



# MINNESOTA STATE COMPREHENSIVE OUTDOOR RECREATION PLAN

**Minnesota Department of Natural Resources**

**Office of Planning**

**Research and Policy Section**

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STATE OF MINNESOTA

**Prepared with assistance from:**

**The Legislative Commission on Minnesota Resources  
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Heritage, Conservation and Recreation Service**

MINNESOTA STATE COMPREHENSIVE

OUTDOOR RECREATION PLAN

1979

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Issue/Opportunity: Achieve the goals of future action plans without reducing the efforts given to completing existing projects and conducting existing programs.

PUBLIC PARTICIPATION.....5.003

Issue/Opportunity: Segments of the public believe that public resource management does not respond to public desires.

EQUAL OPPORTUNITY.....5.004

Issue/Opportunity: Provide sufficient and equal recreation opportunities for all persons.

ENERGY CONSERVATION/URBAN OPPORTUNITIES.....5.006

Issue/Opportunity: Improve the supply of energy conserving close-to-home recreation opportunities for persons residing in Minnesota's more heavily urbanized areas.

WATER RESOURCE RELATED ISSUES.....5.007

Issue/Opportunity: Wetland Preservation in Minnesota.

Issue/Opportunity: Management of floodplains.

Issue/Opportunity: Better river management in Minnesota would tap an underused recreation resource.

Issue/Opportunity: Publicly-owned lakeshore possess more potential for recreation investment than lands lacking water access.

Issue/Opportunity: Need for additional public access to lakes and streams in Minnesota.

NATURAL DIVERSITY PROTECTION.....5.011

Issue/Opportunity: Preservation of Minnesota's natural diversity.

RECREATION ACTIVITIES.....5.012

Issue/Opportunity: Provide additional opportunities for hunting.

Issue/Opportunity: Expand fishing opportunities throughout the state.

Issue/Opportunity: Insufficient camping opportunities exist in Minnesota.

Issue/Opportunity: Increased swimming opportunities is a perceived need in Minnesota.

Issue/Opportunity: User preferences and demands need to be more strongly considered in trail acquisition and development.

HISTORIC OPPORTUNITIES.....5.018

Issue/Opportunity: Interest in, and concern for, historical preservation is increasing in Minnesota.

LAND OWNERSHIP AND COOPERATIVE MANAGEMENT.....5.019

Issue/Opportunity: Federal, state, county and private lands in northern Minnesota are so intermingled as to hamper effective administration and management.

Issue/Opportunity: Fragmented ownership patterns hamper recreation development in Minnesota state parks.

Issue/Opportunity: Improved inter-agency cooperation and coordination would strengthen efforts to provide recreation opportunities and facilities.

Issue/Opportunity: State, federal and county lands can create problems for some local governments, especially when this property is used for outdoor recreation and attracts substantial numbers of visitors.

INFORMATION.....5.022

Issue/Opportunity: Duplicative and uncoordinated data management systems established for handling information on recreation users, recreation facilities, public information and for other purposes, result not only in inconsistent data management policies but also inefficient operation.

Issue/Opportunity: Information on recreation resources in Minnesota is neither catalogued nor transmitted to the public in anything approaching a comprehensive fashion.

PRIVATE SECTOR.....5.024

Issue/Opportunity: Use private-sector resources to increase available recreation opportunities.

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Issue/Opportunity: The expansion of public outdoor recreation opportunities and facilities has placed an increasing burden on government agencies to finance operation and maintenance.

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CHAPTER I





## CHAPTER I

### INTRODUCTION

#### GOAL OF THE STATE COMPREHENSIVE OUTDOOR RECREATION PLAN (SCORP) PLANNING PROCESS

Direct a continuing planning process that coordinates all public and private sector recreation plans that relate to providing the public with opportunities for outdoor recreation.

#### OBJECTIVES OF THE PLANNING PROCESS

1. Identify goals, objectives, and policies of significant regional and state outdoor recreation systems operating in Minnesota.
2. Articulate policy issues pertaining to the provision of services in the outdoor recreation systems in Minnesota.
3. Provide coordination processes to resolve those policy issues.
4. Help provide information as well as planning and communication processes needed to make reasonable choices among acquisition and development alternatives of Minnesota's recreation open space suppliers.
5. Coordinate the development and provision of timely recreation management information necessary to assure Minnesota's continued eligibility to receive LAWCON funds.

#### GOALS FOR OUTDOOR RECREATION IN MINNESOTA

The goals for outdoor recreation in Minnesota are to manage and protect the appropriate natural, historic and archaeologic resources in Minnesota and to develop supporting facilities and programs for an outdoor recreation system providing quality recreation and aesthetic experiences.

#### THE OUTDOOR RECREATION SYSTEM

The Minnesota Outdoor Recreation System, as the phrase is used in this plan, includes the broad spectrum of areas and facilities for all types of outdoor recreation provided by all levels of government and by the private sector.

#### OBJECTIVES OF THE OUTDOOR RECREATION SYSTEM

To achieve the outdoor recreation system goals, certain objectives have been established, providing specific targets. These objectives are general in nature and intended to provide an over-all direction or guide for developing the recreational system.

1. Incorporate into the outdoor recreation system resource areas of high quality and diversity in sufficient quantity to conserve and portray the state's natural, historical and archaeological heritage.
2. Provide recreation resources (lands, waters and facilities) to meet the recreation interests and needs of Minnesotans and visitors.

3. Attain a fully coordinated partnership among the public agencies and the private entities that have jurisdiction over all components of the recreation system. The specific capabilities of each agency should be recognized and shared by the others in order to achieve the best planning, development, operation, maintenance, protection and visitor satisfaction of outdoor recreation areas.
4. Assist the several levels of government to develop recreational facilities which are best suited to meet their needs, within the system goals. Standards and guidelines will be prepared to outline the responsibilities of the various levels of government.
5. Seek financing for all levels of government to achieve the stated objectives.
6. Maximize the participation of private market development and operate recreation facilities to complement those provided by the public. The public sector should provide only those facilities which the private sector cannot provide.
7. Keep the outdoor recreation system flexible enough to meet changing needs of the people or conditions of the resources.
8. Expand research on recreation problems enough to provide planners and administrators the tools necessary to protect resources and meet recreation needs.
9. Monitor conditions of recreation and open space areas on a continuing basis, at all levels of the recreation system, so that deterioration of resources can be arrested before it becomes irreversible.
10. Provide, wherever feasible, facilities and programs for environmental education.
11. Provide readily available and accessible outdoor recreation opportunities to all state residents irrespective of physical disability, age, sex, race, residence or economic status.

#### CONTENTS OF THE PLAN

To accomplish these goals and objectives, the Plan contains a description of Minnesota's natural and human resources; an updated inventory of the state's recreational lands and facilities; a process for determining the present and future demand for various activities; an analysis of users; and a program of action to meet the needs.

A separate document has been prepared for each Minnesota Development Region to facilitate the planning process through communication. The adoption of this planning process, however, cannot by itself assure that the stated objectives will be met. The cooperation of and coordination with all agencies and organizations involved is necessary for success.

The Minnesota State Planning Agency is responsible for coordinating the comprehensive aspects of long-range state-wide economic development planning and broad-use land planning, as well as various phases of regional, county and municipal planning.

Because the Department of Natural Resources (DNR) manages much of the state's natural resource-oriented recreation lands, facilities and programs, coordinating state outdoor recreation planning with the agencies involved in the management of fish, wildlife, water, minerals, public lands, forests, parks and recreation is greatly facilitated.

With the data systems established by the DNR and the State Planning Agency, information from this plan can be provided to aid other agencies and local units of government.

Planning for water and related land resources will be integrated into plans of other states through river basin commissions, the Heritage, Conservation and Recreation Service and other organizations that link or communicate across state boundaries.

#### LEGAL AUTHORITY

Minnesota's authority to participate in the Land and Water Conservation program is granted under Minnesota Statutes Chapter MS 86.71. This section also designates the Governor as the state authority who "applies for, accepts, receives and disburses" Land and Water Conservation (LAWCON) funds. The Governor, under power granted by the law, has in turn designated the Commissioner of Natural Resources as the State's Liaison Officer. The DNR administers the program for the state agencies; the State Planning Agency is designated by the Legislature to administer the program for local units of government.

An opinion of the Minnesota Attorney General in 1965 affirmed that Statute 86.71 (1965 Laws Chapter 810, as amended) gives Minnesota the necessary legal authority to participate in the LAWCON program. This opinion is summarized as follows:

"We conclude, and it is our opinion, that the State of Minnesota has full power and authority to participate in the Land and Water Conservation Act of 1965, and that it was the clear intention and purpose of the Legislature in the enactment of Chapter 810, and other laws to which reference has been made, that the state shall fully participate in such Act. It has clearly designated the Governor as the state agency to apply for, accept, receive and disburse all federal and private funds which are granted to the state from the Act. It further authorizes the Governor to designate a state agency, or agencies, to act for him applying for, receiving and accepting federal funds under the provisions of subdivision 1 of Chapter 810. All requirements of federal law and any rules and regulations thereunder, shall be complied with to enable the application for and the receipt of and acceptance of such federal funds."

#### PUBLIC INPUT

An all-too-common pitfall of many planning processes is inadequate public involvement--too little and too late. Less well-known but equally prevalent is another pitfall: a relatively narrow base of public input, centered mainly in small, highly-interested groups, which tends to destroy the balanced perspective that any valid involvement process must display. Any single method of soliciting public involvement is open to either deficiency.

In order to assure a wide spectrum of opinion and expressed need, the SCORP planning process that produced this document employed a multiple-source approach. The bulk of the public input came from three major, separate efforts, each targeted on a specific recreational clientele.

First, an Outdoor Recreation Policy and Technical Advisory Committee supplied the advice of professionals in the field of parks and recreation. The committee played a major role in developing the content of the research that went into SCORP and provided detailed reviews and comments on draft SCORP documents.

Second, representatives of Minnesota's 13 Regional Commissions (MARC), provided direction from the viewpoint of major administrators of recreation funds. MARC reviewed the data development, analysis and recommendation phases of this study and gave important direction in subjects ranging widely from data display to the meaning of, and possible solutions to, issues raised.

Third, two major telephone surveys and eight mail surveys provided a broad solicitation of opinions and desires from Minnesota citizens, recognized early in this SCORP effort as the most important source of consultation. More than 20,000 Minnesota households were surveyed by telephone about their recreation habits. A portion of this sample consisting of nearly 3,000 randomly-selected individuals was further queried in a mail survey soliciting information about the intensity of their desire for a comprehensive list of recreational opportunities. Identified members of seven special-interest groups were queried in detail in this portion of the input process. Samples for these surveys ranged from 400 to nearly 3,000 group members.





## CHAPTER II





## CHAPTER II

### MINNESOTA RECREATION SUPPLIERS, THEIR GOALS AND OBJECTIVES

#### INTRODUCTION

Recreation suppliers at the federal, state, regional and local levels and the private sector interact to provide the land, facilities and opportunities that make up Minnesota's outdoor recreation system. Each participant has goals, objectives and policies (some unstated) that direct the administration of its resources, and consequently define the recreational opportunities.

With a variety of participants arise the risks of duplication, possible missed opportunities and potential failure to take advantage of cooperative efforts. To avoid these pitfalls, each partner can work to provide the best possible benefit to Minnesota and the nation.

The following chapter presents some of the most important recreation goals, objectives and policies of the agencies responsible for outdoor recreation in Minnesota. It is provided to assist these agencies in developing and improving their recreation programs and plans. A Regional SCORP notebook containing all the goals, objectives and policies for the recreation suppliers discussed in Chapter II is available from the Minnesota DNR Policy Planning Section and each Regional Development Commission.

## FEDERAL RECREATION SUPPLIERS

### UNITED STATES DEPARTMENT OF AGRICULTURE

The United States Department of Agriculture administers recreation programs in Minnesota through two agencies--the United States Forest Service and the Soil Conservation Service. Governing legislation defines the depth of involvement of each agency in providing recreation opportunities.

#### United States Forest Service

The U.S. Forest Service manages Minnesota's forests under the Multiple Use-Sustained Yield Act. That law outlines the five primary products of forest land as outdoor recreation, range, timber, watershed and fish and wildlife habitat. Under the act, these uses receive equal emphasis and the total management program of the Forest Service must maintain equity among them. Under this constraint of equity among products, the Forest Service's goal is to "make all resources of the National Forest System lands as fully productive and of as great service as necessary for them to supply their share of national requirements in an economy of abundance." 1/

At the national level the Forest Service pursues the production of recreation products with objectives that would:

1. preserve and enhance environments suitable to recreation;
2. serve communities dependent upon products of the forest;
3. seek to minimize restriction and supervision of people engaging in recreational activities; and
4. establish facilities and services to serve outdoor recreation needs, protect the resource and ensure user safety.

Many policies seek to ensure that the agency reaches its objectives. Among these are policies that require assessment of the proper role of recreation relative to other forest products, define recreation behavior suitable for the resource and restrict development of facilities to those that do not compete with private enterprise.

In Minnesota, the Forest Service manages the Chippewa and Superior National Forests. In the Chippewa National Forest, the Forest Service goals are to increase the supply of dispersed recreation opportunities that complement the private sector, to encourage the private sector to meet increasing demands in the area by the mid-1980s, and to enhance public understanding and appreciation of the natural forest resources.

The Superior National Forest contains the Boundary Waters Canoe Area Wilderness (BWCAW), which is set aside as a unique management unit. The goals of the BWCA follow from the Wilderness Act of 1964 and the BWCA Act of 1978. Those laws set the course of the BWCAW in providing dispersed, water-based wilderness recreation in a safe manner that promotes public understanding and appreciation of the unique resource. In order to achieve these goals, use of the BWCA in a manner that promotes a sense of wilderness through minimum encounters with other recreation has been encouraged.

1/ U.S.F.S. Manual, Series 1000, Operation and management, Feb, 1970 Amendment

The Forest's goals include implementation of wilderness legislation, providing an understanding of wilderness and forests, intensifying recreation development outside the wilderness, providing safe recreation facilities, and providing a wide range of outdoor experiences for disabled persons.

#### Soil Conservation Service

The primary goal of the Soil Conservation Service as directed through the Soil Conservation and Domestic Allotment Act (PL 74-46), is to enhance agriculture, forestry, recreation and fish and wildlife habitat through assisting in the conservation of public and private lands, preserving prime farm lands, increasing markets and encouraging the widespread application of soil and water conservation techniques. The Service seeks to enhance recreation, fish and wildlife through detailed technical assistance to landowners wishing to develop land and water for purposes that include recreation. In addition, Public Law 91-343 empowers the Soil Conservation Service, through its Resource Conservation and Development program (PL 87-703), to provide technical and financial aid to all units of government sponsoring public, water-based recreation, fish and wildlife developments. Under a similar federal law, P.L. 13-566, the Soil Conservation Service also gives technical and financial assistance to protect, develop, and use resources of small watersheds. This program is confined to projects with less than 2,500 acres of water reservoir surface. (The RC&D program targets larger watersheds that cross county lines.)

#### UNITED STATES DEPARTMENT OF INTERIOR

Four U.S. Department of Interior agencies administer programs affecting the recreation resources of Minnesota: the National Park Service, the Bureau of Land Management, the Fish and Wildlife Service and the Heritage Conservation and Recreation Service. The degree and type of involvement of each agency is defined by legislation.

#### National Park Service

The National Park Service's Organic Act of 1916 assigns the Service the task of preserving and protecting the nation's cultural and natural heritage for the use and enjoyment of present and future generations. The Park Service seeks to achieve this goal through the use of five major classifications of cultural and natural resources management units: national parks, monuments, historic sites, recreation areas and wild and scenic rivers. In Minnesota, the service administers units in each of these categories except recreation areas. It is studying potential areas such as the North County Trail and the Upper Mississippi Wild and Scenic River.

Minnesota contains one national park, Voyageurs National Park. Its authorizing legislation in 1971 establishes the park's objectives as preserving the outstanding scenery, flora, fauna, geological conditions and waterway system which constituted part of the historic route of the voyageurs who contributed significantly to the opening of the northwestern United States.

To achieve this goal, the Park Service operates within the constraints of national policies, which emphasize activities that relate the meaning of, but do not damage, the parks resources. Traditional or customary activities not dependent on the park's resources are permitted, but only if they do not

consume resources, impact resources negatively, compromise the historic or natural scene or present public hazards. Fish and wildlife management will emphasize native species in their natural role in the ecosystem. Activities which disrupt park users and resources (such as wildlife) will be discouraged. National policy also defines methods to protect and communicate the park's natural and cultural heritage. These include inventorying and protecting historic resources, avoiding manipulation of terrain and vegetation except to restore natural conditions and interpreting the park's heritage through activities and special programs, publications, movies, and other techniques.

Under these national policies, Voyageur draft management objectives are to establish and maintain historic and environmental conditions existing during the time of the voyageurs, encourage natural processes to function and preserve and manage park lands qualifying as wilderness.

Voyageurs draft management objectives demand inter-governmental cooperation, monitoring resource impact, providing recreation opportunities compatible with the park, communication of park assets to users, involvement of an informed public in park resource management and cooperation with private enterprise to supply visitor facilities.

Minnesota contains two national monuments. Grand Portage National Monument, first designated as a national historic site in 1951 and later named a national monument, seeks to preserve Grand Portage and related sites and to interpret their significance during the fur trade era of early exploration of the northwest. The Park Service's primary objectives for the area are re-establishment, preservation and interpretation of the historic sites and scenes depicting the "Golden Age of the Fur Trade." Secondly, management of the monument is to communicate an awareness of the regional environmental changes occurring subsequent to the end of the fur trade.

Minnesota's other national monument is Pipestone National Monument. Its two fold goal is to preserve and manage the ethnic, historic, archeologic and geologic resources of the area, and to provide the American Indian with free access to quarry, fashion and carve the pipestone articles relating to his culture. The service's objective is to protect the prairie, Lake Hiawatha, Pipestone Creek and the surrounding woodlands. Protection activities encourage continuation of natural processes, except when that protection would interfere with quarrying. They seek to communicate the traditions and handicraft of the Upper Midwest Indian and their culture's role in America's heritage. Development strives to serve park administration, visitors and cultural activities in a safe and resource conserving manner. The administrative objectives call for cooperation with government agencies, private groups and American Indians to ensure proper preservation of the natural and cultural resources of the monument.

The Park Service's role in management of the Upper and Lower St. Croix National Scenic Riverway rounds out its involvement in providing recreation opportunities in the state. The service's goal is to protect the river, its tributary the Namekagon River and their immediate environments as free flowing and as nearly primitive as possible. In addition, the Park Service endeavors to provide sufficient access for public use. Its objectives include ascertaining the amount of user impact on the resource, interpretation and

perpetuation of the river's cultural and natural resources, and monitoring the effects of the use of land and buildings by present owners. The Service also seeks to eliminate impediments to the free flow of the stream and, where appropriate, the primitive environment surrounding it.

An important objective for this linear resource is to coordinate land use along the river to guarantee consistent and compatible uses. This coordination/cooperation objective includes encouraging state water surface-use regulations. The service cooperates with other sectors of government and the private sector to communicate information about the river to the public and to develop recreational facilities.

#### Bureau of Land Management

The Bureau of Land Management (BLM) receives its authority to manage public lands through its Organic Act of 1976 (P.L. 94-579). The Bureau strives to ascertain the best federal or non-federal manager for recreation lands. When appropriate, the Bureau has authorization to sell or lease land to states, local governments and non-profit organizations that will manage the land for recreation or other public purposes. In Minnesota, a primary objective is to sell BLM's largely scattered holdings to other appropriate agencies of government, or exchange with those agencies.

In general, the lands the Bureau manages have important mineral, watershed, wildlife and outdoor recreation values. The national goals of the Bureau require it to manage its lands for their best-suited use. In Minnesota pursuit of this goal primarily comes through the objectives of inventorying each of the small, scattered BLM land holdings for its best uses. This inventory is carried out under the Federal Land Policy and Management Act of 1976 and the Bureau's own Unit Resource Analysis Approach. The immediate recreation objective calls for inventorying all Bureau land holdings for wilderness potential. Potential areas will be classed as Wilderness Study Areas. These areas will be reviewed in detail for wilderness suitability. Highly qualified holdings will be submitted to Congress for wilderness designation.

Under national policy Bureau lands are open to public use. Where BLM holdings are managed for recreation, the Bureau seeks to develop their cultural, scenic, recreational, wilderness and natural history values. Resource protection is paramount if recreation impedes development of other high values of the area.

#### United States Fish and Wildlife Service

The U.S. Fish and Wildlife Service administers a national system of wildlife refuges and fish hatcheries that provide recreation opportunities. A goal of this system is to assure opportunity for the American people to benefit from fish and wildlife resources as part of their natural environment. The goal for wildlife refuges is to provide, manage and protect resources sufficient in size, diversity and location to produce benefits associated with migratory birds, other wild creatures and wild lands. The Service permits recreation uses if they do not damage the habitat and are compatible with the area's primary objective.

In addition to managing these areas, the Service administers research, information and training programs, enhances and conserves resources important to endangered species, migratory birds and river-spawning fish. The fish and wildlife service also provides grants to states for fish and wildlife restoration through the Pittman-Robertson and Dingell-Johnson programs. These grants allow states to perform research and acquire, develop and manage fish and wildlife lands.

In Minnesota, the service applies its goals, objectives and policies on refuges and nearly 700 waterfowl production areas. In addition, the agency protects wetlands through perpetual easement programs. Of the seven refuges, Agassiz, Tamarac, Rice Lake, Big Stone, Sherburne, Upper Mississippi and Minnesota Valley, only the Minnesota Valley lies in the Twin Cities Metropolitan Region. This area offers significant prospects for recreation.

#### Heritage Conservation and Recreation Service

The Heritage Conservation and Recreation Service (HCRS) receives its basic policy direction from P.L. 88-29. HCRS is concerned with planning and coordination/review of planning relative to recreation in Minnesota through administration of the State Comprehensive Outdoor Recreation Planning Process (SCORP), distribution of the Land and Water Conservation Fund (LAWCON) monies, water resources and other programs.

HCRS's role in Minnesota is to ensure that the state produces a SCORP that is action-oriented and comprehensive, and that represents a continuous planning process for outdoor recreation lands and facilities. Prior to considering the state for financial assistance for acquisition or development projects, HCRS's role also includes continuous review of the planning projects of other agencies (federal and state) to ensure that consideration of recreation facilities impacted or provided by such projects has been undertaken, and providing technical assistance for recreation purposes.

HCRS policy requires that SCORP's submitted by states contain the following elements:

- A qualitative overview of state outdoor recreation issues;
- An assessment of public resources for outdoor recreation purposes;
- An analysis of present and future recreation demands;
- An analysis of future needs relative to lands and facilities;
- An identification of special options;
- Recommendations and policies to deal with issues;
- Public involvement in the planning process; and
- A statement of actions to be taken to carry out the recommendations.

## DEPARTMENT OF DEFENSE

### Army Corps of Engineers

The Army Corps of Engineers administers the water resource-oriented projects of the Department of Defense. Nationally, the Corps seeks to control erosion, prevent major flood damage, abate pollution, provide transportation, generate electric power and provide water recreation. The Corps recreation goal is of secondary importance to its other roles.

The Corps seeks to provide opportunities for a wide variety of recreation activities at its projects. It attempts to provide these in pleasing surroundings through protection and development of timber resources and enhancement of fish and wildlife. In addition, the Corps supplies necessary facilities and preserves important historic and cultural values.

In Minnesota, the Corps plays its most important recreation role through the Mississippi River Headwaters Project. In the main, management of this project's impoundments for low stream-flow-augmentation maintains water levels so as to not impair shoreland values on the headwaters lakes. The agency's recreation objectives also require it to supply opportunities for water-oriented recreation, camping and interpretation. These objectives must be accomplished while preserving sensitive environments.

Downstream on the Mississippi, Corps management relying on a series of lock and dams, is primarily concerned with the transportation of goods and services by barge. This stretch of river contains fish and wildlife resources of major importance to sportsmen. In cooperation with state and federal resource agencies, the corps is working to develop navigation maintenance methods which will serve to preserve the river's fish and wildlife habitat. In addition, the corps cooperates with state and federal agencies on wetland preservation through administration of its water resource permits system.

## STATE RECREATION SUPPLIERS

### STATE AGENCIES

#### State Planning Agency

The State Planning Agency (SPA) distributes Land and Water Conservation funds to local governments for local and regional recreation lands and facilities. One basic purpose of SPA in recreation is to help local governments and Minnesota's Regional Development Commissions (RDC's) develop increased professional capacity for planning, policy-setting and coordination. In addition, SPA serves as the governor's agent in reviewing and approving master plans for units of the outdoor recreation system and coordinates state funded trail activities.

SPA's goals in outdoor recreation are:

- . Directly involve key state agencies in regional planning.
- . Use federal and state funds to help local governments provide quality outdoor recreation facilities throughout the state.
- . Implement an effective financial assistance program to fund recreational projects which have one or more of the following criteria:
  1. Have irreplaceable resources or features that are in danger of commercial (non-recreational) development, subdivision or other use that may be incompatible with outdoor recreation uses.
  2. Meet generally recognized national design standards for recreational facilities.
  3. Reflect quality site planning; recognize and complement existing land forms; provide for ease of maintenance and operation of the site and do not have major environmental intrusions which are detrimental to the intended use of the property.
  4. Comply with needs as designated in the applicant's recreation plan and in SCORP.

#### Minnesota Department of Military Affairs

The Department of Military Affairs provides opportunity for recreational activities at Camp Ripley, a National Guard Training site in central Minnesota. The department views its public recreational role as secondary, although important.

It is the objective at Camp Ripley to encourage the use of its recreational facilities and areas by the public to the fullest extent possible at all times when the military training use of Camp Ripley permits. Department policy permits fishing, picnicking, automobile sight-seeing, group horseback riding, snowmobiling, cross-country skiing and archery hunting for deer, all in various selected areas and when military training use permits.



## Minnesota Department of Transportation

The Minnesota Department of Transportation (DOT) impacts on outdoor recreation by its use or protection of natural resources; by providing access to outdoor recreation lands and facilities; by planning, designing and constructing bikeways and funding local bikeway projects (Laws of 1977, Chapter 421); and by developing and managing public access sites and highway rest areas (M.S. Chapter 86A). The DOT basic policy direction is contained in M.S. Chapter 174.

DOT's bikeways goals are to identify and develop transportation (bikeway) corridors which provide for safe and reasonably direct access to the majority of public and private destinations, while exercising sound transportation engineering and planning procedures in the expenditure of public funds.

The department's objectives for bikeways are:

- Develop and maintain a computerized data base containing roadway, environment, traffic and accident information for analysis in planning, constructing and maintaining bikeways along public road rights-of-way.
- Develop and maintain a cartographic data base including principal land-use assignments and traffic generators (origins and destinations) for use in planning, constructing and maintaining bikeways along public road rights-of-way.
- Develop, monitor and maintain a well-organized statewide communications network among transportation engineers and planners to facilitate bikeway planning, construction and maintenance activities along public road rights-of-way.
- Compile and maintain a current registry of bikeways statewide so that accurate information is conveyed to the traveling public.

Two other components of Minnesota's outdoor recreation system for which DOT has responsibility are noted below.

**State Rest Areas:** State rest areas are intended to promote a safe, pleasant, and informative travel experience along Minnesota's highways by providing areas and facilities at reasonable intervals for information, emergencies and rest and comfort of travelers. DOT's policies are to:

- . Provide parking, resting, restrooms, picnicking, orientation, travel information and other facilities for convenience of the traveling public.
- . Place new emphasis on state tourism information centers and, through personnel training and continuing education, establish a strong link to state tourism regions.
- . Establish rest area requirements based on spacing, need, traffic volumes and natural resources quality in order to identify potential new areas and determine which existing areas, if any, require closing, upgrading, or new facilities.
- . Integrate existing rest area services with proposed development to avoid duplication of service, including consideration of existing county and local rest areas and parks providing similar services.

State Water Access Sites: Goals, objectives and policies for state water access sites are the same as those addressed under section on the Department of Natural Resources.

#### Minnesota Historical Society

The Minnesota Historical Society (MHS) basic policy direction is supplied by M.S. Chapter 138. Among the Historical Society's goals are:

- . Evaluate the historical resources of the state and formulate a comprehensive plan for their preservation.
- . Assist historical organizations, units of government and individuals in the preservation and interpretation of Minnesota's historical and prehistorical resources.
- . Acquire, preserve and interpret Minnesota historical sites of statewide or national significance.
- . Administer Minnesota's major historic places and structures through acquisition, preservation, development and interpretation for public benefit.
- . Identify, through surveys and research, significant archaeological and historical resources which provide important evidence of Minnesota's past, and implement provisions of state, federal and local laws designed to protect such resources.
- . Provide technical assistance to aid in preserving and interpreting Minnesota's prehistoric and historic resources administered by regional, county, local, and special-interest historical organizations as well as by units of government and private individuals.
- . Conduct necessary research and field investigations to assist in planning, development and interpretation of historic areas.
- . Assist the Minnesota Archaeological Society and regional, county and local historical organizations with their programs relating to archaeological resources.
- . Continue high-quality maintenance and interpretation of major historic sites operated by the society.
- . Identify all historic places and structures of national, state and local significance worthy of preservation.

#### Minnesota Department of Natural Resources

##### Overview

Legislative authority giving the Commissioner of Natural Resources control and charge over all public lands, parks, timber, water, minerals and wild animals of the state (M.S. 84.027) directly influences the provision of outdoor recreation opportunities. Policy established by numerous other laws directs

that Minnesota outdoor recreation facilities and lands operate as a system and in partnership with private recreation suppliers. The Department of Natural Resources (DNR) units in this outdoor recreation system are natural parks, recreational parks, certain trails, scientific and natural areas, wilderness areas, forests, wildlife management areas, water access sites, wild and scenic rivers and historic sites. Established public policies are that:

- . Most DNR recreational units are part of this system, which is designed to preserve an accurate representation of Minnesota's natural and historic heritage for public understanding and enjoyment and to provide an adequate supply of scenic, accessible and usable lands and waters to accommodate the outdoor recreational needs of Minnesota's citizens.
- . The preservation and proper use of Minnesota's outdoor recreation resources is becoming increasingly important to the health, wealth and prosperity of its citizens due to the growing demand for outdoor recreation facilities and the spread of development and urbanization in the state.
- . These outdoor recreation opportunities should be available to all present and future citizens of Minnesota.

#### DNR Organization

The Department of Natural Resources is divided into six divisions and several bureaus; four serve the outdoor recreation population of Minnesota directly, and one does so indirectly.

The Divisions of Parks and Recreation, Forestry and Fish and Wildlife have major direct responsibility for providing outdoor recreation opportunities, lands and facilities. The Office of Planning directly influences the distribution of recreation facilities through conduct of recreation surveys, over-all recreation policy development, statewide coordination, maintenance of recreation facility records and site specific recreation planning. In addition, development of the State Comprehensive Outdoor Recreation Plan by Office of Planning ensures the steady flow of federal monies so vital to the acquisition, development and planning of Minnesota's outdoor recreation system. The Division of Waters indirectly influences the provision or quality of outdoor recreation opportunities, lands and facilities by maintaining resource and landscape diversity and preserving natural resources.

#### Goals, Objectives and Policies

DNR goals, objectives and policies related to outdoor recreation, where available, follow:

State parks, designated monuments, recreation reserves and waysides should conserve the scenery, natural and historic resources and wildlife and provide for their enjoyment while leaving them unimpaired for the enjoyment of future generations (M.S. Chapter 85). The DNR also has responsibility for state trails and canoe and boating rivers (M.S. Chapter 85), Scientific and Natural Areas (SNA) (M.S. 84.033), and public access sites (M.S. 97.48).

Basic policy direction for forests relative to outdoor recreation is provided by M.S. 89.021, which authorizes recreation areas in state forests, among other uses, and MS. 84A.21 and M.S. 84A.32, which authorize the provision of certain recreational facilities on certain other lands. DNR's forestry goal is to protect and administer the renewable resources on state forest and other lands under its jurisdiction so that their combination of uses, including recreation, will best meet the needs of Minnesota citizens. This multiple use approach is intended to provide equal opportunity for all citizens to enjoy and use forest resources. The primary management objective is to maintain a maximum sustained yield of various forest products while using renewable forest resources to benefit the greatest number of people.

Basic DNR policy direction for fish and wildlife relative to outdoor recreation is derived from M.S. 97.48, which extends protection to any species of animal whenever needed and directs the department to do all things deemed desirable in the preservation, protection and propagation of wild animals, and M.S. 97.481 which authorizes the acquisition of lands and waters for wildlife development programs and authorizes the development of such lands and waters in the interest of wildlife, recreation or public hunting. The department's goal is to preserve, maintain and develop fish and wildlife habitat throughout the state so as to produce optimum populations of fish, reptiles and amphibians for public use and enjoyment and for species preservation.

Department policy is to maintain an active program of acquiring lands to manage for fish and wildlife purposes, to open the majority of these lands and waters to public use for hunting, trapping, fishing, hiking, skiing, observing nature and other compatible outdoor uses and to construct or help construct access roads to areas inaccessible for hunting or fishing (designated roadless areas excepted). In addition, DNR policy in acquiring or leasing land for game is to consider the effects of land management for game upon uses of adjacent land. Large scale propagation and stocking of game will not be attempted, since stocking of game animals to supply put-and-take hunting is too costly. Artificial propagation will be undertaken only in special situations and after careful evaluation of costs and potential benefits. Further, private landowners will be encouraged to produce game for public hunting on their lands, since most farm game is raised on private lands and only with the cooperation of the landowners can public hunting on them be provided. Aid and advice concerning game management will be supplied to landowners upon request. Department policy also is to encourage sportsmen and conservation organizations to work with landowners for habitat improvement and multiple land-use which includes a place for game, and to consult and cooperate with, as far as feasible, all governmental and non-governmental agencies and organizations concerned with land and water use for the development of plans benefiting game and hunting.

The policy of the department is to provide extensive sport fishing opportunities on public waters; to protect existing fish habitat from destruction and fish populations from over-exploitation, to manage each lake and stream for the species of fish for which it is best suited and to plant fish in public waters so as to maintain a sport fishery, so long as those waters have free public access.

It is a DNR objective to plan an outdoor recreation system responsive to public need for the benefit of present and future generations, and one that is among the nation's best. DNR policy is to maintain up-to-date recreation user desires and participation rates so as to fulfill this objective. It is DNR policy is to maintain an excellent SCORP so as to provide guidance in planning by all levels of government for Minnesota's outdoor recreation system and maintain eligibility for LAWCON assistance so as to assure monies for acquisition and development. In addition, it is DNR policy to coordinate with the State Planning Agency and to actively pursue development and implementation of a statewide LAWCON priority rating scheme for project funding purposes.

The DNR indirectly influences outdoor recreation opportunities by developing and managing water resources to assure an adequate supply for recreational users, among other things (M.S. 105.405). DNR's goal is to conserve water resources and use them in the best interests of its people and to promote the public health, safety and welfare. The policy is to consider scenic qualities and recreational uses and benefits in all decisions concerning the use of public waters.

#### Outdoor Recreation System

DNR's goal is to assist in preserving an accurate representation of Minnesota's natural heritage for public understanding and enjoyment and to provide an adequate supply of scenic, accessible and useable lands and waters to accomodate the outdoor recreation needs of Minnesota's citizens. DNR administers units of the outdoor recreation system and other land, in general, so as to provide opportunities for diversified outdoor recreation activities that respond to the needs of Minnesota's citizens. Following are specific policies, by type of unit.

#### Natural State Parks

Natural State Parks (NSP) should protect and perpetuate extensive areas of the state possessing those resources which illustrate and exemplify Minnesota's natural phenomena and provide for the use, enjoyment and understanding of such resources without impairing their use and enjoyment by future generations.

DNR's policy is to administer NSPs so as to protect, perpetuate and interpret natural features that existed prior to settlement as well as other significant, existing natural, scenic, scientific or historic features. Management policy is to: maintain a balance among the plant and animal life and to re-establish desirable plants and animals that were formerly indigenous to the park area; conduct programs to interpret natural features; emphasize outdoor recreation activities that use natural features without materially disturbing them or introducing undue artificiality to the natural scene; limit park use primarily to aesthetic, cultural and educational purposes, rather than accommodating all forms or unlimited volumes of recreational use; and limit physical development to facilities necessary to complement the natural features and the values being preserved.

#### Recreational State Parks

Recreational State Parks (RSP) should provide a broad selection of outdoor recreation opportunities in a natural setting which may be used by large numbers of people.

DNR's policy is to administer RSPs so as to provide a broad selection of opportunities for outdoor recreation, consistent with maintaining a pleasing natural environment. Scenic, historic, scientific, scarce or disappearing resources within recreational state parks shall be recommended as historic sites or designated scientific and natural areas to preserve and protect them. Physical development will be only for enhancing and promoting the use and enjoyment of natural recreational resources.

#### State Trails

State trails should provide recreational travel routes that connect units of the outdoor recreation system or the national trail system; provide access to or passage through other areas with significant scenic, historic, scientific or recreational qualities; re-establish or permit travel along historically prominent travel routes; or provide commuter transportation.

DNR policy is to manage state trails to provide travel routes with minimum disturbance to the natural environment, while recognizing other land-use activities. Trail markers are limited to those providing safety information and interpretation. Facilities for rest and comfort will be provided primarily within units of the outdoor recreation system through which trails pass. If additional facilities are required for rest and comfort of travelers, waysides will be developed along the trail; waysides may include facilities for primitive camping, picnicking, sanitation and parking for access to trails.

#### State Scientific and Natural Areas

State Scientific and Natural Areas (SNA) should protect and perpetuate, in an undisturbed natural state, those natural features which possess exceptional scientific or educational value.

DNR's policy is to administer SNAs, in consultation with the Commissioner's Advisory Committee on SNAs, to preserve, perpetuate and protect their scientific and educational resources from unnatural influences. Interpretive programs will be provided for the general public where appropriate. Physical development will be limited to those facilities absolutely necessary for protection, research and educational projects and, where appropriate, for interpretive services.

#### State Water Access Sites

Water access sites should provide public access to rivers and lakes that are suitable for recreation where such access is necessary to permit public use.

DNR's policy is to provide public access to water where such access is either absent or inadequate. Access roads, off-road parking areas, refuse containers, sanitary facilities and facilities for limited picnicking and primitive camping will be provided when such activities are justifiable and are compatible with the resource and natural environment.

## State Wilderness Areas

State wilderness areas should preserve, in a natural, wild and undeveloped condition, areas which offer outstanding opportunities for solitude and primitive types of outdoor recreation.

DNR's policy is that areas considered for designation as state wilderness areas substantially satisfy this criteria: Appear primarily affected by the forces of nature, with the evidence of man being substantially unnoticeable or capable of elimination by restoration. In addition, state wilderness areas will be managed only to the extent necessary to control fire, insects and disease and preserve or re-establish wilderness. Development of public roads, permanent dwellings and recreational facilities, except for non-motorized traffic, will be prohibited, as will motorized traffic and the commercial use of timber and minerals. Facilities existing at the time of establishment will be removed. State Wilderness Areas may be managed by the Division of Parks and Recreation or the Division of Forestry.

## State Historic Sites

State historic sites should preserve, restore and interpret buildings and other structures, locales, sites, antiquities and related lands that aptly illustrate significant events, personalities and features of the history and archaeology of the state or nation.

DNR's policy is to manage historic sites, working with the Historical Society to help assure preservation and appropriate interpretation of such sites. DNR's policy is also to administer historic sites so as to restore their historical integrity and illustrate their historical importance. Interpretive programs will be provided, including, where practical, interpretation of research programs under supervised conditions. Recreational use of natural features will be permitted only if it is not detrimental to historical values; physical development will be limited to facilities necessary to achieve management and use objectives.

## State Forests and Sub-Areas

State forests and sub-areas (compartments within state forests targeted for specific uses) should permit development and management of specialized outdoor recreation at locations and in a manner consistent with the primary purpose of the forest.

DNR's policy is to develop the recreational resources of state forests to satisfy recreational demand as fully as is possible, compatible with the management of other resources. State forest sub-areas must contain suitable natural resources to accommodate any of the following uses: Day-use areas-recreational use of the forest in its natural state, not requiring an overnight stay, including but not limited to picnicking, fishing, swimming, boat launching, hiking, interpretation and nature observation; Campgrounds-over-night camping.

## State Wildlife Management Areas

Wildlife management areas should protect land and water with a high potential for wildlife production and be managed for the production of wildlife, for public hunting, fishing, and trapping and for other compatible outdoor recreational uses.

DNR's policy is to administer state wildlife management areas to perpetuate and, if necessary, re-establish quality wildlife habitat for maximum production of a variety of wildlife species. Public hunting, fishing, trapping and other uses should be consistent with the limitations of the resource, including the need to preserve an adequate brood stock and prevent long term habitat injury or excessive wildlife population reduction or increase. Physical development to provide access is permitted but should minimize intrusion on the natural environment.

## State Wild, Scenic and Recreational Rivers

State wild, scenic and recreational rivers should protect and maintain the natural characteristics of all or parts of rivers or streams, or their tributaries, and lakes through which they flow, which (together with adjacent lands) possess outstanding scenic, scientific, historical or recreational value.

Department policy is to classify rivers or river segments included within the system as wild, scenic, or recreational on the following basis. "Wild" rivers are free-flowing, with excellent water quality and essentially primitive adjacent lands. "Free-flowing" means existing in natural condition without significant artificial modification such as impoundment, diversion or straightening. Low dams, diversion works or other minor structures will not automatically bar inclusion as a wild, scenic or recreational river. "Scenic" rivers are free-flowing, with largely undeveloped adjacent lands. "Recreational" rivers may have undergone some impoundment or diversion and have adjacent lands with considerable development, but are still capable of being managed to protect and maintain recreational and scenic qualities.

## REGIONAL AGENCIES

### Twin Cities Metropolitan Council

One basic policy direction of the Metropolitan Council authorizes it to develop a long-range system policy plan for regional recreation open space in the seven-county metropolitan area (M.S. 473.147). The Council also makes financial grants for recreational open space acquisition and development to municipalities, park districts and counties (M.S. 473.315). The Council itself may acquire and manage regional open space identified in its policy plan if counties decline to do so and the resource is threatened, so as to preserve the land and water for future recreational and open space purposes. (M.S. 473.333).

The Council's goal is to assist in providing a range of recreational opportunities through establishment and maintenance of a balanced system of local parks and regional recreation open space. Council policies are:



- . Council review of grant applications for local parks and open space acquisition or development will consider the need for, accessibility to, and characteristics of the project, as well as local planning, citizen participation and compatibility with the Council's over-all metropolitan Development Framework, a generalized growth guide.
- . The Metropolitan Parks and Open Space Commission, which is advisory to the Council, will work to increase state and federal funding for local parks and the regional recreational open space system.
- . The Commission should work with the state to actively pursue the acquisition and development of recreational open space of state significance in the Metropolitan Area, and to analyze regional proposals for statewide significance.
- . The Metropolitan Council will adopt and update its Recreation Open Space Policy Plan at least every four years.
- . The Metropolitan Council will develop and disseminate methodology and techniques to be of assistance to counties, special park districts, and municipalities in the making of user surveys and demand studies.
- . Planning for mass transit systems and highway routes shall include service to developed regional recreational facilities.
- . The planning, design and construction of certain highway facilities (such as those that cross existing or proposed regional trails) shall consider corridor trail needs.
- . An ongoing process of citizen participation in planning and developing regional recreation facilities will be maintained through the use of such mechanisms as citizens advisory committees, public hearings, or information dissemination programs.

Specific goals and objectives developed and adopted by the Council relative to component parts of the recreation open space system include the following:

Planning: The overall goal of policy planning is to provide a system of regional recreation open space which will reasonably meet the outdoor recreation needs of the people of the Metropolitan Area and which will be consistent with the goals, objectives and priorities of the Council's Development Framework for the Metropolitan Area.

Regional Parks: Regional parks should provide areas of diverse natural resources offering a range of outdoor recreation opportunities for the residents of the Metropolitan Area. Recreational emphasis of regional parks is primarily to accommodate picnicking, boating, sailing and camping. Other outdoor recreation activities are secondary.

Regional Park  
Reserves:

Regional park reserves should protect and perpetuate non-urban resources that are significant because of varied land forms, lakes, marshes, flora and fauna for recreational use and enjoyment in a way that will heighten understanding of them and leave the natural resources unimpaired. Regional park reserves should provide a wide range of nature-recreational opportunities when they are consistent with the primary purpose of protection and perpetuation of resources.

Regional  
Trails:

The Council should establish a system of regional trails that reasonably meets the needs of the Metropolitan Area.

Regional

Historic Parks: Regional historic parks Region 11, should preserve buildings and/or areas including sites and objects of historical, archeological, paleontologic significance for interpretation.

Regional Special

-Use Areas: Regional special-use areas should be of high quality and suitable or adaptable to intense specialized or single-purpose outdoor activities that require a specific resource base or location, restrictive control, or management program.

Regional Development Commissions

The state of Minnesota is divided into 13 development regions, with 12 Regional Development Commissions (RDCs) and the Twin Cities Metropolitan Council. RDCs were authorized by the 1969 Minnesota Regional Development Act so that local units of government could plan for the provision of services and facilities using a coordinated approach (M.S. Chapter 462).

Not all of the RDCs have adopted comprehensive plans which include goals, objectives, policies and work programs for parks and recreation. Regional goals and policies that are established show similarities across the state. Some of those basic similarities are goals and policies with these objectives:

1. Provide adequate lands for recreation to meet the needs of people.
2. Encourage the use of the natural resources in the region.
3. Identify and protect unique cultural and historic sites.

The Regional Development Act authorizes the commissions to review and comment on all loan and grant applications by local units to any federal agency for recreation facilities (among other purposes). The commissions' reviews are, by statute, based on the proposals' compatibility with established recreation plans and priorities in the region.

Regional goals, objectives and policies submitted to the Department of Natural Resources as of April 1979 are contained in a Regional Development Document that DNR has compiled for each RDC. Those regions that have not submitted recreation information will be encouraged to do so, so as to be included in

future SCORP documents. Each RDC has received a copy of their notebook and will be sending changes and additions to the DNR to keep information current. The notebook also includes sections on resources, facilities and demand. The resource section contains a brief overview of natural resources lying within the region; the facilities section contains data on existing recreation facilities in the region; and the demand section indicates deficiencies in recreation opportunities. These deficiencies are based on public needs, as expressed by citizens in surveys conducted by DNR during 1977-78 in each region. With this information each region will be able to review, update, and improve its outdoor recreation goals, objectives, policies, and work programs.

The current description of RDC goals, objectives and policies is a start in what the DNR hopes will be a helpful tool for identifying Regional Recreation Planning Process progress. The provision of this kind of information in SCORP should help each region better chart and evaluate its own recreation planning activities and benefit the planning efforts of other RDCs.







### CHAPTER III





## CHAPTER III

### MINNESOTA RECREATION RESOURCES

#### STATEWIDE PHYSICAL RESOURCES

##### CLIMATE

Minnesota's geographical location gives the state what is known as a "continental" climate, characterized by extremes of temperature and less moisture than is usually found nearer the oceans. The extreme seasonal variations give rise to a variety of recreational possibilities throughout the year, including a full range of winter activities.

The summer coolness of the lake regions and the Lake Superior shore, contrasted with the warmth of the rest of Minnesota, provides a variety of summer "sub-climates." The growing season varies widely and critically in the state. The extreme northeast lacks adequate growing season for most commercial crops, because of both a shorter period of frost-free weather and cooler temperatures. The warmer south central counties lie within the richest part of the corn belt. The longer and warmer the growing season, the greater is the evaporation of moisture. Consequently, the greatest surplus of rainfall over evaporation is in the northeast, where rainfall is high and summer shortest and coolest. Conversely, the most frequent moisture deficit is in the southwest.

Snowfall is moderate and highly variable from year to year. Like summer rainfall, it increases toward the northeast. Winter average mean temperatures range from 6 degrees in the north to 20 degrees in the southeast. Average mean daily summer temperatures range from 72 degrees in the south to 58 degrees along Lake Superior.

##### LANDFORM/TOPOGRAPHY

Minnesota straddles three continental divides. The northern uplands slope gently northwestward toward the Red and Rainy Rivers into Hudson Bay, gently southward into the Mississippi basin, and steeply southeastward to Lake Superior and the St. Lawrence basin. The high Prairie Coteau, in the southwestern corner of the state, divides the Missouri and Upper Mississippi basins.

Against the background of these major features, Ice Age activity has given the local terrain great variety (FIGURE 3-S.01). Till plains, moraines, outwash plains, and lake plains are distinctive features on the surface of the thick mantle of drift--sand, gravel, boulders, and clay--which was left when the glaciers melted.

These features of glacial deposition dominate the land resource everywhere except three regions in the state: the northeast, the southeast and the Minnesota River valley. Along the North Shore of Lake Superior, in the Border Lakes, and on the Mesabi Range, the advancing glaciers scoured away much of the surface material to expose bare rock. They left only thin and scattered patches of drift when they melted. In the southeast--down the valleys of the Mississippi and its larger tributaries--the glaciers were very thin or absent in the last phase of the Ice Age. The Minnesota River trench, cut by a river as large as the present-day St. Lawrence, was eroded at the close of the last glacial period.

## Surface Features

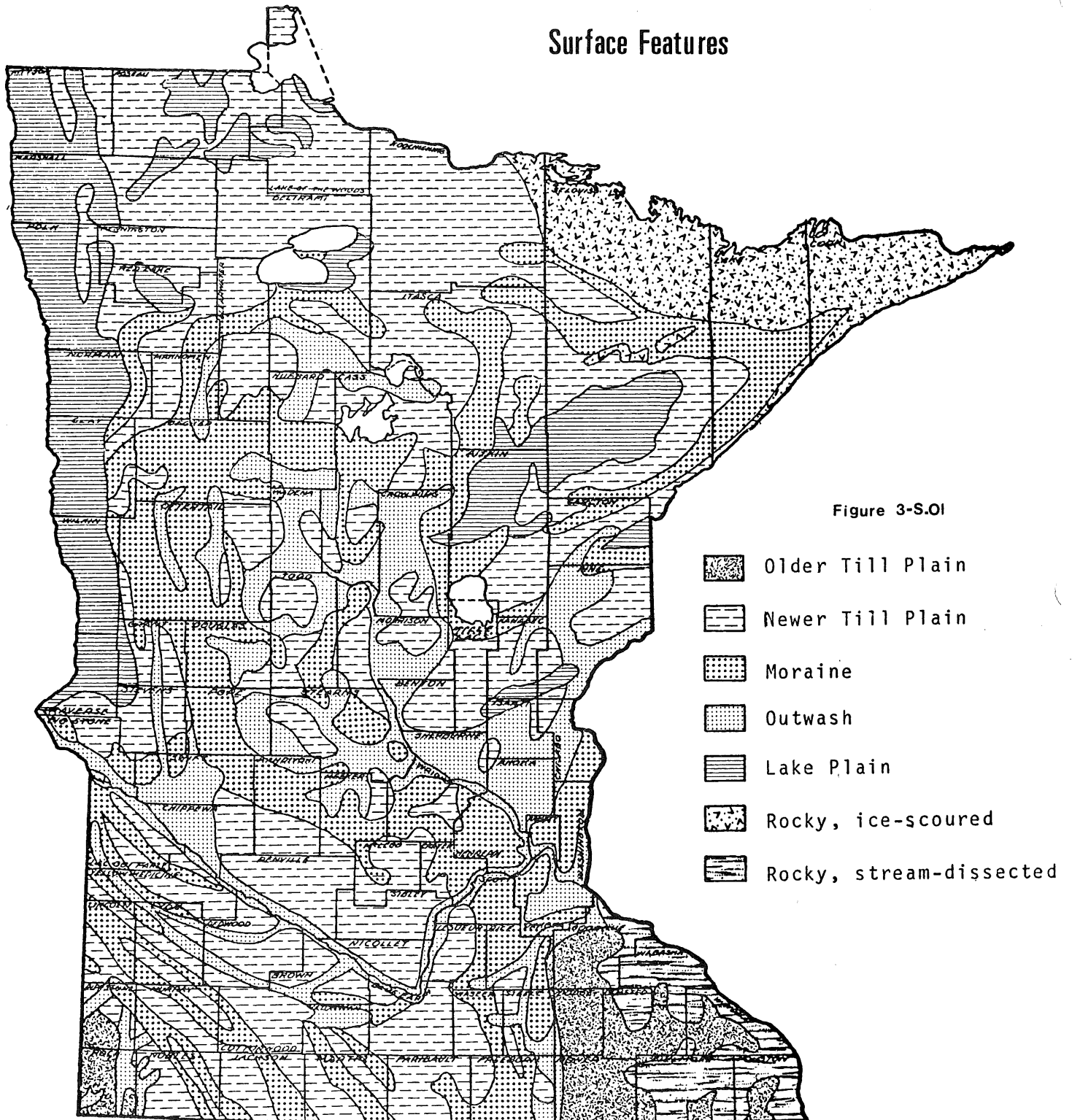


Figure 3-S.O1

from Atlas of Minnesota Resources And Settlement

The roughest topography is in the northeast, where the highest point in the state--Eagle Mountain--rises 2,301 feet. The lowest point, 602 feet, is not far away on the shore of Lake Superior. The Sawtooth Range and other high rock ridges rise abruptly from the shores of Lake Superior to heights of 600 to 900 feet above the lake. Other high areas are near the headwaters of the Mississippi River, where high morainic hills are a part of the rugged topography. In the southwestern corner of Minnesota, elevations approach 2,000 feet. River corridors provide much of the topographic relief in the southern half of the state, especially in the southeast, where many of the streams flow through deeply eroded valleys.

In the ice-scoured "Arrowhead" region, hilltops and upper slopes are often bare rock, and intervening basins are filled with clear, rock-rimmed lakes or dark bogs. Hundreds of short, swift streams spill from one basin to another. A 500 to 1,000-foot escarpment, broken by countless short, steep valleys, marks the south edge of this region, bordering Lake Superior.

In other areas, drift imported by the glaciers was deposited to create the hilly or morainic belts where many of the lakes are situated. These zones are usually potentially poor farm land, but they have some of the state's most scenic and varied terrain. The greatest moraine development is the "Big Moraine" belt, a reverse question mark on the map stretching from Albert Lea through the Twin Cities to Detroit Lakes, Park Rapids, Grand Rapids and Brainerd.

Till plains are the characteristic landform of Minnesota's agricultural areas. The newer plains are mainly in the south central and central parts of the state. They are gently rolling and consist mainly of clay, silt and loam soils; most of them were naturally poorly drained, but the depressions generally were seasonally dry, very shallow, amenable to ditching and tilling and highly suitable for agricultural production when drained. The older till plains, residual from earlier glaciers, have been subject to stream development and natural drainage longer. There are more streams, more distinct valleys and more slopes. As a result, the older plains were not characterized by extensive wetlands at the time of white settlement, nor have they been the scene of extensive man-made drainage works. Like the newer till plains, however, they have provided a vast resource of very gently-rolling land for agricultural purposes.

At times, the front margins of the glaciers remained stationary, and melt water flowing from them deposited sand and gravel in smooth outwash plains. In some areas, blocks of ice were deposited on these outwash plains. As the ice melted, it left ice block basins which filled with water and became lakes. Throughout the Ice Age, a wide variety of surface depressions were created. Many of them now constitute Minnesota's thousands of lakes, with their large variations in area, depth and shape. The melting glaciers released large quantities of water which filled low basins, forming temporary glacial lakes.

Lake Agassiz, which once covered the entire northwestern portion of Minnesota, was formed as the glacier retreated northward. As the glacier receded, melt water expanded Lake Agassiz until it filled large areas in the Dakotas, northwestern Minnesota and Canada. When the lake drained, the present flat surface of northwestern Minnesota remained and with it such residual bodies of

water as the Red Lakes and Lake of the Woods. The western portion of this plain, stretching from Traverse County to the Canadian border, is the rich, gently westward-sloping Red River Valley. A northeastern extension of this lake plain, covering the area north of Red Lake, is the very flat, poorly drained Big Bog area.

The glaciers missed the southeastern corner of the state. As a result, the pre-glacial topography of deep, stream-carved valleys and high, narrow intervening ridges, with no natural lakes (except the anomaly of Lake Pepin), characterizes the area today. The steep valley walls, with many rocky bluffs, rise from the flood plains 100 to 500 feet upward to the ridge tops.

## LAKES AND RIVERS

Minnesota has some 3.4 million acres of water, or five percent of the state's area. In addition, 1.4 million acres of Lake Superior fall within the state's boundaries. Roughly 12,000 of Minnesota's lakes are 10 acres or more in size, and there are an estimated 25,000 miles of rivers and streams. The great number and variety of lakes and streams provide a wide range of recreational opportunities; from wilderness canoeing to power boating, and from summer fishing and swimming to winter ice boating and snowmobiling.

Concentrations of rivers and streams occur along the North Shore of Lake Superior, in the driftless area of southeastern Minnesota and along the edge of the Prairie Coteau in southwestern Minnesota. Glacial lake plains and the newer till plains are the landforms that have the fewest streams. Concentrations of lakes and lake types are related to particular landforms. The location of lakes reflects the distribution of the major glacial moraines of central and north central Minnesota and the ice-scoured terrain of northeastern Minnesota (FIGURE 3-S.02).

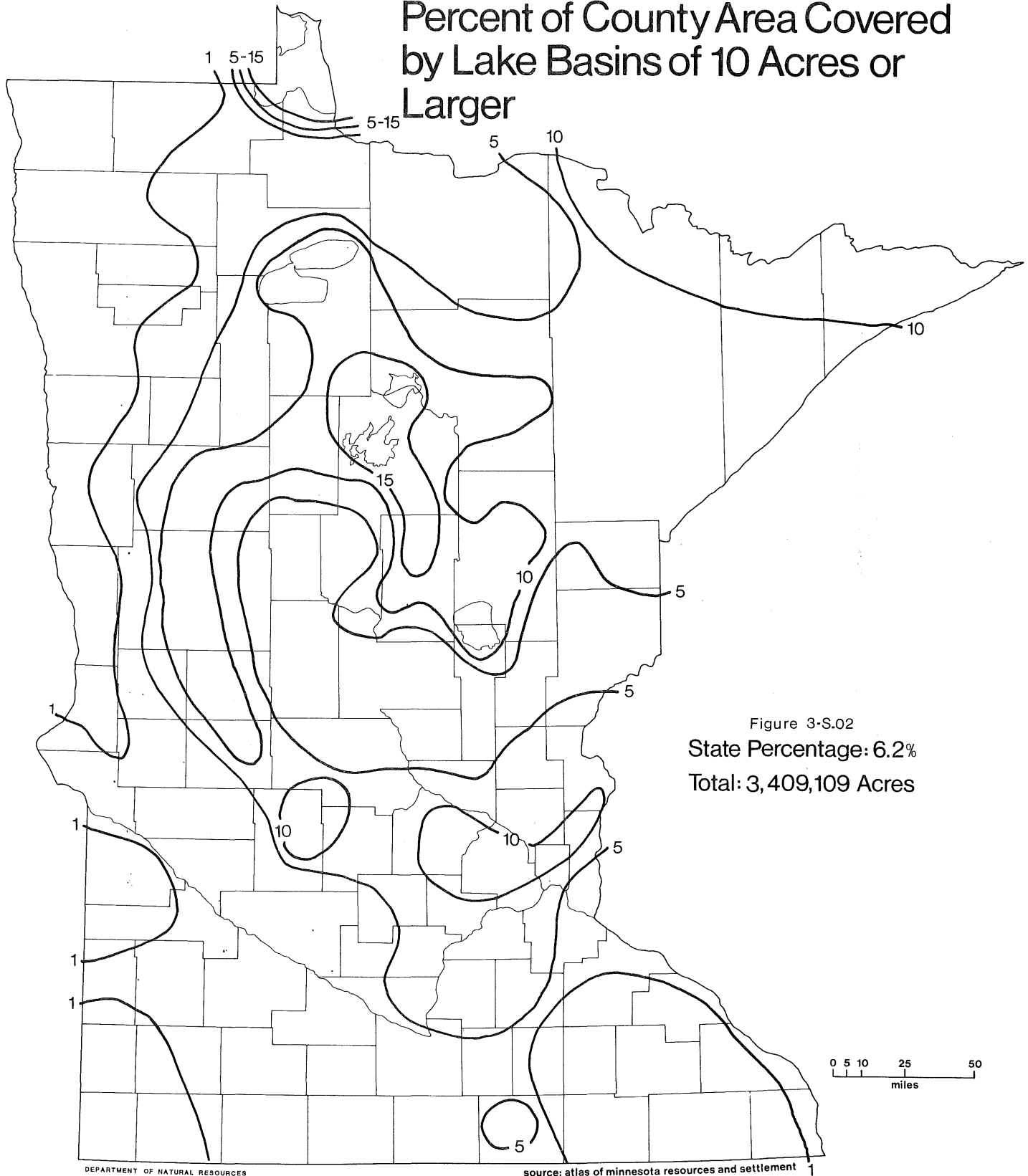
The Department of Natural Resources has classified Minnesota lakes by ecological type for fish and game management. These classes are characterized by different fish societies which exist because of differences in the other lake organisms, in chemicals contained in lakewater, in the shape and depth of lake basins and in characteristics of the surrounding shore and vegetation. In general, the deeper lake types, such as walleye lakes, occur most commonly in the north; lake trout lakes most frequently in the northeast; centrarchid or panfish lakes most frequently in central and north central Minnesota; and shallower kinds of lakes, such as game (waterfowl) lakes, in the south (FIGURE 3-S.03).

The level and type of water chemical constituents is related to lake fertility and to fish production (more fertile waters have more aquatic growth and denser fish populations). Lake fertility increases from northeast to southwest in Minnesota. The least fertile lakes are in the ice-scoured coniferous forest area, those of moderate fertility are in the deciduous forest area, and the most fertile are in the southwestern prairie.

## VEGETATION

When Minnesota was settled, the natural vegetation gradient ran from the dense coniferous and northern hardwood forest in the northeast across to the transition zone in which oak forests and "big woods" gave way to the "park"

# Percent of County Area Covered by Lake Basins of 10 Acres or Larger



# Lake Classes

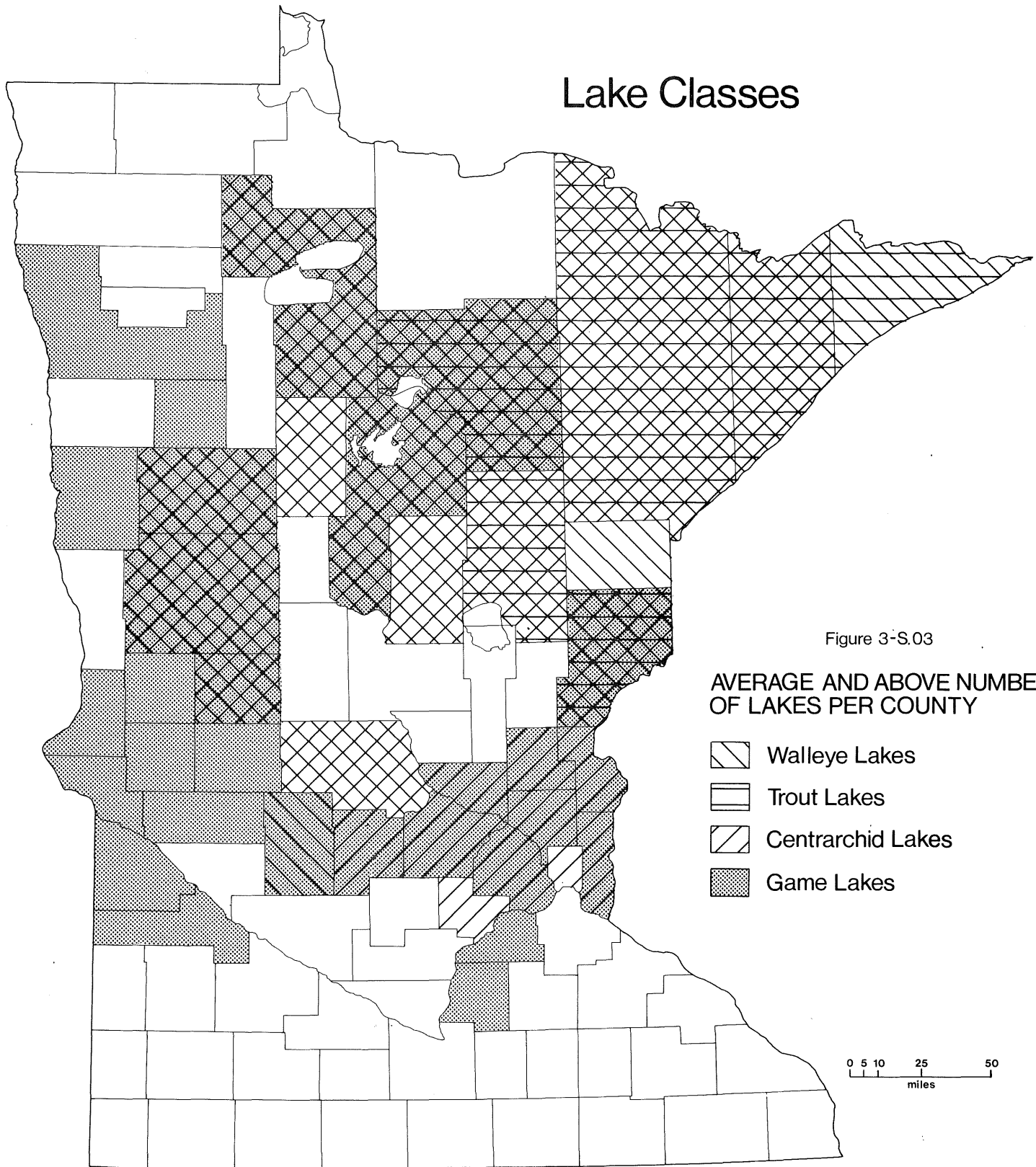


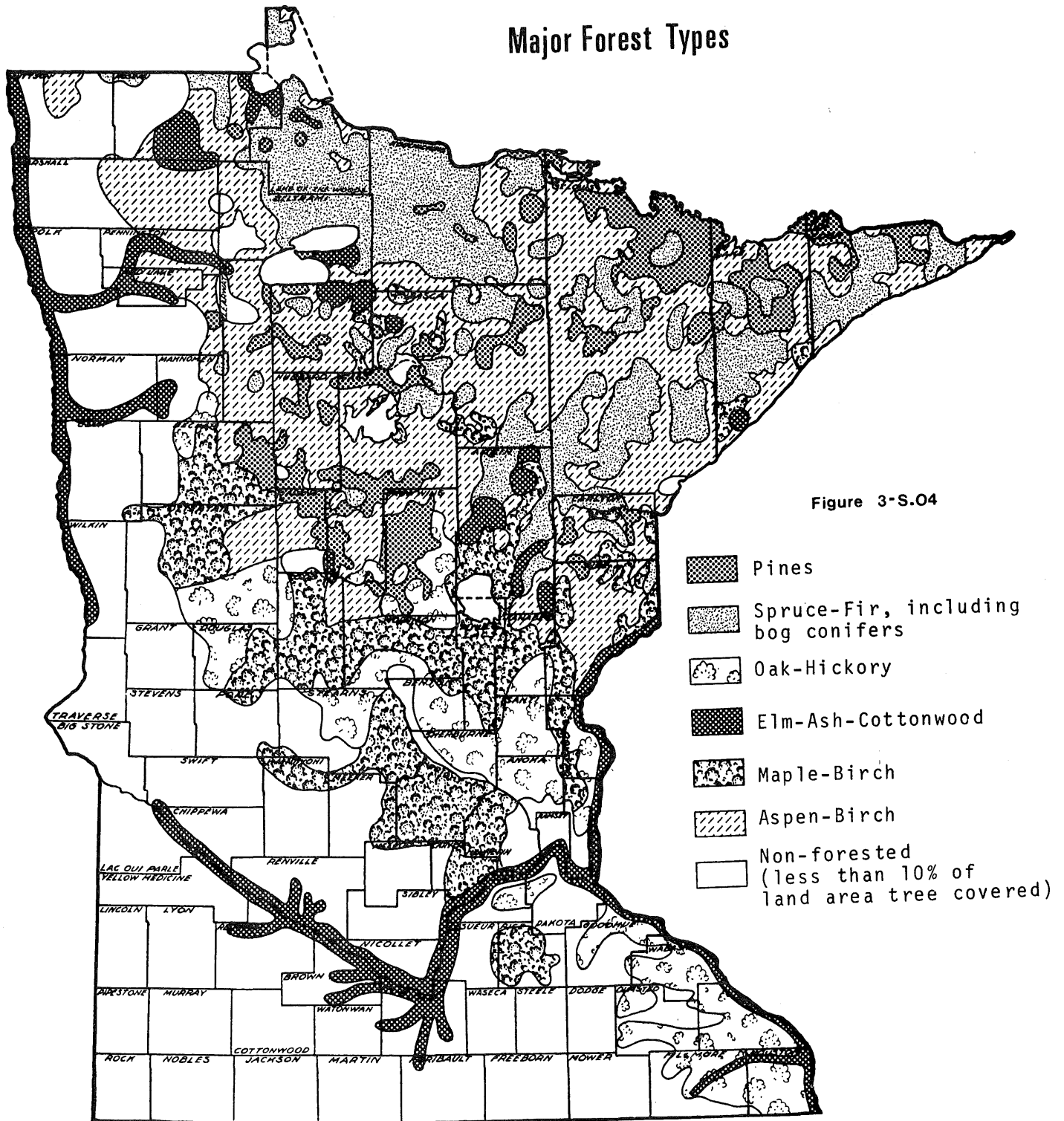
Figure 3-S.03

AVERAGE AND ABOVE NUMBER  
OF LAKES PER COUNTY

-  Walleye Lakes
-  Trout Lakes
-  Centrarchid Lakes
-  Game Lakes

0 5 10 25 50  
miles

# Major Forest Types



from A Third Look At Minnesota's Timber by R.N. Stone,  
USFS, 1966

mixture of hardwoods and prairies. About three-fifths of the state was forest, two-fifths prairie. Today, most of the original prairie and one-third of the original forest is under cultivation, or is grazed. The remaining two-fifths of the state remains in forest (FIGURE 3-S.04).

The pine and spruce forest type characteristic of the extreme northeast part of the state grades into a mixture of pine, spruce and hardwoods in the central part of the state. Conifer bogs of black spruce, tamarack and white cedar predominate in the poorly drained areas of the Agassiz lacustrine plain northeast of Red Lake. The hardwood forests of the south and southeast are composed of oaks, maples, elm and basswood. In addition, the bottom lands of the larger rivers support stands of cottonwood, willow, elm, soft maple, ash, hickory, walnut and butternut. The prairie lands of western and southern Minnesota are now almost entirely devoted to agriculture; the primary crops are corn and soybeans in the south and grains in the northwest.

Forest soils are generally more acid and less fertile than the prairie soils. Within the forest regions, the lowest fertility is in the areas of existing, or former, coniferous forest. The soils are further differentiated in their agricultural value by the contrast between the more widespread sandy or bog areas in the northeast and north central areas, and the better-drained loams of the remainder of the state. Inherent fertility is perhaps five or six times as high in the southwestern prairie till plains as it is in the northeastern pine-covered moraine.

#### ATTRACTIVE SCENIC AREAS

One feature of Minnesota's physical geography is unique among the states of the nation. That is the magnitude of its area of intimate, random mixture of hills and lakes. However, that mixture is not everywhere equally attractive to the majority of people. Its value is most enhanced where (1) the lakes are large enough to provide sandy shores, (2) the terrain is rough enough to provide a new close-up view around each turn in the road or an occasional sweeping panorama from a high hilltop, or (3) a surrounding forest--preferably coniferous--helps to reinforce the popular image of the northland. These are the areas where the state's recreation resources and facilities are concentrated (FIGURE 3-S.05).

Besides this widespread array of lakes and rolling hills, which is Minnesota's general legacy from the glaciers of the Ice Age, four other more localized features are especially important.

First, one of the outstanding stretches of rocky, rugged coast in North America lies between Duluth and Grand Portage on the North Shore of Lake Superior.

Second is the impressive trench which was cut diagonally across the state's land 10,000 years ago by a stream as large as today's St. Lawrence. That river drained the great lake--larger than present-day Lake Superior--which covered the present Red River Valley and Big Bog country of northwestern Minnesota. Its wide, deep valley is occupied now by the Minnesota and by the Mississippi below Fort Snelling.



# Scenic Areas

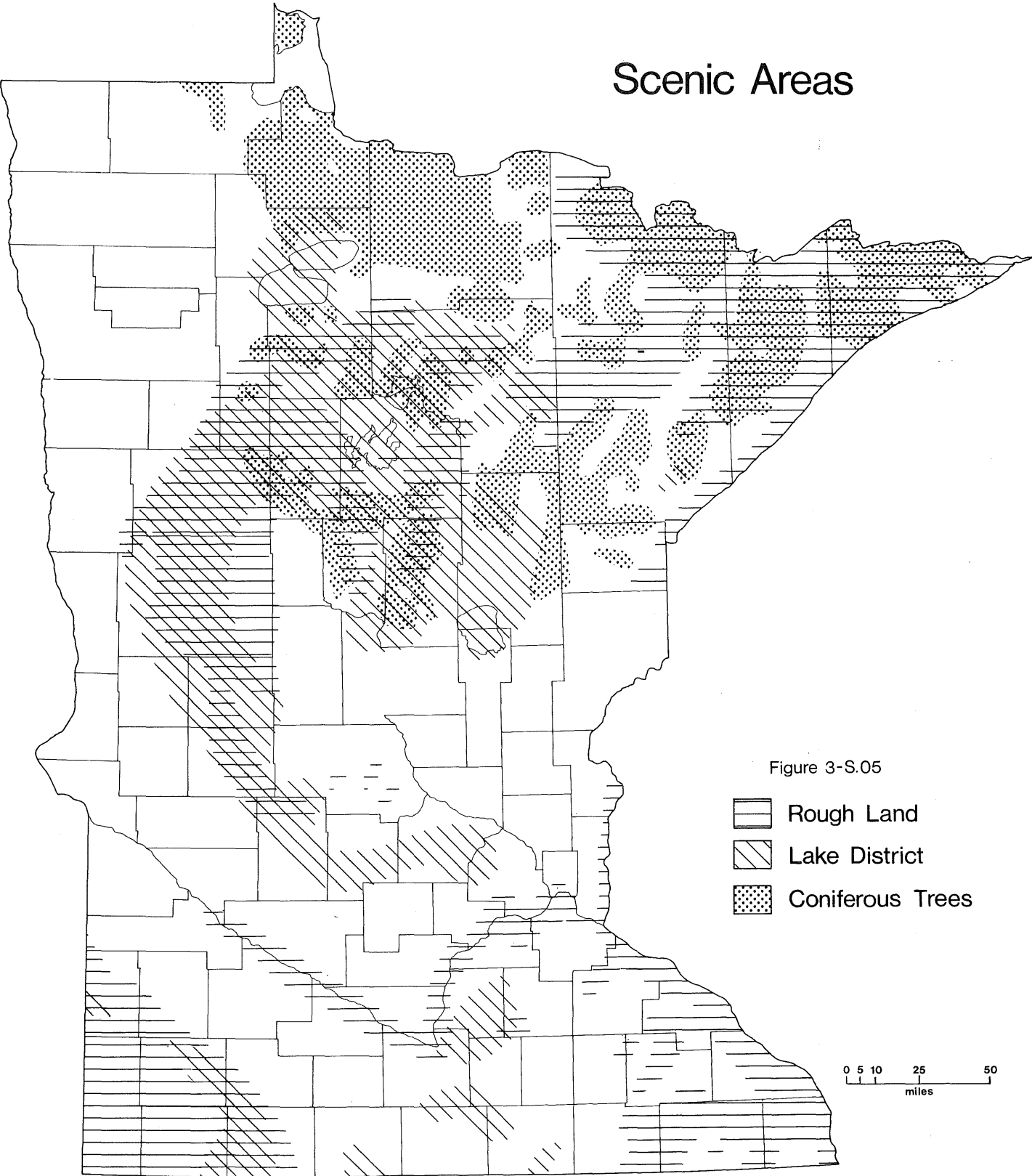





Figure 3-S.05

-  Rough Land
-  Lake District
-  Coniferous Trees

0 5 10 25 50  
miles

Third, the southeastern corner of the state is part of the unique, scenic portion of the Upper Mississippi valley which was missed by the advancing glaciers. Its surface is cut by deep valleys of the Mississippi and its tributaries, in part a relic of pre-glacial times.

Fourth, from Kabetogema to Grand Portage is one of the rougher and more varied parts of the rocky, glacier-scoured "shield" regions in central Canada and the upper Great Lakes. This is partly incorporated within the Boundary Waters Canoe Area Wilderness, a public wilderness area unique in the United States, and Voyageurs National Park.

With these resources, Minnesota provides an attractive environment for outdoor recreation for residents, and it competes in the tourist and vacation travel market of the central United States.

## LANDSCAPE REGIONS

Landscape regions are distinctive areas of the state with similar combinations of ecological and geological characteristics that set them apart from the rest of the state. The landscape regions framework forms the nucleus of Minnesota Natural State Park acquisition and management. One or more Natural State Parks will be developed to preserve and interpret each landscape region in the state. Thus, the landscape regions will guide the number and character of Natural State Parks. FIGURE 3-S.06 incorporates each geographic area of the state that has generally similar characteristics of landform and pre-European settlement vegetation.

### Agassiz Lowlands

Once entirely covered by glacial Lake Agassiz, this area is characterized by extensive peatlands intermittently interrupted by stretches of sandy mineral soil. Much of the area is flat with sedge mats and emergent aquatics broken by stands of black spruce, tamarack and white cedar. Asperbirch stands and jackpine barrens cover the slightly elevated beach ridges.

### Aspen Parklands

This area is the transitional zone between northwestern Minnesota's grassland and coniferous forest formations. Once covered by glacial Lake Agassiz, it is largely level country with potholes and shallow marshes. Ridges marking the beachlines of the extinct lake are dissected in places by streams crossing to the Red River.

### Leaf Hills

Encompassing the northern Alexandria moraine complex and pitted outwash plain, this area is characterized by steeply rolling terrain and sparkling lakes. Big Woods vegetation dominates--maple--basswood and aspen--oak, with brush prairie openings along the western portion of the area.

### Pine Moraine

Formed at the leading edge of repeating glacial advances, the northern pine moraine forms ranges of hills containing coarse, gravelly materials and boulders, pock-marked with countless lakes, ponds and bogs. Dominant vegetation includes white and Norway pine, aspen-birch, mixed hard-woods, jackpine barrens and conifer bog.

## Red River Valley

This nearly-flat plain, covered by rich clay and silty soils deposited on the bottom of glacial Lake Agassiz, was once covered by a seemingly-endless sea of prairie grasses and wildflowers, stretching from the gravel beach areas on the east hundreds of miles toward the Rocky Mountains. In less than 100 years, this landscape was literally turned upside-down and converted to cropland. Less than one-tenth of one percent of the prairie biome remains, and much of this is confined to beach ridges at the edge of the valley.

## Border Lakes

The Border Lakes region occupies the ice-scoured area of the state, from eastern Cook County to western St. Louis County. Bedrock outcrops are common on hilltops and upper slopes, while intervening basins are filled with cold, clear rock-rimmed lakes. Numerous streams spill from one basin to another. Most of the area is forested with pine, spruce and aspen-birch stands in various stages of ecological succession; the complex vegetation patterns developed as a result of, and are dependent on, the presence of fire in the ecosystem.

## Laurentian Divide

The Laurentian Divide is a continuous ridge complex of granitic rocks nearly 60 miles long, extending from Hibbing to Babbitt. Smoothed by overriding glaciers, this extremely old rock forms the rolling hills along the northern edge of the Iron Range. Part of the ridge forms the Continental Divide which distributes water in three directions--north to Hudson Bay, east to Lake Superior and south to the Mississippi River. This area was originally forested by a mixture of northern hardwoods and conifers. Most of this vegetation was removed by either mining operations or lumbering. Now the forest cover is mostly aspen-birch with scattered conifers.

## North Shore Highlands

The North Shore region is famous for its bare rock cliffs along the Lake Superior shore. The escarpment of 500 to 1,000 feet is broken by numerous steep stream valleys. The hills are composed of very old volcanic layers which dip gently toward the Lake Superior basin. During the Ice Age, the basin was scoured, the cliffs were sheared off and parts of the upland areas were covered by glacial deposits. These deposits include both moraines and clay deposited on the bottom of Lake Superior when the lake level was higher. Many of the outstanding features of this region occur in the gorges of the major streams which flow into Lake Superior. Spectacular cascades and waterfalls were formed by the streams that have cut through volcanic flows of varying resistance. The northern half of the North Shore was originally covered by spruce-fir forest, while the southern half was covered by a mixture of pines and northern hardwoods. Due to lumbering activities, the dominant forest cover today is aspen and birch regrowth.

## Tamarack Lowlands

Once entirely covered by glacial lakes Aitkin and Upham, this area is characterized by extensive peatlands intermittently interrupted by stretches of sandy mineral soils. Black spruce, tamarack and white cedar are the common trees in the peatlands, but there is also a vast acreage of patterned peatland not covered by trees. Aspen-birch stands and jackpine barren are major upland vegetation types in this region.

## Grantsburg

The Grantsburg landscape region has a complex glacial history. As the glacier melted, water accumulated along the north margin of the ice into a sizable glacial lake, Grantsburg. Eventually it reached a level high enough to spill over and around the east end of the glacier and into the lower St. Croix River near Taylors Falls. As the front of the Grantsburg sub-lobe melted southeastward, new drainage outlets for glacial Lake Grantsburg were established. The lake level then fell and wave action was able to smooth sediments on the floor of the lake. This created the smooth, sandy plain we see today. The few ridges seen may represent islands that stood above the lake level. Vegetation is mostly of the Big Woods type, with conifer bogs occurring in depressions. Today the area is mostly under agricultural use.

## Mille Lacs

The Mille Lacs landscape region covers approximately the area where intensive white pine lumbering flourished near the turn of the century. The hardwood influence of the deciduous forest to the south is seen in the abundance of the mixed hardwood and pine vegetation types. In places morainic tracts are interspersed with till plains and outwash plains, and many of the smaller lake basins are undoubtedly ice-block holes or pits formed by the melting blocks of ice that had been buried by the drift or earlier outwash. The terminal moraine dam responsible for the formation of Mille Lacs Lake falls within this landscape region.

## Mississippi River Sandplain

The Mississippi River Sandplain is a large, sandy plain with a fairly level surface, which dips gently toward the south. This type of plain is called an outwash plain and is a delta-like formation deposited by glacial meltwater streams. A few areas of greater local relief occur in the plain where moraine ridges protrude through the outwash. Further roughness was added in large areas when sand dunes were created by prevailing northwesterly winds. Because of the low local relief and high water table, the sand plain has many wet, marshy areas and some extensive lakes. The pre-settlement vegetation was oak savanna--stunted oak groves intermixed with prairie openings--which still remains in many areas today.

## Blue Hills

The area of rolling hills on the prairie fringe in west central Minnesota was crossed by several advances and retreats of the Wadena and Superior lobes of the Wisconsin glaciation. The last advance of the Wadena lobe left the most geologically distinct feature of the region; the broad terminal moraine known as the Alexandria moraine complex.

## Coteau des Prairie

The Coteau des Prairie is a high prairie ridge that extends diagonally across the southwestern corner of Minnesota from the northwest to the southeast. Local relief is most prominent near the South Dakota border, where the crest elevation reaches almost 2,000 feet, nearly 400 feet higher than the wet prairie to the east. Near the Iowa State Line, the ridge crest drops 1,600 feet and merges with the wet prairie. The ridge core is composed of very old bedrock, but it has been capped by a clay moraine deposited by glaciation. The ridge crest is a series of rolling hills which forms the drainage divide between waters of the Minnesota and Missouri Rivers.

Virtually all the Region was covered by prairie vegetation. Only a few major streams could support floodplain hardwoods. Except in areas where rocky soils prevented agricultural disturbance, most of the original prairie vegetation is gone.

## Upper Minnesota River Country

The most famous of Minnesota's glacial rivers, Glacial River Warren, cut and shaped the Minnesota River Valley. While a small valley was formed by ice meltwater, the majority of the valley's erosion was caused later by a river flowing out of glacial Lake Agassiz. The torrents of water cut a trench 100 to 250 feet deep in the glacial deposits to expose bedrock in several places. As is typical of most glacial river valleys, the present Minnesota River flows through a valley it would have been incapable of cutting.

Most of the river valley floor was originally forested with a floodplain type of hardwood forest. The western part of the valley tended to have mostly prairie vegetation, while the eastern part of the valley was heavily wooded. Much of the original vegetation has been cleared for agriculture.

## Big Woods

The Big Woods is the wooded southern portion of the "big moraine complex." This Region generally has more subdued terrain and finer soil materials than the rest of the "big moraine."

The Minnesota River Valley divides the Big Woods into two sub-regions. North of the river, the terrain is generally rougher and has a more sandy soil. While much of the northern sub-region has been cleared for agriculture, several large blocks of forested area remain.

South of the Minnesota River, the terrain and soils were much more suitable for agriculture. Therefore, very little of the native vegetation remains in the southern sub-region. Throughout the region, discontinuous patches of woods remain in areas of pasture, woodlots, and wet areas.

## Blufflands

Located in extreme southeastern Minnesota, this part of the state was not glaciated. Instead, the valleys of the Mississippi River tributaries were carved into the old sedimentary rocks by large volumes of glacial meltwater. The Region now consists of three parts: rolling upland; steep, wooded valley walls with many exposed rock bluffs; and flat valley floodplains.

Originally, the Region was covered by hardwood forest that was bounded in Minnesota by prairie to the southwest and the Big Woods to the northwest. Most of the flat areas have been cleared for agriculture, but the wooded hillsides remain to form the core of the Memorial Hardwood Forest.

#### Southern Oak Barrens

Biologically, this area is a broad transition zone between the prairie to the west and the deciduous forest to the north and east. Originally, this area's dominant vegetation was prairie with occasional groves and scattered individual oak trees, an ecological type known as Savanna.

## Landscape Regions

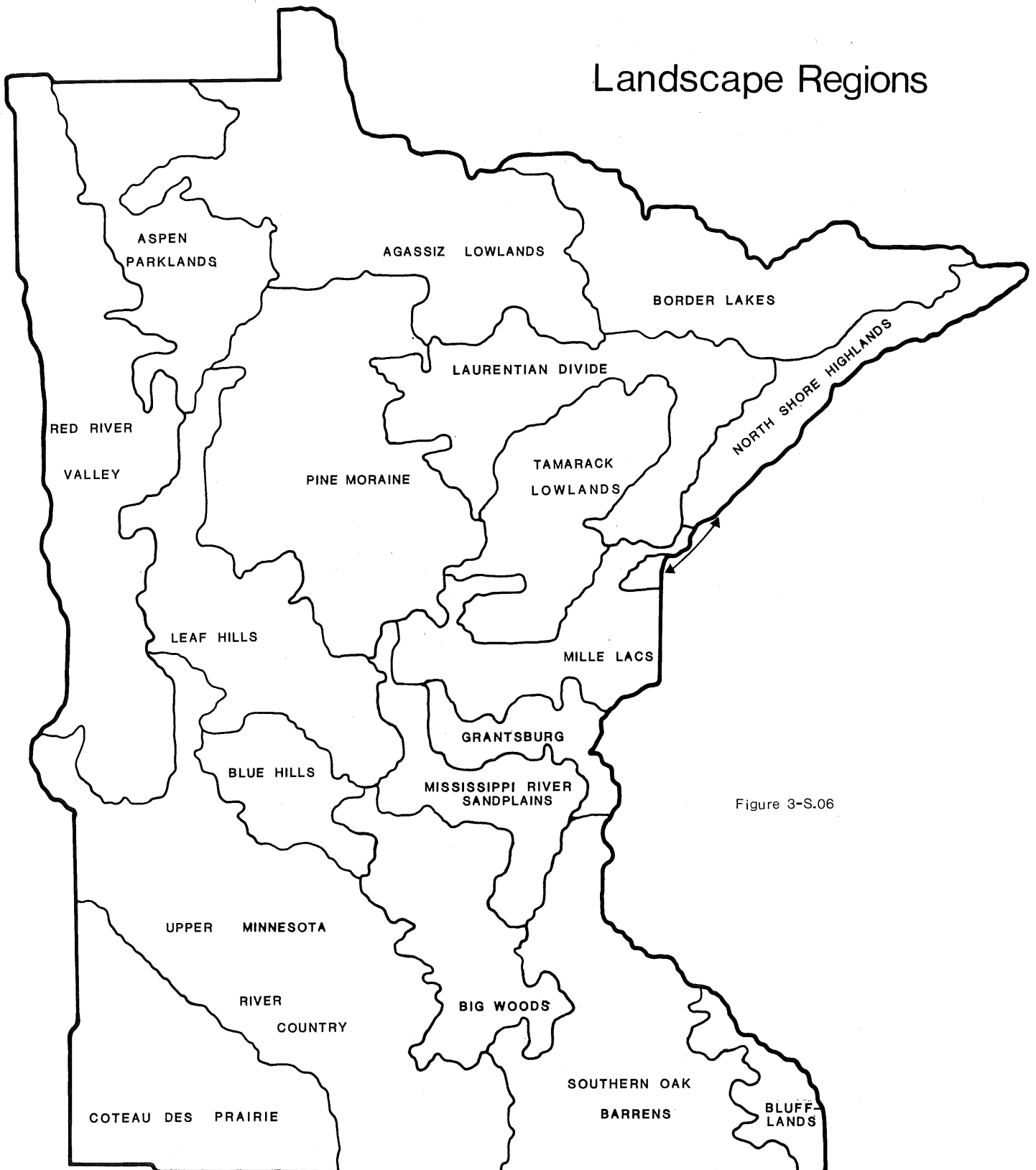


Figure 3-S.06

## REGIONAL PHYSICAL RESOURCES

### INTRODUCTION

This section contains a general overview of some of the important recreational resource characteristics (such as type, significance, distribution) of each economic development region in Minnesota (FIGURE 3-S.07).

Specific information and maps on natural resources are presented in the Atlas of Resources and Outdoor Recreation Facilities for each region. This atlas is a component of the State Comprehensive Outdoor Recreation Planning process and is designed to assist the regional development commissions in planning for recreation acquisition, development and coordination purposes.

### REGION ONE

Region 1 located in the northwestern corner of the state on the clay-silty lake plain soils of glacial Lake Agassiz contains about 71 percent farmland. Another 11 percent of the land is pasture or open. Former beach ridges from Lake Agassiz provide the most significant local relief.

The region's flatlands contain swamps, marshes and scattered stands of conifer and aspen, intermixed with willow, which provide habitat ideal for moose, deer, waterfowl and ruffed and sharptailed grouse. Forest and marsh account for 17 percent of the region. The eastern bog country and western plains (Red River Valley) are connected by an intricate small stream and artificial ditch system including the Thief, Red Lake and Roseau Rivers, which drain the gently sloping terrain into the Red River of the North.

Although there are few lakes, the streams and related ditch systems provide good northern pike fishing for many local residents. Opportunities for hunting, including deer, moose, upland birds and waterfowl, also are available. The potential exists for increasing deer, sharptailed grouse and prairie chicken populations, provided state lands are not diminished and are properly distributed to assure quality habitat.

The region also has substantial wetlands which produce and attract large waterfowl populations. Major production units include the Agassiz National Wildlife Refuge and the state's wildlife management areas: Thief Lake, Twin Lakes and Roseau. In late summer those units also host flocks of sandhill cranes. Wetlands interpretation potentials are considerable, since the greater sandhill cranes are quite rare, and spring migrations of waterfowl include an exceptionally large variety of ducks and geese.

### REGION TWO

Among the state's 13 regions, Region 2 ranks second in lake acreage (700,000-plus acres of boating waters), with about 600,000 acres divided almost equally between two large lakes, Lake of the Woods and Red Lake. Lake of the Woods, extending into Canada, is one of North America's prime recreational water bodies, offering challenging boating, sailing and fishing. Aspen-birch cover type predominates in the forested 50 percent of the region; bog conifers are also common.



