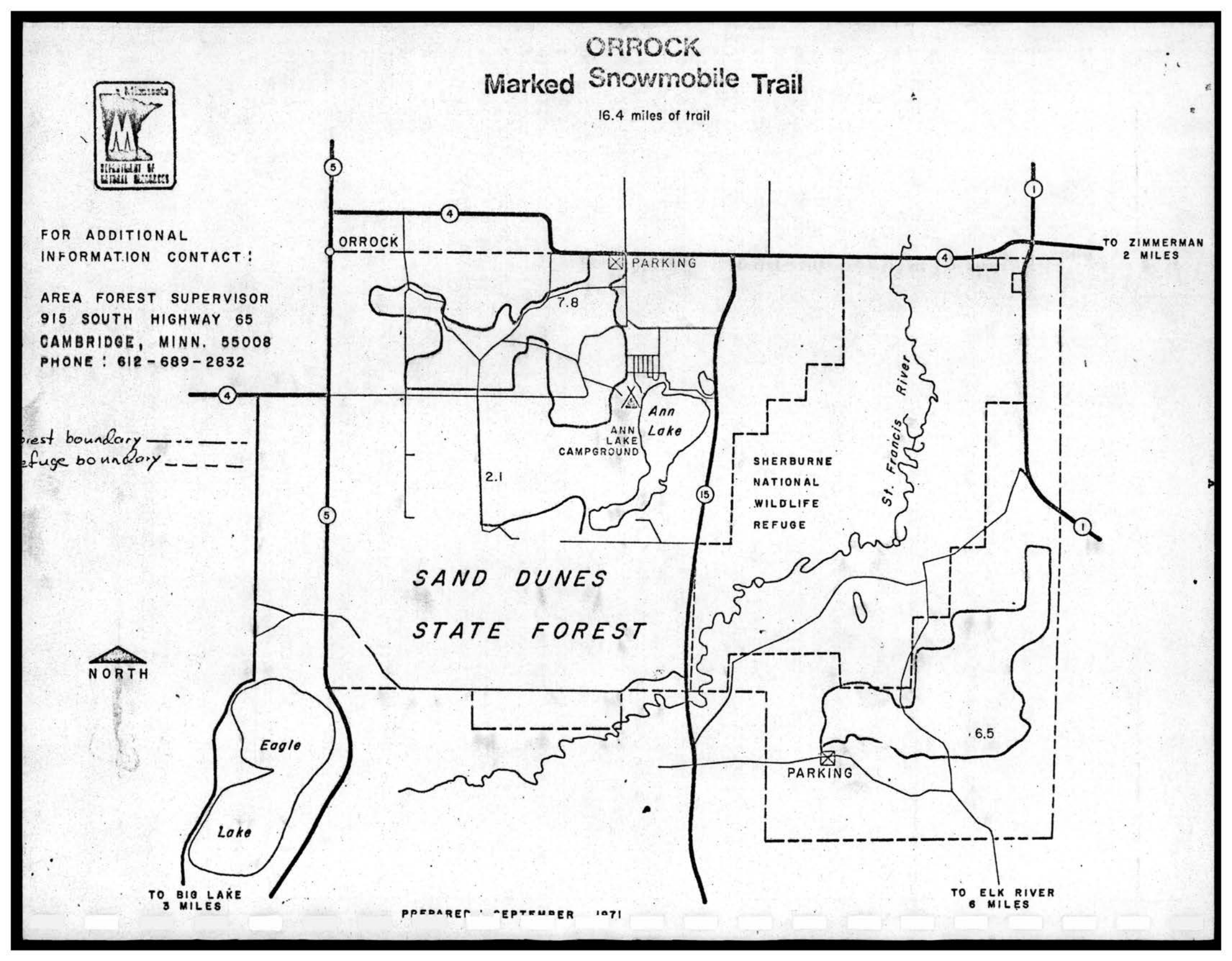
RECEIVED
SEP 9 1975
BUREAU OF PLANNING

State Planning Agency


AREA TOPOGRAPHY MAP
O R R O C K
Sand Dunes Lookout Tower
Lake Ann
S A N D D U N E S S T A T E F O R E S T
ST FRANCIS
RIVER
Jorden Slough
Larsen Slough
Sveb Hill Cem.

ORROCK
Marked Snowmobile Trail

16.4 miles of trail



AGREEMENT
between
MINNESOTA DEPARTMENT OF NATURAL RESOURCES
and
MINNESOTA HISTORICAL SOCIETY

This Agreement, entered into this 27th day of December, 1971, by and between the Minnesota Department of Natural Resources, acting through the Commissioner of Natural Resources, pursuant to Minnesota Statutes, Chapters 84 and 85, hereinafter called the Department, the Minnesota Historical Society, acting through its Director, hereinafter referred to as the Society, to coordinate effective efforts to develop, maintain and administer for public benefit historic sites, historic districts and monuments and archaeological sites as they now exist as individual entities or as parts of large state land areas administered by the Department of Natural Resources, hereinafter referred to as state land, do hereby define areas of responsibility and authority on state land.

1. The Society or State Archaeologist agrees to provide research and analysis to determine the sites of historic and/or archaeological significance to be set aside, identified and marked with suitable inscriptions for preservation and interpretation on state land. These sites shall be delineated on any inventory and classification of sites prepared by the Society. This process will directly relate to the funding and staff time available for this purpose determined by the Minnesota Historical Society.