# Development Regions

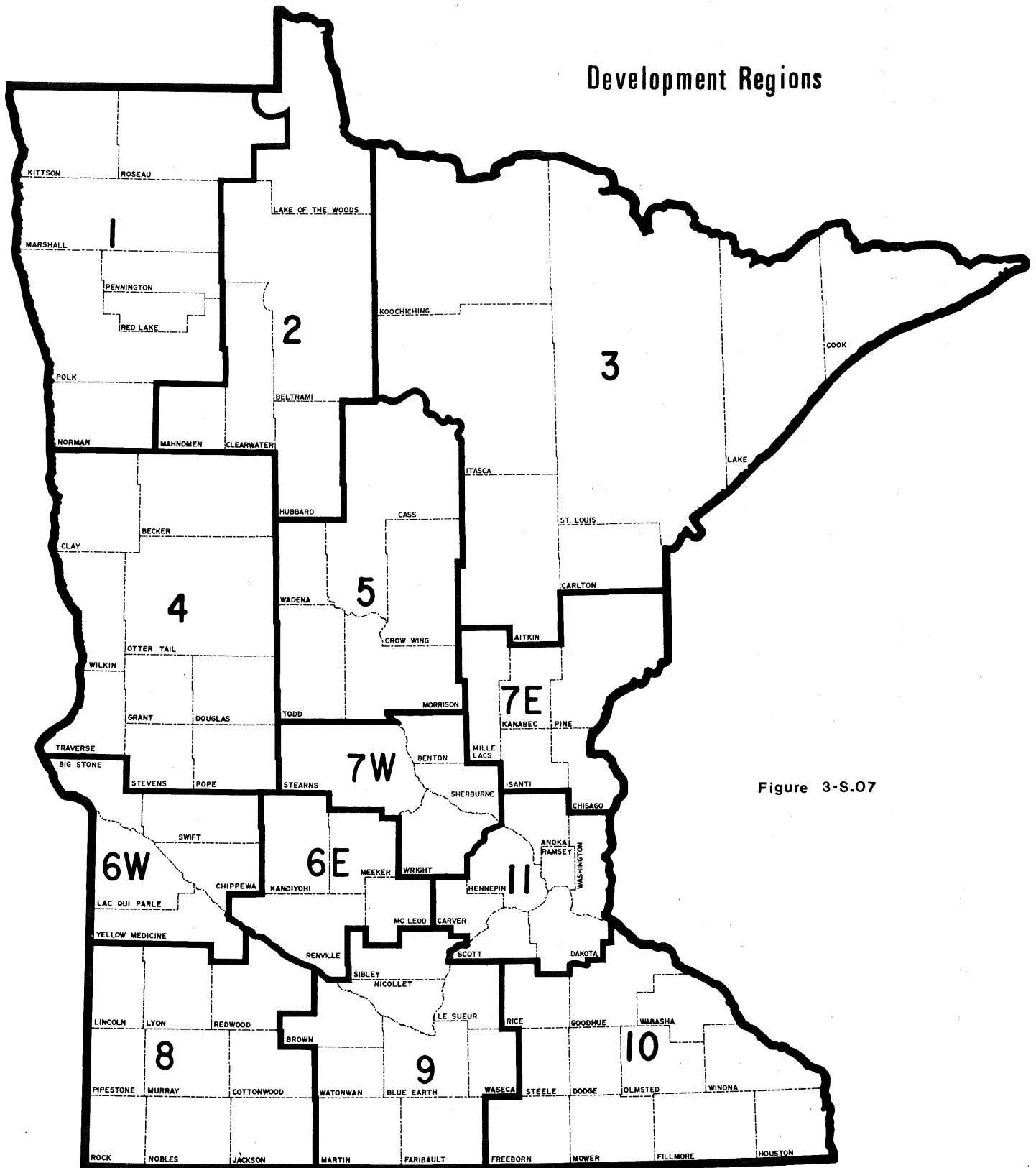


Figure 3-S.07

Beltrami Island State Forest and the Red Lake Wildlife Management Area in northern Beltrami and southern Lake of the Woods Counties covers what was once the voyageurs' trapping country, an area of forest and bog formed on the generally flat bed of glacial Lake Agassiz. Ruffed, sharp-tailed and spruce grouse; deer, bear, moose, timber wolf, otter, beaver, fisher and woodcock are only a few of the wildlife species common to this unique area. The abundance of wildlife species stems from a wilderness area with abundant water, surrounded by marginal farming operations which create a wide diversity of wildlife habitat.

Farther south, at the lower perimeter of the bog, Red Lake (the largest lake located entirely within Minnesota) is the dominant resource. Most of the lake and surrounding area is owned by the Red Lake band of the Chippewa tribe and is not available for recreational use.

In contrast to the northern portion of the region, the southern half of Region 2 is part of the rugged "big moraine" complex. Moraines are mingled with outwash and till plains in an area characterized by a diversity of small to medium sized, high quality lakes and numerous streams.

Because of the varied terrain, forests and lakes, Bemidji and Park Rapids have developed into major accommodation centers. Between them is Minnesota's largest state park, Itasca, source of the Mississippi River.

There is a real potential to enhance the lake fisheries of the region through intensification of fisheries service efforts and through an expanded public access program to distribute fishing pressure.

### REGION THREE

Bounded on the north and east by the province of Ontario and Lake Superior, Region 3 ranks first among Minnesota regions in water and forest acreage, contains Minnesota's only national park and the unique Boundary Waters Canoe Area (BWCA), the only designated lake wilderness in the United States. It has a wealth of history, including fur trading, mining, lumbering and commercial fishing. This major lake area extending along the Canadian border was formed by glacial ice scouring. Voyageur's National Park is located in the west end of this lake region. Itasca county in the west central part of Region 3 also has a concentration of lakes. Although lakes are numerous in Region 3, they cover only 6.5 percent of its surface.

Northeastern Minnesota streams flowing into Lake Superior also form an important scenic and recreational resource, providing prime trout habitat and fishing. Along the north shore of Lake Superior, the numerous rivers have cut deep gorges through volcanic rocks of varying resistance, creating spectacular cascades and waterfalls.

The north shore streams are a contrast to the major rivers that drain the rest of the area. Much of the Mississippi River flowing through Region 3 is suitable for canoeing. Likewise, the Cloquet and St. Louis Rivers in the southeast, and Little Fork, Big Fork and Vermillion Rivers feeding the border lakes - Rainy River complex in the north, offer substantial canoeing opportunities.

Larger game animals are the dominant wildlife types in the northern part of the region. Moose populations have increased in number to where a harvestable surplus is present as the forest matures and the habitat cease to favor deer. Similarly, the area supports a large bear population. In the west and south, parts of Itasca and Aitkin counties offer good waterfowl and deer hunting opportunities. Along with deer, ruffed grouse have long been primary viewing and hunting attractions. The region also hosts the last viable timber wolf population in the lower 48 states. Maintaining or expanding the aforementioned populations is highly dependent upon forest management practices. Insufficient vegetative disturbance, resulting in mature forests, has been one of the primary reasons for the decline of most of these species.

More than 80 percent of the region is forested, and 27 state forests and two national forests create a pattern dominated by substantial acreages of land in public ownership. In fact, 61 percent of the region is publicly owned. Of this total, federal lands account for 24 percent, state lands 22 percent and county lands for roughly 15 percent; 39 percent of the Region is in private ownership. These high percentages of public ownership are unique among the regions of the state. One area that has relatively little public ownership is the Iron Range, a complex nearly 100 miles long extending from Grand Rapids in southern Itasca County through Hibbing to Babbitt in central St. Louis County.

#### REGION FOUR

Region 4 is western Minnesota's lake region. Its numerous small and medium-sized lakes cover 280,000 acres and are concentrated in scenic, partially wooded countryside along a 90-mile arc of moraine hills that parallels State Hwy. 59 and Interstate Hwy. 94, from Detroit Lakes through Pelican Rapids, Fergus Falls and Alexandria. West of that line, in the prairie area which was once the bed of extensive glacial Lake Agassiz, lakes are replaced by farmlands and wetlands. Drumlin fields and long beach ridges of ancient glacial Lake Agassiz are unique features in this area.

In this region's prairie-woodland border, wetlands are numerous and of varied types. While drainage losses are severe in certain areas, the over-all wetland density is much greater than in southern Minnesota. The state's major concentration of first and second priority wetlands for preservation extends in a north-south band that covers most of Becker, Ottertail, Douglas and Pope counties. Parts of Clay and Grant counties are also important.

These lake and wetland resources have produced a major vacation industry focusing on water-related activities-a year-round fishing "hot spot," combined with waterfowl and deer hunting during the fall.

The southern portion of the region supports a substantial pheasant population.

#### REGION FIVE

A classic northwoods lake region, Region 5 has a landscape that varies from nearly level or gently rolling outwash plains with large concentrations of lakes to the irregular topography with small poorly drained areas characteristic of moraines. Forests of aspen-birch and jackpine cover 50 percent of the region. Another nine percent is water or marsh; 18 percent is cultivated.

The principal water resource is the concentration of medium-sized lakes in the Brainerd-Crosby area of Crow Wing County. They are used intensively for boating, swimming and fishing. In the northern part of the region, Cass County also has a concentration of lakes, including three very large lakes, Leech, Winnibigoshish and Cass. These large lakes of medium depth provide ideal walleye habitat and also support large populations of northern pike, bass and Minnesota's best muskie range. This area also is known for its good diving duck populations and grouse and deer hunting opportunities.

The 800,000-acre complex of the Chippewa National Forest and state forests constitutes a vast resource potential. Lands and waters consisting of lakes of all sizes, connecting streams including the Mississippi, wetlands, meadows and mixed forests provide a wide variety of wildlife habitat.

The area is home to the white-tailed deer, bear, beaver and coyote. Bobcat, mink, otter, muskrat and porcupine are also abundant. Birds such as herons, bitterns, bald eagles and hawks can be viewed, and during migratory seasons, large flocks of ducks and geese are sighted.

#### REGION SIX-EAST

Part of the prairie-woodland transition area, an arc of moraines extends through the north half of region 6E, covering most of Kandiyohi and Meeker counties. This dominantly rolling to hilly area of Knob and Kettle topography abounds in numerous small potholes and marshes as well as many good recreational lakes. This area forms the southern perimeter of Minnesota's major lake region.

Further south, in McLeod and Renville counties, the landscape flattens into a broad till plain that extends beyond the region's southern border, the Minnesota River. This is some of the richest farmland in the state.

A scattering of state and federal wildlife areas and recreational lakes with substantial surrounding forest cover is in Kandiyohi County. However, most of the land in the region, roughly 80 percent, is cultivated. Another 10 percent is pasture and 3 percent is forested, mostly with aspen or oak.

Moderate populations of pheasant and Hungarian partridge are found, but the area is a major duck migration route and part of the breeding range for prairie type divers and puddlers. The Great Blue Heron also have an active nesting colony in Meeker County.

#### REGION SIX-WEST

Forming part of Minnesota's border with South Dakota, region 6W contains the headwaters of the Minnesota River. Transected by the river trench, the northern half of the region is generally flat to gently rolling outwash and lacustrine plain; the southern half is a broad till plain.

Most of the area is highly productive agricultural land. Roughly 84 percent of the land is cultivated and another 11 percent, mostly on the floodplain or in moraine coteau areas, is pasture or open.

The level, heavily drained agricultural areas contain a few scattered state wildlife areas. Numerous small wildlife areas occur in the two moraine areas, one where the "Big Moraine" complex cuts through the northeastern part of the region, the other in Big Stone County, which has important possibilities for wetland preservation based on the density and diversity of its wetland types.

Two major wildlife areas, Lac qui Parle state wildlife management area and the federal Big Stone-Whetstone Refuge, extend along the Minnesota River for roughly 36 miles. These areas, a major migratory stop-over point for goose populations in the central flyway, are managed for both resident and migratory species. This area offers prime goose hunting in the fall.

Although the region supports populations of upland wildlife species such as pheasant, prairie chicken and Hungarian partridge, the primary wildlife species are waterfowl. The region is part of the major duck breeding range for prairie type puddlers and divers, and grebes and herons have nesting colonies in the refuges.

#### REGION SEVEN-EAST

Bordered on the east by the St. Croix River, this region of loamy soils and gently rolling terrain contains many peat bogs in its northern portion. To the south, this changes to the flat, sandy soils of the Anoka sand plain. Once completely forested, largely with red and white pine mixed with northern hardwoods, the region today is only 50 percent forested; roughly 20 percent is cultivated and 25 percent is in pasture. Present forest is aspen with some hardwoods. Tamarack and black spruce still occupy most peat areas.

Region 7E is not a substantial lake area by Minnesota standards, and more than half its lake area is attributable to Mille Lacs Lake. However, the region does have excellent rivers and streams. The St. Croix area also contains sizeable state parks and forests that are within a one to two hour drive of the Twin Cities Metropolitan Area.

Deer populations in Chisago and Isanti counties are among the highest in the state, as are pheasant populations throughout the region. Ruffed and sharptail grouse are also found here. Major breeding and staging areas for sandhill cranes are located just south of Mille Lacs Lake and in Isanti and Chisago counties, where they adjoin the state's Carlos Avery Wildlife Management Area.

#### REGION SEVEN-WEST

Flanking both sides of the Mississippi River in the center of the state, Region 7W has a terrain varying from nearly level outwash in Sherburne and Benton counties north of the river into the moraines of Wright and Stearns counties. The Mississippi and a second major river, the North Fork of the Crow, flow through a basically agricultural landscape. Fifty percent of the land in the region is cultivated and another 30 percent is pasture or open. Only 12 percent is forested, mostly in oak-hickory.

The 30,000-acre Sherburne National Wildlife Refuge is located in a sandy outwash plain, where low local relief and a high water table have created many wet, marshy areas and some extensive lakes. The refuge is the site of a major sandhill crane breeding and staging area. It also has the highest deer harvest district in the state. Small holdings of wildlife lands are scattered throughout the region, including many in the moraine areas, where hills are interspersed with depressions containing lakes or peat bogs. These wetlands offer nesting sites for prairie type puddlers.

The region's southern terminus, Wright County, has quality lakes but are not extensive enough to meet the recreational needs of the expanding Twin Cities Metropolitan Area population. However, two major rivers offer additional recreation. The Mississippi and the North Fork of the Crow rivers are designated State Canoe and Boating Route Rivers, and the Mississippi is also classified as a State Scenic and Recreational River.

#### REGION EIGHT

The prairie coteau, a high prairie ridge that extends diagonally across the southwestern corner of Minnesota from the northwest to the southeast, covers 60 percent of Region Eight. Local relief is most prominent near the South Dakota border, where the crest elevation reaches almost 2,000 feet, nearly 400 feet higher than the till plains to the east. The ridge crest is a series of rolling hills which forms the drainage divide between waters of the Minnesota and Missouri Rivers.

The upland has a remarkably straight and steep eastern escarpment marked by numerous stream gullies that support patches of deciduous woods, including oak, elm, ash and basswood. A small number of lakes occur in the coteau west of the escarpment. Murray County in particular contains a scattering of state wildlife lands in association with these lakes. Priority areas for wetland preservation from a statewide standpoint, they offer breeding grounds for a variety of prairie type divers and puddlers.

The part of the coteau that drains into the Missouri River is characterized by a well-developed drainage system and the absence of wetland depressions. This area has the state's highest concentrations of Hungarian partridge and high cottontail and jack rabbit populations.

East of the coteau is a broad, loamy plain of prime agricultural land. The original prairie, with many small islands of wet prairies, in this area has been converted almost completely to agricultural use. Eighty-eight percent of the region is cultivated, nine percent is pasture or open and less than one percent is forested.

#### REGION NINE

Region Nine contains some of Minnesota's finest farm country-measured by soil fertility, value of production and climate. Prosperous farms, with fields of corn and soybeans, are much more evident than lakes, pine forests and other features frequently identified with the state. These prime agricultural areas occur on the till plains and ground moraines covering most of Brown, Watonwan, Martin, Blue Earth, Faribault and Waseca counties. Eighty-five percent of the region is cultivated.

During the region's early settlement period (1860-1880), the prairie exhibited an abundance of shallow lakes and potholes, as well as scattered stands of woods and brush. Such waters and vegetation provided excellent habitat for native waterfowl and prairie chickens and still supports large pheasant populations and some partridge. However, intensive agricultural management such as land clearing and wetland drainage has seriously diminished game populations.

While most of the region is generally level, several areas have significant local relief. The major area is in the north, where smooth rolling hills are part of a band of moraines that extends across Nicollet and Sibley counties into LeSueur County. The region's lakes are also concentrated in these two counties. Priority and potentials for preservation of remaining wetland habitat in these areas is high, although the surrounding areas are fairly intensively cultivated. Active colonies of Great Blue Heron are found in both Nicollet and LeSueur counties. Much of the moraine area in Sibley and Nicollet counties has already been subject to some drainage. Most of the region, particularly LeSueur County has a fairly well developed stream network.

The Minnesota River flows through the northern part of the region, its floodplain, bluffs, woods and marshes contrasting with the agricultural landscape. The river corridor is also the location of some of the region's major population centers, Le Sueur, St. Peter and Markato.

#### REGION TEN

The landscape of Region 10 in the southeastern part of the state was formed by stream erosion. While glaciers did not cover this area, the valleys of the Mississippi River tributaries were carved into the old sedimentary rocks by large volumes of glacial meltwater. The eastern half of the region provides one of the most rugged landscape in Minnesota, formed by spectacularly eroded outcrops of bedrock largely forested with oaks and other hardwoods.

The 11-county region divides into two major resource compartments, following a demarcation line approximating Highways 52 and 63 from the Twin Cities to the Iowa border. West of this line, the principal land form is gently rolling prairies of fertile farmland, producing cash crops, which extends from Region Nine. East of the line, prairies give way to small hills and ultimately, deep stream-dissected valleys of the Cannon, Zumbro, Whitewater and Root rivers flowing to the Mississippi. This is an area of small dairy farms and orchards intermingled with steep hillsides and bottom lands. Sixty-six percent of the region is cultivated, with another 17 percent pasture or open, 13 percent is forested.

The natural resource potentials of the western compartment focuses upon farm lands and shallow lakes. The area already provides some of the state's best pheasant hunting and bullhead panfishing opportunities. The cluster of small shallow lakes in western Rice County, particularly, has become a focal point for resort development.

The eastern, valley compartment of Region 10 is bounded on the west by transitional prairie and on the east by the Mississippi. Forested rock bluffs, of a variety of shapes, rise 500 feet or more above the broad Mississippi flood plain. The Great River Road parallels the demarcation of these land forms for 100 miles, providing one of Minnesota's most scenic drives, including limestone-sandstone cliffs as well as trout streams, Lake Pepin, and the 110,000-acre Upper Mississippi Natural Wildlife Refuge, which holds a large variety of waterfowl, marsh and songbirds.

The valley area's interior has been formed by four stream systems (Cannon, Zumbro, Whitewater and Root) cutting deep valleys into once flat prairie country. During the early settlement period, the systems' relatively steep gradient powered grist mills located along various fall lines, and Mississippi River towns served as wood markets for hardwood logs, cut from the inland plateaus and valley slopes to expand cropland. Eventually, excessive timber harvesting caused massive sheet and valley erosion which altered farmlands. Farming changed from cash crops to subsistence or dairy farming, using the leached soils for pasture.

Minnesota's karst area occurs here, centered in Fillmore county. Sinkholes are a common landscape feature and caves are present in the underlying limestone strata.

The valley compartment's Minnesota Memorial Hardwood Forest, a forested area interspersed with agricultural lands, produces ideal habitat for deer, squirrels, ruffed grouse and the recently-introduced wild turkey. Although the statutory forest boundary encompasses two million acres, only one-third of it is forested. Present state forest ownership is approximately 33,500 acres. Region-wide another 43,000 acres are in wildlife and state park units, with the majority being in the Whitewater Wildlife Management Area and three state parks in the Mississippi River Valley.

## REGION ELEVEN

The seven county, Minneapolis-St. Paul Metropolitan area occupies a site which has unusually great physical variety. Much of the area extending northward from north Minneapolis, Fridley and Brooklyn Center is a flatish glacial outwash plain that extends to the Anoka sand plain. Higher, rougher glacial moraines, studded with hundreds of lakes and ponds, cover central and west Hennepin County northern Scott, Dakota and Carver counties and most of Washington County. The moraines were generally forested in pioneer times; in contrast, the outwash plains, with their sandy soil, were mainly under prairie or scattered scrub oak and brush.

The Mississippi and its tributaries, the Minnesota and St. Croix, add still more variety to the terrain. The Mississippi gorge below St. Anthony Falls, the Minnesota from the Carver County line to Ft. Snelling and the St. Croix valley below Taylors Falls provide some of the Midwest's finest panoramas.

Urban subdivision and development spread from two major initial settlements, Minneapolis and St. Paul. The two urbanized areas had coalesced by 1900 and spread over 150 square miles. The urbanized area now encompasses about 650 square miles, and the two historic central business districts -- along with numerous outlying cities and evolving suburban centers--are deeply embedded in the metropolitan mass.



Since World War II, subdivision has spread over suburban and urban high-amenity, wooded, lake and moraine lands. Extension of the street grid and development of the network of freeways has opened up these high-amenity areas. As a result, the Minneapolis-St. Paul urbanized area has one of the lowest average population densities among American metropolitan centers of one million or more people. Despite the low population density, only 18 percent of the seven-county metropolitan area is in urban development; 43 percent is cultivated, 20 percent is pasture and open and 11 percent is forested.

The U.S. Fish and Wildlife service estimates that 265,000 acres of wetlands exist in the metropolitan area. Small wetland areas are uniformly scattered throughout the western half of Scott, Carver and Hennepin counties. Migrating ducks and geese concentrate along the rivers, floodplain wetlands and lakes in Carver County, the Rice Creek Watershed and western Hennepin County. Anoka County also has extensive wetland areas. Carlos Avery State Wildlife Management Area has been developed in a bog area in the northeast part of the county.

A considerable amount of fishing occurs on the Mississippi, Minnesota and St. Croix rivers. The St. Croix contains the most valuable game fish and has the most intense fishing pressure; the Minnesota is the poorest major river for fishing due to its physical and chemical composition. Many of the other rivers and streams contain high game fish populations but receive little fishing pressure.

The numerous lakes are generally very rich in animal life, showing high diversity of species and populations, and indicating rather high water quality. High fish populations have been recorded. In Lake Minnetonka, a prime fish lake typical of the large deep lakes of the area, 11 species of commonly taken game fish are found. Some of the city lakes, Harriet, Calhoun, Nakomis support fairly well-balanced fish populations. Ramsey and Washington counties possess an attractive series of lakes, the finest of which include White Bear, Big Marine and Square lakes.

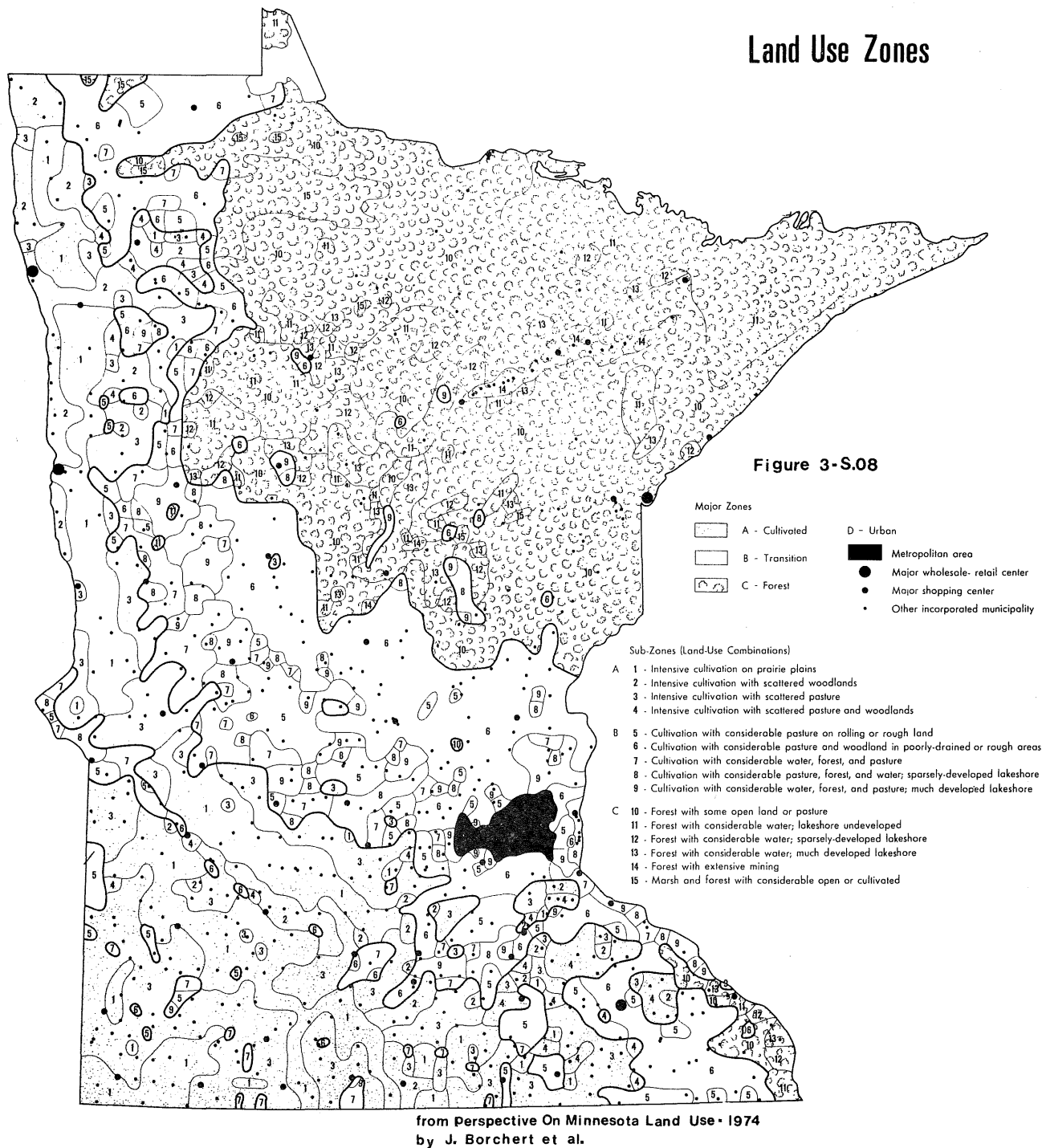
Almost 43,000 acres currently comprise the open space network. This includes state-owned facilities such as Carlos Avery, three state parks and state corridor trails and waysides. About 38,000 acres is encompassed by 17 regional parks, 14 park reserves, and one corridor trail.

No federal acreage is currently included in the regional system. The authorized (see Public Law 94-466) Minnesota Valley National Wildlife Recreational Area eventually will encompass over 6,600 acres; 3,350 acres in uplands, 1,800 acres in marsh, and 1,450 acres in meandered water. The primary intent of this facility is to preserve migratory bird habitat and make these resources available for public use. The proposed area encompasses some of the most significant wildlife habitat in the state.

Five regional facilities are state owned--Afton, William O'Brien and Fort Snelling state parks and the Luce Line and Minnesota valley corridor trails. When fully developed, they will provide about 9,000 acres of recreation open space. In addition, Carlos Avery, Gores and other wildlife management areas provide specialized recreation opportunity for water oriented recreation. Other state facilities are the Richard J. Dorer Memorial Hardwood Forest in Dakota County, the Hastings Scientific and Natural Area in Dakota County and Cedar Creek Natural History Area in Anoka County.

# Land Use Zones

Figure 3-S.08



Generalized land use map of Minnesota. Three major zones (regions) and eighteen subzones (sub-regions) are groups of townships and municipalities with similar dominant land uses.

## LAND USE

### GENERALIZED LAND USE ZONES

Minnesota is characterized by three major land-use regions--cultivation, transition and forest. Cultivation, the largest land use, is concentrated in the former prairie areas of southern and western Minnesota. Forests cover northeastern Minnesota and part of the "driftless" area in the southeastern part of the state. Most of the pasture and open lands occur in the transition between these zones (TABLE 3-S.01).

In addition, sub-regions have been defined within these major regions by analyzing the mixture of different land uses within each Minnesota civil division (organized rural town or incorporated municipality). When the different mixes are analyzed and grouped for the entire state, 16 distinctive land-use combinations emerge (FIGURE 3-S.08). Each of the land-use combinations has its own particular landscapes, which reflect the combined works of people and nature. This interaction has produced some striking variations in land-use patterns over the state.

Six land-use combinations are of particular concern because of their implications for recreational use. Their common elements are lakes and lakeshore, with their scenic attractiveness and potential for swimming, boating, fishing and wildlife habitat. Three of these land-use combinations occur in the transition zone: combination 7--cultivation with considerable water, forest and pasture; combination 8--cultivation with water, forest and pasture, plus sparsely developed lakeshore; and combination 9--cultivation with water, forest and pasture, plus more heavily developed lakeshore. The importance of these areas lies in their diversity. They provide a wide range of habitat for wildlife, show potential for recreational use and are likely to be subject to increasing development pressure. Combination 9 shows areas of current heavy use pressure on lakes. In the forest zone, three combinations are important for similar reasons: combination 11--forest with lakeshore undeveloped; combination 12--forest with sparsely developed lakeshore; and combination 13--forest with heavily developed lakeshore.

The lake areas tend to be concentrated in the Big Moraine and ice-scoured regions of Minnesota. River-related concentrations occur in the Minnesota River valley and along the Mississippi River in southeastern Minnesota. The ice-scoured northeastern part of the forest zone, encompassing the Boundary Waters Canoe Area and Voyageurs National Park, contains the state's largest concentration of undeveloped lakeshore. Moraines in the Park Rapids-Bemidji-Grand Rapids area create a more complex pattern of numerous areas characterized by different levels of development. Further south another major concentration of lakes lies in the Brainerd area.

Most of the lake areas in the transition zone are also part of the Big Moraine complex. Major concentrations occur in the Detroit Lakes-Fergus Falls-Alexandria area of west central Minnesota and in the Willmar-New London-Spicer area further south. Smaller lake areas occur throughout the transition zone. When these areas are within a one to two hour drive of the Twin Cities metropolitan area, they are heavily developed or subject to increasing development pressure.

TABLE 3 - S.01

## Land Use In Minnesota

Type	Acres*	Percent of Total
Cultivated	23,743,000	43.5
Forested	18,385,000	33.7
Open/Pasture	6,013,000	11.0
Water	3,373,000	6.0
Marsh	1,867,000	3.4
Urban-Residential	641,000	1.2
Urban-Mixed (Non-Residential)	550,000	1.1
Extractive	86,000	0.1
Transportation	28,000	0.0
TOTAL	54,686,000	100.0

\* Acreage is calculated by assuming the average parcel size is 40 acres.

(Source: Minnesota Land Use, University of Minnesota and State Planning Agency.)

Lake, or even river, areas with trees are scarce in the intensively cultivated areas of the state. The scattered areas that do occur have a character different than that of the state's popular northwoods-lake country image. They are valued, nonetheless, if only because of their scarcity in the cultivated landscape.

#### PUBLIC LAND OWNERSHIP

The contrast in Minnesota's physical resources and land use reflects the state's location within its wider setting. Land similar to northern Minnesota elsewhere in the Midwest has a similar history of lumbering followed by farm settlement, which frequently proved unsuccessful. This is contrasted with the highly productive till plains which stretch across Iowa, north central Illinois and southern Minnesota.

However, Minnesota land offers a greater variety and contrast than any other Great Lakes state, since (1) the contrast between rich and poor farmland is quite sharp, and (2) the state is so large--it is almost half again as large as either Wisconsin or Michigan. Thus, Minnesota has more stony, cut-over land than any other midwestern or Great Lakes state; yet it also has more rich, glacial prairie land than any state except Iowa. The contrast can often be observed across adjacent counties and, in a few instances, within a single county.

In the ownership pattern that has evolved, as with the land-use combinations mentioned above, nature has been aided by human action in the production of great variety in Minnesota. This has occurred through a complicated chain of responses to changing conditions over the state's history.

Acreages of the three governmental levels of public land ownership from 1978 agency records are:

	Acres*	% of State's Land Area
County	2,900,000	5.8%
State	5,400,000	10.8%
Federal	3,700,000	7.4%
	12,000,000	24.0%

\*Rounded off to the nearest one hundred thousand. These figures do not include Indian and easement lands because they are not available for use by the general public. However, they are included in the maps and tables that follow in this Public Land Ownership section.

Of this 12 million acres of public land, 11.2 million acres or 93 percent is located in 22 contiguous counties in the northern part of the state. The public ownership in these 22 counties corresponds closely to the large forested land-use area of northern Minnesota and the more scattered forest and marsh land use areas in the northwestern part of the state (see FIGURE 3-S.09).

The remaining 800,000 acres of public land in Minnesota are, generally, state and federal wildlife lands, concentrated mainly in west central Minnesota; state wildlife and hardwood forest lands in southeastern Minnesota; and state parks distributed throughout the state. Refer to TABLE 3-S.02 for a breakdown of total public ownership by agency and Development Region.

# TOTAL PUBLIC OWNERSHIP

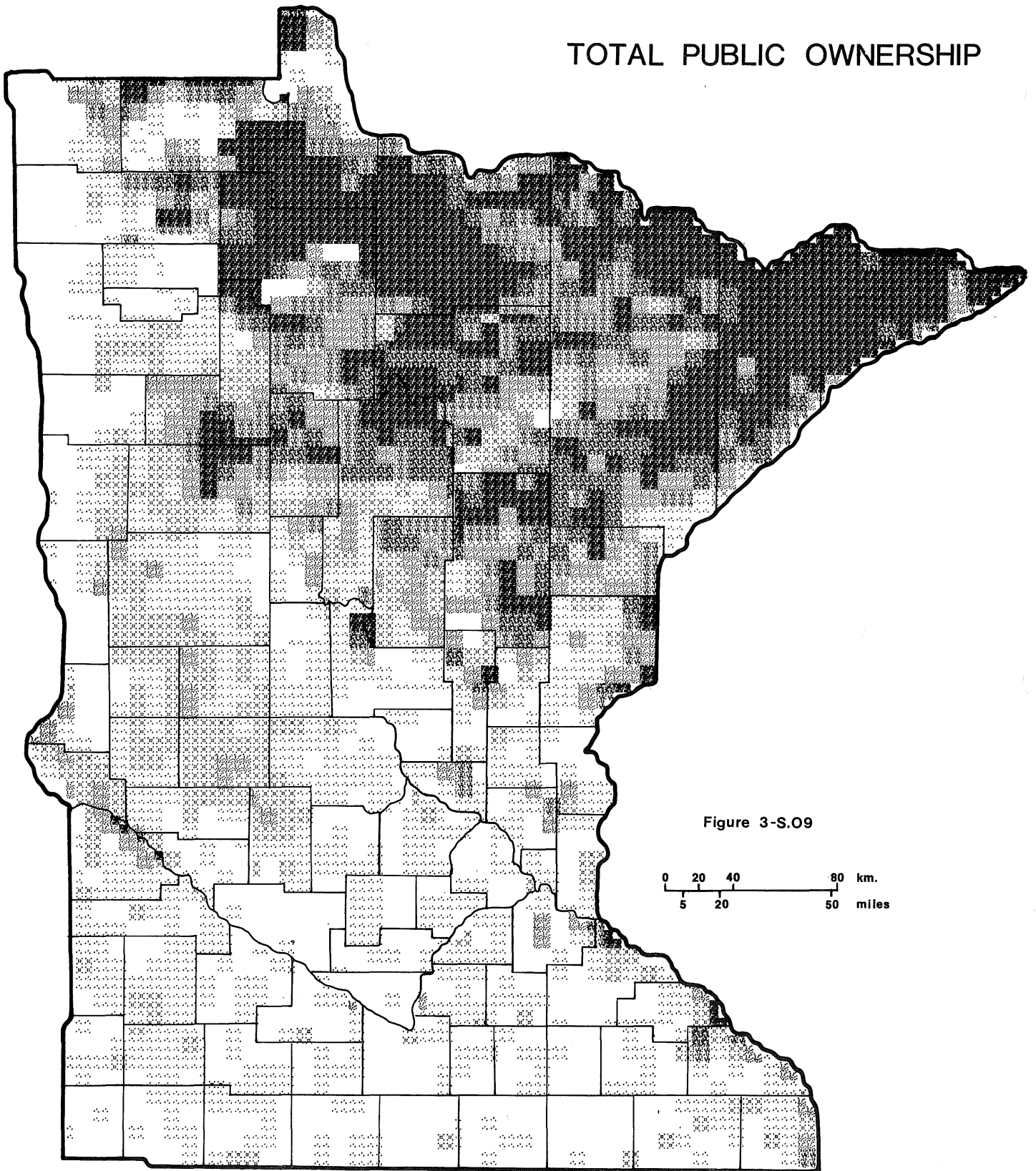
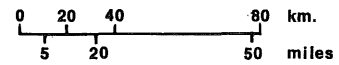


Figure 3-S.09



Source: DNR Land Classification Program and  
Various Federal Agencies, 1973.

OWNERSHIP AS PERCENT OF  
40 ACRE PARCELS PER TOWNSHIP

0 PERCENT	36 TO 50 PERCENT
1 TO 5 PERCENT	51 TO 65 PERCENT
6 TO 15 PERCENT	OVER 65 PERCENT
16 TO 35 PERCENT	

TABLE 3-5.02 PUBLIC LAND OWNERSHIP BY DEVELOPMENT REGION

AGENCY	ECONOMIC DEVELOPMENT REGIONS													Row Total
<u>FEDERAL</u>	1	2	3	4	5	6W	6E	7W	7E	8	9	10	11	
Forest Service		67,520	2,690,080		300,200									3,057,800
Bureau of Land Mgmt.	2,320	7,200	35,680	2,000	1,200	80	120	240	160	240	120	160	360	49,880
Fish and Wildlife	101,320	75,560	15,080	235,600		46,640	24,440	41,160	1,560	3,800		23,920	360	569,440
National Park Service			133,360						3,600	240			1,440	138,640
Dept. of Defense		80	15,840	12,920	20,040	1,640	160	40				26,080	3,320	80,120
Bureau of Indian Affairs	6,720	609,760	134,000	7,480	13,360	920			3,080	2,000		920		778,240
Subtotal	110,360	760,120	3,024,040	258,000	334,800	49,280	24,720	41,440	8,400	6,280	120	51,080	5,480	4,674,120
<u>STATE</u>														
Dept. of Natural Resources	447,344	1,181,452	2,841,760	98,316	254,806	41,649	10,111	15,053	277,938	37,511	16,353	77,071	27,606	5,326,970
Other State Agencies	4,080	2,240	26,040	8,520	57,880	2,280	2,280	5,040	4,840	3,000	4,080	7,040	19,760	147,080
Subtotal	451,424	1,183,692	2,867,800	106,836	312,686	43,929	12,391	20,093	282,778	40,511	20,433	84,111	47,366	5,474,050
<u>COUNTY</u>	16,828	388,893	1,936,672	77,797	370,450	1,080	4,520	4,480	46,538	3,080	3,520	2,240	35,280	2,891,378
GRAND TOTALS	578,612	2,332,705	7,828,512	442,633	1,017,936	94,289	41,631	66,013	337,716	49,871	24,073	137,431	88,126	13,039,548

The public ownership on the maps is represented by the percent of 40-acre parcels in a township containing public ownership. This does not necessarily mean that whole forties are publicly owned, just that there is public ownership within the 40-acre parcels. Thus, the public ownership in the southern and western parts of the state, where many small parcels of one to 10 acres have been acquired for fish, wildlife, access and other public purposes, is over-represented on the ownership maps. The categories on the ownership maps correspond to the following concentrations of forties with public ownership in townships:

Percent of Forties Per Township	Number of Forties with Partial or Total Public Ownership Per Township*
0	No public ownership in the township
1 - 5	1 to 29 forties with public ownership in the township
6 - 15	30 to 86 forties with public ownership in the township
16 - 35	87 to 192 forties with public ownership in the township
36 - 50	193 to 288 forties with public ownership in the township
51 - 65	289 to 374 forties with public ownership in the township
Over 65	375 to 576 forties with public ownership in the township

\* This chart is based on the regular 36 square mile township with 576 forties.

#### FEDERAL LAND OWNERSHIP

Territorial Minnesota originally was completely in the public domain, but federal government disposals to the state, individuals and corporations in the 1800s involved 96 percent of the state's land area. The remaining 4 percent consisted of vacant and reserved public lands and lands owned by Indians but held in trust for them by the federal government. Acquisition of land since the turn of the century, primarily for national forests and wildlife habitat, has brought federal ownership in Minnesota up to over 8 percent of the land (if Indian lands are considered in the total).

Federal land ownership tends to be more concentrated in certain parts of Minnesota than county or state ownership (see FIGURE 3-S.10). The Superior National Forest and Voyageurs National Park in the northeast and the Chippewa National Forest in north central Minnesota are easily identified. Indian reservations and wildlife lands comprise the majority of federal land ownership in northwestern Minnesota. The wide band of ownership in west central Minnesota represents extensive federal acquisition of wildlife



# FEDERAL LAND OWNERSHIP

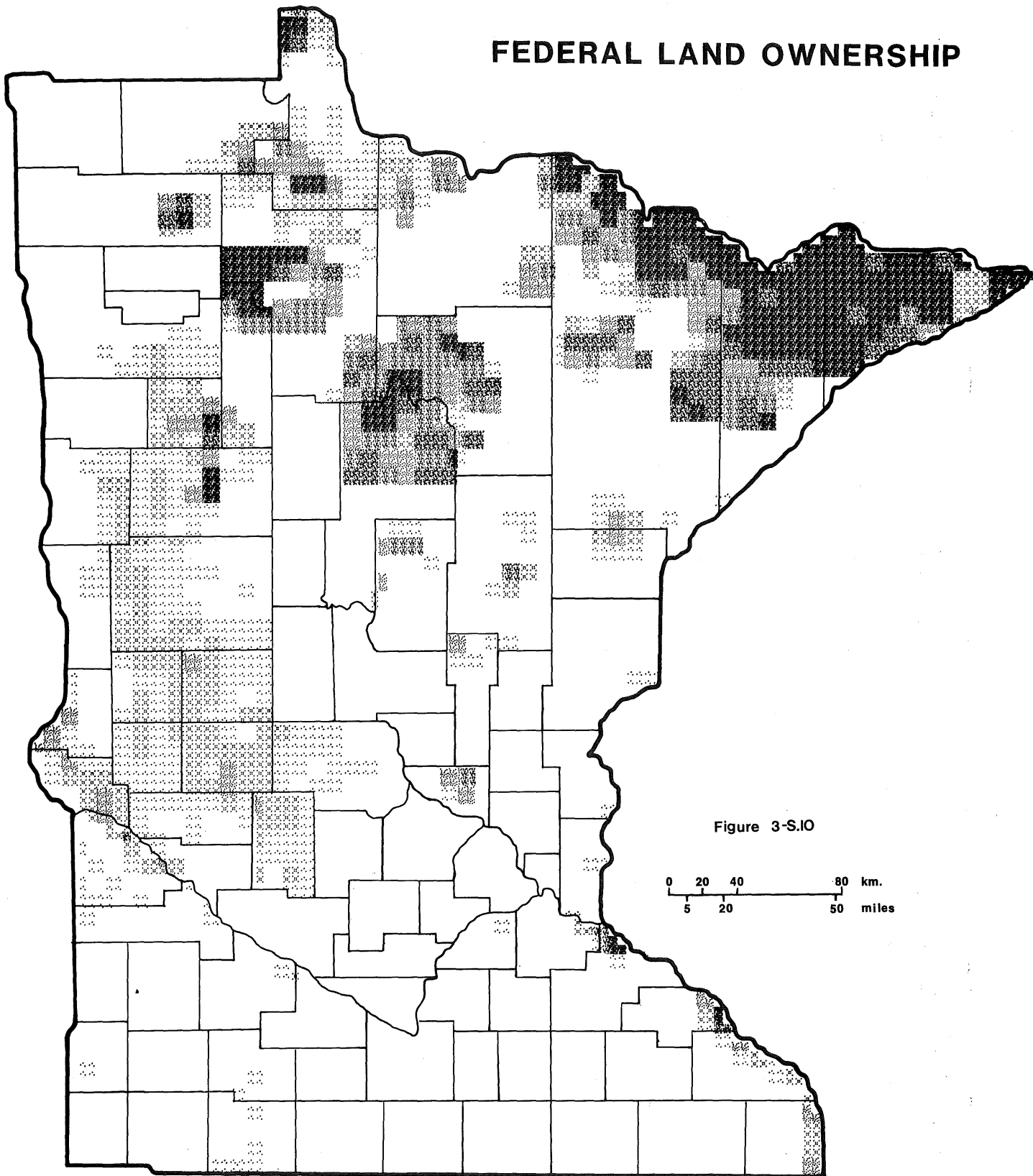


Figure 3-S.10

0 20 40 80 km.  
5 20 50 miles

OWNERSHIP AS PERCENT OF  
40 ACRE PARCEL PER TOWNSHIP

0 PERCENT	36 TO 50 PERCENT
1 TO 5 PERCENT	51 TO 65 PERCENT
6 TO 15 PERCENT	OVER 65 PERCENT
16 TO 35 PERCENT	

Source: Forest Service, Bureau of Land Management, National Park Service, Fish and Wildlife Service, Corps of Engineers, and Bureau of Indian Affairs, 1973.

habitat--either for wildlife refuge or waterfowl production--plus a considerable number of easements (not fee title), also to preserve wildlife habitat. The more scattered ownership patterns in east central and southeastern Minnesota are Indian reservations, wildlife refuges, and reservoir/water level control areas. TABLE 3-S.03 provides an acreage breakdown by Development Region of the various federal agencies lands.

#### STATE LAND OWNERSHIP

The United States Congress granted Minnesota several million acres of public domain land during the mid to late 1800s. The income from these lands was to be placed in trust funds to support public schools and the land grant university system, and to aid in the construction of railroads, public buildings, and other internal improvements.

The original policy of the state was to sell the land grants to generate income for the trust funds and facilitate economic development and growth. Gradual modification of this policy resulted in permanent ownership of certain lands, such as the reservation of mineral rights beginning in 1889, and the creation of Itasca State Park in 1891. Mineral lands, water power sites and state lands bordering on or adjacent to public waters were also withdrawn from sale through legislative action in the early 1900s.

Logging, agriculture, and subsequent tax-forfeiture in northern Minnesota brought the state into the administration and management of certain tax-forfeited lands. Prior to 1925, legislation relating to public drainage ditches authorized a small number of people to sign petitions for the construction of such ditches. Drainage projects were commonly undertaken at the initiative of only a few of the property owners who would have to pay for them. Drainage and agricultural efforts proved unsuccessful and the resulting ditch liens became so large that by 1929 several million acres were forfeited for non-payment of taxes. State legislative action resulted in the establishment of "conservation areas" in specifically defined areas of six counties in northwestern Minnesota and Aitkin County in the north central part of the state. The state paid off the drainage bonds in exchange for absolute title to tax-forfeited lands in the conservation areas.

The state has also received several hundred thousand acres of county tax-forfeited land in the last 40 years. A 1939 law authorizes the counties to offer to the state, by resolution, tax-forfeited lands primarily suitable for growing timber. These lands are then held by the state free from any trust in favor of any and all taxing districts. The counties receive 50 percent of the income from these lands, generally from timber harvesting.

The creation of the Department of Conservation in 1931 (renamed the Department of Natural Resources in 1970), coupled with the avalanche of tax-forfeited lands, ushered in a new era of conscious, professional resource management. More than half of the present state forest and state park systems were established between 1930 and 1950. The vast majority of this land is either trust fund, conservation area or county tax-forfeited lands acquired by the state through county board resolution. Acquisition of land from private owners is a relatively recent occurrence. The purchased land includes private inholdings within state parks, fish and wildlife habitat, public accesses to lakes and rivers, key state forest parcels and lands acquired for other public purposes.

TABLE 3-S.03 FEDERAL LAND OWNERSHIP BY DEVELOPMENT REGION

ECONOMIC DEVELOPMENT REGIONS														
FEDERAL AGENCY	1	2	3	4	5	6W	6E	7W	7E	8	9	10	11	Row Total
U.S. Forest Service		67,520	2,690,080		300,200									3,057,800
Bureau of Land Mgmt.	2,320	7,200	35,680	2,000	1,200	80	120	240	160	240	120	160	360	49,880
U.S. Fish & Wildlife														
-Nat'l Wildlife Ref.(Fee)	60,160		15,080	41,240				30,280	1,560			23,920	120	172,360
-Nat's Wildlife Ref. (Flowage Only)	480													480
-Nat'l Wildlife Ref. (Leased to State)	29,200	54,520												83,720
-Waterfowl Prod. Areas (Fee)	8,040	5,240		93,920		24,200	12,280	9,400		3,800			240	157,120
-Waterfowl Prod. Areas (Easement)	3,440	15,800		100,440		22,440	12,160	1,480						155,760
Subtotals	101,320	75,560	15,080	235,600		46,640	24,440	41,160	1,560	3,800		23,920	360	569,440
National Park Service														
-Voyageurs Nat'l Park			131,600											131,600
-Riverways and Monuments			1,760						3,600	240			1,440	7,040
Subtotals			133,360						3,600	240			1,440	138,640
Dept. of Defense														
-Flowage and Recreation (Fee)			5,440	4,840	8,400	600		40				24,000	2,680	46,000
-Flowage (Easement)		80	10,080	8,080	11,640	1,040						2,080	640	33,640
-Defense			320				160							480
Subtotals		80	15,840	12,920	20,040	1,640	160	40				26,080	3,320	80,120
Bureau of Indian Affairs														
-Tribal/Resettlement	6,720	564,160	71,240						3,080			640		645,840
-Allocated			26,080											26,080
-Government		45,600	36,680	7,480	13,360	920				2,000		280		106,320
Subtotals	6,720	609,760	134,000	7,480	13,360	920			3,080	2,000		920		778,240
GRAND TOTALS	110,360	760,120	3,024,040	258,000	334,800	49,280	24,720	41,440	8,400	6,280	120	51,080	5,480	4,674,120

# STATE LAND OWNERSHIP

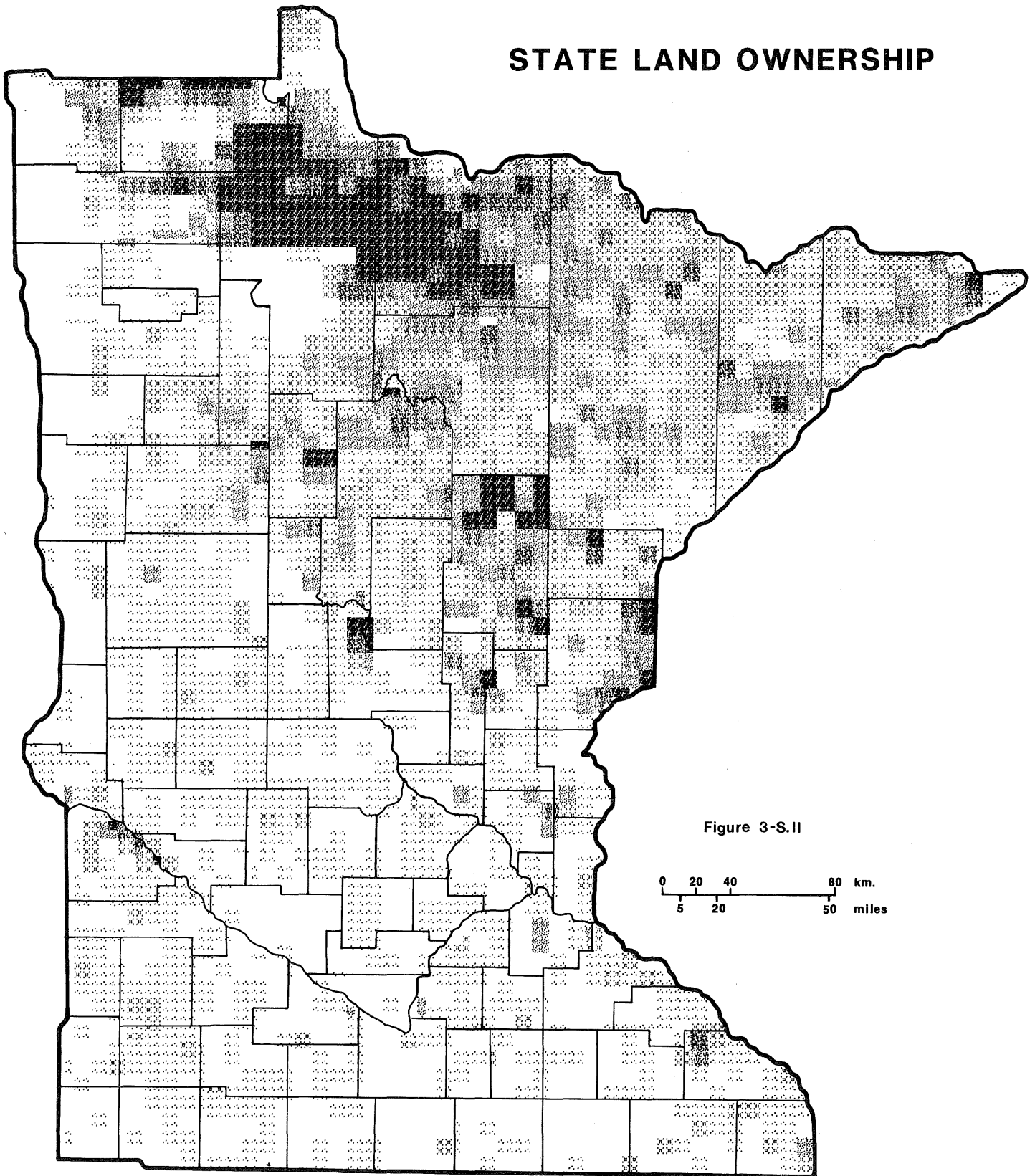


Figure 3-S.II



Source: DNR Land Classification Program

## OWNERSHIP AS PERCENT OF 40 ACRE PARCELS PER TOWNSHIP

0 PERCENT	36 TO 50 PERCENT
1 TO 5 PERCENT	51 TO 65 PERCENT
6 TO 15 PERCENT	OVER 65 PERCENT
16 TO 35 PERCENT	

The relatively wide distribution of state ownership illustrated on FIGURE 3-S.11 is a result of land grants, tax forfeitures, the Department of Natural Resources fish, wildlife and public access acquisition policies, and the state-owned land administered by other state agencies. Refer to TABLE 3-S.04 for breakdown of state land ownership by agency and Development Region.

#### COUNTY LAND OWNERSHIP AND/OR ADMINISTRATION

The majority of land in this category is state-owned, tax-forfeited land administered by the counties, primarily in the northern part of the state. While basic policy for the administration and management of tax-forfeited lands is determined by the state legislature, policy application through administration and management of these lands is granted to the counties. Permanent public ownership of lands acquired by tax-forfeiture was neither anticipated nor desired until well into the present century. State policy had been to encourage redemption of tax-delinquent land by the original owners or the purchase of tax titles by others who might wish to acquire them. Laws and procedures permitted small, partial payments at "bargain counter" prices for tax-forfeited land in the late 1800s and early 1900s to get it back into private ownership and on the tax rolls. However, after the resources (such as timber or minerals) were harvested, or during periods of business depression, much of this land became tax-forfeit once again.

In the forested areas of northern Minnesota, it was generally assumed that logging, draining, settling and farming the land held the promise of long-term economic prosperity and stability. However, the northern land generally proved unsuitable for agriculture. With the bursting of the cut-over land boom and the agricultural depression of the 1920s, tax delinquency in the northern counties reached unparalleled proportions. Cut-over land was often assessed at as much as three times its market value, and tax rates soared. With each new increase, more landowners stopped paying taxes, and a still heavier burden was imposed on the remaining taxpayers. As a result, by 1935 more than six million acres were tax delinquent, primarily in the northern counties.

During the last 40 years, the northern counties have disposed of over half of the tax-forfeited land. The majority of it was returned to the tax rolls through sale to the private sector or transferred to the state for management. In recent years, the prevailing sentiment in the northern counties has favored retaining administration and management of the remaining tax-forfeited lands. Limited sales, transfers and exchanges are still conducted, but their magnitude and frequency has greatly diminished. While county land policies at both the state and county level are still at a relatively early stage of evolution, management is improving.

The majority of county tax-forfeited ownership shown on FIGURE 3-S.12 is concentrated in Development Regions 2, 3, and 5 in the north central portion of the state. Nearly half of this land has been dedicated by the counties as memorial forest land to be managed in accord with forestry principles. Counties actually own only certain park and recreation lands, primarily in the southern part of the state (see TABLE 3-S.05).

TABLE 3-S.04 STATE LAND OWNERSHIP BY DEVELOPMENT REGION

STATE AGENCY	ECONOMIC DEVELOPMENT REGIONS													Row
	1	2	3	4	5	6W	6E	7W	7E	8	9	10	11	Total
Dept. of Natural Resources														
-State Forest Lands	75,593	639,581	1,648,840	35,508	161,288			5,864	152,995			33,346	58	2,753,073
-Wildlife Mgmt. Areas	183,394	18,396	4,056	32,883	15,168	38,441	7,065	6,501	55,725	32,707	11,793	32,228	18,483	456,840
-Fisheries Lands	3	510	17,255	1,486	3,559	43	145	239	871	269	334	127	312	25,153
-Parks & Recreation Lands	4,242	30,130	28,147	14,516	2,171	3,060	2,659	1,829	42,599	4,529	3,947	10,865	7,966	156,681
-Waters or Minerals Lands		2	1,598	444	316		1	2	6	6	21	2	6	2,404
-Other Lands not in Mgmt. Units	184,112	492,833	1,141,864	13,479	72,304	105	241	618	25,742		258	502	761	1,932,819
Subtotal	447,344	1,181,452	2,841,760	98,316	254,806	41,649	10,111	15,053	277,938	37,511	16,353	77,071	27,606	5,326,970
Dept. of Transportation	2,280	1,800	12,120	5,800	4,040	2,040	1,400	2,480	1,680	1,440	1,800	4,120	2,360	43,360
Dept. of Military Affairs	40	80	440	120	52,880	120	200	80	80	240	160	240	400	55,080
Dept. of Corrections								920				480	320	1,720
Dept. of Public Welfare			280	680	560		520		280		680	1,760	760	5,520
University of Minnesota	1,640		11,840	1,440	200		40		2,240	440	760		14,760	33,360
Minn. Historical Society			440	160	80	120	40	200	400	400	40		160	2,040
Comm. College Board	120		480	40	120		80		160	120		240	480	1,840
State University System		360		280				1,360		360	640	200		3,200
Misc State Agencies			440										520	960
GRAND TOTALS	451,424	1,183,692	2,867,800	106,836	312,686	43,929	12,391	20,093	282,778	40,511	20,433	84,111	47,366	5,474,050

# COUNTY TAX-FORFEITED OWNERSHIP

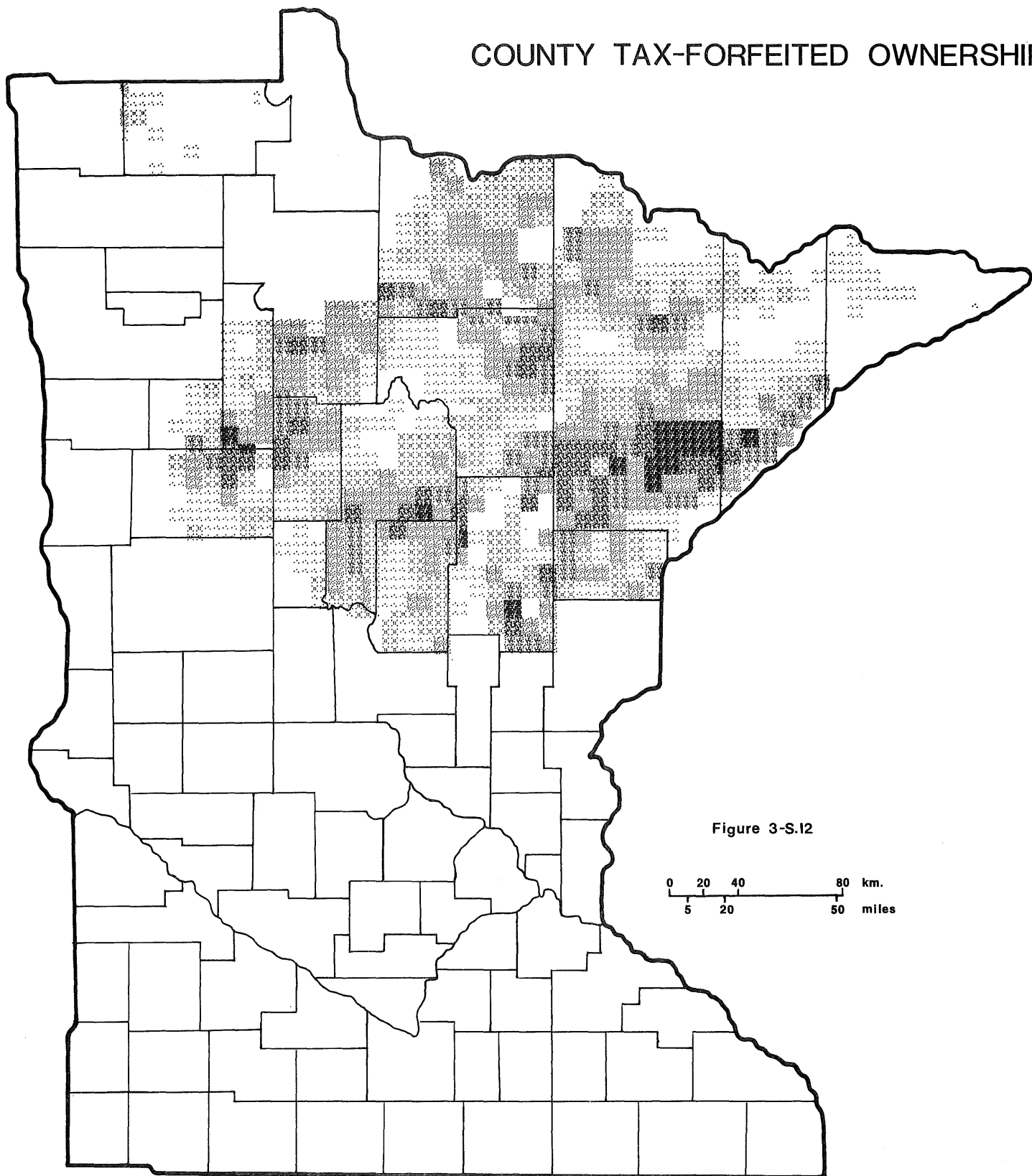


Figure 3-S.12



Source: DNR Land Classification Program

OWNERSHIP AS PERCENT OF  
40 ACRE PARCELS PER TOWNSHIP

0 PERCENT	36 TO 50 PERCENT
1 TO 5 PERCENT	51 TO 65 PERCENT
6 TO 15 PERCENT	OVER 65 PERCENT
16 TO 35 PERCENT	

TABLE 3-S.05 COUNTY LANDOWNERSHIP AND/OR ADMINISTRATION BY DEVELOPMENT REGION

AGENCY	ECONOMIC DEVELOPMENT REGIONS											Row		
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	Total
COUNTY														
Memorial Forest Lands		133,023	922,815	59,667	218,541									1,334,046
Lands Not in Mgmt. Units	14,068	251,150	999,297	17,570	146,869				45,378					1,474,332
Park and Recreation	2,760	4,720	14,560	560	5,040	1,080	4,520	4,480	1,160	3,080	3,520	2,240	35,280	83,000
TOTALS	16,828	388,893	1,936,672	77,797	370,450	1,080	4,520	4,480	46,538	3,080	3,520	2,240	35,280	2,891,378



## MANAGEMENT UNITS--FEDERAL AREAS

### UNITED STATES FISH AND WILDLIFE SERVICE

The U.S. Fish and Wildlife Service, Department of the Interior, administers the second largest federally-owned acreage in Minnesota. Its 300,000 plus acres include seven wildlife refuges and 530 waterfowl production areas. The waterfowl production areas, located primarily in a north-south corridor in western Minnesota, stand as small, scattered tracts and furnish breeding and resting areas for migratory birds (see FIGURE 3-S.12.1). These areas constitute an important resource for the hunters of Minnesota and the nation. The service allows public hunting on these areas when it does not interfere with the primary purpose of wildlife production.

The seven national wildlife refuges--Agassiz, Rice Lake, Tamarac, Big Stone, Upper Mississippi, Sherburne and Minnesota Valley--represent more than 200,000 acres. Spread throughout the state, they provide hunting, fishing and trapping. In addition, they are available for non-consumptive wildlife uses such as birdwatching, photography and painting.

### NATIONAL PARK SERVICE

#### Voyageurs National Park

The Department of Interior, National Park Service, administers Voyageurs National Park. Located on Rainy Lake in northern St. Louis County and eastern Koochiching County, the park comprises 219,000 acres of pristine land and water (See FIGURE 3-S.13). Composed of a system of lakes, streams, forests and outstanding geologic features, the area offers opportunities for fishing; camping backpacking, canoeing, cross-country skiing and power boating. In addition, its historic role in the opening of the Northwest Territory provides a cultural heritage to acquaint visitors with the early fur trade and that era of exploration.

#### St. Croix National Scenic Riverway

The St. Croix River has been designated as a National Wild and Scenic River in two stages - the upper portion, above Taylors Falls, in 1968 and the lower portion, below Taylors Falls, in 1972. Master Plans have been prepared establishing Riverway boundaries within which lands will be protected from adverse development and limited recreational facilities will be provided.

The St. Croix River forms the Minnesota-Wisconsin boundary from the St. Croix State Forest near Markville to Hastings, Minnesota. On the Minnesota side, the river flows along two state forests (St. Croix and Chengwatana) and five state parks (St. Croix, St. Croix Wild River, Interstate, William O'Brien and Afton). The upper scenic portion of the river from Wild River State Park north flows freely through long eddies with a few riffles. From Wild River to St. Croix Falls Dam the impounded river is classed recreational. The lower portion is wider, slower and deeper. The upper portion of the riverway offers canoeing, fishing and camping. The lower portion provides opportunities for motor boating, canoeing and sailing as well as fishing. Only occasional shore homes are in the riverway above Osceola, but downstream shore homes become more numerous. Given its close proximity to the Twin Cities area, the riverway is a highly important recreational resource for much of Minnesota's population.

# Waterfowl Production and Wildlife Management Areas

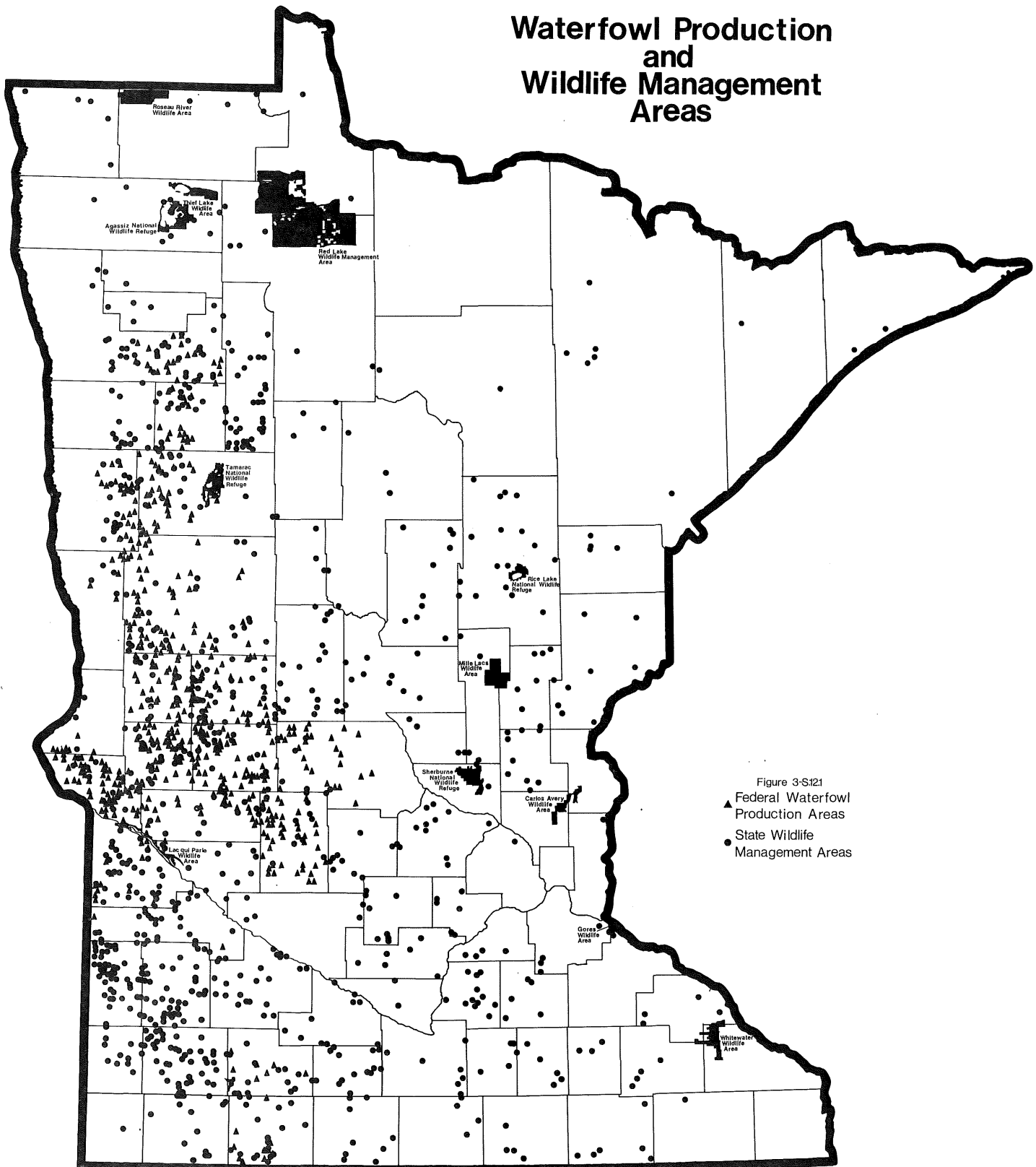


Figure 3-S121  
 ▲ Federal Waterfowl  
 Production Areas  
 • State Wildlife  
 Management Areas

## Grand Portage National Monument

Designated first as an historic site and later, in 1960, as a national monument, Grand Portage National Monument is on the shore of Lake Superior. Its location in northeastern Minnesota made it an important wayside in the fur trade of the Voyageurs. It served as a major cargo transfer point for furs heading for eastern and European markets.

Today, the character of Grand Portage resembles that of the fur trade era. The National Park Service has reconstructed a replica of the stockade on the original site, once the largest depot of the Northwest Fur Company's empire.

## Pipestone National Monument

In 1937, Congress began the preservation of Pipestone National Monument. Located in the southwest corner of the state, just west of Pipestone, Minnesota, the monument is less than an hours drive from east-west Interstate Highway 90 and north-south Interstate Highway 29. The monument contains great quarries of stone, used by the Plains Indians for pipe making. For at least 300 years a large portion of the Indian's ceremonial pipes originated in stone from the area. The monument includes a visitor center, trails and roadside exhibits that communicate its natural and cultural history.

## UNITED STATES ARMY CORPS OF ENGINEERS

Three major resource systems, managed by the Army Corps of Engineers, provide recreation for Minnesotans and visitors to the state. The largest and most important project, the Mississippi Headwaters system, consists of six large reservoirs in north central Minnesota. Leech and Winnibigoshish lakes are the largest. They offer excellent walleye fishing, swimming, and boating opportunities. The smaller projects, Pokegama, Pine, Sandy and Gull lakes, also offer swimming, fishing and boating. All of the lakes provide good to excellent resorts, vacation-home sites, camping and wildlife habitat. A series of locks and dams lie downstream on the Mississippi between the Twin Cities and the Iowa border. Built primarily to enhance commercial navigation, their impounded waters offer opportunities for hunting, fishing, boating and camping.

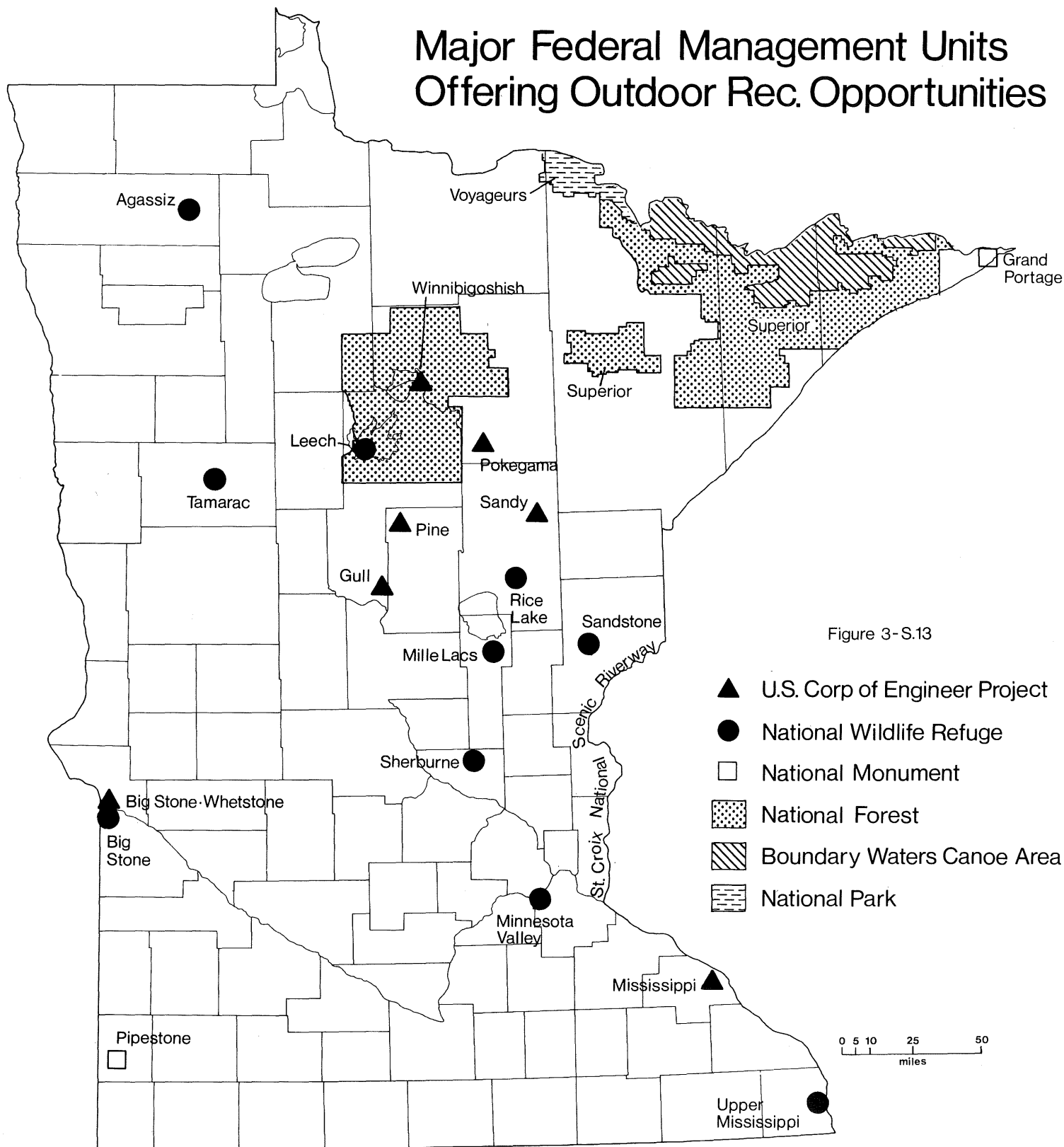
The Corps controls the Big Stone-Whetstone, Traverse and Lac qui Parle reservoirs. These projects, on the Minnesota River north of Montevideo form part of the Minnesota - South Dakota Border. They offer year-round fishing and opportunities for boating and camping. They also have an important place in waterfowl management.

## THE UNITED STATES FOREST SERVICE

Superior National Forest lies in the northeastern Minnesota counties of Lake, St. Louis and Cook. Providing dispersed wildland recreation such as fishing, camping, hiking, skiing and boating the forest provides campgrounds, trails and public accesses. The Chippewa Forest, in north central Minnesota offers similar camping, hiking and water access opportunities.

The Boundary Water Canoe Area Wilderness (BWCAW), located on the Minnesota/Canada border, is the nations only water based wilderness. The BWCAW offers canoeing, fishing, camping, and cross country skiing. This unique area provides for these activities while allowing the user to experience solitude in the wilds. Limited motorboating and snowmobiling are also allowed in the wilderness.

# Major Federal Management Units Offering Outdoor Rec. Opportunities



## MANAGEMENT UNITS-STATE AREAS

### DEPARTMENT OF NATURAL RESOURCES

#### State Forests

The Department of Natural Resources administers 55 state forests encompassing, 2,984,200 acres of state-owned land. The primary purpose of state forest is management for timber and pulp production. They also provide recreation opportunities for the public.

State ownership (TABLE 3-S.06) varies from 100% in three very small forests to 1.6% in the largest forest (Richard J. Dorer). In 9 forests, more than 75% of the land inside the statutory boundaries is state owned (see FIGURE 3-S.14). In the forests, the potential is greatest for management of dispersed wildland recreation opportunities (hunting, hiking, camping).

State forests contain extensive recreation facilities--61 campgrounds are located in 25 state forests. The largest concentration of state forest campgrounds is in north central Minnesota, and the George Washington State Forest in that area has more campsites than any other state forest.

#### State Parks

The Department of Natural Resources (DNR) administers state parks and waysides encompassing approximately 168,000 acres, distributed across most of the 18 landscape regions of the state (FIGURE 3-S.15). Minnesota's 65 state parks provide a variety of recreation opportunities while preserving a diversity of natural and historic features. State Parks, include but are not limited to providing recreation opportunities for camping, trail use, nature interpretation, fishing, swimming and sight-seeing. Totalling approximately 54,000 acres, state parks are classified into natural and recreational state parks depending on their role. To date 30 state parks have been preliminarily classified; 11 recreational, 19 natural. The remainder will be classified as state park management plans are developed.

Minnesota's state parks include 86 campgrounds, and 35 swimming beaches, with approximately 7,500 feet of beach shoreline open to a variety of uses. Minnesota's waysides were established to preserve sites of interest and serve as rest areas.

#### State Trails

The DNR administers the Minnesota recreational trail system so as to provide the citizens and visitors of Minnesota with broad range of recreational trail opportunities and to preserve these recreational resources for future generations.

The State Trail System consists of over 9,700 miles of recreational trails throughout the state (FIGURE 3-S.16). The system is divided into three classes, determined by use and purpose.

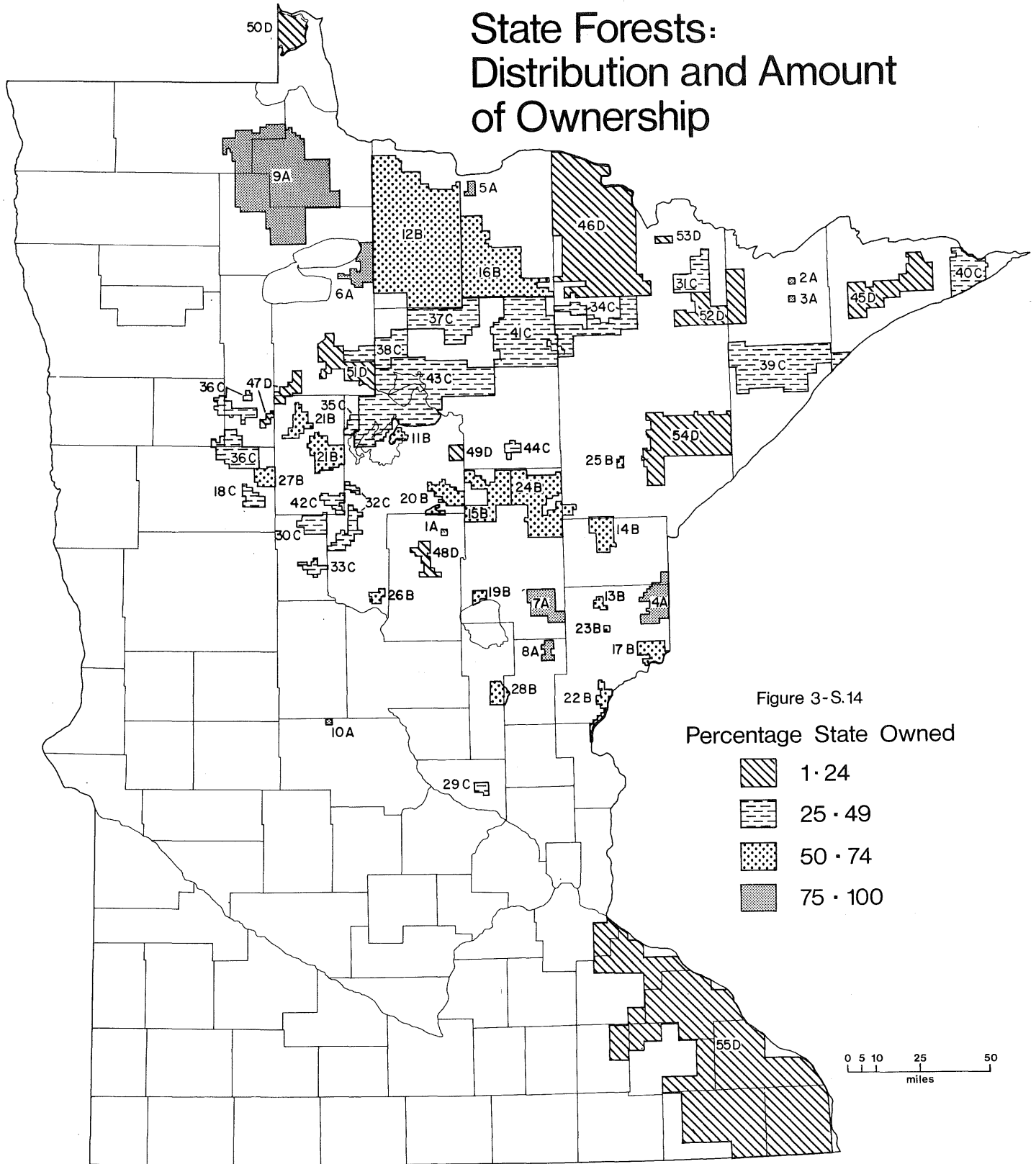
- Corridor Trails are generally long-distance trails established for multi-purpose use: They are designed to link up with other trails in the State Trail System and the National Trail System. Some 525 miles of corridor trail exist (280 miles of which are developed for use), and another 775 miles are authorized for development.

## STATE FORESTS - DISTRIBUTION AND AMOUNT OF OWNERSHIP

Table 3-S.06

Forest Number	State Forest	County	Total Acres	Amount State Owned	Percent Owned	
1	Emily	Crow Wing	640	640	100.0	A 75-100% State Owned
2	Insula Lake	Lake	485	485	100.0	
3	Lake Isabelle	Lake	66	66	100.0	
4	Nemadji	Pine/Carlton	96,270	90,270	93.7	
5	Smokey Bear	Koochiching	12,238	10,997	89.8	
6	Red Lake	Beltrami	66,055	59,257	89.7	
7	Solana	Aitkin	68,176	58,091	85.2	
8	Snoke River	Kanabec	9,160	7,758	84.6	
9	Beltrami Island	Belt/L.O.W./Roseau	669,032	505,954	75.6	
10	Birch Lake	Stearns	637	477	74.8	B 50-74% State Owned
11	Battleground	Cass	12,868	9,413	73.1	
12	Pine Island	Koochiching	878,039	641,136	73.0	
13	Gen. Andrews	Pine	7,540	5,361	71.1	
14	Fond Du Lac	Carlton/St. L.	59,745	40,600	67.9	
15	Hill River	Aitkin	111,392	24,854	67.1	
16	Koochiching	Koochiching	352,582	224,064	63.5	
17	St. Croix	Pine	42,105	26,046	61.8	
18	Smokey Hills	Becker	23,791	14,429	60.6	
19	Wealthwood	Aitkin	14,053	8,279	58.9	
20	Land O Lakes	Cass/Crow Wing	50,895	29,971	58.8	
21	Paul Bunyan	Hubbard	102,440	59,931	58.5	
22	Chengwatana	Pine/Chisago	28,004	16,119	57.5	
23	D.A.R.	Pine	640	360	56.2	
24	Savanna	Aitkin/St. Louis	218,451	121,193	55.4	
25	Whiteface	St. Louis	4,480	2,480	55.3	C 25-49 % State Owned
26	Pillsbury	Cass	14,756	7,883	53.4	
27	Two Inlets	Becker	26,225	13,850	52.8	
28	Rum River	Kanabec/Mille L.	33,180	16,612	50.0	
29	Sand Dunes	Sherburne	10,805	5,366	49.6	
30	Huntersville	Wadena/Hubb.	33,222	14,459	43.5	
31	Burntside	St. Louis	62,782	24,673	39.2	
32	Foothills	Cass	45,125	17,556	38.9	
33	Lyons	Wadena	14,720	5,529	37.5	
34	Sturgeon River	St. Louis	142,868	52,155	37.2	
35	Welsh Lake	Cass	16,336	6,058	37.0	
36	White Earth	Mahn/Clearw.	113,338	41,617	36.7	
37	Big Fork	Itasca	124,270	45,293	36.4	
38	Blackduck	Itasca/Belt	123,116	41,375	33.6	D 1-24% State Owned
39	Finland	Lake, Cook	307,648	102,519	33.3	
40	Grand Portage	Cook	98,700	32,661	33.0	
41	George Wash.	Itasca	306,828	95,818	31.2	
42	Badoura	Hubbard	15,224	4,400	28.9	
43	Bowstring	Itasca/Cass	414,090	118,083	28.5	
44	Golden Anniv.	Itasca				
			6,811	1,811	26.5	
45	Pat Bayle	Cook	170,644	39,716	23.2	
46	Kabetogama	St. Louis	697,363	155,365	22.2	
47	Miss. Headwaters	Belt/Hubb./Clear	44,919	9,170	20.4	
48	Crow Wing	Crow Wing	31,307	6,266	20.0	
49	Remer	Cass	12,774	2,440	19.1	
50	NW Angle	Lake of Woods	79,169	14,399	18.1	
51	Buena Vista	Beltrami	104,073	18,488	17.7	
52	Bear Island	Lake/St. Louis	141,187	24,877	17.6	
53	Lk. Jeanette	St. Louis	10,725	1,357	12.6	
54	Cloquet Valley	St. Louis	316,467	39,628	12.5	
55	R.J. Dorer	Various	1,978,819	32,795	1.6	

# State Forests: Distribution and Amount of Ownership



# Distribution of State Parks, Recreation Areas & Waysides Among Landscape Regions

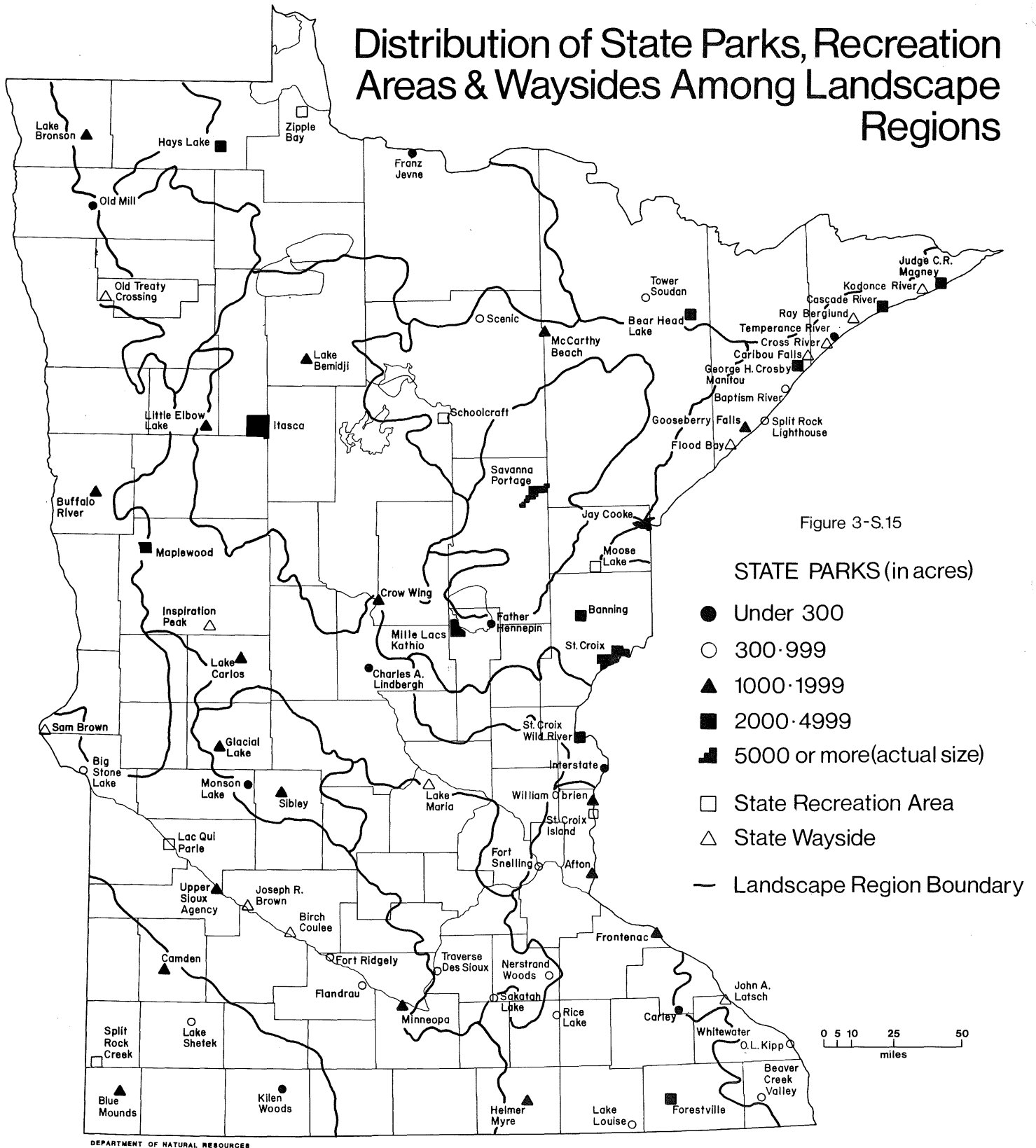


Figure 3-S.15



# Minnesota Recreational Land Trails

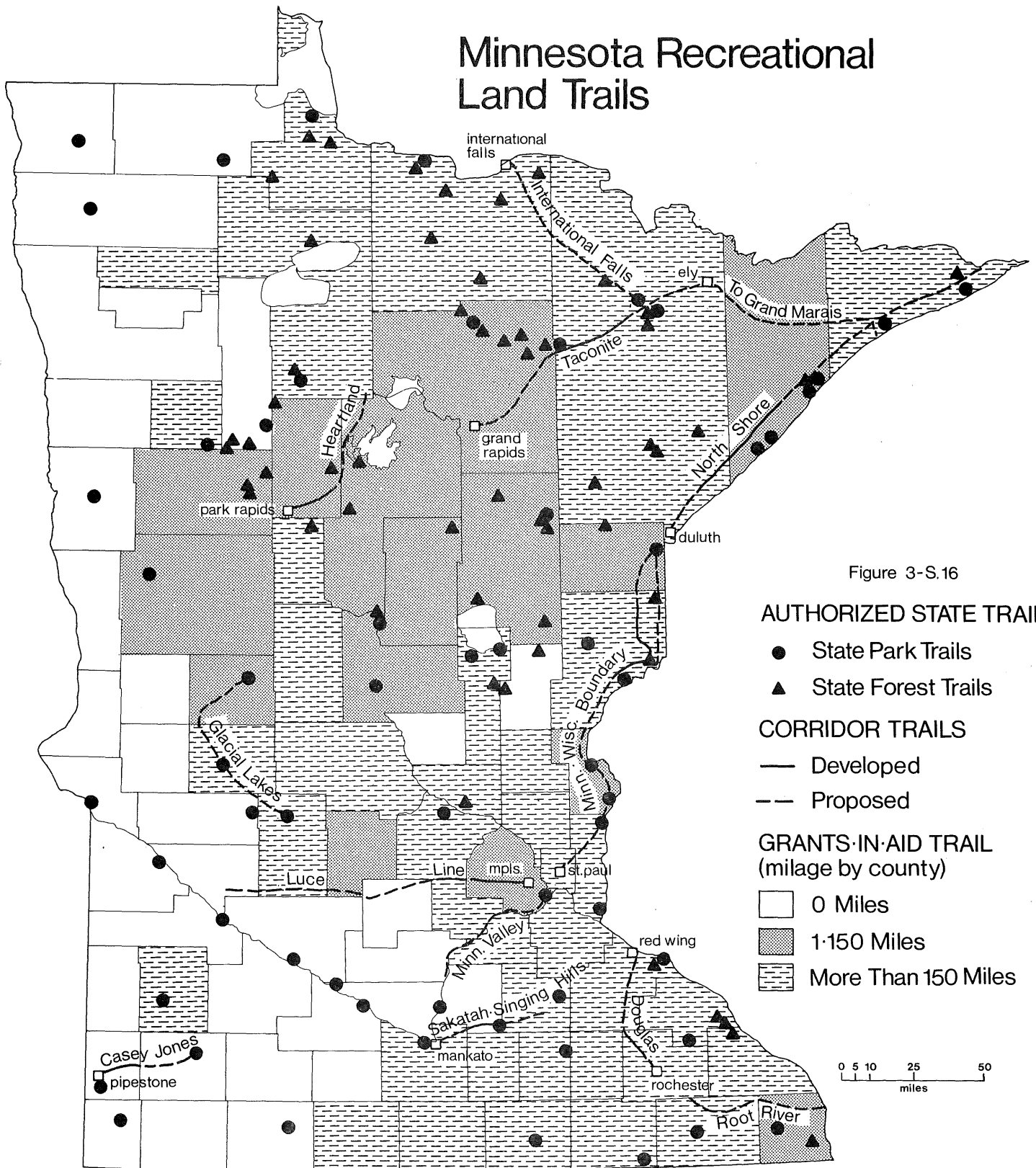


Figure 3-S.16

## AUTHORIZED STATE TRAILS

- State Park Trails
- ▲ State Forest Trails

## CORRIDOR TRAILS

- Developed
- - - Proposed

## GRANTS-IN-AID TRAIL (mileage by county)

- 0 Miles
- 1-150 Miles
- ▨ More Than 150 Miles

0 5 10 25 50  
miles

- State Park and Forest Trails are generally designed for a day-use experience (FIGURE 3-S.16). Most of the developed trails are designed for a single use during a given season and are generally short distance loop trails. All of the state park and forest trails are designed and planned to offer the user a satisfying outdoor experience. Total trail mileage is about 870 in state parks and 1,380 in state forests.
- Grant-In-Aid Trails are probably the most important component of Minnesota's Trail System, accounting for over 6,900 trail miles. Snowmobile trails comprise over 6,300 miles of the grant-in-aid trails; the remaining approximately 500 miles are authorized as ski-touring trails. Most of the grant-in-aid snowmobile trails are located in north central Minnesota (FIGURE 3-S.16).
- The Minnesota grant-in-aid program is designed to assist trail user groups and local units of government with a trail system meeting the local needs of Minnesota citizens.