2. The Department desires to prepare master plans for the development of facilities, essential to public access and use for recreational purposes as well as updated resource management plans on such land under its jurisdiction so as to avoid and minimize depredation or damage to the historic and/or archaeological areas on such land. Such plans shall be furnished to the Society for their information and guidance. Agreement between the Department and the Society must be reached on plans relating to historical areas before development can proceed. Unless objections are received within 30 days, agreement will be assumed. The Department shall present copies of all developmental plans affecting sites delineated as historical or archaeological on any inventory and classification of such areas to the Society prior to advertising for bid on any construction so that the Society may make studies and investigations of the archaeological and historical values.

3. When archaeological or historic sites are known or, based on investigations, are suspected to exist on state land or waters the Society upon request from the Department shall obtain for the Department a licensed, qualified professional archaeologist to help preserve these sites.

4. The Department shall notify the Society at least forty days prior to the offering for sale or lease state lands under its jurisdiction, timber, minerals, or gravel or the altering of any body of water within designated historic and/or archaeological sites or areas.

5. The Department of Natural Resources will enforce the provisions of the Minnesota Field Archaeology Act of 1963, Minnesota Statutes 138.31 to 138.42, and to subsequent Amendments to these statutes on state land under its jurisdiction.

6. The Society and the Department may prepare and install interpretive exhibits (in existing buildings or proposed buildings) which, in its judgement, on lands or waters administered by the Departments of Natural Resources which the Society and Department jointly determine are suitable for such purposes, and costs of such features shall be met by any funds appropriated for such purposes to either the Department or the Society.

7. The Society shall identify original sites or buildings of historical or archaeological significance deserving preservation, restoration or reconstruction on state land administered by the Department of Natural Resources. The Society and the Department jointly shall determine which buildings or sites are suitable for such historical purposes, and decide on alterations in them to render them more suitable for interpretative and public service purposes. Costs of development shall be met by any funds appropriated for such purposes to either the Department or the Society.

8. The Department shall administer, develop, maintain, and operate all buildings, facilities and utilities as required for public accommodation and compatible recreation features, and enforce all rules and regulations and operate special fee services in these state parks as authorized by statutes... Except in those historical areas as described in Minnesota Session Laws 1969, Chapter 956.

9. This Agreement imposes no liability upon the State, the Commissioner of Natural Resources, or any other officers, employees or agents of the State for the acts or omissions of any officer, employee or agent of the Society.

10. This Agreement is in force until amended or repealed by mutual agreement between the Department and the Society.

11. This Agreement shall supercede Agreement number 2 entered into by the State and the Society on the 14th day of August, 1968.

12. To keep this Agreement in force the Department and Society agree to meet at least semi-annually to review the operation of this Agreement and to correct problems that may have arisen because of it.

13. This Agreement shall be subject to the Minnesota Historic Sites Act of 1965 and to subsequent amendments to that statute.

14. Nothing in this Agreement shall be contrary to existing Minnesota Statutes nor to Rules and Regulations as adopted by each agency.

15. This Agreement shall be in effect until rescinded or superceded by joint agreement of the two agencies affected.

IN WITNESS WHEREOF, the respective authorities affix their seals and signatures this 27th day of December 19 71.

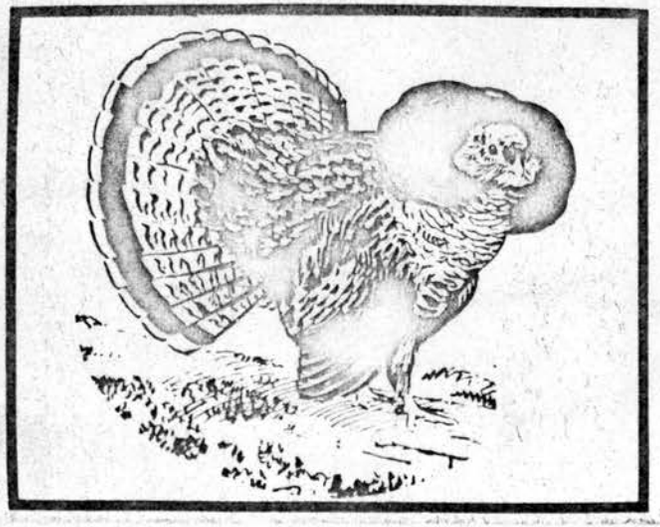
Robert L. Herbst
Commissioner
Dept. of Natural Resources