#### Water Access Sites

The Department of Natural Resources administers approximately 1,000 water access sites to lakes and rivers, approximately 750 of which are outside of state parks, forests or wildlife management areas. Water access sites provide public access to rivers and lakes which are suitable for outdoor recreation and where the access is necessary to permit public use. Water access sites generally contain parking lots, boat ramps, and, at certain locations, toilets, picnic tables and other facilities. Fishermen, hunters, boaters and other public users requiring water access for pursuing their activities are the primary users. Other users of the sites are of secondary importance.

#### Scientific and Natural Areas

Scientific and natural areas (SNA's) are administered by the Minnesota Department of Natural Resources to protect and perpetuate in an undisturbed natural state those natural features which possess exceptional scientific or educational value.

The nine designated SNAs in the state system encompass approximately 2,000 acres. These diversified areas (TABLE 3-S.07) protect and perpetuate natural features such as native prairie, virgin hardwoods, orchid bogs and a heron rookery; remnants of the original Minnesota landscape that are unique or rare, or that represent typical original features in the various landscape regions. In addition to protecting these natural features, SNAs provide important opportunities for interpretive programs for the public and for education and research.

Scientific and Natural Areas Administered by the  
Department of Natural Resources

TABLE 3-S.07

Name of Unit	County	Size in Acres	Site Description
Hastings	Dakota	65	floodplain, marsh and springs, cliff communities, maple-basswood forest
Kettle River	Pine	700	red pine, geologic fault, oxbow lakes, dwarf ginseng, orchids and other rare plants
Mississippi Scenic and Recreational River Islands	Wright Sherburne	180	11 undisturbed islands, northwestern most extension of bladdernut
Pennington Orchid Bog	Pennington	106	extensive stands of a wide variety of bog orchids
Purvis Lake	St. Louis	140	pine, black spruce bog, heather moss, within wolf and moss range
Rush Lake Island	Chisago	20	great blue heron rookery
Wacouta	Goodhue	105	site of peregrine falcon research, perched valley lake unique to area, abundant birdlife
Western Prairie	Wilkin	600	tall-grass prairie with swale, prairie chickens, marbled godwits, small white lady's slipper and other unusual plants.
Wolsfeld Woods	Hennepin	220	virgin hardwoods typical of the big woods, state record big trees, hardwood flora

## Canoeing and Boating Rivers

The Minnesota Department of Natural Resources has designated 18 rivers as canoeing and boating rivers (FIGURE 3-S.17) and provides access to and camping on the approximately 2,500 miles in this system. Most of these rivers lie in the eastern half of the state. The Mississippi River from its origin to Hastings and five of its tributaries, the St. Croix, the Minnesota, the North Fork of the Crow, the Rum and the Crow Wing rivers, form the largest single system.

These provide excellent opportunities for beginning canoeists, fishermen, campers and hunters. Minnesota's four southeastern canoeing and boating rivers (Cannon, Straight, Zumbro and Root) also offer opportunities to the novice.

The Kettle and Snake rivers, flowing into the St. Croix on the Minnesota-Wisconsin boundary and the St. Louis and Cloquet rivers near Duluth, furnish white water excitement for more experienced users. In Northern Minnesota, the Big and Little Fork Rivers provide white water stretches in a wilderness setting.

The Red Lake River in the northwest and the Des Moines in the southwest supply a significant part of the fishing, boating and hunting opportunities in these areas.

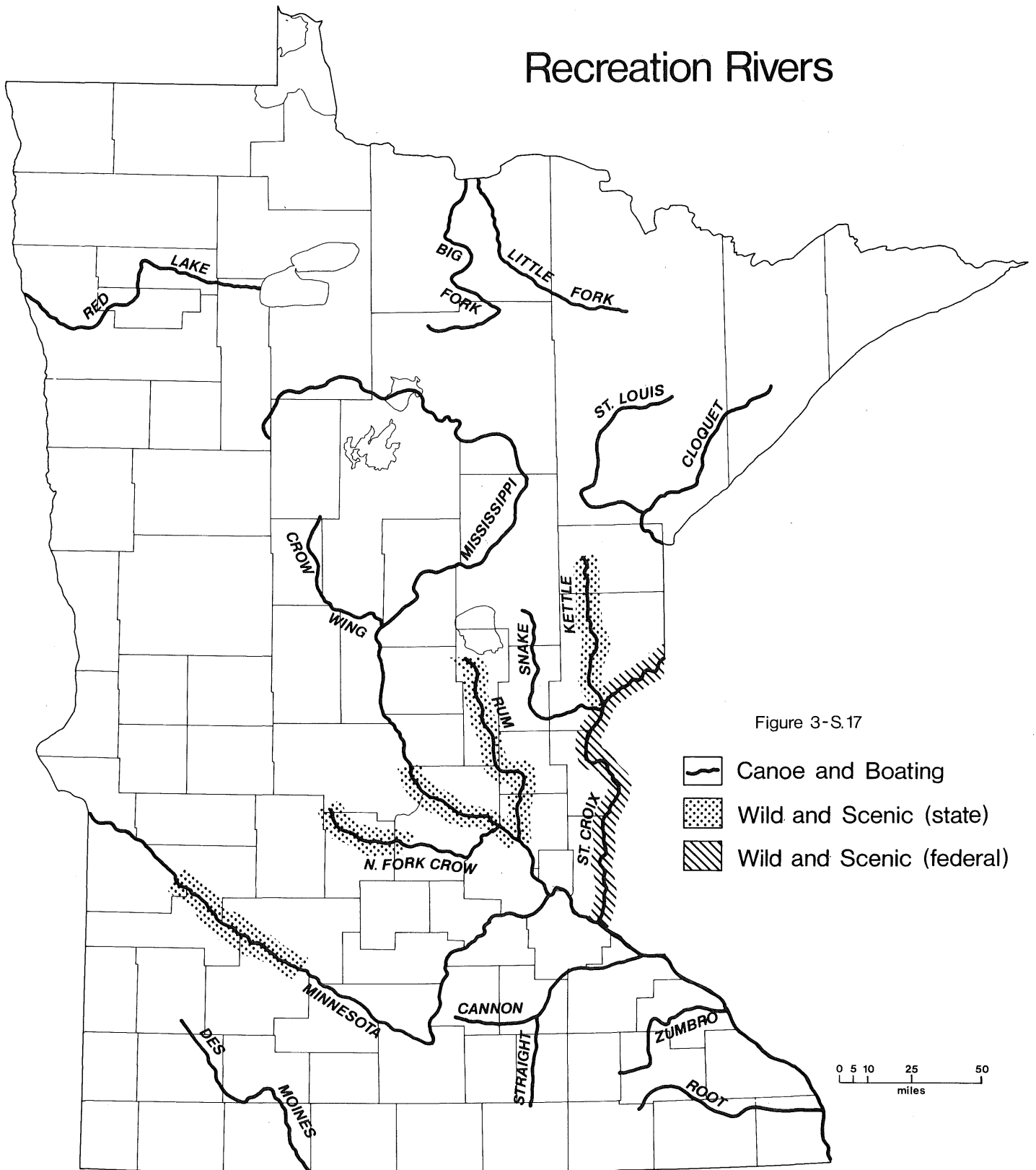
All of the Kettle and Rum rivers have also been designated state wild and scenic rivers. The Mississippi from St. Cloud to Anoka, the North Fork of the Crow in Meeker County and the Minnesota from Lac qui Parle to Franklin are also designated. These waters offer exceptional wild and scenic resources. Designation informs the public of their availability and ability to provide high-quality canoeing, camping, boating, fishing and hunting to Minnesotans.

## Wildlife Management Areas

DNR is responsible for protecting and managing wildlife on public and private lands and public waters. In addition to working with other resources, agencies and private land owners to manage wildlife habitat on private lands, DNR manages approximately 900 state-owned wildlife management areas in Minnesota. The Section of Wildlife, Division of Fish and Wildlife, in DNR directly administers 480,000 acres in wildlife management areas, while another 435,000 acres are managed cooperatively with other DNR Divisions.

Wildlife management areas are managed primarily for production of game and non-game wildlife species and for public hunting and trapping. Wildlife management areas are located in 81 of Minnesota's 87 counties, with the majority (80%) in the western third of the state. The geographic range of wildlife strongly reflects the distribution of forest and agricultural habitats. Waterfowl production has shifted away from many prairie till plain areas as a result of drainage and use of shallow depressions for agricultural production. Thus, the acquisition of wildlife management area lands has been concentrated in western Minnesota to preserve the remnants of wetland and prairie habitat for wildlife (Similar acquisition policies exist at the federal level. (See FIGURE 3-S.12.1).

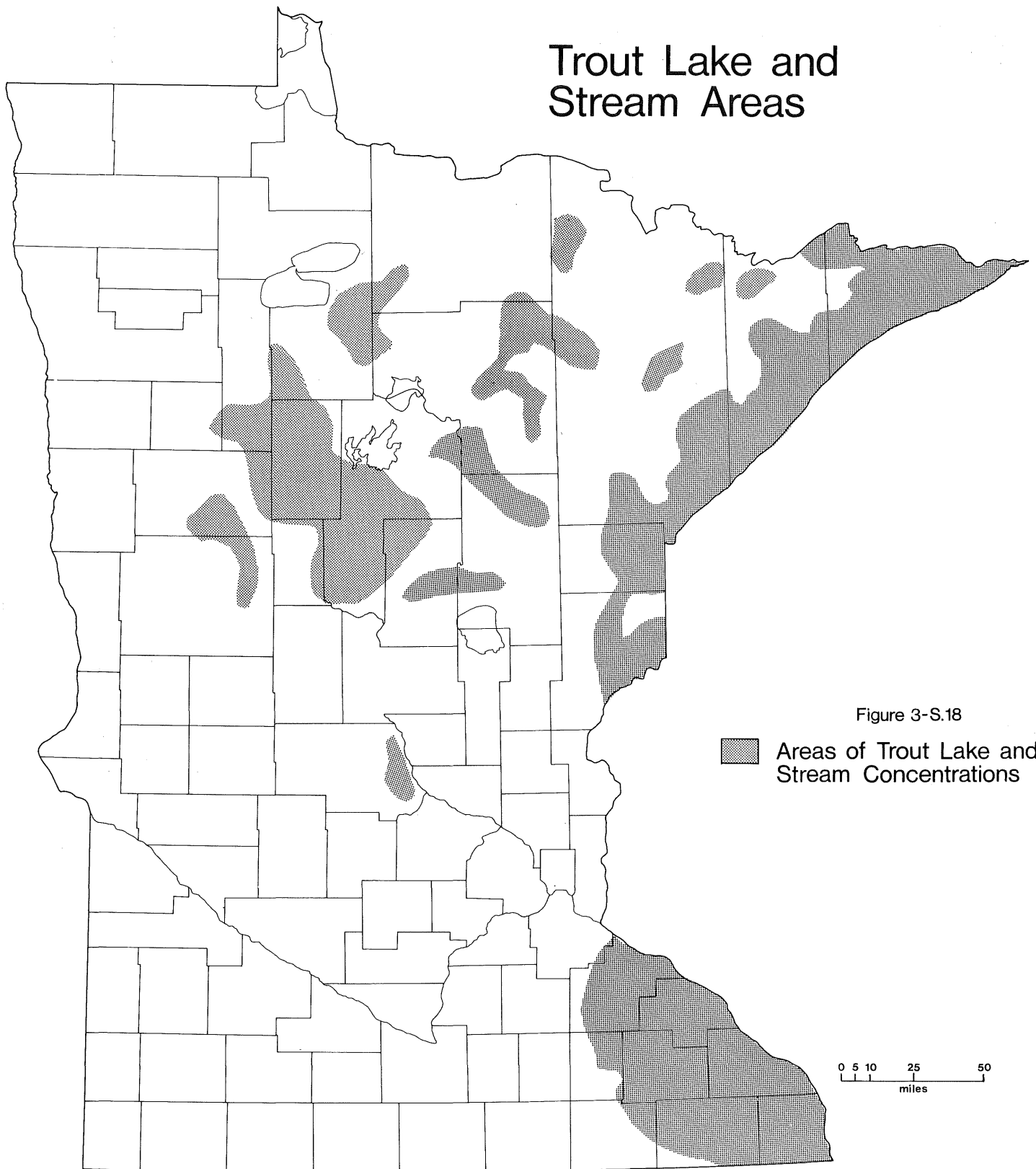
# Recreation Rivers



## State Trout Lakes and Streams

The Department of Natural Resources designates lakes and streams for trout management when their water conditions favor trout and public access to the water is assured. The greatest concentration of trout lakes is found in the northeastern corner of the state, where deep lakes and cool weather keep lake temperatures down and offer plentiful lake and rainbow trout fishing. The north central portion of the state has the second most notable concentration of trout lakes. The greatest concentration of trout streams lies along the North Shore of Lake Superior. Here brook trout and annual runs of Lake Superior Salmon and Steelhead offer nationally famous fishing. The second group of streams, located in southeastern Minnesota, offers excellent brown trout fishing. The remainder of the trout streams are scattered across the north central section of the state. Here fishing for primarily brown trout is available. Refer to FIGURE 3-S.18 for the distribution of areas of state trout lakes and streams.

# Trout Lake and Stream Areas



## STATE AND FEDERAL AGENCIES

### STATE HISTORICAL SOCIETY ADMINISTERED SITES

Historic sites preserve invaluable remnants of the past and provide recreational and educational benefits when properly protected, restored and interpreted.

The Minnesota Historical Society, which has the basic responsibility for preserving historic sites, administers 21 historic sites, some owned by the Society and others state-owned and administered by the Society.

The Historical Society is also responsible for the state's historical marker program. The Society is the state's recipient and administrator of all federal funds for historic preservation work and administers the state grant-in-aid program for encouraging local efforts.

A major responsibility of the Historical Society is providing technical assistance, research services, background historical information and other forms of assistance to agencies, organizations and individuals, in preserving and interpreting historic sites.

Minnesota historic sites which are on the National Register of Historic Places are listed in TABLE 3-S.08. Those which are also designated as National Historic Landmarks are indicated with asterisks.

### NATIONAL REGISTER OF NATURAL LANDMARKS

National Natural Landmarks are areas which possess exceptional value or quality in illustrating or interpreting the natural heritage of the United States. They must have national significance, and must have "integrity" - they must present a true, accurate, and essentially unspoiled natural example. Minnesota has five designated National Natural Landmarks: the Ancient River Warren Channel in Traverse and Big Stone counties; the Itasca Natural Area in Clearwater County; the Lake Agassiz Peat Lands in Koochiching County; the Upper Red Lake Peatlands in Beltrami and Lake of the Woods counties; and the Cedar Creek Natural History Area in Anoka and Isanti counties.



TABLE 3-S.08

## MINNESOTA SITES LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES

SITE	COUNTY
Malmo Mounds and Village Site	Aitkin
Jackson Hotel	Anokka
Locke Cassius	Anoka
Detroit Lakes Library	Becker
Rabideau CCC Camp	Beltrami
Posch Site	Benton
Hubbard, R.D. House	Blue Earth
Old First National Bank of Mankato	Blue Earth
Seppman Mill	Blue Earth
Winnebago Agency	Blue Earth
Synsteby Site	Brown
Federal Post Office Building	Brown
Hermann Monument	Brown
Kiesling House	Brown
Lind, Gov. John, House	Brown
Melges Bakery	Brown
Schell, August, Brewing Company	Brown
Grand Portage of the St. Louis River	Carlton
Grimm, Wendelin, Homestead	Carver
Coney Island of the West	Carver
Old Backus	Cass
Crow Wing State Park	Cass
Supervisor's Office, Chippewa National Forest	Cass
Chippewa Agency Historic District	Cass
Gull Lake Mounds Site	Cass
Hole-in-the-Day 11 Cabin Site	Cass
Rice Lake Hut Rings	Cass
Swensson Farm	Chippewa
Budd, Charles H., House	Chippewa
Chippewa County Bank	Chippewa
Lac qui Parle Mission Site	Chippewa
Munch Park, House	Chisago
Angle's Hills Historic District	Chisago
Munch-Roos House	Chisago
Taylor's Falls Public Library	Chisago
Comstock, Solomon Gilman, House	Clay
Itasca Bison Site	Clearwater
Upper Rice Lake Site	Clearwater
Itasca State Park	Clearwater
Lower Rice Lake Site	Clearwater
Lightkeeper's House	Cook
Grand Portage National Monument	Cook
Height of Land	Cook
Fowl, Lake Site	Cook
Jeffers Petroglyph Site	Cottonwood
Mountain Lake Site	Cottonwood
Cottonwood County Courthouse	Cottonwood

TABLE 3-S.08

## MINNESOTA SITES LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES

SITE	COUNTY
Crow Wing State Park	Crow Wing
Brainerd Water Tower	Crow Wing
Gordon-Schaust Prehistoric Embankments District	Crow Wing
St. Columbia Mission Site	Crow Wing
Hay Lake Mount District	Crow Wing
Fort Flatmouth Mound Group	Crow Wing
Dakota County Courthouse	Dakato
East Second Street Commercial Historic District	Dakato
Eckert, Ignatius, House	Dakato
West Second Street Residential Historic District	Dakato
Stockyards Exchange Building	Dakota
Howes, Byron, House	Dakota
Latto, Rudolph, House	Dakota
LeDuc House	Dakota
Methodist Episcopal Church	Dakota
Thompson-Fasbender House	Dakota
VanDyke-Libby House	Dakota
Fort Snelling-Mendota Bridge, MN	Dakota
Mendota Historic District	Dakota
Sibley House	Dakota
Fort Snelling	Dakota
Kasson Water Tower	Dodge
Mantorville Historic District	Dodge
Wasioja Historic District	Dodge
U.S. Post Office Building	Douglas
Nelson, Knute, House	Douglas
Johnson, J.B., House	Douglas
Faribault County Courthouse	Faribault
Center Creek Archeological District	Faribault
Ravine House	Fillmore
Forestville Townsite	Fillmore
Tunnel Mill	Fillmore
Spring Valley Methodist Church	Fillmore
Gladstone Building	Goodhue
Hewitt, Dr. Charles, Laboratory	Goodhue
Kappel Wagon Works	Goodhue
Keystone Building	Goodhue
Nelson, Julia B., House	Goodhue
Pratt-Tabor House	Goodhue
Red Wing City Hall	Goodhue
Towne-Akenson, House	Goodhue
Red Wing Ironworks	Goodhue
Gronvold, Dr. Just Christian, Estate	Goodhue
Gunderson, Martin T. House	Goodhue
Old Frontenac Historic District	Goodhue
Carlson, G.A. Lime Kiln	Goodhue
E.S., House	Goodhue

TABLE 3-S.08

## MINNESOTA SITES LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES

SITE	COUNTY
Minnesota State Training School	Goodhue
Octagon House	Goodhue
Sheldon, T.B., Memorial Auditorium	Goodhue
Sheldon, Theodore B., House	Goodhue
St. James Hotel	Goodhue
Bartron Site	Goodhue
Tower View	Goodhue
VASA	Goodhue
Miller, Harrison, Farmhouse	Goodhue
Fort Sweeney Site	Goodhue
Zumbrota Covered Bridge	Goodhue
Fort Pomme De Terre Site	Grant
First Congregational Church	Hennepin
Minnesota Veterans Home	Hennepin
Fort Snelling	Hennepin
Fort Snelling-Mendota Bridge	Hennepin
Pond, Gideon H., House	Hennepin
Cahill School	Hennepin
Grange Hall	Hennepin
Grimes, Jonathan Taylor	Hennepin
Gideon, Peter, Homestead	Hennepin
Wyer-Pearce House	Hennepin
Thresheriemerson-Newton Company Building	Hennepin
American Swedish Institute	Hennepin
Basilica of St. Mary	Hennepin
Bennett-McBridge House	Hennepin
Bremer, Fredrika, Intermediate School	Hennepin
Butler Brothers building	Hennepin
Cappelen Memorial Bridge	Hennepin
Carpenter, Elbert L., House	Hennepin
Como-Harriet Streetcar Line and Trolley	Hennepin
Cupola House	Hennepin
Cutter, B.O. House	Hennepin
Dania Hall	Hennepin
Flour Exchange Building	Hennepin
Forum Cafeteria	Hennepin
Foshay Tower	Hennepin
Grain Exchange Building	Hennepin
Hayer, F.C. Company	Hennepin
Hewitt, Edwin H., House	Hennepin
Jones, Harry W., House	Hennepin
Legg, Harry F., House	Hennepin
Little Sisters of the Poor Home for the Aged	Hennepin
Lohmar, John, House	Hennepin
Martin, Charles J., House	Hennepin
Masonic Temple, Merchandist Building	Hennepin
Milwaukee Avenue Historic District	Hennepin

TABLE 3-S.08

## MINNESOTA SITES LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES

SITE	COUNTY
Milwaukee Road Depot and Freight House	Hennepin
Minneapolis City Hall-Hennepin County Courthouse	Hennepin
Minneapolis Public Library: North Branch	Hennepin
Minnehaha State Park	Hennepin
Newell, George R., House	Hennepin
Olson, Floyd B., House	Hennepin
Pillsbury A. Mill	Hennepin
Pittsburgh Plate Glass Company Building	Hennepin
Prescott House	Hennepin
Purcell, William Gray, House	Hennepin
Scottish Rite Temple-Fowler Methodist Episcopal Church	Hennepin
Smith H. Alden, House	Hennepin
St. Anthony Falls Historic District	Hennepin
Stewart Memorial Church	Hennepin
VanCleve, Horatio P., House	Hennepin
Washburn-Fair Oake Mansion District	Hennepin
Burwell House	Hennepin
Bartholomew, Riley Lucas, House	Hennepin
Hennepin County Library	Hennepin
Peavey-Haglin Experimental Concrete Grain Elevator	Hennepin
St. Louis Park Depot	Hennepin
Emmanuel Evangelical Lutheran Church	Houston
Schech's Mill	Houston
Shell River Prehistoric Village and Mound District	Hubbard
Moser, Louis, J., Homestead	Hubbard
Lake Winnibigoshish Dam Archeological Site	Itasca
Central School	Itasca
White Oak Point Site	Itasca
Old Cut Foot Sioux Ranger Station	Itasca
Turtle Oracle Mound	Itasca
Jackson County Courthouse	Jackson
Kanabec County Courthouse	Kanabec
Knife Lake Historic District	Kanabec
Lake Bronson Archeological Site	Kittson
Laurel Mounds	Koochiching
Koochiching County Courthouse	Koochiching
Gold Mine Sites	Koochiching
Little American Mine	Koochiching
Nett Lake Petroglyph Site	Koochiching
McKinstry Mounds and Village Site	Koochiching
Lac qui Parle Mission Site	Lac qui Parle
Thoreson, Andreus, House	Lac qui Parle
Camp Release State Monument	Lac qui Parle
EDNA G., (tugboat) Home	Lake
Split Rock Lighthouse	Lake
Northwest Point (Northwest Angle)	Lake of the Woods
Geldner Sewmill	Le Sueur

TABLE 3-S.08

## MINNESOTA SITES LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES

SITE	COUNTY
Mayo, Dr. William M., House	Le Sueur
Taylor, George W., House	Le Sueur
Andrews House	Lesueur
Lake Benton ORPA, House	Lincoln
Old Mill	Marshall
Martin County Courthouse	Martin
Wohlheter, George, Mansion	Martin
Hutchinson Free Public Library	McLeod
Maplewood Academy	McLeod
Grand Army of the Republic Hall	Meeker
Octagon Cottage	Meeker
Trinity Episcopal Church	Meeker
Mille Lacs County Courthouse	Mille Lacs
Great Northern Railroad Depot	Mille Lacs
Kathio Site	Mille Lacs
Cooper Site	Mille Lacs
Petaga Point	Mille Lacs
Saw Mill Site	Mille Lacs
Vineland Bay Site (Kathio School Site)	Mille Lacs
Crow Wing State Park	Morrison
Ayer Mission Site	Morrison
Old Fort Ripley	Morrison
Morrison County Courthouse	Morrison
Belle Prairie Village Site	Morrison
Lindberg, Charles A., House and Park	Morrison
Pelkey Lake Site	Morrison
Rice Lake Peninsula Prehistoric District	Morrison
Swan River Indian Village Site	Morrison
Old McDougall Farm	Morrison
Exchange State Bank	Mower
Chicago, Milwaukee, St. Paul and Pacific Railroad Company's Fulda Railway Depot	Murray
Currie Railroad Turntable	Murray
Murray County Courthouse	Murray
Fort Ridgely	Nicollet
Harkin, Alexander, Store	Nicollet
Cox, E., St. Julien, House	Nicollet
Nicollet House Hotel	Nicollet
Old Main-Gustavus Adolphus College	Nicollet
Traverse Des Sioux State Park	Nicollet
Slade Hotel	Nobles
Kilbridge, Dr. E. A., Clinic	Nobles
Faith Milling Company	Norman
Mayo Clinic Buildings	Olmsted
May., Dr. William J., House	Olmsted
Quarry Hill	Olmsted
Toogood Barns	Olmsted

TABLE 3-S.08

## MINNESOTA SITES LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES

SITE	COUNTY
Dodge Farm	Olmsted
Mayowood	Olmsted
Wright, C.J., House	Otter Tail
Morrison, Mounds	Otter Tail
Page, Henry G., House	Otter Tail
Wright C.J. House	Otter Tail
Orwell Site	Otter Tail
Maplewood Site	Otter Tail
Phelp Mill (Maine Roller Mill)	Ottertail
Sandstone Public School Building	Pine
Oldenburg, John A., House	Pine
Hinckley Depot (Northern Pacific Depot)	Pine
Conner's Fur Post	Pine
Stumme Mounds	Pine
Calumet Hotel	Pipestone
Pipestone Architectural District	Pipestone
Pipestone National Monument	Pipestone
Terrace Mill Historic District	Pope
Northfield Historic District	Price
Hamm Building	Ramsey
Minnesota Boat Club	Ramsey
Rice Park Historic District	Ramsey
Assumption School	Ramsey
Beebe, Dr. Ward, House	Ramsey
Blair Flats (Albion Hotel)	Ramsey
Brunson, Benjamin, House	Ramsey
Burbank-Livingston-Griggs	Ramsey
C.S.P.S. Hall	Ramsey
Church of the Assumption	Ramsey
Comp Park Conservatory	Ramsey
Dahl, William, House	Ramsey
Fitzgerald, F. Scott, House	Ramsey
Germania Bank Building	Ramsey
Gibbs Farm	Ramsey
Hill, James J., House	Ramsey
Hinkel-Sullivan House	Ramsey
Historic Hill District	Ramsey
Irvine, Horace Hills, House	Ramsey
Irvine Park Historic District	Ramsey
Kellogg, Frank B. House	Ramsey
Lauer Flats	Ramsey
Luckert, David, House	Ramsey
McColl Building	Ramsey
McGill, Andrew R. House	Ramsey
Minnesota Historical Society Building	Ramsey
Minnesota State Capitol	Ramsey
Muench, Adolf, House	Ramsey

TABLE 3-S.08

## MINNESOTA SITES LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES

SITE	COUNTY
Muskego Church	Ramsey
Old Federal Courts Building	Ramsey
Old Main, Macalester College	Ramsey
Pioneer and Endicott Buildings	Ramsey
Ramsey, Alexander, House	Ramsey
Ramsey Courty Poor Farm Barn	Ramsey
Ramsey, Justus, Stone House	Ramsey
Rau-Strong, House	Ramsey
Spangenberg, Frederick, House	Ramsey
St. Joseph's Academy	Ramsey
St. Paul Cathedral	Ramsey
St. Paul Public-Hill Reference Library	Ramsey
St. Paul Union Depot	Ramsey
University Hall, Hamline University	Ramsey
Woodland Park District	Ramsey
Noyes, C.P., Cottage	Ramsey
Odeon Theater	Redwood
Lower Sioux Agency	Redwood
Birch Coulee	Renville
Cathedral of Our Merciful Saviour	Rice
Lonsdale Public School	Rice
Archibald, E.T., House	Rice
Archibald-Dundas Mill Site	Rice
Chapel of the Good Shepherd	Rice
Congregational	Rice
Faribault, Alexander, House	Rice
Noyes Hall	Rice
Old Phelps Library	Rice
Seabury Divinity School (Johnston Hall)	Rice
Shumway Hall and Morgan Refectory	Rice
Veblen Farmstead	Rice
Baker, Laura, School	Rice
Goodsell Observatory	Rice
Nutting House	Rice
Old Main, St. Olaf	Rice
Rolvaag, O.E., House	Rice
Sciver Block Building	Rice
Willis Hall (New Hall)	Rice
Jasper Stone Company and Quarry	Rock
Hinkly, R.B., House	Rock
Rock County Courthouse and Jail	Rock
Site No. OCA-CGP-605	San Juan
Shakopee Historic District	Scott
Kelley, Olver, H., Homestead	Sherburne
Old Sibley County Courthouse	Sibley
Valon Tuote Raittiusseura (Reward of Light Temperance Society)	St. Louis

TABLE 3-S.08

## MINNESOTA SITES LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES

SITE	COUNTY
Morgan Park Historic District	St. Louis
Bruce Mine Headframes	St. Louis
Aerial Life Bridge	St. Louis
Bergetta Moe Bakery	St. Louis
Duluth Central High School	St. Louis
Duluth Public Library	St. Louis
Duluth Union Depot	St. Louis
Endion Passenger Depot	St. Louis
Fire Department Number One	St. Louis
Kitchi Gammi Club	St. Louis
Limnological Research Station	St. Louis
Minnesota Point Lighthouse	St. Louis
Munger Terrace	St. Louis
Traphagen, Oliver G., House	St. Louis
Pioneer Mine Buildings and Headframe	St. Louis
Hull-Rust-Mahoning Open Pit Iron Mine	St. Louis
Kettle Falls Historic District	St. Louis
Longyear E.J. First Diamond Drill Site	St. Louis
Mountain Iron Mine	St. Louis
Northland (Railroad Car)	St. Louis
Kettle Falls Hotel	St. Louis
Soudan Iron Mine	St. Louis
Lincoln School Building	St. Louis
St. John's Abbey and University	Stearns
Fairhaven Flour Mill	Stearns
Lewis, Sinclair, Boyhood Home	Stearns
Foley-Brower-Bohmer	Stearns
Maierus, Michael, House	Stearns
St. Cloud Post Office-City	Stearns
Piper, Daniel S., House	Steele
Abbott, Ezra, House	Steele
Administration Building-Minnesota State Public School for Dependent and Neglected Children	Steele
National Farmers Bank	Steele
Owatonna Free Public Library	Steele
Steele County Courthouse	Steele
Appleton City Hall	Swift
Swift County Courthouse	Swift
Rahilly, Patrick Henry, House	Wabasha
Hurd House	Wabasha
Weaver Mercantile Building	Wabasha
Blueberry Lake Village Site	Wadena
Old Wadena Site	Wadena
Reaume's Trading Post	Wadena
Nelson School	Washington
Copas, John, House	Washington
Croixsyde	Washington



TABLE 3-S.08

## MINNESOTA SITES LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES

SITE	COUNTY
Heath Summer House	Washington
St. Croix Boom Company House and Barn	Washington
Grey Cloud Lime Kiln	Washington
Schilling Archeological District	Washington
Severance, Cordenio, House	Washington
Grout House	Washington
Oliver, Capt. John, House	Washington
Marine Mill Site	Washington
Marine on St. Croix Historic District	Washington
Hay Lake School	Washington
Erickson, Johannes, Log House	Washington
Chicago, Milwaukee and St. Paul Freight House and Depot	Washington
Old Warden's House	Washington
Washington County Courthouse	Washington
St. Croix Room Site	Washington
Stone Bridge	Washington
Spangenberg, Charles, Farmstead	Washington
Second Street Commercial Block	Winona
Nicholas, House	Winona
Bunnell House	Winona
Stockton Roller Mill	Winona
Anger's Block	Winona
Choate Building	Winona
Grain and Lumber Exchange Building	Winona
Huff-Lamberton House	Winona
Kirchlatch Building	Winona
Merchants Nationaal Bank	Winona
James P. Pearson	Winona
Sugar Loaf Brewery	Winona
Winona County Courthouse	Winona
Winona Free Public Library	Winona
Winona Savings Bank Building	Winona
Pickwick Mill	Winona
Annandale Hotel	Wright
Akerlund, August, Photographic Studio	Wright
Cokato Temperance Hall	Wright
Fairhaven Flour Mill	Wright
Mealey, Tobias G., House	Wright
Lunc, John G., House	Yellow Medicine
Volstead, Andrew John, House	Yellow Medicine
Upper Sioux Agency	Yellow Medicine

## MANAGEMENT UNITS-MAJOR LOCAL AREAS

TABLE 3-S.09 presents the name, size and county of location of all city or county parks or forests 500 acres or larger. While the state and federal government manages most of the large acreages, this table shows that local governments do manage an important portion.

All of the large forests shown on TABLE 3-S.09 lie in northeastern and north central Minnesota. St. Louis and Itasca counties have 15 of the city or county forests. The largest of these are Island Lake and Dunn Stephens which total over 300,000 acres. Aitkin, Clearwater and Mahnommen counties have three each, for a total of 18 statewide. Both the St. Louis and Itasca county forest lands provide hunting, camping and hiking.

The large county or city parks are located in the Metropolitan Area (Region 11). Inside Region 11, Hennepin County 7 of the 16 occur in Hennepin County. They account for approximately half of the Metro total. Seven of the 16 Metro area county or city parks are located in Hennepin County. This group of parks account for nearly one half of the Metro total. Outside the seven county area, seven counties (Cass, Beltrami, Winona, Rice Lyon, St. Louis and Olmstead) each have one large county or city park.

TABLE 3-S.09

Forests, Parks, or Reserves Larger than 500 Acres  
Administered by County or Local Government Agencies

UNIT TYPE AND NAME	SIZE (ACRES)	LOCATION (COUNTY)
Forests - County or City		
Island Lake Memorial County Forest*	187,360	St. Louis
Aitkin County Memorial Forest	116,058	Aitkin
Dunn Stephens County Forest*	96,666	Itasca
Clearwater County Memorial Forest	77,606	Clearwater
Godfrey County Memorial Forest	67,783	Itasca
Pelican Memorial County Forest	66,640	St. Louis
Loucks - Danyluke Forest*	57,961	Itasca
Island Lake Memorial County Forest*	25,818	St. Louis
Pine Lakes Memorial County Forest	20,000	St. Louis
Island Lake Memorial County Forest*	18,226	St. Louis
Dunn Stephens County Forest*	9,335	Itasca
Whiteface Memorial County Forest	7,140	St. Louis
Loucks - Danyluke Forest*	5,786	Itasca
Deer River Municipal Forest	2,454	Itasca
Fon Du Lac Municipal Forest	1,855	St. Louis
Mahnomen County Memorial Forest	920	Mahnomen
Memorial Forest Natural Area	722	Itasca
Magney Municipal Forest	645	St. Louis
Parks or Reserves - County or City		
Deep-Portage Conservation Reserve	6,400	Cass
Elm Creek Park Reserve	4,732	Hennepin
Three Island County Park	4,241	Beltrami
Carver Park Reserve	3,530	Carver
Crow-Hassan Park Reserve	2,578	Hennepin
Morris T. Baker Park Reserve	2,459	Hennepin
Lake Rebecca Park Reserve	2,110	Hennepin
Lake Byllesby County Park	1,640	Dakota
Bunker Prairie County Park	1,605	Anoka
Holland - Jensen County Park	1,590	Dakota
St. Paul Water Reservoir	1,400	Ramsey
Cleary Lake Regional Park	1,200	Scott
James W. Wilkie Regional Park	1,150	Scott
Hyland Lake Park Reserve	958	Hennepin
Latsch Prairie Island Park	820	Winona
Mississippi River Access #2/campground	762	Aitkin
Long Lake Conservation Center	760	Aitkin
Cannon River Wilderness Area	750	Rice
Garvin County Park	700	Lyon
Murphy - Hanrehan Park Reserves	630	Scott
Fon Du Lac Municipal Park	576	St. Louis
Oxbow County Park	570	Olmstead
Battle Creek County Park	566	Ramsey
Theodore Wirth City Park	543	Hennepin
Lake Calhoun City Park	524	Hennepin

\*Non-contiguous areas with the same unit name.

## MANAGEMENT UNITS--QUASI PUBLIC AGENCIES

### NATURE CONSERVANCY

The Nature Conservancy is a national conservation organization, receiving its support from the general public, whose objective is to preserve and protect ecologically and environmentally significant land and the diversity of life it supports.

To achieve this goal, the Conservancy purchases lands using its revolving fund which is then replenished through fund raising; accepts gifts of land; retains and provides stewardship for 60% of all projects; works with local, state and federal governments to identify and protect important natural areas and acquires and manages land in advance of government agencies' ability to do so.

Thus, attempts to maintain or preserve natural diversity are focused on the tangible elements of diversity that can be located on the landscape. These elements include:

- (1) individual species of plants and animals that are in danger of extinction, and their habitats;
- (2) terrestrial plant community types, such as an oak-hickory forest or a tallgrass prairie;
- (3) aquatic community types, such as a fresh-water lagoon or an oxbox lake;
- (4) outstanding geological features that illustrate geologic processes or the history of the earth; and
- (5) miscellaneous biological phenomena of significance, such as a heron rookery.

In Minnesota, The Nature Conservancy owns 15,607 acres of forest, lake, islands, marsh and prairie. The 47 tracts that make up this total are listed and briefly described in TABLE 3-S.10.

Many of these tracts are prairie remnants, some scattered throughout the state's prime agricultural zone in the south central part of the state, others concentrated in the Red River Valley along the Beatridges of glacial Lake Agassiz.

Table 3-S.10

## NATURE CONSERVANCY UNITS

Name	Acres	Description	Name	Acres	Description
<u>Minnesota</u>			<u>METRO COUNCIL-LAKE ELMO PROJECT</u>	247	Wooded peninsula with some swamp, marsh, and water frontage. Deeded to Washington County for inclusion in Lake Elmo Regional Park.
AGASSIZ DUNES	417	Ancient dunes with savannah-type vegetation. Example of transition from shortgrass prairie to mesic hardwood forest.	Washington County		
Polk and Norman Counties			MINNESOTA PRAIRIE CHICKEN PRESERVE SYSTEM	2,914	Project designed to save assorted tracts of land in order to provide habitat for the endangered greater prairie chicken, <i>Tympanuchus cupido pinnatus</i> . Includes:
HELEN ALLISON SAVANNA - Anoka County	86	Tall grass prairie; oak openings and sand blowouts; low marshy swales.	FOXHOLE PRAIRIE	200	Tall grass prairie, sedge pockets, open water marsh.
BEARHEAD LAKE SCIENTIFIC AREA	140	Wetland with creeks and marshes, upland with mature hardwoods and scattered conifers. Abundant wildlife includes population of endangered timber wolf. Conservancy assisted state in purchase and now holds reverter.	Wilkin County		
St. Louis County			ANNA GRONSETH PRAIRIE	760	Prairie habitat for marsh hawks, upland plovers, prairie chickens, marbled godwits, and other wildlife.
BLACK PASS	42	Gift of John and Katharine Pillsbury. Mature hardwood forest situated between two lakes; migratory bird flyway.	Wilkin County		
Becker County			KETTLEDRUMMER PRAIRIE	160	Tall grass prairie on highest beach ridge of glacial Lake Agassiz.
BOUNDARY WATERS CANOE AREA	196	Timber rights covering primarily virgin black spruce plus some balsam, aspen, birch and jack pine. Transferred to U.S. Forest Service.	Wilkin County		
Cook County			PANKRANTZ MEMORIAL	154	Virgin grassland with diverse prairie plant species including small white lady's slipper.
CALEDONIA OAKS PRESERVE	80	Ravine with old-growth forest of white, red, and bur oak; rich herbaceous flora.	Polk County		
Houston County			PEMBINA TRAIL	1,440	Old cropland, native prairie, sedge pockets, aspen woods, willow thickets.
CHIPPWEA PRAIRIE	654	Dry rock mid-grass prairie with stands of big and little bluestem on Lac Qui Parle of the Minnesota River. A unit of the Ordway Prairie Preserve System.	Polk County		
Chippewa and Swift Counties			TOWN HALL PRAIRIE	40	Native tallgrass prairie on old beach ridge of glacial Lake Agassiz.
COLD SPRING HERON COLONY NATURAL AREA	62	An isolated wooded section of the Sauk River floodplain where 800 pairs of great blue herons nest.	Wilkin County		
Stearns County			ZIMMERMAN PRAIRIE	80	Tallgrass prairie set in gently rolling terrain.
DULUTH HAWK LOOKOUT	91	Most heavily used hawk migratory flyway in U.S.; 530-foot bluff used by ornithologists as observation site. Purchased in conjunction with and managed by Duluth Audubon Society.	Becker County		
St. Louis County			MINNETONKA HIGHLANDS (HARDSCRABBLE)	23	Gift of Mr. & Mrs. A. Helm, Mr. & Mrs. S. Walker, Mr. & Mrs. G. McGuire, Alice Baker, Mr. & Mrs. G. Grifal, Mr. & Mrs. W. Baker, Mr. & Mrs. L. G. Truesdell, Jr., and Mr. & Mrs. William Melinat. Primarily maple forest with some oak and elm; on a point extending into Lake Minnetonka.
FERNDALE MARSH	37	A cooperative effort of local property owners to preserve the <i>Carex-Typha</i> marsh bordering Lake Minnetonka. Includes gifts of John and Marjorie Fansler, Stephen and Mary Keuting, Goodrich and Louise Lowry, Mr. and Mrs. Glen Dye, Mr. and Mrs. John Pillsbury, Mr. and Mrs. Forrest F. Owen, and Mr. and Mrs. D. P. Gamble. 2 acres leased.	Hennepin County		
Hennepin County			MOE WOODS	110	Baswood-elm-ironwood association with oak, black cherry, and ash; surrounded by prairie and marshland.
FRENCHMAN'S BLUFF	43	Dry short grass prairie on a gravelly moraine; overlooks Red River Valley.	Pope and Kandiyohi Counties		
Norman County			KATHARINE ORDWAY PRESERVE	448	Prairie on glacial morainic hills; small oak grove. Funds for purchase provided by Miss Katharine Ordway.
GRACE NATURE PRESERVE	11	Hardwood forested bottomland which supports the rare Minnesota trout lily, the only known endemic flowering plant in the state.	Pope County		
Goodhue County			PARTCH WOODS	80	Gift of Dr. and Mrs. Max L. Partch. Maple, elm upland with tamarack around peat meadow.
HOPPE ESTATE	60	Basically wooded with an open parklike appearance. Contains a marsh with brambles and milkweed. Conservancy aided Hennepin County in acquisition.	Stearns County		
Hennepin County			RICE COUNTY WILDERNESS PARK (RABBIT RUN WOODS)	55	Small valley with hardwood forest that slopes down to Cannon River. Conservancy has reversionary interest only.
HOVLAND WOODS	160	Upland mixed conifer-hardwood forest with some swamp-bog flooded beaver flowage.	Rice County		
Cook County			RIPLEY ESKER	240	Steep-sided gravel ridge which supports elements of native prairie.
JOYCE ESTATE	4,504	Upland with 25 miles of lake shore; mixed woodland interspersed with six wilderness lakes ranging from 20 to 120 acres in size. Will become part of Chippewa National Forest.	Morrison County		
Itasca County			ROCKVILLE TAMARACK BOG	32	Densely wooded tamarack bog situated on north bank of Sauk River.
JUNIPER ISLAND	16	Gift of Dr. and Mrs. John Frankel. Irregular terrain with rock formations and glacial soils that support typical northern coniferous forest vegetation.	Stearns County		
St. Louis County			SANTE PRAIRIE (WAMBACH)	448	Wet prairie dotted with potholes critical for waterfowl breeding. Habitat for prairie chickens, marsh hawks, and whitetailed deer. Unit of Ordway Prairie Preserve System.
KALLIO PRESERVE	80	Gift of Marie Kallio. Marshes wedged between parallel series of buried eskers; dogwood, alder, birch and aspen trees. Memorial to relatives of Marie Kallio.	Mahnomen County		
Pine County			SCHAEFER PRAIRIE (BROWTON)	160	Rolling tallgrass prairie.
KASOTA PRAIRIE	38	Tall grass prairie located on a high bluff overlooking the Minnesota River.	McLeod County		
Le Sueur County			STAFFANSON PRAIRIE	80	Dry-to-mesic prairie supporting big and little bluestem, sideoats, porcupine grass and smooth aster; located on a morainic hill.
LAKE ALEXANDER NATURAL AREA	240	Complex glacial topography including parallel series of kettle lakes and marshes; hardwood and pine groves inhabited by white-tailed deer, ruffed grouse.	Douglas County		
Morrison County			STRANDNESS PRAIRIE	37	Gently rolling virgin prairie lying close to Lake Victoria; dominant grass is <i>Bromus kalmii</i> .
LAKE MINNETONKA LOTUS LILY FIELDS	5	Beds of rare lotus lily. Purchased with funds contributed by Kenneth Glaser and Elizabeth Heffelfinger.	Pope County		
Hennepin County			SUSIE ISLAND NATURAL AREA	55	Spruce-fir forest surrounded by rocky shore located on Lake Superior island.
LOWKY WOODS	14	Gift of Goodrich and Louise Lowry. Mature hardwood forest in close proximity to rapidly growing metropolitan area.	Cook County		
Hennepin County			JEAN LUNDBERG TEETER MEMORIAL (QUEENS BLUFF)	20	Tension zone between deciduous forest and prairie grasslands.
MALMBERG PRAIRIE	80	Virgin grassland; big and little bluestem predominate on heavy, wet clay soils of glacial Lake Agassiz lakebed.	Winona County		
Polk County			MARGARET GABLER TUSLER SANCTUARY	8	Gift of Roger and Joan Baker, Wilbur and Harriet Tusler. Small bog occupying a depression in a hill by Lake Minnetonka.
			WAHPETON PRAIRIE (REDWOOD)	80	Upland prairie sloping down to marsh and sedges along Cottonwood River. Unit of Ordway Prairie Preserve System.
			REDWOOD COUNTY		
			WESTERN PRAIRIE	600	Upland tallgrass prairie supporting population of northern greater prairie chicken; fertile soil supports big and little bluestem, meadow flower and small white lady's slipper.
			Wilkin County		

## STATEWIDE RECREATION FACILITIES

### STATEWIDE DISTRIBUTION OF PUBLIC AND PRIVATE RECREATION FACILITIES

Minnesota has a large number of recreation facilities. The location of these public and private recreation facilities, except for athletic fields, swimming pools, and local (municipal and neighborhood) parks, is dependent on the presence of natural water, especially lakes. Thus, the majority of facilities are in Regions 2, 3, 4, and 5 - the major lake area of the state (TABLE 3-S.11). The high total of public and private recreation facilities in the Metropolitan Region is a result of the large number of neighborhood parks and athletic fields, as well as active county/regional parks programs.

#### 2.20 FACILITY TYPE DEFINITIONS

The Minnesota SCORP Inventory System records existing facilities of RECAREAS at two basic levels: FACILITY TYPE AND DESCRIPTOR.

1. Any combination of twenty-three FACILITY TYPES can be identified for each RECAREA; one is identified as the "Major Facility Type", and is the basis of the SCORP Map Symbol (R=Resort, C=Campground, P=Park, etc.). Any number of the other facility types existing at the RECAREA are identified as sub-facilities or "Minor Facility Types".
2. Many of the FACILITY TYPES group, or include, several DESCRIPTORS. The Athletic Field FACILITY TYPE, for example, includes no. of ball diamonds, no. of tennis courts, no. of skating/hockey rinks, no. of football/soccer fields, and athletic field acres, as DESCRIPTORS.

Eleven FACILITY TYPES have no direct DESCRIPTORS; Eleven have a total of 27 different DESCRIPTORS. The Trail FACILITY TYPE alone has forty-five DESCRIPTORS.

The following definitions approach primarily the FACILITY TYPE level; DESCRIPTOR definitions are also given in selected cases.

## FACILITY TYPE DEFINITIONS

NOTE: The bases for including a RECAREA or a FACILITY TYPE in the SCORP Inventory System are:

- (1) The RECAREA or the FACILITY TYPE must be EXISTING,
- (2) and the RECAREA or the FACILITY TYPE must be INTENDED by the management unit Administrator to be used for recreation purposes.

### 2.21 PARK

A RECAREA that may have only open space intended for recreation, or; more commonly, have a combination of Facility Types, such as athletic field, playground, and picnic ground. PARK is a generalized label most frequently used by Minor Civil Division and County Administrators.

### 2.22 FOREST

A Management Area found at any administrative level, generally containing sectors set aside for Facility Types such as trails, campgrounds and water access. Although the primary intent of a FOREST Management Unit is usually timber-product oriented, the majority of FORESTS at all levels include recreation Facility Types as a secondary (multiple) use.

### 2.23 WILDLIFE

A Management Area found primarily at the State and Federal administrative levels (State Wildlife Management Areas and Federal Waterfowl Production Areas), intended for the production and management of wildlife, primarily waterfowl. The WILDLIFE Facility Type is selectively opened for public hunting and occasionally contains water access and trail Facility Types.

### 2.24 RESORT

A RECAREA with indoor lodging, specifically designed to support recreation activities, usually in a vacation - related time span, generally offering a variety of Facility Types, such as rental watercraft, swimming beach, water access, and occasionally campground, golf course, trails, etc. The RESORT Facility Type is distinguished from the Hotel-Motel Type by both its on-site recreation facilities and natural resources and its intent as primarily a vacation-oriented versus transient-oriented indoor lodging facility.

### 2.25 CAMPGROUND

A RECAREA intended for camping, accessed directly by vehicle or indirectly by trail or watercraft, consisting of designated sites designed to accomodate, generally, a family-size group of people. Picnic ground, swimming beach and water access are frequent Minor Facilities of a campground RECAREA.

### 2.26 GROUP CAMP

A RECAREA intended for camping for larger groups, such as Boy Scouts, Girl Scouts, church groups, etc.; may be a barracks-type structure or area designated for tents or temporary structures.

### 2.27 GOLF

A RECAREA designed for golf, including long or short courses and driving (practice) ranges, specifically excluding miniature golf.

2.28 MARINA

A RECREA or Facility Type providing rental watercraft and/or watercraft mooring/dockage. MARINA is a "Minor Facility" of RESORT in the majority of cases. WATER ACCESS is generally associated with RECREAS with a MARINA. A Canoe Outfitter without indoor lodging generally has MARINA as "Major Facility type".

2.29 ATHLETIC FIELD

A Facility Type that may be either "undeveloped" open space designated for athletic activity or an area developed for baseball, softball, tennis, skating, hockey, football, soccer, etc., specifically excluding the PLAYGROUND Facility Type and Facility Types described elsewhere on the SCORP Inventory Record Types.

2.30 PLAYGROUND

A Facility Type specifically designated, and usually developed for young children, generally with swings, slide, sandbox, or similar equipment.

2.31 PICNIC GROUND

A Facility Type intended for picnicking, specifically excluding campsites with individual picnic sites. PICNIC GROUND may be simply a designated area, and does not necessarily require tables or shelters.

2.32 SWIMMING BEACH

A Facility Type intended for swimming and related beach activities, specifically excluding ponds excavated for swimming, which are to be considered swimming pools. SWIMMING BEACH usually contains both a designated water and land area.

2.33 SWIMMING POOL

A Facility Type for swimming, generally but not necessarily with hard bottom and sides, measured in terms of water area, specifically including excavated swimming ponds.

2.34 SKI AREA

A winter-recreation Facility Type, for downhill skiing, with tow(s) or lift(s).

2.35 STABLE

A Facility Type with horses available for riding and usually with a capability for boarding horses, normally associated with the TRAIL Facility Type.

2.36 VACATION FARM

An indoor lodging Facility Type specifically designed to provide a farming environment experience.

2.37 SHOOTING PRESERVE

A Wildlife-related Facility Type managed to raising and releasing game for hunting, for a fee.

2.38 SHOOTING RANGE

A Facility Type providing for firearms practice or competition, including trap, skeet and shooting lanes.



#### 2.39 REST AREA

A Facility Type designed specifically for short term rest from driving; within the SCORP Inventory System is limited to Mn/DOT Highway and Safety Rest Areas. REST AREAS frequently include the Picnic Ground, and occasionally the Water Access, Facility Types.

#### 2.40 FAIR GROUND

A Facility Type, frequently including permanent buildings and the RACE TRACK Facility Type, for County Fairs and the State Fair. FAIR GROUND is often an area designated on County (or other ownership) land, that serves a different purpose the majority of the year.

#### 2.41 RACE TRACK

A Facility Type for racing vehicles, including oval, drag strip, circuit, etc., specifically excluding track at Athletic Fields and Stables.

#### 2.42 WATER ACCESS

A Facility Type for launching watercraft, usually but not necessarily with a ramp for launching from a trailer. A designated area for carrying a canoe or light boat from vehicle to water is considered a Water Access.

#### 2.50 TRAIL

A linear Facility Type that may stand alone as a RECAREA or be considered a "Minor Facility Type" of, for example, a Park or Forest. Certain sectors or all of a Trail alignment are normally designated for or limited to, certain types of activities by the Trail administrator.

The Trail (activity) types considered in the SCORP Inventory System are:

1. Hike-Backpack
2. Bicycle
3. Cross-Country Ski
4. Horseback
5. Interpretive
6. Snowmobile
7. Trail bike
8. Four-Wheel Drive
9. Hunter-Walking

TABLE 3-S.11

Statewide Distribution of Public and Private Recreation Facilities  
by Minnesota Development Region

## Facility Type

	Minnesota Development Region													Row Totals
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	Metro	
<u>Parks</u>														
Number	51	33	205	90	54	59	56	47	112	102	178	227	1125	2349
% in Each Region	2.2	1.4	8.7	3.8	2.3	2.5	2.4	2.4	4.8	4.3	7.6	9.7	47.9	
<u>Resorts</u>														
Number	7	305	549	411	561	36	9	65	64	6	28	25	18	2084
% in Each Region	0.3	14.6	26.3	19.7	26.9	1.7	0.4	3.1	3.1	0.3	1.3	1.2	0.9	
<u>Campgrounds</u>														
Number	34	161	407	249	282	51	18	101	87	41	54	105	78	1668
% in Each Region	2.0	9.7	24.4	14.9	16.9	3.1	1.1	6.1	5.2	2.5	3.2	6.3	4.7	
<u>Marinas</u>														
Number	8	272	433	385	509	45	9	96	79	12	30	53	113	2044
% in Each Region	0.4	13.3	21.2	18.8	24.9	2.2	-.4	4.7	3.9	0.6	1.5	2.6	5.5	
<u>Athletic Fields</u>														
Number	84	121	352	211	217	86	49	84	154	116	174	295	1283	3226
% in Each Region	2.6	3.8	10.9	6.5	6.7	2.7	1.5	2.6	4.8	3.6	5.4	9.1	39.8	
<u>Water Access to Lake or River</u>														
Number	40	279	705	393	469	87	50	132	151	64	118	103	233	2824
% in Each Region	1.4	9.9	25.0	13.9	16.6	3.1	1.8	4.7	5.3	2.3	4.2	3.6	8.3	
<u>Swimming Beach</u>														
Number	16	244	474	386	528	53	10	72	76	24	52	32	131	2098
% in Each Region	0.8	11.6	22.6	18.4	25.2	2.5	0.5	3.4	3.6	1.1	2.5	1.5	6.2	
<u>Swimming Pool</u>														
Number	6	18	19	17	26	10	7	6	20	18	26	45	54	272
% in Each County	<u>2.2</u>	<u>6.6</u>	<u>7.0</u>	<u>6.3</u>	<u>9.6</u>	<u>3.7</u>	<u>2.6</u>	<u>2.2</u>	<u>7.4</u>	<u>6.6</u>	<u>9.6</u>	<u>16.5</u>	<u>19.9</u>	
<u>Total Facilities</u>														
	246	1433	3144	2142	2646	427	208	613	743	383	660	885	3035	16565

## STATEWIDE DISTRIBUTION OF WATER ORIENTED RECREATION FACILITY TYPES

The major lake areas of the state, Regions 2, 3, 4, and 5, contain nearly three-fourths of the water-oriented recreation facilities in Minnesota. These facilities are concentrated on the high quality lakes in these areas. Over two-thirds of these facilities statewide are private. However, the ratio of public to private facilities is much higher in the southern portion of the state, especially in the Metropolitan Region. The regions with high population concentrations (Metro - Region 10) have less per capita facilities than the northern regions.

While there are more public accesses than private accesses to lakes or rivers statewide due to government programs, there are many more private marinas and beaches than there are public facilities of the same types.

TABLE 3-S.12

Statewide Distribution of Water Oriented Recreation Facility Types  
by Minnesota Development Region

## Facility Type

## Minnesota Development Region

	1	2	3	4	5	6E	6W	7E	7W	8	9	10	Metro	Row Totals
<u>Public Marinas</u>														
Number	1	2	14	3	5	2	1	3	2	4	4	15	17	73
% in Each Region	1.4	2.7	19.2	4.1	6.8	2.7	1.4	4.1	2.7	5.5	5.5			
<u>Private Marinas</u>														
Number	7	270	421	382	507	42	9	93	77	8	26	38	97	1976
% in Each Region	0.4	13.7	21.3	19.3	25.7	2.1	0.4	4.7	3.9	0.4	1.3	1.9	4.9	
<u>Public Access to Lake or River</u>														
Number	34	135	419	199	221	57	46	75	109	56	102	76	179	1708
% in Each Region	2.0	7.9	24.5	11.7	12.9	3.3	2.7	4.4	6.4	3.3	6.0	4.4	10.5	
<u>Private Access to Lake or River</u>														
Number	6	144	289	196	251	30	6	59	43	8	15	27	54	1128
% in Each Region	0.5	12.8	25.6	17.4	22.3	2.7	0.5	5.2	3.8	0.7	1.3	2.4	4.8	
<u>Public Beach</u>														
Number	11	22	73	26	34	7	4	8	19	13	21	15	95	347
% in Each Region	3.2	6.3	21.0	7.5	9.8	2.0	0.9	2.3	5.5	3.7	6.1	4.3	27.4	
<u>Private Beach</u>														
Number	5	222	404	360	497	44	7	64	58	11	30	17	38	1757
% in Each Region	0.3	12.6	23.0	20.5	28.3	2.5	0.4	3.6	3.3	0.6	1.7	1.0	2.2	
<u>Total Facilities</u>	64	795	1620	1166	1515	182	71	302	308	100	198	188	480	6989

## STATEWIDE DISTRIBUTION OF ATHLETIC FIELD TYPES

These facilities are not as dependent on water and other physical resources as other recreation facilities. They appear to be more related to population concentrations than any other factor. They form an integral part of the services provided by most of the states trade centers. Over 50 percent of athletic field types statewide are located in Region 10 and the Metropolitan Region (TABLE 3.S.13).

More often than not, baseball or softball fields, tennis courts, and skating rinks occur in combination rather than standing alone. Skating rinks are relatively more concentrated in the Metropolitan Region, while baseball or softball fields and tennis courts are more dispersed throughout the state.

TABLE 3-S.13

## Statewide Distribution of Athletic Field Types by Minnesota Development Region

## Facility Type

	Minnesota Development Region													Row Totals
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	Metro	
<u>Baseball/Softball Fields</u>														
Number	25	24	92	63	59	23	17	25	46	39	54	98	355	920
% in Each Region	2.7	2.6	10.0	6.8	6.4	2.5	1.8	2.7	5.0	4.2	5.9	10.7	38.6	
<u>Tennis Courts</u>														
Number	2	10	26	6	37	3	3	5	7	4	9	16	40	168
% in Each Region	1.2	6.0	15.5	3.6	22.0	1.8	1.8	3.9	4.2	2.4	5.4	9.5	23.8	
<u>Ice Skating Rinks</u>														
Number	3	7	19	7	6	2	3	4	9	1	8	7	87	163
% in Each Region	1.8	4.3	11.7	4.3	3.7	1.2	1.8	2.5	5.5	0.6	4.9	4.3	53.4	
<u>Baseball Fields and Tennis Courts</u>														
Number	13	8	31	25	29	13	9	11	18	27	31	39	64	309
% in Each Region	4.2	2.6	10.0	8.1	6.1	4.2	2.9	3.6	5.8	9.1	10.0	12.6	20.7	
<u>Baseball Fields and Ice Skating Rinks</u>														
Number	12	5	62	23	11	15	5	11	30	8	21	61	304	
% in Each Region	2.1	0.9	10.9	4.0	1.9	2.6	0.9	1.9	5.3	1.4	3.7	10.7	53.5	
<u>Tennis Courts and Ice Skating Rinks</u>														
Number	1	4			2	1		1	1	3	1	5	16	35
% in Each Region		2.9	11.4		5.7	2.9		2.9	2.9	8.6	2.9	14.3	45.7	
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>														
Number	20	12	35	29	11	19	9	12	27	25	33	44	293	569
% in Each County	3.5	2.1	6.2	5.1	1.9	3.3	1.6	2.1	4.7	4.4	5.8	7.7	51.5	
<u>Total Facilities</u>	75	67	269	153	145	76	46	69	138	108	157	270	1159	2732

## STATEWIDE DISTRIBUTION OF CAMPGROUNDS BY MANAGING AGENCY

Statewide, the number of private campgrounds outnumber the public campgrounds by almost 3 to 1. The private campgrounds are concentrated in the major lake areas of the state, in Development Regions 2, 3, 4, and 5 (TABLE 3-S.14).

Most of the public campgrounds are managed by regional or county governments. The Minnesota Department of Natural Resources, about evenly divided between the Divisions of Forestry and Parks and Recreation, manages most of the rest. The National Park Service, U.S. Forest Service, and Corps of Engineers manage the remaining few public campgrounds.

TABLE 3-S.14

## Statewide Distribution of Campgrounds by Managing Agency by Minnesota Development Region

Managing Agency

Managing Agency	Minnesota Development Region													Row
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	Metro	Totals
<u>U.S. Forest Service</u>														
Number		2	53		10									65
% in Each Region		3.1	81.5		15.4									
<u>National Park Service</u>														
Number			4											4
% in Each Region			100.0											
<u>Other Federal Agencies</u>														
Number			2		5							2		9
% in Each Region			22.2		55.6							22.2		
<u>DNR Division of Forestry</u>														
Number	1	14	31		7				4	2		1		60
% in Each Region	1.7	23.3	51.7		11.7				6.7	3.3		1.7		
<u>DNR Division of Parks and Recreation</u>														
Number	3	7	11	5	4	2	3	13		6	5	15	4	78
% in Each Region	3.8	9.0	14.1	6.4	5.1	2.6	3.8	16.7		7.7	6.4	19.2	5.1	
<u>Regional or County Management</u>														
Number	17	6	25	16	17	8	7	6	15	19	16	19	16	175
% in Each Region	9.1	3.2	13.4	8.6	9.1	4.3	3.7	3.2	8.0	10.2	10.2	8.6	8.6	
<u>Private Management</u>														
Number	10	112	21.9	201	208	39	6	71	51	13	28	52	26	1010
% in Each Region	1.0	10.8	21.1	19.4	20.1	3.8	0.6	6.9	4.9	1.3	2.7	5.0	2.5	
Total Facilities	31	141	345	222	251	49	16	94	68	38	49	89	46	1439



## STATEWIDE DISTRIBUTION OF CAMPGROUNDS BY SIZE CLASS

Approximately 50 percent of the campgrounds in the state are in the small category (1-12 units). In many cases these campgrounds occur in combination with other facilities such as a resort or a park. Campgrounds in the largest category (over 60 units) are found in 8 of the 13 regions. (TABLE 3-S.15). Region 10 has the most number of campgrounds of over 60 units, with 23. Also, there are more campgrounds in this category than any other in Region 10. Most of the campgrounds in this category than any other in Region 10. Most of the campgrounds occur in Regions 2, 3, 4 and 5 and are associated with the high quality recreation lakes.

TABLE 3-S.15

## Statewide Distribution of Campgrounds by Size Class by Minnesota Development Region

Size Class

	Minnesota Development Region													Row Totals
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	Metro	
<u>Small (1-12 Units)</u>														
Number	9	75	177	113	141	16	8	34	25	11	14	18	5	646
% in Each Region	1.4	11.6	27.4	17.5	21.8	2.5	1.2	5.3	3.9	1.7	2.2	2.8	0.8	
<u>Medium (13-29 Units)</u>														
Number	15	22	75	39	39	16	3	12	13	9	7	19	8	277
% in Each Region	5.4	7.9	27.1	14.1	14.1	5.8	1.1	4.3	4.7	3.2	2.5	6.9	2.9	
<u>Large (30-59) Units</u>														
Number		18	57	33	35	10	3	22	10	9	12	22	6	237
% in Each Region		7.6	24.1	13.9	15.8	4.2	1.3	9.3	4.2	3.8	5.1	9.3	2.5	
<u>Extra Large (60 + Units)</u>														
Number	3	12	17	17	18	1		14	18	5	11	23	5	144
% in Each Region	2.1	8.3	11.8	11.8	12.5	0.7		9.7	12.5	3.5	7.6	16.0	3.5	
<u>Total</u>	27	127	326	202	233	43	14	82	66	34	44	82	24	1304

PRIVATE

STATEWIDE DISTRIBUTION OF RESORTS BY SIZE CLASS 1/

Resorts are more concentrated than any other recreational facility with over 90 percent in the major lake areas of the state (Regions 2, 3, 4, and 5). Almost half of the resorts statewide are in the small category (4-7 units). Region 5 (Brainerd area) and Region 3 (Northeastern Minnesota) have the greatest number of resorts. Only 10 percent of the resorts in the state have over 12 units.

Most of Minnesota's resorts are small. There are only 58 resorts with more than 22 units. This means that resorts, for the most part, because of lack of size, do not offer a wide variety of recreation opportunity. Because these resorts occupy the prime recreation sites, there is demand for conversion of these sites to alternate forms of development.

The number of resorts are decreasing. In 1964 the Department of Health listed 3201 resorts; in 1979 the SCORP resort inventory listed 2070 resorts. This is a reduction of one-third in the last 15 years. This trend can be expected to continue unless there is a change in economic conditions or public policy.

1/ For purposes of SCORP, a resort is defined as an ORA, usually in the private sector, with indoor lodging facilities either in the form of separate cabins or a lodge with several lodging units.

The number of indoor lodging units, whether cabins, in a central lodge, or other form, is recorded.

TABLE 3-S.16

## Statewide Distribution of Resorts by Size Class by Minnesota Development Region

## Size Class

	Minnesota Development Region													Row Totals
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	Metro	
<u>Parks</u>														
Number	2	48	105	53	78	10	2	16	17	2	7	6	9	355
% in Each Region	0.6	13.5	29.6	14.9	22.0	2.8	0.6	4.5	4.8	0.6	2.0	1.7	2.5	
<u>Resorts</u>														
Number	4	134	219	201	263	10	5	31	30	1	15	9	3	925
% in Each Region	0.4	14.5	23.7	21.7	28.4	1.1	0.5	3.4	3.2	0.1	1.6	1.0	0.3	
<u>Campgrounds</u>														
Number	1	88	151	115	148	13	2	15	10	1	4	8	3	559
% in Each Region	0.2	15.7	27.0	20.6	26.5	2.3	0.4	2.7	1.8	0.2	0.7	1.4	0.5	
<u>Marinas</u>														
Number		27	54	22	56	3		2	5		1	2	1	173
% in Each Region		15.6	31.2	12.7	32.4	1.7		1.2	2.9		0.6	1.2	0.6	
<u>Athletic Fields</u>														
Number		8	20	10	15			1	1	2	1			58
% in Each Region		13.8	34.5	17.2	25.9			1.7	1.7	3.4	1.7			
Total Facilities	7	305	549	401	560	36	9	65	63	6	28	25	16	2070

## OTHER PRIVATE FACILITIES

### Lakeshore Homes

Accessibility to urban centers, and to the Twin Cities Metropolitan Area in particular, has been the major determinant of the lakeshore development pattern in Minnesota. The most intensively developed shoreline in the state, outside the seven-county-metropolitan area, is concentrated in counties grouped around the Twin Cities area. The number of homes per mile of shore decreases with increasing distance from the Twin Cities area, and also from Fargo, Grand Forks and Duluth. Lake home density decreases least rapidly away from the Twin Cities area in the direction of the state's major lake regions - toward the north and northwest.

The total number of seasonal homes per county is highest where the major high-quality lake resource is nearest the Twin Cities Metropolitan Area (FIGURE 3-S.19). <sup>1/</sup> Wright, Sherburne, Stearns and Kandiyohi counties are examples. The county with the second largest number of seasonal homes, Crow Wing is the closest major lake-coniferous forest area to the seven metropolitan counties.

The location pattern of permanent lake homes by county is not as strongly related to the Twin Cities area. The location of these homes is affected more heavily by accessibility to a greater number of outlying urban centers, to which many permanent lake-home owners commute. Alexandria, Brainerd and Fergus Falls, for example, each influences the high number of permanent homes in its county. The permanent lake-home pattern of location does bear a relationship to the seasonal-home pattern, however, because many seasonal homes have been converted to year-round retirement homes.

Despite the state's generous amount of lakes and available shoreline, development of lakeshore homes is markedly clustered. Minnesota has more than 11,000 lakes larger than 10 acres outside the seven-county metropolitan area, but virtually all of the development is on 1,600 lakes, 14 percent of the total.

### Downhill Ski Areas

Minnesota's 34 downhill ski areas are located in all but one of the 13 development regions. Most of the hills are commercial operations, but public facilities are also important. In the Twin Cities Metropolitan Area, most of the ski facilities are public with the private sector providing the more challenging slopes. By contrast, in northeastern Minnesota (Region 3) one of the most popular sites is Spirit Mountain near Duluth, a publicly-financed facility. Although downhill skiing takes place throughout the state, the greatest concentrations of developed facilities are located in the Twin Cities area (a large population skiing on beginner and moderately challenging slopes) and in Region 3 (challenging hills serving a statewide clientele). Region 10 is also an important ski area which provides moderately challenging slopes and serves its own substantial population as well as the adjacent Twin Cities Metropolitan Area. Refer to FIGURE 3-S.20 and TABLE 3-S.11 ski area distribution.

<sup>1/</sup> Seasonal home is defined as a non-homesteaded home used for recreation purposes.

# Seasonal Lakeshore Homes Per County

Figure 3-S.19

NUMBER OF HOMES

- 1-50
- 51-150
- 151-400
- 401-900
- Over 900
- \* Excluded From Study

0 5 10 25 50 miles

source: minnesota lake shore development study

# Downhill Ski Areas

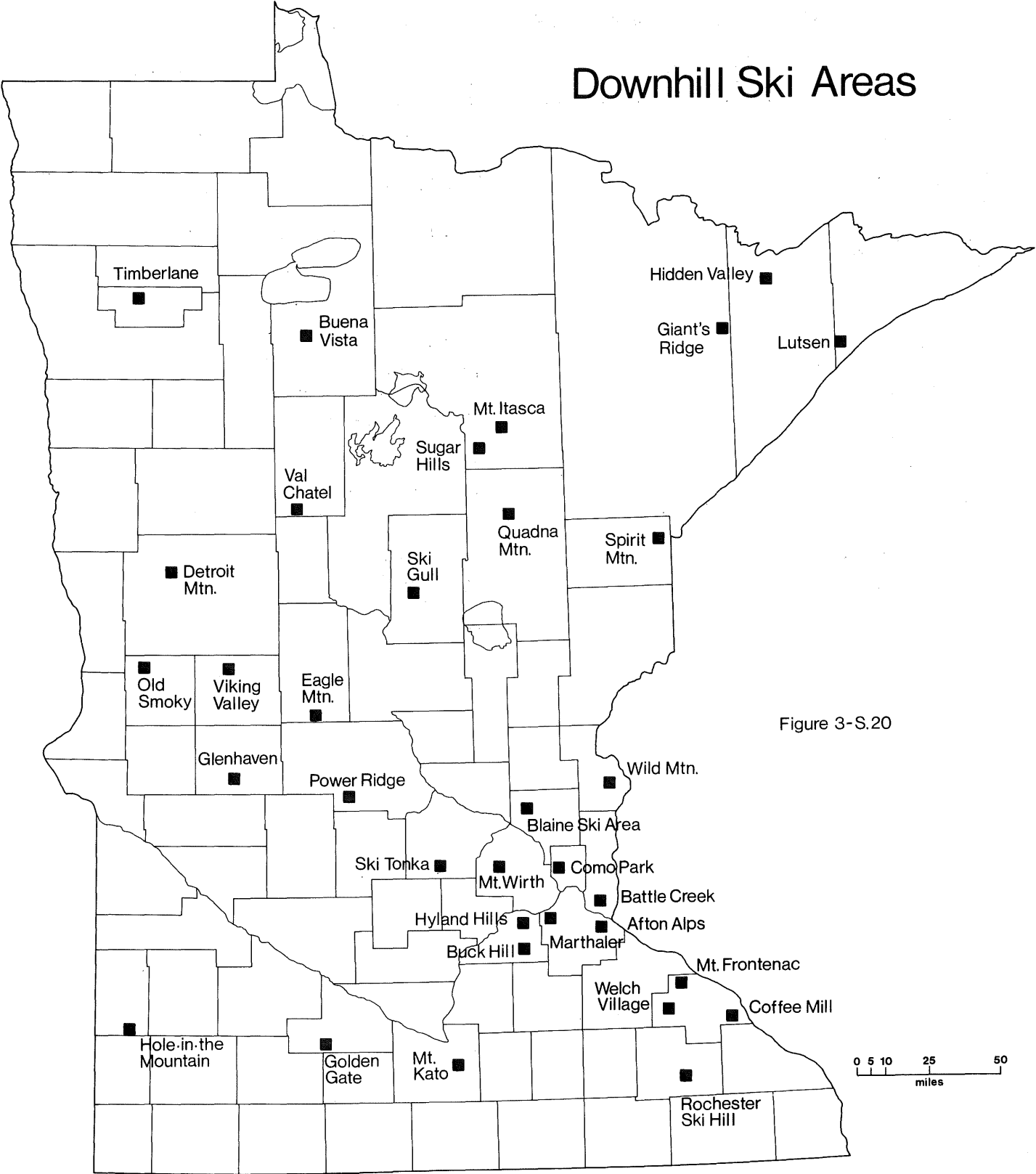


Figure 3-S.20

TABLE 3-S.17

## DISTRIBUTION OF DOWNHILL SKI AREAS BY DEVELOPMENT REGION

SKI AREA	DEVELOPMENT REGION	SKI AREA	DEVELOPMENT REGION
Timberland	1	Wild Mountain	7E
Buena Vista	2	Powder Ridge	7W
Val Chatel	2	Hole-in-the-Mountain	8
Giants Ridge	3	Golden Gate	9
Hidden Valley	3	Mt. Kato	9
Lutsen	3	Coffee Mill	10
Mt. Itasca	3	Mt. Frontenac	10
Quadna	3	Rochester Ski Hill	10
Spirit Mountain	3	Welch Village	10
Sugar Hills	3		
Detroit Mountain	4	Afton Alps	11
Glen Haven	4	Battle Creek	11
Old Smokey	4	Blaine Ski Area	11
Viking Valley	4	Buck Hill	11
Eagle Mountain	5	Como Park	11
Ski Gull	5	Hyland Hills	11
		Martheler	11
		Mt. Wirth	11
		Ski Toroka	11



## Golf Courses

Minnesota has more than 280 public golf courses (see FIGURE 3-S.21). Few areas lack good access to at least a nine-hole course. The 18-hole courses are concentrated in the Twin Cities Metropolitan Area. The two kinds of out-state locations where one is most likely to find outstanding golfing opportunities are: the larger out-state centers (Duluth, Rochester etc.), and locations having large concentrations of medium and large size resorts (Alexandria, Brainerd etc.).

# Golf Courses

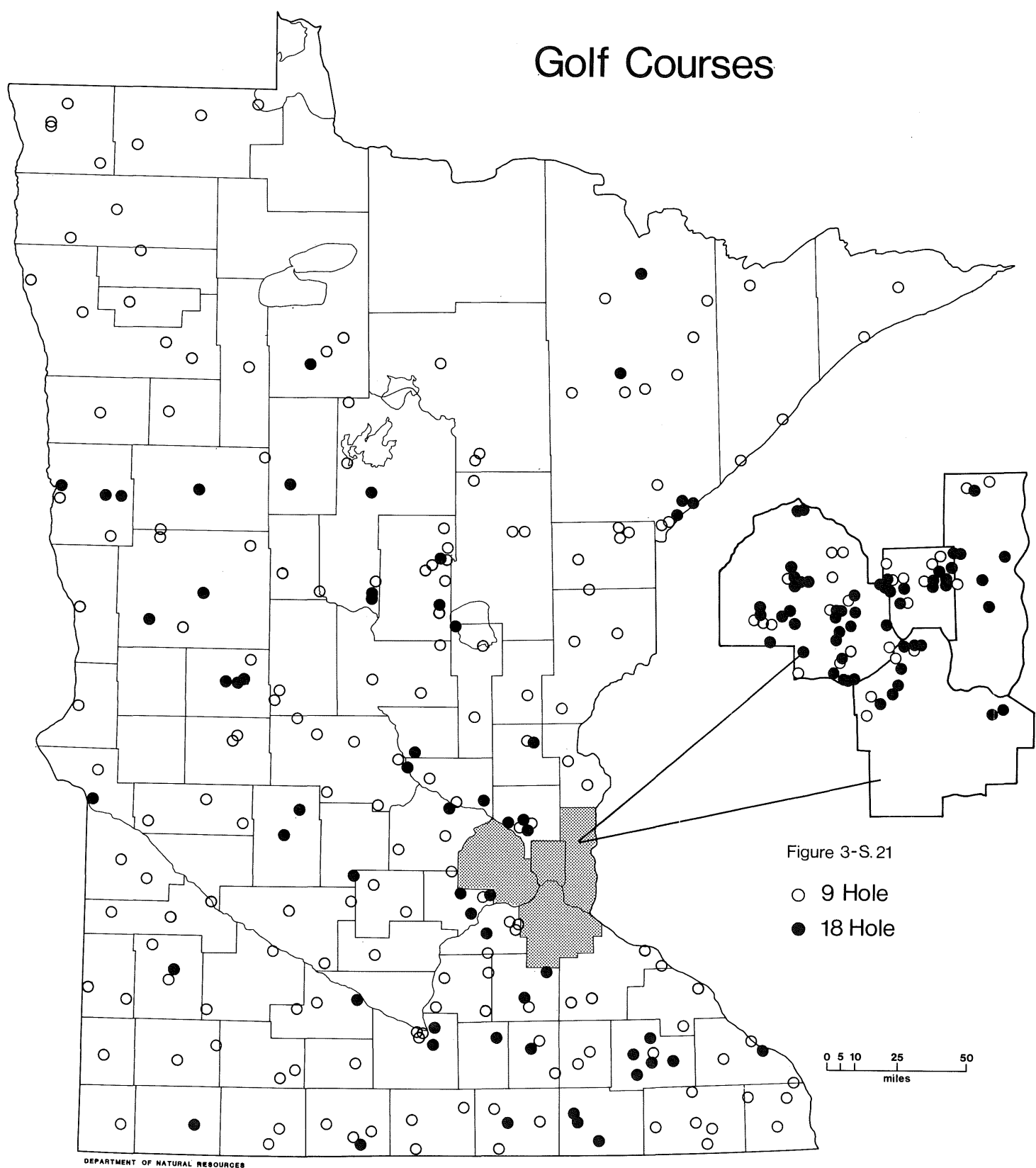


Figure 3-S.21

- 9 Hole
- 18 Hole

0 5 10 25 50  
miles

## DEVELOPMENT REGION RECREATION FACILITIES

### INTRODUCTION

An overview of the distribution of recreation facilities for each region of the state is provided in this section. This information consists of facility type, water oriented recreation facilities, athletic field type, campgrounds by size class, and resorts by size class for each county within each region.

For the user interested in a specific development region, DNR has provided each regional office with a "mini-SCORP". That volume contains all SCORP information specific to the region. In addition, regional offices have copies of the DNR'S REGIONAL RESOURCE ATLASES. These atlases contain a wide range of resource maps useful for regional planning. Contact the appropriate Regional Development Commission offices for access to these documents.

### DEVELOPMENT REGION ONE

The water-oriented recreation facilities of Region One in northwestern Minnesota favor the rivers and small lakes of Polk and Pennington counties and the large Lake of the Woods in Roseau County. TABLE 3-01.01 shows that Polk and Roseau counties account for virtually all of the region's marinas, while Polk, Pennington and Roseau counties supply over 80 percent of the water access sites. Polk alone accounts for nearly half the beaches. Nearly all of the marinas are privately operated, but the public sector is the major supplier of beaches and water access sites.

While water recreation facilities must parallel the distribution of water bodies, other types of recreation facilities can be more readily sited close to clientele. The region's three most populous counties (Polk, Marshall and Pennington) account for just over 60 percent of its population and also supply about the same percentage of its parks and campgrounds. The same three counties have about 80 percent of the athletic fields, grouped into multi-facility clusters.

Table III - 01.01: Distribution of Recreation Facility Types in Minnesota Development Region One by County

Facility Type	County							Row Total
	Kittson	Marshall	Norman	Pennington	Polk	Red Lake	Roseau	
<u>Parks</u>								
Number	4	10	3	8	16	6	4	51
% in Each County	7.8	19.6	5.9	15.7	31.4	11.8	7.8	
<u>Resorts</u>								
Number	1				4		2	7
% in Each County	14.3				57.1		28.6	
<u>Campgrounds</u>								
Number	4	9		2	12	1	6	34
% in Each County	11.8	26.5		5.9	35.3	2.9	17.6	
<u>Marinas</u>								
Number	1				5		2	8
% in Each County	12.5				62.5		25.0	
<u>Athletic Fields</u>								
Number	4	17	8	7	32	7	9	84
% in Each County	4.8	20.2	9.5	8.3	38.1	8.3	10.7	
<u>Water Access to Lake or River</u>								
Number	2	1	1	11	16	3	6	40
% in Each County	5.0	2.5	2.5	27.5	40.0	7.5	15.0	
<u>Swimming Beach</u>								
Number	1	3		1	8	1	2	16
% in Each County	6.3	18.8		6.3	50.0	6.3	12.5	
<u>Swimming Pool</u>								
Number	1	2	1		1		1	6
% in Each County	16.7	33.3	16.7		16.7		16.7	
<u>Total Facilities</u>								
Number	18	42	13	29	94	18	32	246
% in Each County	7.3	17.1	5.3	11.8	38.2	7.3	13.0	

Table III - 01.02: Distribution of Water Oriented Recreation Facilities in Minnesota Development Region One by County

Facility Type	County							Row Total
	Kittson	Marshall	Norman	Pennington	Polk	Red Lake	Roseau	
<u>Public Marinas</u>								
Number	1							1
% in Each County	100.0							
<u>Private Marinas</u>								
Number					5		2	7
% in Each County					71.4		28.6	
<u>Public Access to Lake or River</u>								
Number	2	1	1	10	12	3	5	34
% in Each County	5.9	2.9	2.9	29.4	35.3	8.8	14.7	
<u>Private Access to Lake or River</u>								
Number				1	4		1	6
% in Each County				16.7	66.7		16.7	
<u>Public beach</u>								
Number	1	3		1	3	1	2	11
% in Each County	9.1	27.3		9.1	27.3	9.1	18.2	
<u>Private Beach</u>								
Number					5			5
% in Each County					100.0			
<u>Total Facilities</u>								
Number	4	4	1	12	29	4	10	64
% in Each County	6.3	6.3	1.6	18.8	45.3	6.3	15.6	

Table III - 01.03: Distribution of Athletic Field Types in Minnesota Development Region One by County

Facility Type	County							Row Total
	Kittson	Marshall	Norman	Pennington	Polk	Red Lake	Roseau	
<u>Baseball/Softball Fields</u>								
Number		6	2	3	9	3	2	25
% in Each County		24.0	8.0	12.0	36.0	12.0	8.0	
<u>Tennis Courts</u>								
Number					2			2
% in Each County					100.0			
<u>Ice Skating Rinks</u>								
Number					2	1		3
% in Each County					66.7	33.3		
<u>Baseball Fields and Tennis Courts</u>								
Number	2	3	4		3	1		13
% in Each County	15.4	23.1	30.8		23.1	7.7		
<u>Baseball Fields and Ice Skating Rinks</u>								
Number		4		1	3	1	3	12
% in Each County		33.3		8.3	25.0	8.3	25.0	
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>								
Number	2	2	2	1	9	1	3	20
% in Each County	10.0	10.0	10.0	5.0	45.0	5.0	15.0	
<u>Total Facilities</u>								
Number	4	15	8	5	28	7	8	75
% in Each County	5.3	20.0	10.7	6.7	37.3	9.3	10.7	

Table III - 01.04: Distribution of Minnesota Development Region One Campgrounds by Size Class by County

Size Class	County						Row Total
	Kittson	Marshall	Pennington	Polk	Red Lake	Roseau	
<u>Small (1-12 Units)</u>							
Number		2		4	1	2	9
% in Each County		22.2		44.4	11.1	22.2	
<u>Medium (13-29 Units)</u>							
Number	1	4	2	6		2	15
% in Each County	6.7	26.7	13.3	40.0		13.3	
<u>Extra Large (60 + Units)</u>							
Number	1					2	3
% in Each County	33.3					66.7	
<u>Total Size Class</u>							
Number	2	6	2	10	1	6	27
% in Each County	7.4	22.2	7.4	37.0	3.7	22.2	

Table III - 01.05: Distribution of Minnesota Development Region One Resorts by Size Class by County

Size Class	County			Row Total
	Kittson	Polk	Roseau	
<u>Extra Small (1-3 Units)</u>				
Number		1	1	2
% in Each County		50.0	50.0	
<u>Small (4-7 Units)</u>				
Number	1	3		4
% in Each County	25.0	75.0		
<u>Medium Large (8-12 Units)</u>				
Number			1	1
% in Each County			100.0	
<u>Total Size Class</u>				
Number	1	4	2	7
% in Each County	14.3	57.1	28.6	

## DEVELOPMENT REGION TWO

Most of the recreation facilities in Region Two are in Hubbard and Beltrami counties (TABLE 3-02.01). These facilities are concentrated in the population centers and clustered around high quality recreation lakes. The lake areas contain a large number of resorts and beaches. There are relatively few swimming pools.

About 75 percent of the region's water-oriented recreation facilities are privately owned, with the majority in Hubbard and Beltrami counties, again associated with the high quality lakes (TABLE 3-01.02). There are about twice as many private boat accesses as public accesses, which emphasizes the importance of private recreation investment in providing water access. Virtually all the beaches are private.

Most of the athletic fields in the region are in Hubbard and Beltrami counties (TABLE 3-02.03). About half these areas contain most than one facility.

Some 75 percent of the region's 127 campgrounds are located in Beltrami and Hubbard counties (TABLE 3.02-04), and about 75 percent of them are small, with one to 12 sites.

The region has just over 300 resorts, most of them small (TABLE 3-02.05). Eight resorts (2.6 percent of the regional total) offer 2 units; five of these are in Hubbard county. Most of the small resorts are concentrated in Beltrami and Hubbard counties.