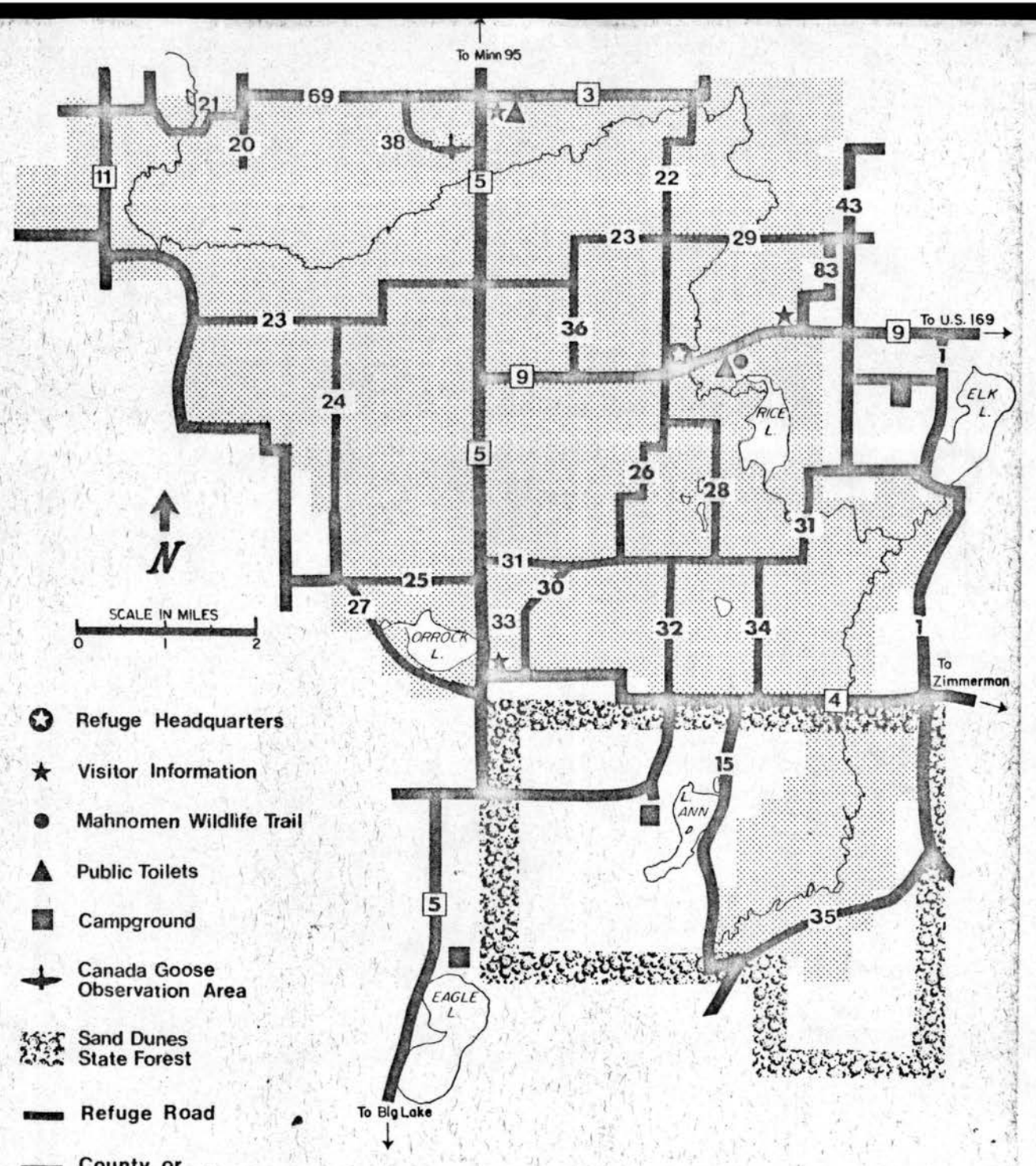
Russell W. Fridley
Director
Historical Society

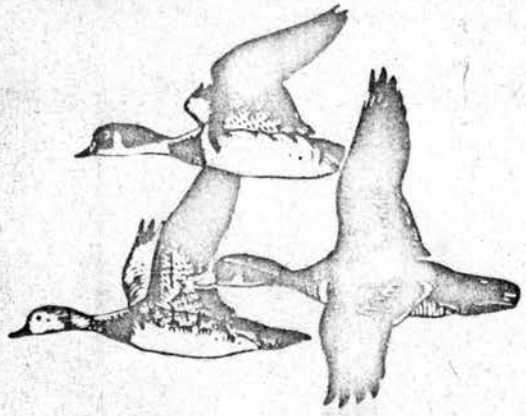
SHERBURNE

Sherburne National Wildlife Refuge, located within 40 miles of two million people, provides excellent opportunities for people to observe wildlife in its natural setting,and to become familiar with wildlife management programs and their part in the total conservation effort. The refuge covers 30,552 acres of which over 10,000 acres can eventually be flooded to provide habitat for waterfowl. Begun in late 1965, land acquisition is now close to completion.

Although protecting wildlife and the environment are our main commitments, providing for public enjoyment and wildlife appreciation are an important part of the refuge program. In addition, environmental education is encouraged to stimulate public understanding of wildlife and wildlands.



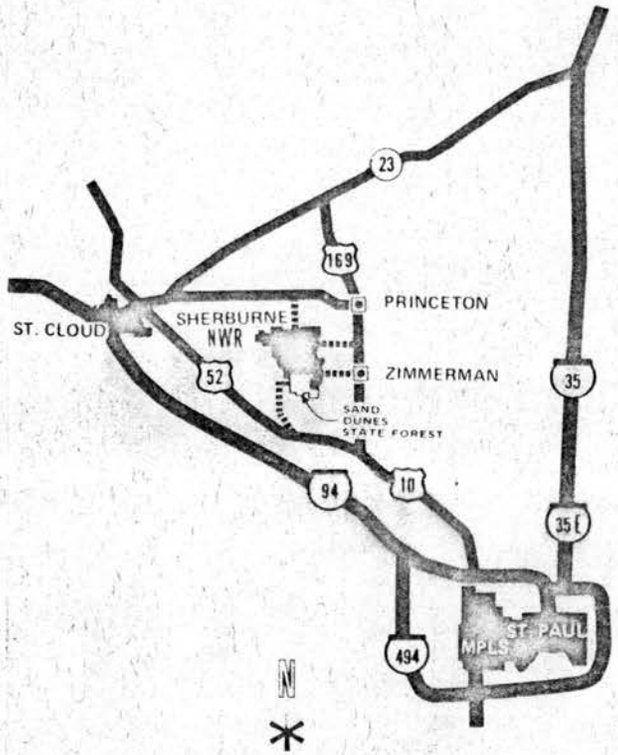




Present facilities open to the public during daylight hours include the Mahnomen Wildlife Trail and the Canada goose observation area. The captive Canada goose flock is the nucleus of what is to be a wild free-flying flock that will nest on the refuge. A display pen and observation platform are provided. Two rare Trumpeter swans are also present.