Table III - 02.01: Distribution of Recreation Facility Types in Minnesota Development Region Two by County

Facility Type	County					Row Total
	Beltrami	Clearwater	Hubbard	Lake of The Woods	Mahnomen	
<u>Parks</u>						
Number	17	5	5	4	2	33
% in Each County	51.5	15.2	15.2	12.1	6.1	
<u>Resorts</u>						
Number	104	6	151	35	9	305
% in Each County	34.1	2.0	49.5	11.5	3.0	
<u>Campgrounds</u>						
Number	62	11	57	24	7	161
% in Each County	38.5	6.8	35.4	14.9	4.3	
<u>Marinas</u>						
Number	98	4	129	34	7	272
% in Each County	36.0	1.5	47.4	12.5	2.6	
<u>Athletic Fields</u>						
Number	41	5	60	10	5	121
% in Each County	33.9	4.1	49.6	8.3	4.1	
<u>Water Access to Lake or River</u>						
Number	102	38	103	19	17	279
% in Each County	36.6	13.6	36.9	6.8	6.1	
<u>Swimming Beach</u>						
Number	84	5	134	13	8	244
% in Each County	34.4	2.0	54.9	5.3	3.3	
<u>Swimming Pool</u>						
Number	9	1	5	3		18
% in Each County	50.0	5.6	27.8	16.7		
<u>Total Facilities</u>						
Number	517	75	644	142	55	1433
% in Each County	36.1	5.2	44.9	9.9	3.8	



Table III - 02.02: Distribution of Water Oriented Recreation Facilities in Minnesota Development Region Two by County

Facility Type	County					Row Total
	Beltrami	Clearwater	Hubbard	Lake of The Woods	Mahnomen	
<u>Public Marinas</u>						
Number	1	1				2
% in Each County	50.0	50.0				
<u>Private Marinas</u>						
Number	97	3	129	34	7	270
% in Each County	35.9	1.1	47.8	12.6	2.6	
<u>Public Access to Lake or River</u>						
Number	45	35	43	2	10	135
% in Each County	33.3	25.9	31.9	1.5	7.4	
<u>Private Access to Lake or River</u>						
Number	57	3	60	17	7	144
% in Each County	39.6	2.1	41.7	11.8	4.9	
<u>Public Beach</u>						
Number	9	3	6	1	3	22
% in Each County	40.9	13.6	27.3	4.5	13.6	
<u>Private Beach</u>						
Number	75	2	128	12	5	222
% in Each County	33.8	0.9	57.7	5.4	2.3	
<u>Total Facilities</u>						
Number	284	47	366	66	32	795
% in Each County	35.7	5.9	46.0	8.3	4.0	

Table III - 02.03: Distribution of Athletic Field Types in Minnesota Development Region Two by County

Facility Type	County					Total
	Beltrami	Clearwater	Hubbard	Lake of The Woods	Mahnomen	
<u>Baseball/Softball Fields</u>						
Number	10	1	13			24
% in Each County	41.7	4.2	54.2			
<u>Tennis Courts</u>						
Number	4		5		1	10
% in Each County	40.0		50.0		10.0	
<u>Ice Skating Rinks</u>						
Number	5		1	1		7
% in Each County	71.4		14.3	14.3		
<u>Baseball Fields and Tennis Courts</u>						
Number	4		4			8
% in Each County	50.0		50.0			
<u>Baseball Fields and Ice Skating Rinks</u>						
Number	1		2	1	1	5
% in Each County	20.0		40.0	20.0	20.0	
<u>Tennis Courts and Ice Skating Rinks</u>						
Number			1			1
% in Each County			100.0			
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>						
Number	3	3	3	1	2	12
% in Each County	25.0	25.0	25.0	8.3	16.7	
<u>Total Facilities</u>						
Number	27	4	29	3	4	67
% in Each County	40.3	6.0	43.3	4.5	6.0	

Table III - 02.04: Distribution of Minnesota Development Region Two Campgrounds by Size Class by County

Size Class	County					Total
	Beltrami	Clearwater	Hubbard	Lake of The Woods	Mahnomen	
<u>Small (1-12 Units)</u>						
Number	38	3	21	11	2	75
% in Each County	50.7	4.0	28.0	14.7	2.7	
<u>Medium (13-29 Units)</u>						
Number	9		9	2	2	22
% in Each County	40.9		40.9	9.1	9.1	
<u>Large (30-59 Units)</u>						
Number	2	3	6	5	2	18
% in Each County	11.1	16.7	33.3	27.8	11.1	
<u>Extra Large (60 + Units)</u>						
Number	4	2	5	1		12
% in Each County	33.3	16.7	41.7	8.3		
<u>Total</u>						
Number	53	8	41	19	6	127
% in Each County	41.7	6.3	32.3	15.0	4.7	

Table III - 02.05: Distribution of Minnesota Development Region Two Resorts by Size Class by County

Size Class	County					Total
	Beltrami	Clearwater	Hubbard	Lake of The Woods	Mahnomen	
<u>Extra Small (1-3 Units)</u>						
Number	13	1	26	5	3	48
% in Each County	27.1	2.1	54.2	10.4	6.3	
<u>Small (4-7 Units)</u>						
Number	58	3	61	9	3	134
% in Each County	43.3	2.2	45.5	6.7	2.2	
<u>Medium (8-12 Units)</u>						
Number	25	1	49	11	2	88
% in Each County	28.4	1.1	55.7	12.5	2.3	
<u>Large (13-21 Units)</u>						
Number	7		10	9	1	27
% in Each County	25.9		37.0	33.3	3.7	
<u>Extra Large (22 + Units)</u>						
Number	1	1	5	1		8
% in Each County	12.5	12.5	62.5	12.5		
<u>Total</u>						
Number	104	6	151	35	9	305
% in Each County	34.1	2.0	49.5	11.5	3.0	

### DEVELOPMENT REGION THREE

The bulk of Region Three's recreation facilities lie in St. Louis, Itasca and Lake counties. These facilities cluster around population centers and high quality recreation lakes (TABLE 3-03.01). Three counties-Itasca, St. Louis and Aitkin contain 75 percent of the region's resorts. Most of the other resorts in the region occur in Lake County along the North Shore of Lake Superior.

About 75 percent of the water-oriented recreation sites in the region are located in St. Louis, Itasca and Aitkin counties (TABLE 3-03.02). A majority of these facilities are private; 80 percent of the beaches are private. Only in the category of lake accesses does the public own a majority of the facilities.

About half the athletic fields in the region are in St. Louis County. The concentration of facilities in that county reflects the concentration of urbanization in Duluth and on the Iron Range (TABLE 3-02.03). About half of these areas contain more than one facility.

The Region Three campgrounds are less concentrated than most other recreation facilities. In the developed lake areas, campgrounds are dominantly privately owned, while in the less accessible areas where public land ownership is dominant most campgrounds are publicly owned. The majority of campgrounds are small (less than 12 sites). There are few large campgrounds in the region.

Region Three has 25 percent of the resorts in Minnesota. They are concentrated in the high quality lake areas and along the North Shore. Although only 20 of these resorts are large, they are focal points for both winter and summer recreation pursuits.

Table III - 03.01: Distribution of Recreation Facility Types in Minnesota Development Region Three by County

Facility Type	County							Row Total
	Aitkin	Cook	Carlton	Itasca	Koochiching	Lake	St. Louis	
<u>Parks</u>								
Number	8	13	18	23	9	12	122	205
% in Each County	3.9	6.3	8.8	11.2	4.4	5.9	59.5	
<u>Resorts</u>								
Number	81	5	43	145	21	57	197	549
% in Each County	14.8	0.9	7.8	26.4	3.8	10.4	35.9	
<u>Campgrounds</u>								
Number	55	14	40	96	21	48	133	407
% in Each County	13.5	3.4	9.8	23.6	5.2	11.8	32.7	
<u>Marinas</u>								
Number	66	9	25	132	22	40	139	433
% in Each County	15.2	2.1	5.8	30.5	5.1	9.2	32.1	
<u>Athletic Fields</u>								
Number	25	30	14	75	21	18	169	352
% in Each County	7.1	8.5	4.0	21.3	6.0	5.1	48.0	
<u>Water Access to Lake or River</u>								
Number	94	18	56	200	41	57	239	705
% in Each County	13.3	2.6	7.9	28.4	5.8	8.1	33.9	
<u>Swimming Beach</u>								
Number	83	17	29	144	15	43	143	474
% in Each County	17.5	3.6	6.1	30.4	3.2	9.1	30.2	
<u>Swimming Pool</u>								
Number	4	1	3	4	1	1	5	19
% in Each County	21.1	5.3	15.8	21.1	5.3	5.3	26.3	
<u>Total</u>								
Number	416	107	228	819	151	276	1147	3144
% in Each County	13.2	3.4	7.3	26.0	4.8	8.8	36.5	

Table III - 03.02: Distribution of Water Oriented Recreation Facilities in Minnesota Development Region Three by County

Facility Type	County							Row Total
	Aitkin	Cook	Carlton	Itasca	Koochiching	Lake	St. Louis	
<u>Public Marinas</u>								
Number	1	1	3	2		1	6	14
% in Each County	7.1	7.1	21.4	14.3		7.1	42.9	
<u>Private Marinas</u>								
Number	66	8	22	131	22	39	133	421
% in Each County	15.7	1.9	5.2	31.1	5.2	9.3	31.6	
<u>Public Access to Lake or River</u>								
Number	51	14	41	126	25	28	134	419
% in Each County	12.2	3.3	9.8	30.1	6.0	6.7	32.0	
<u>Private Access to Lake or River</u>								
Number	43	4	15	76	16	29	106	289
% in Each County	14.9	1.4	5.2	26.3	5.5	10.0	36.7	
<u>Public Beach</u>								
Number	6	5	3	21	1	6	31	73
% in Each County	8.2	6.8	4.1	28.8	1.4	8.2	42.5	
<u>Private Beach</u>								
Number	78	12	26	125	14	37	112	404
% in Each County	19.3	3.0	6.4	30.9	3.5	9.2	27.7	
<u>Total Facilities</u>								
Number	245	44	110	481	78	140	522	1620
% in Each County	15.1	2.7	6.8	29.7	4.8	8.6	32.2	

Table III - 03.03: Distribution of Athletic Field Types in Minnesota Development Region Three by County

Facility Type	County							Total
	Aitkin	Cook	Carlton	Itasca	Koochiching	Lake	St. Louis	
<u>Baseball/Softball Fields</u>								
Number	8	10	1	24	7	5	37	92
% in Each County	8.7	10.9	1.1	26.1	7.6	5.4	40.2	
<u>Tennis Courts</u>								
Number	1	5	3	4		2	11	26
% in Each County	3.8	19.2	11.5	15.4		7.7	42.3	
<u>Ice Skating Rinks</u>								
Number				4	2		13	19
% in Each County				21.1	10.5		68.4	
<u>Baseball Fields and Tennis Courts</u>								
Number	5	4		10	2	1	9	31
% in Each County	16.1	12.9		32.3	6.5	3.2	29.0	
<u>Baseball Fields and Ice Skating Rinks</u>								
Number	1	5	1	3	4	2	46	62
% in Each County	1.6	8.1	1.6	4.8	6.5	3.2	74.2	
<u>Tennis Courts and Ice Skating Rinks</u>								
Number	1			1	1		1	4
% in Each County	25.0			25.0	25.0		25.0	
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>								
Number	1	2	2	6	1	3	20	35
% in Each County	2.9	5.7	5.7	17.1	2.9	8.6	57.1	
<u>Total Facilities</u>								
Number	17	26	7	52	17	13	137	269
% in Each County	6.3	9.7	2.6	19.3	6.3	4.8	50.9	

Table III - 03.04: Distribution of Minnesota Development Region Three Campgrounds by Size Class by County

Size Class	County							Total
	Aitkin	Cook	Carlton	Itasca	Koochiching	Lake	St. Louis	
<u>Small (1-12 Units)</u>								
Number	19	2	16	35	13	18	74	177
% in Each County	10.7	1.1	9.0	19.8	7.3	10.2	41.8	
<u>Medium (13-29 Units)</u>								
Number	13	2	3	25	5	11	16	75
% in Each County	17.3	2.7	4.0	33.3	6.7	14.7	21.3	
<u>Large (30-59 Units)</u>								
Number	9	4	12	10	2	8	12	57
% in Each County	15.8	7.0	21.1	17.5	3.5	14.0	21.1	
<u>Extra Large (60 + Units)</u>								
Number	2	2	1	4		3	5	17
% in Each County	11.8	11.8	5.9	23.5		17.6	29.4	
<u>Total</u>								
Number	43	10	32	74	20	40	107	326
% in Each County	13.2	3.1	9.8	22.7	6.1	12.3	32.8	

Table III - 03.05: Distribution of Minnesota Development Region Three Resorts by Size Class by County

Size Class	County							Total
	Aitkin	Cook	Carlton	Itasca	Koochiching	Lake	St. Louis	
<u>Extra Small (1-3 Units)</u>								
Number	20	2	2	27	3	10	41	105
% in Each County	19.0	1.9	1.9	25.7	2.9	9.5	19.0	
<u>Small (4-7 Units)</u>								
Number	36	2	13	73	10	16	69	219
% in Each County	16.4	0.9	5.9	33.3	4.6	7.3	31.5	
<u>Medium (8-12 Units)</u>								
Number	19	1	15	35	6	19	56	151
% in Each County	12.6	0.7	9.9	23.2	4.0	12.6	37.1	
<u>Large (13-21 Units)</u>								
Number	5		9	7	2	9	22	54
% in Each County	9.3		16.7	13.0	3.7	16.7	40.7	
<u>Extra Large (22 + Units)</u>								
Number	1		4	3		3	9	20
% in Each County	5.0		20.0	15.0		15.0	45.0	
<u>Total</u>								
Number	81	5	43	145	21	57	197	549
% in Each County	14.8	0.9	7.8	26.4	3.8	10.4	35.9	

#### DEVELOPMENT REGION FOUR

The recreation facilities of Region Four are concentrated in Ottertail, Douglas and Becker counties, which have most of the region's high quality lakes. Almost all of the region's private recreation facilities also can be found in those three counties. Only parks and athletic fields are most evenly distributed (TABLE 3-04.01). Ninety percent of the water-oriented recreation sites are in Ottertail, Douglas and Becker, again highly related to the distribution of the high quality lakes (TABLE 3-04.02). About 80 percent of the water access sites are privately owned, as are almost all the beaches.

Athletic fields are distributed evenly throughout the trade centers of the region (TABLE 3-03.03). About half of these areas contain more than one facility.

The region's resorts and campgrounds are both clustered on or near high quality recreation lakes. The resorts are slightly more concentrated than campgrounds because they were the first type of recreation development to occur. These resorts occupy the best sites on the highest quality lakes (TABLE 3-03.04 - 03.05). Over 60 percent of the resorts have less than seven units, which mean they can offer only limited recreation facilities for guests. The campgrounds in general contain more facilities than resorts.

Table III - 04.01: Distribution of Recreation Facility Types in Minnesota Development Region Four by County

Facility Type	County									Row Total
	Becker	Clay	Douglas	Grant	Otter Tail	Pope	Stevens	Traverse	Wilkin	
<u>Parks</u>										
Number	6	9	15	7	31	7	7	5	3	90
% in Each County	6.7	10.0	16.7	7.8	34.4	7.8	7.8	5.6	3.3	
<u>Resorts</u>										
Number	97		111	6	173	20		4		411
% in Each County	23.6		27.0	1.5	42.1	4.9		1.0		
<u>Campgrounds</u>										
Number	50	7	56	8	103	16	2	5	2	249
% in Each County	20.1	2.8	22.5	3.2	41.4	6.4	0.8	2.0	0.8	
<u>Marinas</u>										
Number	95	1	117	6	142	20		4		385
% in Each County	24.7	0.3	30.4	1.6	36.9	5.2		1.0		
<u>Athletic Fields</u>										
Number	45	26	33	7	66	13	12	5	4	211
% in Each County	21.3	12.3	15.6	3.3	31.3	6.2	5.7	2.4	1.9	
<u>Water Access to Lake or River</u>										
Number	95	3	90	16	152	29	3	5		393
% in Each County	24.2	0.8	22.9	4.1	38.7	7.4	0.8	1.3		
<u>Swimming Beach</u>										
Number	92	5	114	11	140	20	2	2		386
% in Each County	23.8	1.3	29.5	2.8	36.3	5.2	0.5	0.5		
<u>Swimming Pool</u>										
Number	7	1	2		4	1		1	1	17
% in Each County	41.2	5.9	11.8		23.5	5.9		5.9	5.9	
<u>Total Facilities</u>										
Number	487	52	538	61	811	126	26	31	10	2142
% in Each County	22.7	2.4	25.1	2.8	37.9	5.9	1.2	1.4	0.5	



Table III - 04.02: Distribution of Recreation Facility Types in Minnesota Development Region Four by County

Facility Type	County								Total
	Becker	Clay	Douglas	Grant	Otter Tail	Pope	Stevens	Traverse	
<u>Public Marinas</u>			1			2			3
Number			33.3			66.7			
% in Each County									
<u>Private Marinas</u>									
Number	96	1	115	6	142	18		4	382
% in Each County	25.1	0.3	30.1	1.6	37.2	4.7		1.0	
<u>Public Access to Lake or River</u>									
Number	46	2	41	11	77	17	3	2	199
% in Each County	23.1	1.0	20.6	5.5	38.7	8.5	1.5	1.0	
<u>Private Access to Lake or River</u>									
Number	51	1	49	5	75	12		3	196
% in Each County	26.0	0.5	25.0	2.6	38.3	6.1		1.5	
<u>Public Beach</u>									
Number	5	3	3	4	6	4	1		26
% in Each County	19.2	11.5	11.5	15.4	23.1	15.4	3.8		
<u>Private Beach</u>									
Number	89	2	109	7	134	16	1	2	360
% in Each County	24.7	0.6	30.3	1.9	37.2	4.4	0.3	0.6	
<u>Total Facilities</u>									
Number	287	9	318	33	434	69	5	11	1166
% in Each County	24.6	0.8	27.3	2.8	37.2	5.9	0.4	0.9	

Table III - 04.03: Distribution of Athletic Field Types in Minnesota Development Region Four by County

Facility Type	County									Row Total
	Becker	Clay	Douglas	Grant	Otter Tail	Pope	Stevens	Traverse	Wilkin	
<u>Baseball/Softball Fields</u>										
Number	16	10	10	1	15	5	3	3		63
% in Each County	25.4	15.9	15.9	1.6	23.8	7.9	4.8	4.8		
<u>Tennis Courts</u>										
Number	2				1	2			1	6
% in Each County	33.3				16.7	33.3			16.7	
<u>Ice Skating Rinks</u>										
Number	1		1		2		2		1	7
% in Each County	14.3		14.3		28.6		28.6		14.3	
<u>Baseball Fields and Tennis Courts</u>										
Number	5	2	5	2	8	2	1			25
% in Each County	20.0	8.0	20.0	8.0	32.0	8.0	4.0			
<u>Baseball Fields and Ice Skating Rinks</u>										
Number	6	4	6	1	5			1		23
% in Each County	26.1	17.4	26.1	4.3	21.7			4.3		
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>										
Number	2	7	2	3	6	2	5		2	29
% in Each County	6.9	24.1	6.9	10.3	20.7	6.9	17.2		6.9	
<u>Total Facilities</u>										
Number	32	23	24	7	37	11	11	4	4	153
% in Each County	20.9	15.0	15.7	4.6	24.2	7.2	7.2	2.6	2.6	

Table III - 04.04: Distribution of Minnesota Development Region Four Campgrounds by Size Class by County

Size Class	County									Total
	Becker	Clay	Douglas	Grant	Otter Tail	Pope	Stevens	Traverse	Wilkin	
<u>Small (1-12 Units)</u>	21	3	22	5	51	8		2	1	113
Number	18.6	2.7	19.5	4.4	45.1	7.1		1.8	0.9	
% in Each County										
<u>Medium (13-29 Units)</u>	4		11	2	19	1		1	1	39
Number	10.3		28.2	5.1	48.7	2.6		2.6	2.6	
% in Each County										
<u>Large (30-59 Units)</u>	5	1	12		9	6				33
Number	15.2	3.0	36.4		27.3	18.2				
% in Each County										
<u>Extra Large (60 + Units)</u>	6	1	5		4		1			17
Number	35.3	5.9	29.4		23.5		5.9			
% in Each County										
<u>Total</u>	36	5	50	7	83	15	1	3	2	202
Number	17.8	2.5	24.8	3.5	41.1	7.4	0.5	1.5	1.0	
% in Each County										

Table III - 04.05: Distribution of Minnesota Development Region Four Resorts by Size Class by County

Size Class	County						Row Total
	Becker	Douglas	Grant	Otter Tail	Pope	Traverse	
<u>Extra Small (1-3 Units)</u>							
Number	9	19	1	24			53
% in Each County	17.0	35.8	1.9	45.3			
<u>Small (4-7 Units)</u>	41	60	4	84	10	2	201
Number	20.4	29.9	2.0	41.8	5.0	1.0	
% in Each County							
<u>Medium (8-12 Units)</u>	20	28		58	7	2	115
Number	17.4	24.3		50.4	6.1	1.7	
% in Each County							
<u>Large (13-21 Units)</u>	13	2	1	4	2		22
Number	59.1	9.1	4.5	18.2	9.1		
% in Each County							
<u>Extra Large (22 + Units)</u>	5	2		2	1		10
Number	50.0	20.0		20.0	10.0		
% in Each County							
<u>Total</u>	88	111	6	172	20	4	401
Number	21.9	27.7	1.5	42.9	5.0	1.0	
% in Each County							

## DEVELOPMENT REGION FIVE

Cass and Crow Wing counties contain most of the recreation facilities of Region Five. These facilities are concentrated on or near the high quality recreation lakes (TABLE 3-05.01). The two counties account for almost 90 percent of the region's water-oriented recreation facilities (TABLE 3-05.02) and nearly 75 percent of them are privately owned, as are more than half of the water access sites.

Athletic fields are distributed more evenly across the region. They are located in the trade centers and concentrated as part of the larger resorts in the Cass and Crow Wing lake regions (TABLE 3-05.03). The region has 233 campgrounds, 60 percent of them small (less than 12 sites), sometimes occurring with resorts. Campgrounds are concentrated on lakeshore, but not on as high quality sites as the resorts (TABLE 3-05.04).

This region contains one-fourth of Minnesota's resorts, 90 percent of which are in Cass and Crow Wing counties. These resorts occupy the highest quality sites in the lake regions of Cass and Crow Wing counties, yet are small and offer only limited facilities. Despite their limited facilities these resorts provide much of the privately owned water access available to the public. The economic problems associated with small resorts are causing their conversion to private cabins. It may be in the public interest to keep resort centered, high quality lake accesses open to public uses, rather than watch their total conversion to private cabins.

Table III - 05.01: Distribution of Recreation Facility Types in Minnesota Development Region Five by County

Facility Type	County					Row Total
	Cass	Crow Wing	Morrison	Todd	Wadena	
<u>Parks</u>						
Number	8	9	15	14	8	54
% in Each County	14.8	16.7	27.8	25.9	14.8	
<u>Resorts</u>						
Number	291	219	16	32	3	561
% in Each County	51.9	39.0	2.9	5.7	0.5	
<u>Campgrounds</u>						
Number	133	95	16	20	18	282
% in Each County	47.2	33.7	5.7	7.1	6.4	
<u>Marinas</u>						
Number	265	192	15	30	7	509
% in Each County	52.1	37.7	2.9	5.9	1.4	
<u>Athletic Fields</u>						
Number	85	76	23	21	12	217
% in Each County	39.2	35.0	10.6	9.7	5.5	
<u>Water Access to Lake or River</u>						
Number	236	140	24	45	24	469
% in Each County	50.3	29.9	5.1	9.6	5.1	
<u>Swimming Beach</u>						
Number	262	215	19	27	5	528
% in Each County	49.6	40.7	3.6	5.1	0.9	
<u>Swimming Pool</u>						
Number	14	9	1	1	1	26
% in Each County	53.8	34.6	3.8	3.8	3.8	
<u>Total Facilities</u>						
Number	1294	955	129	190	78	2646
% in Each County	48.9	36.1	4.9	7.2	2.9	

Table III - 05.02: Distribution of Water Oriented Recreation Facilities in Minnesota Development Region Five by County

Facility Type	County					Row Total
	Cass	Crow Wing	Morrison	Todd	Wadena	
<u>Public Marinas</u>						
Number	4				1	5
% in Each County	80.0				20.0	
<u>Private Marinas</u>						
Number	261	195	15	30	6	507
% in Each County	51.5	38.5	3.0	5.9	1.2	
<u>Public Access to Lake or River</u>						
Number	86	72	17	24	22	221
% in Each County	38.9	32.6	7.7	10.9	10.0	
<u>Private Access to Lake or River</u>						
Number	150	71	7	21	2	251
% in Each County	59.8	28.3	2.8	8.4	0.8	
<u>Public Beach</u>						
Number	17	9	3	3	2	34
% in Each County	50.0	26.5	8.8	8.8	5.9	
<u>Private Beach</u>						
Number	245	209	16	24	3	497
% in Each County	49.3	42.1	3.2	4.8	0.6	
<u>Total Facilities</u>						
Number	763	556	58	102	36	1515
% in Each County	50.4	36.7	3.8	6.7	2.4	

Table III - 05.03: Distribution of Athletic Field Types in Minnesota Development Region Five by County

Facility Type	County					Row Total
	Cass	Crow Wing	Morrison	Todd	Wadena	
<u>Baseball/Softball Fields</u>						
Number	24	29	5	8	3	59
% in Each County	40.7	32.2	8.5	13.6	5.1	
<u>Tennis Courts</u>						
Number	15	15	4	2	1	37
% in Each County	40.5	40.5	10.8	5.4	2.7	
<u>Ice Skating Rinks</u>						
Number	1	2	1	2		6
% in Each County	16.7	33.3	16.7	33.3		
<u>Baseball Fields and Tennis Courts</u>						
Number	5	10	2	2		19
% in Each County	26.3	52.6	10.5	10.5		
<u>Baseball Fields and Ice Skating Rinks</u>						
Number	1	1	4	2	3	11
% in Each County	9.1	9.1	36.4	18.2	27.3	
<u>Tennis Courts and Ice Skating Rinks</u>						
Number			1	1		2
% in Each County			50.0	50.0		
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>						
Number	2	4	2		3	11
% in Each County	18.2	36.4	18.2		27.3	
<u>Total Facilities</u>						
Number	48	51	19	17	10	145
% in Each County	33.1	35.2	13.1	11.7	6.9	

Table III - 05.04: Distribution of Minnesota Development Region Five Campgrounds by Size Class by County

Size Class	County					Row Total
	Cass	Crow Wing	Morrison	Todd	Wadena	
<u>Small (1-12 Units)</u>						
Number	72	43	6	9	11	141
% in Each County	51.1	30.5	4.3	6.4	7.8	
<u>Medium (13-29 Units)</u>						
Number	21	11	2	1	4	39
% in Each County	53.8	28.2	5.1	2.6	10.3	
<u>Large (30-59 Units)</u>						
Number	15	11	3	5	1	35
% in Each County	42.9	31.4	8.6	14.3	2.9	
<u>Extra Large (50 + Units)</u>						
Number	7	10	1			18
% in Each County	38.9	55.6	5.6			
<u>Total</u>						
Number	115	75	12	15	16	233
% in Each County	49.4	32.2	5.2	6.4	6.9	

Table III - 05.05: Distribution of Minnesota Development Region Five Resorts by Size Class by County

Size Class	County					Row Total
	Cass	Crow Wing	Morrison	Todd	Wadena	
<u>Extra Small (1-3 Units)</u>						
Number	30	37	3	6	2	78
% in Each County	38.5	47.4	3.8	7.7	2.6	
<u>Small (4-7 Units)</u>						
Number	137	105	9	12		263
% in Each County	52.1	39.9	3.4	4.6		
<u>Medium (8-12 Units)</u>						
Number	77	56	3	12		148
% in Each County	52.0	37.8	2.0	8.1		
<u>Large (13-21 Units)</u>						
Number	36	17	1	2		56
% in Each County	64.3	30.4	1.8	3.6		
<u>Extra Large (22 + Units)</u>						
Number	11	4				15
% in Each County	73.3	26.7				
<u>Total</u>						
Number	291	219	16	32	2	560
% in Each County	52.0	39.1	2.9	5.7	0.4	

## DEVELOPMENT REGION SIX-EAST

In Region 6E, nearly 75 percent of the outdoor recreation facilities are located in Kandiyohi County and Meeker County, with 49 percent and 23 percent respectively. Kandiyohi County's lead role in supplying outdoor recreation facilities reflects its lake resource base. It accounts for 83 percent of the resorts (TABLE 3-6E.01), 80 percent of the marinas and 71 percent of the beaches in the region. Kandiyohi County also has a significant share of the region's water access sites (40 percent). Both the private and public sectors are important suppliers of water-oriented outdoor recreation facilities (marinas, beaches and water access sites) in Region 6E (TABLE 3-6E.02). The private sector accounts for approximately 60 percent of such facilities, the public sector 40 percent. Kandiyohi County's over-all lead role is also attributable, in part, to its relatively large stock of campsites--it accounts for nearly 70 percent of the region's campsites (TABLE 3-6E.01) and dominates in the provision of large campgrounds (TABLE 3-6E.04).

Kandiyohi County's dominance in providing water-related facilities does not carry over to parks and athletic fields. McLeod and Renville counties each have 19 of the region's 59 parks. Meeker County has 13 and Kandiyohi County only 8. TABLE 3-6E.01 shows that Kandiyohi County accounts for about 31 percent of the region's athletic fields and populous McLeod County ranks second, with 30 percent, followed by Meeker and Renville counties with 22 and 16 percent respectively. More than 60 percent of the region's athletic fields contain more than one facility (TABLE 3-6E.03).

Table III - 6E.01: Distribution of Recreation Facility Types in Minnesota Development Region Six E by County

Facility Type	County				Row Total
	Kandiyohi	McLeod	Meeker	Renville	
<u>Parks</u>					
Number	8	19	13	19	59
% in Each County	13.6	32.2	22.0	32.2	
<u>Resorts</u>					
Number	30		6		36
% in Each County	83.3		16.7		
<u>Campgrounds</u>					
Number	34	1	10	6	51
% in Each County	66.7	2.0	19.6	11.8	
<u>Marinas</u>					
Number	36		9		45
% in Each County	80.0		20.0		
<u>Athletic Fields</u>					
Number	27	26	19	14	86
% in Each County	31.4	30.2	22.1	16.3	
<u>Water Access to Lake or River</u>					
Number	35	15	29	8	87
% in Each County	40.2	17.2	33.3	9.2	
<u>Swimming Beach</u>					
Number	38	2	12	1	53
% in Each County	71.7	3.8	22.6	1.9	
<u>Swimming Pool</u>					
Number	3	3		4	10
% in Each County	30.0	30.0		40.0	
<u>Total Facilities</u>					
Number	211	66	98	52	427
% in Each County	49.4	15.5	23.0	12.2	



Table III - 6E.02: Distribution of Water Oriented Recreation Facilities in Minnesota Development Region Six E by County

Facility Type	County				Row Total
	Kandiyohi	McLeod	Meeker	Renville	
<u>Public Marinas</u>	2				2
Number	100.0				
% in Each County					
<u>Private Marinas</u>			9		42
Number	33		21.4		
% in Each County	78.6				
<u>Public Access to Lake or River</u>				8	57
Number	17	11	21		
% in Each County	29.8	19.3	36.8	14.0	
<u>Private Access to Lake or River</u>			8		30
Number	18	4	26.7		
% in Each County	60.0	13.3			
<u>Public Beach</u>			3	1	7
Number	2	1	42.9	14.3	
% in Each County	28.6	14.3			
<u>Private Beach</u>			9		44
Number	34	1	20.5		
% in Each County	77.3	2.3			
<u>Total Facilities</u>				9	182
Number	106	17	50		
% in Each County	58.2	9.3	27.5	4.9	

Table III - 6E.03: Distribution of Athletic Field Types in Minnesota Development Region Six E by County

Facility Type	County				Row Total
	Kandiyohi	McLeod	Meeker	Renville	
<u>Baseball/Softball Fields</u>					23
Number	9	6	4	4	
% in Each County	39.1	26.1	17.4	17.4	
<u>Tennis Courts</u>					3
Number		1	1	1	
% in Each County		33.3	33.3	33.3	
<u>Ice Skating Rinks</u>					2
Number	2				
% in Each County	100.0				
<u>Baseball Fields and Tennis Courts</u>					13
Number	3	4	3	3	
% in Each County	23.1	30.8	23.1	23.1	
<u>Baseball Fields and Ice Skating Rinks</u>					15
Number	6	4	3	2	
% in Each County	40.0	26.7	20.0	13.3	
<u>Tennis Courts and Ice Skating Rinks</u>					1
Number		1			
% in Each County		100.0			
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>					19
Number	3	6	6	4	
% in Each County	15.8	31.6	31.6	21.1	
<u>Total Facilities</u>					76
Number	23	22	17	14	
% in Each County	30.3	28.9	22.4	18.4	

Table III - 6E.04: Distribution of Minnesota Development Region Six E Campgrounds by Size Class by County

Size Class	County				Row Total
	Kandiyohi	McLeod	Meeker	Renville	
<u>Small (1-12 Units)</u>					
Number	7	1	4	4	16
% in Each County	43.8	6.3	25.0	25.0	
<u>Medium (13-29 Units)</u>					
Number	13		2	1	16
% in Each County	81.3		12.5	6.3	
<u>Large (30-59 Units)</u>					
Number	6		4		10
% in Each County	60.0		40.0		
<u>Extra Large (60 + Units)</u>					
Number	1				1
% in Each County	100.0				
<u>Total</u>					
Number	27	1	10	5	43
% in Each County	62.8	2.3	23.3	11.6	

Table III - 6E.05: Distribution of Minnesota Development Region Six E Resorts by Size Class by County

Size Class	County		Row Total
	Kandiyohi	Meeker	
<u>Extra Small (1-3 Units)</u>			
Number	7	3	10
% in Each County	70.0	30.0	
<u>Small (4-7 Units)</u>			
Number	7	3	10
% in Each County	70.0	30.0	
<u>Medium (8-12 Units)</u>			
Number	13		13
% in Each County	100.0		
<u>Large (13-21 Units)</u>			
Number	3		3
% in Each County	100.0		
<u>Total</u>			
Number	30	6	36
% in Each County	83.3	16.7	
Number			
% in Each County			

## DEVELOPMENT REGION SIX-WEST

The distribution of outdoor recreation facilities is relatively uniform among Region 6W's three counties located east of the Minnesota River (TABLE 3-6W.01). Big Stone, Chippewa and Swift counties each account for 22 to 25 percent of the region's total. Likewise, the region's two counties located west of the Minnesota River account for relatively equal shares--Lac qui Parle has 17 percent of the region's outdoor recreation facilities and Yellow Medicine 13 percent. The three counties east of the Minnesota River together tally nearly 70 percent of the region's facilities and account for approximately sixty percent of the region's population.

Among the various types of outdoor recreation facilities found in this region, distribution patterns differ markedly. Four of the five counties have campgrounds and in nearly equal numbers. Less uniformity exists in the distribution of parks and athletic fields. Nevertheless in each of these facility categories, no single county is heavily depended on to serve the entire region.

By contrast, the data found in TABLE 3-6W.01 clearly show that Big Stone County is the region's significant supplier of water recreation opportunities, with more than 60 percent of its resorts, marinas and beaches. Over 60 percent of Region 6W's water access sites are in public ownership (probably reflecting state ownership along Big Stone and Lac qui Parle lakes). However, most of the region's beaches are privately owned (TABLE 3-6W.02).

Table III - 6W.01: Distribution of Recreation Facility Types in Minnesota Development Region Six W by County

Facility Type	County					Row Total
	Bigstone	Chippewa	Lac Qui Parle	Swift	Yellow Medicine	
<u>Parks</u>						
Number	3	18	10	15	10	56
% in Each County	5.4	32.1	17.9	26.8	17.9	
<u>Resorts</u>						
Number	6	2		1		9
% in Each County	66.7	22.2		11.1		
<u>Campgrounds</u>						
Number	5	4	4	5		18
% in Each County	27.8	22.2	22.2	27.8		
<u>Marinas</u>						
Number	6	2		1		9
% in Each County	66.7	22.2		11.1		
<u>Athletic Fields</u>						
Number	5	10	9	16	9	49
% in Each County	10.2	20.4	18.4	32.7	18.4	
<u>Water Access to Lake or River</u>						
Number	17	7	9	11	6	50
% in Each County	34.0	14.0	18.0	22.0	12.0	
<u>Swimming Beach</u>						
Number	6	2	1		1	10
% in Each County	60.0	20.0	10.0		10.0	
<u>Swimming Pool</u>						
Number	1	1	2	2	1	7
% in Each County	14.3	14.3	28.6	28.6	14.3	
<u>Total Facilities</u>						
Number	49	46	35	51	27	208
% in Each County	23.6	22.1	16.8	24.5	13.0	

Table III - 6W.02: Distribution of Water Oriented Recreation Facilities in Minnesota Development Region Six W by County

Facility Type	County					Row Total
	Bigstone	Chippewa	Lac Qui Parle	Swift	Yellow Medicine	
<u>Public Marinas</u>						
Number	1					1
% in Each County	100.0					
<u>Private Marinas</u>						
Number	5	2		1		8
% in Each County	62.5	25.0		12.5		
<u>Public Access to Lake or River</u>						
Number	13	7	10	10	6	46
% in Each County	28.3	15.2	21.7	21.7	13.0	
<u>Private Access to Lake or River</u>						
Number	4	1		1		6
% in Each County	66.7	16.7		16.7		
<u>Public Beach</u>						
Number	1		1		1	3
% in Each County	33.3		33.3		33.3	
<u>Private Beach</u>						
Number	5	2				7
% in Each County	71.4	28.6				
<u>Total Facilities</u>						
Number	29	12	11	12	7	71
% in Each County	40.8	16.9	15.5	16.9	9.9	

Table III - 6W.03: Distribution of Athletic Field Types in Minnesota Development Region Six W by County

Facility Type	County					Row Total
	Bigstone	Chippewa	Lac Qui Parle	Swift	Yellow Medicine	
<u>Baseball/Softball Fields</u>						
Number	2	2	2	8	3	17
% in Each County	11.8	11.8	11.8	47.1	17.6	
<u>Tennis Courts</u>						
Number		1		2		3
% in Each County		33.3		66.7		
<u>Ice Skating Rinks</u>						
Number		1		1	1	3
% in Each County		33.3		33.3	33.3	
<u>Baseball Fields and Tennis Courts</u>						
Number	1	1	3	2	2	9
% in Each County	11.1	11.1	33.3	22.2	22.2	
<u>Baseball Fields and Ice Skating Rinks</u>						
Number		2		2	1	5
% in Each County		40.0		40.0	20.0	
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>						
Number	2	1	4		2	9
% in Each County	22.2	11.1	44.4		22.2	
<u>Total Facilities</u>						
Number	5	8	9	15	9	46
% in Each County	10.9	17.4	19.6	32.6	19.6	

Table III - 6W.04: Distribution of Minnesota Development Region Six W Campgrounds by Size Class by County

Size Class	County				Row Total
	Bigstone	Chippewa	Lac Qui Parle	Swift	
<u>Small (1-12 Units)</u>					
Number	1	3	1	3	8
% in Each County	12.5	37.5	12.5	37.5	
<u>Medium (13-29 Units)</u>					
Number	2		1		3
% in Each County	66.7		33.3		
<u>Large (30-59 Units)</u>					
Number	1			2	3
% in Each County	33.3			66.7	
<u>Total</u>					
Number	4	3	2	5	14
% in Each County	28.6	21.4	14.3	35.7	

Table III - 6W.05: Distribution of Minnesota Development Region Six W Resorts by Size Class by County

Size Class	County			Row Total
	Big Stone	Chippewa	Swift	
<u>Extra Small (1-3 Units)</u>				
Number	1		1	2
% in Each County	50.0		50.0	
<u>Small (4-7 Units)</u>				
Number	3	2		5
% in Each County	60.0	40.0		
<u>Medium (8-12 Units)</u>				
Number	2			2
% in Each County	100.0			
<u>Total</u>				
Number	6	2	1	9
% in Each County	66.7	22.2	11.1	

## DEVELOPMENT REGION SEVEN-EAST

The 57 parks in Region 7E are concentrated in three of five counties (TABLE 3-7E.01). Chisago County has 18, or nearly one-third, including Interstate, St. Croix and Wild River State Parks. Pine County contains 17 parks, including Banning and St. Croix State Parks, and Mille Lacs County claims one-fourth of the region's parks, including Mille Lacs Kathio and Father Hennepin State Parks.

The resorts, (most of which have less than 7 units) are more concentrated (TABLE 3-7E.05). Nearly two-thirds of the 65 resorts in the region are found in Mille Lacs County, the vast majority of them on Lake Mille Lacs. Pine County contains 15 percent of the region's resorts, and the rest are spread among the remaining counties.

Two counties, Mille Lacs and Pine, contain almost 75 percent of the region's 101 campgrounds. Mille Lacs has 39, while wooded and river dissected Pine County holds 35. Chisago County has 12 percent of the campgrounds. The larger campgrounds are associated with the state parks in Pine and Mille Lacs counties and Chisago county's lake area (TABLE 3-7E.04).

Fully half the region's marinas are in Mille Lacs County (TABLE 3-7E.01). Most of these are on Mille Lacs Lake. Chisago County, with the Chisago Lake area, contains 25 percent of the region 7E marinas. The remaining 25 percent are spread fairly evenly among the remaining counties.

Four of the 5 counties in Region 7E nearly evenly split the athletic fields (TABLE 3-7E.03). Isanti county has 17 percent of the 84 fields, Chisago and Pine each contain about 20 percent, and Mille Lacs County has 29.8 percent.

Mille Lacs County includes one-third of 7E's 132 water access sites (TABLE 3-7E.02). Pine County has the next greatest number (30). Isanti County has 20 access sites, barely outdistancing Kanabec and Chisago Counties (19 each). It is surprising that Chisago County, with the Chisago Lake area, contains so few water accesses. Swimming beaches concentrate in Mille Lacs County, with Mille Lacs Lake having a strong influence; Pine and Chisago Counties each have about 20 percent of the beaches.

Swimming pools are few and far between in the region. Only 3 of the 5 counties have swimming pools. Most of the 6 pools are in Mille Lacs County (50 percent). Pine County has 1 and Kanabec County 2.

Few Region 7E marinas are publicly owned. Half the private marinas are drawn to Mille Lacs Lake and County, followed by 25 percent in Chisago County and the Chisago Lakes area.

In general, there are more public than private accesses in the region. Mille Lacs County offers the exception, with 36 private accesses and eight public accesses. Most of the public accesses are in Pine County (24), followed by Isanti (18) and Kanabec (13) and Chisago (12) counties. Again, given the lake resource of the region, this relative lack of public access seems odd; however, the 59 private accesses appear to take up the slack.

Most of the area's swimming beaches are private. As a matter of fact, one county, Kanabec has no public swimming beach. Chisago and Mille Lacs counties each have three public swimming beaches. Mille Lacs also has 26 private beaches, Pine County 16 and Chisago County 10.

Most of the athletic fields are simple baseball/softball fields. The 25 fields are evenly divided among 4 of the 5 counties. Kanabec County has the fewest baseball/softball fields, only 1.

Simple tennis courts are scarce; however, tennis facilities combined with baseball/softball fields are fairly numerous. In all, Mille Lacs County has the most facilities offering tennis (11). These tennis facilities either stand alone or are in combination with baseball/softball fields, ice skating rinks, or both.

Most of Region 7E's campgrounds (45.5 percent) are small (1-12 units). Furthermore, most of them are in Mille Lacs or Pine Counties. A fair proportion (26.8 percent) are in the large campground category (30-59 units). Resorts, like campgrounds are predominantly small (4-7 units) or extra small (1-3 units). In point of fact, only Mille Lacs County has any large (13-21 units) or extra-large (22+ units) resorts.

TABLE 3 - 7E.01

Table III - 7E.01: Distribution of Recreation Facility Types in Minnesota Development Region Seven E by County

Facility Type	County					Row Total
	Chisago	Isanti	Kanabec	Mille Lacs	Pine	
<u>Parks</u>						
Number	18	4	4	14	17	57
% in Each County	31.6	7.0	7.0	24.6	29.8	
<u>Resorts</u>						
Number	5	4	5	41	10	65
% in Each County	7.7	6.2	7.7	63.1	15.4	
<u>Campgrounds</u>						
Number	12	9	6	39	35	101
% in Each County	11.9	8.9	5.9	38.6	34.7	
<u>Marinas</u>						
Number	23	6	8	48	11	96
% in Each County	24.0	6.3	8.3	50.0	11.5	
<u>Athletic Fields</u>						
Number	20	14	7	25	18	84
% in Each County	23.8	16.7	8.3	29.8	21.4	
<u>Water Access to Lake or River</u>						
Number	19	20	19	44	30	132
% in Each County	14.4	15.2	14.4	33.3	22.7	
<u>Swimming Beach</u>						
Number	13	8	5	29	17	72
% in Each County	18.1	11.1	6.9	40.3	23.6	
<u>Swimming Pool</u>						
Number			2	3	1	6
% in Each County			33.3	50.0	16.7	
<u>Total Facilities</u>						
Number						
% in Each County	110	65	56	243	139	613
	17.9	10.6	9.1	39.6	22.7	



Table III - 7E.02: Distribution of Water Oriented Recreation Facilities in Minnesota Development Region Seven E by County

Facility Type	County					Row Total
	Chisago	Isanti	Kanabec	Mille Lacs	Pine	
<u>Public Marinas</u>						
Number	1			1	1	3
% in Each County	33.3			33.3	33.3	
<u>Private Marinas</u>						
Number	22	6	8	47	10	93
% in Each County	23.7	6.5	8.6	50.5	10.8	
<u>Public Access to Lake or River</u>						
Number	12	18	13	8	24	75
% in Each County	16.0	24.0	17.3	10.7	32.0	
<u>Private Access to Lake or River</u>						
Number	9	2	6	36	6	59
% in Each County	15.3	3.4	10.2	61.0	10.2	
<u>Public Beach</u>						
Number	3	1		3	1	8
% in Each County	37.5	12.5		37.5	12.5	
<u>Private Beach</u>						
Number	10	7	5	26	16	64
% in Each County	15.6	10.9	7.8	40.6	25.0	
<u>Total Facilities</u>						
Number	57	34	32	121	58	302
% in Each County	18.9	11.3	10.6	40.1	19.2	

Table III - 7E.03: Distribution of Athletic Field Types in Minnesota Development Region Seven E by County

Facility Type	County					Row Total
	Chisago	Isanti	Kanabec	Mille Lacs	Pine	
<u>Baseball/Softball Fields</u>						
Number	5	7	1	5	7	25
% in Each County	20.0	28.0	4.0	20.0	28.0	
<u>Tennis Courts</u>						
Number	1		1	3		5
% in Each County	20.0		20.0	60.0		
<u>Ice Skating Rinks</u>						
Number	1	1	1	1		4
% in Each County	25.0	25.0	25.0	25.0		
<u>Baseball Fields and Tennis Courts</u>						
Number	3	1	1	4	2	11
% in Each County	27.3	9.1	9.1	36.4	18.2	
<u>Baseball Fields and Ice Skating Rinks</u>						
Number	1	3	2	3	3	11
% in Each County	9.1	27.3	18.2	27.3	18.2	
<u>Tennis Courts and Ice Skating Rinks</u>						
Number				1		1
% in Each County				100.0		
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>						
Number	4	2		3	3	12
% in Each County	33.3	16.7		25.0	25.0	
<u>Total Facilities</u>						
Number	15	14	6	20	14	69
% in Each County	21.7	20.3	8.7	29.0	20.3	

Table III - 7E.04: Distribution of Minnesota Development Region Seven E Campgrounds by Size Class by County

Size Class	County					Row Total
	Chisago	Isanti	Kanabec	Mille Lacs	Pine	
<u>Small (1-12 Units)</u>						
Number	2	2		17	13	34
% in Each County	5.9	5.9		50.0	38.2	
<u>Medium (13-29 Units)</u>						
Number		2	1	5	4	12
% in Each County		16.7	8.3	41.7	33.3	
<u>Large (30-59 Units)</u>						
Number	6	3	3	5	5	22
% in Each County	27.3	13.6	13.6	22.7	22.7	
<u>Extra Large (60 + Units)</u>						
Number	1	1	2	5	5	14
% in Each County	7.1	7.1	14.3	35.7	35.7	
<u>Total</u>						
Number	9	8	6	32	27	82
% in Each County	11.0	9.8	7.3	39.0	32.9	

Table III - 7E.05 Distribution of Minnesota Development Region Seven E Resorts by Size Class by County

Size Class	County					Row Total
	Chisago	Isanti	Kanabec	Mille Lacs	Pine	
<u>Extra Small (1-3 Units)</u>						
Number	1	1	3	7	4	16
% in Each County	6.3	6.3	18.8	43.8	25.0	
<u>Small (4-7 Units)</u>						
Number	3	2	2	20	4	31
% in Each County	9.7	6.5	6.5	64.5	12.9	
<u>Medium (8-12 Units)</u>						
Number	1	1		11	2	15
% in Each County	6.7	6.7		73.3	13.3	
<u>Large (13-21 Units)</u>						
Number				2		2
% in Each County				100.0		
<u>Extra Large (22 + Units)</u>						
Number				1		1
% in Each County				100.0		
<u>Total</u>						
Number	5	4	5	41	10	65
% in Each County	7.7	6.2	7.7	63.1	15.4	

## DEVELOPMENT REGION SEVEN--WEST

The urban influences of St. Cloud on Stearns County and the Twin Cities Metropolitan Area on Wright County can be easily seen in the distribution of most recreation facilities (TABLE 3-7W.01) in Region 7W. For instance, parks are concentrated in these two counties with large urban populations. Stearns has 42 percent and Wright 39 percent. One state park is found in the region, Lake Maria State park in Wright County.

Resorts also cluster into Stearns and Wright counties. Nearly 60 percent of the region's 64 resorts can be found in Stearns County; 30 percent are in Wright.

Campgrounds are more evenly dispersed throughout the region. Although Stearns County does contain nearly half (47 percent) the campgrounds, Wright and Sherburne counties each have nearly one-fourth. The five remaining campgrounds are found in Benton County.

Marinas concentrate in Stearns (53 percent) and Wright (24 percent) counties, as do athletic fields (51 percent Stearns, 22 percent Wright) (TABLE 3-7W.02). Stearns county fails to claim the greatest share of only one type of facility--Wright boasts 46 percent of the accesses to Stearns' 40 percent. Accesses represent half the water-oriented facilities available in Region 7W. While marinas and swimming beaches each total one-fourth. Most of the access is publicly owned in Wright County, In the other counties the public/private ownership is more evenly divided. Public marinas are nearly non-existent. Only two can be found and those are in Wright County. Private marinas concentrate in Stearns County.

Swimming beaches are heavily centered in Stearns County (53 percent). Wright and Sherburne each have about the same number, 18 (24 percent) and 13 (17 percent) respectively. Swimming pools are more evenly distributed. Stearns claims 45 percent (9) while Sherburne holds 25 percent (5). Benton and Wright each have 15 percent (3) of the swimming pools. Across the region there are nearly three times as many private swimming beaches as public beaches. The dominance of the private sector persists in three of the four counties. Only in Wright County is there a slight edge in public beaches.

Athletic fields are nearly evenly divided between simple, single-use types (45 percent) and the combination field (55 percent) (TABLE 3-7W.03). Baseball/softball fields comprise the major facility. Ice skating rinks are the next most common, trailed by tennis courts.

The region's campgrounds lean toward the smaller size classes and are concentrated in Stearns County (TABLE 3-7W.04). Sherburne County provides the one major exception to this generalization--half of its campgrounds are extra-large (60+ units). Furthermore, Sherburne County has more of these extra-large campgrounds than any other county in the region.

The region's resorts, like the region's campgrounds, tend to be small (TABLE 3-7W.04). As with most facilities, they are concentrated in Stearns and Wright Counties.

Table III - 7W.01: Distribution of Recreation Facility Types in Minnesota Development Region Seven W by County

Facility Type	County				Row Total
	Benton	Sherburne	Stearns	Wright	
<u>Parks</u>					
Number	14	7	47	44	112
% in Each County	12.5	6.3	42.0	39.3	
<u>Resorts</u>					
Number	1	5	38	20	64
% in Each County	1.6	7.8	59.4	31.3	
<u>Campgrounds</u>					
Number	5	20	41	21	87
% in Each County	5.7	23.0	47.1	24.1	
<u>Marinas</u>					
Number	3	12	42	22	79
% in Each County	3.8	15.2	53.2	27.8	
<u>Athletic Fields</u>					
Number	19	22	79	34	154
% in Each County	12.3	14.3	51.3	22.1	
<u>Water Access to Lake or River</u>					
Number	7	13	61	70	151
% in Each County	4.6	8.6	40.4	46.4	
<u>Swimming Beach</u>					
Number	5	13	40	18	76
% in Each County	6.6	17.1	52.6	23.7	
<u>Swimming Pool</u>					
Number	3	5	9	3	20
% in Each County	15.0	25.0	45.0	15.0	
<u>Total Facilities</u>					
Number	57	97	357	232	743
% in Each County	7.7	13.1	48.0	31.2	

Table III - 7W.02 : Distribution of Water Oriented Recreation Facilities in Minnesota Development Region Seven W by County

Facility Type	County				Row Total
	Benton	Sherburne	Stearns	Wright	
<u>Public Marinas</u>					
Number				2	2
% in Each County				100.0	
<u>Private Marinas</u>					
Number	3	12	42	20	77
% in Each County	3.9	15.6	54.5	26.0	
<u>Public Access to Lake or River</u>					
Number	3	8	36	62	109
% in Each County	2.8	7.3	33.0	56.9	
<u>Private Access to Lake or River</u>					
Number	4	5	25	9	43
% in Each County	9.3	11.6	58.1	20.9	
<u>Public Beach</u>					
Number	1	2	6	10	19
% in Each County	5.3	10.5	31.6	52.6	
<u>Private Beach</u>					
Number	4	11	34	9	58
% in Each County	6.9	19.0	58.6	15.5	
<u>Total Facilities</u>					
Number	15	38	143	112	308
% in Each County	4.9	12.3	46.4	36.4	

Table III - 7W.03 : Distribution of Athletic Field Types in Minnesota Development Region Seven W by County

Facility Type	County				Row Total
	Benton	Sherburne	Stearns	Wright	
<u>Baseball/Softball Fields</u>					
Number	7	4	25	10	46
% in Each County	15.2	8.7	54.3	21.7	
<u>Tennis Courts</u>					
Number		1	5	1	7
% in Each County		14.3	71.4	14.3	
<u>Ice Skating Rinks</u>					
Number	3	1	5		9
% in Each County	33.3	11.1	55.6		
<u>Baseball Fields and Tennis Courts</u>					
Number	1	3	10	4	18
% in Each County	5.6	16.7	55.6	22.2	
<u>Baseball Fields and Ice Skating Rinks</u>					
Number	2	5	13	10	30
% in Each County	6.7	16.7	43.3	33.3	
<u>Tennis Courts and Ice Skating Rinks</u>					
Number				1	1
% in Each County				100.0	
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>					
Number	5	4	12	6	27
% in Each County	18.5	14.8	44.4	22.2	
<u>Total Facilities</u>					
Number	18	18	70	32	138
% in Each County	13.0	13.0	50.7	23.2	

Table III - 7W.04: Distribution of Minnesota Development Region Seven W Campgrounds by Size Class by County

Size Class	County				Row Total
	Benton	Sherburne	Stearns	Wright	
<u>Small (1-12 Units)</u>					
Number	1	1	16	7	25
% in Each County	4.0	4.0	64.0	28.0	
<u>Medium (13-29 Units)</u>					
Number	1	4	7	1	13
% in Each County	7.7	30.8	53.8	7.7	
<u>Large (30-59 Units)</u>					
Number	1	2	5	2	10
% in Each County	10.0	20.0	50.0	20.0	
<u>Extra Large (60 + Units)</u>					
Number	1	7	5	5	18
% in Each County	5.6	38.9	27.8	27.8	
<u>Total</u>					
Number	4	14	33	15	66
% in Each County	6.1	21.2	50.0	22.7	

Table III - 7W.05 Distribution of Minnesota Development Region Seven W Resorts by Size Class by County

Size Class	County				Row Total
	Benton	Sherburne	Stearns	Wright	
<u>Extra Small (1-3 Units)</u>					
Number		2	9	6	17
% in Each County		11.8	52.9	35.3	
<u>Small (4-7 Units)</u>					
Number		1	17	12	30
% in Each County		3.3	56.7	40.0	
<u>Medium (8-12 Units)</u>					
Number	1	2	6	1	10
% in Each County	10.0	20.0	60.0	10.0	
<u>Large (13-21 Units)</u>					
Number			4	1	5
% in Each County			80.0	20.0	
<u>Extra Large (22 + Units)</u>					
Number			1		1
% in Each County			100.0		
<u>Total</u>					
Number	1	5	37	20	63
% in Each County	1.6	7.9	58.7	31.7	

## DEVELOPMENT REGION EIGHT

Athletic fields and parks make up the majority of the Region Eight facilities (TABLE 3-8.01). Redwood and Jackson counties have the largest concentrations of the 102 parks, with 22 and 21 respectively. Redwood County has no state parks, but, Kilen Woods State Park is located in Jackson County. The region has four other state parks: Camden in Lyon County; Lake Shetek in Murray County; Split Rock Creek in Pipestone County; and Blue Mounds in Rock County.

For the most part, athletic fields are fairly evenly distributed throughout the region. Redwood County has the most (27) and Rock (5) and Murray (6) counties the least. Singularly and in combination with other facilities, baseball/softball fields are the most numerous type of athletic field (TABLE 3-8.03). Tennis courts follow. The least common facility is ice skating rinks. Redwood County has more total facilities than any other county.

Resorts are nearly non-existent, with three each in Lincoln and Murray counties. Marinas, usually related to the resort industry, are also few and far between, primarily occurring in Jackson County. The lack of resorts and marinas can be attributed to the sparse lake area and widespread agricultural land.

Murray County has the region's largest share of campgrounds, (24 percent) and water access (23 percent) and ties with Lyon County for swimming beaches (29 percent). The relative scarcity of lakes in Region Eight limits its number of public water-oriented facilities, which total only 100 (TABLE 3-8.02).

Public swimming beaches (13) barely outnumber private (11), but public beaches are more evenly distributed throughout the region. Only Jackson and Redwood counties have none. Oddly, Jackson County has one of the region's better lake resources. Murray County has five and Lincoln County four.

TABLE 3-8.04 shows that one-third of the 34 campgrounds in Region Eight are small (1-12 units), 25 percent are medium sized (13-29 units) and 25 percent are large (30-59) units. Murray County, with its lake resources, has most of the region's five extra-large campgrounds (60+ units).

Table III - 08.01: Distribution of Recreation Facility Types in Minnesota Development Region Eight by County

Facility Type	County									Pow Total
	Cottonwood	Jackson	Lincoln	Lyon	Murray	Nobles	Pipestone	Redwood	Rock	
<u>Parks</u>										
Number	13	21	7	11	7	8	8	22	5	102
% in Each County	12.7	20.6	6.9	10.8	6.9	7.8	7.8	21.6	4.9	
<u>Resorts</u>										
Number			3		3					6
% in Each County			50.0		50.0					
<u>Campgrounds</u>										
Number	3	6	5	6	10	5	2	2	2	41
% in Each County	7.3	14.6	12.2	14.6	24.4	12.2	4.9	4.9	4.9	
<u>Marinas</u>										
Number	1	4	3		2	2				12
% in Each County	8.3	33.3	25.0		16.7	16.7				
<u>Athletic Fields</u>										
Number	12	17	10	18	6	11	10	27	5	116
% in Each County	10.3	14.7	8.6	15.5	5.2	9.5	8.6	23.3	4.3	
<u>Water Access to Lake or River</u>										
Number	5	11	10	10	15	9	1	3		64
% in Each County	7.8	17.2	15.6	15.6	23.4	14.1	1.6	4.7		
<u>Swimming Beach</u>										
Number	2	2	7	3	7	1	1		1	24
% in Each County	8.3	8.3	29.2	12.5	29.2	4.2	4.2		4.2	
<u>Swimming Pool</u>										
Number	1	5		2	1	3	4	2		18
% in Each County	5.6	27.8		11.1	5.6	16.7	22.2	11.1		
<u>Total Facilities</u>										
Number	37	66	45	50	51	39	26	56	13	383
% in Each County	9.7	17.2	11.7	13.1	13.3	10.2	6.8	14.6	3.4	



Table III - 08.02: Distribution of Water Oriented Recreation Facilities in Minnesota Development Region Eight by County

Facility Type	County								Row Total
	Cottonwood	Jackson	Lincoln	Lyon	Murray	Nobles	Pipestone	Redwood	Rock
<u>Public Marinas</u>									
Number			1		1	2			
% in Each County			25.0		25.0	50.0			
<u>Private Marinas</u>									
Number	1	4	2		1				
% in Each County	12.5	50.0	25.0		12.5				
<u>Public Access to Lake or River</u>									
Number	5	10	7	10	12	8	1	3	
% in Each County	8.9	17.9	12.5	17.9	21.4	14.3	1.8	5.4	
<u>Private Access to Lake or River</u>									
Number		1	3		3	1			
% in Each County		12.5	37.5		37.5	12.5			
<u>Public Beach</u>									
Number	2		3	3	2	1	1		1
% in Each County	15.4		23.1	23.1	15.4	7.7	7.7		7.7
<u>Private Beach</u>									
Number		2	4		5				
% in Each County		18.2	36.4		45.5				
<u>Total Facilities</u>									
Number	8	17	20	13	24	12	2	3	1
% in Each County	8.0	17.0	20.0	13.0	24.0	12.0	2.0	3.0	1.0

Table III - 08.03: Distribution of Athletic Field Types in Minnesota Development Region Eight by County

Facility Type	County								Row Total
	Cottonwood	Jackson	Lincoln	Lyon	Murray	Nobles	Pipestone	Redwood	Rock
<u>Baseball/Softball Fields</u>									
Number	3	5	2	7	3	4	3	11	1
% in Each County	7.7	12.8	5.1	17.9	7.7	10.3	7.7	28.2	2.6
<u>Tennis Courts</u>									
Number		2			1			1	
% in Each County		50.0			25.0			25.0	
<u>Ice Skating Rinks</u>									
Number			1						
% in Each County			100.0						
<u>Baseball Fields and Tennis Courts</u>									
Number	5	4	2	3	2	5	3	1	3
% in Each County	17.9	14.3	7.1	10.7	7.1	17.9	10.7	3.6	10.7
<u>Baseball Fields and Ice Skating Rinks</u>									
Number		1		2		1		4	
% in Each County		12.5		25.0		12.5		50.0	
<u>Tennis Courts and Ice Skating Rinks</u>									
Number	1			1				1	
% in Each County	33.3			33.3				33.3	
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>									
Number	2	4	3	5			2	8	1
% in Each County	8.0	16.0	12.0	20.0			8.0	32.0	4.0
<u>Total Facilities</u>									
Number	11	16	8	18	6	10	8	26	5
% in Each County	10.2	14.8	7.4	16.7	5.6	9.3	7.4	24.1	4.6

Table III - 08.04: Distribution of Minnesota Development Region Eight Campgrounds by Size Class by County

Size Class	County									Row Total
	Cottonwood	Jackson	Lincoln	Lyon	Murray	Nobles	Pipestone	Redwood	Rock	
<u>Small (1-12 Units)</u>										
Number	2		1	4		2		1	1	11
% in Each County	18.2		9.1	36.4		18.2		9.1	9.1	
<u>Medium (13-29 Units)</u>										
Number	1	2	3	1	1		1			9
% in Each County	11.1	22.2	33.3	11.1	11.1		11.1			
<u>Large (30-59 Units)</u>										
Number		3	1	1	1	1	1	1		9
% in Each County		33.3	11.1	11.1	11.1	11.1	11.1	11.1		
<u>Extra Large (60 + Units)</u>										
Number					3	1			1	5
% in Each County					60.0	20.0			20.0	
<u>Total</u>										
Number	3	5	5	6	5	4	2	2	2	34
% in Each County	8.8	14.7	14.7	17.6	14.7	11.8	5.9	5.9	5.9	

Table III -08.05: Distribution of Minnesota Development Region Eight Resorts by Size Class by County

Size Class	County		Row Total
	Lincoln	Murray	
<u>Extra Small (1-3 Units)</u>			
Number	1	1	2
% in Each County	50.0	50.0	
<u>Small (4-7 Units)</u>			
Number		1	1
% in Each County		100.0	
<u>Medium (8-12 Units)</u>			
Number		1	1
% in Each County		100.0	
<u>Extra Large (22 + Units)</u>			
Number	2		2
% in Each County	100.0		
<u>Total</u>			
Number	3	3	6
% in Each County	50.0	50.0	

## DEVELOPMENT REGION NINE

Counties with the largest concentration of Region Nine's large number of parks (178) are Blue Earth (40, including Minneopa State Park), Nicollet (32) and Brown (27), including Flandrau State Park (TABLE 3-9.01). Traverse Des Sioux State Park lies just across the Minnesota River from Nicollet County in Le Sueur County.

Athletic fields are nearly as numerous in Region Nine as parks. The 174 fields are evenly distributed. Only Blue Earth County has more than 20 percent of the fields (21 percent). The fact that Mankato is in Blue Earth County makes it logical that the county should have the largest share of the fields. Brown County, with New Ulm, has 16 percent. Sibley, Waseca, and Watonwan each have six percent.

Water access to lakes or streams is concentrated in the relatively lake-rich counties of Le Sueur (25 percent), and Martin (15 percent). Blue Earth County claims nearly 14 percent of the water accesses.

The lion's share (82 percent) of the region's resort industry is found in the lake areas of Le Sueur County. As is the general pattern across the state, the heaviest concentration of marinas (67 percent) swimming beaches (42 percent) and campgrounds (37 percent) are also located in the same county.

The region contains 26 swimming pools; Brown County has 23 percent of them, and Faribault, Le Sueur and Nicollet counties each claim 15 percent.

The largest concentration of the water-oriented recreation facilities (36 percent) can be found in Le Sueur County (TABLE 3-9.02). Only in public marinas, private accesses and public beaches do other counties outstrip Le Sueur. Blue Earth County has the most public marinas and beaches in the region, and Waseca County has the most private accesses.

Public accesses outnumber private accesses by a seven to one ratio regionwide and in nearly every county. Conversely, there are more private than public swimming beaches in the region; however, nearly all of the margin is in Le Sueur County.

Baseball/softball fields are the predominate athletic field type (TABLE 3-9.03). Most of these are in Blue Earth, Brown and Faribault counties. Most of the eight ice rinks can be found in the same three counties; however, Faribault county alone has as many tennis courts as these three counties combined (4).

The region's campgrounds vary widely in size (TABLE 3-9.04). The majority of the campgrounds are found in Le Sueur County. Blue Earth and Faribault Counties each have 20 percent of the small (1-12 units) campgrounds and about 10 percent of the total campgrounds.

The 28 resorts in Region Nine concentrate in Le Sueur County (TABLE 3-9.05). Most (78 percent) are extra-small (1-3 units) or small (4-7 units). Nevertheless, these resorts account for Le Sueur's high proportion of the water-oriented recreation sites in the region.

Table III - 09.01: Distribution of Recreation Facility Types in Minnesota Development Region Nine by County

Facility Type	County									Row Total
	Blue Earth	Brown	Faribault	Le Seur	Martin	Nicollet	Sibley	Waseca	Watowwan	
<u>Parks</u>										
Number	40	27	16	19	10	32	10	17	7	178
% in Each County	22.5	15.2	9.0	10.7	5.6	18.0	5.6	9.6	3.9	
<u>Resorts</u>										
Number	2			23	1		1	1		28
% in Each County	7.1			82.1	3.6		3.6	3.6		
<u>Campgrounds</u>										
Number	7	5	5	20	3	3		6	5	54
% in Each County	13.0	9.3	9.3	37.0	5.6	5.6		11.1	9.3	
<u>Marinas</u>										
Number	4			20	1		1	4		30
% in Each County	13.3			66.7	3.3		3.3	13.3		
<u>Athletic Fields</u>										
Number	38	27	19	19	18	22	10	11	10	174
% in Each County	21.8	15.5	10.9	10.9	10.3	12.6	5.7	6.3	5.7	
<u>Water Access to Lake or River</u>										
Number	16	8	3	30	18	13	11	13	6	118
% in Each County	13.6	6.8	2.5	25.4	15.3	11.0	9.3	11.0	5.1	
<u>Swimming Beach</u>										
Number	9	2	2	22	5	2	2	6	2	52
% in Each County	17.3	3.8	3.8	42.3	9.6	3.8	3.8	11.5	3.8	
<u>Swimming Pool</u>										
Number	3	6	4	4	1	4	1	2	1	26
% in Each County	11.5	23.1	15.4	15.4	3.8	15.4	3.8	7.7	3.8	
<u>Total Facilities</u>										
Number	119	75	49	157	57	76	36	60	31	660
% in Each County	18.0	11.4	7.4	23.8	8.6	11.5	5.5	9.1	4.7	

Table III - 09.02: Distribution of Water Oriented Recreation Facilities in Minnesota Development Region Nine by County

Facility Type	County									Row Total
	Blue Earth	Brown	Faribault	Le Seur	Martin	Nicollet	Sibley	Waseca	Watsonwan	
<u>Public Marinas</u>										
Number	2						1	1		4
% in Each County	50.0						25.0	25.0		
<u>Private Marinas</u>										
Number	2			20	1			3		26
% in Each County	7.7			76.9	3.8			11.5		
<u>Public Access to Lake or River</u>										
Number	13	8	3	27	15	12	9	9	6	102
% in Each County	12.7	7.8	2.9	26.5	14.7	11.8	8.8	8.8	5.9	
<u>Private Access to Lake or River</u>										
Number	3			3	3		2	4		15
% in Each County	20.0			20.0	20.0		13.3	26.7		
<u>Public Beach</u>										
Number	6	1	1	2	4	1	1	4	1	21
% in Each County	28.6	4.8	4.8	9.5	19.0	4.8	4.8	19.0	4.8	
<u>Private Beach</u>										
Number	3	1	1	20	1		1	2	1	30
% in Each County	10.0	3.3	3.3	66.7	3.3		3.3	6.7	3.3	
<u>Total Facilities</u>										
Number	29	10	5	72	24	13	14	23	8	198
% in Each County	14.6	5.1	2.5	36.4	12.1	6.6	7.1	11.6	4.0	

Table III - 09.03: Distribution of Athletic Field Types in Minnesota Development Region Nine by County

Facility Type	County									Row Total
	Blue Earth	Brown	Faribault	Le Seur	Martin	Nicollet	Sibley	Waseca	Watsonwan	
<u>Baseball/Softball Fields</u>										
Number	11	10	9	6	8	5	2	2	1	54
% in Each County	20.4	18.5	16.7	11.1	14.8	9.3	3.7	3.7	1.9	
<u>Tennis Courts</u>										
Number	1	2	1	4				1		9
% in Each County	11.1	22.2	11.1	44.4				11.1		
<u>Ice Skating Rinks</u>										
Number	2	3	1					1	1	8
% in Each County	25.0	37.5	12.5					12.5	12.5	
<u>Baseball Fields and Tennis Courts</u>										
Number	9	4	4		6	2	1	2	3	31
% in Each County	29.0	12.9	12.9		19.4	6.5	3.2	6.5	9.7	
<u>Baseball Fields and Ice Skating Rinks</u>										
Number	5	3	2	2		5		2	2	21
% in Each County	23.8	14.3	9.5	9.5		23.8		9.5	9.5	
<u>Tennis Courts and Ice Skating Rinks</u>										
Number						1				1
% in Each County						100.0				
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>										
Number	5	4	1	4	3	6	5	2	3	33
% in Each County	15.2	12.1	3.0	12.1	9.1	18.2	15.2	6.1	9.1	
<u>Total Facilities</u>										
Number	33	26	18	16	17	19	8	10	10	157
% in Each County	21.0	16.6	11.5	10.2	10.8	12.1	5.1	6.4	6.4	

Table III - 09.04: Distribution of Minnesota Development Region Nine Campgrounds by Size Class by County

Size Class	County							Row Total
	Blue Earth	Brown	Faribault	Le Seur	Martin	Nicollet	Waseca	
<u>Small (1-12 Units)</u>								
Number	3		3	6	1		1	14
% in Each County	21.4		21.4	42.9	7.1		7.1	
<u>Medium (13-29 Units)</u>								
Number	1	1		4			1	7
% in Each County	14.3	14.3		57.1			14.3	
<u>Large (30-59 Units)</u>								
Number		1	1	3		2	4	12
% in Each County		8.3	8.3	25.0		16.7	33.3	
<u>Extra Large (60 + Units)</u>								
Number	2	1		4	2		2	11
% in Each County	18.2	9.1		36.4	18.2		18.2	
<u>Total</u>								
Number	6	3	4	17	3	2	6	44
% in Each County	13.6	6.8	9.1	38.6	6.8	4.5	13.6	

Table III - 09.05: Distribution of Minnesota Development Region Nine Resorts by Size Class by County

Size Class	County					Row Total
	Blue Earth	Le Seur	Martin	Sibley	Waseca	
<u>Extra Small (1-3 Units)</u>						
Number		5		1	1	7
% in Each County		71.4		14.3	14.3	
<u>Small (4-7 Units)</u>						
Number	2	13				15
% in Each County	13.3	86.7				
<u>Medium (8-12 Units)</u>						
Number		3	1			4
% in Each County		75.0	25.0			
<u>Large (13-21 Units)</u>						
Number		1				1
% in Each County		100.0				
<u>Extra Large (22 + Units)</u>						
Number		1				1
% in Each County		100.0				
<u>Total</u>						
Number	2	23	1	1	1	28
% in Each County	7.1	82.1	3.6	3.6	3.6	

## DEVELOPMENT REGION TEN

One-third of Region 10's recreational facilities are athletic fields (TABLE 3-10.01), and fully 25 percent are parks. Olmsted County, dominated by Rochester, claims over 20 percent of the parks. Numbered among the region's 227 parks are 10 state parks--O. L. Kipp and Whitewater, in Winona County; Carley in Wabasha County; Frontenac, in Goodhue County; Nerstrand Woods, in Rice County; Rice Lake, in Steele County; Helmer Myre, in Freeborn County; Lake Louise, in Mower County; Forestville, in Fillmore County; and Beaver Creek Valley, in Houston County.

More than half the region's 25 resorts, a quarter of its marinas and water accesses and more than a third of its swimming beaches are in Rice County. These facilities are part of Rice County's lake region, north and west of Faribault. Winona County claims nearly another quarter of the water access, most of them on the Mississippi River. The Mississippi River also affects the distribution of swimming beaches, placing over 20 percent in Wabasha County.

More of the 105 campgrounds are found in Rice County (18) than any other county. Even so, Goodhue (16), and Wabasha (15), and Winona counties each have between 10 and 15 percent of the campgrounds.

As would be expected, many of the swimming pools are in Olmsted County (8). Unexpectedly, Goodhue County has just as many as Olmsted. Houston and Mower counties each have more than 10 percent of the region's 45 pools.

The private sector provides most of the region's marinas (TABLE 3-10.02). These are concentrated in Rice County and Wabasha County. The public marinas are clustered in Winona County (60 percent).

Regionwide, public access outnumber private accesses by nearly three to one. Almost half of the accesses, both public and private, are located within Rice and Winona counties.

Swimming beaches in the region are evenly divided between public and private ownership; however, most of the beach in Rice County are private. Only two public beaches can be found in this relatively lake rich county.

Baseball/softball fields are part of most of the athletic fields in Region 10 (TABLE 3-10.03). Over one-third of the fields have tennis courts. Ice rinks occur in 43 percent of the fields.

Campgrounds are evenly distributed across the four size classes (TABLE 3-10.04). Most of the small campgrounds lie in Goodhue, Wabasha and Olmsted counties. The extra-large campgrounds are primarily in Freeborn, Goodhue, Wabasha, and Winona counties. The majority of the Rice County campgrounds are medium sized.

Most of the Region 10 resorts are medium sized or smaller (TABLE 3-10.04). One large resort is in Goodhue County, another in Rice County. Three-fourths of the medium sized resorts are also in Rice County, associated with the county's lakes.

Table III - 10.01: Distribution of Recreation Facility Types in Minnesota Development Region Ten by County

Facility Type	County											Row
	Dodge	Fillmore	Freeborn	Goodhue	Houston	Mower	Olmsted	Rice	Steele	Wabasha	Winona	Total
<u>Parks</u>												
Number	12	12	27	26	9	29	39	23	16	16	18	227
% in Each County	5.3	5.3	11.9	11.5	4.0	12.8	17.2	10.1	7.0	7.0	7.9	
<u>Resorts</u>												
Number				1	1		13		8		2	25
% in Each County				4.0	4.0		52.0		32.0		8.0	
<u>Campgrounds</u>												
Number	1	7	7	16	8	8	8	18	3	15	14	105
% in Each County	1.0	6.7	6.7	15.2	7.6	7.6	7.6	17.1	2.9	14.3	13.3	
<u>Marinas</u>												
Number	1		1	7	3		1	14		12	14	53
% in Each County	1.9		1.9	13.2	5.7		1.9	26.4		22.6	26.4	
<u>Athletic Fields</u>												
Number	14	18	28	31	14	41	65	25	18	15	26	295
% in Each County	4.7	6.1	9.5	10.5	4.7	13.9	22.0	8.5	6.1	5.1	8.8	
<u>Water Access to Lake or River</u>												
Number		1	8	11	7	1	4	25	4	18	24	103
% in Each County		1.0	7.8	10.7	6.8	1.0	3.9	24.3	3.9	17.5	23.3	
<u>Swimming Beach</u>												
Number			3	3	1	1		11	3	7	3	32
% in Each County			9.4	9.4	3.1	3.1		34.4	9.4	21.9	9.4	
<u>Swimming Pool</u>												
Number	2	2	3	8	6	5	8	2	2	3	4	45
% in Each County	4.4	4.4	6.7	17.8	13.3	11.1	17.8	4.4	4.4	6.7	8.9	
<u>Total Facilities</u>												
Number	30	40	77	103	49	85	125	131	46	94	105	885
% in Each County	3.4	4.5	8.7	11.6	5.5	9.6	14.1	14.8	5.2	10.6	11.9	



Facility Type	County										Row	
	Dodge	Fillmore	Freeborn	Goodhue	Houston	Mower	Olmsted	Rice	Steele	Wabasha	Winona	Total
<u>Public Marinas</u>												
Number	1		1	2						2	9	15
% in Each County	6.7		6.7	13.3						13.3	60.0	
<u>Private Marinas</u>												
Number				5	3		1	14		10	5	38
% in Each County				13.2	7.9		2.6	36.8		26.3	13.2	
<u>Public Access to Lake or River</u>												
Number		1	7	9	4	1	3	18	3	11	19	76
% in Each County		1.3	9.2	11.8	5.3	1.3	3.9	23.7	3.9	14.5	25.0	
<u>Private Access to Lake or River</u>												
Number			1	2	3		1	7	1	7	5	27
% in Each County			3.7	7.4	11.1		3.7	25.9	3.7	25.9	18.5	
<u>Public Beach</u>												
Number			3	1		1		2	3	3	2	15
% in Each County			20.0	6.7		6.7		13.3	20.0	20.0	13.3	
<u>Private Beach</u>												
Number				2	1			9		4	1	17
% in Each County				11.8	5.9			52.9		23.5	5.9	
<u>Total Facilities</u>												
Number	1	1	12	21	11	2	5	50	7	37	41	188
% in Each County	0.5	0.5	6.4	11.2	5.9	1.1	2.7	26.6	3.7	19.7	21.8	

Table III - 10.03: Distribution of Athletic Field Types in Minnesota Development Region Ten by County

Facility Type	County											Row Totals
	Dodge	Fillmore	Freeborn	Goodhue	Houston	Mower	Olmsted	Rice	Steele	Wabasha	Winona	
<u>Baseball/Softball Fields</u>												
Number	4	4	12	9	1	18	19	9	6	3	13	98
% in Each County	4.1	4.1	12.2	9.2	1.0	18.4	19.4	9.2	6.1	3.1	13.3	
<u>Tennis Courts</u>												
Number	1		1	3		4	2	3	1		1	16
% in Each County	6.3		6.3	18.8		25.0	12.5	18.8	6.3		6.3	
<u>Ice Skating Rinks</u>												
Number	1			2		2		2				7
% in Each County	14.3			28.6		28.6		28.6				
<u>Baseball Fields and Tennis Courts</u>												
Number	5	3	1	5	1	5	5	4	3	5	2	39
% in Each County	12.8	7.7	2.6	12.8	2.6	12.8	12.8	10.3	7.7	12.8	5.1	
<u>Baseball Fields and Ice Skating Rinks</u>												
Number	3	4	6	6	1	5	25	6	2	1	2	61
% in Each County	4.9	6.6	9.8	9.8	1.6	8.2	41.0	9.8	3.3	1.6	3.3	
<u>Tennis Courts and Ice Skating Rinks</u>												
Number			1			1	1		1		1	5
% in Each County			20.0			20.0	20.0		20.0		20.0	
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>												
Number	8	5	4	5	6	4	8	1	3	3	5	44
% in Each County		11.4	9.1	11.4	13.6	9.1	18.2	2.3	6.8	6.8	11.4	
<u>Total Facilities</u>												
Number	14	16	25	30	9	39	60	25	16	12	24	272
% in Each County	5.2	5.9	9.3	11.1	3.3	14.4	22.2	9.3	5.9	4.4	8.9	

Table III - 10.04 Distribution of Minnesota Development Region Ten Campgrounds by Size Class by County

Size Class	County											
	Dodge	Fillmore	Freeborn	Goodhue	Houston	Mower	Olmsted	Rice	Steele	Wabasha	Winona	Total
<u>Small (1-12 Units)</u>												
Number	1	2		3	1	3	1	2		4	1	18
% in Each County	5.6	11.1		16.7	5.6	16.7	5.6	11.1		22.2	5.6	
<u>Medium (13-29 Units)</u>												
Number				1	2	2	1	9		3	1	19
% in Each County				5.3	10.5	10.5	5.3	47.4		15.8	5.3	
<u>Large (30-59 Units)</u>												
Number		3		2	1	2	3	3	1	3	4	22
% in Each County		13.6		9.1	4.5	9.1	13.6	13.6	4.5	13.6	18.2	
<u>Extra Large (60 + Units)</u>												
Number			5	4	2	1		1	1	4	5	23
% in Each County			21.7	17.4	8.7	4.3		4.3	4.3	17.4	21.7	
<u>Total</u>												
Number	1	5	5	10	6	8	5	15	2	14	11	82
% in Each County	1.2	6.1	6.1	12.2	7.3	9.8	6.1	18.3	2.4	17.1	13.4	

Table III - 10.05: Distribution of Minnesota Development Region Ten Resorts by Size Class by County

Size Class	County					Row Total
	Goodhue	Houston	Rice	Kabasha	Winona	
<u>Extra Small (1-3 Units)</u>						
Number		1	2	2	1	6
% in Each County		16.7	33.3	33.3	16.7	
<u>Small (4-7 Units)</u>						
Number			4	4	1	9
% in Each County			44.4	44.4	11.1	
<u>Medium (8-12 Units)</u>						
Number			6	2		8
% in Each County			75.0	25.0		
<u>Large (13-21 Units)</u>						
Number	1		1			2
% in Each County	50.0		50.0			
<u>Total</u>						
Number	1	1	13	8	2	25
% in Each County	4.0	4.0	52.0	32.0	8.0	

## DEVELOPMENT REGION ELEVEN

Athletic fields represent 43 percent of the 3035 recreational facilities in the Metro Region (TABLE 3-11.01). Hennepin County contains the lion's share (567), while Ramsey County accounts for nearly half that amount (276). Just a few percentage points behind athletic fields are parks. Hennepin County embraces 45 percent of the region's 1,125 parks, and 19 percent are found in Ramsey County, while Anoka and Dakota counties each have 14 percent.

Water accesses make up only eight percent of the Metro Region facilities, and more of these are located in Hennepin County (30 percent) than any other county. Washington county supplies 20 percent of the region's water accesses. Swimming beaches are also concentrated in Hennepin County (32 percent). Washington County has 20 percent, Anoka and Ramsey counties between 10 and 15 percent. Fully half the region's swimming pools are in Hennepin County. Ramsey County shows only six percent, and Dakota County has 18 percent.

The largest portion of the water oriented recreation facilities are accesses (TABLE 3-11.02). For every private access in the region, there are three public accesses; however, most of the public accesses are in Hennepin County. The private accesses concentrate in Washington County. More than twice as many swimming beaches are public than private. Hennepin County has more public beaches than any other county. However, private beaches are relatively numerous in Washington County. All Ramsey County swimming beaches are public.

Unlike public accesses and swimming beaches, most of the region's marinas are private. For every public marina in Hennepin County, there are four private marinas. The ratios of public to private are even more striking in the other counties, except Ramsey, where the ratio is approximately one to two.

Metro Region athletic fields are predominantly oriented toward baseball/softball fields (TABLE 3-11.03). Carver County has the smallest number of athletic fields. Both Carver and Scott counties show very few ice skating or tennis facilities. Nearly every facility has a baseball/softball field.

Campground development is very sparse in the Metro Region (TABLE 3-11.04). Most occur in Washington County, followed by Scott and Carver counties. Scott and Carver have most of the medium sized campgrounds (12-29 units), while Washington County has two-thirds of the large ones (30-59 units). The majority of the extra large campgrounds (60+ units) lie in Hennepin County.

Table III - 11.01: Distribution of Recreation Facility Types in Minnesota Development Region Eleven by County

Facility Type	County							Row Total
	Anoka	Carver	Dakota	Hennepin	Ramsey	Scott	Washington	
<u>Parks</u>								
Number	153	19	155	509	214	20	55	1125
% in Each County	13.6	1.7	13.8	45.2	19.0	1.8	4.9	
<u>Resorts</u>								
Number		2	1	3		3	9	18
% in Each County		11.1	5.6	16.7		16.7	50.0	
<u>Campgrounds</u>								
Number	15	5	10	18	3	7	20	78
% in Each County	19.2	6.4	12.8	23.1	3.8	9.0	25.6	
<u>Marinas</u>								
Number	2	7	10	51	10	8	25	113
% in Each County	1.8	6.2	8.8	45.1	8.8	7.1	22.1	
<u>Athletic Fields</u>								
Number	155	26	150	567	276	32	77	1283
% in Each County	12.1	2.0	11.7	44.2	21.5	2.5	6.0	
<u>Water Access to Lake or River</u>								
Number	20	27	19	71	24	20	52	233
% in Each County	8.6	11.6	8.2	30.5	10.3	8.6	22.3	
<u>Swimming Beach</u>								
Number	19	11	8	42	18	7	26	131
% in Each County	14.5	8.4	6.1	32.1	13.7	5.3	19.8	
<u>Swimming Pool</u>								
Number	6	1	10	27	3	4	3	54
% in Each County	11.1	1.9	18.5	50.0	5.6	7.4	5.6	
<u>Total Facilities</u>								
Number	370	98	363	1288	548	101	267	3035
% in Each County	12.2	3.2	12.0	42.4	18.1	3.3	8.8	

Table III - 11.02: Distribution of Water Oriented Recreation Facilities in Minnesota Development Region Eleven by County

Facility Type	County							Row Total
	Anoka	Carver	Dakota	Hennepin	Ramsey	Scott	Washington	
<u>Public Marinas</u>								
Number			1	11	3	1	1	17
% in Each County			5.9	64.7	17.6	5.9	5.9	
<u>Private Marinas</u>								
Number	2	7	9	41	7	7	24	97
% in Each County	2.1	7.2	9.3	42.3	7.2	7.2	24.7	
<u>Public Access to Lake or River</u>								
Number	20	20	14	61	18	18	28	179
% in Each County	11.2	11.2	7.8	34.1	10.1	10.1	15.6	
<u>Private Access to Lake or River</u>								
Number	1	7	5	9	6	2	24	54
% in Each County	1.9	13.0	9.3	16.7	11.1	3.7	44.4	
<u>Public Beach</u>								
Number	15	6	7	36	18	2	11	95
% in Each County	15.8	6.3	7.4	37.9	18.9	2.1	11.6	
<u>Private Beach</u>								
Number	4	5	1	7		6	15	38
% in Each County	10.5	13.2	2.6	18.4		15.8	39.5	
<u>Total Facilities</u>								
Number	42	45	37	165	52	36	103	480
% in Each County	8.8	9.4	7.7	34.4	10.8	7.5	21.5	

Table III - 11.03 : Distribution of Athletic Field Types in Minnesota Development Region Eleven by County

Facility Type	County							Row Total
	Anoka	Carver	Dakota	Hennepin	Ramsey	Scott	Washington	
<u>Baseball/Softball Fields</u>								
Number	57	8	41	141	72	15	21	355
% in Each County	16.1	2.3	11.5	39.7	20.3	4.2	5.9	
<u>Tennis Courts</u>								
Number	4		4	21	6	1	4	40
% in Each County	10.0		10.0	52.5	15.0	2.5	10.0	
<u>Ice Skating Rinks</u>								
Number	15	1	13	48	6		4	87
% in Each County	17.2	1.1	14.9	55.2	6.9		4.6	
<u>Baseball Fields and Tennis Courts</u>								
Number	8	2	10	25	13	1	5	64
% in Each County	12.5	3.1	15.6	39.1	20.3	1.6	7.8	
<u>Baseball Fields and Ice Skating Rinks</u>								
Number	31	6	36	137	70	6	18	304
% in Each County	10.2	2.0	11.8	45.1	23.0	2.0	5.9	
<u>Tennis Courts and Ice Skating Rinks</u>								
Number	2		4	6	2	1	1	16
% in Each County	12.5		25.0	37.5	12.5	6.3	6.3	
<u>Baseball Fields, Tennis Courts &amp; Ice Skating Rinks</u>								
Number	34	5	32	130	70	3	19	293
% in Each County	11.6	1.7	10.9	44.4	23.9	1.0	6.5	
<u>Total Facilities</u>								
Number	151	22	140	508	239	27	72	1159
% in Each County	13.0	1.9	12.1	43.8	20.6	2.3	6.2	

Table III - 11.04: Distribution of Minnesota Development Region Eleven Campgrounds by Size Class by County

Size Class	County						Row Total
	Anoka	Dakota	Hennepin	Ramsey	Scott	Washington	
<u>Small (1-12 Units)</u>							
Number		1				4	5
% in Each County		20.0				80.0	
<u>Medium (13-29 Units)</u>							
Number	1	3	1	1	2		8
% in Each County	12.5	37.5	12.5	12.5	25.0		
<u>Large (30-59 Units)</u>							
Number					2	4	6
% in Each County					33.3	66.7	
<u>Extra Large (60 + Units)</u>							
Number	1		2		1	1	5
% in Each County	20.0		40.0		20.0	20.0	
<u>Total</u>							
Number	2	4	3	1	5	9	24
% in Each County	8.3	16.7	12.5	4.2	20.8	37.5	

Table III - 11.05: Distribution of Minnesota Development Region Eleven Resorts by Size Class by County

Size Class	County					Row Total
	Carver	Dakota	Hennepin	Scott	Washington	
<u>Extra Small (1-3 Units)</u>						
Number	1		2	2	4	9
% in Each County	11.1		22.2	22.2	44.4	
<u>Small (4-7 Units)</u>						
Number		1			2	3
% in Each County		33.3			66.7	
<u>Medium (8-12 Units)</u>						
Number	1				2	3
% in Each County	33.3				66.7	
<u>Large (13-21 Units)</u>						
Number			1			1
% in Each County			100.0			
<u>Total</u>						
Number	2	1	3	2	8	16
% in Each County	12.5	6.3	18.8	12.5	50.0	







## CHAPTER IV



## CHAPTER IV

### RECREATION DEMANDS AND DESIRES

#### STATEWIDE DEMAND AND DESIRES

##### INTRODUCTION

Two major surveys by DNR of Minnesotans' outdoor recreation activities and desires supply the basis for this chapter. Among the findings are:

- . Snowmobiling and ice-skating will be the most frequent winter recreation activities in 1985, while cross-country skiing and ice fishing will increase at substantial rates.
- . By and large, Minnesotans tend to stay in the state for their winter recreation.
- . Residents' desires for more summer recreation opportunities range far more widely than for winter opportunities.
- . A significant proportion of residents expressed a desire for expanded opportunities to bicycle, camp, fish, play tennis and swim, in that order.
- . Residents are willing to travel farther for summer than winter recreation.

Analysis of survey responses suggests the following.

##### Staff Recommendations

Providers of winter recreational opportunities should seek to expand hunting, cross-country skiing and snowmobiling opportunities. A greater willingness of Metropolitan Area residents to travel for their recreation, plus their less widespread support for more hunting than in Non-Metro regions, suggest that the major efforts to provide hunting opportunities need not be located in close proximity to the Metro Region. Nevertheless, some hunting opportunities need to be provided near the Metro Region. On the other hand, the Metro Region residents' desired travel under one hour for snowmobiling and one half-hour for cross-country skiing. Snowmobilers, willingness to travel is even less in Non-Metro regions while cross-country skiing is about the same. Given this, programs to supply facilities for these activities should strongly consider proximity to population concentrations as a guide for facility location. Furthermore, given the local nature of users of these facilities, regional and local governments should be encouraged to provide these resources.

Summer facilities, in general, hold wider appeal for residents statewide. Based on short willingness to travel figures, regional and local units of government should be encouraged to provide facilities for bicycling, tennis and swimming. Federal, state, regional and private sectors should look to

supplying additional hiking, camping and fishing opportunities. Additional fishing opportunities should include accelerated fish-stocking programs, when appropriate for the resource, and intensified fish management. Hand-in-hand with them should come expanded public access through the acquisition and development of new accesses and publicizing both new and old access opportunities.

#### Winter Recreation Trends<sup>1</sup>

Snowmobiling and ice skating will be the most frequently participated in winter recreation activities in 1985 (TABLE 4-S.01). Both activities are predicted to occur more than ten million times. However, neither activity shows a large percentage increase. Nevertheless, the huge base-line participation figure causes the impact of even a small percentage increase to be substantial (Ice skating up 189,000 occasions, snowmobiling up 162,000 occasions).

Other activities increasing at substantial rates are ice fishing and cross-country skiing. Minnesotans will ice fish 400,000 more times in 1985 than in 1978. That represents a seven-year growth rate of 7 percent. A lower growth rate (5 percent) in cross-country skiing will increase originating occasions by over 200,000 person-outings.

The statewide pattern of resident recreation occasions occurring in Minnesota indicates that the state is not a major exporter of winter recreation opportunities. (TABLE 4-S.02). Only in the case of downhill skiing do a substantial number of residents travel outside the borders of the state. In this case, those travelers account for 980,000 exported downhill skiing occasions. Some 212,000 snowmobiling occasions are exported. Cross-country skiers also travel out of state in fair numbers. Their travel accounts for 166,000 exported occasions.