Along the trail is the site of a prehistoric Indian village, 35 Indian burial mounds, observation towers overlooking Rice Lake and a boardwalk into the marsh. The shortest loop of the trail is 1 1/4 miles long and the longest eventually will be 2 1/2 miles.

Possession and use of firearms is allowed only during the prescribed hunting seasons for game species in accordance with state and Federal regulations. All species of plants and animals are protected.



We hope you enjoyed your visit and will come to visit Sherburne National Wildlife Refuge again.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF SPORT FISHERIES AND WILDLIFE

For additional information contact:
Refuge Manager
Sherburne National Wildlife Refuge
Box 158
Princeton, Minnesota 55371

PLEASE TAKE ONLY PICTURES AND LEAVE ONLY FOOTPRINTS

RF-3355500-1 . 7-73

SHERBURNE

NATIONAL WILDLIFE REFUGE

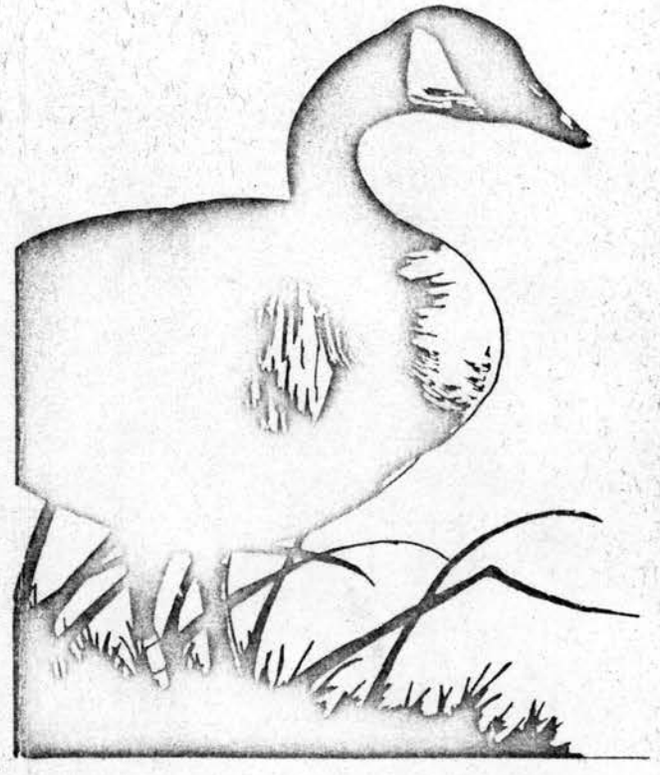
ACTIVITIES

- ENVIRONMENT EDUCATION
- SIGHTSEEING
- BIRD WATCHING
- PHOTOGRAPHY
- HUNTING
- FISHING
- CANOEING

- NATURE TRAIL
- CANADA GOOSE OBSERVATION
- INDIAN BURIAL MOUNDS

WATERFOWL
UPLAND GAME
BIG GAME
MARSH & WATER BIRDS
FUR BEARERS

MINNESOTA



SNOWMOBILES, TRAIL BIKES AND ALL OTHER OFF-ROAD VEHICLES ARE PROHIBITED

All refuge roads and trails, including those found in the area closed to hunting, are open to ski touring and snowshoeing.

Improved woodland trails include Mahnomen Wildlife Trail and Blue Hill Trail.

Several parking areas are maintained.

Small open fires are permitted when the following rules are observed:

a) ground is completely snow-covered.
b) dead and downed timber is used.
c) fires must be located off of roads, trails and parking areas. An exception is that no fires are permitted in the vicinity of the Mahnomen Wildlife Trail.

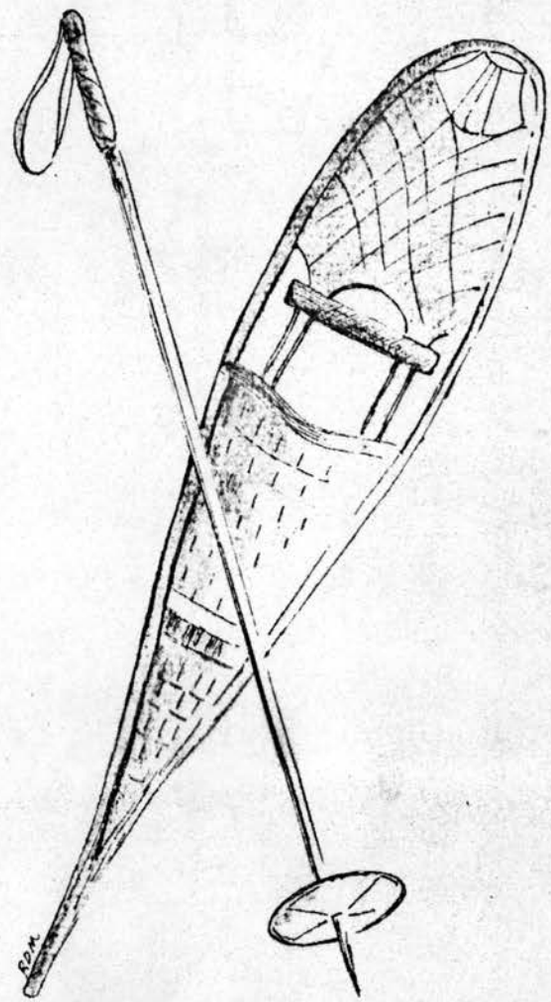
No target shooting on refuge, and no firearms or bows in area closed to hunting.