#### Public Desire for Winter Recreation Opportunities

The regional polls on desired recreation facilities were weighted and combined. The initial combinations placed all regions in a statewide poll. A second combination allows contrasting of Non-Metropolitan regions with the Metro Region TABLE 4-S.05 presents these combinations.

Statewide, residents desire additional hunting, cross-country skiing and snowmobiling opportunities more strongly than other activities. This holds true in both the Metropolitan Region, on one hand, and the remaining 12 Minnesota development regions on the other, although the order of priorities is reversed.

<sup>1</sup> The SCORP's projections of summer and winter outdoor recreation participation were based on regional state demographer's estimates of the population in each age-sex class for 1975, 1980, 1985, 1990 and 1995. (See SCORP Report Series).

TABLE 4-S.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING<sup>1</sup> STATEWIDE

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	164041	166357	1.4	174651	5.0	182717	4.6	191232	4.7
Cross-Country Skiing	4435714	4459967	0.5	4658209	4.4	4939812	6.0	5131358	3.9
Downhill Skiing	3648222	3691316	1.2	3600088	-2.5	3538925	-1.7	3606568	1.9
Snowshoeing	543847	540332	-0.6	540715	0.1	580447	7.3	598316	3.1
Ice Skating	12718698	12135915	-4.6	12880341	6.1	13841224	7.5	14036376	1.4
Snowmobiling	11253705	11082925	-1.5	11442553	3.2	11992029	4.8	12249426	2.1
Dog Sledding	52577	52095	-0.9	54141	3.9	58103	7.3	59471	2.4
Ice Fishing	5156012	5281175	2.4	5533490	4.8	5735207	3.6	5964010	4.0
Open Water Fishing	36267	37160	2.5	39497	6.3	38038	-3.7	36758	-3.4
Trapping	604410	605193	0.1	567552	-6.2	582571	2.6	621881	6.7
Ice Boating	14904	16039	7.6	17415	8.6	16621	-4.6	14035	-15.6
Sledding	9399203	8966353	-4.6	9206444	2.7	9998115	8.6	10258066	2.6
Snowtubing	741846	721635	-2.7	713720	-1.1	746449	4.6	770994	3.3
Orienteering	68222	66581	-2.4	64642	-2.9	73452	13.6	75998	3.5

<sup>1</sup> These occasions, made by Minnesotans, could occur outside Minnesota as well as inside Minnesota.

TABLE 4-S.02: PROJECTIONS OF WINTER RECREATION OCCASIONS OCCURRING<sup>1</sup> STATEWIDE

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	135236	137620	1.8	144968	5.3	150168	3.6	155415	3.5
Cross-Country Skiing	4286233	4308171	0.5	4492938	4.3	4761155	6.0	4943131	3.8
Downhill Skiing	2660226	2688073	1.0	2616689	-2.7	2572699	-1.7	2621274	1.9
Snowshoeing	536453	533061	-0.6	532509	-0.1	572093	7.4	589353	3.0
Ice Skating	12699292	12121329	-4.6	12873259	6.2	13837450	7.5	14037011	1.5
Snowmobiling	11044123	10881225	-1.5	11230083	3.2	11770366	4.8	12029392	2.2
Dog Sledding	52577	52095	-0.9	54141	3.9	58103	7.3	59471	2.4
Ice Fishing	5074860	5198326	2.4	5445360	4.8	5641539	3.6	5865975	4.0
Open Water Fishing	35505	36408	2.5	38723	6.4	36997	-4.5	34500	-6.7
Trapping	604408	605309	0.1	567511	-6.2	582094	2.6	621426	6.8
Ice Boating	14905	16082	7.9	17479	8.7	16681	-4.6	14062	-15.7
Sledding	9328053	8899274	-4.6	9138566	2.7	9923838	8.6	10191782	2.7
Snowtubing	726552	707185	-2.7	699979	-1.0	731572	4.5	755269	3.2
Orienteering	68220	66586	-2.4	64654	-2.9	73447	13.6	75984	3.5

<sup>1</sup> These occasions, made by Minnesotans occur only in the state of Minnesota. Occasions done by Minnesotans in other states are not included.

TABLE 4-S.05: Percent of Statewide, Non-Metro Population Desiring More Opportunity For Winter Activities

Activity	STATEWIDE		NON-METRO REGIONS		METRO REGIONS	
	% Population Requesting Activity	.75 Confidence Interval	% Population Requesting Activity	.75 Confidence Interval	% Population Requesting Activity	.75 Confidence Interval
Hunting	10.7	.0	12.5	.0	9.0	1.1
Cross-Country Skiing	10.5	.0	9.2	.0	11.9	1.3
Snowmobiling	8.7	.0	11.1	.0	6.3	1.0
Downhill Skiing	3.3	.0	4.6	.0	1.9	.6
Miscellaneous Skiing	2.7	.0	2.9	.0	2.5	.6
Ice Skating	2.3	.0	1.9	.0	2.8	.7
Target Shooting	1.0	.0	0.7	.0	1.2	.4
Ice fishing	0.5	.0	0.2	.0	.7	.3
Sledding	0.4	.0	0.6	.0	.1	.1
Snowshoeing	0.3	.0	0.4	.0	.1	.1
Trapping	0.2	.0	0.1	.0	.2	.2
Snowtubing	0.2	.0	0.2	.0	.1	.1

Statewide, more downhill skiing is preferred by 3.3 percent. Here the Metro region and the Non-Metro region disagree. Only 1.9 percent in the Metro Region desires more downhill skiing. That's in contrast to 4.6 percent in the Non-Metro regions.

The statewide, Non-Metro and Metro ranking of the remaining activities agree strongly with one another.

The strengths of the needs expressed (SCALE 1-5: 1= low need, 5= high need), are in agreement in the three samples (TABLE 4-S.06). Trapping shows the strongest Metro-non-metro disagreement, with the Metro average need four points higher on the scale. Ice fishing also shows strong disagreement, but the Metro Area figure has a wide confidence interval, indicating doubt in the data accuracy.

TABLE 4-S.06: Expressed Level Of Need for More Winter Recreation Opportunities by Statewide, Non-Metro and Metro Regions (SCALE 1-5: 1= low need, 5= high need)

Activity	STATEWIDE		NON-METRO REGIONS		METRO REGIONS	
	Average Need	.75 Confidence Interval	Average Need	.75 Confidence Interval	Average Need	.75 Confidence Interval
Hunting	3.3	.1	3.4	.1	3.2	.5
Downhill						
Skiing	3.3	.2	3.3	.2	3.4	.8
Ice Skating	3.3	.2	3.1	.2	3.5	.5
Miscellaneous						
Skiing	3.2	.2	3.2	.2	3.2	.8
Sledding	3.1	.1	1.1	.2	*	*
Cross-country						
skiing	3.0	.1	3.0	.1	2.9	.4
Snowmobiling	2.9	.1	2.9	.1	2.9	.5
Target						
Shooting	2.9	.2	2.6	.1	3.2	.8
Trapping	2.5	.2	.4	.0	4.5	.5
Snowshoeing	1.9	.1	.9	.1	*	*
Snowtubing	1.9	.0	.8	.0	*	*
Ice Fishing	1.7	.4	.4	.0	3.0	1.1

\*Sample size precludes calculation



Distant travel for winter activities is rare (TABLE 4-S.07). Statewide, willingness to travel over one hour occurs only for snowshoeing and hunting. In the case of snowshoeing comparison of Metro/Non-Metro figures shows that the great distance is owed entirely to the Metropolitan Region response.

In general, Metro Region residents are willing to travel farther to winter recreate, especially ice fishing. Two of the three exceptions to this generalization--ice skating and sledding--aren't surprising, since opportunities for them are abundant in the Metro region. The third exception is cross-country skiing, where Metro residents also indicated a desire for significantly shorter trips. This may seem surprising, given the popular image of north-country cross-country ski trips. On the other hand, exceedingly heavy use by Metropolitan Area residents of relatively close-in cross-country trails (in state parks and Hennepin County park reserves, for example) suggests a strong demand for additional close-in trails. Perhaps a more urban image should be added to north-woods character of today's cross-country skier. Figure 4-S.01 graphically illustrates the distances Metro Region Residents are willing to travel for winter recreation.

TABLE 4-S.07: Average Miles Willing to Travel for Winter Activities by Statewide, Non-Metro and Metro Regions

Activity	STATEWIDE		NON-METRO REGIONS		METRO REGIONS	
	Average Miles Willing to travel	.75 Confidence Interval	Average Miles Willing to travel	.75 Confidence Interval	Average Miles Willing to travel	.75 Confidence Interval
Snowshoeing	104	1	8	2	*	*
Hunting	93	9	62	7	125	52
Snowmobiling	53	7	43	9	62	30
Ice Fishing	51	19	10	3	91	56
Downhill Skiing	46	9	45	6	47	34
Miscellaneous Skiing	38	7	32	4	44	27
Cross-Country Skiing	29	3	32	4	26	14
Sledding	22	13	40	26	5	*
Trapping	19	6	3	2	35	14
Target Shooting	12	2	9	0.8	14	5
Ice Skating	8	1	11	2	5	3
Snowtubing	8	0.1	5	0.2	*	*

\*Sample size precludes calculation

# Metro Region Residents Average Miles Willing To Travel For Winter Activities

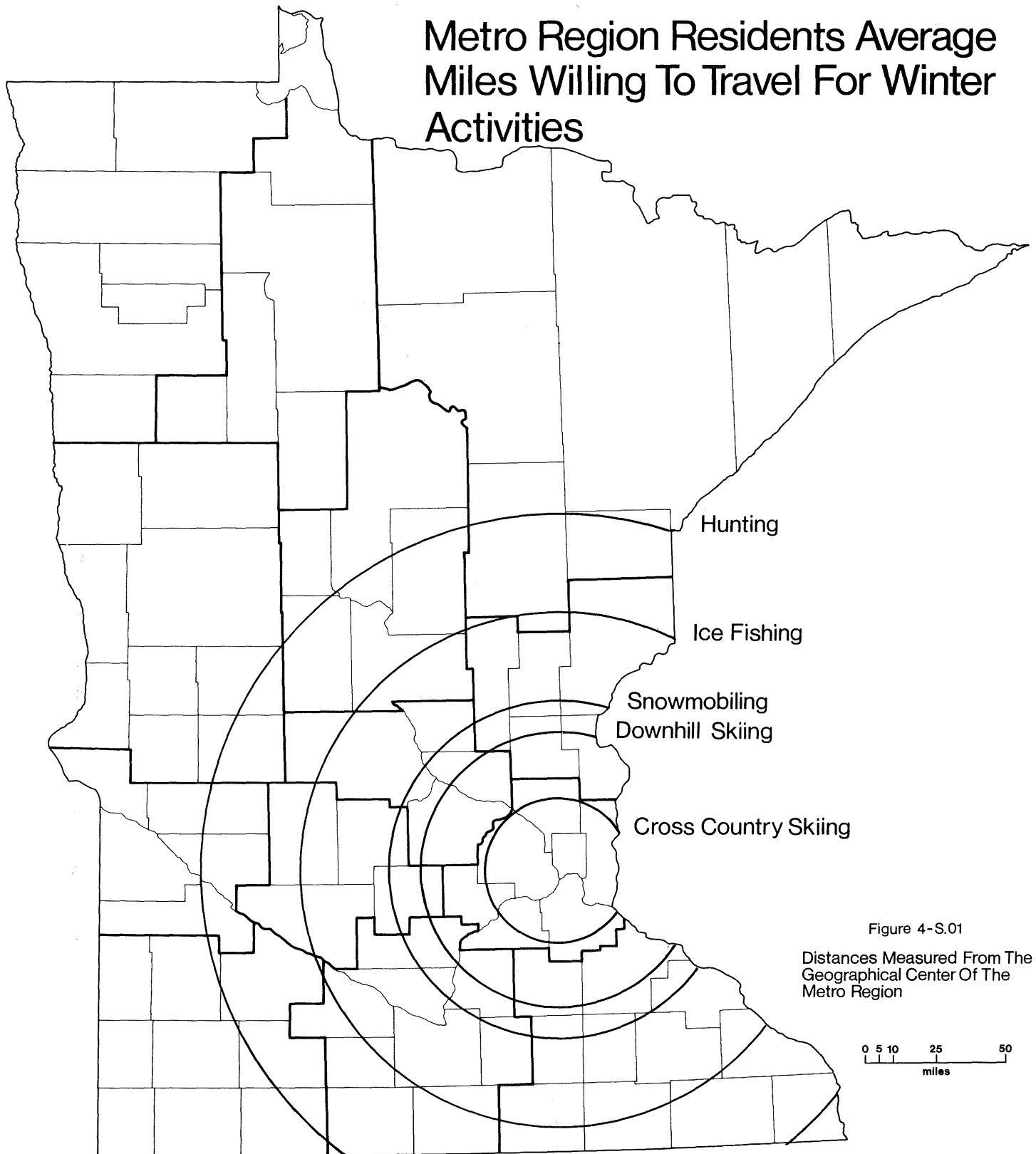


Figure 4-S.01

Distances Measured From The  
Geographical Center Of The  
Metro Region

0 5 10 25 50  
miles

## Summer Recreation Trends

Minnesotan's bicycled over 50 million times during the summer of 1978 (May 15 through Labor Day Weekend). They bicycled over twice as many times as they swam (25 million) and three times as many times as they fished and boated (14 million each). TABLE 4-STATE.03 shows that these rates of participation will remain fairly constant between 1978 and 1980. Total swimming and bicycling will decline slightly while total boating and fishing will increase. The 1980 to 1985 trends continue the pattern, but at a slower rate of change.

The activities showing the highest 1980 to 1985 percent rate of change is trapshooting with a 9.7 percent increase. This percent rate of change could easily mislead a reader into overstating the importance of providing for more trapshooting. While the percent rate is high, the base rate is fairly low at slightly more than 400,000 occasions per summer.

Statewide, it appears that projected origins based on the age and sex of participants today and their expected numbers in the future predict little added or reduced participation. Any grand changes in the statewide level of participation will result from fads or technological innovation.

Comparing the figures in TABLE 4-.03 with those presented in TABLE 4-.04 shows statewide origins by Minnesotan's versus occurrences in Minnesota due to residents. Any difference between origins and occurrences can be attributed to Minnesotan's going to other states to recreate. Visiting historic sites combined with lake and stream canoeing and backpacking are the activities where showing the highest probability that a Minnesotan will go outside the state to participate. Sailing, camping and skeet shooting form the three activities showing the next highest probability of participation outside of Minnesota. The relatively high probabilities of outstate participation (.2 to .3) suggests one following policy steps if energy consumption decreases are SCORP objectives. Additional supply and publication of opportunities for these activities should be developed to encourage energy savings through recreation travel near home.

TABLE 4-STATE.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING STATEWIDE

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	739874	743489	0.5	754317	1.5	782122	3.7	796951	1.9
Back- packing	766763	775729	1.2	766259	-1.2	749285	-2.2	732150	-2.3
Organized Base/ Softball	7767965	7764090	0.0	7711565	-0.7	7809141	1.3	7810272	0.0
Sandlot Base/ Softball	5889868	5750509	-2.4	5708142	-0.7	6062883	6.2	6289587	3.7
Total Base/Softball	13657835	13520166	-1.0	13425465	-0.7	13866076	3.3	14084222	1.6
Recreation Bicycling	49230911	47976273	-2.5	47479398	-1.0	50463766	6.3	52548209	4.1
Transportation Bicycling	7114559	7008434	-1.5	6564397	-6.3	6602420	0.6	6882920	4.2
Total Bicycling	56345465	54987524	-2.4	54052204	-1.7	57049135	5.6	59423006	4.1
Birdwatching Nature Study	2698193	2745962	1.8	2865703	4.4	3027102	5.6	3169283	4.7
Power Boating/ Waterskiing	11744530	11867652	1.0	12186253	2.7	12693576	4.2	13308927	4.8
Sailing	1062731	1084158	2.0	1113083	2.7	1149634	3.3	1221375	6.2
Other Boating	1415736	1426086	0.7	1423064	-0.2	1480291	4.0	1550560	4.7
Total Boating	14222996	14379401	1.1	14724772	2.4	15324501	4.1	16080820	4.9
Camping	4443996	4500790	1.3	4692055	4.2	4934369	5.2	5109995	3.6
Lake Canoeing	1950806	1982144	1.6	2001930	1.0	2029116	1.4	2120178	4.5
Stream Canoeing	463809	477222	2.9	492100	3.1	499593	1.5	508081	1.7

Lake & Stream Canoeing	158761	164925	3.9	167971	1.8	177268	5.5	192466	8.6
Total Canoeing	2580564	2631617	2.0	2670294	1.5	2714927	1.7	2828921	4.2
Driving for Pleasure	8794924	8996328	2.3	9384027	4.3	9634177	2.7	9753482	1.2
Fishing	14509527	14688188	1.2	15266254	3.9	16022486	5.0	16791863	4.8
Football	1284406	1252482	-2.5	1169087	-6.7	1196457	2.3	1272722	6.4
Four Wheeling	384177	400734	4.3	415374	3.7	406234	-2.2	383456	-5.6
Golf	5110418	5217467	2.1	5437393	4.2	5751167	5.8	6043615	5.1
Hiking	4743159	4811442	1.4	5018761	4.3	5242290	4.5	5422189	3.4
Horseback Riding (trail)	761986	746081	-2.1	725224	-2.8	751174	3.6	767774	2.2
Horseback Riding (other)	1540413	1514257	-1.7	1474080	-2.7	1538736	4.4	1637453	6.4
Total Horseback Riding	2319277	2277713	-1.8	2214385	-2.8	2302963	4.0	2417929	5.0
Orienteering	48404	45700	-5.6	41533	-9.1	43583	4.9	43649	0.2
Picnicking	8034956	8140437	1.3	8531908	4.8	8968856	5.1	9206987	2.7
Trap Shooting	401355	414396	3.2	454617	9.7	472166	3.9	476530	0.9
Skeet Shooting	90602	91424	0.9	96167	5.2	103042	7.1	111547	8.3
Range/Target Shooting	479233	490389	2.3	508499	3.7	530590	4.3	561571	5.8
Total Shooting	971189	996946	2.7	1062421	6.6	1109099	4.4	1151402	3.8
Swimming	25038349	24761954	-1.1	24659835	-0.4	25690526	4.2	26874115	4.6
Tennis	5854348	5941846	1.5	5911945	-0.5	5996093	1.4	6158616	2.7
Trail Biking	1150697	1120693	-2.6	1051442	-6.2	1093191	4.0	1155431	5.7
Visiting Historic Sites	1627648	1645284	1.1	1725656	4.9	1830595	6.1	1916788	4.7

TABLE 4-STATE.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING STATEWIDE

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	722336	726223	0.5	737159	1.5	764060	3.6	777563	1.8
Back- packing	575809	583379	1.3	576678	-1.1	560397	-2.8	544443	-2.8
Organized Base/ Softball	7671134	7667418	0.0	7616058	-0.7	7712604	1.3	7713076	0.0
Sandlot Base/ Softball	5840714	5702419	-2.4	5660250	-0.7	6012083	6.2	6236691	3.7
Total Base/Softball	13511847	13375610	-1.0	13282064	-0.7	13718232	3.3	13933391	1.6
Recreation Bicycling	49165031	47912511	-2.5	47416024	-1.0	50395317	6.3	52475510	4.1
Transportation Bicycling	7051876	6946778	-1.5	6507165	-6.3	6545745	0.6	6823476	4.2
Total Bicycling	56216908	54863380	-2.4	53920459	-1.7	56928588	5.6	59285085	4.1
Birdwatching Nature Study	2531462	2576009	1.8	2688369	4.4	2836721	5.5	2966738	4.6
Power Boating/ Waterskiing	10721555	10833154	1.0	11124426	2.7	11587160	4.2	12154040	4.9
Sailing	875054	892030	1.9	915180	2.6	947228	3.5	1006554	6.3
Other Boating	1367948	1378107	0.7	1376200	-0.1	1432117	4.1	1500398	4.8
Total Boating	12964559	13105936	1.1	13423196	2.4	13972952	4.1	14669031	5.0
Camping	3574806	362038	1.3	3774234	4.3	3965082	5.1	4101486	3.4
Lake Canoeing	1828523	1857420	1.6	1875861	1.0	1899987	1.3	1985031	4.5
Stream Canoeing	406135	417923	2.9	432980	3.6	440531	1.7	446979	1.5

Lake & Stream Canoeing	108870	112938	3.7	115519	2.3	121955	5.6	132401	8.6
Total Canoeing	2350718	2397557	2.0	2435439	1.6	2474620	1.6	2577199	4.1
Driving for Pleasure	8284393	8474263	2.3	8841892	4.3	9077776	2.7	9190809	1.2
Fishing	13381764	13546097	1.2	14079286	3.9	14772261	4.9	15484454	4.8
Football	1259356	1228150	-2.5	1146888	-6.6	1174000	2.4	1248478	6.3
Four Wheeling	362458	378122	4.3	391923	3.6	382930	-2.3	361004	-5.7
Golf	4961983	5065610	2.1	5278810	4.2	5583314	5.8	5867339	5.1
Hiking	4338966	4400643	1.4	4589132	4.3	4788562	4.3	4951584	3.4
Horseback Riding (trail)	727462	712135	-2.1	692247	-2.8	715280	3.3	730087	2.1
Horseback Riding (other)	1526761	1500645	-1.7	1460096	-2.7	1523583	4.3	1621521	6.4
Total Horseback Riding	2271104	2229915	-1.8	2167538	-2.8	2252598	3.9	2365170	5.0
Orienteering	48404	45678	-5.6	41483	-9.2	43553	5.0	43634	0.2
Picnicking	7459066	7557013	1.3	7921494	4.8	8324799	5.1	8543385	2.6
Trap Shooting	395666	408617	3.3	448949	9.9	465454	3.7	469247	0.8
Skeet Shooting	74956	75739	1.0	80184	5.9	86163	7.5	92660	7.5
Range/Target Shooting	474429	485485	2.3	503231	3.7	524417	4.2	554540	5.7
Total Shooting	945054	970276	2.7	1035028	6.7	1079267	4.3	1119401	3.7
Swimming	23674963	23412063	-1.1	23313531	-0.4	24282644	4.2	25397512	4.6
Tennis	5797210	5883918	1.5	5854078	-0.5	5936896	1.4	6096916	2.7
Trail Biking	246668	245144	-0.6	231814	-5.4	235051	1.8	245588	4.0
Visiting Historic Sites	1140207	1150853	1.3	427273	5.4	454875	6.5	474786	4.4

## Public Desire for Summer Recreation Opportunities

The range of requests for summer opportunities is much wider than for winter activities. Statewide, the most respondents asked for expanded opportunities for bicycling (18.9 percent) camping (17.5 percent) and fishing (15.0 percent), (TABLE 4-S.08). No other activity was requested by more than 15 percent of respondents, whether Metro or Non-Metro residents--the top five activities are identical for both groups. Relative priorities among those are not precisely the same; nevertheless, the only major difference in preference appears to be more tennis, which is desired by nearly twice as large a proportion of Metro than Non-Metro residents.

TABLE 4-S.08: Percent of Statewide Non-Metro and Metro Population Desiring More Opportunity for Summer Activities<sup>1</sup>

Activity	STATEWIDE		NON-METRO REGIONS		METRO REGIONS	
	% Population Requesting Activity	.75 Confidence Interval	% Population Requesting Activity	.75 Confidence Interval	% Population Requesting Activity	.75 Confidence Interval
Bicycling	18.9	.0	15.8	.0	21.9	1.7
Camping	17.5	.0	19.1	.0	16.0	1.5
Fishing	15.0	.0	18.6	.0	11.4	1.3
Tennis	11.1	.0	7.5	.0	14.5	1.4
Swimming	10.9	.0	11.4	.0	10.3	1.2
Hiking	7.1	.0	5.9	.0	8.2	1.1
Picnicking	5.0	.0	4.6	.0	5.3	.9
Boating	4.9	.0	4.5	.0	5.3	.9
Golfing	4.7	.0	3.3	.0	6.2	1.0
Park Facilities	2.9	.0	1.8	.0	4.0	.8
Canoeing	2.5	.0	2.5	.0	2.4	.6
Horseback Riding	2.1	.0	2.6	.0	1.7	.5
Trailbiking	2.0	.0	1.8	.0	2.2	.6
Baseball/Softball	1.6	.0	1.8	.0	1.3	.5
Backpacking	1.2	.0	0.9	.0	1.5	.5
Walking	0.9	.0	0.4	.0	1.5	.5
Jogging	0.9	.0	0.4	.0	1.3	.5
Waterskiing	0.5	.0	0.6	.0	0.4	.2
Archery	0.5	.0	0.3	.0	0.7	.3
Fourwheeling	0.4	.0	0.5	.0	0.4	.2
Visiting Historic Sites	0.4	.0	0.3	.0	0.5	.3
Soccer	0.3	.0	0.1	.0	0.5	.3
Birdwatching	0.1	.0	0.1	.0	0.1	.1
Orienteering	0.0	.0	0.1	.0	0.0	.0

<sup>1</sup> The data reflect the responses of over 3,000 persons statewide to a mailed questionnaire. The question asked: "One area of particular concern is the present supply of facilities and opportunities for outdoor recreation activities. Which one outdoor recreation activity do you feel is in the greatest need of additional facilities or opportunities for your enjoyment?"



TABLE 4-S.09 presents the expressed need levels for Statewide, Non-Metro and Metro respondents. Statewide the top 10 activities were strongly needed, each scoring over 3.0 on average need. Of those 10 top statewide activities, only fourwheeling fell below 3.0 in the Non-Metro sample. To the contrary, that activity received the highest average need score for the Metro sample, 4.0 on the five-point scale.

TABLE 4-S.09: Expressed Level Of Need for More Summer Recreation Opportunities by Statewide, Non-Metro and Metro Regions

Activity	STATEWIDE		NON-METRO REGIONS		METRO REGIONS	
	Average Need	.75 Confidence Interval	Average Need	.75 Confidence Interval	Average Need	.75 Confidence Interval
Trailbiking	3.5	0.2	3.2	0.2	3.7	.6
Baseball/ Softball	3.4	0.2	3.8	0.1	3.0	.8
Canoeing	3.4	0.1	3.1	0.2	3.6	.5
Bicycling	3.3	0.1	3.2	0.1	3.3	.4
Swimming	3.3	0.1	3.4	0.1	3.1	.4
Horseback Riding	3.2	0.2	3.3	0.2	3.2	.7
Fourwheeling	3.2	0.3	2.4	0.0	4.0	.7
Tennis	3.2	0.1	3.2	0.1	3.1	.4
Camping	3.1	0.1	3.1	0.1	3.2	.4
Hiking	3.1	0.1	3.1	0.2	3.1	.5
Backpacking	3.0	0.2	2.3	0.1	3.8	.6
Fishing	3.0	0.1	3.0	0.1	3.0	.5
Boating	3.0	0.1	3.0	0.2	3.0	.6
Golfing	2.9	0.1	2.8	0.2	2.9	.5
Picnicking	2.6	0.1	2.5	0.2	2.8	.5
Waterskiing	2.6	0.0	2.3	0.0	3.0	0.0
Park Facilities	2.6	0.2	2.0	0.1	3.2	.7
Jogging	2.5	0.1	1.3	0.0	3.8	.5
Birdwatching	2.3	0.0	0.6	0.0	*	*
Archery	2.1	0.2	1.2	0.0	3.0	.7
Visiting Historic Sites	2.0	0.4	1.0	0.1	3.0	1.2
Walking	2.0	0.2	0.9	0.0	3.1	.7
Soccer	1.9	0.4	0.8	0.0	3.0	1.0
Orienteering	0.1	0.0	0.2	0.0	0.0	0.0

\*Sample size precludes calculation

Outside the Metropolitan area, only the first 10 activities scored over 3.0 on average need. But in the Metro Area, backpacking (3.8), park facilities (3.2), jogging (3.8) and walking (3.1) all received average need scores as strong as the top 10 activities statewide.

Each of the activities that received support from 10 percent or more of the statewide sample show average need scores of 3.0 or greater. Bicycling and swimming have scores of 3.3, the highest of any summer activity requested by ten percent or more of the sample. Following are tennis (3.2), camping (3.1), and fishing (3.0).

TABLE 4-S.10: Average Miles Willing to Travel for Summer Activities by Statewide, Non-Metro and Metro Regions

Activity	STATEWIDE		NON-METRO REGIONS		METRO REGIONS	
	Average Miles Willing to travel	.75 Confidence Interval	Average Miles Willing to travel	.75 Confidence Interval	Average Miles Willing to travel	.75 Confidence Interval
Backpacking	107	21	85	30	129	54
Camping	96	5	76	5	115	30
Canoeing	87	16	59	9	115	62
Fishing	68	5	53	4	82	29
Boating	59	7	57	5	61	32
Visiting Historic Sites	44	23	20	0.0	68	64
Hiking	44	10	31	3	57	54
Waterskiing	41	21	20	0.9	62	54
Fourwheeling	36	13	25	0.7	47	33
Park Facilities	33	6	35	7	32	26
Picnicking	27	5	32	8	23	14
Birdwatching	26	0	3	0.0	*	*
Trailbiking	24	4	25	6	23	14
Horseback Riding	22	4	22	4	22	15
Baseball/softball	18	2	23	2	14	8
Swimming	16	3	16	2	17	15
Bicycling	14	2	14	2	15	9
Golfing	12	1	13	1	12	6
Jogging	7	3	4	0.8	9	9
Soccer	6	2	3	0.0	10	5
Tennis	6	0.5	8	0.9	4	2
Walking	5	2	1	0.0	8	8
Archery	5	0.2	6	0.0	3	1
Orienteering	1	0.1	2	0.2	*	*

\*Sample size precludes calculation

Minnesotan's are willing to travel farther to participate in summer activities than winter activities (TABLE 4-S.10). They will travel farther for backpacking, canoeing and camping--one and one-half to two hours. Although Metro respondents are willing to travel farther for each of these activities than are Non-Metro respondents, backpacking and camping still maintain their position in the one and one-half to two-hour travel time category for Non-Metro residents.

Figure 4-S.02 illustrates the approximate distances Metro residents are willing to travel for summer recreation activities.

Statewide, fishing and boating comprise the one hour category. Canoeing joins these two activities in the Non-Metro response. However, for the Metro residents fishing and canoeing are still in the hour and one-half to two-hour category.

Other major Metro, Non-Metro differences are in visiting historic sites, waterskiing, hiking, and fourwheeling. In each of these cases, Metro respondents will travel substantially farther than Non-Metro respondents.

#### Analysis of Recreation Flows

The preceding discussion centered on Statewide Recreation trends. For planning purpose it is important to understand where people travel to for recreation. Equally important is a understanding of why recreation flows occur. Knowledge of the events without an understanding of the processes underlying them limits ones ability to determine the relationships and predict future trends.

Analysis of recreational flows must, at a minimum, incorporate five variables: The origins of recreation flows, the destination, willingness to travel for a recreational activity, the impacts (i.e., frequency of occurrence) and the distribution of recreational resources. The origins of recreational occasions (i.e., where recreation trips originate) are closely related to the distribution of population. For example, areas with high population densities tend to generate large numbers of recreation activity occasions. A significant number of the recreation occasions can occur outside the area of origin. When a recreation occasion occurs outside its area of origin, a recreation flow has occurred. The destination of activity flows are related to the distribution of recreational resources and the accessibility of the resource (i.e., the functional distance separating the population concentrations and the resource). Areas with good recreational resources usually accomodate most of their residents recreational demands. Consequently, there is little need to travel outside of the region to recreate. Areas endowed with excellent recreational resources tend to accommodate not only their residents recreation activities, but the residents of nearby areas lacking high quality recreational resources. In other words, areas with insufficient recreational resources relative to their populations are usually exporters of recreation occasions. In contrast, areas endowed with recreation resources tend to import occasions. Generally speaking, the greater accessibility of the area, all else being equal, the greater the areas attraction.

The distribution of recreational resources and population were examined in the preceding chapter. This section will briefly examine the importance of the accessibility of resources in terms of activity flows.

For any recreation activity an area (e.g. county, development region) can be described as an exporting, importing or self-sufficient area. Recreational self-sufficiency can be defined as an area's ability to accommodate the recreation occasions originating within the area for a particular activity. When an area is unable to provide the recreational resources needed for its residents' occasions, travel to another area will occur. If significantly more occasions originate in an area than occur there, the region can be described as an exporting area. Conversely, an importing area is one where more recreation occasions occur in the area than are originated by its residents.

In the interest of energy conservation and providing recreation opportunities consistent with demand and the resource's capability, the recreational flows and impacts need to be analyzed. Knowing the origins of recreation occasions and resource impacts can improve planning. For instance, recreation opportunities can be developed near the areas of origin when impacts to existing resources are high. By developing a recreational resource between the presently heavily impacted resource (the destination) and the major exporter of activity occasions (the origin) an intervening recreation opportunity is created. This action reduces resource impacts to the original destination. Conversely, a recreation resource may already exist near a population center, but the citizens express a strong desire for additional facilities. Without knowledge of travel behavior, resource impact, and average willingness to travel it would not be clear to the recreational planner whether the existing facilities were underused because of the travel distances involved, lack of public awareness or some other reasons.

It is important to note that there are other important variables influencing recreational travel patterns. For some, "getting away from it all" may be an important element of the recreational experience. Other important variables are the quality and familiarity of the resource. For example, past trends indicate that the development (e.g., lake cabins) or use of a resource tends to favor popular areas already established. Finally, past, pleasant experiences at campgrounds, resorts, etc. may provide strong impulses to return. In short, people may use recreation resources for a variety of reasons even though comparable resources may exist closer by.

#### REGION TO REGION WINTER ACTIVITY OCCASIONS FLOWS

TABLES 4-S.11 through 4-S.18 provide additional data describing residents' travel for the six winter recreation activities with the highest statewide occasion count (see page 4.022): ice skating (12,700,000 occasions); snowmobiling (11,300,000 occasions); sledding (9,400,000 occasions); ice fishing (5,200,000 occasions); cross-country skiing (4,400,000 occasions); and downhill skiing (3,600,000 occasions). In addition, TABLES 4-S.17 and 4-S.18 present the same data for snowmobiling on trails only and cross-country skiing on trails only. The region of origin is listed across the top of each table, the region of destination down the left side of each table. The far right-hand column shows the total occasions occurring in each destination region. The bottom row contains the total occasions originated by residents of each region. The bottom row contains the total occasions originated by residents of each region. Two percentage figures are presented in a diagonal row that marks the horizontal-vertical junction of each region in the table. The top figure is the percent of the destination region's in the table. The top figure is the percent of the destination region's total occasions

represented by residents of the region of origin. The bottom percentage is the percent of the total origins by residents of the region that took place in that region of destination.

A brief look at TABLE 4-S.11 ice skating origins and destination, will help clarify the tables. The top row figure in the far-right hand column, 212,000, means that 212,000 ice-skating occasions occurred in destination Region One. The bottom row figure in the far left-hand column, 218,300, says that 218,300 ice-skating occasions were made by Region One residents.

Two figures appear in the junction of row one and column one: 98 percent and 96 percent. The top figure (98 percent) means that of the 212,200 ice-skating occasions that occurred in Region One, 98 percent (or 208,000) of those occasions were done by Region One residents. The bottom figure (96 percent) means that of the 218,000 occasions by Region One residents, 96 percent (or 210,000) occurred in Region One. Rounding of percents causes the two figures, 208,000 and 210,000 to differ. In theory these are the same.

The percentages in row one, column seven (two percent and 0 percent) mean that residents of Region 7W contributed two percent of the ice-skating occasions that occurred in Region One, and that none (0 percent) of the ice-skating occasions in Region 7W were contributed by Region One residents.

In short, the top percentage indicates the impact of the origin region on the destination region's resources. The bottom figure represents the dependency of the origin region on the destination region's resources. In both cases, the higher the percentage the greater the dependency or impact.

#### Resource Impact

The most important generalization on resource impact is that the vast majority comes from within each region. This can be seen by looking at the top percentages running down the left-right diagonal of the tables. Rarely is the percentage less than 70 percent. In fact, for total snowmobiling (TABLE 4-S.12) only one region, Region 7E fails to accommodate at least 70 percent of the activity occasions it generates. This is surprising, since snowmobilers have long been assumed to travel far for their recreation. For traditional close to home activities such as sledding (TABLE 4-S.13), most of the regions supply the resources for upwards of 90 percent of their origins.

Varying strongly from this generalization are total cross-country skiing (TABLE 4-S.15) and downhill skiing (TABLE 4-S.16). Downhill skiing facilities in Region Three by 6W and 7E are heavily impacted by other regions, primarily the Metro Area. Region Eight also contributes significantly to impact in other regions. The impact is due primarily to the distribution of ski areas.

In the case of cross-country skiing, the heavily impacted region are Five, 7E, and Nine. Again, the Metro Region is the major contributor of impact. Note that while 75 percent of the cross-country skiing occasions in Region 6W are attributable to that region's residents, Two other regions impact the area. Region Four supplies 10 percent of the resource impact in Region 6W and Region Eight supplies 15 percent.

# Metro Region Residents Average Miles Willing To Travel For Summer Activities

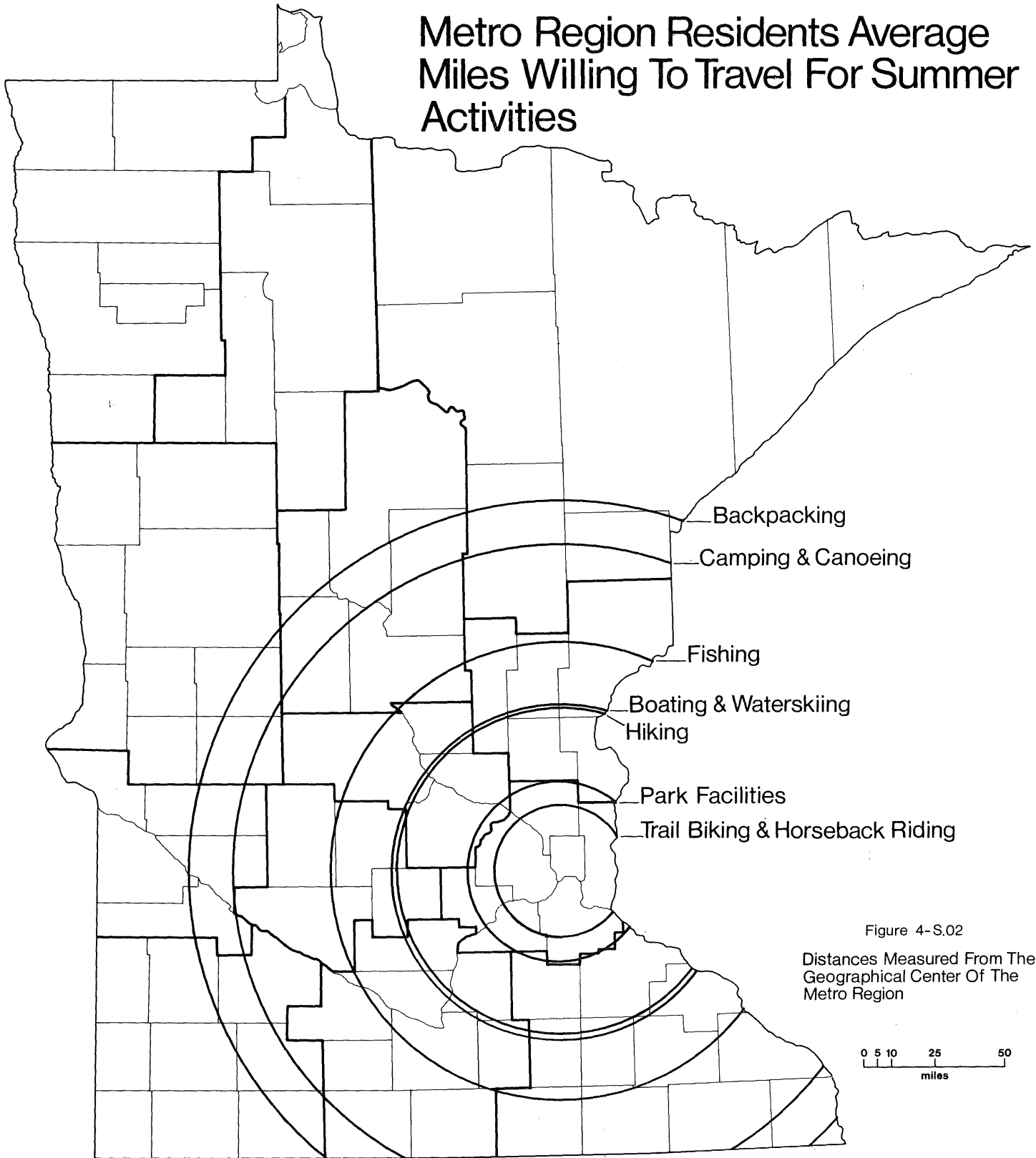


Figure 4-S.02

Distances Measured From The  
Geographical Center Of The  
Metro Region

0 5 10 25 50  
miles

Ice fishing (TABLE 4-S.14) and cross-country skiing on Trails (TABLE 4-S.18) show a few regions being impacted by other regions. Ice fishing is the easiest case to understand. Region Two, with Lake of the Woods, is impacted significantly by Region One, Three and the Metro Region ice anglers. Region 7E also receives heavy impact from anglers living in other regions. However, unlike Region Two, only one region, the Metro Region, provides the lion's share of the impact.

Cross-country skiing on trails shows impacts from other regions on Region Two, 6W and 7E. The impact on Region Two results in the main, from Region Four residents. The bulk of the impact on Region 6W comes from Region Eight. Oddly enough, the impact on Region 7E cross-country skiing resources comes primarily from Region 7W, rather than the Metro Region.

## Resource Dependency

Only four of the activities show one or more regions heavily dependent on other regions for recreation resources. Downhill skiing shows the most dependency, followed in order by cross-country skiing on trails, ice fishing, and snowmobiling on trails.

In the case of downhill skiing, Regions One, Four, Five, 6E, 6W, Eight and the Metro Region rely on other regions to accommodate 40 percent or more of their resident's downhill skiing occasions. Over half of the Metro region's 2.5 million occasion (51 percent) are exported to other regions. The major providers are located in other states, which account for 34 percent of the occasions generated. The remaining occasions are spread among seven Minnesota development regions. While the Metro Region depends on other areas to provide facilities for over half of the occasions it generates, it still accommodates more occasions than any other region. The dependency here is due primarily to out-of-state trips. The quality of out-of-state ski hills probably can't be duplicated on Minnesota resources.

Three regions, Four, 6W, 7E provide resources for less than 40 percent of their cross-country skiing on trails occasions. All of Region Four's dependency appears to be on Region Two. Region 6W is primarily dependent on 6E. While Region 7W depends on five other regions (Region Two-six percent; Region Three-nine percent; Region Four-six percent; Region Seven-East-12 percent; Region 11-10 percent).

Region One and the Metro Region residents depend on other Minnesota Regions for their ice fishing. Region One depends primarily on Region Two. The Metro Region has wider dependency, relying mostly on 7E and Mille Lacs Lake.

The last winter activity showing dependency is snowmobiling on trails (TABLE 4-S.17). One Region, Region 6E relies heavily on other region's resources. The bulk of this reliance is on Region Five (37 percent). Additionally, 6E residents use the resources of Region Two (18 percent).



4-S.11: Percent of Ice Skating by Origin and Destination Region, 1977-78

Destination of Recreation Occasions	ORIGIN OF RECREATION OCCASIONS													Destination Regional Total
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	
1	98.4 95.7	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	1.6 0.5	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	212108 0
2	3.0 2.1	85.5 97.9	6.8 0.7	0.0 0.0	0.0 0.0	4.7 3.3	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	155709 0
3	0.1 0.4	0.0 0.0	98.9 96.2	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.1 0.2	0.0 0.0	0.0 0.0	0.0 0.0	0.9 0.2	1573320 0
4	0.0 0.0	0.3 1.0	0.0 0.0	94.3 99.2	0.2 0.4	0.2 0.4	0.0 0.0	0.0 0.0	4.9 3.1	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	441075 0
5	1.6 1.8	0.0 0.0	0.0 0.0	0.0 0.0	88.1 97.7	0.0 0.0	0.0 0.0	0.0 0.0	0.7 0.2	0.0 0.0	0.0 0.0	0.0 0.0	9.7 0.3	245220 0
6E	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	99.4 89.2	0.6 1.3	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	197571 0
6W	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	2.1 0.8	91.2 94.2	0.0 0.0	0.0 0.0	1.4 0.7	0.0 0.0	0.0 0.0	5.4 0.1	80703 0
7E	0.0 0.0	0.6 1.0	1.0 0.2	0.0 0.0	1.0 1.9	0.0 0.0	0.0 0.0	78.3 94.3	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	18.5 0.6	257517 0
7W	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	1.3 4.2	0.5 3.9	0.1 0.4	95.4 94.6	0.0 0.0	0.0 0.0	0.0 0.0	2.7 0.2	700309 0
8	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.7 0.7	0.0 0.0	80.2 98.0	0.0 0.0	0.0 0.0	19.1 0.6	223500 0
9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	1.2 2.1	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	93.9 99.5	0.0 0.0	4.9 0.2	390070 0
10	0.0 0.0	0.0 0.0	0.4 0.2	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.3 0.2	0.0 0.0	0.0 0.0	93.2 97.6	6.1 0.5	620349 0
11	0.0 0.0	0.0 0.0	0.1 0.7	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.6	0.1 3.9	0.1 1.2	0.0 1.3	0.0 0.5	0.1 1.2	99.5 97.2	7500927 0
Out of State	0.0 0.0	0.0 0.0	13.8 0.2	16.5 0.8	0.0 0.0	0.0 0.0	0.0 0.0	8.0 0.7	0.0 0.0	0.0 0.0	0.0 0.0	37.1 1.2	24.6 0.1	19304 0
Origin Regional Total	218205.1	136024.2	1585820.4	419875.0	220992.9	220253.8	85946.8	213839.8	706454.6	182949.7	308414.4	598289.7	77761470.7	12718547

4-S.12: Percent of all Snowmobiling by Origin and Destination Region, 1977-78

ORIGIN OF RECREATION OCCASIONS

Destination of Recreation Occasions	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	Destination Regional Total
29														
1	99.2 95.3	0.1 0.1	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.6 0.2	625644 0
2	5.5 3.4	86.1 92.0	0.0 0.0	1.2 0.5	0.2 0.1	3.6 3.3	0.0 0.0	0.2 0.2	0.0 0.4	1.5 1.7	1.0 0.5	0.0 0.0	0.0 0.0	407742 0
3	0.2 0.6	0.1 0.5	86.6 96.0	0.0 0.0	0.5 1.1	0.1 0.2	0.1 0.7	0.5 2.1	0.0 0.0	0.0 0.0	0.2 0.5	0.0 0.0	11.7 6.3	1636965 0
4	0.0 0.0	1.7 4.2	0.0 0.0	93.8 98.2	0.5 0.7	0.0 0.0	0.5 2.7	0.0 0.0	0.4 0.4	0.4 1.0	0.6 0.7	0.0 0.0	2.1 0.6	930640 0
5	0.1 0.1	0.3 0.7	0.0 0.0	0.0 0.0	76.2 94.7	3.3 6.7	0.0 0.0	0.3 0.7	2.2 2.5	0.3 0.7	0.0 0.0	0.0 0.0	17.3 5.2	919646 0
6E	0.0 0.0	0.0 0.0	0.0 0.0	0.4 0.2	0.0 0.0	91.8 78.9	0.0 0.0	0.0 0.0	0.9 0.4	2.3 2.4	4.6 2.2	0.0 0.0	0.0 0.0	380605 0
6W	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	1.2 0.3	0.0 0.0	96.3 92.8	0.0 0.0	0.0 0.0	0.0 0.0	2.3 0.5	0.0 0.0	0.0 0.0	156667 0
7E	0.0 0.0	0.0 0.0	2.8 1.1	0.0 0.0	1.8 1.4	0.0 0.0	0.0 0.0	66.9 92.7	0.3 0.2	0.0 0.0	0.0 0.0	0.0 0.0	28.2 5.2	565446 0
7W	0.0 0.0	0.0 0.0	0.0 0.0	0.4 0.4	1.4 1.6	1.7 3.3	0.0 3.4	0.0 0.0	85.5 94.5	0.0 0.0	0.2 0.2	2.5 1.9	7.8 2.2	869256 0
8	0.6 0.3	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.8 0.6	0.2 0.3	0.0 0.0	0.0 0.0	97.8 87.6	0.6 0.2	0.0 0.0	0.0 0.0	326330 0
9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	3.2 5.7	0.0 0.0	0.0 0.0	0.0 0.0	0.9 2.0	94.6 94.1	0.5 0.3	0.6 0.2	769628 0
10	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.1 0.2	0.0 0.0	0.0 0.0	0.0 0.0	0.9 1.3	0.0 0.0	0.2 0.2	94.6 96.5	4.2 1.6	1135006 0
11	0.0 0.0	0.2 1.5	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.8 4.3	0.0 0.0	0.1 0.3	0.0 0.0	0.2 0.3	98.6 74.7	2299074 0
Out of State	0.9 0.3	1.6 0.9	20.8 3.0	3.1 0.7	0.0 0.0	2.6 1.2	0.0 0.0	0.0 0.0	0.6 0.2	7.0 4.1	2.6 0.7	5.2 1.0	55.2 3.8	209579 0
Origin Regional Total	651086.1	381436.5	1476911.5	989053.4	740228.6	443226.8	162467.2	407893.7	786430.6	363443.7	795307.4	1114160.1	13042041.6	11253703

4-S.13: Percent of Sledding by Origin and Destination Region, 1977-78

Destination of Recreation Occasions	ORIGINS OF RECREATION OCCASIONS											Destination Regional Total	
	1	2	3	4	5	6E	6W	7E	7W	8	9		10
1	99.9 98.9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
2	0.0 0.0	97.0 92.0	0.0 0.0	19.1 10.3	9.4 6.5	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	3.9 0.2
3	0.0 0.0	0.0 0.0	99.9 99.7	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.1 0.4	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
4	0.0 0.0	0.0 0.0	0.0 0.0	94.2 82.3	1.0 1.2	0.0 0.0	0.0 0.0	0.0 0.0	3.0 1.4	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
5	0.0 0.0	0.0 0.0	0.0 0.0	1.7 1.1	95.2 91.3	0.0 0.0	0.0 0.0	0.3 0.4	2.2 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
6E	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	91.7 93.4	0.7 0.0	0.0 0.0	0.0 0.0	2.4 1.0	5.1 2.0	0.0 0.0	0.0 0.0
6W	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	92.0 93.5	0.0 0.0	0.0 0.0	0.0 0.0	4.0 1.5	0.0 0.0	0.0 0.0
7E	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	1.0 0.9	0.0 0.0	0.0 0.0	95.4 97.9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
7W	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.1 0.0	0.0 0.0	0.0 0.0	99.9 96.7	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0
8	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.3 0.4	0.0 0.0	0.0 0.0	84.8 95.5	1.0 1.0	0.0 0.0	13.1 0.6
9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	1.7 4.2	0.0 0.0	0.0 0.0	0.4 0.2	0.0 0.0	97.8 93.4	0.0 0.0	0.0 0.0
10	0.0 0.0	0.0 0.0	0.3 0.3	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	95.3 90.7	4.4 0.9
11	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.1 1.8	0.0 0.0	0.0 0.9	0.1 0.4	0.1 2.5	0.2 2.0	0.0 0.0	99.5 97.9
Out of State	1.3 0.4	0.0 0.0	15.0 1.0	40.0 0.3	0.0 0.0	0.0 0.0	0.0 0.4	1.1 0.4	0.0 0.0	0.0 0.0	0.0 0.0	15.1 1.3	20.0 0.4
Origin Regional Total	203342.4	108305.6	1054557.3	453274.1	314800.1	150461.4	144723.4	101117.0	798009.7	192772.5	369850.0	834739.5	4473033.2

4-S.14: Percent of Ice Fishing by Origin and Destination Region, 1977-78

ORIGIN OF RECREATION OCCASIONS

Destination of Recreation Occasions	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	Destination Regional Total
13														
1	95.8 20.3	1.2 0.4	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	39372 0
2	25.7 66.4	30.2 93.6	15.6 7.6	0.5 0.5	4.9 4.1	0.5 1.1	0.5 2.8	0.9 1.5	2.0 1.1	0.0 0.0	1.2 1.3	6.6 11.1	11.5 2.2	343460 0
3	0.1 0.7	0.1 0.9	90.5 83.7	0.2 0.5	0.1 0.2	0.4 1.6	0.1 0.9	1.3 4.1	0.3 0.3	0.0 0.0	0.0 0.0	0.0 0.0	6.6 2.5	650051 0
4	0.0 0.0	0.4 1.3	0.0 0.0	87.5 98.6	3.1 2.9	0.0 0.0	2.5 16.0	0.0 0.0	0.0 0.0	1.0 3.2	2.1 2.6	1.0 1.9	2.6 0.6	383410 0
5	0.4 1.4	0.2 0.9	1.1 0.8	0.3 0.5	70.7 85.6	0.7 2.2	0.0 0.0	0.6 1.9	7.6 6.1	0.3 1.1	1.6 2.6	0.0 0.0	16.2 4.4	486298 0
6E	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.6 0.2	77.3 76.6	3.0 8.5	0.0 0.0	5.2 1.4	1.5 2.1	9.5 5.3	0.0 0.0	3.0 0.3	166265 0
6W	0.0 0.0	0.0 0.0	10.1 0.8	0.0 0.0	0.0 0.0	1.7 0.5	74.3 67.0	0.0 0.0	0.0 0.0	13.9 6.3	0.0 0.0	0.0 0.0	0.0 0.0	53021 0
7E	0.0 0.0	0.0 0.0	1.7 1.9	0.0 0.0	3.2 6.3	0.9 4.3	0.0 0.0	22.2 65.9	6.7 8.6	0.6 4.2	1.5 3.9	2.4 9.3	60.8 27.1	745951 0
7W	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.3 0.5	2.5 9.2	0.4 4.7	0.0 0.0	62.5 22.2	0.2 1.1	2.2 4.6	0.6 1.9	11.2 3.9	617770 0
8	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	4.1 1.9	0.0 0.0	95.9 76.8	0.0 0.0	0.0 0.0	0.0 0.0	93466 0
9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	1.1 1.6	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	92.7 75.0	6.2 7.4	0.0 0.0	243003 0
10	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	2.8 1.3	90.3 63.0	6.9 0.6	1-2394 0
11	0.1 0.7	0.0 0.0	3.1 4.5	0.0 0.0	0.0 0.0	0.4 2.7	0.0 0.0	0.2 1.1	0.2 0.3	0.0 0.0	0.4 1.3	0.0 0.0	45.7 56.4	1056340 0
Out of State	2.3 1.4	4.1 3.0	6.6 0.6	6.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	9.4 3.7	0.0 0.0	7.6 5.3	7.3 2.0	14.0 5.6	48.6 2.2	51153 0
Origin Regional Total	132816.6	110816.9	709236.3	340353.2	402872.1	167682.9	58776.5	266229.8	619613.9	116645.8	300169.5	264206.7	1786370.2	5156011

4-S.15: Percent of All Cross-Country Skiing (Total) by Origin and Destination Region, 1977-78

ORIGIN OF RECREATION OCCASIONS

Destination  
Regional  
Total

Destination of  
Recreation Occasions

5

	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	Total
1	100.0 93.3	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	32500 0
2	4.0 11.9	70.1 98.3	0.0 0.0	21.7 16.2	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	4.3 2.1	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	117370 0
3	0.0 0.0	0.2 1.7	80.1 97.9	0.9 4.0	0.5 5.0	0.0 0.0	0.0 0.0	0.2 3.0	2.6 8.1	0.0 0.0	0.0 0.0	0.0 0.0	9.5 2.5	731290 0
4	0.0 0.0	0.0 0.0	0.0 0.0	77.2 75.8	2.5 5.0	0.0 0.0	0.4 3.7	0.0 0.0	3.2 2.1	0.8 4.5	0.0 0.0	0.0 0.0	15.8 0.9	154561 0
5	1.2 4.8	0.0 0.0	0.0 0.0	1.0 1.0	43.0 90.0	5.1 13.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	49.2 2.8	161523 0
6E	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	93.2 82.6	0.8 21.2	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	53435 0
6W	0.0 0.0	0.0 0.0	0.0 0.0	9.8 1.0	0.0 0.0	0.0 0.0	75.1 66.8	0.0 0.0	0.0 0.0	15.1 9.1	0.0 0.0	0.0 0.0	0.0 0.0	10245 0
7E	0.0 0.0	0.0 0.0	0.0 0.0	2.2 1.0	0.0 0.0	0.0 0.0	0.0 0.0	57.1 90.9	13.5 4.3	0.0 0.0	0.0 0.0	0.0 0.0	27.2 0.7	73653 0
7W	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.5 1.4	0.3 3.1	0.5 1.9	93.7 78.3	0.0 0.0	0.0 0.0	0.0 0.0	5.1 0.4	194972 0
8	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	69.4 81.8	0.0 0.0	0.0 0.0	30.6 0.3	31854 0
9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.7 1.4	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	51.1 94.3	0.0 0.0	46.2 2.1	125819 0
10	0.0 0.0	0.0 0.0	3.0 0.8	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	77.6 90.5	19.4 1.2	175451 0
11	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 1.4	0.0 3.1	0.0 1.6	0.5 5.0	0.0 0.0	0.2 5.7	0.3 4.8	99.0 84.5	2415352 0
Out of State	0.0 0.0	0.0 0.0	5.3 1.2	1.1 1.0	0.0 0.0	0.0 0.0	0.0 0.0	0.6 1.9	0.0 0.0	0.6 4.5	0.0 0.0	4.8 4.8	87.4 4.6	149463 0
Origin Regional Total	39009.1	83707.2	642828.4	157453.1	78227.0	62541.2	17743.9	46420.7	233263.3	27012.7	66224.9	150468.1	282814.4	4435715

4-S.16: Percent of Downhill Skiing by Origin and Destination Region, 1977-78

ORIGIN OF RECREATION OCCASIONS

Destination of Recreation Occasions	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	Destination Regional Total
7														
1	100.0 38.9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	14505 0
2	17.4 20.4	73.0 91.8	4.6 0.8	0.0 0.0	5.0 7.1	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	58634 0
3	1.0 11.1	0.5 6.1	50.8 90.7	4.0 27.7	2.1 28.6	1.0 14.6	0.6 21.4	0.6 7.7	0.9 5.0	0.0 0.0	0.0 0.0	0.0 0.0	38.4 8.3	564346 0
4	4.5 5.6	0.0 0.0	0.0 0.0	78.8 59.6	0.0 0.0	0.0 0.0	0.9 3.6	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	15.7 0.4	61298 0
5	0.0 0.0	0.0 0.0	0.0 0.0	7.2 2.1	77.9 45.2	0.0 0.0	4.7 7.1	3.2 1.3	7.0 1.7	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	23841 0
6E	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	59.6 4.9	0.0 0.0	0.0 0.0	0.0 0.0	40.4 5.0	0.0 0.0	0.0 0.0	0.0 0.0	3041 0
6W	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	52.4 42.9	0.0 0.0	0.0 0.0	9.7 5.0	0.0 0.0	0.0 0.0	37.9 0.2	12699 0
7E	3.5 11.1	0.0 0.0	0.0 0.0	0.0 0.0	0.6 2.4	0.0 0.0	0.4 3.6	28.6 75.6	0.0 0.0	0.0 0.0	2.5 7.7	0.0 0.0	64.4 3.9	157070 0
7W	0.0 0.0	0.0 0.0	0.0 0.0	2.7 2.3	1.5 4.8	17.4 61.0	0.9 7.1	0.0 0.0	66.7 66.7	1.9 10.0	1.5 3.8	0.0 0.0	7.4 0.4	129857 0
8	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	7.0 3.6	0.0 0.0	0.0 0.0	93.0 30.0	0.0 0.0	0.0 0.0	0.0 0.0	7922 0
9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	7.1 9.8	1.1 3.6	0.0 0.0	0.0 0.0	9.6 20.0	72.7 73.1	0.0 0.0	9.5 0.2	50945 0
10	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.5 5.0	0.8 3.8	64.4 67.2	34.2 3.2	239125 0
11	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.1 4.8	0.2 7.3	0.0 3.6	0.0 0.0	0.0 0.0	0.0 0.0	0.4 11.5	3.0 17.2	96.2 49.4	1331941 0
Out of State	0.7 13.0	0.1 2.0	2.7 8.5	0.5 6.4	0.3 7.1	0.1 2.4	0.1 3.6	0.9 15.4	6.7 6.7	0.6 25.0	0.0 0.0	3.6 15.6	69.7 34.1	987995 0
Origin Regional Total	50154.5	46609.7	316101.6	61112.2	41069.5	37162.2	15525.9	59357.7	99970.0	24557.0	50681.4	22964.7	2596633.7	3646220

4-S.17: Percent of Snowmobiling on trails by Origin and Destination Region, 1977-78

		ORIGINS OF RECREATION OCCASIONS												Destination Regional	
Destination of Recreation Occasions		1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	Total
26															
1	93.2 93.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	69576 0
2	3.0 4.4	70.9 77.8	0.0 0.0	4.8 2.0	1.0 0.5	14.3 18.5	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.1 9.1	0.0 0.0	0.0 0.0	0.0 0.0	101256 0
3	0.0 0.0	0.3 2.1	94.6 93.5	0.0 0.0	0.3 1.0	0.0 0.0	0.1 4.7	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	4.5 5.5	604020 0
4	0.0 0.0	6.3 17.5	0.0 0.0	91.2 98.0	0.0 0.0	0.0 0.0	1.0 21.0	0.0 0.0	0.0 0.0	0.0 0.0	1.4 5.5	0.0 0.0	0.0 0.0	0.0 0.0	255010 0
5	0.0 0.0	1.1 2.0	0.0 0.0	0.0 0.0	78.4 92.2	12.9 37.0	0.0 0.0	1.4 3.0	3.0 4.5	1.1 3.5	0.0 0.0	0.0 0.0	0.0 0.0	2.2 0.9	205212 0
6E	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	05.4 37.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	34.0 12.1	0.0 0.0	0.0 0.0	45103 0
6W	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	18.5 1.0	0.0 0.0	21.5 73.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	10590 0
7E	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	7.1 5.2	0.0 0.0	0.0 0.0	51.0 90.1	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	41.3 10.4	141531 0
7W	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	93.2 94.4	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 1.9	150425 0
8	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	100.0 81.8	0.0 0.0	0.0 0.0	0.0 0.0	55253 0
9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	100.0 60.3	0.0 0.0	0.0 0.0	110594 0
10	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.4 1.1	0.0 0.0	0.0 0.0	0.5 1.5	96.7 97.3	2.4 1.0	390337 0
11	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	1.4 6.2	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	96.0 67.5	300070 0
Out of State	1.0 2.7	0.0 0.0	36.7 6.5	0.0 0.0	0.0 0.0	4.0 6.9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	9.1 2.7	40.1 10.7	119207 0
Origin Regional Total	69735.0	92193.4	674250.2	230278.0	191519.9	78454.1	11733.0	81120.3	149016.0	67531.0	128437.3	340109.4	536230.5	2710010	

4-S.18: Percent of Cross-Country Skiing (Trail) by Origin and Destination Region, 1977-78

ORIGIN OF RECREATION OCCASIONS

Destination of Recreation Occasions	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	Destination Regional Total
1	100.0 78.2	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	20005 0
2	5.1 10.5	53.1 100.0	0.0 0.0	35.0 49.2	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.9 5.7	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	72709 0
3	0.0 0.0	0.0 0.0	82.9 95.4	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	3.1 9.3	0.0 0.0	0.0 0.0	0.0 0.0	14.0 2.6	205093 0
4	0.0 0.0	0.0 0.0	0.0 0.0	63.3 50.6	0.0 0.0	0.0 0.0	1.6 9.4	0.0 0.0	12.1 5.7	0.0 0.0	0.0 0.0	0.0 0.0	23.1 0.7	41473 0
5	3.4 7.3	0.0 0.0	0.0 0.0	0.0 0.0	96.6 100.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	50210 0
6E	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	83.4 85.3	16.6 43.9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	10044 0
6W	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	57.5 46.8	0.0 0.0	0.0 0.0	42.5 25.0	0.0 0.0	0.0 0.0	0.0 0.0	5783 0
7E	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	45.2 100.0	54.6 11.5	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	10254 0
7W	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	1.6 4.9	0.0 0.0	0.0 0.0	98.2 58.2	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	51510 0
8	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	60.6 75.0	0.0 0.0	0.0 0.0	34.4 0.4	12150 0
9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	2.0 4.9	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	65.6 100.0	0.0 0.0	32.2 1.1	45042 0
10	0.0 0.0	0.0 0.0	2.2 1.2	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	69.3 92.0	28.4 2.5	119523 0
11	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.1 4.9	0.0 0.0	0.0 0.0	0.7 9.6	0.0 0.0	0.0 0.0	0.0 0.0	99.2 85.2	1147401 0
Out of State	0.0 0.0	0.0 0.0	7.1 3.5	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.0 0.0	6.4 6.0	66.5 7.3	112103 0
Origin Regional Total	25577.4	36608.5	230407.9	51089.2	52352.3	10443.2	7112.0	8256.7	87010.9	9822.0	30019.0	90631.6	1335562.0	1964901



## REGION TO REGION SUMMER ACTIVITY OCCASION FLOWS

TABLES 4-S.18.1 through 4-S.18.10 show the percent of regional summer activity occasions origins that are accommodated in each region of destination. In addition, they show the percent of each region's destinations by region of origin of the recreators. These tables cover the top ten summer activities: bicycling; fishing; boating; baseball/softball; swimming; driving for pleasure; picnicking; golf; hiking; camping. The top percentage in each cell of the tables indicates the impact of the origin region on the destination region's resources. The bottom figure in each cell represents the dependency of the origin region on the destination region's resources. In both cases, the higher the percentage the greater the resource impact. (See Region to Region Winter Activity Occasion Flows for a detailed explanation of how to read the tables)

### Resource Impact

The amount of resource impact that is placed on a region by residents of other regions traveling to a non-home destination region is seen by looking at the top figure in each cell on the upper left to lower right diagonal of the table. While the winter flows rarely showed less than 70 percent of the destination region's occasions coming from non-home regions, the summer flows portray a different picture. Many of the regions show large movements into them for fishing, boating and camping. Bicycling, hiking, golf, baseball/softball, swimming, picnicking, and driving for pleasure fail to consistently show region to region movements.

Regions 2, 5 and 7E attract a majority of their anglers, boaters and campers from other regions. On the contrary, regions 1, 8, 9, 10 and 11 rarely receive less than 30 percent of their destinations from non-home regions. These data seem to show that, for the major "trip centered" activities the traditional vacation areas in regions 2, 5, and 7E remain the most popular areas for Minnesotans to recreate.

The data in the tables also show that, for seven of the most popular summer activities, Minnesotans are satisfied to stay near home. Bicycling, for instance, rarely shows less than 95 percent of the activity occurring outside the home region. Golf, baseball/softball and picnicking, activities usually associated with afternoon outings, also seem to concentrate in the home region of the recreator. Three activities, swimming, driving for pleasure, and hiking fall into a middle category. They don't seem to be travel centered activities yet they have fair portions of their regional destinations coming from non-home regions. Again, like fishing, boating and camping, the traditional vacation regions generally owe the greatest portion of their destinations for these activities to other regions.

### Resource Dependency

Reading the lower figure in each cell on the upper left, lower right diagonal points out the regions that rely on other regions to supply the resources for their residents' recreation. In general, Region 1 shows the most dependency on other regions for recreation resources. That region only accommodates 44 percent of the fishing occasions generated by Region 1 residents. It supplies the resources for 27 percent of the Region's camping, 41 percent of the boating, and 44 percent of the fishing. In all of these cases the tables show that neighboring Region 2 is the major supplier of recreation resources for people living in Region 1.

Region 10 residents often use the resources of other regions for fishing, boating, and camping. Only 50 to 60 percent of the occasions generated in these activities take place in Region 10. Unlike the residents of Region 1, Region 10 residents spread their trips out to a number of regions. In general, it can be said that Regions 2 and 3 are the most popular non-home region destinations.

Using the 70 percent criterion, most of the regions are not dependent on other regions for picnicking, bicycling, hiking, driving for pleasure, swimming, golf or baseball/softball. Bicycling is far and away the activity with the least inter-regional dependency. Picnicking and hiking more dependency, but even in that case regions rarely fail to provide the recreation resources for less than 60 percent of their residents recreation.

4-S.18.1: Percent of Total Bicycling by Origin and Destination Region, 1977-78

REGION OF DESTINATION	REGION OF ORIGIN											DESTINATION TOTALS		
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	
33														
1	95. 95.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	2. 1.	2. 0.	1456483 0
2	7. 4.	93. 97.	0. 0.	0. 0.	1. 1.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	879790 0
3	0. 1.	0. 0.	98. 98.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	1. 0.	4106882 0
4	0. 0.	0. 2.	0. 0.	93. 98.	1. 2.	0. 0.	0. 0.	1. 1.	1. 1.	0. 0.	0. 0.	0. 0.	4. 0.	2589885 0
5	0. 0.	0. 0.	0. 0.	0. 0.	85. 96.	0. 0.	0. 0.	0. 0.	0. 0.	2. 1.	1. 0.	0. 0.	12. 1.	1300242 0
6E	0. 0.	0. 0.	0. 0.	0. 0.	0. 1.	97. 96.	2. 4.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	1536096 0
6W	1. 0.	0. 0.	0. 0.	1. 0.	0. 0.	1. 0.	94. 96.	0. 0.	0. 0.	1. 0.	0. 0.	0. 0.	3. 0.	875725 0
7E	0. 0.	0. 0.	3. 1.	0. 0.	0. 0.	0. 0.	0. 0.	84. 94.	4. 2.	0. 0.	0. 0.	0. 0.	9. 0.	1469487 0
7W	0. 0.	0. 0.	0. 0.	1. 1.	0. 0.	1. 1.	0. 0.	0. 1.	98. 96.	0. 0.	0. 0.	0. 0.	1. 0.	3278619 0
8	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	100. 98.	0. 0.	0. 0.	0. 0.	2582605 0
9	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 1.	0. 0.	0. 0.	0. 0.	0. 0.	99. 97.	0. 0.	0. 0.	3539044 0
10	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	100. 97.	0. 0.	5923827 0
11	0. 0.	0. 0.	0. 0.	0. 1.	0. 0.	0. 1.	0. 0.	0. 2.	0. 0.	0. 0.	0. 2.	1. 2.	99. 98.	26678223 0
Out-of-State	0. 0.	5. 1.	25. 1.	7. 0.	4. 0.	1. 0.	1. 0.	10. 1.	0. 0.	0. 0.	11. 0.	5. 0.	32. 0.	128558 0
Origin Totals	1465072.	837375.	4094146.	2801803.	1146469.	1551947.	855767.	1320925.	3317016.	2620956.	3621345.	6114401.	26938243.	56345466

# 4-S.18.2: Percent of Fishing by Origin and Destination Region, 1977-78

REGION OF DESTINATION	REGION OF ORIGIN											DESTINATION TOTALS		
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	
1	44. 44.	1. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	6. 0.	172143 0
2	12. 34.	25. 44.	10. 7.	2. 3.	4. 7.	1. 3.	0. 1.	0. 1.	2. 3.	3. 8.	4. 6.	8. 9.	24. 5.	1188022 0
3	0. 3.	0. 0.	55. 76.	0. 0.	1. 2.	1. 5.	0. 0.	2. 13.	1. 3.	0. 2.	2. 9.	4. 10.	34. 13.	2541191 0
4	3. 11.	1. 4.	0. 0.	46. 23.	2. 4.	1. 4.	5. 33.	0. 2.	4. 5.	3. 10.	2. 4.	1. 1.	31. 6.	1333969 0
5	0. 1.	0. 3.	2. 3.	3. 8.	22. 76.	1. 5.	0. 3.	1. 9.	9. 20.	1. 5.	2. 8.	2. 4.	56. 19.	2179623 0
6E	0. 0.	0. 0.	0. 0.	0. 0.	1. 0.	62. 61.	5. 9.	0. 0.	5. 2.	7. 6.	12. 9.	0. 0.	6. 1.	418719 0
6W	0. 0.	0. 0.	0. 0.	1. 0.	0. 0.	6. 2.	61. 41.	0. 0.	0. 0.	19. 6.	0. 0.	0. 0.	13. 0.	146627 0
7E	0. 0.	0. 0.	18. 11.	0. 0.	5. 8.	0. 0.	0. 2.	20. 60.	5. 6.	0. 0.	0. 1.	3. 3.	48. 8.	1100086 0
7W	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	6. 15.	0. 2.	1. 2.	59. 59.	0. 1.	0. 0.	1. 1.	31. 5.	964912 0
8	0. 0.	0. 0.	2. 0.	0. 0.	0. 0.	0. 0.	1. 1.	0. 0.	1. 0.	87. 51.	6. 3.	0. 0.	3. 0.	279472 0
9	0. 0.	0. 0.	0. 0.	1. 0.	0. 0.	1. 1.	0. 0.	0. 0.	0. 0.	1. 1.	78. 50.	11. 4.	8. 0.	373220 0
10	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	94. 50.	5. 1.	679262 0
11	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	1. 3.	0. 0.	2. 10.	1. 1.	0. 1.	0. 1.	1. 2.	96. 29.	2004513 0
Out-of-State	1. 3.	1. 4.	5. 3.	3. 5.	0. 1.	0. 1.	1. 7.	1. 3.	1. 1.	4. 10.	4. 8.	6. 6.	72. 13.	1127763 0
Origin Totals	370167.	342086.	1837460.	739547.	617329.	421617.	218097.	362212.	968062.	471563.	584777.	1063521.	6513089.	14509527

# 4-S.18.3: Percent of Total Boating by Origin and Destination Region, 1977-78

REGION OF DESTINATION	REGION OF ORIGIN												DESTINATION TOTALS	
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	
	34													
1	81. 41.	0. 0.	0. 0.	2. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	17. 0.	109793 0
2	7. 34.	30. 89.	7. 5.	3. 4.	2. 5.	1. 3.	0. 0.	0. 1.	1. 2.	4. 10.	5. 9.	7. 10.	33. 4.	1018650 0
3	0. 3.	0. 0.	61. 79.	0. 0.	1. 3.	1. 3.	0. 0.	1. 10.	1. 3.	1. 3.	2. 5.	5. 11.	28. 6.	1793570 0
4	2. 9.	2. 6.	0. 0.	52. 85.	1. 3.	1. 5.	4. 30.	0. 2.	2. 2.	3. 10.	4. 7.	0. 0.	30. 5.	1211504 0
5	1. 9.	0. 2.	1. 1.	2. 7.	12. 75.	0. 1.	0. 2.	0. 3.	6. 18.	0. 0.	3. 11.	4. 12.	71. 22.	2440084 0
6E	0. 0.	0. 0.	0. 0.	1. 0.	0. 0.	55. 76.	10. 26.	0. 0.	3. 2.	9. 9.	10. 7.	0. 0.	11. 1.	393675 0
6W	0. 0.	0. 0.	0. 0.	18. 1.	0. 0.	0. 0.	82. 20.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	37110 0
7E	0. 0.	0. 0.	13. 6.	0. 0.	6. 9.	0. 0.	1. 5.	31. 78.	5. 4.	0. 0.	0. 0.	0. 0.	44. 4.	627517 0
7W	0. 0.	0. 0.	0. 0.	1. 1.	0. 1.	3. 8.	0. 1.	0. 1.	59. 65.	2. 4.	0. 0.	0. 0.	35. 4.	861272 0
8	0. 0.	0. 0.	5. 1.	0. 0.	0. 0.	0. 0.	1. 2.	0. 0.	1. 0.	90. 51.	0. 0.	0. 0.	2. 0.	226130 0
9	0. 0.	0. 0.	0. 0.	1. 0.	0. 0.	0. 1.	0. 0.	0. 0.	0. 0.	0. 0.	78. 53.	3. 2.	17. 1.	422951 0
10	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	4. 3.	87. 50.	9. 0.	433240 0
11	0. 1.	0. 0.	0. 0.	0. 0.	0. 0.	0. 3.	0. 2.	0. 4.	1. 3.	1. 4.	0. 2.	0. 0.	98. 42.	3389063 0
Out-of-State	1. 3.	1. 2.	8. 8.	1. 1.	1. 4.	0. 0.	2. 13.	1. 3.	0. 0.	3. 9.	2. 4.	9. 16.	72. 11.	1258439 0
Origin Totals	215862.	338938.	1373635.	739547.	461923.	285291.	153625.	246506.	785362.	398200.	627518.	756282.	7900679.	14222997

# 4-S.18.4: Percent of Total Base/Softball by Origin and Destination Region, 1977-78

		REGION OF ORIGIN											DESTINATION		
REGION OF DESTINATION		1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	TOTALS
		32													
1		98. 96.	1. 1.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	1. 0.	324073 0
2		3. 2.	89. 96.	0. 0.	0. 0.	1. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	7. 0.	207325 0
3		0. 0.	0. 0.	97. 97.	0. 0.	0. 0.	0. 0.	0. 0.	0. 1.	0. 0.	0. 0.	0. 9.	0. 0.	2. 0.	831555 0
4		0. 0.	0. 1.	1. 0.	88. 91.	1. 2.	0. 0.	0. 0.	0. 0.	1. 0.	0. 0.	0. 0.	1. 0.	9. 1.	556759 0
5		0. 0.	0. 1.	0. 0.	5. 3.	85. 93.	1. 0.	0. 0.	0. 0.	1. 0.	0. 0.	0. 0.	0. 0.	7. 0.	276757 0
6E		0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	97. 92.	1. 1.	0. 0.	1. 1.	0. 0.	0. 0.	0. 0.	1. 0.	444155 0
6W		0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	89. 95.	0. 0.	1. 0.	8. 3.	0. 0.	0. 0.	2. 0.	225879 0
7E		0. 0.	0. 0.	0. 0.	0. 0.	2. 2.	0. 0.	0. 0.	80. 90.	1. 1.	0. 0.	0. 0.	6. 1.	11. 0.	292530 0
7W		0. 0.	0. 0.	0. 0.	0. 1.	1. 2.	2. 5.	0. 0.	0. 1.	89. 95.	0. 0.	0. 0.	0. 0.	7. 1.	923243 0
8		0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	1. 1.	0. 1.	0. 0.	0. 0.	98. 95.	1. 1.	0. 0.	0. 0.	560087 0
9		0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	1. 2.	0. 0.	0. 0.	1. 1.	0. 0.	93. 96.	3. 2.	1. 0.	787891 0
10		0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 1.	0. 1.	0. 94. 95.	0. 1.	5. 1.	1274871 0
11		0. 0.	0. 0.	0. 3.	0. 1.	0. 0.	0. 0.	0. 0.	0. 8.	0. 1.	0. 0.	0. 3.	0. 1.	99. 95.	6808322 0
Out-of-State		2. 1.	1. 1.	2. 0.	19. 5.	0. 0.	0. 0.	2. 2.	0. 0.	3. 1.	6. 1.	0. 0.	2. 0.	62. 1.	145986 0
Origin Totals		329949.	190980.	832506.	538310.	255232.	446758.	212557.	261598.	861619.	578683.	767399.	1266096.	7696148.	13057834

# 4-S.18.5: Percent of Swimming by Origin and Destination Region, 1977-78

REGION OF DESTINATION	REGION OF ORIGIN											DESTINATION TOTALS		
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	
1	89. 64.	1. 1.	5. 1.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	9. 0.	0. 0.	0. 0.	0. 0.	5. 0.	282213 0
2	11. 20.	49. 85.	3. 1.	1. 0.	5. 7.	1. 2.	0. 0.	0. 0.	0. 0.	1. 1.	2. 1.	2. 1.	22. 1.	722376 0
3	9. 1.	0. 2.	77. 80.	0. 1.	1. 2.	1. 4.	0. 0.	2. 5.	0. 0.	0. 0.	0. 1.	1. 1.	17. 2.	1826992 0
4	2. 7.	1. 6.	0. 0.	75. 94.	1. 3.	1. 2.	2. 13.	0. 0.	4. 4.	1. 2.	1. 2.	0. 0.	13. 2.	1719627 0
5	0. 1.	0. 1.	2. 2.	3. 3.	26. 84.	0. 0.	1. 3.	0. 0.	7. 8.	1. 1.	4. 6.	3. 3.	53. 7.	1781410 0
6E	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	72. 83.	7. 15.	0. 0.	6. 2.	1. 0.	9. 5.	0. 0.	6. 0.	629192 0
6W	2. 1.	0. 0.	0. 0.	1. 0.	0. 0.	0. 0.	84. 59.	0. 0.	1. 0.	10. 3.	0. 0.	0. 0.	2. 0.	207925 0
7E	0. 0.	0. 0.	20. 11.	0. 0.	0. 0.	0. 0.	0. 0.	46. 72.	7. 4.	0. 0.	0. 0.	1. 0.	25. 2.	917577 0
7W	0. 0.	0. 0.	0. 0.	1. 1.	0. 0.	2. 6.	0. 0.	1. 2.	84. 79.	2. 3.	1. 1.	0. 0.	9. 1.	1478507 0
8	9. 0.	0. 0.	1. 1.	0. 0.	0. 0.	1. 1.	1. 3.	0. 0.	0. 0.	97. 83.	0. 0.	0. 0.	0. 0.	683027 0
9	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	1. 1.	92. 81.	3. 2.	3. 0.	1077035 0
10	0. 0.	0. 1.	0. 0.	0. 0.	0. 1.	0. 0.	0. 0.	1. 2.	0. 0.	0. 0.	0. 1.	94. 85.	4. 1.	2054010 0
11	0. 0.	0. 0.	0. 1.	0. 0.	0. 0.	0. 1.	0. 2.	1. 12.	0. 1.	0. 1.	0. 1.	0. 1.	99. 77.	10295066 0
Out-of-State	1. 5.	1. 4.	3. 3.	0. 0.	2. 4.	1. 2.	1. 4.	3. 6.	2. 1.	3. 5.	2. 2.	14. 8.	67. 7.	1363388 0
Origin Totals	393148.	416064.	1742316.	1368414.	560265.	546206.	296169.	590032.	1903710.	799910.	1220067.	2292478.	13229570.	25030350

4-S.18.6: Percent of Driving for Pleasure by Origin and Destination Region, 1977-78

REGION OF DESTINATION	REGION OF ORIGIN												DESTINATION TOTALS	
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	
1	15 85. 80.	1. 1.	2. 1.	0. 0.	2. 3.	0. 0.	2. 2.	0. 0.	0. 0.	3. 1.	0. 0.	0. 0.	5. 0.	271821 0
2	8. 7.	68. 87.	4. 2.	3. 2.	4. 5.	1. 1.	0. 0.	0. 0.	1. 1.	3. 2.	0. 0.	0. 0.	8. 1.	278015 0
3	2. 0.	0. 0.	73. 86.	3. 5.	0. 1.	0. 0.	0. 0.	0. 2.	1. 2.	0. 0.	1. 2.	0. 0.	14. 5.	888821 0
4	0. 0.	2. 4.	6. 5.	72. 80.	1. 3.	0. 1.	3. 8.	1. 1.	1. 2.	1. 1.	0. 0.	0. 0.	13. 2.	547644 0
5	0. 0.	2. 3.	0. 0.	3. 2.	45. 70.	1. 1.	0. 0.	1. 1.	10. 6.	0. 0.	5. 3.	2. 1.	32. 3.	327604 0
6E	0. 0.	0. 0.	0. 0.	1. 1.	1. 1.	82. 73.	5. 6.	0. 0.	0. 0.	1. 1.	3. 1.	0. 0.	8. 1.	305001 0
6W	0. 0.	0. 0.	0. 0.	7. 2.	0. 0.	1. 1.	87. 73.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	5. 0.	179555 0
7E	0. 0.	0. 0.	6. 3.	0. 0.	3. 6.	0. 0.	1. 1.	47. 82.	3. 2.	0. 0.	0. 0.	4. 1.	35. 4.	353187 0
7W	0. 0.	0. 0.	0. 0.	3. 3.	1. 2.	4. 7.	1. 2.	1. 3.	69. 79.	0. 0.	1. 1.	3. 2.	18. 3.	579337 0
8	1. 2.	0. 0.	0. 0.	0. 0.	0. 1.	2. 2.	1. 2.	0. 0.	0. 0.	95. 78.	0. 0.	0. 0.	0. 0.	428508 0
9	0. 1.	0. 0.	0. 0.	0. 0.	0. 0.	4. 7.	0. 0.	1. 2.	0. 1.	1. 2.	82. 88.	4. 3.	7. 1.	630855 0
10	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 1.	0. 1.	0. 0.	1. 2.	91. 87.	7. 2.	975503 0
11	0. 0.	0. 2.	0. 0.	0. 2.	0. 2.	1. 5.	0. 2.	0. 6.	0. 2.	0. 1.	0. 2.	1. 2.	96. 71.	2540402 0
Out-of-State	3. 5.	1. 3.	5. 3.	3. 3.	3. 7.	2. 4.	1. 2.	0. 1.	4. 4.	15. 14.	2. 2.	10. 5.	51. 7.	510532 0
Origin Totals	290552.	217214.	734389.	491354.	207506.	343974.	213504.	201940.	504888.	527451.	584777.	1014630.	3457677.	8794925



4-S.18.7: Percent of Picnicking by Origin and Destination Region, 1977-78

		REGION OF ORIGIN												DESTINATION TOTALS	
REGION OF DESTINATION		1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	
	24														
1		95. 70.	3. 3.	0. 0.	0. 0.	0. 0.	2. 2.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	164329 0
2		14. 13.	57. 72.	6. 2.	3. 1.	4. 5.	3. 3.	0. 0.	0. 0.	5. 2.	2. 1.	0. 0.	0. 0.	7. 0.	201052 0
3		1. 3.	0. 0.	73. 89.	1. 2.	1. 3.	1. 3.	0. 0.	3. 11.	1. 2.	1. 2.	2. 2.	3. 3.	13. 2.	637306 0
4		2. 4.	2. 7.	4. 3.	71. 88.	0. 1.	1. 3.	4. 15.	0. 1.	4. 4.	4. 4.	0. 0.	1. 0.	7. 1.	510240 0
5		1. 2.	1. 2.	0. 0.	4. 3.	29. 67.	3. 4.	0. 0.	1. 3.	7. 5.	0. 0.	7. 5.	0. 0.	47. 4.	352851 0
6E		0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	69. 69.	8. 12.	0. 0.	9. 4.	0. 0.	10. 4.	0. 0.	4. 0.	225151 0
6W		0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	71. 56.	0. 0.	5. 1.	16. 4.	0. 0.	0. 0.	8. 0.	118563 0
7E		0. 0.	0. 1.	5. 3.	1. 1.	1. 2.	0. 0.	1. 1.	30. 61.	5. 3.	0. 0.	1. 1.	3. 1.	53. 5.	331162 0
7W		0. 0.	0. 0.	0. 0.	0. 0.	1. 3.	1. 3.	0. 1.	1. 3.	67. 68.	0. 1.	0. 0.	0. 0.	28. 4.	489091 0
8		0. 0.	0. 0.	3. 2.	0. 0.	0. 0.	1. 1.	2. 4.	0. 0.	0. 0.	83. 67.	11. 7.	0. 0.	0. 0.	352142 0
9		0. 0.	0. 0.	0. 0.	1. 1.	0. 0.	1. 1.	0. 0.	0. 0.	0. 0.	1. 1.	86. 64.	5. 3.	6. 1.	407042 0
10		0. 0.	0. 0.	0. 0.	0. 0.	1. 6.	0. 2.	0. 0.	0. 1.	0. 0.	0. 1.	3. 5.	83. 84.	11. 2.	752405 0
11		0. 0.	0. 0.	0. 0.	0. 0.	0. 5.	1. 8.	0. 1.	0. 8.	1. 3.	0. 2.	1. 5.	0. 1.	97. 74.	2917732 0
Out-of-State		3. 7.	4. 14.	1. 1.	3. 4.	2. 9.	0. 1.	2. 9.	3. 11.	5. 6.	12. 16.	7. 7.	11. 8.	47. 7.	575888 0
Origin Totals		220787.	157926.	523290.	412937.	152517.	224802.	149596.	163139.	481874.	433139.	542036.	749529.	3823784.	8034954

4-S.18.8: Percent of Golf by Origin and Destination Region, 1977-78

REGION OF DESTINATION	REGION OF ORIGIN											DESTINATION TOTALS		
	1	2	3	4	5	6E	6W	7E	7W	8	9		10	11
1	19 95. 95.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	5. 0.	96518 0
2	2. 2.	77. 91.	0. 0.	2. 1.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	3. 1.	0. 0.	0. 0.	17. 1.	83433 0
3	0. 0.	0. 0.	87. 94.	0. 0.	0. 0.	0. 0.	0. 1.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	13. 1.	286990 0
4	0. 0.	0. 0.	0. 0.	74. 90.	0. 0.	0. 0.	1. 4.	0. 0.	2. 3.	1. 2.	1. 1.	0. 0.	20. 2.	315839 0
5	1. 2.	2. 7.	1. 1.	5. 4.	62. 98.	1. 2.	0. 0.	0. 0.	1. 1.	0. 0.	1. 1.	0. 0.	26. 2.	215010 0
6E	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	94. 89.	1. 1.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	5. 0.	99492 0
6W	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	1. 1.	99. 89.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	80486 0
7E	0. 0.	0. 0.	4. 1.	0. 0.	1. 1.	0. 0.	0. 0.	76. 96.	2. 1.	0. 0.	0. 0.	0. 0.	17. 1.	78778 0
7W	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	5. 9.	0. 1.	0. 0.	93. 89.	0. 0.	0. 0.	0. 0.	2. 0.	193927 0
8	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 1.	0. 0.	3. 3.	91. 92.	6. 4.	0. 0.	0. 0.	208560 0
9	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	2. 3.	94. 92.	0. 0.	4. 1.	323011 0
10	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 2.	0. 1.	0. 0.	1. 1.	93. 99.	6. 2.	734871 0
11	0. 2.	0. 1.	0. 0.	0. 0.	0. 1.	0. 0.	0. 0.	0. 1.	0. 1.	0. 0.	0. 1.	0. 0.	100. 86.	2245068 0
Out-of-State	0. 0.	1. 1.	6. 3.	9. 5.	0. 0.	0. 0.	2. 4.	0. 0.	2. 1.	2. 2.	3. 1.	7. 1.	68. 4.	148433 0
Origin Totals	96851.	76306.	264618.	259932.	135916.	105630.	89657.	61806.	262818.	206690.	336273.	692133.	2594380.	5110417

# 4-S.18.9: Percent of Hiking by Origin and Destination Region, 1977-78

REGION OF DESTINATION	REGION OF ORIGIN													DESTINATION TOTALS
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	
1	20 100. 78.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	44322 0
2	1. 0.	44. 92.	21. 12.	2. 1.	0. 1.	0. 1.	0. 0.	0. 0.	3. 2.	1. 2.	3. 2.	2. 2.	23. 2.	222798 0
3	1. 9.	0. 0.	51. 82.	2. 5.	2. 11.	0. 0.	0. 0.	1. 8.	3. 7.	0. 0.	4. 9.	2. 5.	34. 9.	651458 0
4	0. 1.	1. 2.	4. 3.	81. 94.	0. 0.	2. 6.	1. 3.	0. 1.	1. 1.	0. 1.	0. 0.	0. 0.	8. 1.	279793 0
5	0. 1.	1. 2.	0. 0.	0. 0.	46. 85.	0. 0.	0. 0.	1. 2.	8. 6.	0. 0.	6. 5.	4. 3.	34. 3.	223027 0
6E	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	69. 84.	3. 4.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	28. 1.	102871 0
6W	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	94. 86.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	6. 0.	73305 0
7E	0. 0.	0. 0.	0. 0.	0. 0.	1. 1.	0. 0.	0. 0.	42. 72.	4. 3.	0. 0.	0. 0.	0. 0.	53. 4.	195059 0
7W	0. 0.	0. 0.	0. 0.	0. 0.	1. 3.	1. 2.	0. 0.	1. 3.	82. 79.	0. 0.	0. 0.	0. 0.	14. 1.	263646 0
8	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	100. 88.	0. 0.	0. 0.	0. 0.	98970 0
9	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	83. 84.	0. 0.	17. 2.	282423 0
10	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	1. 2.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	94. 69.	5. 0.	203286 0
11	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 2.	0. 0.	0. 2.	0. 1.	0. 2.	0. 0.	0. 0.	100. 65.	1698008 0
Out-of-State	1. 4.	1. 4.	3. 3.	0. 0.	0. 0.	0. 2.	1. 7.	4. 13.	1. 1.	2. 7.	0. 0.	14. 21.	73. 11.	404198 0
Origin Totals	56633.	105984.	404360.	243162.	120353.	84865.	80687.	113551.	274740.	112942.	279761.	276053.	2589868.	4743158

# 4-S.18.10: Percent of Camping by Origin and Destination Region, 1977-78

REGION OF DESTINATION	REGION OF ORIGIN												DESTINATION TOTALS	
	1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	
1	59. 27.	0. 4.	0. 0.	0. 0.	0. 0.	0. 0.	14. 9.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	11. 0.	43334 0
2	10. 41.	12. 27.	9. 7.	5. 10.	1. 4.	4. 9.	0. 1.	1. 4.	3. 4.	0. 0.	1. 1.	13. 0.	34. 4.	293109 0
3	1. 5.	1. 10.	37. 67.	2. 10.	2. 17.	2. 9.	0. 3.	1. 13.	2. 6.	0. 1.	4. 13.	3. 5.	45. 15.	742540 0
4	2. 5.	2. 5.	0. 0.	39. 62.	1. 3.	3. 5.	7. 25.	0. 0.	1. 1.	11. 15.	4. 5.	0. 0.	30. 3.	241308 0
5	0. 2.	0. 3.	3. 4.	1. 3.	8. 52.	5. 14.	1. 8.	5. 27.	13. 23.	0. 0.	2. 5.	4. 4.	56. 11.	440691 0
6E	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	53. 36.	10. 14.	0. 0.	11. 4.	5. 3.	16. 8.	0. 0.	5. 0.	98460 0
6W	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	66. 17.	0. 0.	0. 0.	34. 3.	0. 0.	0. 0.	0. 0.	17651 0
7E	0. 0.	0. 2.	4. 4.	2. 5.	1. 3.	2. 4.	1. 3.	5. 27.	3. 4.	0. 0.	0. 0.	1. 1.	62. 14.	372990 0
7W	0. 0.	0. 0.	0. 0.	2. 5.	2. 9.	5. 11.	0. 0.	1. 5.	28. 39.	1. 1.	0. 0.	5. 4.	57. 9.	358150 0
8	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	0. 3.	0. 0.	0. 0.	0. 0.	76. 35.	18. 7.	0. 0.	0. 0.	79852 0
9	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	1. 1.	0. 0.	0. 0.	0. 0.	5. 4.	50. 38.	23. 7.	21. 1.	155695 0
10	1. 2.	0. 1.	0. 0.	1. 2.	0. 0.	1. 1.	0. 0.	0. 0.	0. 0.	0. 0.	1. 2.	73. 55.	24. 4.	359761 0
11	0. 0.	0. 0.	4. 4.	0. 0.	0. 0.	0. 0.	0. 0.	0. 0.	2. 3.	2. 5.	1. 1.	0. 0.	91. 15.	371209 0
Out-of-State	2. 18.	2. 27.	7. 15.	0. 2.	1. 12.	1. 5.	2. 21.	2. 24.	4. 15.	6. 32.	5. 21.	4. 16.	58. 22.	869188 0
Origin Totals	111025.	73979.	410367.	150928.	71589.	144451.	69509.	75461.	254602.	174653.	205935.	472676.	2228281.	4443995

## INTER-REGIONAL METROPOLITAN ACTIVITY FLOWS

One pattern has persisted in the previous analysis of Region to Region activity flows. Namely, the Metropolitan Region is generally the major source of activity occasion flows. Even for those activities in which the Region has a high percentage of occasions occurring within the area, the occasion flows are large. For instance, from 1977 to 1978, over 73 percent of the 3.04 million Metro Region snowmobiling occasions occurred within the area. The 27 percent of the occasions occurring outside the Region translates into a flow of nearly 800,000 occasions. This export of snowmobiling occasions is more than the number of occasions that occurred in Region 1, 2, 6E, 7E, 7W, 8 or 9.