Pets must be leased, except dogs used for authorized hunting.

Camping is prohibited.

Organized, competitive meets are prohibited.

Report any injuries or accidents to Refuge Headquarters, Box 158, Princeton, Minnesota 55371 or 612/389-3323.

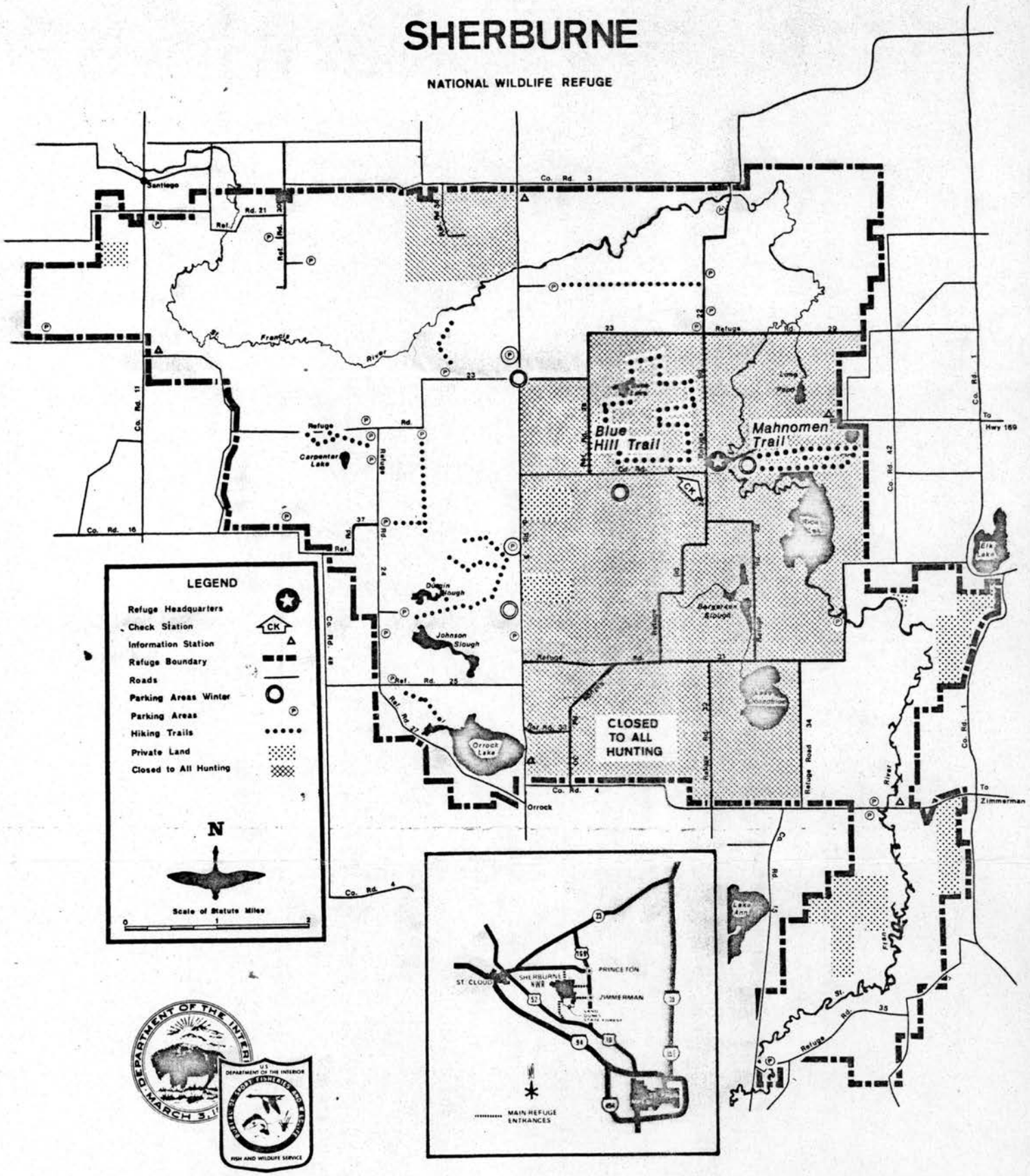


SKI TOURING SNOWSHOEING

SHERBURNE NATIONAL WILDLIFE REFUGE
PRINCETON, MINNESOTA

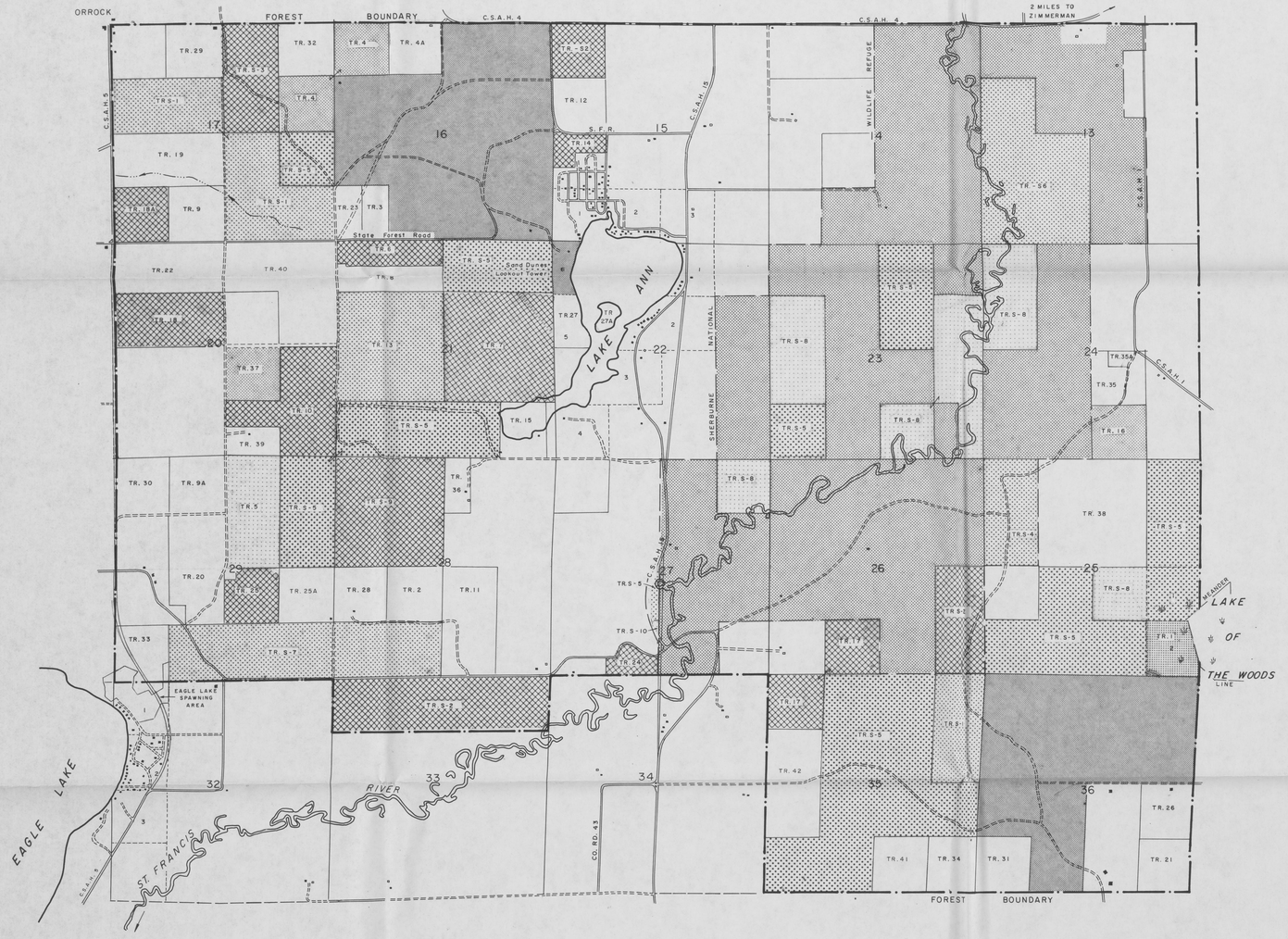
SHERBURNE

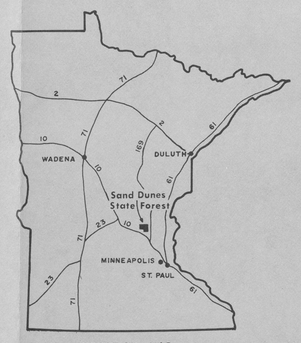
NATIONAL WILDLIFE REFUGE



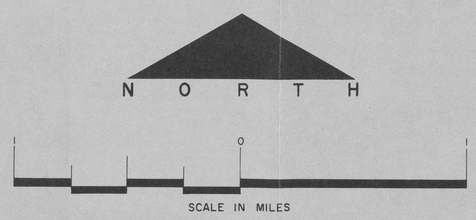
UNITED STATES DEPARTMENT OF INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

REGULATIONS ON BACK SIDE OF MAP


ORROCK
FOREST BOUNDARY
C.S.A.H. 4
2 MILES TO ZIMMERMAN
C.S.A.H. 5
C.S.A.H. 8
C.S.A.H. 7