Because of the degree to which the Metro Region's activity flows impact the other Region's resources, the Region's activity flows warrants more focused attention. The importance of the Metro Region cannot be overlooked as nearly one-half of the state's population resides in the Region.

FIGURES 4-S.03 to 4-S.10 shows the Inter-Regional activity occasions flows from the Metro Region for selected activities. The width of the flow line represents the number of occasions. The bar graphs located at the base of the maps show the total number of occasions made by Metro residents as well as the number occurring within and outside the region.

In general, Metro Region activity occasion flows are northward. Although the distances traveled cannot be accurately determined from the maps, it is interesting to compare the flow maps with the maps of average willingness to travel (FIGURES 4-S.01 and 4-S.02). FIGURE 4-S.06, for instance, shows the inter-regional ice fishing occasion flows. Most of the occasion flows fall within the average travel distance circle for ice fishing on FIGURE 4-S.01. Notice also, that for those activities which Metro residents are willing to travel only short distances, most of the occasions occurred within the Metro area. For instance, of nearly three million cross-county occasions originated by Metro residents, less than 500,000 occurred outside the Metro Region (FIGURE 4-S.03). A more dramatic example is offered by FIGURE 4-S.07 (Bicycling occasions). Approximately 27 million total bicycling occasions were originated by Metro residents in 1978. But as the figure graphically illustrates, relatively few occasions (553,000) occurred outside the Metro Region. In term of bicycling and cross-country skiing, it seems that the Metro area is relatively self-sufficient.

FIGURE 4-S.04 depicts the downhill skiing occasion flows. Region Three is the most popular in-state destination for downhill skiing flows. However most of the downhill skiing flows are attracted to other states. In contrast, a much smaller proportion of the cross-country skiing flows occur outside Minnesota (FIGURE 4-S.03). Regions Three and five are the two most popular destinations for Metro Residents' cross-country skiing trips.

Of winter activity flows, Metro residents ice fishing travel pattern is the easiest to understand. The strong attraction of Mille Lacs Lake for ice fishing is graphically displayed on FIGURE 4-S.06. The lakes in Region Two and Five also attract a fair number of occasions. Not surprisingly, very few ice fishing occasions occurred in the south or southwestern portion of the state.

The designations of Metro residents occasion flows for two summer activities, fishing and powerboating/waterskiing, are nearly identical. Again the travel patterns are easy to understand. Both activities require water oriented resources (e.g lakes, rivers). As a result, most of the occasion occur in the northern portion of the state. It seems that Region Five is impacted the most by Metro residents flows (refer to FIGURES 4-S.08 and 4-S.10).

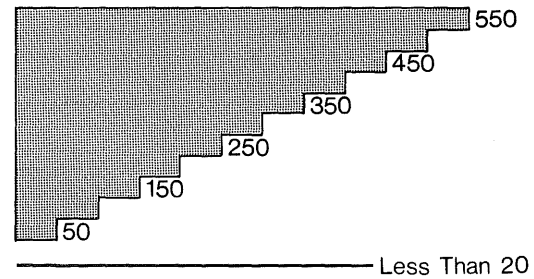
Metro residents are heavily dependent upon other regions in the state for camping facilities. As indicated on FIGURE 4-S.09, less than 400,000 of the approximately 2.2 million Metro Residents camping occasions occurred in the Metro area. This means that nearly 85 percent of all Metro area camping occasions occurred outside the area. Apparently Regions Three and 7E are the two major destinations for the camping flows. Comparison of FIGURES 4-S.08, 4-S.09 and 4-S.10 will reveal the destination of Metro residents camping flows closely corresponds to boating and fishing activity flows. However, the actual number of camping occasions is much less than either fishing or powerboating/waterskiing occasions.

# DESTINATION OF METRO RESIDENTS' INTER-REGIONAL Cross Country Skiing Occasions

1978

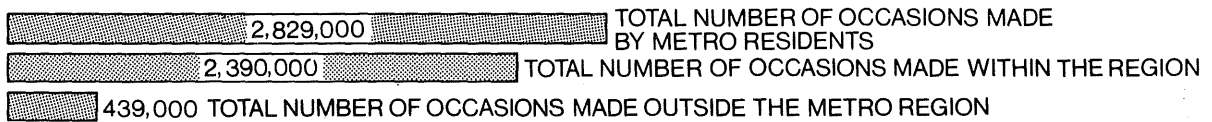
Figure 4-S.03

THOUSANDS OF OCCASIONS



0 5 10 25 50  
miles

DEPARTMENT OF NATURAL RESOURCES

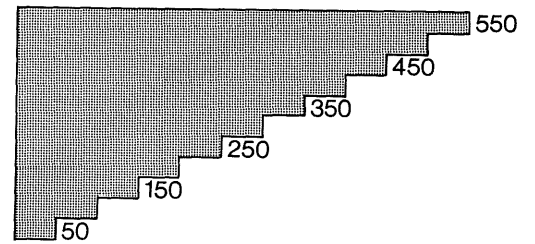


# DESTINATION OF METRO RESIDENTS' INTER-REGIONAL Downhill Skiing Occasions

1978

Figure 4-S.04

THOUSANDS OF OCCASIONS



Less Than 20

0 5 10 25 50  
miles

TO OUT OF STATE

DEPARTMENT OF NATURAL RESOURCES

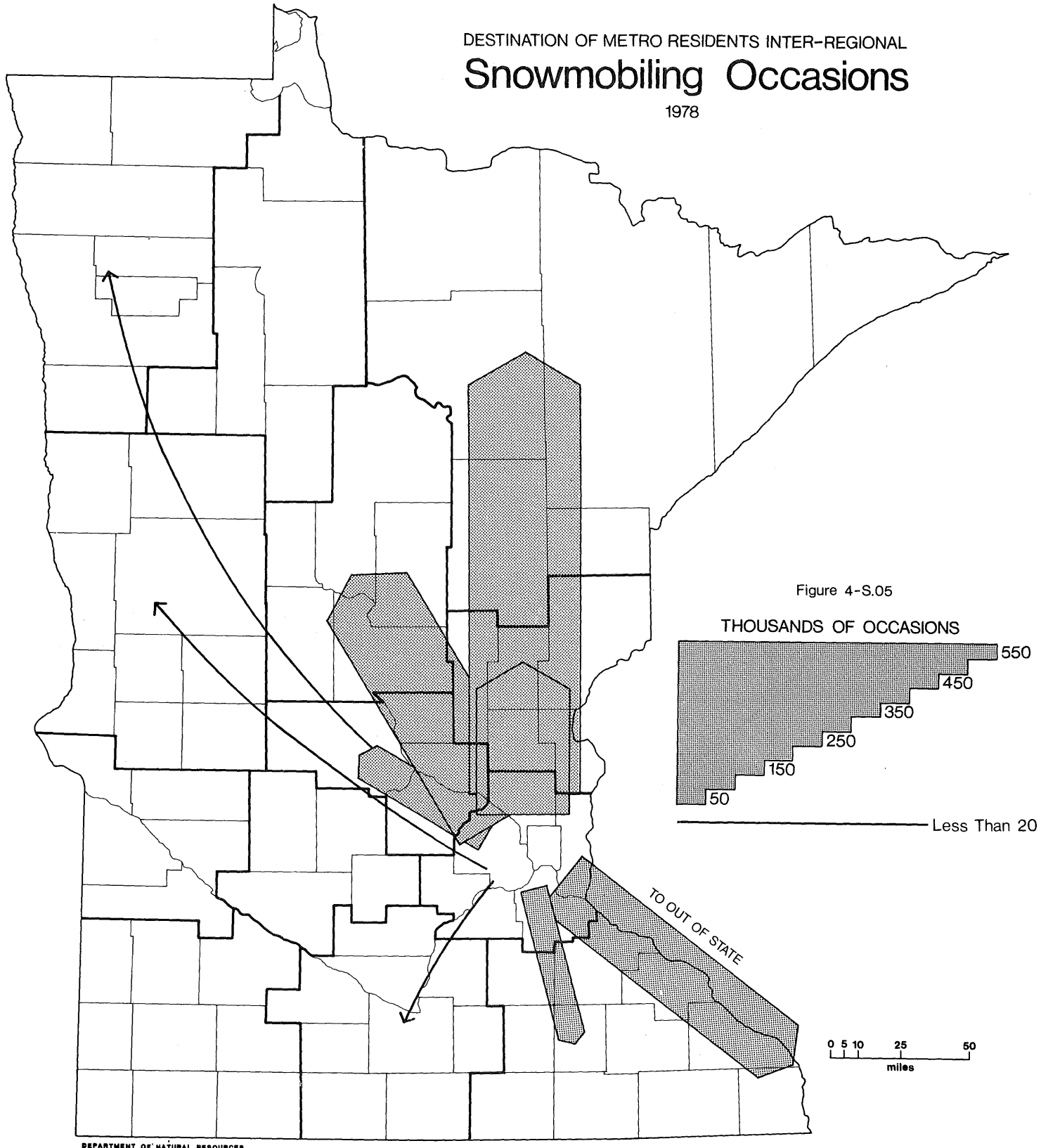
2,596,000	TOTAL NUMBER OF OCCASIONS MADE BY METRO RESIDENTS
1,281,000	TOTAL NUMBER OF OCCASIONS MADE WITHIN THE REGION
1,315,000	TOTAL NUMBER OF OCCASIONS MADE OUTSIDE THE METRO REGION



DESTINATION OF METRO RESIDENTS INTER-REGIONAL

# Snowmobiling Occasions

1978



3,042,000	TOTAL NUMBER OF OCCASIONS MADE BY METRO RESIDENTS
2,271,000	TOTAL NUMBER OF OCCASIONS MADE WITHIN METRO REGION
771,000	TOTAL NUMBER OF OCCASIONS MADE OUTSIDE THE METRO REGION

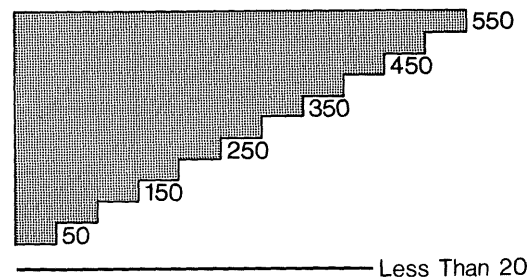
DESTINATION OF METRO RESIDENTS INTER-REGIONAL

# Ice Fishing Occasions

1978

Figure 4-S.06

THOUSANDS OF OCCASIONS



0 5 10 25 50  
miles

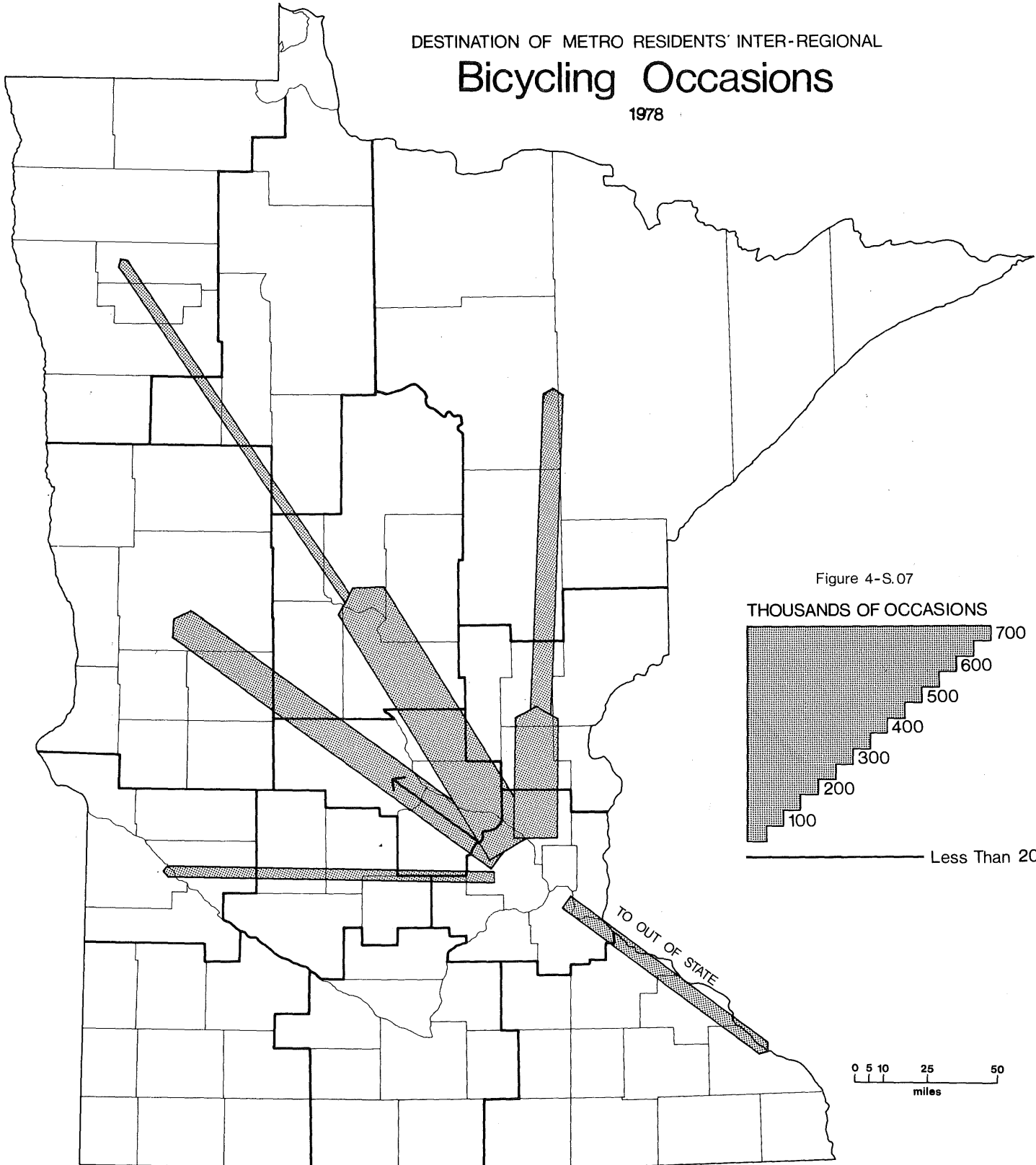
DEPARTMENT OF NATURAL RESOURCES

1,786,000	TOTAL NUMBER OF OCCASIONS MADE BY METRO RESIDENTS
1,007,000	TOTAL NUMBER OF OCCASIONS MADE WITHIN THE REGION
779,000	TOTAL NUMBER OF OCCASIONS MADE OUTSIDE THE METRO REGION

DESTINATION OF METRO RESIDENTS' INTER-REGIONAL

# Bicycling Occasions

1978

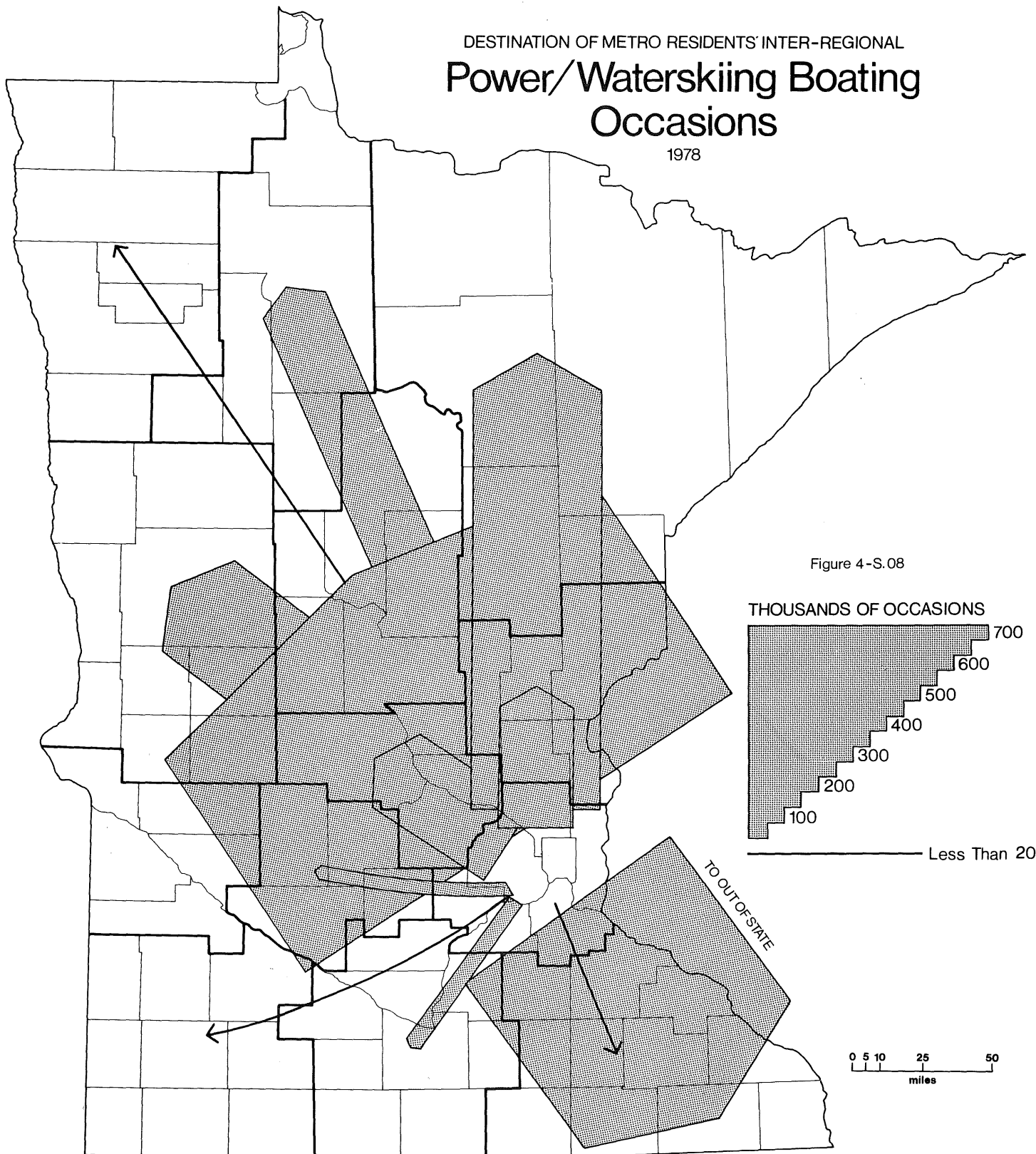


DEPARTMENT OF NATURAL RESOURCES

26,938,000	TOTAL NUMBER OF OCCASIONS MADE BY METRO RESIDENTS
26,385,000	TOTAL NUMBER OF OCCASIONS MADE WITHIN THE REGION
553,000	TOTAL NUMBER OF OCCASIONS MADE OUTSIDE THE METRO REGION

# DESTINATION OF METRO RESIDENTS' INTER-REGIONAL Power/Waterskiing Boating Occasions

1978



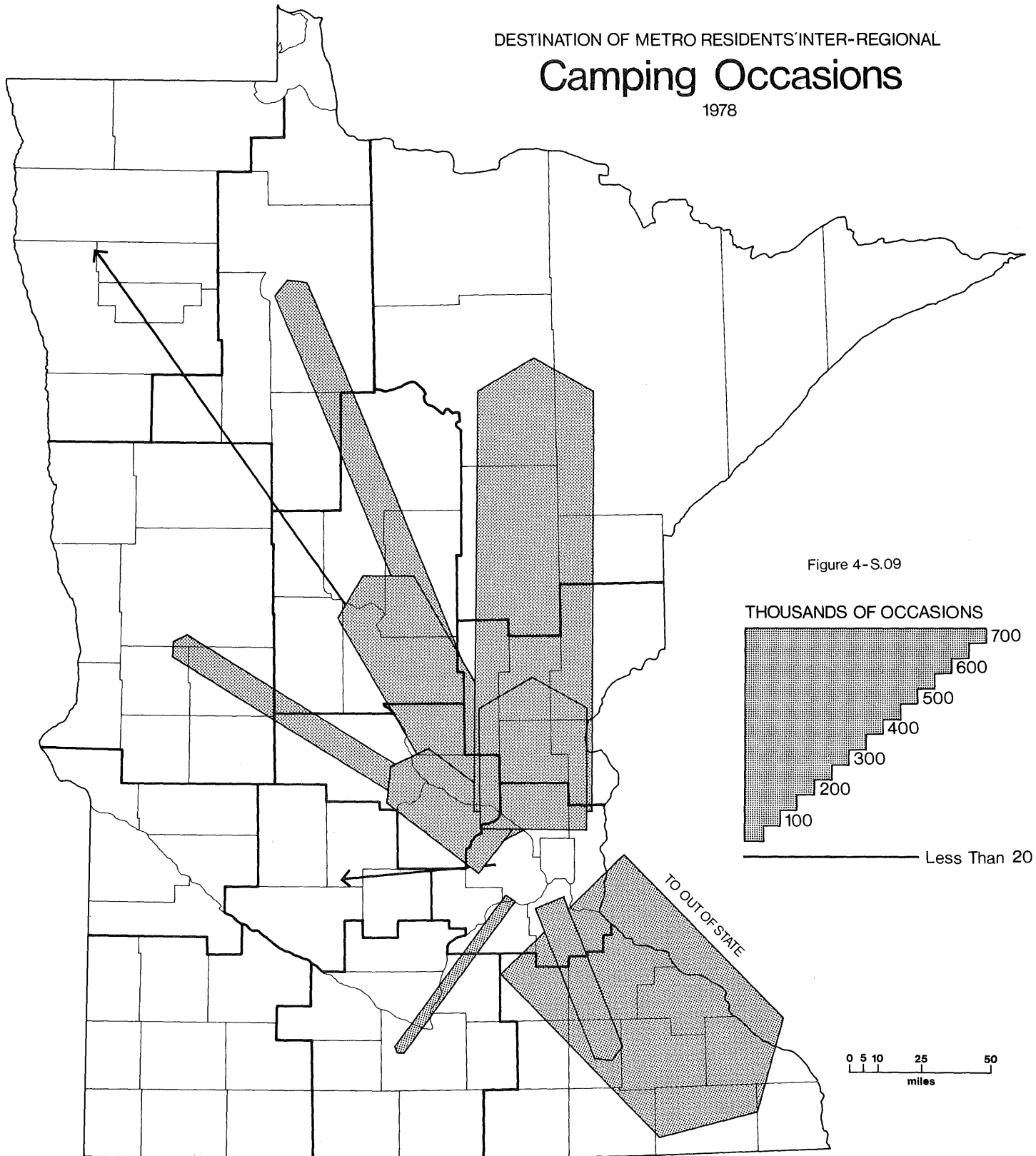
DEPARTMENT OF NATURAL RESOURCES

6,380,000	TOTAL NUMBER OF OCCASIONS MADE BY METRO RESIDENTS
2,670,000	TOTAL NUMBER OF OCCASIONS MADE WITHIN THE REGION
3,710,000	TOTAL NUMBER OF OCCASIONS MADE OUTSIDE THE METRO REGION

DESTINATION OF METRO RESIDENTS' INTER-REGIONAL

# Camping Occasions

1978



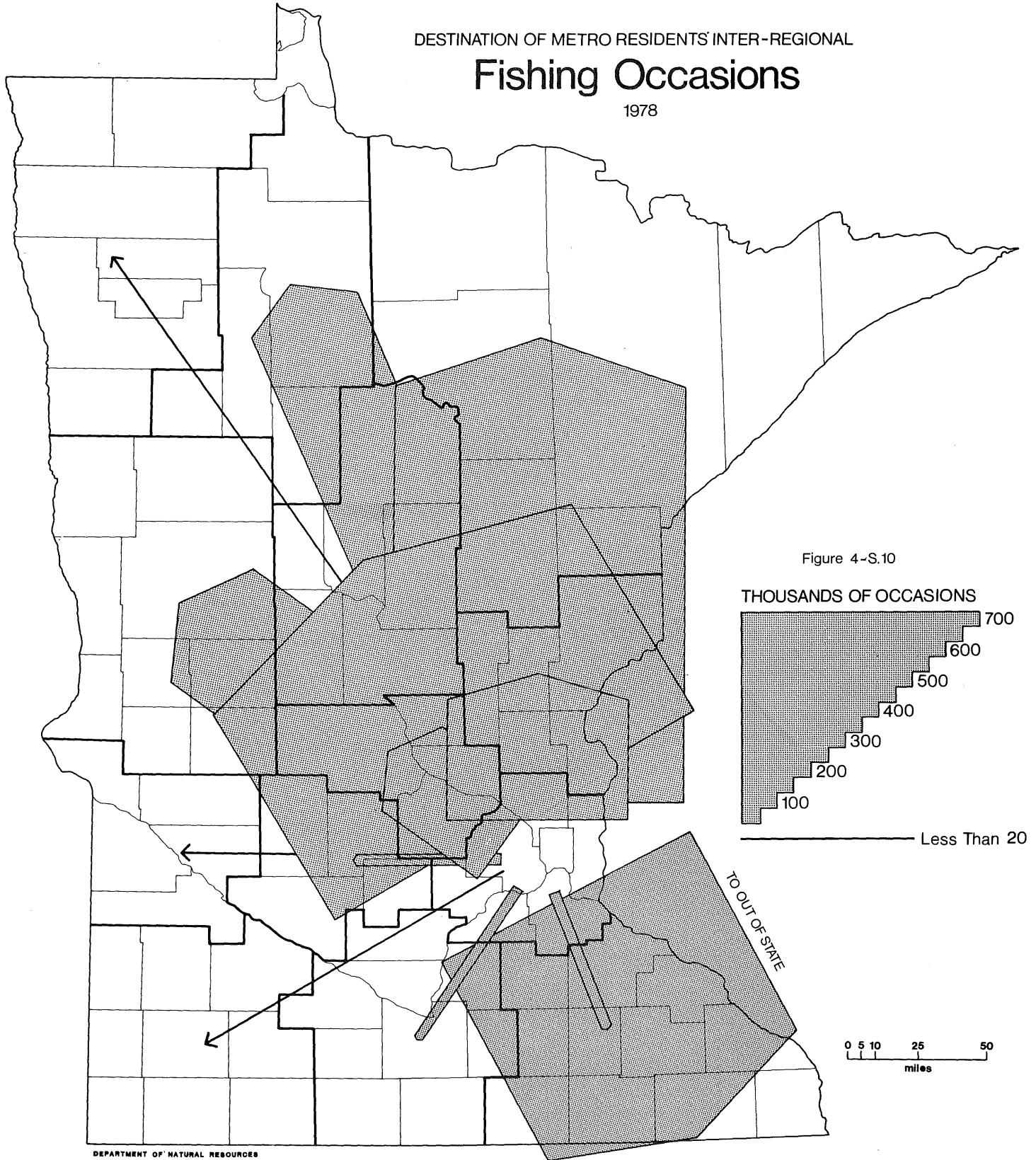
DEPARTMENT OF NATURAL RESOURCES

2,230,000	TOTAL NUMBER OF OCCASIONS MADE BY METRO RESIDENTS
338,000	TOTAL NUMBER OF OCCASIONS MADE WITHIN THE REGION
1,892,000	TOTAL NUMBER OF OCCASIONS MADE OUTSIDE THE METRO REGION

DESTINATION OF METRO RESIDENTS' INTER-REGIONAL

# Fishing Occasions

1978



6,513,000	TOTAL NUMBER OF OCCASIONS MADE BY METRO RESIDENTS
1,918,000	TOTAL NUMBER OF OCCASIONS MADE WITHIN THE REGION
4,595,000	TOTAL NUMBER OF OCCASIONS MADE OUTSIDE THE METRO REGION

## REGIONAL DEMAND AND DESIRES

### INTRODUCTION TO REGIONAL ANALYSES

The foregoing analysis presents Minnesotans' recreation demands and desires at a general level. Often, planning requires more specific data that reflects regional differences. The following section, organized by Minnesota development region, presents that data. The pattern of data presentation is constant for each of these 13 multi-county regions. Future trends in recreation come first. Following an analysis of trends is the public desire for recreation opportunities. These are the results of 13 regional polls, described in the statewide introduction and in MN/DNR, Research and Policy, report series 2300.

Each regional section also contains a section of Staff Recommendations. The basis of these, the public's desire for additional recreation opportunities as measured in the regional surveys, presumably incorporates a measure of supply versus demand. However, a lack of information about available opportunities on the part of residents surveyed could cause them to perceive a less than sufficient supply. To the extent that the public has poor information about opportunities, additional facility development is unnecessary. Staff Recommendations direct opportunity provision. No doubt this is a major objective of SCORP. However, hand-in-hand with that objective are the objectives of resource preservation and directing resource utilization to the most beneficial public use.

Data on willingness to travel from the state section form the basis for decisions on the recommended sectors of provision. The underlying assumption is that higher levels of government should play the larger role in providing opportunities that people are willing to travel longer distances for, and lower levels should emphasize short travel distance opportunities. This finds its basis in governmental organization theory, which holds that the constituency of a service-providing government should be composed of a high percentage of the clientele public. The resolution of the data calls for a caution. Surveys and data analysis sought planning information at the regional level. As a result the desires most wide spread in each region should be the strongest. This doesn't preclude strong local pockets of desire for additional opportunity to participate in some of the activities showing weak regional desire on participation.

## REGION ONE

### Staff Recommendations

Providers of recreation to Region One should emphasize snowmobiling. This is far and away the most desired winter opportunity. Also federal and state agencies should accelerate acquisition and development programs that provide hunting opportunities in this or adjacent regions. All region providers should put moderate emphasis on expanding opportunities for cross-country skiing. The private sector should be encouraged to provide downhill skiing opportunities at locations offering appropriate topography, and which can also be competitive.

In general, more accent should be placed on providing summer than winter opportunities. Federal, state, local and private providers should increase the supply of campgrounds. Additional public accesses to fishing areas should be supplied by all sectors through acquisition, development and information programs. At the same time, state fish-stocking and fisheries management programs should be upgraded. Region One local providers of recreation should emphasize swimming beaches and bicycle paths. Additional tennis courts should be a secondary area of emphasis. All sectors managing resources capable of providing hiking opportunities should seek to develop hiking trails.

### Winter Recreation Trends

The short-term trends in outdoor recreation occasions originating in Minnesota Development Region One (TABLE 4-1.01) show only three increasing activities. cross-country skiing appears to be increasing at the greatest rate, 8.3 percent. Combined with the medium sized 1978 base participation (39,000 occasions), this increase means the actual load placed on resources will be substantial. While snowshoeing is increasing at the greatest percentage rate (33 percent) the base on which this increase occurs is small (5145). The second greatest proportionate increase is projected for winter camping (7.1 percent). However, the low base period participation 4,600 occasions in 1978, indicates little strain on resources. Of the two activities, only cross-country skiing warrants a more detailed analysis.

Downhill skiing, ice skating, snowmobiling, ice fishing, trapping and snowtubing occasions will remain relatively static in the short run. Decreasing activities appear to be dog sledding and sledding. Barring evidence to the contrary, short-term investment in resources for these activities should be avoided.

Projection of occasions occurring in Region One indicates the load placed on the region's resources (TABLE 4-1.02). This measure takes into account the import of occasions from other regions and Region One export. In effect, it is the net occasion import or export. Looking at this data, it is easy to see that Region One is, for planning purposes, a closed recreation system during the winter season. Snowmobiling is the only activity that exhibits movement from region to region. It also appears that the demand placed on Region One's snowshoeing resources will decrease more rapidly than the number of snowshoeing occasions originating in the region.



TABLE 4-1.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 1

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	4644	4633	-0.2	4963	7.1	5651	13.9	5822	3.0
Cross-Country Skiing	39009	38586	-1.1	41772	8.3	42737	2.3	47602	11.4
Downhill Skiing	50155	50325	0.3	48019	-4.6	44581	-7.2	41147	-7.7
Snowshoeing	3715	3860	3.9	5145	33.3	6887	33.9	8891	8.1
Ice Skating	218265	199902	-8.4	200881	0.5	209390	4.2	205746	-1.7
Snowmobiling	651080	627090	-3.7	650205	3.7	688783	5.9	684896	-0.6
Dog Sledding	3715	3576	-3.7	2925	-18.2	2663	-9.0	2569	-3.5
Ice Fishing	132817	136096	2.5	138573	1.8	141756	2.3	137566	-3.0
Trapping	40867	41952	2.7	40115	-4.4	44639	11.3	50831	13.9
Sledding	243342	224115	-7.9	210420	-6.1	225324	7.1	230838	2.4
Snowtubing	6502	6132	-5.7	5815	-5.2	6409	10.2	6357	-0.8

TABLE 4-1.02: PROJECTIONS OF WINTER RECREATION OCCASIONS OCCURRING IN REGION 1

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	929	927	-0.2	993	7.1	1131	13.9	1165	3.0
Cross-country Skiing	32508	32155	-1.1	34810	8.3	35615	2.3	39669	11.4
Downhill Skiing	19505	19571	0.3	18674	-4.6	17337	-7.2	16002	7.7
Snowshoeing	13542	14154	4.5	13648	-3.6	12928	-5.3	12198	-5.6
Ice Skating	212168	194520	-8.3	195625	0.6	204109	4.3	200893	-1.6
Snowmobiling	625644	603038	-3.6	826179	3.7	662114	5.9	659026	-0.5
Dog Sledding	3715	3576	-3.7	2925	-18.2	2663	-9.0	2569	-3.5
Ice Fishing	39372	40341	2.5	41106	1.9	42083	2.4	40915	-2.8
Trapping	40867	41952	2.7	40115	-4.4	44639	11.3	50831	13.9
Sledding	241507	222454	-7.9	209024	-6.0	223868	7.1	229335	2.4
Snowtubing	6507	6132	-5.7	5815	-5.2	6409	10.2	6357	-0.8

TABLE 4-1.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 1

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	4644	4633	-0.2	4963	7.1	5651	13.9	5822	3.0
Cross-Country Skiing	39009	38586	-1.1	41772	8.3	42737	2.3	47602	11.4
Downhill Skiing	50155	50325	0.3	48019	-4.6	44581	-7.2	41147	-7.7
Snowshoeing	3715	3860	3.9	5145	33.3	6887	33.9	8891	8.1
Ice Skating	218265	199902	-8.4	200881	0.5	209390	4.2	205746	-1.7
Snowmobiling	651080	627090	-3.7	650205	3.7	688783	5.9	684896	-0.6
Dog Sledding	3715	3576	-3.7	2925	-18.2	2663	-9.0	2569	-3.5
Ice Fishing	132817	136096	2.5	138573	1.8	141756	2.3	137566	-3.0
Trapping	40867	41952	2.7	40115	-4.4	44639	11.3	50831	13.9
Sledding	243342	224115	-7.9	210420	-6.1	225324	7.1	230838	2.4
Snowtubing	6502	6132	-5.7	5815	-5.2	6409	10.2	6357	-0.8

TABLE 4-1.02: PROJECTIONS OF WINTER RECREATION OCCASIONS OCCURRING IN REGION 1

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	929	927	-0.2	993	7.1	1131	13.9	1165	3.0
Cross-country Skiing	32508	32155	-1.1	34810	8.3	35615	2.3	39669	11.4
Downhill Skiing	19505	19571	0.3	18674	-4.6	17337	-7.2	16002	7.7
Snowshoeing	13542	14154	4.5	13648	-3.6	12928	-5.3	12198	-5.6
Ice Skating	212168	194520	-8.3	195625	0.6	204109	4.3	200893	-1.6
Snowmobiling	625644	603038	-3.6	826179	3.7	662114	5.9	659026	-0.5
Dog Sledding	3715	3576	-3.7	2925	-18.2	2663	-9.0	2569	-3.5
Ice Fishing	39372	40341	2.5	41106	1.9	42083	2.4	40915	-2.8
Trapping	40867	41952	2.7	40115	-4.4	44639	11.3	50831	13.9
Sledding	241507	222454	-7.9	209024	-6.0	223868	7.1	229335	2.4
Snowtubing	6507	6132	-5.7	5815	-5.2	6409	10.2	6357	-0.8

## Public Desire for Winter Recreation Opportunities

Public desires as expressed in the survey provide evidence for development and acquisition contrary to that provided by the projections of winter recreation occasions (TABLE 4-1.05). Here, the public indicates the greatest desire for snowmobiling. This high magnitude of desire is supported by the public's expressed intensity of need (TABLE 4-1.06).

TABLE 4-1.05: Percent of the Population of Region 1 Desiring More Opportunity for Winter Activities

Activity	% of Population Requesting
Snowmobiling	16.5
Hunting	8.3
Downhill Skiing	6.9
Cross-Country Skiing	6.0
Ice Skating	3.5

TABLE 4-1.06: Region 1 Expressed Level of Need by Winter Activity  
1= low need 5= high need

Activity	Average Need
Ice Skating	3.2
Hunting	3.2
Snowmobiling	3.0
Downhill Skiing	2.4
Cross-Country Skiing	2.1

(activities with a .75 confidence interval greater than .99 omitted)

People who expressed a desire for more snowmobiling opportunities or facilities rated their need as the second most intense among winter activities.

Ice skating opportunities, the least requested winter opportunity, scored highest in need at 3.2 percent. While the proportion of the population requesting ice skating is not large, the expressed intensity of need suggests consideration. On the other hand, both the size of the population requesting hunting (8.3 percent) and its expressed need (3.2) relatively large.

Downhill and cross-country skiing development also appear to have some support from the public. Six to seven percent of Region One requested more opportunities for these activities.

## Public Desire For Summer Recreation Opportunities

Requests for more summer recreation opportunities divide easily into three categories (TABLE 4-1.07). The category of highest desire consists of activities that 15 percent or more of the sample requested. Medium desire is represented by opportunities requested by three to eight percent of the population. Low desire opportunities were requested by less than two percent of the population.

The four highest-desire activities represent traditional summer pursuits. Camping recieved the largest share of the requests at over 22 percent. Fishing (18.3 percent), swimming (17.6 percent) and bicycling (16.5 percent) followed in a close cluster. Camping and swimming showed average needs of 3.0 plus, indicating strong desire for these opportunities (TABLE 4-1.08). Bicycling and fishing weren't as strongly desired. Nevertheless, the relatively large portion of the population requesting these opportunities certainly points to needed acquisition, development and programming actions.

Medium-level opportunities--tennis, hiking, boating, picnicking, park facilities, baseball/softball and golf--recieved a wide range of average need scores. Above three on the scale were hiking and park facilities. The remaining opportunities scored between 2.4 and 2.7.

TABLE 4-1.07: Percent of the Population of Region 1 Desiring More Opportunity for Summer Activities

Activity	% of the Populating Requesting
Camping	22.4
Fishing	18.3
Swimming	17.6
Bicycling	16.5
Tennis	7.1
Hiking	6.5
Boating	4.7
Picnicking	3.5
Park Facilities	3.5
Baseball/Softball	2.9
Golf	2.9
Canoeing	1.8
Horseback Riding	1.8
Target Shooting	1.8
Waterskiing	1.8
Backpacking	1.2
Trail Biking	1.2
Four Wheeling	.6
Visiting Historic Sites	.6
Bird Watching	.6

TABLE 4-1.08: Region 1 Expressed Level of Need By Summer Activity  
 1= low need    5= high need

Activity	Average Need
Waterskiing	4.0
Horseback Riding	3.7
Hiking	3.4
Canoeing	3.3
Park Facilities	3.3
Camping	3.3
Swimming	3.0
Picnicking	2.7
Golfing	2.6
Bicycling	2.6
Fishing	2.5
Tennis	2.4
Baseball/Softball	2.4

(Activities with a .75 confidence interval greater than .99 omitted)

At the third level fall the less universally participated in activities: canoeing, horseback riding, target shooting, waterskiing, backpacking, trail biking, fourwheeling, visiting historic sites and birdwatching. At this point, the sample size on average need expressed declines to the level where these figures must be used with caution. Only waterskiing, horseback riding and canoeing show sufficient accuracy to support inclusion of their average need scores in TABLE 4-1.08. Interestingly, these scores all fall in the upper third of the table, indicating strong desire.

## Summer Recreation Trends

TABLE 4-1.03 shows the number of summer recreation occasions owing to the activity of Region One's residents. Total bicycling (1,565,000) is the most often originating activity, followed by swimming (393,000), fishing (370,000), driving for pleasure (290,552), picnicking (221,000) and total boating (216,000).

Projections for 1985, based on the predicted age/sex make-up of the region's population, show strong decreases or no change in nearly every summer recreation activity. Units of government responsible for meeting local needs should look closely at unexpected influences on participation, current site use figures and localized need before embarking on acquisition and development. TABLE 4-1.04 shows the number of recreation occasions estimated to occur in Region One. These result from the leisure time activities of baseball/softball (324,000), boating (110,000), driving for pleasure (272,000), fishing (172,000), picnicking (164,000) and swimming (282,000 are activities with over 100,000 occasions occurring in Region One in 1978. Trends to 1985 show decreases in the youth oriented sports of bicycling and swimming. In addition, motorized trailbiking will decrease significantly. However, these age/sex based forecasts could prove false if the culture maintains its emphasis on youth and fitness.

Region One imports very little recreation and exports recreation oriented toward lake and park facilities. In 1978, 100,000 less boating occasions occurred than originated in Region One. An equal net export of swimming occasions took place, while picnicking showed a net export of over 80,000 occasions.



TABLE 4-1.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 1

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	9849	10200	3.6	9169	-10.1	7159	-21.9	6468	-9.7
Back- packing	12312	12976	5.4	12268	-5.4	10467	-14.7	8835	-15.6
Organized Base/ Softball	141172	138752	-1.7	135085	-2.6	140085	3.7	136529	-2.5
Sandlot Base/ Softball	188777	175603	-7.0	169082	-3.7	185226	9.5	194684	5.1
Total Base/ Softball	329949	314844	-4.6	304735	-3.2	325413	6.8	330318	1.6
Recreation Bicycling	1308306	1235562	-5.6	1180609	-4.4	1244025	5.4	1285118	3.3
Transportation Bicycling	156767	150515	-4.0	140377	-6.7	142453	1.5	153192	7.5
Total Bicycling	1465072	1386168	-5.4	1320945	-4.27	1386230	4.9	1438279	3.8
Birdwatching Nature Study	37755	37888	0.4	35302	-6.8	31449	-10.9	27908	-11.3
Power Boating Waterskiing	192881	193750	0.5	193735	-0.0	202126	4.3	209195	3.5
Sailing	5745	6042	5.2	5774	84.4	4981	-13.7	4230	-15.1
Other Boating	17236	16854	-2.2	15591	-7.5	17536	12.5	17544	0.0
Total Boating	125862	216742	0.4	215309	-0.7	224553	4.3	230813	2.8
Camping	111625	110471	-1.0	111868	1.3	118948	6.3	125582	5.6
Lake Canoeing	18057	18168	0.6	16182	-10.9	14417	-10.9	13680	-5.1
Stream Canoeing	5745	5690	-1.0	4751	-16.5	3529	-25.7	3470	-1.7

Lake & Stream Canoeing	0	0	0.0	0	0.0	0	0.0	0	0.0
Total Canoeing	23802	23852	2.0	20909	-12.3	17881	-14.5	17095	-4.4
Driving for Pleasure	290552	294883	1.5	308457	4.6	314163	1.8	311954	-0.7
Fishing	370167	365972	-1.1	372216	1.7	385229	3.5	393548	2.2
Football	28727	27615	-3.9	23374	-15.4	22011	-5.8	24187	9.9
Four Wheeling	17236	17981	4.3	16553	-7.9	15996	-3.4	14502	-9.3
Golf	96851	98703	1.9	98946	0.2	102341	3.4	100119	-2.2
Hiking	56633	56308	-0.6	59313	5.3	61024	2.9	58876	-3.5
Horseback Riding (trail)	31189	31430	0.8	31946	1.6	29565	-7.5	25598	-13.4
Horseback Riding (other)	65662	61440	-6.4	51453	-16.3	52698	2.4	61370	16.5
Total Horseback Riding	96851	93303	-3.7	84843	-9.1	83135	-2.0	86286	3.8
Orienteering	4925	4237	-14.0	5277	24.6	5926	12.3	5784	-2.4
Picnicking	220787	219506	-0.6	225854	2.9	241350	6.9	244721	1.4
Trap Shooting	11491	12515	8.9	12547	0.3	13171	5.0	12855	-2.4
Skeet Shooting	0	0	0.0	0	0.0	0	0.0	0	0.0
Range/Target Shooting	11491	12006	4.5	13605	13.3	14800	8.8	16427	11.0
Total Shooting	22982	24537	6.8	26120	6.5	27920	6.9	29171	4.5
Swimming	393148	371650	-5.5	341749	-8.0	344578	0.8	359565	4.3
Tennis	100134	95959	-4.2	81935	-14.6	78927	-3.7	85864	8.8
Trail Biking	71407	67619	-5.3	57350	-15.2	61425	7.1	73633	19.9
Visiting Historic Sites	32831	32558	-0.8	32197	-1.1	35097	9.0	17095	-4.4

TABLE 4-1.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 1

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	9849	10200	3.6	9169	-10.1	7159	-21.9	6468	-9.7
Back- packing	4104	4325	5.4	4089	-5.4	3489	-14.7	2945	-15.6
Organized Base/ Softball	137530	135266	-1.6	131845	-2.5	136626	3.6	133367	-2.4
Sandlot Base/ Softball	186543	173573	-7.0	167207	-3.7	183153	9.5	192467	5.1
Total Base/Softball	324073	309475	-4.5	299711	-3.1	319915	6.7	325045	1.6
Recreation Bicycling	1312028	1241550	-5.4	1188863	-4.2	1252837	5.4	1294368	3.3
Transportation Bicycling	144455	138694	-4.0	129352	-6.7	131265	1.5	141160	7.5
Total Bicycling	1456483	1380458	-5.2	1317738	-4.5	1382778	4.9	1434409	3.7
Birdwatching Nature Study	39460	39597	0.3	37181	-6.1	33287	-10.5	29662	-10.9
Power Boating/ Waterskiing	95019	95651	0.7	96335	0.7	100700	4.5	104556	3.8
Sailing	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Boating	14774	14447	-2.2	13364	-7.5	15031	12.5	15038	0.0
Total Boating	109793	110469	0.6	110480	0.0	115362	4.4	119070	3.2
Camping	43334	42973	-0.8	43705	1.7	46563	6.5	48543	4.3
Lake Canoeing	18601	18826	1.2	17894	-4.9	17170	-4.0	17215	0.3
Stream Canoeing	5745	5690	-1.0	4751	-16.5	3529	-25.7	3470	-1.7

Lake & Stream Canoeing	0	0	0.0	0	0.0	0	0.0	0	0.0
Total Canoeing	24347	24576	0.9	22834	-7.1	21123	-7.5	21026	-0.5
Driving for Pleasure	271821	275908	1.5	287753	4.3	292946	1.8	291281	-0.6
Fishing	172148	170508	-1.0	173769	1.9	180150	3.7	184446	2.4
Football	30670	29493	-3.8	25226	-14.5	23906	-5.2	26147	9.4
Four Wheeling	16415	17125	4.3	15765	-7.9	15234	-3.4	13811	-9.3
Golf	96518	98413	2.0	98912	0.5	102489	3.6	100690	-1.8
Hiking	44322	44068	-0.6	46420	5.3	47759	2.9	46077	-3.5
Horseback Riding (trail)	25444	25641	0.8	26062	1.6	24119	-7.5	20883	-13.4
Horseback Riding (other)	57776	54257	-6.1	46234	-14.8	47448	2.6	54728	15.3
Total Horseback Riding	83220	80201	-3.6	73287	-8.6	72136	-1.6	75056	4.0
Orienteering	4925	4237	-14.0	5277	24.6	5926	12.3	5784	-2.4
Picnicking	164329	163593	-0.4	168858	3.2	180275	6.8	182969	1.5
Trap Shooting	12015	13033	8.5	13057	0.2	13667	4.7	13377	-2.1
Skeet Shooting	0	0	0.0	0	0.0	0	0.0	0	0.0
Range/Target Shooting	9849	10290	4.5	11661	13.3	12685	8.8	14079	11.0
Total Shooting	21865	23304	6.6	24776	6.3	26421	6.6	27591	4.4
Swimming	282213	268030	-5.0	247921	-7.5	250097	0.9	260422	4.1
Tennis	90049	86393	-4.1	73983	-14.4	71218	-3.7	77259	8.5
Trail Biking	57292	54253	-5.3	46013	-15.2	49283	7.1	59078	19.9
Visiting Historic Sites	19355	19212	-0.7	19108	-0.5	20430	6.9	21225	3.9

## REGION TWO

### Staff Recommendations

All eligible levels of government should emphasize the development of snowmobiling and cross-country skiing opportunities. The state should continue to expand hunting opportunities through acquisition and development of hunting lands in the region. Likewise, more fishing opportunities should be provided by stocking programs and other fisheries management techniques. Public access, a key to providing fishing should be made more available in the region by all levels of government. Provision of public access should include information programs directing people to existing accesses and cultivation of the private sector to provide more access, as well as accelerated public programs.

Other summer recreation programs should provide additional bicycling facilities, primarily by local governmental units, since statewide willineness-to-travel figures show that most people do not care to travel far to bicycle. Camping facilities are also needed. In this case, state and county government levels as well as the private sector should be active providers. Local government should look to providing more opportunities for tennis and swimming. At the same time, all levels of government controlling appropriate resources should seek to provide for more hiking.

### Winter Recreation Trends

The 1978 to 1985 changes in recreation occasions originating in Region Two present a picture of generally increasing pressure on winter recreation resources (TABLE 4-2.01). The most dramatic projected increase will come in snowmobiling. The 1980 to 1985 percent change of 11.1 percent comes on the heels of a slight decline (-1.1 percent) from 1978 to 1980. The fact that this increase comes from a large 1978 base, over 380,000 occasions, indicates a substantial seven year increase in snowmobiling occasions (38,000) by the region's residents.

Ice skating also shows a significant increase in occasions from 1980 to 1985. However, that five year increase of nearly 12 percent follows a two-year decline (1978 to 1980) of seven percent. Thus, the total seven year change in Ice skating is an increase of five thousand occasions. Surprisingly, snowshoeing has the highest rate of increase at nearly 15 percent from 1980 to 1985. This follows a 1978 to 1980 increase of almost six percent. The consistent growth comes in an activity with 1978 base occasions of almost 43,000 and yields a total increase of nine thousand occasions. Ice fishing also shows a consistent increase (11,000 occasions, 1978 to 1985) on a base occasion count of over 100,000. Like ice fishing, trapping will increase, but the base participation of under 30,000 occasions in 1978 makes trapping less important.

The 1980 to 1985 sledding occasions trend shows a fair increase (7.0 percent). However, the 1978 to 1980 decrease of nearly six percent counters this increase and makes sledding a stagnant activity. The remaining winter activities occasions originating in Region Two are either steady or show insignificant changes.

TABLE 4-2.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 2

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Cross-Country Skiing	83707	81919	-2.1	86548	5.7	84868	-1.9	85631	0.9
Downhill Skiing	46610	45964	-1.4	45170	-1.7	43994	-2.6	44218	0.5
Snowshoeing	42805	45309	5.8	52039	14.9	52510	0.9	53282	1.5
Ice Skating	136024	126493	-7.0	141186	11.6	159322	12.8	167223	5.0
Snowmobiling	381439	377237	-1.1	419124	11.1	472639	12.8	496376	5.0
Ice Fishing	110817	112938	1.9	122142	8.1	132386	8.4	146402	10.6
Open Water Fishing	951	958	0.7	745	-22.3	655	-12.0	798	21.8
Trapping	27110	28154	3.9	30493	8.3	32042	5.1	34445	7.5
Sledding	168366	158651	-5.8	169751	7.0	186723	10.0	189858	1.7
Snowtubing	4281	4428	3.4	4549	2.7	5270	15.8	6069	15.2

TABLE 4-2.02: PROJECTIONS OF WINTER RECREATION OCCASIONS OCCURRING IN REGION 2

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	5483	5423	-1.1	5502	1.4	6226	13.2	6399	2.8
Cross-Country Skiing	117370	115570	-1.5	120835	4.6	120914	0.1	122587	1.4
Downhill Skiing	58634	57857	-1.3	56217	-2.8	54388	-3.3	54116	-0.5
Snowshoeing	57719	60419	4.7	65873	9.0	68900	4.6	69501	0.9
Ice Skating	155769	144758	-7.1	159800	10.4	179603	12.4	187431	4.4
Snowmobiling	407742	402621	-1.3	444066	10.3	497593	12.1	520814	4.7
Ice Fishing	343460	351010	2.2	367746	4.8	383166	4.2	398275	3.9
Open Water Fishing	951	958	0.7	745	-22.3	655	-12.0	798	21.8
Trapping	34908	36441	4.4	38641	6.0	41569	7.6	44043	6.0
Sledding	244794	230542	-5.8	243255	5.5	266883	9.7	272303	2.0
Snowtubing	4280	4427	3.4	4548	2.7	5269	15.8	6068	15.2

TABLE 4-2.02 shows the number of occasions occurring in Region Two in 1978, 1980, 1985, 1990 and 1995. Unlike originating occasions, this table takes resident occasion export and import into account. The figures presented here represent the projected load placed on the resources. Region Two appears to be an attractive region. Every winter activity shows more occasions occurring in the region than originating from the regions residents. Significant imports in 1985 appear in cross-country skiing (24,000), snowmobiling (25,000) and ice fishing (246,000). The massive influx of ice fishing occasions should be noted by agencies supplying fishing opportunities in Region Two. Of these three, only snowmobiling shows a substantial increase over the 1978 to 1985 period, nine percent or 35,000 occasions. Ice fishing will also increase, but at a slower rate, seven percent or 25,000 occasions.

#### Public Desire For Winter Recreation Opportunities

Simultaneously viewing the expressed need figures and the percent requesting figures places cross-country skiing at the top of the list for action (percent desiring = 15.9, expressed need = 2.6). The second most often requested activity, snowmobiling (11.9 percent) received the same expressed need ranking as cross-country skiing. Hunting, requested by 11 percent of the population shows the highest need measure (3.0). Those three activities form the winter group requiring the most acquisition and development action in Region Two.

TABLE 4-2.05: Percent of the Population of Region 2 Desiring More Opportunity For Winter Activities

Activity	% of the Population Requesting
Cross-Country Skiing	15.9
Snowmobiling	11.9
Hunting	10.9
Ice Skating	1.7
Snowshoeing	1.7
Miscellaneous Skiing	1.7
Downhill Skiing	1.7

TABLE 4-2.06: Region 2 Expressed Level of Need by Winter Activity  
1= low need 5= high need

Activity	Average Need
Hunting	3.0
Cross-Country Skiing	2.6
Snowmobiling	2.6
Snowshoeing	1.7
Downhill Skiing	1.5
Ice Skating	1.3

(activities with .75 confidence interval greater than .99 omitted)



## Public Desire For Summer Recreation Opportunities

The top summer opportunities stand apart at the head of the responses to the facility adequacy sample (TABLE 4-2.07), which indicates a substantial desire for more opportunity to participate in fishing (19.9 percent of the population), bicycling (18.8 percent) and camping (13.6 percent). Providing facilities for Three activities should have high priority.

Medium level activities garnered between five and 10 percent of the opportunity desired responses. Tennis leads this list with more than eight percent, followed by swimming (6.3 percent) and hiking (5.7 percent).

TABLE 4-2.08 presents the average need expressed for more opportunities. Backpacking and swimming exhibit strong average need figures. But, based on both the percent of the population desiring more opportunity for an activity and the average need level expressed for each activity, only horseback riding appears to have all around weak support, followed by target shooting and picnicking.

TABLE 4-2.07: Percent of the Population of Region 2 Desiring More Opportunity For Summer Activities

Activity	% of the Population Requesting
Fishing	19.9
Bicycling	18.8
Camping	13.6
Tennis	8.5
Swimming	6.3
Hiking	5.7
Picnicking	3.4
Canoeing	2.8
Golfing	2.2
Boating	1.2
Backpacking	1.1
Baseball/Softball	1.1
Horseback Riding	1.1
Jogging	1.1
Target Shooting	1.1
Park Facilities	1.1
Trail Biking	.6

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TABLE 4-2.08: Region 2 Expressed Level of Need by Summer Activity  
1= low need 5= high need

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Activity	Average Need
Backpacking	4.0
Swimming	4.0
Tennis	3.5
Target Shooting	3.5
Picnicking	3.2
Hiking	3.1
Fishing	3.1
Camping	3.0
Bicycling	2.8
Horseback Riding	2.0

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(activities with .75 confidence intervals of greater than .99 omitted)

## Summer Recreation Trends

TABLE 4-2.03 displays the 1978 summer recreation occasion estimates for recreation done by residents of Region Two. The top summer activities for this region are bicycling (837,000), swimming (416,000), fishing (342,000), boating (339,000), and driving for pleasure (217,000). Activities with originating occasions counts between one and two hundred thousand include organized baseball and softball (101,000), total baseball and softball, including unorganized base/softball (191,000), transportation bicycling (120,000), hiking (106,000), and picnicking (158,000).

The projections of these occasions originating in Region Two are based on the age/sex breakdown of participation and population estimates for 1978, 1985, 1990, and 1995. Region Two shows a generally stable to slightly increasing future. Youth oriented activities, like football and bicycling, appear to be on the decrease through 1985. Of course, if the culture maintains its current youth and fitness emphasis through the mid-80's, these forecasts will underestimate the participation in youth oriented activities. Activities showing steady increases through 1985 include archery, birdwatching-nature study, sailing, driving for pleasure, golf, picnicking and visiting historic sites. Activities that appear to be on the decline include bicycling, backpacking, stream canoeing, horseback riding and trailbiking.

The general trend for activities occurring in Region Two mirrors that of originating activities. Youth oriented activities appear to be on the decrease while activities associated with middle-aged participants are forecast to increase.

A comparison of originating occasions (TABLE 4-2.03) to occurring occasions (TABLE 4-2.04 shows activities attracting people to Region Two. The comparison also highlights the activities that Region Two residents tend to leave their home region for. In nearly every instance Region Two attracts recreators. The surpluses are greatest for boating (680,000) and fishing (846,000). In addition, Region Two has a net surplus of 300,000 swimming and 200,000 camping occasions. Surpluses in the 100,000 occasion range exist for birdwatching/nature study and canoeing.

TABLE 4-2.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 2

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	12592	13188	4.7	14413	9.3	15243	5.8	13708	-10.1
Back- packing	16789	16555	-1.4	16581	0.2	17701	6.8	17406	-1.7
Organized Base/ Softball	101262	99850	-1.4	101305	1.5	103259	1.9	104027	0.7
Sandlot Base/ Softball	89719	87164	-2.8	90086	3.4	97222	7.9	99206	2.0
Total Base/ Softball	190980	187095	-2.0	191369	2.3	200120	4.6	202790	1.3
Recreation Bicycling	717226	685582	-4.4	687992	0.4	744302	8.2	782103	5.1
Transportation Bicycling	120150	118844	-1.1	117191	-1.4	118507	1.1	126321	6.6
Total Bicycling	837375	804927	-3.9	805425	0.1	862031	7.0	907832	5.3
Birdwatching Nature Study	96015	97825	1.9	107883	10.3	117632	9.0	124935	6.2
Power Boating Waterskiing	271780	278292	2.4	292658	5.2	311280	6.4	334922	7.6
Sailing	17314	17190	-0.7	18391	7.0	22163	20.5	24945	12.6
Other Boating	49844	49210	-1.3	50489	2.6	54869	8.7	56777	3.5
Total Boating	338938	344728	1.7	361566	4.9	388209	7.4	416491	7.3
Camping	73979	75770	2.4	79193	4.5	84631	6.9	84469	-0.2
Lake Canoeing	54566	55029	0.8	56380	2.5	59615	5.7	65691	10.2
Stream Canoeing	5771	5925	2.7	6524	10.1	6397	-2.0	6244	-2.4

Lake & Stream Canoeing	6821	7332	7.5	7896	7.7	7698	-2.5	7957	3.4
Total Canoeing	67158	68352	1.8	70970	3.8	73750	3.9	79773	8.2
Driving for Pleasure	217214	221203	1.8	234360	5.9	247002	5.4	255679	3.5
Fishing	342086	347119	1.5	366368	5.5	394480	7.7	424782	7.7
Football	24660	24212	-1.8	20314	-16.1	19845	-2.3	22695	14.4
Four Wheeling	12592	13096	4.0	12315	-6.0	11396	-7.5	11142	-2.2
Golf	70306	71848	2.2	75292	4.8	76890	2.1	81370	5.8
Hiking	105984	107307	1.2	112242	4.6	117107	4.3	118014	0.8
Horseback Riding (trail)	16265	15756	-3.1	15486	-1.7	16347	5.6	17539	7.3
Horseback Riding (other)	77127	74740	-3.1	73067	-2.2	76096	4.1	81668	7.3
Total Horseback Riding	93392	90496	-3.1	88550	-2.2	92431	4.4	99194	7.3
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	157926	160806	1.8	175152	8.9	187667	7.1	195748	4.3
Trap Shooting	4722	4685	-0.8	4614	-1.5	4512	-2.2	4723	4.7
Skeet Shooting	525	582	10.9	611	5.0	624	2.1	483	-22.7
Range/Target Shooting	16789	16692	-0.6	16930	1.4	16142	-4.7	16525	2.4
Total Shooting	22036	21978	-0.3	22183	0.9	21314	-3.9	21720	1.9
Swimming	416064	410852	-1.3	413511	0.6	423345	2.4	433792	2.5
Tennis	42498	42915	1.0	43009	0.2	41601	-3.3	43053	3.5
Trail Biking	64535	63614	-1.4	60873	-4.3	61328	0.7	66650	8.7
Visiting Historic Sites	17314	17223	-0.5	17686	2.7	20519	16.0	22979	12.0

TABLE 4-2.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 2

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	46355	47938	3.4	53617	11.8	55867	4.2	53616	-4.0
Back- packing	30121	30282	0.5	28865	-4.7	27739	-3.9	25908	-6.6
Organized Base/ Softball	102094	100674	-1.4	101988	1.3	104010	2.0	104597	0.6
Sandlot Base/ Softball	105230	102330	-2.8	104954	2.6	112984	7.7	115572	2.3
Total Base/Softball	207325	203141	-2.0	207016	1.9	206453	4.6	219470	1.4
Recreation Bicycling	765833	731365	-4.5	731022	0.0	789240	8.0	828375	5.0
Transportation Bicycling	113956	112717	-1.1	111149	-1.4	112398	1.1	119809	6.6
Total Bicycling	879790	844806	-4.0	842455	-0.3	900493	6.9	947537	5.2
Birdwatching Nature Study	210110	214590	2.1	230383	7.4	249848	8.4	265809	6.4
Power Boating/ Waterskiing	793229	802094	1.1	823982	2.7	857937	4.1	903468	5.3
Sailing	107518	110313	2.6	115042	4.3	121547	5.7	129240	6.3
Other Boating	117903	118345	0.4	120300	1.7	127653	6.1	132743	4.1
Total Boating	1018650	1029158	1.0	1056021	2.6	110153	4.7	1164000	5.3
Camping	293109	295999	1.0	307164	3.8	323159	5.2	333564	3.2
Lake Canoeing	141893	144474	1.8	147039	1.8	150753	2.5	160015	6.1
Stream Canoeing	5771	5925	2.7	6524	10.1	6397	-2.0	6244	-2.4

Lake & Stream Canoeing	6952	7202	3.6	7264	0.9	7078	-2.6	7563	6.8
Total Canoeing	154616	158088	2.2	161855	2.4	164911	1.9	173954	5.5
Driving for Pleasure	278015	283213	1.9	297803	5.2	310174	4.2	317766	2.4
Fishing	1188022	1198642	0.9	1242432	3.7	1305683	5.1	1370916	5.0
Football	26098	25657	-1.7	21680	-15.5	21294	-1.8	24286	14.1
Four Wheeling	16767	17496	4.3	16582	-5.2	15692	-5.4	15236	-2.9
Golf	83433	85276	2.2	89170	4.6	91678	2.8	96951	5.8
Hiking	222798	224735	0.9	232088	3.3	240564	3.7	247504	2.9
Horseback Riding (trail)	28838	28129	-2.5	27107	-3.6	27701	2.2	28808	4.0
Horseback Riding (other)	72727	70596	-2.9	69041	-2.2	71959	4.2	76993	7.0
Total Horseback Riding	101565	98724	-2.8	96337	-2.4	100291	4.1	106745	6.4
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	201052	203839	1.4	218429	7.2	231955	6.2	239404	3.2
Trap Shooting	4197	4164	-0.8	4101	-1.5	4010	-2.2	4197	4.7
Skeet Shooting	525	582	10.9	611	5.0	624	2.1	483	-22.7
Range/Target Shooting	31196	31400	0.7	32644	4.0	32552	-3.0	33480	2.9
Total Shooting	35919	36091	0.5	36889	2.2	36735	-0.4	37745	2.7
Swimming	722376	710393	-1.7	704875	-0.8	725680	3.0	750979	3.5
Tennis	56312	57073	1.4	57390	0.6	56356	-1.8	58204	3.3
Trail Biking	77295	75754	-2.0	71328	-5.8	72438	1.6	79810	10.2
Visiting Historic Sites	83039	83949	1.1	88320	5.2	95764	8.4	101648	6.1

## REGION THREE

### Staff Recommendations

All providers of winter recreation in Region Three should emphasize supplying additional cross-country skiing trails and government agencies with programs providing hunting opportunities should seek to accelerate them. So far as is economically feasible, the private sector should expand its provision of down-hill skiing.

Provision of summer recreation opportunities should emphasize additional camping. This should be undertaken by all levels of government from the county up and by the private sector. The public sector should accent its fish stocking and management in Region Three. Additionally, all levels of government should seek to increase public access for fishing and boating through additional acquisition and development of accesses along with increased information efforts to make known existing accesses.

Local governments should accent additional bicycling, tennis and swimming facilities. These areas should be primarily the responsibility of local units since, statewide, people show little willingness to travel to participate in these activities. All levels of government should place moderate emphasis on providing additional picnic areas.

### Winter Recreation Trends

The only major activity showing a significant short-term (1978 to 1985) increase in occasions originating in Region Three is fishing (TABLE 4-3.01). It stands to see a gain of 32,000 activity occasions. Two minor activities show short-term increases in occasions. Winter camping, with nearly 27,000 occasions in 1978, will increase by 1.7 percent between 78 and 80 and nearly 16 percent between 80 and 85. That's a seven year increase of 18 percent or nearly 8,000 occasions. Snowtubing will increase by just over five percent, from a 1978 figure of 37,000 to a figure of 39,500 in 1985.

Projections indicate a decrease in occasions originating in Region Three for a number of activities. Survey data indicates that the 1980 downhill skiing occasion rate of just over 300,000 will drop by slightly more than 11 percent to 270,000 occasions. The 1978 to 1985 drop in sledding appears to be 109,000 occasions. During the same time period, snowmobiling will decline by 92,000 occasions and cross-country skiing will fall by 43,000 occasions.

Snowshoeing will undergo a slight decline from 186,000 occasions in 1978 to 173,000 in 1985, a decrease of just under seven percent in a seven year period.

TABLE 4-3.02 the projected number of occasions occurring in the region, shows that Region Three is generally an attractor region. That is, for most activities more occasions occur in the region than originate from the region's population. The activities not following this pattern are snowshoeing, ice skating, ice fishing, and sledding. Ice fishing is most surprising, with a net export of 52,000 occasions to other areas.

Winter camping apparently will have the greatest percent increase in occasions occurring in Region Three - 10 percent between 1978 and 1980. In terms of occasions, cross-country skiing and ice fishing will place the greatest increased loads on resources at 16,000 and 29,000 additional occasions respectively.



TABLE 4-3.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 3

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	26563	27020	1.7	31284	15.8	31146	-0.4	27137	-12.9
Cross-Country Skiing	642828	616245	-4.1	619719	0.6	700621	13.1	712889	1.8
Downhill Skiing	316102	304472	-3.7	270216	-11.3	256876	-4.9	257789	0.4
Snowshoeing	185942	183256	-1.4	172930	-5.6	183665	6.2	189917	3.4
Skating	1585820	1471761	-7.2	1495522	1.6	1669378	11.6	166105	-0.2
Snowmobiling	1476912	1397322	-5.4	1398585	0.1	1449627	3.6	1416029	-2.0
Dog Sledding	34532	34142	-1.1	35676	4.5	38507	7.9	38544	0.1
Ice Fishing	709236	721034	1.7	741270	2.8	742242	0.1	728740	-1.8
Trapping	138128	132093	-4.4	128428	-2.8	142967	11.3	150411	5.2
Sledding	1054557	969920	-8.0	945809	-2.5	1018366	7.7	1012513	-0.6
Snowtubing	37188	37523	0.9	39472	5.2	37503	-5.0	34148	-8.9
Orienteering	37188	35342	-5.0	35273	-0.2	44490	26.1	47535	4.6

TABLE 4-3.02: PROJECTIONS OF WINTER RECREATION OCCURING IN REGION 3

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	64751	66046	2.0	71323	8.0	73079	2.5	72964	-0.2
Cross-Country Skiing	731290	706922	-3.3	715225	1.2	799666	11.8	816727	2.1
Downhill Skiing	564348	558227	-1.1	521286	-6.6	506398	-2.9	515245	1.7
Snowshoeing	174743	172176	-1.5	163099	-5.3	173413	6.3	179122	3.3
Ice Skating	1573326	140831	-7.2	1485374	1.7	1656871	11.5	1653976	-0.2
Snowmobiling	1636965	1565366	-4.4	1575795	0.7	1636841	3.9	1621202	-1.0
Dog Sledding	34532	34142	-1.1	35676	4.5	38507	7.9	38544	0.1
Ice Fishing	656051	667729	1.8	688786	3.2	693403	0.7	687030	-0.9
Trapping	142867	137015	-4.1	132837	-3.0	146720	10.5	154508	5.3
Sledding	1041979	958396	-8.0	934665	-2.5	1006439	7.7	1000750	-0.6
Snowtubing	37188	37523	0.9	39472	5.2	37503	-5.0	34146	-8.9
Orienteering	37739	35846	-5.0	35672	-0.5	44980	26.1	47089	4.7

## Public Desire For Winter Recreation Opportunities

TABLE 4-3.05 presents the results of a survey of Region Three residents' desire for additional winter recreation facilities or opportunities.

TABLE 4-3.05: Percent of the Population of Region 3 Desiring More Opportunity For Winter Activities

Activity	% of the Population Requesting
Hunting	15.4
Cross-Country Skiing	13.1
Snowmobiling	13.1
Downhill Skiing	5.1
Ice Skating	1.7
Sledding	1.1
Snowshoeing	1.1
Miscellaneous Skiing	1.1

The desire for more hunting opportunities leads the list (15.4 percent), followed closely by cross-country skiing and snowmobiling (13.1 percent each). Downhill skiing (5.1 percent) has slightly less than half the support of cross-country skiing and snowmobiling. The remaining four activities each were requested by less than two percent of the sample.

TABLE 4-3.06: Region 3 Expressed Level of Need by Winter Activity  
1= low need 5= high need

Activity	Average Need
Hunting	3.8
Ice Skating	3.5
Snowmobiling	3.3
Downhill Skiing	3.1
Sledding	3.0
Cross-Country Skiing	2.9
Snowshoeing	2.0

(activities with .75 confidence intervals greater than .99 are omitted)

Not only do more Region Three residents desire additional opportunities for hunting, they express a greater average need for more hunting than any other activity (TABLE 4-3.06). Snowmobiling, another heavily desired activity, also shows a high need level at 3.3 on the 1 to 5 scale.

While more ice skating opportunities were requested by a small portion of the sample, their perceived level of need (3.5) ranked second only to hunting. Cross-country skiing exhibited the biggest shift on ranking. Only hunting outranked it in percent of the population requesting more opportunity (TABLE 4-3.05), but respondents requesting more cross-country skiing opportunities ranked their need at 2.9 on the five point scale. That average need was exceeded by all other activities save snowshoeing (2.0).

## Public Desire For Summer Recreation Opportunities

About one quarter of the Region Three sample desired more camping opportunities (TABLE 4-3.07). Nearly as popular, fishing opportunities were selected by 21.2 percent of the sample. Bicycling (15.4 percent) rounds out the top three activities.

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TABLE 4-3.07: Percent of the Population of Region 3 Desiring More Opportunities for Summer Activities

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Activity	% of the Population Requesting
Camping	24.0
Fishing	21.2
Bicycling	15.4
Tennis	9.7
Swimming	8.6
Boating	5.7
Picnicking	5.1
Hiking	3.4
Golfing	2.3
Canoeing	2.3
Baseball/Softball	1.7
Horseback Riding	1.7
Backpacking	1.1
Trail Biking	1.1
Walking	.6
Park Facilities	.6
Four Wheeling	.6
Archery	.6

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TABLE 4-3.08: Region 3 expressed Level of Need By Summer Activity  
1= low need 5= high need

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Activity	Average Need
Golfing	4.0
Swimming	3.9
Bicycling	3.8
Canoeing	3.8
Tennis	3.7
Trail Biking	3.5
Fishing	3.4
Hiking	3.2
Camping	3.0
Picnicking	2.7

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(activities with .75 confidence intervals greater than .99 are omitted)

TABLE 4-3.08 presents the level, or intensity, of need, expressed by the portion of the sample that selected each activity listed. Of the top three activities based on percent of the sample requesting, only bicycling held its position in the ranking of level of need. Camping and fishing both fell to the lower half of the table. That notwithstanding, they each scored 3.0 or greater. Therefore, the need to provide these types of opportunities remains high.

Swimming (3.9) and tennis (3.7) also scored high in level of need and expanded opportunity. Each of these activities was requested by almost 10 percent of the sample. Canoeing requested by a small portion of the sample shows a relatively high level of need, 3.8, which apparently indicates strong support by a small special-interest group.

## Summer Recreation Trends

TABLE 4-3.03 shows that bicycling is the most popular summer activity with residents of Region Three. Over four million occasions (4,094,000) originated in Region Three in 1978. Fishing and swimming registered nearly two million occasions, owing to the activities of Region Three residents. Fishing occasions totaled 1,837,000 while swimming occasions reached the 1,742,000 mark. Driving for pleasure (734,000), camping (410,000), picnicking (523,000), tennis (395,000) and total baseball/softball (837,000) were other activities popular among Region Three residents in 1978. The forecasts of future recreation originating in Region Three, based on population age/sex projections, show a widespread decline in activity levels through 1985. Swimming, tennis and bicycling show the most serious declines. Boating also appears to be waning.

Over the 1980 to 1985 period nearly every activity shows a decline in participation (TABLE 4-3.04). The only major upswings in Region Three activity occurrences appear in shooting sports, such as range or skeet shooting. Major declines are forecasted for sandlot baseball, bicycling, horseback riding, orienteering and tennis. In general these declines reflect the youthful post-war baby boom passing into a more mature stage of the life cycle.

More important than trends is the historic position of Region Three as an attractor region for recreation. Nearly every summer activity shows more occasions occurring in Region Three than can be accounted for by the Region's residents. Major import activities include birdwatching/nature study (200,000), power boating, waterskiing (20,000), camping (300,000), canoeing (300,000), fishing (700,000) and hiking (200,000).

Two plausible scenarios can be forwarded for the future of this region during a period of rising energy costs. The attractiveness of the region could decline as tourists cease to leave their home regions to recreate. At odds with this scenario is a steady or slightly increasing attractiveness as the single long summer vacation is substituted for many short weekend trips. Evidence from other states in 1974 showed the latter behavior. It appeared that the gasoline outlay for any one trip dictates the economics of vacations, not the total energy outlay over the vacation season.

TABLE 4-3.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 3

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	77304	79561	2.9	80649	1.4	77068	-4.4	70558	-8.4
Back- packing	92170	95381	3.5	90200	-5.4	82067	-9.0	74983	-8.6
Organized Base/ Softball	454905	441419	-3.0	432192	-2.1	427512	-1.1	407744	-4.6
Sandlot Base/ Softball	377601	355937	-5.7	330305	-7.2	341148	3.3	338298	-0.8
Total Base/Softball	832506	797517	-4.2	762935	-4.3	768872	0.8	746044	-3.0
Recreation Bicycling	3770064	3518763	-6.7	3276125	-6.9	3487980	6.5	3588366	2.9
Transportation Bicycling	324083	318566	-1.7	285889	-10.3	267118	-6.6	266792	-0.1
Total Bicycling	4094146	3837897	-6.3	3562164	-7.2	3753941	5.4	3853685	2.7
Birdwatching Nature Study	136769	136246	-0.4	135228	-0.7	138123	2.1	138719	0.4
Power Boating/ Waterskiing	1210107	1200149	-0.8	1151920	-4.0	1105666	-4.0	1103864	-0.2
Sailing	47572	47302	-0.6	43863	-7.3	40081	-8.6	40863	2.0
Other Boating	115956	112657	-2.8	102493	-9.0	97335	-5.0	108546	11.5
Total Boating	1373635	1360183	-1.0	1298419	-4.5	1243127	-4.3	1253040	0.8
Camping	410307	409562	-0.2	403233	-1.5	390870	-3.1	386378	-1.1
Lake Canoeing	178394	180977	1.4	177046	-2.2	166908	-5.7	168589	1.0
Stream Canoeing	11893	13462	13.2	13941	3.6	11606	-16.8	8861	-23.7

Lake & Stream Canoeing	23786	23013	-3.3	20142	-12.5	19603	-2.7	22589	15.2
Total Canoeing	214073	217766	1.7	211828	-2.7	198507	-6.3	199729	0.6
Driving for Pleasure	734389	736119	0.2	733586	-0.3	723060	-1.4	716556	-0.9
Fishing	1837460	1825916	-0.6	1795707	-1.7	1785161	-0.6	1847698	3.5
Football	11893	11184	-6.0	12513	11.9	13171	5.3	12521	-4.9
Four Wheeling	23786	25119	5.6	24737	-1.5	21263	-14.0	17928	-15.7
Golf	264618	265501	0.3	267632	0.8	263253	-1.6	250096	-5.0
Hiking	404360	398482	-1.5	389738	-2.2	390643	0.2	419814	7.5
Horseback Riding (trail)	65411	64108	-2.0	63946	-0.3	60736	-5.0	56404	-7.1
Horseback Riding (other)	47572	44870	-5.7	37363	-16.7	32868	-12.0	36241	10.3
Total Horseback Riding	112983	109198	-3.4	102451	-6.2	95017	-7.3	93243	-1.9
Orienteering	17839	15769	-11.6	12511	-20.7	14784	18.2	15865	7.3
Picnicking	523290	523108	0.0	540848	3.4	544260	0.6	535011	-1.7
Trap Shooting	20813	21624	3.9	28252	30.7	28453	0.7	23987	-15.7
Skeet Shooting	2973	3038	2.2	4901	61.3	5416	10.5	4553	-15.9
Range/Target Shooting	29732	31598	6.3	36764	16.3	36499	-0.7	31677	-13.2
Total Shooting	53518	56279	5.2	69785	24.0	70198	0.6	60096	-14.4
Swimming	1742316	1684321	-3.3	1548705	-8.1	1519146	-1.9	1536355	1.1
Tennis	395440	384812	-2.7	343012	-10.9	3155161	-8.0	324364	2.8
Trail Biking	252725	242068	-4.2	234128	-3.3	245484	4.9	250565	2.1
Visiting Historic Sites	169474	169420	0.0	168653	-0.5	167959	-0.4	168126	0.1



TABLE 4-3.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 3

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	153757	155462	1.1	153749	-1.1	153031	-0.5	150059	-1.9
Back- packing	264775	268862	1.5	261480	-2.7	250036	-4.4	240792	-3.7
Organized Base/ Softball	471871	458625	-2.8	449592	-2.0	445542	-0.9	426333	-4.3
Sandlot Base/ Softball	359685	339226	-5.7	315122	-7.1	325631	3.3	323227	-0.7
Total Base/Softball	831555	797600	-4.1	764205	-4.2	771062	0.9	749725	-2.8
Recreation Bicycling	3763352	3514968	-6.6	3275902	-6.8	3488139	6.5	3589733	2.9
Transportation Bicycling	343530	337382	-1.8	303922	-9.9	286587	-5.7	288455	0.7
Total Bicycling	4106882	3853812	-6.2	3582270	-7.0	3775471	5.4	3877583	2.7
Birdwatching Nature Study	355348	359890	1.3	369963	2.8	390865	5.6	408323	4.5
Power Boating/ Waterskiing	1499741	1499868	0.0	1481643	-1.2	1474178	-0.5	1505762	2.1
Sailing	40392	40546	0.4	38960	-3.9	37139	-4.7	38264	3.0
Other Boating	253437	252151	-0.5	243309	-3.5	244093	0.3	262259	7.4
Total Boating	1793570	1793664	0.0	1767155	-1.5	1758648	-0.5	1808112	2.8
Camping	742590	750267	1.0	769112	2.5	789703	2.7	807139	2.2
Lake Canoeing	356964	362372	1.5	362602	0.1	358794	-1.1	371427	3.5
Stream Canoeing	27847	29615	6.3	30496	3.0	28974	-5.0	27065	-6.6

Lake & Stream Canoeing	25460	25527	0.3	23689	-7.2	22957	-3.1	25106	9.4
Total Canoeing	410271	417894	1.9	418521	0.1	413470	-1.2	425742	3.0
Driving for Pleasure	866821	875069	1.0	885808	1.2	885588	0.0	883728	-0.2
Fishing	2541191	2551630	0.4	2585049	1.3	2646956	2.4	2757983	4.2
Football	17109	16367	-4.3	17663	7.9	18801	6.4	18828	0.1
Four Wheeling	23786	25119	5.6	24737	-1.5	21263	-14.0	17928	-15.7
Golf	286990	288918	0.7	293100	1.4	291844	-0.4	281970	-3.4
Hiking	651458	653027	0.2	662468	1.4	679804	2.6	716220	5.4
Horseback Riding (trail)	65411	64108	-2.0	63946	-0.3	60736	-5.0	56404	-7.1
Horseback Riding (other)	52092	49416	-5.1	41976	-15.1	37866	-9.8	41311	9.1
Total Horseback Riding	117503	113693	-3.2	106837	-6.0	99584	-6.8	97901	-1.7
Orienteering	28318	26741	-5.6	23360	-12.6	24305	4.0	24352	0.2
Picnicking	637306	639906	0.4	665638	4.0	680508	2.2	679172	-0.2
Trap Shooting	20371	21068	3.4	26010	23.5	26528	2.0	23530	-11.3
Skeet Shooting	2973	3038	2.2	4901	61.3	5416	10.5	4553	-15.9
Range/Target Shooting	31992	33919	6.0	39250	15.7	39211	-0.1	34681	-11.6
Total Shooting	55335	58005	4.8	70465	21.5	71439	1.4	63011	-11.8
Swimming	1826992	1778706	-2.6	1672905	-5.9	1670430	-0.1	1706714	2.2
Tennis	395462	385631	-2.5	345765	-10.3	320123	-7.4	329094	2.8
Trail Biking	253555	242855	-4.2	234805	-3.3	246208	4.9	251417	2.1
Visiting Historic Sites	194996	196126	0.6	201116	2.5	208501	3.7	215255	3.2

## REGION FOUR

### Staff Recommendations

Region Four recreation providers should accent increasing the supply of cross-country skiing and snowmobiling opportunities. The public sector should accelerate its programs supplying Hunting opportunities in the region. The region's residents want downhill skiing opportunities expanded, but the topography of the region does not lend itself to ski area development. Therefore, the private sector in adjacent regions, with better topography, should seek to fill this need.

All sectors should stress expanding the opportunities for fishing. Government programs providing fish stocking and intensified fisheries management should be increased. Public access programs of all sectors should be upgraded. This upgrading should include information programs on access availability as well as increased acquisition and development of accesses. The local sectors should emphasize providing facilities for bicycling, swimming and tennis. Federal, state and local governments should increase the number of the campgrounds in Region Four.

### Winter Recreation Trends

The 1980 to 1985 picture of recreation occasions originating in Region Four shows a significant increase in one activity, ice skating (TABLE 4-4.01), with a predicted increase of over 62,000 occasions by Region Four residents. That increase follows a 1978 to 1980 decrease of 11,000 occasions for a net seven year increase of 51,000. The next greatest 80 to 85 increase in occasions will come in sledding. However, the 1980 to 1985 increase of 12,000 sledding occasions will be more than offset by an immediate 1978 to 1980 decrease of 26,000 occasions. Thus, the seven year trend shows an overall decrease of 14,000 occasions.

As is the case with other northern regions, downhill skiing will decrease by 1985. The total drop between 1978 and 1985 in occasions originating in Region Four is predicted to be 12,000.

Data in TABLE 4-4.01 and TABLE 4-4.02 depicts Region Four as a recreation exporting region. Exceptions to this general observation occur in ice fishing and ice skating. In 1985 there appears to be a net import of 46,000 ice Fishing occasions. The traditional close-to-home activity, Ice Skating, will provide a net 1985 import of 20,000 activity occasions in Region Four.

### Public Desire For Winter Recreation Opportunities

Hunting, a traditional winter recreation pursuit, leads the list of winter activities that the Region Four population would like to have more available (TABLE 4-4.05). Hunting recieved 18.6 percent of the requests for more winter recreation opportunities.

Cross-country skiing and snowmobiling were requested by 13.5 and 10.1 percent of the respondents, respectively.

TABLE 4-4.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 4

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	3181	3151	-0.9	2822	-10.5	2755	-2.4	3161	14.8
Cross-Country Skiing	157453	156449	-0.6	159218	1.8	165774	4.1	168205	1.5
Downhill Skiing	81112	78710	-3.0	68032	-13.6	70799	4.1	78767	11.3
Snowshoeing	30218	30463	0.8	32773	7.6	43743	33.5	46230	5.7
Ice Skating	419875	400684	-4.6	462114	15.3	511098	10.6	498182	-2.5
Snowmobiling	889053	857176	-3.6	853808	0.4	887856	4.0	927178	4.4
Ice Fishing	340353	340473	0.0	337120	-1.0	334387	-0.8	336506	0.6
Trapping	60437	64230	6.3	63125	-1.7	73849	17.0	74371	0.7
Ice Boating	1590	1916	20.5	1995	4.1	1893	-5.1	1456	-23.1
Sledding	453274	427227	-5.7	439549	2.9	481202	9.5	488775	1.6
Snowtubing	47713	45821	-4.0	45046	-1.7	47285	5.0	48755	3.1

TABLE 4-4.02: PROJECTIONS OF WINTER RECREATION OCCASIONS OCCURING IN REGION 4

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Cross-Country Skiing	154561	154208	-0.2	157239	2.0	163505	4.0	166783	2.0
Downhill Skiing	61298	60139	-1.9	53674	-10.8	54838	2.2	59521	8.5
Snowshoeing	13199	13319	0.9	14349	7.7	19050	32.8	20120	5.6
Ice Skating	441675	422107	-4.4	482617	14.3	533497	10.5	524442	-1.7
Snowmobiling	930840	898869	-3.4	897786	-0.1	935332	4.2	976334	4.9
Ice Fishing	383410	384638	0.3	383632	-0.3	382061	-0.4	384983	0.8
Trapping	52638	55941	6.3	54979	-1.7	64319	17.0	64774	0.7
Ice Boating	3808	4107	7.8	4035	-1.8	3608	-10.6	3023	-16.2
Sledding	393335	371086	-5.7	381997	2.9	419068	9.7	426975	1.9
Snowtubing	48949	47648	-2.7	47930	0.6	51891	8.3	54796	5.6

After snowmobiling comes a drop of five percent to miscellaneous skiing (4.7 percent) and downhill skiing (4.1 percent). Caution is required in the interpretation of these data, as respondents to the survey were left on their own to describe their needed activity. In the case of miscellaneous skiing, many people failed to distinguish between downhill skiing and cross-country skiing. Therefore, the miscellaneous category was used for these "unknown"

TABLE 4-4.05 Percent of the Population of Region 4 Desiring More Opportunity for Winter Activities

Activity	% of the Population Requesting
Hunting	18.6
Cross-Country Skiing	13.5
Snowmobiling	10.1
Miscellaneous Skiing	4.7
Downhill Skiing	4.1
Ice Skating	3.4
Sledding	.7

skiing responses. In general, however, it is believed that cross-country skiers are more likely to specify that type of skiing, while downhill skiers are more likely to generalize with the "Skiing" response. Therefore, it is probably acceptable to assume that the majority of the respondents listing skiing were thinking of downhill skiing. Whether or not that assumption is made, downhill skiing ranks fourth in the percent of the sample requesting it. If feasible, it should be carefully considered for additional provision for the region's residents.

Hunting (3.3) carries over its top place to rankings of the level of need expressed by respondents (TABLE 4-4.06). Cross-Country Skiing (3.1) continues to rank second, but snowmobiling falls to the bottom of the list, based on level of need.

TABLE 4-4.06: Region 4 Expressed Level of Need by Winter Activity  
1= low need - 5= high need

Activity	Average Need
Hunting	3.3
Cross-Country Skiing	3.1
Downhill Skiing	3.0
Miscellaneous Skiing	3.0
Ice Skating	2.8
Snowmobiling	2.3

(activities with .75 confidence intervals greater than .99 one omitted)

## Public Desire For Summer Recreation Opportunities

Respondents in Region Four requested additional fishing opportunities 23 percent of the time (TABLE 4-4.07). Swimming ranked second, gaining over 16 percent of the responses, and camping and bicycling were requested by 12 and 11 percent, respectively. Nearly 10 percent of the respondents requested more tennis opportunities.

Boating opportunities were requested by a small portion of the sample (2.0 percent) but their expressed level of need was high at 4.8 on a five point scale (TABLE 4-4.08). Trailbiking, target shooting and canoeing show a similar pattern.

Swimming, bicycling, tennis, camping and fishing appear to be high priority activities. Each received the support of a significant portion of the sample and scored three or greater on expressed need level.

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TABLE 4-4.07: Percent of the Population of Region 4 Desiring More Opportunity for Summer Activities

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Activity	% of the Population Requesting
Fishing	23.0
Swimming	16.2
Camping	12.2
Bicycling	10.8
Tennis	9.5
Baseball/Softball	5.4
Golfing	4.7
Picnicking	4.1
Hiking	3.4
Horseback Riding	3.4
Canoeing	2.0
Target Shooting	2.0
Trail Biking	2.0
Boating	2.0
Backpacking	1.4
Walking	1.4
Soccer	.7
Visiting Historic Sites	.7
Waterskiing	.7

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TABLE 4-4.08: Region 4 Expressed Level of Need by Summer Activity  
1= low need 5= high need

Activity	Average Need
Boating	4.8
Trail Biking	4.3
Target Shooting	4.0
Canoeing	3.7
Swimming	3.3
Bicycling	3.2
Tennis	3.1
Camping	3.1
Backpacking	3.0
Fishing	3.0
Hiking	3.0
Baseball/Softball	2.6
Walking	2.5
Picnicking	2.3
Golfing	2.0

(activities with .75 Confidence intervals greater than .99 are omitted)



## Summer Recreation Trends

The short-term trends (1978 to 1985) in recreation occasions indicate both small increases and decreases in various activities (TABLE 4-4.03). Apparently only two major activities, fishing and driving for pleasure, will show consistent short-term increases. Projections indicate that 1978 to 1985 increases will be 41,473 occasions in fishing and 25,170 occasions in driving for pleasure. Not surprisingly, survey data indicates that driving for pleasure will begin to decline after 1985.

The short-term changes in the other major activities are mixed. In most cases, an increase in activity level will apparently be preceded or followed by a short-term decrease. However, the net change is usually positive. For example, the 1978 to 1980 change in power boating/waterskiing is - 1.1 percent. Following this decline will be a five year period of slight increase (1.9% change from 1980 to 1985). It seems the net change will be an increase of some 5,000 occasions from the 1978 base of over a half million.

Despite the overall trend of a moderately increasing activity levels, some activities are expected to experience decline. Projections indicate that backpacking and lake and stream canoeing occasions will consistently decline through 1995. Of these two activities, lake and stream canoeing shows the largest single percent decline (23.2% from 1985 to 1990). Other activities which are predicted to show a negative net change over the long-term (1978 to 1995) are organized base/softball, football and trap, skeet shooting.

TABLE 4-4.04 shows the number of occasions predicted to occur in Region Four. Comparison of TABLE 4-4.04 and TABLE 4.403 indicate that Region Four is generally an attractor Region. In other words, for most activities, more occasions are predicted to occur in the Region than are expected to originate from the Region's population. For example, over 442,000 more power boating/waterskiing occasions are predicted to occur in the area than are expected to originate from Region Four residents. However, for some activities the reverse is true. That is, for certain activities, more occasions will originate in the Region than will actually occur there. These activities include backpacking base/softball, bird watching-nature study, stream canoeing, fourwheeling and trap shooting.

As TABLE 4-4.04 indicates the projected changes in the load placed on the Region's resources is mixed. Certain major activities such as power boating, camping and fishing are expected to consistently increase. Of this group, the largest 1978 to 1985 increases are found in fishing (69,666 occasions). For other activities (e.g. backpacking and stream canoeing) survey data indicates the number of occasions occurring in Region Four will consistently decline, thereby lessening the impact to resources. Still, for other activities the net change in number of occasions will be relatively small. These small changes are not expected to significantly alter the resource load.

TABLE 4-4.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 4

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	38570	36999	-4.1	37725	2.0	39789	5.5	41580	4.5
Back- packing	40247	39996	-0.6	36030	-9.9	29256	-18.8	28230	-3.5
Organized Base/ Softball	337073	337394	0.1	335788	-0.5	330219	-1.7	332680	0.7
Sandlot Base/ Softball	201237	195760	-2.7	200860	2.6	206456	2.8	210817	2.1
Total Base/Softball	538310	533434	-0.9	536629	0.6	536216	-0.1	542895	1.2
Recreation Bicycling	2149886	2073875	-3.5	2096595	1.1	2266927	8.1	2329783	2.8
Transportation Bicycling	311918	299223	-4.1	298190	-0.3	331228	11.1	350665	5.9
Total Bicycling	2461803	2373037	-3.6	2394569	0.9	2598237	8.5	2680901	3.2
Birdwatching Nature Study	103973	104183	0.2	118356	13.6	117575	-0.7	113424	-3.5
Power Boating/ Waterskiing	602035	595497	-1.1	607041	1.9	634130	4.5	677152	6.8
Sailing	88880	85272	-4.1	81982	-3.9	87349	6.5	97977	12.2
Other Boating	48632	51023	4.9	52747	3.4	56186	6.5	55897	-0.5
Total Boating	739547	731934	-1.0	741984	1.4	777921	4.8	831092	6.8
Camping	150928	151593	0.4	154781	2.1	156228	0.9	158562	1.5
Lake Canoeing	115711	115600	-0.1	116749	1.0	107724	-7.7	103962	-3.5
Stream Canoeing	6708	6662	-0.7	5654	-15.1	5279	-6.6	5530	4.8

Lake & Stream Canoeing	3354	3379	0.8	3295	-2.5	2529	-23.2	2264	-10.5
Total Canoeing	125773	125649	-0.1	125702	0.0	115412	-8.2	111586	-3.3
Driving for Pleasure	491354	506460	3.1	516524	1.9	502459	-2.7	489686	-2.5
Fishing	739547	752609	1.8	781020	3.8	805208	3.1	836606	3.9
Football	87203	83097	-4.7	73358	-11.7	74444	1.5	81630	9.7
Four Wheeling	88880	94088	5.9	92699	-1.5	95311	2.8	91321	-4.2
Golf	259932	261707	0.7	261566	-0.1	265016	1.3	278148	5.0
Hiking	243162	242998	-0.1	261962	7.8	261000	-0.4	260826	-0.1
Horseback Riding (trail)	40247	37302	-7.3	34393	-7.8	40414	17.5	43203	6.9
Horseback Riding (other)	90557	86561	-4.4	83619	-3.4	84828	1.4	93093	9.7
Total Horseback Riding	130804	123748	-5.4	117740	-4.9	125508	6.6	136476	8.7
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	412537	414480	0.5	432103	4.3	442850	2.5	449187	1.4
Trap Shooting	33540	34438	2.7	37516	8.9	34203	-8.8	33168	-3.0
Skeet Shooting	5031	4967	-1.3	4215	-15.1	3988	-5.4	4657	16.8
Range/Target Shooting	21801	22366	2.6	21632	-3.3	21700	0.3	23230	7.1
Total Shooting	60371	61785	2.3	63548	2.9	59982	-5.6	61018	1.7
Swimming	1368414	1348107	-1.5	1373589	1.9	1415389	3.0	1473385	4.1
Tennis	209622	214338	2.2	209015	-2.5	198604	-5.0	194224	-2.2
Trail Biking	18447	16995	-7.9	15302	-10.0	16832	10.0	19254	14.4
Visiting Historic Sites	53663	53802	0.3	50545	-6.1	48207	-4.6	50061	3.8

TABLE 4-4.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 4

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	47134	46026	-2.4	47178	2.5	49133	4.1	50416	2.6
Back- packing	17826	17741	-0.5	16028	-9.7	13416	-16.3	13130	-2.1
Organized Base/ Softball	356901	357252	0.1	355986	-0.4	351959	-1.1	354340	0.7
Sandlot Base/ Softball	199858	194546	-2.7	199047	2.3	204964	3.0	209472	2.2
Total Base/Softball	556759	551773	-0.9	554343	0.5	556325	0.4	563587	1.3
Recreation Bicycling	2187454	2111316	-3.5	2134347	1.1	2308498	8.2	2376869	3.0
Transportation Bicycling	402431	388396	-3.5	380782	-2.0	413634	8.6	436389	5.5
Total Bicycling	2589885	2499768	-3.5	2519784	0.8	2731236	8.4	2822966	3.4
Birdwatching Nature Study	101327	101612	0.3	114481	12.7	114139	-0.3	110810	-2.9
Power Boating/ Waterskiing	1017843	1017537	0.0	1042278	2.4	1089869	4.6	1151059	5.6
Sailing	102622	99470	-3.1	96652	-2.8	102284	5.8	113397	10.9
Other Boating	91039	94090	3.4	96702	2.8	102554	6.1	103080	0.5
Total Boating	1211504	1211026	0.0	1235456	2.0	1294095	4.7	1367318	5.7
Camping	241308	242930	0.7	249948	2.9	259436	3.8	266312	2.7
Lake Canoeing	129744	130333	0.5	131668	1.0	125148	-5.0	123754	-1.1
Stream Canoeing	3354	3331	-0.7	2827	-15.1	2640	-6.6	2765	4.8

Lake & Stream Canoeing	3354	3379	0.8	3295	-2.5	2529	-23.22	2264	-10.5
Total Canoeing	136452	137120	0.5	137842	0.5	130600	-5.3	129165	-1.1
Driving for Pleasure	547644	562644	2.7	576117	2.4	569269	-1.2	560704	-1.5
Fishing	1333969	1351982	1.4	1403635	3.8	1465813	4.4	1527729	4.2
Football	98515	94215	-4.4	83611	-11.3	85081	1.8	93374	9.7
Four Wheeling	77141	81661	5.9	80456	-1.5	82723	2.8	79259	-4.2
Golf	315839	319472	1.2	323718	1.3	332623	2.8	350372	5.3
Hiking	279793	280125	0.1	299424	6.8	300374	0.4	302364	0.7
Horseback Riding (trail)	47287	44166	-6.6	40842	-7.5	46994	15.1	49942	6.3
Horseback Riding (other)	90160	87046	-4.4	84050	-3.4	85269	1.9	93529	9.7
Total Horseback Riding	138348	131134	-5.2	124894	-4.8	132988	6.5	144156	8.4
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	510240	513437	0.6	535541	4.3	551506	3.0	560326	1.6
Trap Shooting	28509	29273	2.7	31889	8.9	29073	-8.8	28193	-3.0
Skeet Shooting	10246	10193	-0.5	9596	-5.9	9673	0.8	10991	13.6
Range/Target Shooting	21801	22366	2.6	21632	-3.3	21700	0.3	23230	7.1
Total Shooting	60555	61946	2.3	63788	3.0	60764	-4.7	61935	1.9
Swimming	1719627	1695044	-1.4	1715649	1.2	1772902	3.3	1847754	4.2
Tennis	234356	238775	1.9	232096	-2.8	221903	-4.4	218879	-1.4
Trail Biking	18447	16995	-7.9	15302	-10.0	16832	10.0	19254	14.4
Visiting Historic Sites	73639	73517	-0.2	71855	-2.3	70888	-1.3	71930	1.5

## REGION FIVE

### Staff Recommendations

Federal and State programs designed to increase the hunting opportunities in Region 5 should be expanded to meet public desires and federal, state, regional and local programs providing increased snowmobiling or cross-country skiing should be stressed.

Expanding fishing opportunities in Region 5 is warranted. This should be accomplished through increased fish stocking and fisheries management. At the same time, all sector should upgrade public access programs through acquisition, development and promotion efforts.

Federal, state and local government agencies and the private sector should provide additional camping and boating opportunities. Local government should stress the close-to-home activities of swimming, bicycling and tennis.

### Winter Recreation Trends

Nearly three quarters of a million snowmobiling and a half-million ice fishing occasions are expected to be made by Region 5 residents in 1985 (TABLE 4-5.01), increasing the demand on recreation resources. Each activity will produce an additional 40,000 occasions compared to 1978. Over the same period, ice skating occasions are predicted to decline by 20,000, sledding by 25,000 and trapping by 10,000.

A comparison of TABLE 4-5.01 to TABLE 4-5.02 shows that in 1985 Region 5 will be a significant net importer of cross-country skiing (87,000 occasions), ice skating (26,000), snowmobiling (183,000) and ice fishing (92,000). Of this group, only ice fishing and snowmobiling represent an increased resource drain over 1978. Between 1978 and 1985 ice fishing occasions occurring in Region 5 should increase by 50,000 and snowmobiling by 55,000 occasions.

Trapping in Region 5 appears to be on a significant decline, and ice skating and sledding also are projected to decrease.

Cross-country skiing, a fairly significant Region 5 activity with some 160,000 annual occasions occurring in the region, will remain about the same between 1978 and 1985.

### Public Desire For Winter Recreation Opportunities

TABLE 4-5.05 shows hunting and snowmobiling to be the activities the Region 5 public would most like to see made more available. More opportunity to hunt was requested by 16 percent of the respondents; snowmobiling gained the support of nearly 12 percent. Half as many respondents requested more cross-country skiing opportunities.

Hunting (2.8) miscellaneous skiing (2.8) and cross-country skiing (2.7) all fall at nearly the same need level (TABLE 4-5.06). In fact, none of the three activities listed in TABLE 4-5.06 can be said to have a clearly higher need level than the other. In short, the best course of action is to place priorities based on the percent of the population requesting increased opportunity for a particular activity.

TABLE 4-5.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 5

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	5867	5969	1.7	5698	-4.5	5712	0.3	7472	30.8
Cross-Country Skiing	78228	80782	3.3	75990	-5.9	71061	-6.5	72672	2.3
Downhill Skiing	41070	39668	-3.4	36689	-7.5	36721	0.1	38262	4.2
Snowshoeing	11734	13128	11.9	13890	5.8	12597	-9.3	11100	-11.9
Ice Skating	220993	199821	-9.6	199907	0.0	221644	10.9	238175	7.5
Snowmobiling	79229	751094	1.5	784447	4.0	800867	2.1	782292	-2.3
Dog Sledding	978	920	-5.9	1032	12.2	1518	47.0	1590	4.7
Ice Fishing	402872	418029	3.8	442508	5.9	447428	1.1	457192	2.2
Trapping	49870	47808	-4.1	38034	-20.4	35262	-4.7	46997	29.6
Sledding	314866	291037	-7.6	290337	-0.2	317540	9.4	338514	6.6
Snow Tubing	15646	15322	-2.1	15858	3.5	17325	9.3	19371	11.8
Orienteering	1956	2013	2.9	1804	-10.4	2470	36.9	2861	15.8

TABLE 4-5.02: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 5

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	3911	3979	1.7	3798	-4.5	3808	0.3	4981	30.8
Cross-Country Skiing	161523	165508	2.5	152754	-1.7	160745	-1.4	166034	3.5
Downhill Skiing	23841	23235	-2.5	21707	-6.6	21891	0.8	22954	4.9
Snowshoeing	23628	25145	6.4	26808	6.6	29631	10.5	29140	-1.7
Ice Skating	245228	223353	-8.9	225225	0.8	248086	10.2	26440	6.6
Snowmobiling	911896	928889	1.0	967064	4.0	99591	2.9	993742	-0.2
Dog Sledding	978	920	-5.9	1032	12.2	1518	47.0	1590	4.7
Ice Fishing	488298	505526	3.5	534648	5.8	546352	2.2	564083	3.2
Trapping	49870	47808	-4.1	38034	-20.4	36262	-4.7	46997	29.6
Sledding	299854	277600	-7.4	277476	-0.0	303926	9.5	323862	6.6
Snow Tubing	16334	16036	-1.8	16632	3.7	18276	9.9	20401	11.6
Orienteering	2034	2083	2.4	1859	-10.8	2537	36.5	2937	15.7



TABLE 4-5.05: Percent of the Population of Region 5 Desiring More Opportunity for Winter Activities

Activity	% of the Population Requesting
Hunting	16.1
Snowmobiling	11.6
Cross-Country Skiing	5.8
Ice Skating	3.5
Miscellaneous Skiing	2.3
Downhill Skiing	1.7
Ice Fishing	.6
Snow Tubing	.6

TABLE 4-5.06: Region 5 Expressed Level of Need by Winter Activity  
1= low need 5= high need

Activity	Average Need
Hunting	2.8
Miscellaneous Skiing	2.8
Cross Country Skiing	2.7

(activities with .75 confidence intervals greater than .99 omitted)

#### Public Desire For Summer Recreation Opportunities

Four traditional summer activities are the most requested additional opportunities in Region 5 (TABLE 4-5.07)--fishing (21.3 percent), camping (18.5 percent), swimming (13.9 percent) and bicycling (11.6 percent).

TABLE 4-5.07: Percent of the Population of Region 5 Desiring More Opportunity for Summer Activities

Activity	% of the Population Requesting
Fishing	21.3
Camping	18.5
Swimming	13.9
Bicycling	11.6
Tennis	6.9
Boating	6.3
Horseback Riding	3.5
Hiking	3.5
Canoeing	2.9
Backpacking	2.3
Baseball/Softball	1.7
Golfing	1.7
Archery	1.7
Soccer	.6
Target Shooting	.6
Water Skiing	.6
Bird Watching	.6

Activities receiving medium levels of support were tennis (6.9 percent) and boating (6.3 percent). Surprisingly, horseback riding (3.5 percent) received twice the support of traditional activities such as baseball softball and golfing.

Not so surprising in lake-rich Region 5 is the relatively low expressed average need level of 2.8 for fishing (TABLE 4-5.08). While many people would like to see more opportunity to fish, there seems to be no pressing need for expanded supply.

TABLE 4-5.08: Region 5 Expressed Level of Need by Summer Activity  
1= low need 5= high need

Activity	Average Need
Bicycling	3.6
Archery	3.5
Boating	3.3
Camping	3.3
Swimming	3.2
Tennis	3.1
Canoeing	3.0
Hiking	3.0
Horseback Riding	3.0
Fishing	2.8
Backpacking	2.7
Golfing	2.7
Picnicking	2.3

(activities with a .75 confidence interval greater than .99 omitted)

Of the top four activities according to the percent of the population requesting expanded opportunities, bicycling and camping maintained their position in average level of need expressed. Bicycling was the most intensely needed opportunity at 3.6 on the five-point scale. Camping gained a score of 3.3, underscoring the importance of providing camping opportunities for this region's residents. On the other hand, archery's expressed need level of 3.5 comes from only 1.7 percent of the sample. Nevertheless, based on a consistent high need ranking some archery development should be considered. Boating opportunities also should be kept in mind, since the six percent of the population asking for more boating expressed a relatively high need of 3.3.

## Summer Recreation Trends

The summer recreational trend in Region Five is that of slight overall increase in the major activity occasions. (TABLE 4-5.04). Short-term (1980 to 1985) projections indicate that total boating will increase 1.1 percent (4,545 occasions) fishing 0.9 percent (22,955 occasions) and powerboating/waterskiing 1.3 percent (1,322 occasions).

Several minor activities show nearly explosive short-term growth. Stream canoeing, trail horseback riding and skeet shooting are expected to experience increases of 43.1 percent, 20.8 percent, and 98.8 percent respectively. The drastic jump in skeet shooting is somewhat surprising as it appears both trap shooting and range/target shooting are expected to decline over the long term (1978 to 1995).

Transportation bicycling occasions will decline from 101,678 in 1978 to 86,892 by 1985, a decrease of 14.5 percent. After 1985 it appears the trend will reverse with moderate increases anticipated. Bird watching-nature study is expected to experience a short-term increase from 109,968 occasions in 1978 to 119,344 in 1985. But by 1995 the occasions originating in the region are predicted to decline to 107,407. TABLE 4-5.04 shows that over 2.1 million powerboating/waterskiing occasions are expected to be made in Region Five by 1985. A comparison of TABLE 4.5.04 and 3.5.03 indicate that Region Five is a significant net importer of recreational activities. In 1985, 1.8 million powerboating/waterskiing occasions, 422,596 camping occasions and 1.78 million fishing occasions net imports are expected. This shows an increase of 3.2 percent for powerboating/waterskiing, 4.5 percent for camping and 4.8 percent for fishing from 1978. The projected increase in both powerboating and fishing represent a sustained resource drain over 1978. Between 1978 and 1985 powerboating and fishing are expected to increase 95,121 and 139,483 occasions respectively. In contrast camping is predicted to increase only 32,900 occasions over the same time period.

Lake canoeing, which is also a significant activity in the region, appears to be increasing at an increasing rate. The relative change will be 1.6 percent, from 1980 to 1985, 2.2 percent from 1985 to 1990 and 5.1 percent between 1990 and 1995. These increases come from a 1978 base of nearly a half million and therefore translate into relatively large occasion increases.

TABLE 4-5.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 5

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	31126	32554	4.6	32281	-0.8	31369	-2.8	29566	-5.7
Back- packing	26976	27622	2.4	32152	16.4	36742	14.3	37350	1.7
Organized Base/ Softball	143179	143712	0.4	149686	4.2	149620	0.0	145527	-2.7
Sandlot Base/ Softball	112053	107203	-4.3	102828	-4.1	111504	8.4	115383	3.5
Total Base/Softball	255232	251706	-1.4	254664	1.2	261964	2.9	26086	-0.5
Recreation Bicycling	1044791	993296	-4.9	947360	-4.6	1002798	5.9	1056873	5.4
Transportation Bicycling	101678	99276	-2.4	86892	-12.5	88626	2.0	99537	12.3
Total Bicycling	1146469	1092644	-4.7	1034106	-5.4	1091177	5.5	1156319	6.0
Birdwatching Nature Study	109978	115523	5.0	119344	3.3	113775	-4.7	107407	-5.6
Power Boating/ Waterskiing	351722	348593	-0.9	353045	1.3	368241	4.3	397614	8.0
Sailing	6225	6264	0.6	5664	-9.6	6055	6.9	6043	-0.2
Other Boating	43576	43305	-0.6	43961	1.5	44973	2.3	49277	9.6
Total Boating	401523	398170	-0.8	402715	1.1	419221	4.1	452973	8.1
Camping	71589	71299	-0.4	72697	2.0	81919	12.7	87247	6.5
Lake Canoeing	50839	51639	1.6	53757	4.1	54370	1.1	59609	9.6
Stream Canoeing	7263	7385	1.7	10571	43.1	12045	13.9	11645	-3.3

Lake & Stream Canoeing	0	0	0.0	0	0.0	0	0.0	0	0.0
Total Canoeing	58102	59024	1.6	64315	9.0	66396	3.2	71240	7.3
Driving for Pleasure	207506	212375	2.3	226828	6.8	233942	3.1	237013	1.3
Fishing	617329	622753	0.9	645708	3.7	665284	3.0	710747	6.8
Football	40464	38319	-5.3	29444	-23.2	26676	-9.4	32004	20.0
Four Wheeling	4150	4361	5.1	4529	3.8	4858	7.3	4657	-4.1
Golf	135916	134566	-1.0	133373	-0.9	138553	3.9	144192	4.1
Hiking	120353	122106	1.5	131475	7.7	136137	3.5	138914	2.0
Horseback Riding (trail)	38389	37230	-3.0	44975	20.8	47962	6.6	46964	-2.1
Horseback Riding (other)	31126	31462	1.1	31460	0.0	33523	6.6	39996	19.3
Total Horseback Riding	69514	68772	-1.1	76118	10.7	81146	6.6	87079	7.3
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	152517	154943	1.6	164199	6.0	167126	1.8	168515	0.8
Trap Shooting	12450	13131	5.5	14462	10.1	12765	-11.7	11283	-11.6
Skeet Shooting	2075	2047	-1.4	4069	98.8	4605	13.2	4288	-6.9
Range/Target Shooting	12450	12348	-0.8	11029	-10.7	11354	2.9	12153	7.0
Total Shooting	26976	27678	2.6	29995	8.4	28723	-4.2	27331	-4.8
Swimming	560265	546085	-2.5	533451	-2.3	573685	7.5	625097	9.0
Tennis	66402	66090	-0.5	67556	-1.4	66615	-1.4	67776	1.7
Trail Biking	26976	26381	-2.2	22221	-15.8	20645	-7.1	20774	0.6
Visiting Historic Sites	24901	24876	0.1	2617	7.4	29643	11.0	39837	0.7

TABLE 4-5.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 5

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	32691	34081	4.3	34704	1.8	34202	-1.4	32559	-4.8
Back- packing	45966	46811	1.8	49451	5.6	51149	3.4	51118	-0.1
Organized Base/ Softball	142199	142687	0.3	148042	3.8	147947	-0.1	144347	-2.4
Sandlot Base/ Softball	134558	129427	-3.8	125539	-3.0	135270	7.8	140036	3.5
Total Base/Softball	276757	273196	-1.3	276016	1.0	283687	2.8	283262	-0.1
Recreation Bicycling	1188851	1136211	-4.4	1090272	-4.0	1154050	5.8	121334	5.1
Transportation Bicycling	111392	108729	-2.4	95385	-12.3	96805	1.5	108080	11.6
Total Bicycling	1300242	1244915	-4.3	1185083	-4.8	1249520	5.4	1319773	5.6
Birdwatching Nature Study	287031	296628	3.3	310547	4.7	321462	3.5	328139	2.1
Power Boating/ Waterskiing	2093693	2121186	1.3	2188814	3.2	2296877	4.9	2420451	5.4
Sailing	201463	207502	3.0	214510	3.4	221421	3.2	233393	5.4
Other Boating	144928	146390	1.0	148435	1.4	154370	4.0	163463	5.9
Total Boating	2440084	2474161	1.4	2545636	2.9	2664797	4.7	2808689	5.4
Camping	440691	448459	1.8	473600	5.6	504515	6.5	526766	4.4
Lake Canoeing	468314	476670	1.8	484069	1.6	494522	2.2	519844	5.1
Stream Canoeing	37756	38428	1.8	41964	9.2	44246	5.4	46590	5.3

Lake & Stream Canoeing	5198	5457	5.0	5759	5.5	6369	10.6	6954	9.2
Total Canoeing	511268	522582	2.2	536286	2.6	550696	2.7	575621	4.5
Driving for Pleasure	327684	336535	2.7	358241	6.4	371859	3.8	378668	1.8
Fishing	2179623	2213365	1.5	2319106	4.8	2445773	5.5	2583013	5.6
Football	46461	44362	-4.5	35822	-19.2	33479	-6.5	38540	15.1
Four Wheeling	20839	21650	3.9	22657	4.7	22620	-0.2	21789	-3.7
Golf	215010	215692	0.3	218569	1.3	228860	4.7	239592	4.7
Hiking	223027	227139	1.8	241373	6.3	252351	4.5	259909	3.0
Horseback Riding (trail)	41934	40576	-3.2	47962	18.2	51185	6.7	50396	-1.5
Horseback Riding (other)	64447	63220	-1.9	64059	1.3	68289	6.6	75298	10.3
Total Horseback Riding	123262	120594	-2.2	125993	4.5	132726	5.3	140808	6.1
Orienteering	504	473	-6.2	355	-24.8	239	-32.8	301	25.8
Picnicking	352851	358993	1.7	379123	5.6	396592	4.6	406043	2.4
Trap Shooting	42706	44167	3.4	47454	7.4	46119	-2.8	43916	-4.8
Skeet Shooting	28151	28177	0.1	31254	10.9	33392	6.8	36253	8.6
Range/Target Shooting	16647	16512	-0.8	15421	-6.6	16055	4.1	17469	8.8
Total Shooting	87505	89432	2.2	95711	7.0	97148	1.5	97522	0.4
Swimming	1781410	1763747	-1.0	1755298	-0.5	1844696	5.1	1948363	5.6
Tennis	90473	90652	0.2	91875	1.3	91347	-0.6	93278	2.1
Trail Biking	64891	63794	-1.7	57611	-9.7	57195	-0.7	59150	3.4
Visiting Historic Sites	44952	45600	1.4	49267	8.0	55448	12.5	60116	8.4

## REGION SIX-EAST

### Staff Recommendations

Accelerated provision of snowmobiling in Region Six-East should have high priority for all levels of government. State and federal agencies should upgrade their programs that provide hunting opportunities. All levels of government should increase the availability of cross-country skiing. The private sector should be encouraged to provide additional downhill skiing for the Region Six-East public, where topography best lends itself to development.

Federal, state, regional and private providers of camping should speed up their programs in the region. At the same time, these sectors and the local governments should increase the availability of public accesses to fishing lakes and streams and publicize these accesses. Programs that provide stocked fish and intensified fisheries management also should be emphasized.

Local units of government need to stress increased availability of bicycling, swimming and tennis opportunities. Hiking opportunities need to be provided by all sectors managing resources appropriate for the activity.

### Winter Recreation Trends

The short-term trends (1978 to 1985) in recreation occasions originating in Region Six-East indicate small increases in activity by residents of the region (TABLE 4-6E.01). Projections indicate that 1978 to 1985 increases will be 32,000 occasions in snowmobiling, nearly 8,000 occasions in ice fishing and only 2,000 in ice skating. TABLE 4-6E.02 provides data on the number of activities projected to occur in Region Six-East. In general, fewer occasions occur in Region Six-East than originate in the region. In 1985, for example, 52,000 cross-country skiing occasions are projected to occur in the region. Since TABLE 4-6E.01 tells us that Region Six-East skiers will take 59,000 outings, it is evident that Region Six-East is a net exporter of cross-country skiing outings. In 1985 the largest export of occasions will occur in snowmobiling (71,000), followed by ice skating (23,000).

The load placed on snowmobiling resources in the region will increase measurably from 1978 to 1985 (23,000 occasion). Ice-fishing pressure will increase over the same period by 9,000 occasions.

### Public Desire For Winter Recreation Opportunities

That Region Six-East residents find a need to travel out of the region to snowmobile is reflected in the results of the poll of public desire for additional recreation opportunities. TABLE 4-6E.05 presents the winter activities found to be desired. Snowmobiling received support from the largest portion of the sample (15.7 percent). As is the case in most regions, respondents felt a strong need for more hunting opportunities, 11.4 percent of the region residents desire more opportunity to hunt.

A smaller portion of the sample (4.8 percent) specifically named downhill skiing as an activity they would like to see expanded. At the same time almost four percent (3.6 percent) more of the respondents named miscellaneous skiing as the activity they needed more opportunity for. As these people failed to distinguish between downhill and cross-country skiing, the response was recorded as miscellaneous skiing.



TABLE 4-6E.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 6E

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	6345	6253	-1.4	6191	-1.0	6987	12.9	7176	2.7
Cross-Country Skiing	62541	61943	-1.0	58943	-4.8	60442	2.5	60275	-0.3
Downhill Skiing	37162	38983	4.9	37149	-4.7	35248	-5.1	34561	-2.0
Snowshoeing	6345	6634	4.6	6393	-3.6	6312	-1.3	6815	8.0
Ice Skating	220254	205114	-6.9	222151	8.3	242582	9.2	249713	2.9
Snowmobiling	443227	441626	-0.4	474780	7.5	500907	5.5	509002	1.6
Ice Fishing	167683	169652	1.2	176186	3.9	186775	6.0	198798	6.4
Trapping	44413	46784	5.3	44094	-5.8	37549	-14.8	34516	-8.1
Sledding	150461	142097	-5.6	147454	3.8	167567	13.6	176252	5.2
Snowtubing	9970	10065	1.0	9445	-6.2	9361	-0.9	10847	15.9
Orienteering	932	853	-8.5	678	-20.5	832	22.7	840	13.0

TABLE 4-6E.02: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 6E

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Cross-Country Skiing	55435	54917	-0.9	52273	-4.8	53374	2.1	52966	-0.8
Downhill Skiing	3041	3214	5.7	3154	-1.9	2881	-8.6	2654	-7.9
Snowshoeing	6345	6634	4.6	6393	-3.6	6312	-1.3	6815	8.0
Ice Skating	197571	183925	-6.9	199105	8.3	217307	9.1	223647	2.9
Snowmobiling	50805	378346	-0.6	403735	6.7	425674	5.4	433014	1.7
Ice Fishing	166265	168625	1.4	175302	4.0	184638	5.3	194881	5.5
Trapping	44413	46784	5.3	44094	-5.8	37549	-14.8	34516	-8.1
Sledding	153160	144685	-5.5	149839	3.6	169343	13.0	177402	4.8
Snowtubing	5438	5490	1.0	5152	-6.2	5108	-0.9	5917	15.9

TABLE 4-6E.05: Percent of the Population of Region 6E Desiring More Opportunity for Winter Activities

Activity	% of the Population Requesting
Snowmobiling	15.7
Hunting	11.4
Cross-Country Skiing	9.6
Downhill Skiing	4.8
Miscellaneous Skiing	3.6
Ice Fishing	2.4
Trapping	1.2
Ice Skating	.6
Snowshoeing	.6
Snowtubing	.6

Assuming the respondent desiring downhill skiing is more likely to list the word "skiing" than the respondent desiring cross-country skiing, much of the miscellaneous skiing request becomes a request for additional downhill skiing. Under this assumption, the importance of providing additional downhill skiing nearly equals the importance of providing more cross-country skiing.

TABLE 4-6E.06 shows the strength of need expressed by residents of the region who requested a particular activity. Trapping leads the list. However, only a small percentage of the sample requested the opportunity. Activities that scored high on the average need level scale and that also were requested by a significant portion of the sample, are hunting (3.2) snowmobiling (3.0) and cross-country skiing (2.8). Another winter trail activity, cross-country skiing received support from nearly ten percent (9.6 percent) of the sample.

TABLE 4-6E.06: Region 6E Expressed Level of Need by Winter Activity  
1= low need 5= high need

Activity	Average Need
Trapping	4.0
Hunting	3.2
Snowmobiling	3.0
Cross-Country Skiing	2.8
Downhill Skiing	2.8
Miscellaneous Skiing	2.7
Ice Fishing	2.5

(activities with .75 confidence interval greater than .99 omitted)

#### Public Desire For Summer Recreation Opportunities

Camping, the most desired opportunity in Region Six-East (TABLE 4-6E.07), was specified by 21.1 percent of the sample. Fishing was requested by 15 percent of the sample which indicates a continued need to supply traditional recreation opportunities. Bicycling, an activity which has seen substantial recent growth, appears high on the list (13.3 percent), along with swimming (11.4 percent), tennis (10.8 percent) and hiking (8.4 percent).

TABLE 4-6E.07: Percent of the Population of Region 6E Desiring More Opportunity for Summer Activities

Activity	% of the Population Requesting
Camping	21.1
Fishing	15.0
Bicycling	13.3
Swimming	11.4
Tennis	10.8
Hiking	8.4
Picnicking	4.2
Park Facilities	2.4
Boating	1.8
Golfing	1.8
Horseback Riding	1.8
Visiting Historic Sites	1.8
Canoeing	1.2
Orienteering	1.2
Trail Biking	1.2
Archery	.6
Baseball/Softball	.6
Target Shooting	.6
Waterskiing	.6

The high-desire activities, swimming (3.6), hiking (3.3), and bicycling (3.2) also gained high scores on the average need level scale. Two other high-desire activities fishing, (2.9), tennis (2.8) and camping (2.7) were of medium need intensity on the five-point scale.

TABLE 4-6E.08: Region 6E Expressed Level of Need by Summer Activity  
1= low need 5= high need

Activity	Average Need
Swimming	3.6
Visiting Historic Sites	3.5
Hiking	3.3
Bicycling	3.2
Fishing	2.9
Tennis	2.8
Park Facilities	2.8
Picnicking	2.7
Horseback Riding	2.7
Camping	2.7
Boating	2.3

(activities with .75 confidence interval greater than .99 omitted)

## Summer Recreation Trends

The 1978 to 1985 picture for summer recreation occasions originating in Region Six-East is similar to the region's winter recreation trends. In other words, it appears that only small increases in activity levels will occur. For example, the survey data indicates that powerboating/waterskiing will increase by less than 100 occasions from 1978 to 1980 (TABLE 4-6E.03). Generally speaking it seems that the short-term increases for the major activities will be less than eight percent. Between 1980 and 1985 fishing will increase 7.1 percent (30,523 occasions), swimming 7.1 percent (21,783 occasions), recreational bicycling 1.2 percent (15,394 occasions), and organized base/softball 0.3 percent (817 occasions). In contrast to this general trend of increasing activity levels transportation bicycling will undergo a fairly significant decline from 206,006 occasions in 1980 to 187,602 in 1985. A decline of just under nine percent. However, after 1985, a consistent increase in the number of occasions originating in Region Six-East is projected.

The trends for the minor activities are mixed but forecasts generally indicate a decline. For instance, it seems trail horseback riding will experience a slight increase of 1.6 percent from 1978 to 1980 but is then expected to undergo consistent decline through 1995. As table 4-6E.03 shows, Region Six-East residents will apparently originate 10,037 trail horseback riding occasions in 1980 (an increase of 120 occasions from 1978) but by 1985, the activity is predicted to decline 16.7 percent to 8,372 occasions.

TABLE 4-6E.04, the projected number of occasions occurring in Region Six-East, indicates that the region is generally a net exporter. Exceptions to this general observation are activities which are typically dependent upon lake resources such as powerboating/waterskiing, lake canoeing and swimming. For this group of activities, more occasions are predicted to occur in the region than are expected to be originated by the region's residents. The forecasted net import for these activities during 1980 is 108,697 powerboating/waterskiing occasions, 15,637 lake canoeing occasions and 80,691 swimming occasions. In terms of increased impacts to resources, powerboating/waterskiing and swimming will place the greater increased load on resources with 21,110 and 11,435 additional occasions respectively from 1980 to 1985.

Two extraordinary examples of the overall net export trends are stream canoeing and lake and stream canoeing. TABLE 4-6E.03 shows that over 7,000 stream canoeing occasions are predicted to be originate by Region Six-East residents. But as table 4-6E.04 indicates very few of the occasions are forecated to occur within the region. Likewise, it seems that very few of the predicted 2,187 lake and stream canoeing occasions originating in Region Six-East will actually occur there.

TABLE 4-6E.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 6E

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	17154	17757	3.5	18377	3.5	17164	-6.6	14970	-12.8
Back- packing	10834	10489	-3.2	11528	9.9	11603	0.6	14582	25.7
Organized Base/ Softball	246470	247702	0.5	248519	0.3	245593	-1.2	238403	-2.9
Sandlot Base/ Softball	220288	213269	-3.2	227175	6.5	245114	7.9	257414	5.0
Total Base/Softball	466758	461301	-1.2	475489	3.1	489667	3.0	494016	0.9
Recreation Bicycling	1344299	1308611	-2.7	1326617	1.4	1386240	4.5	1456660	5.1
Transportation Bicycling	207649	206006	-0.8	187602	-8.9	191060	1.8	191960	0.5
Total Bicycling	1551947	1514988	-2.4	1512554	-0.2	1575081	4.1	1645443	4.5
Birdwatching Nature Study	101116	101128	0.0	104093	2.9	110487	6.1	119603	8.3
Power Boating/ Waterskiing	249178	249266	0.0	272467	9.3	293244	7.6	313276	6.8
Sailing	9028	9067	0.4	8808	-2.9	8100	-8.0	8636	6.6
Other Boating	27085	27479	1.5	29880	8.7	30356	1.6	34370	13.2
Total Boating	285291	285823	0.2	310941	8.8	331176	6.5	355735	7.4
Camping	144451	147452	2.1	156995	6.5	158503	1.0	156003	-1.6
Lake Canoeing	32502	34900	7.4	36554	4.7	36224	-0.9	33316	-8.0
Stream Canoeing	8125	7872	-3.1	7507	-4.6	7724	2.9	10672	38.2

Lake & Stream Canoeing	1806	2187	21.1	2408	10.1	2253	-6.4	1849	-17.9
Total Canoeing	42433	45130	6.4	46780	3.7	46445	-0.7	45479	-2.1
Driving for Pleasure	343974	350718	2.0	360930	2.9	36682	1.6	375981	2.5
Fishing	421617	430810	2.2	461333	7.1	472220	2.4	485721	2.9
Football	42433	40895	-3.6	38636	-5.5	37994	-1.7	41807	10.0
Four Wheeling	11737	11765	0.2	12042	2.4	12047	0.0	12423	3.1
Golf	105630	106093	0.4	113251	6.7	124167	9.6	132852	7.0
Hiking	84865	86030	1.4	87215	1.4	90171	3.4	89664	-0.6
Horseback Riding (trail)	10834	11005	1.6	10037	-8.8	8362	-16.7	7389	-11.6
Horseback Riding (other)	34307	33900	-1.2	34584	2.0	35201	1.8	35811	1.7
Total Horseback Riding	45141	44994	-0.3	44359	-1.4	42750	-3.6	42043	-1.7
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	224802	228785	1.8	247486	8.2	253395	2.4	256325	1.2
Trap Shooting	8125	8711	7.2	9626	10.5	10228	6.3	9721	-5.0
Skeet Shooting	903	878	-2.7	726	-17.3	569	-21.7	699	22.9
Range/Target Shooting	30696	32970	7.4	33850	2.7	33595	-0.8	33234	-1.1
Total Shooting	39724	42569	7.2	44359	4.2	44690	0.7	43857	-1.9
Swimming	546206	535953	-1.9	557736	4.1	591884	6.1	615877	4.1
Tennis	112852	115206	2.1	114709	-0.4	115791	0.9	117641	1.6
Trail Biking	8125	7829	-3.6	7068	-9.7	7010	-0.8	9257	32.7
Visiting Historic Sites	47849	47794	-0.1	51349	7.4	56464	10.0	60995	8.0

TABLE 4-6E.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 6E

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	27894	28788	3.2	29214	1.5	27066	-7.4	24941	-7.9
Back- packing	8238	8018	-2.7	9095	13.4	9124	0.3	10473	14.8
Organized Base/ Softball	241363	242608	0.5	243437	0.3	240831	-1.1	234128	-2.8
Sandlot Base/ Softball	202792	196393	-3.2	208791	6.3	225165	7.8	236359	5.0
Total Base/Softball	444155	439066	-1.1	452204	3.0	465808	3.0	470243	1.0
Recreation Bicycling	1332961	1296083	-2.8	1311477	1.2	1370822	4.5	1439650	5.0
Transportation Bicycling	203134	201527	-0.8	183523	-8.9	186905	1.8	187786	0.5
Total Bicycling	1536096	1498106	-2.5	1493886	-0.3	1555950	4.2	1624895	4.4
Birdwatching Nature Study	90282	90292	0.0	92940	2.9	98649	6.1	106788	8.3
Power Boating/ Waterskiing	358202	357963	-0.1	379082	5.9	401115	5.8	422289	5.3
Sailing	17525	17721	1.1	17638	-0.5	16967	-3.8	17876	5.4
Other Boating	17947	18032	0.5	18724	3.8	19880	6.2	20717	4.2
Total Boating	393675	394107	0.1	416355	5.6	438293	5.3	461979	5.4
Camping	98466	100192	1.8	106291	6.1	109388	2.9	109062	-0.3
Lake Canoeing	49085	50537	3.0	50997	0.9	50920	-0.2	50697	-0.4
Stream Canoeing	0	0	0.0	0	0.0	0	0.0	0	0.0



Lake & Stream Canoeing	0	0	0.0	0	0.0	0	0.0	0	0.0
Total Canoeing	49085	50454	2.8	50991	1.1	51111	0.2	51933	1.6
Driving for Pleasure	305001	310900	1.9	320067	2.9	325365	1.7	331978	2.0
Fishing	418719	425003	1.5	448253	5.5	463106	3.3	477458	3.1
Football	41530	40025	-3.6	37813	-5.5	37185	-1.7	40918	10.0
Four Wheeling	11737	11765	0.2	12042	2.4	12047	0.0	12423	3.1
Golf	99492	100010	0.5	106634	6.6	116712	9.5	124755	6.9
Hiking	102871	104345	1.4	106651	2.2	110586	3.7	111262	0.6
Horseback Riding (trail)	20429	20549	0.6	19183	-6.6	17253	-10.1	16265	-5.7
Horseback Riding (other)	330035	29604	-1.4	29837	0.8	30404	1.9	31091	2.3
Total Horseback Riding	50464	50126	-0.7	49084	-2.1	48189	-1.8	48180	0.0
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	225151	229054	1.7	245463	7.2	252433	2.8	256221	1.5
Trap Shooting	7223	7744	7.2	8557	10.5	9093	6.3	8641	-5.0
Skeet Shooting	903	878	-2.7	726	-17.3	569	-21.7	699	22.9
Range/Target Shooting	30401	32590	7.2	33218	1.9	32717	-1.5	32194	-1.6
Total Shooting	38527	41281	7.1	42818	3.7	42851	0.1	41856	-2.3
Swimming	629192	616644	-2.0	631079	2.3	667034	5.7	694388	4.1
Tennis	113119	115397	2.0	114813	-0.5	115860	0.9	117759	1.6
Trail Biking	8125	7829	-3.6	7068	-9.7	7010	-0.8	9257	32.0
Visiting Historic Sites	11671	11651	-0.2	12387	6.3	13395	8.1	14391	7.4

## REGION SIX-WEST

### Staff Recommendations

Hunting opportunities merit expanded attention from federal and state agencies responsible for programs that provide them. The private sector should be encouraged to provide additional downhill skiing for the residents of Region Six-West. Government and private-sector providers of snowmobiling opportunities should step up their programs in the region. Additional fishing opportunities should be provided through fish stocking and intensified fisheries management efforts. Simultaneously, increased public access to fishing resources should be developed by all levels of government and the private sector.

Local and regional providers should emphasize the development of swimming, bicycling and tennis opportunities. Camping and hiking facilities should be expanded by federal, state and regional governmental agencies and, where appropriate, by the private sector.

### Winter Recreation Trends

The picture of short-term changes in winter recreation occasions produced by Region Six-West shows little growth (TABLE 4-6W.01). In fact, between 1978 and 1985, none of the winter activities will grow by more than 5,000 occasions. Declines, on the other hand, will be noticeable. Snowmobile occasions originating in the region are predicted to drop by 17,000, sledding by 10,000.

The 1985 projected number of activity occasions occurring in the region (TABLE 4-6W.02) closely fits the origin pattern. The region appears to have little net activity import or export. The period 1978 to 1985 shows a drop of 50,000 snowmobiling occasions occurring in Region Six-West. Sledding will decrease by 10,000 occasions, ice skating by 6,000.

### Public Desire For Winter Recreation Opportunities

The desire for more hunting opportunities leads the list in the public poll of desired additional winter recreation opportunities (TABLE 4-6W.05); 17.2 percent of the sample selected this activity. Snowmobiling followed with 11.8 percent. Unspecified, or miscellaneous, skiing opportunities were requested by nearly eight percent of the respondents. If the majority of these responses are assumed to be intended as downhill skiing, that activity appears to be in demand in the region.

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TABLE 4-6W.05: Percent of the Population of Region 6W Desiring More Opportunity for Winter Activities

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Activity	% of the Population Requesting
Hunting	17.2
Snowmobiling	11.8
Miscellaneous Skiing	7.7
Cross-Country Skiing	3.0
Downhill Skiing	3.0
Ice Skating	1.2
Snowtubing	1.2
Trapping	.6

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TABLE 6W.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 6W

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	2773	2805	1.2	3764	34.2	3957	5.1	3422	-13.5
Cross-Country Skiing	17744	17721	-0.1	17041	-3.8	14814	-13.1	11735	-20.8
Downhill Skiing	15526	15104	-2.7	13277	-12.1	12064	-9.1	13075	8.4
Snowshoeing	3882	3657	-5.8	4247	16.1	6125	44.2	6178	0.9
Ice Skating	85947	77373	-10.0	78757	3.1	82609	3.6	83032	0.5
Snowmobiling	162467	153573	-5.5	144623	-5.8	154246	6.7	157989	2.9
Ice Fishing	58777	60063	2.2	63005	4.9	64231	1.9	62219	-3.1
Trapping	19407	17907	-7.7	13910	-22.3	16583	19.2	19280	16.3
Sledding	144273	133484	-7.8	134286	0.6	142698	6.3	139392	-2.3
Snowtubing	10535	10167	-3.5	10032	-1.3	10323	2.9	10256	-0.7
Orienteering	555	704	26.9	790	12.2	639	-19.2	483	-24.4

TABLE 6W.02: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 6W

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Cross-Country Skiing	16245	15884	-2.2	15044	-5.3	14550	-3.3	13727	-5.7
Downhill Skiing	12699	12723	0.2	11952	-6.1	11214	-6.2	11536	2.9
Snowshoeing	5831	5461	-6.3	5014	10.1	8061	34.0	8160	1.2
Ice Skating	88763	80512	9.3	83339	3.5	86563	3.9	87068	0.6
Snowmobiling	156687	148250	-5.4	139856	-5.7	149065	6.6	152688	2.7
Trapping	19407	17907	-7.7	13910	-22.3	16583	19.2	19280	16.3
Sledding	148412	137146	-7.6	138012	0.6	146526	6.2	143283	-2.2
Snowtubing	6654	6422	-3.5	6336	-1.3	6520	2.9	6478	-0.7
Orienteering	592	740	25.1	821	11.0	673	-18.0	520	-22.8

The level of need expressed by respondents (TABLE 4-6W.06) parallels the proportion of the sample requesting each activity. Hunting has the second highest need level, 3.3 on a one-to-five scale. Only cross-country skiing (3.4) exceeds hunting. Snowmobiling also ranks high on the list at 3.1. Downhill skiing rounds out the list of activities receiving scores at or above the mid-point on the five point scale.

TABLE 4-6W.06: Region 6W Expressed Level of Need for Winter Recreation Opportunities. 1= low need 5= high need

Activity	Average Need
Cross-Country Skiing	3.4
Hunting	3.3
Snowmobiling	3.1
Downhill Skiing	3.0
Miscellaneous Skiing	2.6
Ice Skating	2.5

(activities with .75 confidence intervals greater than .99 omitted)

#### Public Desire For Summer Recreation Opportunities

A desire for more summer activities came to the fore in the public poll (TABLE 4-6W.07). Fishing (21.9 percent) and camping (18.3 percent) outdistanced all other activities. Swimming (11.2 percent), bicycling (10.7 percent), and hiking (7.7 percent) form the next most popular set of activities desired. In total, trail activities received strong support--in addition to the significant proportions of the sample selecting bicycling and hiking, fair percentages named horseback riding and trail biking.

TABLE 4-6W.07: Percent of the Population of Region 6W Desiring More Opportunity for Summer Activities

Activity	% of the Population Requesting
Fishing	21.9
Camping	18.3
Swimming	11.2
Bicycling	10.7
Hiking	7.7
Tennis	5.9
Golfing	4.7
Baseball/Softball	3.6
Horseback Riding	3.6
Picnicking	3.6
Trail Biking	2.4
Waterskiing	2.4
Park Facilities	2.4
Boating	2.4
Canoeing	1.2
Archery	.6
Orienteering	.6
Bird Watching	.6

The support for trail activities persists in Table 4-6W.08. That table shows the average need level expressed for summer activities. Here, hiking and bicycling both show scores over 3.0. High needs occur for waterskiing (3.8), canoeing (3.5) and golfing (3.4). All but golfing received support from a minor percent of the public (TABLE 4-6W.07).

Of the top three activities, in terms of the percent of the sample requesting, only fishing (2.9) failed to score 3.0 or greater.

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TABLE 4-6W.08: Region 6W Expressed Level of Need for Summer Recreation  
 Opportunities 1= low need 5= high need

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Activity	Average need
Waterskiing	3.8
Canoeing	3.5
Golfing	3.4
Hiking	3.2
Bicycling	3.1
Boating	3.0
Swimming	3.0
Camping	3.0
Fishing	2.0
Tennis	2.7
Horseback Riding	2.7
Picnicking	1.8

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(activities with .75 confidence intervals greater than .99 omitted)

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## Summer Recreation Trends

The projections of summer recreation occasions originating in Region Six-West are displayed in TABLE 4-6W.03. The dominate short term trend (1978 to 1985) appears to be one of slight to moderate decline in the number of occasions originating by the region's population. However, several minor activities (Archery, Other Boating, Trap Shooting and Skeet Shooting) are predicted to experience short-term growth. None the less, it appears that the majority of activities will experience short-term declines and some will continue to experience decline, after 1985. For example, from 1978 to 1985 powerboating/waterskiing is predicted to decrease by approximately 5,240 occasions and fishing is forecasted to decrease by over 8,000 occasions. However, the data indicates that both these activities will consistently increase after 1985 (both activities are predicted to increase over four percent from 1985 to 1990). In contrast, it seems organized base/softball will continue to decline through 1995. It is predicted that the Region Six-West residents will originate nearly 14,000 less occasions in the short-term (1978 to 1985) and 12,419 less occasions between 1985 and 1995.

Approximately 253,000 Swimming occasions are anticipated to be made by Region Six-West residents in 1980. This is a decline of over 33,000 occasions (6.6 percent) from 1978. Orienteering will experience the most dramatic short-term percentage decrease, 24.8 percent from 1980 to 1985. But this decrease is on a small 1980 base of 473 occasions. Thus in terms of occasions the decrease is only 118.

A comparison of TABLE 4-6W.04 and 4-6W.03 shows that Region Six-West is generally an exporter of water resource dependent activities. That is, for activities such as all types of boating, camping, canoeing and swimming, more occasions originate from the regions population than occur in the region. The region's 1980 net export forecasts of water dependent activities are 95,156 occasions for powerboating/waterskiing, 2,393 sailing occasions, 69,136 fishing occasions and 81,538 swimming occasions.

Of this group, powerboating/waterskiing, fishing and swimming will all apparently undergo a short-term decline.

Two other important net export activities are camping (net export of 49,772 occasions) and driving for pleasure (export of 33,213 occasions).

Even though it appears that Region Six-West is generally a net exporter, the data indicates that the area is a net importer for some activities. For example, in 1980 a net import of 1,178 organized base/softball occasions, 20,988 recreational bicycling occasions and 934 archery occasions are expected.

TABLE 4-6W.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 6W

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	15614	16153	3.4	23064	42.8	23597	2.3	19952	-15.4
Back- packing	4030	4138	2.7	3397	-17.9	2654	-21.9	1877	-29.3
Organized Base/ Softball	148588	143724	-3.3	134593	-6.4	125130	-7.0	122174	-2.4
Sandlot Base/ Softball	63968	61460	-3.9	61446	0.0	65394	6.4	65153	-0.4
Total Base/Softball	212557	205194	-3.5	195957	-4.5	190250	-2.9	187029	-1.7
Recreation Bicycling	763089	711752	-6.7	676290	-5.0	710511	5.1	724355	1.9
Transportation Bicycling	92679	90622	-2.2	87022	-3.9	86584	-0.6	87100	0.6
Total Bicycling	855767	802748	-6.2	763803	-4.9	797121	4.4	811376	1.8
Birdwatching Nature Study	54902	53286	-2.9	50339	-5.5	44370	-11.9	40420	-8.9
Power Boating/ Waterskiing	131463	128378	-2.3	126221	-1.7	131445	4.1	133157	1.3
Sailing	2518	2393	-5.0	2921	22.1	3137	7.4	3920	24.9
Other Boating	19644	20481	4.3	21553	5.2	23194	7.6	21280	-8.2
Total Boating	153625	151395	-1.5	150938	-0.3	158100	4.7	158388	0.2
Camping	69509	66949	-3.7	67043	0.1	72479	8.1	72576	0.1
Lake Canoeing	13600	13341	-1.9	12395	-7.1	11751	-5.2	12322	4.9
Stream Canoeing	2015	1852	-8.1	1992	7.5	2142	7.5	2098	-2.1



Lake & Stream Canoeing	0	0	0.0	0	0.0	0	0.0	0	0.0
Total Canoeing	15614	15200	-2.7	14377	-5.4	13868	-3.5	14403	3.9
Driving for Pleasure	213564	213143	-0.2	211928	-0.6	210626	-0.6	203863	-3.2
Fishing	218097	214059	-1.9	209747	-2.0	218768	4.3	219047	0.1
Football	28207	26126	-7.4	27010	3.4	28018	3.7	29278	4.5
Four Wheeling	1511	1613	6.7	1455	-9.8	1246	-14.4	1010	-18.9
Golf	89657	86874	-3.1	85138	-2.0	85704	0.7	85427	-0.3
Hiking	80087	77318	-3.5	77828	0.7	79342	1.9	77385	-2.5
Horseback Riding (trail)	14607	13627	-6.7	12562	-7.8	17415	38.6	19699	13.1
Horseback Riding (other)	24681	23897	-3.2	20645	-13.6	21187	2.6	20184	-4.7
Total Horseback Riding	39288	37446	-4.7	33260	-11.2	39336	18.3	41049	4.4
Orienteering	504	473	-6.2	355	-24.8	239	-32.8	301	25.8
Picnicking	149596	148315	-0.9	146508	-1.2	143576	-2.0	141459	-1.5
Trap Shooting	4030	4750	17.9	5007	5.4	4122	-17.7	3101	-22.4
Skeet Shooting	1007	1134	12.6	1083	-4.4	848	-21.7	606	-28.5
Range/Target Shooting	14607	15174	3.9	13577	-10.5	11412	-16.0	9876	-13.5
Total Shooting	19644	20989	6.8	19507	-7.1	16251	-16.7	13608	-16.3
Swimming	296169	276555	-6.6	252726	-8.6	263176	4.1	271617	3.2
Tennis	40799	38389	-5.9	33630	-12.4	31491	-6.4	32178	2.2
Trail Biking	30725	31563	2.7	28059	-11.1	23543	-16.1	20919	-11.1
Visiting Historic Sites	25184	24124	-4.2	24623	2.1	25259	2.6	24729	-2.1

TABLE 4-6W.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 6W

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	16517	17087	3.5	23908	39.9	24345	1.8	20617	-15.3
Back- packing	1007	1034	2.7	849	-17.9	663	-21.9	469	-29.3
Organized Base/ Softball	149482	144902	-3.1	136236	-6.0	127379	-6.5	124619	-2.2
Sandlot Base/ Softball	76397	72949	-4.5	72141	-1.1	77582	7.5	78628	1.3
Total Base/Softball	225879	218318	-3.3	208228	-4.6	203243	-2.4	200401	-1.4
Recreation Bicycling	783046	732740	-6.4	698069	-4.7	733546	-5.1	749003	2.1
Transportation Bicycling	92679	90622	-2.2	87072	-3.9	86584	-0.6	87100	0.6
Total Bicycling	875725	823518	-6.0	784905	-4.7	819357	4.4	835207	1.9
Birdwatching Nature Study	52887	51331	-2.9	48491	-5.5	42741	-11.9	38937	-8.9
Power Boating/ Waterskiing	33925	33222	-2.1	32927	-0.9	34314	4.2	35186	2.5
Sailing	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Boating	3185	3321	4.3	3495	5.2	3761	7.6	3450	-8.2
Total Boating	3711	36602	-1.4	36614	0.0	38358	4.8	38942	1.5
Camping	17651	17177	-2.7	17178	0.0	18442	7.4	18906	2.5
Lake Canoeing	1511	1482	-1.9	1377	-7.1	1306	-5.2	1369	4.9
Stream Canoeing	1511	1389	-8.1	1494	7.5	1606	7.5	1573	-2.1

Lake & Stream Canoeing	0	0	0.0	0	0.0	0	0.0	0	0.0
Total Canoeing	3022	2942	-2.7	2783	-5.4	2684	-3.5	2788	3.9
Driving for Pleasure	179555	179930	0.2	179865	0.0	179027	-0.5	173993	-2.8
Fishing	146627	144923	-1.2	144466	-0.3	151181	4.6	153656	1.6
Football	26192	24260	-7.4	25080	3.4	26016	3.7	27186	4.5
Four Wheeling	1511	1613	6.7	1455	-9.8	1246	-14.4	1010	-18.9
Golf	80486	78022	-3.1	76548	-1.9	77150	0.8	76983	-0.2
Hiking	73305	71039	-3.1	71697	0.9	73228	2.1	71758	-2.0
Horseback Riding (trail)	8563	7988	-6.7	7364	-7.8	10209	38.6	11548	13.1
Horseback Riding (other)	22162	21458	-3.2	18538	-13.6	19024	2.6	18124	-4.7
Total Horseback Riding	30725	29285	-4.7	26011	-11.2	30762	18.3	32102	4.4
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	118563	118226	-0.3	118350	0.1	118331	0.0	118132	-0.2
Trap Shooting	5706	6433	12.7	6851	6.5	5831	-14.9	4907	-15.8
Skeet Shooting	1007	1134	12.6	1083	-4.4	848	-21.7	606	-28.5
Range/Target Shooting	17898	18525	3.5	17377	-6.2	15625	-10.1	14376	-8.0
Total Shooting	24612	25991	5.6	24855	-4.4	21961	-11.6	19717	-10.2
Swimming	207925	195017	-6.2	179395	-8.0	185971	3.7	191949	3.2
Tennis	39744	37547	-5.5	33156	-11.7	31218	-5.8	31933	2.3
Trail Biking	29718	30528	2.7	27139	-11.1	22771	-16.1	20233	-11.1
Visiting Historic Sites	14462	13943	-3.6	14348	2.9	14891	3.8	14839	-0.3

## REGION SEVEN-EAST

### Staff Recommendations

Increasing winter recreation opportunities in Region Seven-East should emphasize state and federal programs making hunting available to the public. Programs at all levels of government that provide snowmobiling should be stepped up, and private sector provision of downhill skiing should be encouraged.

Summer recreation provision should stress increased camping facilities as federal, state, regional and private resources. At the same time, these entities, along with local agencies, should be encouraged to increase public access to fishing and boating-canoeing opportunities. Increased public access opportunities can be effected by heightened public awareness of currently available accesses, as well as acquisition and development of new accesses. Increased public access should be complemented by increased fish stocking and intensified fisheries management.

Local providers need to stress their contributions of facilities for close-to-home recreation--bicycling, swimming, picnicking, horseback riding and tennis.

### Winter Recreation Trends

The 1978 to 1985 forecast of winter recreation occasions originating in Region Seven-East predicts substantial increases (TABLE 4-7E.01). The top three activities as measured by net increase are snowmobiling (53,000 occasions), ice fishing (40,000 occasions) and ice skating (18,000 occasions).

More importantly, none of the activities originating in Region Seven-East will see a noticeable decrease.

TABLE 4-7E.02 presents projections of activity occasions occurring in Region Seven-East. An increase in activity occasions indicates more pressure on the region's recreation resources. Further, a comparison of this table with TABLE 4-7E.01 provides the net import or export of activities by the region.

The forecast of occasions occurring in Region Seven-East shows increases across the board and the region to be a heavy importer of activity occasions. The greatest 1978 to 1985 increases in activities occurring in Region Seven-East are found in ice fishing (83,000 occasions) and snowmobiling (53,000 occasions). Of equal importance is the fact that 632,000 more ice fishing occasions are expected to occur in Region Seven-East than originate there.

Not nearly of the same magnitude, are projections that, Region Seven-East will import 158,000 snowmobiling and 96,000 downhill skiing occasions in 1985.

### Public Desire For Winter Recreation Opportunities

Hunting leads the list of activities for which residents of Region Seven-East desire more opportunity (TABLE 4.7E.05). Nearly 12 percent of the respondents wanted this activity more available. Following hunting is snowmobiling (10.6 percent). This isn't surprising, given the massive import of snowmobiling occasions from other areas of the state.

TABLE 4-7E.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 7E

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	8371	9072	8.4	10212	12.6	9553	-6.4	9008	-5.7
Cross-Country Skiing	46421	49622	6.9	54179	9.2	63390	17.0	64313	1.5
Downhill Skiing	59358	61857	4.2	65211	5.4	71318	9.4	78239	9.7
Snowshoeing	15220	15817	3.9	16853	6.5	19348	14.8	20639	6.7
Ice Skating	213840	207160	-3.1	231994	12.0	272772	17.6	304665	11.7
Snowobiling	407894	409725	0.4	460915	12.5	431829	15.4	577944	8.7
Ice Fishing	206230	213100	3.3	246567	15.7	286181	16.1	322421	12.7
Open Water Fishing	761	751	-1.4	776	3.4	1045	34.6	2262	116.5
Trapping	13698	13428	-2.0	13523	0.7	15807	16.9	19187	21.4
Sledding	181117	177005	-2.3	194982	10.2	227133	16.5	248527	9.4
Snowtubing	25874	25403	-1.8	28199	11.0	31639	12.2	33763	6.7

TABLE 4-7E.02: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 7E

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	18927	19543	3.3	20833	6.6	21371	2.6	21989	2.9
Cross-Country Skiing	73853	77190	4.5	83087	7.6	92987	11.9	95542	2.7
Downhill Skiing	157070	160680	2.3	160778	0.1	162835	1.3	169963	4.4
Snowshoeing	14459	15026	3.9	16010	6.5	18381	14.8	19607	6.7
Ice Skating	257517	248862	-3.4	276168	11.0	319375	15.6	351517	10.1
Snowmobiling	565448	566719	0.2	618897	9.2	692591	11.9	742894	7.3
Ice Fishing	795951	819416	2.9	878554	7.2	934214	6.3	998976	6.9
Trapping	18436	18274	-0.9	17905	-2.0	19694	10.0	23317	18.4
Sledding	180206	175978	-2.3	193603	10.0	225356	16.4	246510	9.4
Snowtubing	22530	22122	-1.8	24018	8.6	26428	10.0	27920	5.6

TABLE 4-7E.05: Percent of the Population of Region 7E Desiring More Opportunity For Winter Activities

Activity	% of the Population Requesting
Hunting	11.8
Snowmobiling	10.6
Cross-Country Skiing	6.8
Miscellaneous Skiing	3.7
Downhill Skiing	3.1
Ice Skating	2.5
Snowshoeing	.6
Trapping	.6

Standing alone among the requests, cross-country skiing received moderate support (6.8 percent), downhill skiing (3.15 percent) combined with miscellaneous skiing (3.7 percent) totaled approximately the same support. (It is assumed that the majority of the miscellaneous skiing requests were intended as downhill.)

TABLE 4-7E.06: Region 7E Expressed Level of need for Winter Recreation Opportunities. 1= low need 5= high need

Activity	Average Need
Ice Skating	3.8
Cross-Country Skiing	3.5
Downhill Skiing	3.4
Hunting	3.3
Snowmobiling	3.1
Miscellaneous Skiing	3.0

(activities with .75 Confidence intervals greater than .99 omitted)

None of the winter recreation activities requested by Region Seven-East residents received an average need level score of less than 3.0 (TABLE 4-7E.06), and the top four activities clustered tightly. Given this close grouping of average need level expressed, setting priorities based on average need scores is, at best, risky. It is probably best simply to state that all winter activities show strong need levels and let the percent of the population requesting each activity be the major guiding force.

#### Public Desire For Summer Recreation Opportunities

Increased camping opportunities were requested by 19.9 percent of the sample population in Region Seven-East (TABLE 4-7E.07). Fishing (17.3 percent), bicycling (13.7 percent) and swimming (13.0 percent) each received more than 10 percent of the requests.

Of the four summer activities that respondents most often requested be expanded, three ranked high according to the average level of need expressed by respondents (TABLE 4-7E.08). Camping, the top requested activity has the fourth highest need measure (3.1). Bicycling, the third most requested activity and swimming, number four, lead the need level rankings with 3.7 and 3.4 respectively. Fishing, the second most requested activity, showed the second lowest need level (2.6).

TABLE 4-7E.07: Percent of the Population of Region 7E Desiring More Opportunity  
For Summer Activities

Activity	% of Population Requesting
Camping	19.9
Fishing	17.3
Bicycling	13.7
Swimming	13.0
Picnicking	9.3
Boating	4.9
Canoeing	4.3
Horseback Riding	4.3
Tennis	4.3
Hiking	3.1
Park Facilities	3.1
Baseball or Softball	1.9
Golfing	1.9
Target Shooting	1.9
Four Wheeling	.6
Soccer	.6
Trail Biking	.6
Waterskiing	.6
Bird Watching	.6
Walking	.6

TABLE 4-7E.08: Region 7E Expressed Level of Need for Summer Recreation  
Opportunities 1= low need 5= high need

Activity	Average Need
Bicycling	3.7
Swimming	3.4
Boating	3.2
Camping	3.1
Hiking	3.0
Tennis	3.0
Picnicking	2.9
Canoeing	2.9
Horseback Riding	2.9
Fishing	2.6
Golfing	2.0

(activities with .75 confidence intervals greater than .99 omitted)



## Summer Recreation Trends

The overall trend for Region Seven-East seems to be one of increasing recreation occasions originating in the area. Transportation bicycling is the only major activity predicted to show a decline in the number of occasions originating in Region Seven-East. However, this trivial predicted decline of less than one percent from 1978 to 1980 will apparently be followed by relatively large increases (3.7% from 1980 to 1985, 16.2% from 1985 to 1990 and 14.7 percent between 1990 and 1995). All other major activities show short-term (1978 to 1985) increases of usually under 10 percent and longer-term increases (1985 to 1995) of over 10 percent. Between 1980 and 1985 recreation bicycling is predicted to increase 6.1 percent (71,901 occasions), powerboating/waterskiing 9.4 percent (20,248 occasions), and swimming 5.7 percent (33,904 occasions). The forecasted 1985 to 1990 increase for the group is 13.0 percent for recreational bicycling, over 14.0 percent for powerboating/waterskiing and approximately 13 percent for swimming. In terms of occasions, the largest overall net increase will be made in recreational bicycling. The projected increases in this activity are on a large 1978 base of approximately 1.8 million and translate into an increase of nearly 400,000 between 1980 and 1995.

Several minor activities will apparently show relatively small short-term decreases in occasions originating from the region's population. From 1978 to 1980, backpacking is predicted to decline 2.7 percent, four wheeling 1.6 percent and trail biking 3.7 percent. However, despite these decreases, all activities are predicted to experience positive net change by 1990.

In terms of percentages, the activities which are predicted to undergo the largest 1980 to 1985 increases are four wheeling (67.5%), stream and lake canoeing (67.5 %) and camping (16.9%). Of this group it seems only camping will have a fairly large 1980 base, 90,802 occasions. Consequently, the activities with the largest percentage increases, having small 1980 bases will show smaller increases in occasions than will camping.

A quick comparison of TABLE 4-7E.04 (projections of occasions occurring in Region Seven-East) and TABLE 4-7E.03 (projections of occasions originating in the region) reveals that the region is a strong attractor region. In 1980 net imports of 314,560 powerboating/waterskiing occasions, 302,130 camping occasions, 742,220 fishing occasions, and 319,108 swimming occasions are predicted.

TABLE 4-7E.04 also shows that a consistent increase on the region's resource load is expected. For example, fishing occasions occurring in the region are predicted to increase from a 1978 base of 1.10 million by 7.2 percent to 1.17 million in 1985. Similarly, camping will increase nearly 7.0 percent (25,595 occasions) and powerboating/waterskiing will increase over six percent (32,087) during the same period. Even those activities which are predicted to experience periods of decline will apparently show overall positive net change. But rapid increase in activity levels are not expected as, with few exceptions, all activities are predicted to experience increases of under 10 percent.

TABLE 4-7E.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 7E

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	12936	13708	6.0	14782	7.8	15755	6.6	18590	18.0
Back- packing	14374	13992	-2.7	13915	-0.5	15749	13.2	17869	13.5
Organized Base/ Softball	151640	153881	1.5	169356	10.1	189165	11.7	204886	8.3
Sandlot Base/ Softball	109957	110139	0.2	113066	2.7	125842	11.3	139092	10.5
Total Base/Softball	261598	264044	0.9	282573	7.0	315184	11.5	344126	9.2
Recreation Bicycling	1177908	1179625	0.1	1251526	6.1	1413735	13.0	1574857	11.4
Transportation Bicycling	143016	141666	-0.9	146879	3.7	170643	16.2	195714	14.7
Total Bicycling	1320925	1321278	0.0	1398361	5.8	1584370	13.3	1770612	11.8
Birdwatching Nature Study	96302	101167	5.1	111397	10.1	119030	6.9	126326	6.1
Power Boating/ Waterskiing	206260	215141	4.3	235389	9.4	268794	14.2	307652	14.5
Sailing	2156	2155	0.0	2133	-1.1	2470	15.8	4010	62.4
Other Boating	38090	39785	4.4	44387	11.6	50553	13.9	53233	5.3
Total Boating	246506	257093	4.3	282017	9.7	321925	14.2	364515	13.2
Camping	75461	77650	2.9	90802	16.9	101745	12.1	118189	16.2
Lake Canoeing	71867	75141	4.6	81302	8.2	91421	12.4	103253	12.9
Stream Canoeing	13655	14254	4.4	15849	11.2	17353	9.5	19559	12.7

Lake & Stream Canoeing	719	708	-1.6	1185	67.5	1423	20.1	1541	8.2
Total Canoeing	93428	97004	3.8	105707	9.0	118958	12.5	134124	12.7
Driving for Pleasure	201948	210695	4.3	236609	12.3	267098	12.9	296923	11.2
Fishing	362212	377437	4.2	425980	12.9	477433	12.1	534237	11.9
Football	37371	37217	-0.4	37736	1.4	42692	13.1	48866	14.5
Four Wheeling	719	708	-1.6	1185	67.5	1423	20.1	1541	8.2
Golf	61806	64934	5.1	72220	11.2	77696	7.6	88346	13.7
Hiking	113551	117561	3.5	126103	7.3	142150	12.7	158745	11.7
Horseback Riding (trail)	60369	61535	1.9	67650	9.9	82283	21.6	94471	14.8
Horseback Riding (other)	108520	108997	0.4	111385	2.2	128314	15.2	144869	12.9
Total Horseback Riding	168889	170521	1.0	178966	5.0	210464	17.6	239170	13.6
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	163139	170028	4.2	194235	14.2	224948	15.8	244231	8.6
Trap Shooting	12936	13435	3.9	15302	13.9	17417	13.8	19730	13.3
Skeet Shooting	4312	4954	14.9	5036	1.7	7154	42.0	8234	15.1
Range/Target Shooting	43121	44120	2.3	45027	2.1	52007	15.5	63509	22.1
Total Shooting	60369	62666	3.8	65556	4.6	77171	17.7	92022	19.2
Swimming	590032	597963	1.3	631867	5.7	714329	13.1	806234	12.9
Tennis	93428	96454	3.2	107389	11.3	118896	10.7	132720	11.6
Trail Biking	30184	29079	-3.7	31165	7.2	36309	16.5	40393	11.2
Visiting Historic Sites	44558	46330	4.0	52433	13.2	56992	8.7	66780	17.2

TABLE 4-7E.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 7E

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	13721	14201	3.5	14735	3.8	15588	5.8	17745	13.8
Back- packing	15763	16000	1.5	16389	2.4	16596	1.3	16432	-1.0
Organized Base/ Softball	164735	166744	1.2	180075	8.0	197554	9.7	211043	6.8
Sandlot Base/ Softball	127795	127689	-0.1	130945	2.5	144420	10.3	157557	9.1
Total Base/Softball	292530	294387	0.6	310620	5.5	341827	10.0	368511	7.8
Recreation Bicycling	1319822	1316521	-0.3	1381994	5.0	1549162	12.1	1711415	10.5
Transportation Bicycling	149665	148135	-1.0	150989	1.9	171849	13.8	194804	13.4
Total Bicycling	1469487	1464847	-0.3	1532941	4.6	1720773	12.3	1906347	10.8
Birdwatching Nature Study	134044	139168	3.8	150110	7.9	161155	7.4	170904	6.0
Power Boating/ Waterskiing	519486	529702	2.0	551573	4.1	589476	6.9	635696	7.8
Sailing	20602	21264	3.2	21993	3.4	22930	4.3	25481	11.1
Other Boating	87429	89746	2.7	94538	5.3	102511	8.4	107665	5.0
Total Boating	627517	640864	2.1	668399	4.3	715255	7.0	770103	7.7
Camping	372990	379783	1.8	398585	5.0	421857	5.8	441220	4.6
Lake Canoeing	70692	72942	3.2	76579	5.0	82337	7.5	89911	9.2
Stream Canoeing	63851	66133	3.6	69566	5.2	72283	3.9	74700	3.3

Lake & Stream Canoeing	5916	6165	4.2	6932	12.4	7776	12.2	8478	9.0
Total Canoeing	140460	144449	2.8	151200	4.7	160915	6.4	173022	7.5
Driving for Pleasure	353187	365093	3.4	395735	8.4	427210	8.0	453989	6.3
Fishing	1100086	1119658	1.8	1179929	5.4	1253246	6.2	1334846	6.5
Football	46725	46349	-0.8	46004	-0.7	50522	9.8	56288	11.4
Four Wheeling	5511	5798	5.2	6275	8.2	6528	4.0	6301	-3.5
Golf	78778	82262	4.4	90303	9.8	96840	7.2	108211	11.7
Hiking	195059	200532	2.8	212371	5.9	229971	8.3	247155	7.5
Horseback Riding (trail)	67117	68196	1.6	73799	8.2	87190	18.1	98050	12.5
Horseback Riding (other)	144551	144738	0.1	146537	1.2	165088	12.7	182424	10.5
Total Horseback Riding	211668	212715	0.5	219444	3.2	251290	14.5	280121	11.5
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	331162	339004	2.4	365198	7.7	397433	8.8	416265	4.7
Trap Shooting	13753	14285	3.9	16836	17.9	18584	10.4	19764	6.3
Skeet Shooting	4312	4954	14.9	5036	1.7	7154	42.0	8234	15.1
Range/Target Shooting	52725	53948	2.3	55649	3.2	63038	13.3	74609	18.4
Total Shooting	70791	73313	3.6	77366	5.5	88902	14.9	102675	15.5
Swimming	917577	917071	-0.1	928493	1.2	998241	7.5	1081171	8.3
Tennis	92250	94926	2.9	104285	9.9	114398	9.7	126945	11.0
Trail Biking	25154	24234	-3.7	25972	7.2	30259	16.5	33662	11.2
Visiting Historic Sites	74361	75942	2.1	81999	8.0	88455	7.9	96488	9.1

## REGION SEVEN-WEST

### Staff Recommendations

The bulk of the effort by suppliers of winter recreation opportunities in Region Seven-West should be directed toward winter trail activities and hunting.

All eligible levels of government should increase the supply of snowmobiling opportunities. Additionally, these agencies should supplement the current supply of cross-country skiing facilities. Here local and regional units of government should play a major role, as statewide figures show that cross-country skiers don't travel great distances for most of their ski trips.

In general, the provision of facilities and opportunities for summer recreation should take precedence over provision of winter opportunities. Federal, state, regional and private entities should augment the supply of camping opportunities. Fishing opportunities should be increased through accelerated fish stocking and intensified fisheries management programs at the state level. At the same time, all sectors, including the private, should be encouraged to provide more public access through acquiring, developing and publicizing public access to fishing opportunities.

Primary responsibility should be placed at the local level for the provision of bicycling and swimming opportunities. Local governments should also be responsible for providing more tennis courts. However, development of these should be secondary to supplying more bicycling and swimming.

### Winter Recreation Trends

The 1978 to 1985 trends in recreation occasions originating in Region Seven-West show sizeable increases in three activities (TABLE 4-7W.01): ice fishing (76,000 occasions), snowmobiling (53,000) and cross-country skiing (24,000).

In the main, a comparison of occasions originating in Region Seven-West with occasions occurring in the region (TABLE 4-7W.02) indicates that it is a net exporter of winter recreation. The most glaring exception is snowmobiling, for nearly 70,000 more occasions will occur in Region Seven-West than will be made by the region's residents. Region Seven-West also will import an estimated 10,000 ice fishing occasions in 1985.

The largest net export of occasions comes in cross-country skiing. In 1985, best estimates are that Region Seven-West residents will make 258,000 cross-country skiing occasions, while 215,000 occasions are predicted to occur in the region. Thus, Region Seven-West appears to have a net 1985 export of 43,000 occasions.

### Public Desires For Winter Recreation Opportunities

The pressure exerted on the region's snowmobiling resources may be reflected in the results of the poll of public desire for additional recreation opportunities (TABLE 4-7W.05). Snowmobiling received the most requests of any winter activity (13.7 percent).

Hunting and cross-country skiing opportunities also fall into the highly requested category (12.0 percent each).

All of the winter activities show strong levels of need (3.0 or greater) in TABLE 4-7W.06.

TABLE 4-7W.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 7W

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	14996	15885	5.9	17719	11.5	16745	-5.5	14830	-11.4
Cross-Country Skiing	233263	241497	3.5	257676	6.7	265359	3.0	274695	3.5
Downhill Skiing	99970	103832	3.9	110293	6.2	116772	5.9	118886	1.8
Snowshoeing	44987	43709	2.8	47727	9.2	53825	12.8	54487	1.2
Ice Skating	706455	687900	-2.6	722206	5.0	792953	9.8	847249	6.8
Snowmobiling	786431	779207	0.9	839820	7.8	914618	8.9	997930	9.1
Dog Sledding	6665	6787	1.8	8967	32.1	105621	17.8	11253	6.5
Ice Fishing	619814	646033	-4.2	696315	7.8	758053	8.9	824371	8.7
Trapping	56650	58249	2.8	54149	-7.0	50384	-7.0	55631	10.4
Ice Boating	1666	1750	5.0	2018	15.3	1863	-7.7	1613	-13.4
Sledding	798094	774820	-2.9	810928	4.7	934368	15.2	1009540	8.0
Snowtubing	28325	28396	0.3	29947	5.5	34412	14.9	37937	10.2

TABLE 4-7W.02: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 7W

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	6665	7060	5.9	7875	11.5	7442	-5.5	6591	-11.4
Cross-Country Skiing	194972	201461	3.3	214716	6.6	221907	3.3	229977	3.6
Downhill Skiing	120957	134382	3.5	137970	2.7	141878	2.8	143690	1.3
Snow- mobiling	46214	44888	-2.9	48958	9.1	55226	12.8	55918	1.3
Ice Skating	700369	681429	-2.7	715856	5.1	785239	9.7	837772	6.7
Snowmobiling	869258	862863	-0.7	919418	6.6	989551	7.6	1064050	7.5
Dog Sledding	6665	6787	1.8	8967	32.1	10562	17.8	11253	6.5
Ice Fishing	617770	641738	3.9	687588	7.1	741557	7.8	801032	8.0
Trapping	33323	34264	2.8	31852	-7.0	29637	7.8	801032	8.0
Sledding	772341	749793	-2.9	784727	4.7	904163	15.2	976874	8.0
Snowtubing	13185	13185	0.0	13991	6.1	16031	14.6	17605	9.8



TABLE 4-7W.05: Percent of the Population of Region 7W Desiring More Opportunity for Winter Activities

Activity	% of the Population Requesting
Snowmobiling	13.7
Cross-Country Skiing	12.0
Hunting	12.0
Downhill Skiing	2.3
Miscellaneous Skiing	1.7
Ice Skating	1.7
Snowmobiling	1.7

TABLE 4-7W.06: Region 7W Expressed Level of Need by Winter Activity  
1= low need 5= high need

Activity	Average Need
Downhill Skiing	4.00
Miscellaneous Skiing	3.3
Cross-Country Skiing	3.1
Snowmobiling	3.0
Hunting	3.0

(activities with a .75 confidence interval greater than .99 omitted)

#### Public Desire For Summer Recreation Opportunities

More respondents requested camping (20.6 percent) than any other activity, summer or winter (TABLE 4-7.07). Fishing and bicycling followed closely and, along with swimming, are the only other activities over 10 percent.

None of these activities fared particularly well in expressed levels of need (TABLE 4-7W.08). Swimming, at 3.7 on a one-to-five scale, was highest. On the other hand, the top two activities based on expressed levels of need, horseback riding and trail biking (4.5 each), were requested by five percent of the sample or less. Tennis ranked reasonably high on both indexes.

TABLE 4-7W.07: Percent of the Population of Region 7W Requesting More Opportunity for Summer Activities

Activity	% of the Population Requesting
Camping	20.6
Fishing	20.0
Bicycling	18.3
Swimming	12.0
Tennis	7.4
Golfing	4.0
Hiking	4.0
Canoeing	3.4
Picnicking	2.9
Park Facilities	2.9
Trail Biking	2.3
Baseball/Softball	1.7
Horseback Riding	1.7
Backpacking	1.1
Boating	1.1
Jogging	1.1
Target Shooting	1.1
Four Wheeling	.6
Waterskiing	.6
Walking	.6

TABLE 4-7W.08: Region 7W Expressed Level of Need By Summer Activity  
1= low need 5= high need

Activity	Average Need
Horseback Riding	4.5
Trail Biking	4.5
Tennis	3.7
Swimming	3.7
Jogging	3.5
Bicycling	3.4
Park Facilities	3.4
Canoeing	3.3
Camping	3.3
Fishing	3.1
Hiking	2.9
Golfing	2.6

(activities with a .75 confidence interval greater than .99 omitted)

## Summer Recreation Trends

The trends in recreation occasions originating in Region Seven-West indicates small to moderate increases in activity by the region's residents (TABLE 4-7W.03). Lake and stream canoeing will apparently experience the largest short-term percent increase. This activity is expected to increase 23.2 percent from 1980 to 1985. However, the actual increase in occasions is relatively small (392). Other activities showing relatively large percentage increases in occasions originated by Region Seven-West residents from 1980 to 1985, include: backpacking (13.1 percent or 5,925 occasions), stream canoeing (14.8 percent or 4,399 occasions) and trap shooting (13.9 percent or 5,879 occasions).

In terms of occasions, recreation bicycling is the most popular summer activity among Region Seven-West residents. During 1980 nearly three million recreation bicycling occasions are predicted. The activity will apparently experience a small positive percent change (2.45 percent) between 1978 and 1985. However, after 1985 recreation bicycling is expected to show significant percentage increases.

TABLE 4-7W.03 indicates Region Seven-West residents are expected to originate over a million occasions for two additional activities, fishing and swimming. Fishing is projected to increase at a faster rate than swimming. This activity will apparently increase from a 1980 base of 1,002,956 to 1,111,332 occasions by 1985. This represents a percent increase of nearly 11 percent. In the same time period swimming is projected to increase only 2.8 percent (45,402 occasions) from a 1980 base of 1,649,226. Other major activities in the region include powerboating/waterskiing, driving for pleasure, base/softball and picnicking. Each of these activities have a 1978 base of nearly half a million occasions. Projections indicate this group of activities will experience consistent increase through the next decade.

TABLE 4-7W.04 provides data on the number of activity occasions projected to occur in Region Seven-West. The area cannot be generally described as an exporter or attractor region. That is, it seems the region imports occasions for as many activities as it exports occasions. In 1980, for example, 757,431 powerboating/waterskiing occasions are expected to occur in the region and 689,472 are projected to originate in the area. This is a net import of 67,859 occasions. For the same year Region Seven-West residents are anticipated to originate 1,603,806 swimming occasions with only 1,491,900 occasions projected to occur in the area. This is a net export of 11,906 occasions.

In general, the load placed on the region's resources is expected to increase. Powerboating/waterskiing is predicted to increase nearly 40,000 occasions from 1980 to 1985. In the same time period recreational bicycling is expected to increase by over 79,000 occasions. Transportation bicycling is the only major activity projected to experience a decline from 1980 to 1985. But after 1985, the activity is expected to grow at an increasing rate.

TABLE 4-7W.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 7W

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	96375	97749	1.4	101699	4.0	117091	15.1	129985	11.0
Back- packing	43153	45267	4.9	51192	13.1	52815	3.2	51192	-3.1
Organized Base/ Softball	430090	442970	3.0	459568	3.7	479948	4.4	491122	2.3
Sandlot Base/ Softball	431529	434885	0.8	454737	4.6	495659	9.0	541557	9.3
Total Base/Softball	861619	878313	1.9	914610	4.1	974931	6.6	1030340	5.7
Recreation Bicycling	2909941	2900128	-0.3	2982476	2.8	3278563	9.9	3555203	8.4
Transportation Bicycling	407075	410518	0.8	403013	-1.8	420045	4.2	460365	9.6
Total Bicycling	3317016	3310871	-0.2	3384823	2.2	3696799	9.2	4013835	8.6
Birdwatching Nature Study	112197	114889	2.4	122510	6.6	130935	6.9	134697	2.9
Power Boating/ Waterskiing	667431	689572	3.3	729380	5.8	773739	6.1	830903	7.4
Sailing	38838	40139	3.3	42444	5.7	46679	10.0	50149	7.4
Other Boating	79114	81857	3.5	89961	9.9	99589	10.7	104389	4.8
Total Boating	785382	811570	3.3	861863	6.2	920180	6.8	985569	7.1
Camping	254602	264363	3.8	296603	12.2	324192	9.3	339370	4.7
Lake Canoeing	74798	77111	3.1	81992	6.3	89045	8.6	96369	8.2
Stream Canoeing	27330	29786	9.0	34184	14.8	37121	8.6	36750	-1.0

Lake & Stream Canoeing	1438	1687	17.3	2079	23.2	2387	14.8	2632	10.3
Total Canoeing	103567	108514	4.8	118074	8.8	128338	8.7	135593	5.7
Driving for Pleasure	504888	527052	4.4	585330	11.1	634576	8.4	667121	5.1
Fishing	968062	1002956	3.6	1111332	10.8	1241847	11.7	1350917	8.8
Football	151035	152822	1.2	148983	-2.5	161053	8.1	175399	8.9
Four Wheeling	7192	7661	6.5	8247	7.6	7992	-3.1	7142	-10.6
Golf	202818	209894	3.5	234858	11.9	261310	11.3	294923	12.9
Hiking	274740	286417	4.3	312732	9.2	338755	8.3	362751	7.1
Horseback Riding (trail)	23015	24173	5.0	24521	1.4	24999	2.0	25994	4.0
Horseback Riding (other)	69045	70794	2.5	77471	9.4	86747	12.0	91539	5.5
Total Horseback Riding	92059	94978	3.2	101964	7.4	111664	9.5	117437	5.2
Orienteering	5754	5623	2.3	5390	-4.1	5975	10.9	6213	4.0
Picnicking	481874	502939	4.4	562744	11.9	616407	9.5	651370	5.7
Trap Shooting	40276	42401	5.3	48280	13.9	53044	9.9	57951	9.3
Skeet Shooting	1438	1581	9.9	1738	9.9	1819	4.7	1550	-14.8
Range/Target Shooting	66168	66827	1.0	67762	1.4	75287	11.1	86340	14.7
Total Shooting	107882	110944	2.8	118262	6.6	130620	10.4	146061	11.8
Swimming	1583710	1603806	1.3	1649226	2.8	1771449	7.4	1924012	8.6
Tennis	251725	262060	4.1	273626	4.4	284832	4.1	296906	4.2
Trail Biking	61852	61424	-0.7	59906	-2.5	65954	10.1	71510	8.4
Visiting Historic Sites	90621	93196	2.8	102286	9.8	118315	15.7	133861	13.1

TABLE 4-7W.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 7W

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	96101	97487	1.4	101352	4.0	116403	14.9	129111	10.9
Back- packing	19344	20292	4.9	22947	13.1	23675	3.2	22947	-3.1
Organized Base/ Softball	491109	503675	2.6	519729	3.2	540588	4.0	551663	2.0
Sandlot Base/ Softball	432134	434509	0.5	453249	4.3	493419	8.9	537505	8.9
Total Base/Softball	923243	938117	1.6	972719	3.7	1033582	6.3	1088031	5.3
Recreation Bicycling	2863035	2852006	-0.4	2931656	2.8	3220594	9.9	3489436	8.3
Transportation Bicycling	415584	418950	0.8	411154	-1.9	428895	4.3	469884	9.6
Total Bicycling	3278619	3271001	-0.2	3342665	2.2	3648906	9.2	3958787	8.5
Birdwatching Nature Study	74729	76443	2.3	81248	6.3	86619	6.6	89072	2.8
Power Boating/ Waterskiing	738131	757431	2.6	795760	5.1	842386	5.9	897244	6.5
Sailing	50684	52440	3.5	54919	4.7	58348	6.2	62083	6.4
Other Boating	72457	73547	1.5	76928	4.6	83733	8.8	87483	4.5
Total Boating	861272	883536	2.6	928573	5.1	985072	6.1	1046882	6.3
Camping	358150	366120	2.2	390405	6.6	416714	6.7	434409	4.2
Lake Canoeing	55793	57379	2.8	60722	5.8	65600	8.0	70913	8.1
Stream Canoeing	17261	18812	9.0	21590	14.8	23445	8.6	23210	-1.0

Lake & Stream Canoeing	1438	1687	17.3	2079	23.2	2387	14.8	2632	10.3
Total Canoeing	81680	85321	4.5	92478	8.4	100458	8.6	106706	6.2
Driving for Pleasure	579337	601619	3.8	656504	9.1	701590	6.9	730277	4.1
Fishing	964912	992232	2.8	1076414	8.5	1175764	9.2	1260752	7.2
Football	139528	141179	1.2	137632	-2.5	148783	8.1	162035	8.9
Four Wheeling	5754	6129	6.5	6598	7.6	6394	-3.1	5714	-10.6
Golf	193927	200360	3.3	223367	11.5	248115	11.1	278972	12.4
Hiking	263646	273922	3.9	297101	8.5	320326	7.8	341576	6.6
Horseback Riding (trail)	31229	32178	3.0	32047	-0.4	32467	1.3	33402	2.9
Horseback Riding (other)	77958	79300	1.7	84572	6.6	93355	10.4	97884	4.9
Total Horseback Riding	109187	111451	2.1	116606	4.6	125814	7.9	131248	4.3
Orienteering	4315	4217	-2.3	4042	-4.1	4481	10.9	4659	4.0
Picnicking	489091	506055	3.5	554702	9.6	601060	8.4	630038	4.8
Trap Shooting	37293	39260	5.3	44704	13.9	49115	9.9	53659	9.3
Skeet Shooting	1438	1581	9.9	1738	9.9	1819	4.7	1550	-14.8
Range/Target Shooting	73558	7499	1.3	75756	1.7	83138	9.7	94021	13.1
Total Shooting	112289	115489	2.9	122848	6.4	134801	9.7	149647	11.0
Swimming	1478507	1491900	0.9	1528321	2.4	1634299	6.9	1764118	7.9
Tennis	251806	261910	4.0	273021	4.2	284012	4.0	295776	4.1
Trail Biking	66981	66533	-0.7	64465	-3.1	69888	8.4	75190	7.6
Visiting Historic Sites	28831	29226	1.4	30272	3.6	31910	5.4	33719	5.7

## REGION EIGHT

### Staff Recommendations

State and federal programs providing additional hunting opportunities for Region Eight residents should be accelerated. Federal, state, regional and local programs providing snowmobiling and cross-country skiing should be expanded. Special emphasis should be placed on widening the local and regional roles in supplying these outdoor recreation opportunities. The private sector should be encouraged to expand the facilities for downhill skiing for the region's residents; however, this must carefully consider resource quality before expansion takes place.