C.S.A.H. 1
WILDLIFE REFUGE
S.F.R.
State Forest Road
Sand Dunes Lookout Tower
LAKE ANN
NATIONAL
SHERBURNE
TR.S-5
TR.S-10
MEANDER LAKE OF THE WOODS LINE
EAGLE LAKE SPAWNING AREA
EAGLE LAKE
RIVER
ST. FRANCIS
CO. RD. 43
FOREST BOUNDARY
TR. 29
TR. 32
TR. 4
TR. 4A
TR. S-2
TR. S-1
TR. 4
TR. 19
TR. S-4
TR. 18A
TR. 9
TR. S-1
TR. 23
TR. 3
TR. 22
TR. 40
TR. 8
TR. S-5
TR. 18
TR. 12
TR. 14
TR. 27
TR. 27A
TR. 37
TR. 10
TR. 15
TR. 39
TR. 30
TR. 9A
TR. 5
TR. S-3
TR. S-9
TR. 36
TR. 20
TR. 25
TR. 25A
TR. 28
TR. 2
TR. 11
TR. 33
TR. S-7
TR. 24
TR. S-8
TR. 17
TR. 42
TR. 41
TR. 34
TR. 31
TR. 26
TR. 21
TR. 35A
TR. 35
TR. 16
TR. 38
TR. S-6
TR. S-8
TR. S-5
TR. S-4
TR. 1
TR. 7
TR. 6
TR. 13
TR. 1
TR. 36
TR. S-8
TR. S-5
TR. S-8
TR. S-5
TR. S-8
TR. S-5



LOCATION MAP

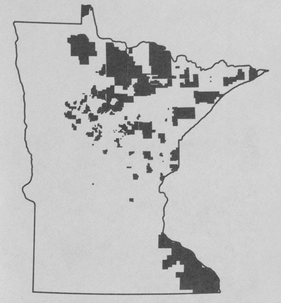


SCALE IN MILES

LEGEND

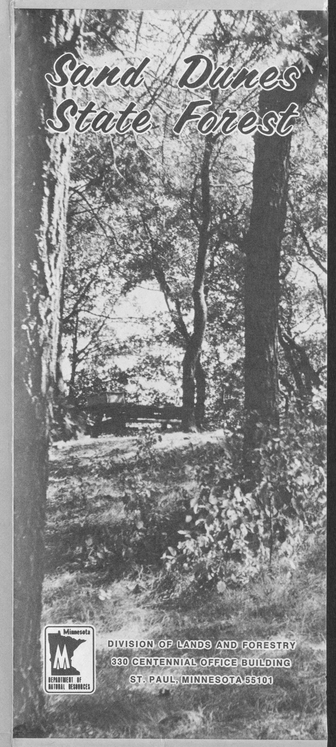
- SURFACED HIGHWAY
- ALL WEATHER GRAVEL ROAD
- MAINTAINED GRAVEL ROAD
- NOT MAINTAINED DIRT ROAD
- COUNTY HIGHWAY
- RECREATION TRAIL— DESIGNATED— RIDING AND SNOWMOBILING
- RECREATION TRAIL— DESIGNATED— FOOT
- STATE LAND UNDER THE JURISDICTION OF THE DIVISION LANDS AND FORESTRY, MINNESOTA DEPARTMENT OF NATURAL RESOURCES
- FEDERAL LAND UNDER THE JURISDICTION OF THE UNITED STATES DEPARTMENT OF THE INTERIOR
- STATE FOREST BOUNDARY
- SHERBURNE NATIONAL REFUGE BOUNDARY
- TOWNSHIP LINE
- SECTION LINE
- POINT OF INTEREST
- ASSEMBLY AREA
- CAMPGROUND
- PICNIC AREA
- CAMPGROUND AND PICNIC AREA
- PUBLIC BOAT LANDING
- FIRE LOOKOUT TOWER

PREPARED BY: BUREAU OF ENGINEERING
MINNESOTA DEPARTMENT OF NATURAL RESOURCES
DATE: JULY, 1971



STATE FORESTS OF MINNESOTA

Minnesota's 55 state forests encompass 2,984,200 acres. The renewable resources of these lands (wildlife, soil, water and timber) are managed and protected by the Division of Lands and Forestry, Department of Natural Resources. Coordinated management of these resources is necessary to achieve maximum yield of forest products and to provide recreational opportunities for the public. Present forest boundaries are the result of action taken by state legislatures, at Department recommendation, since 1914. Prior to that time, the state made no provision to retain lands in public ownership for forestry purposes. Minnesota state forests vary from the pine and spruce evergreen forests of the north to the oaks, elms and walnut covered hills of the southeast. In total they represent a vast reservoir of natural resources for the use of present and future generations of state citizens.



RECREATION AREAS

Ann Lake Campground — *24 campsites, camping fee, 7 picnic sites, 6 miles of hiking trails.*

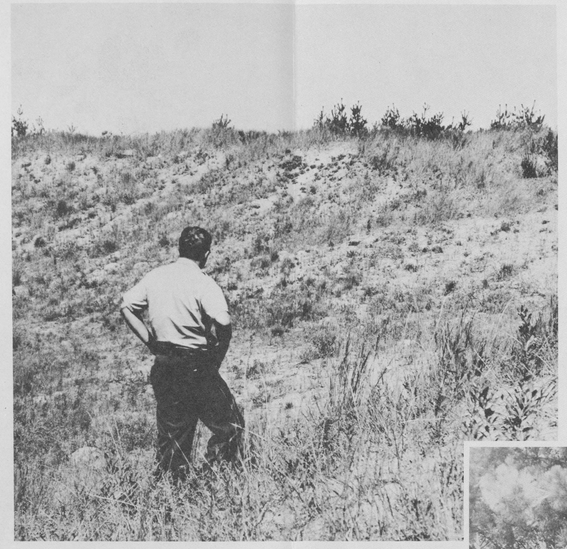
Orrock Snowmobile Trails — *(two loops) 18 miles*

The Sand Dunes State Forest is located in the east central part of Minnesota, 35 miles north of Minneapolis-St. Paul metro area. It is five miles west of Zimmerman on County Road 4.

Deriving its name from a history of an unstable soil condition, this forest contains 10,800 acres of which 3,860 are state owned. The terrain is flat to moderately rolling. More than 2,000 acres of unproductive scrub oak and open shifting sand areas have been planted with pine and wildlife shrubs since the Division of Lands and Forestry tackled the job of stabilizing the sand dunes in the early forties. The success of experimental plantings led to development of a Christmas tree industry in Sherburne County which now grosses about $1 million annually.

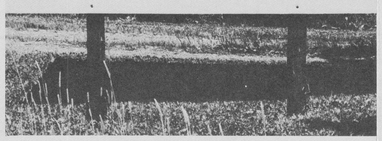
This state forest's prime value lies in its recreation potential. It now boasts Ann Lake Campground with 24 units, a picnic area, beach and trails. There are several large campgrounds within a ten-mile radius of the state forest. Hunting, camping, picnicking, hiking, fishing, and water sports are among the chief recreational pursuits of visitors.

The recently established Sherburne National Wildlife Refuge bounds the State Forest on the north, and has much to offer the recreation seeker.

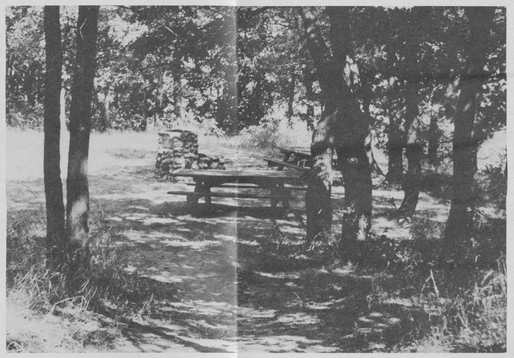


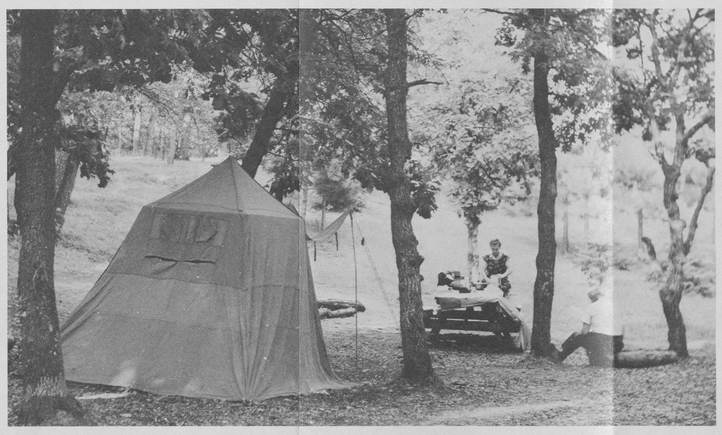
Years ago winds formed dunes from shifting sand and gave this forest its name. One of the first tasks undertaken following establishment of the forest was stabilization of the dunes by tree planting.

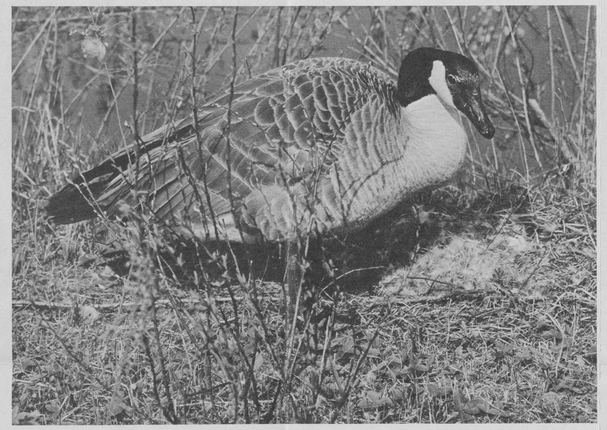
During periods of sparse rainfall, vegetation is quick to dry out in this forest's sandy soil. Many years ago, large fires were frequent. Now, due to an intensive prevention, detection and suppression program, fires are few and contained. Construction and maintenance of fire breaks is one technique used at Sand Dunes.



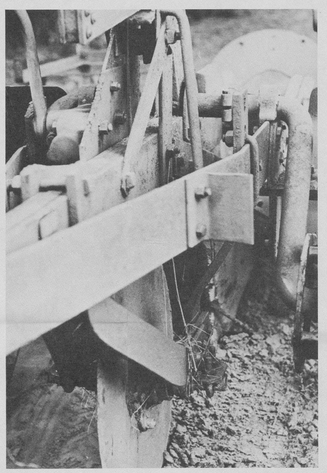
Sand Dunes State Forest's Ann Lake Campground with its proximity to the Twin-Cities Metropolitan Area is enjoyed both summer and winter by many visitors. Numerous trails and open areas provide easy access to many points of interest throughout the forest.

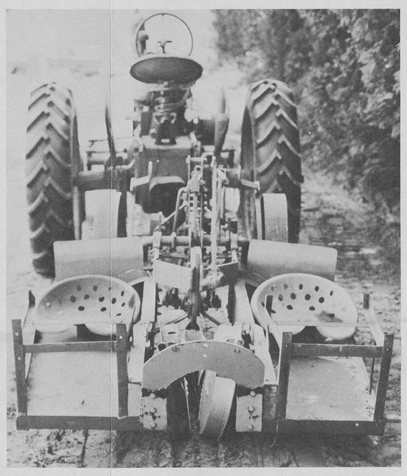


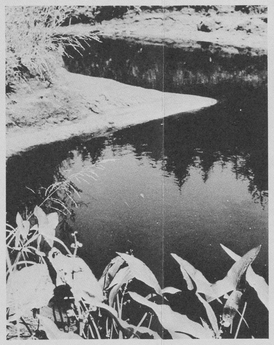




Foresters' duties include game habitat improvement programs in cooperation with the Division of Game and Fish, including planting of cover and food plots and creating potholes for waterfowl.







The tree planting machine (shown above) was invented by Division of Lands and Forestry employees. The "Hollyock Planter" was first used in 1943. Experimental tree plantings in the Sand Dunes has led to a Christmas tree industry bringing close to $1 million gross income to Sherburne County.