Federal, state, regional and private entities should be prompted to increase the supply of camping in the area. These entities should also be lead to augmenting the available hiking resource.

Public agencies should expand fish stocking programs and intensify fisheries management. At the same time, all sectors should be encouraged to provide more public access through acquiring, developing and publicizing the accesses.

The primary local government role should be in expanding opportunities for bicycling, swimming and tennis near the region's population centers.

### Winter Recreation Trends

Projections of winter recreation occasions originating in Region Eight show declines in nearly every activity (TABLE 4-8.01). Only downhill skiing and ice fishing appear to be on the increase between 1978 and 1985. Ice fishing will increase by the greatest number of occasions (7,000) followed by downhill skiing (2,000).

Like occasions originating in Region Eight, occasions occurring in that region also will decrease (TABLE 4-8.02). Again, ice fishing is an exception, with an increase of just under 7,000 occasions projected to occur in Region Eight.

In the main, Region Eight has a net export of recreation occasions. Comparing TABLES 4-8.01 and 4-8.02 shows that the exceptions to that generalization are ice skating, sledding and snowmobiling. Oddly enough, these are traditionally day use activities that characteristically involve little travel.

TABLE 4-8.05: Percent of the Population of Region 8 Desiring More Opportunity for Winter Activities

Activity	% of the Population Requesting
Hunting	10.8
Downhill Skiing	7.3
Snowmobiling	6.8
Cross-Country Skiing	5.6
Miscellaneous Skiing	4.0
Snowtubing	1.7
Ice Skating	1.7



TABLE 4-8.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 8

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Cross-Country Skiing	27013	25092	-7.1	20917	-16.6	21398	2.3	22595	5.6
Downhill Skiing	24557	25171	6.6	26488	1.2	23234	-12.3	19880	-14.4
Snowshoeing	11051	9851	-10.9	7062	-28.3	8789	24.9	9739	10.8
Ice Skating	182950	168680	-7.8	154910	-8.2	158291	2.2	152414	-3.7
Snowmobiling	363444	351375	-3.3	345314	-1.7	356671	3.3	344313	-3.5
Ice Fishing	116646	116467	-0.2	124171	6.6	129344	4.2	121920	-5.6
Trapping	23329	22078	-5.4	17437	-21.0	15692	-10.0	16576	5.6
Sledding	192773	177342	-8.0	180108	1.6	199293	10.7	198530	-0.4
Snowtubing	52798	47676	-0.7	38431	-19.4	44823	16.6	48604	8.4

TABLE 4-8.02: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 8

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Cross-Country Skiing	31854	30475	-4.3	27775	-8.9	28852	3.9	30426	5.5
Downhill Skiing	7922	8400	6.0	8442	0.5	7417	-12.1	6428	-13.3
Snowshoeing	9823	9756	-10.9	6277	-28.3	7812	24.5	8657	10.8
Ice Skating	223560	210555	-5.8	209513	-0.5	128539	4.3	216666	-0.9
Snowmobiling	326330	315528	-3.3	310309	-1.7	320640	3.3	309833	-3.4
Ice Fishing	93466	93457	-0.0	100000	7.0	104714	4.7	99686	-4.8
Trapping	23329	22078	-5.4	17437	-21.0	15692	-10.0	16576	5.6
Sledding	217221	201246	-7.3	205391	2.0	225782	9.9	225763	-0.0
Snowtubing	68128	62872	-7.7	54080	-14.9	60528	11.9	64395	6.4

## Public Desire For Winter Recreation Opportunities

The broadest public sentiment for increased recreation opportunity comes in hunting (TABLE 4-8.05), which 10.8 percent of the population would like to see expanded. Downhill skiing is second on the list (7.3 percent) assuming that the lion's share of miscellaneous skiing responses (4.0) were intended as downhill skiing responses, the magnitude of desire for that activity may rival hunting. Cross-country skiing (5.6 percent) and snowmobiling (6.8 percent) are the only other activities receiving support from more than five percent of the sample.

TABLE 4-8.06: Region 8 Expressed Level of Need By Winter Activity  
1= low need 5= high need

Activity	Average Need
Hunting	4.0
Cross-Country Skiing	3.9
Ice Skating	3.6
Downhill Skiing	3.5
Snowtubing	3.3
Snowmobiling	3.0
Miscellaneous Skiing	2.0

(activities with .75 confidence interval greater than .99 omitted)

The significant percentage of the sample that requested more hunting opportunities also expressed the most intense need (4.0). Cross-country (3.9) and downhill (3.5) skiing needs appear to be nearly as strong, and these two activities fared reasonably well on the scale of requested opportunities.

## Public Desire For Summer Recreation Opportunities

Camping and fishing lead the list of requested summer opportunities (TABLE 4-8.07). Bicycling and swimming round out the list of activities requested by more than 10 percent of the respondents.

TABLE 4-8.07: Percent of the Population of Region 8 Desiring More Opportunity for Summer Activities

Activity	% of the Population Requesting
Camping	22.0
Fishing	21.6
Bicycling	13.0
Swimming	10.2
Tennis	6.2
Hiking	5.1
Golfing	4.5
Picnicking	4.0
Park Facilities	4.0
Baseball/Softball	2.8
Boating	2.3
Canoeing	2.3
Horseback Riding	1.7
Trail Biking	1.7
Archery	1.1
Backpacking	1.1
Four Wheeling	1.1
Jogging	.6
Target Shooting	.6
Walking	.6

TABLE 4-8.08: Region 8 Expressed Level of Need by Summer Activity  
1= low need 5= high need

Activity	Average Need
Horseback Riding	3.7
Baseball/Softball	3.6
Swimming	3.4
Trail Biking	3.3
Fishing	3.2
Camping	3.1
Bicycling	3.0
Hiking	3.0
Park Facilities	2.3
Tennis	2.3
Picnicking	1.9

(activities with .75 confidence interval greater than 99 omitted)

Of the top four requested activities, only swimming maintained a high ranking (3.4) on expressed level of need (TABLE 4-8.08). Horseback riding (3.7) and baseball/softball (3.6) showed the strongest need levels but had miniscule support, measured by the portion of the sample requesting them. Three of the top four requested activities are clustered in the mid-range of the five point scale-fishing (3.2), camping (3.1), bicycling (3.0). Despite this medium need level, the broad base of public support for expanded opportunities in these activities makes them important.

## Summer Recreation Trends

The short-term picture for summer recreation occasions produced by Region Eight is one of dwindling occasions, (TABLE 4-8.03). With few exceptions, most activities are predicted to experience declines in level through 1985. For example, from 1980 to 1985, organized base/softball will decrease 9.6 percent or nearly 33,000 occasions. Recreation bicycling will drop from a 1980 base of 2.157 million to 2.014 million by 1985. This represents a decrease of 6.6 percent or 142,490 occasions. The three activities predicted to experience the largest percent decrease from 1980 to 1985 are orienteering (29.6 percent), trail biking (19.2 percent) and lake canoeing (19.1 percent). Because of their relatively small base the actual decrease in number of occasions is relatively small. Orienteering, for example, will apparently experience a decline of only 1,544 occasions.

Even though the overwhelming trend is one of a declining number of occasions originating in the region, several activities (e.g. Backpacking, Sailing) are predicted to increase. From 1980 to 1985 survey data indicates backpacking will increase 21.9 percent or 2,509 occasions. However, this rapid growth is predicted to be followed by a slight decline from 1985 to 1990. Unlike backpacking, sailing is expected to experience constant growth after 1980 in occasions originated by Region Eight residents. From an estimated 1980 base of 10,972 occasions the activity is predicted to increase six percent by 1985 and nearly 18 percent between 1985 and 1990.

TABLE 4-8.04 shows the projections of summer recreation occasions occurring in Region Eight. The trend for the number of occasions occurring in the region is similar to the trend for occasions originating in the region. In other words, there appears to be an overall decline in occasions occurring in Region Eight. In terms of percentages, the largest declines are found among the minor activities. From 1980 to 1985, orienteering is predicted to decline 29.6 percent, trail biking 19.2 percent, lake canoeing 19.1 percent and football by 18.9 percent. Of this group, the activity with the largest decrease in occasions is Football. This activity is expected to occur about 8,700 fewer times in Region Eight during 1985 than in 1980.

The short-term picture of the major activities is one of more moderate percentage declines. Recreational bicycling is predicted to decline 6.5 percent (138,906 occasions) from a 1980 base of approximately 2.12 million. Driving for pleasure in the region will apparently decline 3.4 percent or 14,490 occasions during the same time period.

Only two major activities are expected to experience a short-term increase powerboating/waterskiing and picnicking. But these increases in the occasions occurring in Region Eight are relatively small. Powerboating/waterskiing will increase about 2,861 occasions (1.4 percent) and picnicking will increase only 348 occasions (0.1 percent). Clearly, the overall trend of decreasing occasions occurring in Region Eight will off set the small gains in certain activities. Therefore, the load placed on the Region's resources will apparently decrease.

A comparison of TABLE 8-8.03 (occasions originating) and TABLE 8-8.04 (occasions occurring in Region Eight) strongly indicate that the region is an exporting area. In 1985, for example, 212,959 powerboating/waterskiing occasions are projected to occur in the region. Since TABLE 4-8.03 tells us that Region Eight residents will originate 348,016 occasions, it is evident that the area is a net exporter of powerboating/waterskiing occasions. In 1985, the largest exports are fishing (183,681 occasions), swimming (103,472 occasions) and driving for pleasure (94,313 occasions).

TABLE 4-8.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 8

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	26780	27498	2.7	26975	-1.9	24632	-8.7	24904	1.1
Back- packing	11644	11481	-1.4	13990	21.9	13932	-0.4	12692	-8.9
Organized Base/ Softball	344648	339400	-1.5	306716	-9.6	288740	-5.9	274084	-5.1
Sandlot Base/ Softball	234035	218792	-6.5	208127	-4.9	23212	11.6	249307	7.3
Total Base/Softball	578683	559496	-3.3	514860	-8.0	517006	0.4	516338	-0.1
Recreation Bicycling	2255350	2156907	-4.4	2014418	-6.6	2068379	2.7	2151532	4.0
Transportation Bicycling	365607	356569	-2.5	335110	-6.0	330305	-1.4	337666	2.2
Total Bicycling	2620956	2513674	-4.1	2349774	-6.5	2398539	2.1	2488877	3.8
Birdwatching Nature Study	73354	71397	-2.7	64867	-9.1	60918	-6.1	60258	-1.1
Power Boating/ Waterskiing	350470	342425	-2.3	348016	1.6	356450	2.4	358724	0.6
Sailing	10479	10184	-2.8	10792	6.0	12717	17.8	12912	1.5
Other Boating	37259	35827	-3.8	33754	-5.8	37840	12.1	38274	1.1
Total Boating	398208	388436	-2.5	392533	1.1	406921	3.7	409819	0.7
Camping	174653	173396	-0.7	172959	-0.3	183191	5.9	196378	7.2
Lake Canoeing	18630	17393	-6.6	14063	-19.1	14797	5.2	15818	6.9
Stream Canoeing	19794	20206	2.1	18029	-10.8	17018	-5.6	18215	7.0

Lake & Stream Canoeing	0	0	0.0	0	0.0	0	0.0	0	0.0
Total Canoeing	38424	37560	-2.2	32022	-14.7	31785	-0.7	34401	7.00
Driving for Pleasure	527451	530192	0.5	510688	-3.7	496398	-2.8	485998	-2.1
Fishing	471563	461687	-2.1	456766	-1.1	483103	5.8	498740	3.2
Football	60546	56833	-6.1	46085	-18.9	45522	-1.2	55805	22.6
Four Wheeling	6986	7279	4.2	6555	-9.9	5431	-17.1	4149	-23.6
Golf	206090	204700	-0.7	199131	-2.7	193355	-2.9	210672	9.0
Hiking	112942	112023	-0.8	111535	0.4	115993	4.0	113545	-2.1
Horseback Riding (trail)	59382	55864	-5.9	46716	-16.4	47851	2.4	50510	5.6
Horseback Riding (other)	132736	124910	-5.9	129536	3.7	138467	6.9	138318	-0.1
Total Horseback Riding	192118	180774	-5.9	175544	-2.9	185429	5.6	188112	1.4
Orienteering	5822	5217	-10.4	3673	-29.6	4574	24.5	5063	10.7
Picnicking	433139	431798	-0.3	429466	-0.5	435999	1.5	440504	1.0
Trap Shooting	16301	16891	3.6	15386	-8.9	14912	-3.1	15757	5.7
Skeet Shooting	1164	1185	1.8	1049	-11.5	816	-22.3	572	-29.8
Range/Target Shooting	10479	11041	5.4	11143	0.9	11366	2.0	10338	-9.1
Total Shooting	27944	29100	4.1	27527	-5.4	26894	-2.3	26275	-2.3
Swimming	799910	759013	-5.1	709562	-6.5	710297	0.1	725956	2.2
Tennis	138558	138372	-0.1	130362	-5.8	122801	-5.8	121217	-1.3
Trail Biking	39588	35639	-10.0	28793	-19.2	33953	17.9	35741	5.3
Visiting Historic Sites	95477	97460	2.1	100798	3.4	99839	-1.0	99619	-0.2



TABLE 4-8.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 8

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	11644	11956	2.7	11729	-1.9	10710	-8.7	10828	1.1
Back- packing	6986	6888	-1.4	8393	21.9	8359	-0.4	7615	-8.9
Organized Base/ Softball	336942	331855	-1.5	300211	-9.5	282715	-5.8	268459	-5.0
Sandlot Base/ Softball	223145	208843	-6.4	199240	-4.6	222039	11.4	237972	7.2
Total Base/Softball	560087	541720	-3.3	499391	-7.8	501504	0.4	500840	-0.1
Recreation Bicycling	2218163	2121706	-4.3	1982800	-6.5	2036873	2.7	2119390	4.1
Transportation Bicycling	364442	355433	-2.5	334042	-6.0	329252	-1.4	336590	2.2
Total Bicycling	2582605	2477242	-4.1	2316896	-6.5	2365969	2.1	2455765	3.8
Birdwatching Nature Study	69874	68129	-2.5	62541	-8.2	59726	-4.5	60380	1.1
Power Boating/ Waterskiing	214486	210098	-2.0	212959	1.4	217671	2.2	219439	0.8
Sailing	0	0	0.0	0	0.0	0	0.0	0	0.0
Other Boating	11644	11197	-3.8	10549	-5.8	11826	12.1	11961	1.1
Total Boating	226130	221183	-2.2	223056	0.8	230502	3.3	232591	0.9
Camping	79852	79986	0.2	81143	1.4	84834	4.5	88688	4.5
Lake Canoeing	11644	10871	-6.6	8789	-19.1	9248	5.2	9886	6.9
Stream Canoeing	5822	5943	2.1	5303	-10.8	5005	-5.6	5358	7.0

Lake & Stream Canoeing	0	0	0.0	0	0.0	0	0.0	0	0.0
Total Canoeing	17465	17072	-2.2	14555	-14.7	14447	-0.7	15455	7.0
Driving for Pleasure	428568	430965	0.6	416475	-3.4	405696	-2.6	397678	-2.0
Fishing	279472	274663	-1.7	273085	-0.6	287833	5.4	297076	3.2
Football	48903	45904	-6.1	37223	-18.9	36768	-1.2	45074	22.6
Four Wheeling	6986	7279	4.2	6555	-9.9	5431	-17.1	4149	-23.6
Golf	208560	207596	-0.5	203449	-2.0	199428	-2.0	216987	8.8
Hiking	98970	98165	-0.8	97737	-0.4	101644	4.0	99498	-2.1
Horseback Riding (trail)	57053	53673	-5.9	44884	-16.4	45974	2.4	48529	5.6
Horseback Riding (other)	118075	111068	-5.9	112670	1.4	119963	6.5	121490	1.3
Total Horseback Riding	175128	165100	-5.7	159452	-3.4	167622	5.1	170344	1.6
Orienteering	5822	5217	-10.4	3673	-29.6	4574	24.5	5063	10.7
Picnicking	352142	351757	-0.1	352105	0.1	357421	1.5	360750	0.9
Trap Shooting	16301	16891	3.6	15386	-8.9	14912	-3.1	15757	5.7
Skeet Shooting	1164	1185	1.8	1049	-11.5	816	-22.3	572	-29.8
Range/Target Shooting	10479	11041	5.4	11143	0.9	11366	2.0	10338	-9.1
Total Shooting	27944	29100	4.1	27527	-5.4	26894	-2.3	26275	-2.3
Swimming	683027	648263	-5.1	606090	-6.5	607088	0.2	620536	2.2
Tennis	135065	134884	-0.1	127076	-5.8	119705	-5.8	118161	-1.3
Trail Biking	39588	35639	-10.0	28793	-19.2	33953	17.9	35741	-5.3
Visiting Historic Sites	61879	62823	1.5	65750	4.7	67585	2.8	69465	2.8

## REGION NINE

### Staff Recommendations

Federal, state, regional and local government units should seek to increase the region's supply of snowmobiling and cross-country skiing facilities. Given short willingness to travel for these activities, heavy emphasis should be placed on local sectors to supply these winter recreational opportunities. In addition, federal and state provision of hunting opportunities for this region should be accelerated. Downhill skiing, a major responsibility of the private sector, should be encouraged where possible.

Camping and fishing, the major summer activities in need of increased supply, require heavy involvement of state and federal agencies. Fish stocking and fisheries management programs should be intensified. At the same time, public accesses to fishing resources need to be publicized, as well as acquired and developed by all sectors. Increased provision of camping by the private sector and public agencies from the regional level up should be encouraged. In conjunction with this effort, hiking resources should be augmented. Local governments should play the major role in supplementing the region's bicycling and swimming resources, with special emphasis of locating these facilities close to population centers.

### Winter Recreation Trends

The general, short term trend for recreation occasions originating in Region Nine shows a decrease in all activities except ice skating and ice fishing (TABLE 4-9.01). Between 1978 and 1985, ice skating is predicted to increase by nearly 2,000 occasions, ice fishing by 8,000. The most significant decrease in participation by Region Nine residents is projected for snowmobiling. The region residents are predicted to snowmobile 35,000 fewer times in 1985 than in 1978.

Like occasions originating in Region Nine, total occasions occurring in the region are predicted to decline (TABLE 4-9.02) from 1978 to 1985. The only significant deviation from this trend comes in ice fishing, where an increase of 7,000 occasions is projected. The largest decrease will be in snowmobiling, with over 30,000 fewer occasions predicted for 1985.

The region has a mixed profile as a net importer or exporter of recreation occasions. Major export activities are cross-country skiing (61,000 occasions) and ice fishing (59,000 occasions). Significant import activities include ice skating (22,000 occasions) and sledding (17,000 occasions).

### Public Desire For Winter Recreation Opportunities

Snowmobiling (8.5 percent) and hunting (9.0 percent) are the winter activities most often pegged for expansion by the Region Nine public (TABLE 4-9.05).

Cross-country skiing received the support of just over six percent of the population. The downhill skiing support (4.2 percent) is stronger if it is assumed that the majority of the miscellaneous skiing responses (3.6 percent) were intended as downhill skiing.

TABLE 4-9.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 9

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Cross-Country Skiing	68225	66404	-2.7	67493	1.6	72939	8.1	74074	1.6
Downhill Skiing	50681	49684	-2.0	45393	-8.6	42720	05.9	43948	2.9
Snowshoeing	13645	12642	-7.3	122515	-0.1	14008	11.9	14329	2.3
Ice Skating	368414	348901	05.3	370154	6.1	398125	7.6	398248	0.0
Snowmobiling	795307	768787	-3.3	760858	-1.0	800004	5.1	843088	5.4
Ice Fishing	300190	303884	1.2	308937	1.7	309464	0.2	312763	1.1
Trapping	11696	11798	0.9	11198	-5.1	9298	-17.0	9167	-1.4
Sledding	37036	35688	-3.6	32671	-8.5	32110	-1.7	33828	5.3
Snowtubing	37036	35688	-3.6	32671	-8.5	32110	-1.7	33828	5.3
Orienteering	3899	3549	-9.0	3150	-11.2	3662	16.3	3892	6.3

TABLE 4-9.02: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 9

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	554	560	1.2	752	34.2	791	5.1	684	-13.5
Cross-Country Skiing	125819	125383	-1.1	128405	3.2	137815	7.3	141932	3.0
Downhill Skiing	50945	50860	-0.2	47588	-6.4	44640	-6.2	44828	-13.3
Snowshoeing	11696	10837	-7.3	10728	-0.1	12007	11.9	12282	2.3
Ice Skating	390070	369596	-5.2	392273	6.1	421674	7.5	422018	0.1
Snowmobiling	789628	764417	-3.2	758858	-0.7	797512	5.1	838283	5.1
Dog Sledding	1949	1915	-1.8	1551	-19.0	1407	-9.3	1635	16.2
Ice Fishing	243003	245958	1.2	250212	1.7	251207	0.4	254692	1.4
Trapping	16434	16627	1.2	15606	-6.1	13321	-14.6	379427	0.1
Sledding	33771	32748	-3.0	30083	-8.1	29602	-1.6	31629	6.8
Snowtubing	33771	32748	-3.0	30083	-8.1	29602	-1.6	31629	6.8
Orienteering	3974	3618	-9.0	3204	-11.4	3729	16.4	3967	6.4

TABLE 4-9.05: Percent of the Population of Region 9 Requesting More Opportunity for Winter Activities

Activity	% of the Population Requesting
Hunting	9.0
Snowmobiling	8.5
Cross-Country Skiing	6.1
Downhill Skiing	4.2
Miscellaneous Skiing	3.6
Ice Skating	2.4
Sledding	2.4

TABLE 4-9.06: Region 9 Expressed Level of Need for Winter Recreation Opportunities 1= low need 5= high need

Activity	Average Need
Downhill Skiing	3.6
Hunting	3.5
Miscellaneous Skiing	3.3
Cross-Country Skiing	3.1
Snowmobiling	2.9

(activities with .75 confidence interval greater than .99 omitted)

Downhill skiing received the highest average expressed need--3.6 on the five-point scale (TABLE 4-9.06), and its companion activity, miscellaneous skiing, ranks third at 3.3. Hunting shows strong support according to average need level (3.5) as well as percent of the population requesting.

The most startling contrast between the ranking by average need level and percent of the population requesting is in snowmobiling; it is the second most requested winter activity, but ranks last on expressed need.

#### Public Desire For Summer Recreation Opportunities

TABLE 4-9.07 presents the percent of the population polled that requested various summer activities. More people wanted expanded fishing (19.4 percent) and camping (21.2 percent) opportunities than any other activity. Generous portions of the sample population (15.8 percent) asked for more bicycling and swimming opportunities.

Following these top four activities, requests for opportunity expansion drops significantly to hiking at only 6.7 percent.

Visiting historic sites received the strongest average need level at 4.0 on the five-point scale (TABLE 4-9.08). However, only 1.2 percent of the sample requested expanded opportunity for this activity. Swimming, bicycling, camping and boating enjoy the strongest combinations of requested expansion plus expressed need. Swimming and bicycling (with 15.8 percent each for expansion requests) drew need ratings of 3.3 and 3.1, respectively; camping and fishing, with the highest support for expanded opportunities, each rated 3.0 on need. Although tennis and hiking were ranked at 3.1 on the need scale, support for expanded opportunities of both was slight.

TABLE 4-9.07: Percent of the Population of Region 9 Requesting More Opportunity for Summer Activities

Activity	% of the Population Requesting
Camping	21.2
Fishing	19.4
Bicycling	15.8
Swimming	15.8
Hiking	6.7
Tennis	5.5
Boating	5.5
Golfing	4.8
Picnicking	4.2
Park Facilities	3.0
Horseback Riding	2.4
Trail Biking	2.4
Backpacking	1.8
Canoeing	1.2
Four Wheeling	1.2
Visiting Historic Sites	1.2
Waterskiing	1.2
Baseball/Softball	.6
Jogging	.6
Walking	.6

TABLE 4-9.08: Region 9 Expressed Level of Need for Summer Recreation Opportunities 1= low need 2= high need

Activity	Average Need
Visiting Historic Sites	4.0
Swimming	3.3
Tennis	3.1
Hiking	3.1
Bicycling	3.1
Boating	3.0
Fishing	3.0
Camping	3.0
Park Facilities	2.8
Golfing	2.5
Backpacking	2.0
Picnicking	1.9

(activities with .75 confidence intervals greater than .99 omitted)

## Summer Recreation Trends

The short-term picture for recreation occasions originating in Region Nine is mixed (TABLE 4-9.03). Between 1980 and 1985 several activities will experience significant percentage decreases. For example, in 1985, Region Nine residents are predicted to originate 11.5 percent (6,872) less Archery occasions, 10.2 percent (49,929) fewer transportation bicycling occasions and 6.1 percent (17,428) fewer tennis occasions than in 1980. In contrast, other activities are expected to experience relatively large percentage increases. Survey data indicates camping will increase 6.1 percent (12,955 occasions), four wheeling 7.2 percent (1,357 occasions) and trap shooting 10.5 percent (2,514 occasions). Still, for other activities, little change is predicted. For example, from 1980 to 1985 nearly a third of the activities listed on TABLE 4-9.03 will change by less than one percent.

The projected number of activity occasions occurring in Region Nine (TABLE 4-9.04) closely fits the origin pattern. Comparison of TABLE 4-9.03 (occasions originating) and TABLE 4-9.07 (occasions occurring) will reveal that Region Nine is a net exporting region. In 1980, for example, survey data indicates the region will have a net export of nearly 211,700 fishing, 195,900 powerboating/waterskiing, 147,700 recreational bicycling and 130,300 swimming occasions. Nevertheless, for a few activities it seems more occasions will occur in the region than originate in the area. For example, during 1980 a net import of 47,855 driving for pleasure occasions are predicted.

In general, the change in the load placed on the region's resources is variable. From 1980 to 1985 an increase of 4,467 (1.4 percent) powerboating/waterskiing occasions is predicted. This relatively slight increase in the load placed on the areas lakes may be offset by the decreases in both lake canoeing and swimming activity levels. A decrease of 824 lake canoeing and 18,490 swimming occasions between 1980 and 1985 is predicted.

The largest increase in occasions occurring in the region is found in driving for pleasure. Nearly 24,000 more occasions are predicted to occur in the region in 1985 than in 1980. This represents a 3.7 increase from a 1980 base of 641,295 occasions. The largest decrease in occasions will apparently be seen in transportation bicycling. This activity is expected to decrease by 47,105 occasions (10.2 percent) from a 1980 base of 462,464. Similarly, recreational bicycling will also significantly decrease. Approximately 18,000 less recreational bicycling occasions are predicted to occur in the region during 1985 than occurred in 1980. This represents a decrease of about 0.6 percent.



TABLE 4-9.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 9

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	64112	59777	-6.8	52905	-11.5	57468	8.6	60894	6.0
Back- packing	36913	37013	0.3	33401	-9.8	30464	-8.8	31378	3.0
Organized Base/ Softball	497352	499674	0.5	500148	0.1	487202	-2.6	476056	-2.3
Sandlot Base/ Softball	270047	262028	-3.0	262508	0.2	273816	4.3	277358	1.3
Total Base/Softball	767399	762068	-0.7	763014	0.1	760652	-0.3	752668	-1.0
Recreation Bicycling	3118164	3023017	-3.1	3004188	-0.6	3152503	4.9	3238591	2.7
Transportation Bicycling	503180	489689	-2.7	439760	-10.2	423935	-3.6	443384	4.6
Total Bicycling	3621345	3512705	-3.0	3443983	-2.0	3576503	3.8	3682036	3.0
Birdwatching Nature Study	165136	162522	-1.6	157329	-3.2	162679	3.4	180478	10.9
Power Boating/ Waterskiing	522608	525691	0.6	530140	0.8	529727	-0.1	543678	2.6
Sailing	73826	73466	-0.5	74156	0.9	73490	-0.9	74058	0.8
Other Boating	31085	31956	2.8	34250	7.2	34942	2.0	34085	-2.5
Total Boating	627518	631402	0.6	639042	1.2	638899	0.0	652755	2.2
Camping	205935	212042	3.0	224997	6.1	227132	0.9	219891	-3.2
Lake Canoeing	62169	61632	-0.9	60662	-1.6	59622	-1.7	61985	4.0
Stream Canoeing	15542	16329	5.1	17051	4.4	16842	-1.2	15281	-9.3

Lake & Stream Canoeing	0	0	0.0	0	0.0	0	0.0	0	0.0
Total Canoeing	77711	77936	0.3	77661	-0.4	76410	-1.6	77272	1.1
Driving for Pleasure	584777	593440	1.5	614481	3.5	614432	0.0	617070	0.4
Fishing	584777	587262	0.4	597118	1.8	604555	1.1	609990	0.9
Football	101025	97575	-3.4	94752	-2.9	96181	1.5	100052	4.0
Four Wheeling	17485	18747	7.2	20104	7.2	19310	-3.9	17538	-9.2
Golf	330273	334219	1.2	342073	2.4	356798	4.3	374661	5.0
Hiking	279761	281118	0.5	285675	1.6	284224	-0.5	278549	-2.0
Horseback Riding (trail)	46627	45389	-2.7	43267	-4.7	41262	-4.6	41339	0.2
Horseback Riding (other)	73826	70926	-3.9	64126	-9.6	66284	3.4	74759	12.8
Total Horseback Riding	120452	116347	-3.4	107546	-7.6	107511	0.0	115771	7.7
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	542036	548383	1.2	564797	3.0	575174	1.8	581775	1.1
Trap Shooting	23313	23975	2.8	26489	10.5	25675	-3.1	24076	-6.2
Skeet Shooting	0	0	0.0	0	0.0	0	0.0	0	0.0
Range/Target Shooting	31085	31649	1.8	30562	-3.4	28357	-7.2	28487	0.5
Total Shooting	54398	55632	2.3	57157	2.7	54163	-5.2	52643	-2.8
Swimming	1220067	1186390	-2.8	1163643	-1.9	1203140	3.4	1225931	1.9
Tennis	291417	286691	-1.6	269263	-6.1	276214	2.6	288820	4.6
Trail Biking	48570	46264	-4.7	43943	-5.0	45369	3.2	47436	4.6
Visiting Historic Sites	102967	102555	-0.4	104040	1.4	103781	-0.2	108411	4.5

TABLE 4-9.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 9

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	62169	57965	-6.8	51301	-11.5	55727	8.6	59049	6.0
Back- packing	9714	9740	0.3	8790	-9.8	8017	-8.8	8257	3.0
Organized Base/ Softball	513157	515326	0.4	514939	-0.1	503101	-2.3	492210	-2.2
Sandlot Base/ Softball	273935	266037	-2.9	267100	0.4	279177	4.5	283652	1.6
Total Base/Softball	787091	781731	-0.7	782587	0.1	782185	-0.1	775200	-0.9
Recreation Bicycling	3063841	2970470	-3.0	2952281	-0.6	3097988	4.9	3183031	2.7
Transportation Bicycling	475203	462464	-2.7	415359	-10.2	400434	-3.6	418781	4.6
Total Bicycling	3539044	3433033	-3.0	3366169	-1.9	3495782	3.9	3599203	3.0
Birdwatching Nature Study	139376	138483	-0.6	136980	-1.1	143276	4.6	157015	9.6
Power Boating/ Waterskiing	327390	329758	0.7	334225	1.4	337228	0.9	347987	3.2
Sailing	42741	42532	-0.5	42932	0.9	42546	-0.9	42875	0.8
Other Boating	52820	53887	2.0	55744	3.4	57216	2.6	57756	0.9
Total Boating	422951	426335	0.8	433169	1.6	437628	1.0	450301	2.9
Camping	155695	158476	1.8	166686	5.2	172616	3.6	173756	0.7
Lake Canoeing	45977	45792	-0.4	44968	-1.8	44490	-1.1	46417	4.3
Stream Canoeing	15542	16329	5.1	17051	4.4	16842	-1.2	15281	-9.3

Lake & Stream Canoeing	0	0	0.0	0	0.0	0	0.0	0	0.0
Total Canoeing	61519	61814	0.5	61501	-0.5	60859	-1.0	62101	2.0
Driving for Pleasure	630855	641295	1.7	665202	3.7	669031	0.6	673668	0.7
Fishing	373220	375634	0.6	384209	2.3	391427	1.9	397242	1.5
Football	102961	99290	-3.6	95560	-3.8	96883	1.4	101578	4.8
Four Wheeling	17485	18747	7.2	20104	7.2	19310	-3.9	17538	-9.2
Golf	323011	326986	1.2	334792	2.4	349139	4.3	367024	5.1
Hiking	282423	284557	0.8	290544	2.1	291637	0.4	288840	-1.0
Horseback Riding (trail)	39966	38905	-2.7	37086	-4.7	35367	-4.6	35434	0.2
Horseback Riding (other)	77300	74402	-3.7	67848	-8.8	70050	3.2	78435	12.0
Total Horseback Riding	117266	113435	-3.3	105182	-7.3	104959	-0.2	112550	7.2
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	407042	411687	1.1	424843	3.2	434767	2.3	441094	1.5
Trap Shooting	21371	21978	2.8	24283	10.5	23536	-3.1	22070	-6.2
Skeet Shooting	0	0	0.0	0	0.0	0	0.0	0	0.0
Range/Target Shooting	26644	27128	1.8	26196	-3.4	24306	-7.2	24417	0.5
Total Shooting	48014	49103	2.3	50449	2.7	47806	-5.2	46465	-2.8
Swimming	1077035	1048086	-2.7	1029596	-1.8	1065703	3.5	1088949	2.2
Tennis	285913	281634	-1.5	265189	-5.8	271765	2.5	283802	4.4
Trail Biking	49494	47330	-4.4	44847	-5.2	46391	3.4	48654	4.9
Visiting Historic Sites	42573	42509	-0.2	43246	1.7	43122	-0.3	44702	3.7

## REGION TEN

### Staff Recommendations

Increasing the opportunities for Region 10 residents to hunt should be a primary objective of state and federal agencies providing winter recreation. All public sectors should accelerate their provision of snowmobiling and cross-country skiing facilities in the region; however, the major provider of these facilities should be the local government (municipal and county).

The primary focus of summer activities should be in providing more bicycling facilities in this region. This task should be a primary responsibility of the local sectors. Augmenting the supply of camping in the region should be a major federal, state, county and private sector responsibility. Along with this priority, their provision of hiking opportunities should be expanded. All sectors should look to providing more fishing and boating opportunities in the region. Acquisition and development of accesses should be complemented by information programs identifying the location and character of new and old accesses. Additional enrichment of the supply of fishing opportunities should come from the federal and state fisheries management and fish stocking programs. The local sector should bare the majority of the load in increasing the supply of swimming, tennis and picnicking in Region 10.

### Winter Recreation Trends

Despite Region Ten's large population base, the short term trend for recreation occasions originating in the region shows few large changes from 1978 levels (TABLE 4-10.01). Significant increases will occur in snowmobiling (73,000 occasions), downhill skiing (27,000 occasions) and cross-country skiing (11,000 occasions). The most significant 1978 to 1985 decrease will be found in sledding at 37,000 occasions originating in the region.

Because of activity occasion import from other areas and export to other areas, activities originating in a region may not fairly measure the region's resource requirements.

A better measure is activity occasions occurring in a region. TABLE 4-10.2 presents the projection of winter activity occasions occurring in Region 10. For the most part, the size of the increases in occasions occurring in Region 10 resemble the magnitude of increases in activity origins. Snowmobiling in Region 10 will increase by 72,000 occasions from 1978 to 1985. Cross-country skiing is predicted to be up by 12,000 occasions. Downhill skiing presents the major exception. Here occasions occurring in the region are predicted to increase only slightly (2,000 occasions). Probably more important is the fact that Region 10 imports occasions for most activities. The region shows net exports only in the cases of winter camping and ice fishing. In 1985, the largest imports are predicted to be in sledding (30,000 occasions) ice skating (29,000 occasions), and cross-country skiing (26,000 occasions) and snowmobiling (20,000 occasions).

TABLE 4-10.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 10

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	10748	10678	-0.6	9680	-9.4	8754	-9.6	8719	-0.4
Cross-Country Skiing	150468	154631	2.8	161151	4.2	149991	-6.9	140366	-6.4
Downhill Skiing	229285	232653	1.5	231944	-0.3	226995	-2.1	223476	-1.6
Snowshoeing	64486	63518	-1.5	56979	-10.3	53953	5.3	60879	12.8
Ice Skating	598290	572575	4.3	605661	5.8	675508	11.5	689588	2.1
Open Water Fishing	25078	25543	1.9	26713	4.6	24952	-6.6	23291	-6.7
Trapping	42991	43442	1.0	42519	-2.1	43112	1.4	40914	-5.1
Ice Boating	3583	4153	15.9	4621	11.3	4505	-2.5	3706	-17.7
Sledding	834740	798160	-4.4	797913	-0.0	888919	11.4	919466	3.4
Snowtubing	53739	50136	-6.7	44792	-10.7	49055	9.5	52809	7.7

TABLE 4-10.02: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 10

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	7165	7118	0.5	6453	9.4	5836	-9.6	5812	-0.4
Cross-Country Skiing	175451	179705	2.4	187541	4.4	178701	4.7	170774	4.4
Downhill Skiing	239125	242962	1.6	240930	-0.8	235951	-2.1	235528	-0.2
Snowshoeing	64486	63518	-1.5	56979	-10.3	53953	-5.3	60879	12.8
Ice Skating	626349	599601	-4.3	634640	5.8	705143	11.1	719356	2.0
Snowmobiling	1135806	1146032	0.9	1207466	5.4	1203203	-0.4	11144612	-4.9
Ice Fishing	142394	144035	1.2	147739	2.6	151945	2.8	159783	5.2
Open Water Fishing	29816	30497	2.3	32347	6.1	30649	-5.2	28498	-7.0
Trapping	66317	67436	1.7	64797	-3.9	63795	-1.5	63837	0.1
Ice Boating	3583	4153	15.9	4621	11.3	4505	-2.5	3706	-17.7
Sledding	864730	827105	-4.4	828521	0.7	921040	11.2	952000	3.4
Snowtubing	53739	50135	-6.7	44792	-10.7	49055	9.5	52809	7.7

## Public Desire For Winter Recreation Opportunities

Hunting (9.9 percent), snowmobiling (8.8 percent), cross-country skiing (8.1 percent) and downhill skiing (7.5 percent) comprise the top four areas of expanded winter opportunities. Only two and one half percentage points separate these four activities. If it is assumed that the miscellaneous skiing responses were intended as downhill skiing responses, then the top four activities lie in a range of just under two percentage points.

TABLE 4-10.05: Percent of the Population of Region 10 Requesting More Opportunities for Winter Activities

Activity	% of the Population Requesting
Hunting	9.9
Snowmobiling	8.7
Cross country Skiing	8.1
Downhill Skiing	7.5
Miscellaneous Skiing	2.3
Ice Skating	.6
Sledding	.6
Target shooting	.6

TABLE 4-10.06: Region 10 Expressed Level of Need for Winter Recreation Opportunities 1= low need - 5= high need

Activity	Average Need
Downhill Skiing	3.4
Hunting	3.2
Cross-Country Skiing	2.9
Snowmobiling	2.9

(activities with .75 confidence interval greater than .99 omitted)

The top four activities according to the percent of the population requesting seem to fall into two categories according to expressed level of need (TABLE 10.06). Downhill skiing (3.4) and hunting (3.2) both have average need scores reasonably higher than cross-country skiing (2.9) and snowmobiling (2.9).

## Public Desire For Summer Recreation Opportunities

Bicycling is far and away the summer activity most often identified for expansion of opportunity. TABLE 4-10.07 shows that 22 percent of the sample polled stated that they would like to see expanded bicycling opportunities. Camping (15.0 percent), fishing (12.2 percent) and hiking (11.0 percent), the next three activities fall within three percentage points of each other, in the five to eight percent category. Swimming and boating each received the support of seven and one half percent of the population. Tennis was selected as an activity needing expansion by nearly seven percent of the population (6.9 percent). Picnicking received support of 5.8 percent.



A slightly different picture is portrayed when the strength of the need expressed by respondents is viewed (TABLE 4-10.08). Horseback riding was not requested by a large portion of the sample. Only three and one-half percent desired expanded horseback riding opportunities. However, that segment of the sample felt a very strong need for those opportunities. Their average need fell at 4.0 on the five point scale of express need.

Expanded tennis opportunities were requested by nearly twice the number of respondents that requested more horseback riding. In addition, their expressed level of need appears to be nearly as strong (3.5).

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TABLE 4-10.07: Percent of the Population of Region 10  
Requesting More Opportunity for Summer Activities

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Activity	% of the Population
Bicycling	22.0
Camping	15.0
Fishing	12.2
Hiking	11.0
Swimming	7.5
Boating	7.5
Tennis	6.9
Picnicking	5.8
Canoeing	3.5
Horseback Riding	3.5
Golfing	2.9
Trailbiking	2.9
Park Facilities	1.2
Baseball/Softball	.6
Four Wheeling	.6
Jogging	.6
Water Skiing	.6

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TABLE 4-10.08: Region 10 Expressed Level of Need for Summer  
Recreation Activities 1= low need - 5= high need

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Activity	Average Need
Horseback Riding	4.0
Tennis	3.5
Boating	3.2
Canoeing	3.2
Hiking	3.1
Fishing	3.1
Camping	3.0
Picnicking	3.0
Trail Biking	3.0
Swimming	2.8
Bicycling	2.7
Golfing	2.4
Park Facilities	1.5

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(activities with .75 confidence interval greater than .99 omitted)

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Boating and canoeing follow. In turn they are followed by hiking (3.1) and fishing (3.1), the first of the top four requested activities to appear on the list. Camping, another of top four, has a 3.0 average need score. The last of the top four requested activities, bicycling, has a low need level at 2.7.

## Summer Recreation Trends

The picture of short-term changes in summer recreation occasions produced by Region 10 shows little growth (TABLE 4-10.03). Only two activities, four wheeling and trap shooting, show large percentage increase between 1980 and 1985. Four wheeling is predicted to increase 19.3 percent or 9,354 occasions from a 1980 base of 48,487. Trap shooting will increase nearly 30 percent (15,769 occasions to 67,808 occasions by 1985). For nearly all those activities predicted to increase in level, the relative increase is expected to be under five percent. For example, from 1980 to 1985, fishing will increase 3.2 percent (34,570 occasions) and powerboating/waterskiing will increase 2.6 percent (16,101 occasions).

Several major activities will apparently experience small short-term declines. For example, organized base/softball will decrease 2.3 percent between 1980 and 1985. This represents a decline of nearly 20,000 occasions from 1980 base of 896,580. Transportation bicycling is also predicted to decline during the same period. The residents activity level will apparently decline 10.2 percent (85,780 occasions) from a 1980 base of nearly 840,985 transportation bicycling occasions.

Comparison of TABLES 4-10.03 and 4-10.04 indicates that Region 10 is generally an exporting region. This is especially noticable for recreation activities which are dependent upon water resources. For example, in 1980, nearly 389,778 more fishing occasions are predicted to be originated by Region 10 residents than will occur there. In the same year there will apparently be a net export of 226,650 swimming occasions and 306,790 powerboating/waterskiing occasions. Other activities not dependent upon lake resources also show significant net exports. For example, both camping and driving for pleasure are predicted to show rather large net exports in 1980 (110,289 and 44,586 occasions respectively).

In general, it appears that the load placed on the region's resources will increase. From 1980 to 1985 most of the major activities will experience small increases in activity levels (TABLE 4-10.04). Recreation bicycling and swimming will both increase by less than one percent. Camping and picnicking will increase by 4.6 percent.

Not all the major activities are predicted experience short-term growth. Organized base/softball and transportation bicycling are expected to undergo slight decline between 1980 and 1985. However, from 1985 to 1990 both of these activities will apparently experience a period of growth.

Several minor activities are predicted to show rapid percentage increases the number of occasions occurring in the region. In general, these are the same activities predicted to experience strong growth in the number of occasions originating in the region. The activities include archery, four wheeling and trap shooting. The respective 1980 to 1985 percent change is 12.6, 19.3 and 29.5 percent. Because these activities have a small 1980 base, the absolute increase in level is relatively small.

TABLE 4-10.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 10

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	97911	100730	2.9	113730	12.9	117791	3.6	115950	-1.6
Back- packing	77654	79091	1.8	77934	-1.5	76849	-1.4	73867	-3.9
Organized Base/ Softball	898084	896580	-0.2	875740	-2.3	899843	2.8	897516	-0.3
Sandlot Base/ Softball	368012	363618	-1.2	373369	2.7	395024	5.8	401826	1.7
Total Base/Softball	1266096	1260183	-0.5	1249167	-0.9	1294971	3.7	1299478	0.3
Recreation Bicycling	5250079	5087236	-3.1	5056713	-0.6	5304491	4.9	5447712	2.7
Transportation Bicycling	864322	840985	-2.7	755205	-10.2	728018	-3.6	761506	4.6
Total Bicycling	6114401	5892379	-1.8	5656684	-0.4	5939518	5.0	6111764	2.9
Birdwatching Nature Study	155308	157259	1.3	167054	6.2	175215	4.9	176666	0.8
Power Boating/ Waterskiing	611102	614529	0.6	630630	2.6	646648	2.5	688236	6.4
Sailing	77654	77887	0.3	81849	5.1	85181	4.1	94914	11.4
Other Boating	67525	64451	-4.6	55309	-14.2	56178	1.6	60186	7.1
Total Boating	756282	757114	0.1	768780	1.5	789045	2.6	844354	7.0
Camping	472676	470050	-0.6	492388	4.8	528822	7.4	555170	5.0
Lake Canoeing	57396	56670	-1.3	52383	-7.6	50747	-3.1	53655	5.7
Stream Canoeing	37139	36650	-1.3	36688	0.1	37150	1.3	39279	5.7

Lake & Stream Canoeing	16881	17485	3.6	15799	-9.6	13993	-11.4	14555	4.0
Total Canoeing	111416	110731	-0.6	104786	-5.4	101899	-2.8	107520	5.5
Driving for Pleasure	1019630	1041988	2.2	1093823	5.0	1119085	2.3	1127264	0.7
Fishing	1063521	1079028	1.5	1113598	3.2	1160324	4.2	1188543	2.4
Football	87783	83492	-4.9	76559	-8.3	80322	4.9	84007	4.6
Four Wheeling	47268	48487	2.6	57841	19.3	56042	-3.1	51649	-7.8
Golf	692133	705711	2.0	727326	3.1	776703	6.8	793834	2.2
Hiking	276853	279368	0.9	300166	7.4	335946	11.9	346837	3.2
Horseback Riding (trail)	70901	66997	-5.5	60657	9.5	65404	7.8	69371	6.1
Horseback Riding (other)	297111	296432	-0.2	282310	-4.8	280036	-0.8	304385	8.7
Total Horseback Riding	384893	380156	-1.2	356984	-6.1	357691	0.2	387787	8.4
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	749529	751689	0.3	786737	4.7	836163	6.3	874675	4.6
Trap Shooting	50644	52039	2.8	67808	30.3	75284	11.0	78866	4.8
Skeet Shooting	3376	3109	-7.9	2611	-16.0	3030	16.0	3303	9.0
Range/Target Shooting	37139	36334	-2.2	37913	4.3	40474	6.8	46166	14.1
Total Shooting	91159	91793	0.7	110266	20.1	121155	9.8	130258	7.5
Swimming	2292478	2214085	-3.4	2212624	-0.1	2346372	6.0	2504237	6.7
Tennis	671875	671273	-0.1	649852	-3.2	647454	-0.4	659546	1.9
Trail Biking	185694	182142	-1.9	169950	-6.7	177967	4.7	190291	6.9
Visiting Historic Sites	91159	91879	0.8	99299	8.1	109435	10.2	112766	3.0

TABLE 4-10.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 10

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	51808	53297	2.9	60003	12.6	62005	3.3	61064	-1.5
Back- packing	50377	51157	1.5	50334	-1.6	49649	-1.4	47943	-3.4
Organized Base/ Softball	897669	896336	-0.1	876454	-2.2	899950	2.7	898003	-0.2
Sandlot Base/ Softball	376402	371875	-1.2	381008	2.5	403233	5.8	411006	1.9
Total Base/Softball	1274071	1268076	-0.5	1257295	-0.9	1303280	3.7	1309150	0.5
Recreation Bicycling	5106773	5000407	-2.1	5008173	0.2	5289960	5.6	5457196	3.2
Transportation Bicycling	817054	814117	-0.4	784610	-3.6	792522	1.0	802656	1.3
Total Bicycling	5923827	5815364	-1.8	5791782	-0.4	6079253	5.0	6255630	2.9
Birdwatching Nature Study	156011	158186	1.4	167538	5.9	176572	5.4	179919	1.9
Power Boating/ Waterskiing	305805	307739	0.6	315808	2.6	324116	2.6	344262	6.2
Sailing	37648	37738	0.2	39539	4.8	41006	3.7	45386	10.7
Other Boating	89786	87147	-2.9	78478	-9.9	80071	2.0	84788	5.9
Total Boating	433240	434442	0.3	441701	1.7	453781	2.7	483863	6.6
Camping	359761	360114	0.1	376772	4.6	402485	6.8	421056	4.6
Lake Canoeing	34397	33979	-1.2	31667	-6.8	30738	-2.9	32425	5.5
Stream Canoeing	60797	61030	0.4	61756	1.2	62701	1.5	65157	3.9

Lake & Stream Canoeing	3376	3497	3.6	3160	-9.6	2798	-11.4	2911	4.0
Total Canoeing	98571	98709	0.1	95487	-3.3	94359	-1.2	99075	5.0
Driving for Pleasure	975503	997402	2.2	1047375	5.0	1073065	2.5	1082059	0.8
Fishing	679262	689250	1.5	712027	3.3	742482	4.3	761752	2.6
Football	87783	83492	-4.9	76559	-8.3	80322	4.9	84007	4.6
Four Wheeling	47268	48487	2.6	57841	19.3	56042	-3.1	51649	-7.8
Golf	734871	749823	2.0	774332	3.3	827083	6.8	847922	2.5
Hiking	203286	205251	1.0	220146	7.3	245518	11.5	253459	3.2
Horseback Riding (trail)	67356	63647	-5.5	57624	-9.5	62134	7.8	65903	6.1
Horseback Riding (other)	294637	293956	-0.2	280007	-4.7	277772	-0.8	301867	8.7
Total Horseback Riding	361993	357546	-1.2	335795	-6.1	336426	0.2	364646	8.4
Orienteering	0	0	0.0	0	0.0	0	0.0	0	0.0
Picnicking	752405	756135	0.5	791151	4.6	838823	6.0	874395	4.2
Trap Shooting	53627	55167	2.9	71453	29.5	79296	11.0	83216	4.9
Skeet Shooting	3376	3109	-7.9	2611	-16.0	3030	16.0	3303	9.0
Range/Target Shooting	57774	57630	-0.2	60887	5.7	64582	6.1	70629	9.4
Total Shooting	114778	115785	1.0	135234	16.7	147501	9.1	157877	7.0
Swimming	2054016	1987435	-3.2	1986990	0.0	2105989	6.0	2245697	6.6
Tennis	665367	665034	-0.1	644271	-3.1	642181	-0.3	654222	1.9
Trail Biking	178942	175519	-1.9	163770	-6.7	171496	4.7	183372	6.9
Visiting Historic Sites	90221	90972	0.8	97039	6.7	105524	8.7	109130	3.4

## REGION ELEVEN

### Staff Recommendations

The regional and local winter recreation providers should be encouraged to accelerate their provision of cross-country skiing in the Metro Region. State involvement should concentrate on developing cross-country skiing resources close to, but not necessarily in the region. Additionally, the state should seek to increase the hunting opportunities available to Metro Region residents. State regional and local sectors need to increase their efforts in supplying snowmobiling resources.

The meeting of summer recreation needs should emphasize the regional and local supply of bicycling trails. Federal, state and county expanding agencies in the Metro Region and nearby regions should augment these programs delivering camping to the region's residents. Local entities should closely examine their programs supplying additional tennis opportunities within the region. Fishing as well as boating opportunities should be expanded through increased public access programs. These programs should acquire and develop new accesses and ensure that the public is aware of the availability of all accesses. Part and parcel of increased public access is an intensification of fish stocking and management programs.

Local provision of swimming facilities should be increased. At the same time, but with less vigor, the supply of golfing should be augmented.

Mostly, all sectors of government administering amenable resources should seek to develop additional hiking opportunities.

### Winter Recreation Trends

The large population of Region 11 causes it to produce many more recreation occasions than any other region. Furthermore, Region 11 changes are the greatest because the baseline numbers of occasions are so large. For example, from 1978 to 1985, the number of ice skating occasions originating in Region 11 will increase by 233,000 occasions (TABLE 4-10.01). Yet this huge increase only represents a three percent increase in participation over the seven years.

Cross-country skiing will also see a substantial increase in occasions produced by Region 11 (209,000). Following ice skating and cross-country skiing are ice fishing (140,000), snowmobiling (80,000) and sledding (32,000). TABLE 4-10.02 shows the estimated of the number of winter recreation activity occasions that will occur in Region 11. Obviously, Region 11 is a net exporter of recreation. In nearly every activity Region 11 residents originate more occasions than occur in the region. The largest net exports is of downhill skiing occasions (1,268,000). Other large net exports are: ice fishing (793,000); snowmobiling (682,000) and cross-country skiing (445,000). Significant growth in occasions occurring in Region 11 will come in ice skating (227,000); cross-country skiing (178,000); ice fishing (81,000) and snowmobiling (63,000).



TABLE 4-11.01: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 11

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	80553	80891	0.4	82320	1.8	91456	11.1	104488	14.2
Cross-Country Skiing	2828814	2869075	1.4	3037563	5.9	3226419	6.2	3396305	5.3
Downhill Skiing	2596634	2643893	1.8	2602207	-1.6	2557605	-1.7	2614331	2.2
Snowshoeing	104244	102000	-2.2	107110	5.0	117061	9.3	117649	0.5
Ice Skating	7761471	7469551	-3.8	7994198	7.0	8447552	5.7	8536036	1.0
Snowmobiling	3042042	3043636	0.1	3122513	2.6	3255226	4.3	3397300	5.1
Dog Sledding	4738	4755	0.4	3990	-16.1	3446	-13.6	3880	12.6
Ice Fishing	1786370	1837161	2.8	1925510	4.8	1985637	3.1	2086287	5.1
Open Water Fishing	9477	9908	4.5	11263	13.7	11386	1.1	10408	-8.6
Trapping	75814	77270	1.9	70528	-8.7	64386	-8.7	69554	8.0
Ice Boating	4738	5000	5.5	5820	16.4	5913	1.6	4971	-15.9
Sledding	4473033	4317213	-3.5	4504783	4.3	4813010	6.8	4914708	2.1
Snowtubing	412239	404879	-1.8	409463	1.1	420935	2.8	428250	1.7
Orienteering	23692	24120	1.8	22947	-4.9	21358	-6.9	21288	-0.3

TABLE 4-11.02: PROJECTIONS OF WINTER RECREATION OCCASIONS ORIGINATING IN REGION 11

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Winter Camping	26851	26964	0.4	27440	1.8	30485	11.1	34829	14.2
Cross-Country Skiing	2415352	2449794	1.4	2593233	5.9	2752795	6.2	2895987	5.2
Downhill Skiing	1331941	1355823	1.8	1334319	-1.6	1311031	-1.7	1338810	2.1
Snowshoeing	94786	92728	-2.2	97374	5.0	106420	9.3	106954	0.5
Ice Skating	7586927	7301280	-3.8	7813724	7.0	8259444	5.7	8347785	1.1
Snowmobiling	2299074	2300287	0.1	2361924	2.7	2464659	4.3	2572900	4.0
Dog Sledding	4738	4755	0.4	3990	-16.1	3446	-13.6	3880	12.6
Ice Fishing	1052399	1081884	2.8	1133433	4.8	1168374	3.1	1225675	4.9
Open Water Fishing	4738	4953	4.5	5631	13.7	5692	1.1	5203	-8.5
Trapping	61599	62782	1.9	57304	-8.7	52314	-8.7	56512	8.0
Ice Boating	6405	6749	5.4	7836	16.1	7753	-1.1	6570	-15.3
Sledding	4398243	4244809	-3.5	4428994	4.3	4732525	6.9	4832661	2.1
Orienteering	23881	24298	1.7	23097	-4.9	21527	-6.8	21472	-0.3

## Public Desire For Winter Recreation Opportunities

The most requested winter opportunity was for more cross-country skiing (TABLE 4-11.05). Nearly twelve percent of the people polled requested expansion of that activity. Following cross-country skiing in popularity is hunting (8.5 percent). Snowmobiling (6.3 percent) is the remaining activity requested by more than five percent of the region.

TABLE 4-11.05: Percent of the Population of Region II  
Requesting More Opportunity for Winter Activities

Activity	% of the Population Requesting
Cross-Country Skiing	11.9
Hunting	8.5
Snowmobiling	6.3
Ice Skating	2.7
Miscellaneous Skiing	2.5
Downhill Skiing	1.9
Target Shooting	1.2
Ice Fishing	.7
Trapping	.2
Sledding	.1
Snowtubing	.1
Snowshoeing	.1

Given the region's large population, less popular activities maintain their importance. Expanded ice skating was requested by nearly three percent of the sample (2.7 percent). The combination of downhill skiing (2.5 percent) and miscellaneous skiing (1.9 percent) was requested by over four percent of the sample.

TABLE 4-11.06: Region II Expressed Need for Winter Recreation Opportunities  
1= low need - 5= high need

Activity	Average Need
Trapping	4.5
Ice Skating	3.5
Downhill Skiing	3.4
Miscellaneous Skiing	3.2
Hunting	3.2
Target Shooting	3.2
Cross-Country Skiing	2.9
Snowmobiling	2.9

(activities with .75 confidence interval greater than .99 omitted)

The two of the top three activities, based on percent of the population requesting, didn't fare well in the average need level ranking (TABLE 4-11.06). Cross-country skiing (2.9) and snowmobiling (2.9) are desired by many residents but not desired as strongly as some of the less widely requested activities. At the top of the list is trapping (4.5). Yet, only two tenths of one percent of the poll listed their activity for expansion.

Miscellaneous skiing need and downhill skiing need fell in the 3.2 to 3.4 range. This, combined with a fairly significant portion requesting makes this an important activity for Region 11 residents. Ice skating, the activity with the second highest need level (3.5), was requested by nearly three percent of the poll.

#### Public Desire For Summer Recreation Opportunities

Bicycling accounted for the lion's share (21.9 percent) of the requests for expanded summer recreation opportunities. In fact, it is the only activity supported by more than twenty percent of the people polled. Activities with between ten and twenty percent of the sample requesting expansion include camping (16.0 percent), tennis (14.5 percent), fishing (11.4 percent) and swimming (10.3 percent). Four traditional activities fall in the five to ten percent category: hiking (8.2 percent); golfing (6.2 percent); picnicking (5.3 percent) and boating (5.3 percent). Additional park facilities (4.0 percent) is the 10th most requested expansion of opportunity.

In general, TABLE 4-11.08 shows high average need scores. The region's population feels an intense need for off-road vehicle areas. Four wheeling (4.0) leads the list and trail biking (3.7) is number four.

Jogging, a young activity, has the second highest need level at 3.8 on the five point scale. Backpacking shows the same average need (3.8). Canoeing (3.6) ranks fifth on the list and marks the first break of more than two tenths of a point.

In this mid range fall all but two of the top ten activities according to the percent of the sample requesting expansion. All of the top ten have average need scores of 3.0 or better except boating (2.9) and picnicking (2.8).

TABLE 4-10.07: Percent of the Population of Region 11 Requesting More Opportunity for Summer Activities

Activity	% of the Population Requesting
Bicycling	21.9
Camping	16.0
Tennis	14.5
Fishing	11.4
Swimming	10.3
Hiking	8.2
Golfing	6.2
Picnicking	5.3
Boating	5.3
Park Facilities	4.0
Canoeing	2.4
Trail Biking	2.2
Horseback Riding	1.7
Backpacking	1.5
Walking	1.5
Baseball/Softball	1.3
Jogging	1.3
Archery	.7
Soccer	.5
Visiting Historic Sites	.5
Four Wheeling	.4
Waterskiing	.4
Bird Watching	.1

TABLE -11.08: Region 11 Expressed Level of Need for Summer Recreation Opportunities 1= low need - 5= high need

Activity	Average Need
Four Wheeling	4.0
Jogging	3.8
Backpacking	3.8
Trail Biking	3.7
Canoeing	3.6
Bicycling	3.3
Horseback Riding	3.2
Target Shooting	3.2
Park Facilities	3.2
Camping	3.2
Swimming	3.1
Hiking	3.1
Tennis	3.1
Walking	3.1
Archery	3.0
Baseball/Softball	3.0
Fishing	3.0
Boating	2.9
Picnicking	2.8

(activities with .75 confidence interval greater than .99 omitted)

## Summer Recreation Trends

As noted for winter recreation trends, the large population of Region 11 causes it to produce many more recreation occasions than any other region. In 1980 Metropolitan residents are expected to originate a total of 6.97 million base/softball occasions, a total of 26 million bicycling occasions and nearly seven million fishing occasions (TABLE 4-11.03). As a result of these high activity levels, even small percent changes translate into large absolute changes. Powerboating/waterskiing, for example, is predicted to increase 1.7 percent from a 1978 base of 6.37 million to 6.48 million by 1980. This represents an actual increase of nearly 230,000 occasions.

Metropolitan residents will apparently partake in recreational bicycling more often than any other activity, 23.4 million occasions in 1978. The second most popular activity appears to be swimming with approximately 13.2 million occasions predicted for 1978. The next most participated in activity during 1978 seems to be picnicking, with about 3.8 million occasions originating from the region. Of this group of activities, only picnicking is predicted to experience a significant short-term (1978 to 1985) percentage increase. It seems that picnicking will increase 1.6 percent (61,874 occasions) from 1978 to 1980 and 4.5 percent (176,120 occasions) between 1980 and 1985. Surprisingly, recreational bicycling is predicted to experience declines of 1.6 percent from 1978 to 1980 and 0.7 percent from 1980 to 1985. This represents a decline of 535,267 occasions during the seven year period. After 1985, this downward trend in recreational bicycling is expected to reverse. Swimming is predicted to experience a small short-term increase of only 0.3 percent between 1980 and 1985. This translates into an increase of approximately 44,000 occasions.

The largest percentage increases (1980 to 1985) in occasions originating in Region 11 are found among the minor activities. Range/target shooting is predicted to experience the largest percentage increase of 7.3 percent or 11,540 occasions. The second largest increase will apparently occur in visiting historic sites. Metro residents are expected to originate six percent (50,961) more occasions in 1985 than in 1980. In terms of actual increases, fishing is predicted to increase the most. Between 1980 and 1985 the activity is expected to increase some 307,000 occasions. Powerboating/waterskiing will also see a substantial increase in occasions produced by Region 11 residents (229,241).

TABLE 4-11.04 shows the number of occasions predicted to occur in Region 11. Clearly, Region 11 is a net exporter of summer recreation activities. In every activity Metropolitan Region residents originate more activities than occur in the region. In 1980, the largest net export is of fishing occasions, with nearly 4.8 million occasions occurring outside the Metro Area. Other large net exports activities are powerboating/waterskiing (3.84 million occasions), swimming (2.94 million occasions), camping (1.97 million occasions), driving for pleasure (995,806 occasions), and picnicking (959,684 occasions).

TABLE 4-11.03: PROJECTIONS OF SUMMER RECREATION OCCASIONS ORIGINATING IN REGION 11

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	239551	237614	-0.8	228548	-3.8	237996	4.1	249826	5.0
Back- packing	379667	381729	0.5	373672	-2.1	368985	-1.3	361892	-1.9
Organized Base/ Softball	3873502	3879032	0.1	3862868	-0.4	3942826	2.1	3979524	0.9
Sandlot Base/ Softball	3222645	3164650	-1.8	3114552	-1.6	3288166	5.6	3399492	3.4
Total Base/Softball	7096148	7044971	-0.7	6979463	-0.9	7230831	3.6	7377193	2.0
Recreation Bicycling	23421808	23048440	-1.6	22886541	-0.7	24269524	6.0	25194655	3.8
Transportation Bicycling	3516435	3465724	-1.4	3206422	-7.5	3193546	-0.4	3321134	4.0
Total Bicycling	26938243	26514149	-1.6	26093636	-1.6	27464390	5.3	28517142	3.8
Birdwatching Nature Study	1455388	1492651	2.6	1572002	5.3	1704915	8.5	181440	6.7
Power Boating/ Waterskiing	6377493	6486369	1.7	6715610	3.5	7072086	5.3	7410552	4.8
Sailing	682496	706798	3.6	734307	3.9	757231	3.1	798718	5.5
Other Boating	840690	851202	1.3	848688	-0.3	876740	3.3	916701	4.6
Total Boating	7900679	8044810	1.8	8298665	3.2	8705225	4.9	9125275	4.8
Camping	2228281	2270194	1.9	2368495	4.3	2505710	5.8	2610177	4.2
Lake Canoeing	1202277	1224543	1.9	1242466	1.5	1272474	2.4	1331929	4.2
Stream Canoeing	302829	311148	2.7	319357	2.6	325387	1.9	330477	1.6

Lake & Stream Canoeing	103956	109134	5.0	115167	5.5	127381	10.6	139079	9.2
Total Canoeing	1609063	1644900	2.2	1677163	2.0	1725279	2.9	1801105	4.4
Driving for Pleasure	3457677	3558059	2.9	3750753	5.4	3904276	4.1	3968373	1.6
Fishing	6513089	6620580	1.7	6928360	4.6	7328876	5.8	7691287	4.9
Football	583059	573097	-1.7	540325	-5.7	548528	1.5	564472	2.9
Four Wheeling	144635	149828	3.6	157111	4.9	153919	-2.0	148454	-3.6
Golf	2594388	2672720	3.0	2826586	5.8	3029380	7.2	3208975	5.9
Hiking	2589868	2644406	2.1	2762777	4.5	2889797	4.6	2998269	3.8
Horseback Riding (trail)	284750	281665	-1.1	269068	-4.5	268576	-0.2	269292	0.3
Horseback Riding (other)	488143	485327	-0.6	477060	-1.7	502488	5.3	515220	2.5
Total Horseback Riding	772893	766981	-0.8	746059	-2.7	770882	3.3	784281	1.7
Orienteering	13560	14382	6.1	14328	-0.4	12084	-15.7	10425	-13.7
Picnicking	3823784	3885658	1.6	4061778	4.5	4299941	5.9	4423466	2.9
Trap Shooting	162714	165802	1.9	169327	2.1	178380	5.3	181212	1.6
Skeet Shooting	67798	67949	0.2	70126	3.2	74174	5.8	82602	11.4
Range/Target Shooting	153675	157264	2.3	168804	7.3	177596	5.2	183608	3.4
Total Shooting	384186	390998	1.8	408155	4.4	430048	5.4	447342	4.0
Swimming	13229570	13227172	0.0	13271446	0.3	13813736	4.1	14372057	4.0
Tennis	3439598	359287	2.6	3588587	1.7	3697306	3.0	3794305	2.6
Trail Biking	311869	310075	-0.6	292684	-5.6	297372	1.6	309009	3.9
Visiting Historic Sites	831650	844069	1.5	895030	6.0	959084	7.2	1002213	4.5



TABLE 4-11.04: PROJECTIONS OF SUMMER RECREATION OCCASIONS OCCURRING IN REGION 11

ACTIVITY	1978	1980	% CHANGE 78-80	1985	% CHANGE 80-85	1990	% CHANGE 85-90	1995	% CHANGE 90-95
Archery	152696	151735	-0.6	146500	-3.5	152824	4.3	161090	5.4
Back- packing	101588	102228	0.6	99967	-2.2	98485	-1.5	96413	-2.1
Organized Base/ Softball	3666082	3671467	0.1	3657523	-0.4	3734402	2.1	3769967	1.0
Sandlot Base/ Softball	3142240	3085023	-1.8	3035907	-1.6	3205046	5.6	3313238	3.4
Total Base/Softball	6808322	6759011	-0.7	6697669	-0.9	6939361	3.6	7079925	2.0
Recreation Bicycling	23259872	22887167	-1.6	22729170	-0.7	24103610	6.0	25023710	3.8
Transportation Bicycling	3418351	3369612	-1.4	3119827	-7.4	3108614	-0.4	3231981	4.0
Total Bicycling	26678223	26256513	-1.6	25843884	-1.6	27203102	5.3	28246984	3.8
Birdwatching Nature Study	820983	841660	2.5	885965	5.3	958381	8.2	1020980	6.5
Power Boating/ Waterskiing	2724605	2770907	1.7	2869043	3.5	3021293	5.3	3166642	4.8
Sailing	253859	262504	3.4	272995	4.0	283040	3.7	298558	5.5
Other Boating	410599	415808	1.3	415635	0.0	429419	3.3	449895	4.8
Total Boating	3389063	3450388	1.8	3560581	3.2	3736007	4.9	3917181	4.8
Camping	371209	377853	1.8	393645	4.2	415369	5.5	432065	4.0
Lake Canoeing	443908	451763	1.8	457491	1.3	468962	2.5	491156	4.7
Stream Canoeing	160878	165298	2.7	169658	2.6	172862	1.9	175566	1.6

Lake & Stream Canoeing	57176	60024	5.0	63342	5.5	70060	10.6	76494	9.2
Total Canoeing	661962	676535	2.2	689107	1.9	708986	2.9	740511	4.4
Driving for Pleasure	2540402	2613690	2.9	2754947	5.4	2866956	4.1	2915021	1.7
Fishing	2004513	2038607	1.7	2136913	4.8	2262846	5.9	2377586	5.1
Football	546881	537560	-1.7	507015	-5.7	514960	1.6	530216	3.0
Four Wheeling	111258	115253	3.6	120855	4.9	118399	-2.0	114195	-3.6
Golf	2245068	2312779	3.0	2445916	5.8	2621352	7.2	2776911	5.9
Hiking	1698008	1733738	2.1	1811297	4.5	1894799	4.6	1965962	3.8
Horseback Riding (trail)	226835	224377	-1.1	214342	-4.5	213950	-0.2	214521	0.3
Horseback Riding (other)	423941	421984	-0.6	414728	-1.6	437095	5.4	448349	2.6
Total Horseback Riding	650775	645912	-0.7	628618	-2.7	649812	3.4	661313	1.8
Orienteering	4520	4794	6.1	4776	-0.4	4028	-15.7	3475	-13.7
Picnicking	2917732	2965326	1.6	3102094	4.6	3283695	5.9	3378575	2.9
Trap Shooting	132594	135155	1.9	138367	2.4	145689	5.3	148019	1.6
Skeet Shooting	20861	20908	0.2	21577	3.2	22823	5.8	25416	11.4
Range/Target Shooting	93465	95636	2.3	102396	7.1	107442	4.9	111017	3.3
Total Shooting	246920	251345	1.8	262303	4.4	276043	5.2	287084	4.0
Swimming	10295066	10291728	0.0	10326919	0.3	10754515	4.1	11196472	4.1
Tennis	3347294	3434061	2.6	3491158	1.7	3596810	3.0	3691602	2.6
Trail Biking	246668	245144	-0.6	231814	-5.4	236051	1.8	245588	4.0
Visiting Historic Sites	400228	405385	1.3	427273	5.4	454875	6.5	474786	4.4

## SPECIAL REPORTS

### INTRODUCTION

The Department of Natural Resources often finds gaps in available planning information. To fill these gaps, special studies may be commissioned.

The purpose of the following section of Chapter IV is to present a summary of the findings of such recent studies. In most cases a more thorough discussion is available in the original research report. Copies can be obtained from the Office of Planning, Research and Policy Section.

### RECREATION PREFERENCES OF OLDER PERSONS IN MINNESOTA

In 1975, the Department of Natural Resources retained Dr. Leo McAvoy, of the University of Minnesota, to study the recreation of Minnesotans over 64 years old. Dr. McAvoy conducted personal interviews with elderly Minnesotans living in three target areas; the Twin Cities Metropolitan Area, a recreation resource rich area, and a recreation resource poor area. The Twin Cities Metropolitan area was divided into inner-city, urban residential and suburban areas. One neighborhood represented each kind of metropolitan area. Outside the Twin Cities Metropolitan area, each recreation resource area was subdivided into retail centers, rural non-farm areas and rural farm areas. Representative counties or communities were selected for each type of area. Sixty people were sampled from each of the nine sub-areas.

TABLE 4-SR.01 presents a summary of the participation and preference rates of the entire sample.

TABLE 4-SR.01: Participation and Preference Rates for the States Elderly

Activity	Percent of the Sample Claiming Activity in Top Five Based on Participation (1975)	Percent of the Sample Claiming Activity in Top Five Based on Preference (1975)
Gardening	49.4	53.2
Driving	32.4	33.7
Walking	30.7	45.4
Picnicking	1.3	1.1
Sightseeing	9.1	33.2
Bird Watching	7.8	5.4
Enjoying a Park	2.8	1.9
Fishing	9.3	24.8
Boating	1.3	1.7
Outdoor Games	.4	.4
Hunting	2.4	6.3
Swimming	.4	1.1
Bicycling	1.9	3.0
Camping	.7	3.0
Golf	4.3	5.0
Rock Collecting	.4	.6
Snowmobiling	.9	.7

Sightseeing (33.2 percent) and fishing (24.8 percent) are highly preferred activities that much of the sample wanted to participate in, but seldom did. Walking received a high participation score (30.7 percent) but it was not as high as its preference scores (45.4 percent). Gardening and driving showed consistently high participation and preference scores.

A comparison of the three area types (recreation resource rich, recreation resource poor, and Twin Cities Metro) indicates that non-metro participation is higher overall. Participation in resource rich and resource poor areas differs little. Most importantly, in all three areas the same three activities have preference scores far exceeding participation scores. Those activities are walking, fishing, and sightseeing. These activities also stand out in the statewide table indicating similar type of needs across the state. In fact, the only important difference between the rural and metro sample is the stronger rural preference for fishing.

TABLE 4-SR.02 - Preference For vs. Participation in Recreation Activities by Resource Area

Activity	Twin Cities - Metro Area		Resource Rich Area		Resource Poor Area	
	% Participate	% Prefer	% Participate	% Prefer	% Participate	% Prefer
Gardening	35	39	57	65	57	55
Driving	28	31	31	24	38	46
Walking	39	62	31	38	22	36
Fishing	4	13	13	36	10	26
Sightseeing	8	39	8	33	11	27
Bird Watching	8	5	10	7	6	4
Enjoy a Park	6	5	1	0	2	1
Hunting	1	2	5	12	2	4
Bicycling	2	2	1	2	3	5
Boating	1	1	2	3	2	2
Picnicking	1	1	2	3	1	1
Snowmobiling	0	0	3	2	0	0
Camping	0	1	2	6	1	2

One of the subproblems addressed by the study was the identification of problems encountered by the state's elderly as they attempted to participate in their preferred recreation activities. Findings regarding problems encountered included:

- The most prevalent problem encountered by the elderly in trying to participate in preferred activities was a lack of physical ability, over three times as much as any other problem;
- After physical ability, the most prevalent problems encountered were lack of companionship, lack of time, lack of transportation, and lack of finances in that order;

- . Physical architectural barriers in recreation facilities, a lack of skills, and perceived social pressures were seldom identified by the subjects as barriers to participation in preferred recreation activities, although the subjects may have included the architectural barriers problem in their response concerning lack of physical ability;
- . The eight preferred activities in which at least 10 percent of the combined state sample encountered problems in participation, and the specific percentage encountering that problem were: sightseeing (25.4 percent), walking for pleasure (22.8 percent), fishing (17.2 percent), reading (16.7 percent), gardening (16.5 percent), driving for pleasure (16.3 percent), visiting friends and relatives (12.0 percent), and attending club and organization meetings (10.6 percent), with the predominant problem in all of these activities being a lack of physical ability;
- . The problems of lack of facilities, lack of transportation, and lack of companionship were all more prevalent in the resource poor area;
- . The problem of physical ability was greatest in the Metropolitan area and least in the resource rich area;
- . Crime was encountered as a problem almost exclusively in the Metropolitan area while the lack of companionship was encountered the least in this area;

#### Motivations of the Elderly Also Provide Insight into Their Recreation:

- . The motivations for participation in recreation activities which were judged very important by at least 50 percent of the combined state sample were socializing (88.9 percent of the sample), self-fulfillment (79.6percent), feeling close to nature (73.3 percent), physical exercise (61.0percent), and learning (51.6 percent).
- . Over 25 percent of the sample usually participate in recreation activities alone while relatively few (8.2 percent) generally participate with their children or grandchildren;
- . Over 92 percent of the subjects began participating in their most frequently done recreation activities before the age of fifty;
- . A majority, 56.3 percent, of the sample generally participate in recreation activities with their own age group, followed by 24.8 percent who participate with a younger age group;
- . Approximately 83 percent of the sample felt that they had enough enjoyable things to do and were not bored;
- . Approximately 23 percent of the combined state sample participate in an organized senior citizen center program in some degree at some time during the year.

A chi-square procedure crosstabulated the data from the motivations questions with the two independent variables of residential area and age. An analysis of the findings produced the following significant differences between the expected distributions and the observations:

- . A disproportionately high percentage of subjects in the resource rich area chose the motivation of feeling close to nature while a disproportionately low percentage of inner-city Metropolitan subjects chose this motivation;
- . The percentage of respondents who chose closeness to nature as being a very important motivation declined as the age category increased;
- . A disproportionately high percentage of respondents in the recreation resource rich area chose physical exercise as being a very important motivation for recreation participation;
- . Learning was chosen as a very important motivation by a disproportionately lower percentage of Metropolitan area subjects;
- . The percentage of the subjects choosing rest and relaxation as a very important motivation for recreation participation significantly declined as the age of the subjects increased;
- . Rest and relaxation was chosen as a very important motivation by a disproportionately lower percentage of the Metropolitan area subjects;
- . The only motivation increasing with age was reminicing;
- . The percentage of respondents choosing solitude as a very important motivation was disproportionately lower for the inner-city subjects;
- . The youngest age group (65-69), responded favorably to the question asking if they had enough enjoyable things to do - at a higher percentage rate than did the other age groups.

Based on the findings of this study, and in keeping with descriptive interpretations of some of the data, and the significant statistical observations of other sections of the data, the following conclusions were reached:

- . Most of the outdoor activities most preferred and participated in tending to be non-resource specific in nature, such as walking, gardening, etc.;
- . Outdoor recreation resource specific activities, such as fishing, hunting, camping, etc., were preferred and participated in more by the recreation resource rich area subjects than by the other areas;
- . The predominant barrier to participation in preferred recreation activities was a lack of physical ability;
- . The subjects in the study tended to concentrate recreation activity participation on activities they began to participate in before the age of fifty.

#### Staff Recommendations:

- . The Minnesota Department of Natural Resources should continue to provide resource-specific outdoor recreation opportunities (fishing, boating, camping, hunting, snowmobiling) to the recreation resource rich areas. The elderly in these areas participate in and prefer these activities more than elderly in other areas and the participation motivations of physical exercise and closeness to nature were strongest with subjects in these areas.
- . The Minnesota Department of Natural Resources, and other responsible agencies, should provide additional park space in the Metropolitan area, especially in the inner-city area. The elderly living in these areas prefer pleasant park areas and walking for pleasure to a greater degree than do the elderly in other state areas. This is especially evident in the inner-city area. The inner-city area residents also express a need for park areas and walking opportunities that are free from crime and the threat of personal assault.
- . The elderly residents of small rural towns in the recreation resource poor state areas seem to have the greatest need for improved leisure services.
- . Leisure service systems should offer travel or sightseeing opportunities for elderly persons throughout the state. Over one-fourth of the combined sample stated they encounter problems in this activity. Low cost travel opportunities that would provide companionship, guide services, and easy physical access to areas could help provide the needed services.
- . Agencies should provide opportunities for physical exercise for the elderly that are physically safe and socially rewarding. Physical exercise was a very important motivation for recreation participation for over 60 percent of the sample, and walking for pleasure was a very important activity for all segments of the sample, indicating that the elderly recognize a need to remain physically active.
- . It is important to note that the most important motivations for recreation participation were socializing, self-fulfillment, physical exercise, and being close to nature, in that order. Recreation planners and the providers of recreation services for the elderly should stress the type of recreation opportunities which provide benefits related to these motivations;
- . Since the subjects of this study showed a strong tendency to maintain recreation participation patterns established well before reaching the age of fifty, recreation planners must realize that it may be fruitless to initiate new recreation activities for this population that do not relate to the elderly person's past experience.

## MINNESOTA CROSS-COUNTRY SKIERS

### Description of Survey

The Department of Natural Resources Policy Planning Section has gathered "people data" through a number of mail and telephone surveys along with questionnaires distributed to visitors coming into Minnesota. All instate interviewers were initially contacted by phone and asked a series of the same questions relevant to their recreational needs and desires. The following section is a brief summary of the results from one of the mailed surveys, Minnesota Cross-Country Skiers, Report Number 2321 conducted during winter 1978. In most cases a more thorough discussion is available in the original research report. Copies of this can be obtained from the Minnesota Department of Natural Resources, Research and Policy Section.

### Distance from Home

Survey results indicate the cross-country skier does not usually travel a great distance to participate in this activity. Over 60 percent of the respondents prefer trails within 24 miles from home and a third less than 13 miles. The average (median) desired distance was just over 20 miles. The indication here is that people seldom invest in long distance auto travel for this type of recreation.

### Rest Shelters

Over 60 percent of the skiers interviewed desired shelter development along trails, over half of those felt they should be located less than five miles apart. Nearly 40 percent felt there should be more than five but less than 10 miles apart. The average median distance between shelters being 4.4 miles. The percent of respondents who were not in favor of shelter development equaled 22 percent, not sure 17 percent. Nearly 60 percent of the respondents agreed that there should be warming huts and toilets along trails.

### Repeat Trail Use

The average respondent stated he or she could ski the same trail over six times per year before losing enjoyment. One-third stated four or fewer repeats would cause a decrease in enjoyment, but over 30 percent indicated they would return to the same trail nine or more times per year before they would experience decreased enjoyment.

### Trail Amenities - Positive Item

Specific features of an ideal cross-country ski trail by respondents were 86 percent agreeing that trails should parallel a stream or river, over 86 percent wanting skiing trails in wilderness areas. Items with similar favorable response were: through forests; through forest recreation areas; through wooded areas; along lake shore; having open areas where they could leave the trail; in hilly terrain; signed areas; groomed trails, trails connecting major recreation areas and trails having learning experiences and displays. Ninety-five percent of the respondents felt trails should be developed in areas where wildlife could be viewed.



#### Trail Amenities - Neutral Items

Tent campsites along trails were neither opposed nor favored, with 48 percent of the respondents being neutral. Forty-four percent were neutral in locating trails in resort areas. The only exception being Region Nine with nearly 70 percent agreeing or strongly agreeing on the subject. Cabins along trails for over night stay was reacted to slightly negatively.

#### Trail Amenities - Negative Items

Locating trails in city parks met a negative response by 46 percent of the respondents. Although there are trails located in some of the larger parks emphasis should be placed on locating trails in more primitive locations close to the state's population centers.

Trails passing primarily through open fields and meadows elicited negative responses from 40 percent of the respondents. Trails which would not be signed, but would require the use of a map to negotiate them gained a less negative reaction, 33 percent.

#### Break Trail

Because of the respondents' inconsistency on skiers breaking their own trail a further investigation has to be made. Forty-eight percent said they didn't enjoying breaking trail and 52 percent enjoy making tracks through unbroken snow. Yet, 57 percent preferred groomed trails.

#### Patrolled Trails

Patrolling by a ski patrol on trails for safety and first aid purposes gained an affirmative response (57%), however, 71 percent opposed the idea of law enforcement officers on trails.

#### Hills

Trails with moderate hills were preferred by 52 percent of the respondents, 40 percent were attracted to gentle hills while only eight percent desired steep hills. Trails with narrow twisting downhill runs were avoided by nearly 70 percent.

#### Funding Trail Development

Statewide, cross-country skiers most often selected one of three sources of funds. Each attracted nearly one-fourth of the respondents. There were: general taxes, special use fee paid at the trail head, and yearly licenses to use state sponsored trails. The purchase of yearly decals for trail use and the payment of a special tax on cross-country ski equipment appear to be less widely accepted than the others.

A willingness to assist in construction and/or maintenance of cross-country ski trails was indicated by many respondents. Over 46 percent would be willing one Saturday per year.

## Skiing Habits

In order to understand the cross-country skier in Minnesota it helps to examine their skiing habits, such as the number of years involved in the sport, daily and yearly ski practices, and the longest distance traveled during one ski outing.

Nearly 50 percent of all respondents reported seldom skiing over five miles on a single day. Thirty-five percent reported skiing comfortably for five to 10 miles under good conditions. Over 83 percent could or would not ski over 10 miles per day. Thirteen percent indicated they could ski from 10 to 15 miles in a day and four percent reported they could ski over 15 miles in a day.

The average cross-country skier reported almost six miles per outing. Four to five miles per outing was the largest single response category (32%) and deserves special consideration in the design of ski trails. Ten miles was the average for the longest distance traveled, however, 65 percent had never skied over 10 miles and 84 percent never skied over 15 miles.

Two hours was reported for the average outing. Over 63 percent spent three or fewer hours and seven or less hours accounted for 90 percent of the ski occasions.

Most of the respondents were newcomers to cross-country skiing. The average respondent had skied slightly over three years. Nearly one-half reported skiing two years or less and nearly 70 percent had skied three seasons or less.

Most skiers ski in groups consisting of family (43%) or friends (40%) while 16 percent ski alone.

Ninety percent of all respondents engaged in some type of nature observation. Picnicking was enjoyed by almost 50 percent of skiers. Meeting new friends (36%) and visiting with friends (38%) were frequently reported.

Respondents averaged 10 ski outings per year. One-third took five or fewer. In addition, one-third went on from six to 10 ski trips and one-sixth, 11 to 15. A median of three or approximately one-third of all skiing trips were taken on the groomed, marked trails.

## Conflicts

The questionnaire asked respondents to indicate how meeting specific types of trail users would affect their decision to return to a trail. They could respond by: they would definitely not return, probably not return, be neutral, probably return or definitely return. Their responses should serve as a measure of skiers feelings toward sharing trails with other types of users. Meeting other cross-country skiers on the trail was very positive with 93 percent indicating they would definitely return, 70 percent were positive toward snowshoers but not to the same degree as they were to skiers. Only half stated they would definitely return.

Most negativism was directed toward four-wheel drive vehicles - 93 percent would not return. Snowmobilers were slightly more tolerable, 84 percent would not return and 72 percent would definitely not return. Sharing the trail with dog sledders also drew a negative response, but more neutral than other trail sharing users. Forty-three percent stated they would not return.

The vast majority of respondents indicated all types of use should not occur on the same trail, 80 percent disagreed or disagreed strongly. Only 90 percent agreed with the statement. Parallel but separate trails were agreed on by less than one half.

#### Complaints

Statewide, the single most noticed gripe was a shortage of cross-country trails. The general subject of trails was most negatively commented upon with over 46 percent of the groups. There was not only a shortage of trails, but overcrowding of existing facilities, and their perceived inadequacy.

The subject snowmobiles accounted for many of the gripes, 38 percent of them stated snow machines should not be allowed on or near ski trails. From this information coupled with the data in the conflict section confirm the incompatibility of the activities.

Ten percent of the gripes concerned trail design and less than one percent indicated trails should not be developed.

#### Demographics

Age, education and occupation were the three pieces of demographic information collected from each respondent.

The cross-country skier respondents mean age was 31.4 and the median age was 29.4. Even though skiers under 16 were not sampled nearly 70 percent were under age 35.

The majority of the respondents (46.1%) had completed some college. The average respondent had attended school for 15 years while 30 percent had completed 16 years of formal education.

Nearly 40 percent of the respondents were from the professional-technical ranks. This group was followed by students 15 percent, housewives 12 percent, clerical seven percent and managerial and sales over six percent each.

#### Staff Recommendations

Based on the results of this survey, the following recommendations seem appropriate:

- . Cross-country ski trail development continue in Minnesota.
- . Trail emphasis be placed on short day and part day outings.

- . Network trails should receive higher priority than loop. Loop trails should receive higher priority than point to point.
- . Ski trails should provide variety in length of outing in miles. Loop lengths of 2.5, 5, 10, and 15 miles should be contained in network trail development.
- . Trail development should be placed as close as possible to population centers.
- . Rest shelters should be included in the majority of Minnesota ski trails. When developed, five mile intervals between shelters appear ideal.
- . Ideal trail locations:
  - pass beside water
  - run through wooded areas
  - have moderately hilly terrain, avoiding steep runs and narrow twisty turns
  - provide open areas for off trail skiing
  - lie in part in a state or county management unit
  - be signed
  - be groomed
  - provide learning opportunities
- . Trail management should provide both groomed and ungroomed trails.
- . Ski patrols should project a safety and first aid role rather than enforcement role.
- . The state should ascertain the attrition, replacement rate for the purpose of developing an estimate of the steady state experience structure of Minnesota's cross-country skiing population.
- . Ski trails should not be developed within areas open to motorized winter recreation.

#### MINNESOTA SNOWMOBILE REPORT

The following information has been extracted from SCORP Report No. 2322 MINNESOTA SNOWMOBILE REPORT. Copies of the original research report can be obtained from the Minnesota Department of Natural Resources Policy and Research Section.

## Demographics Data

Each respondent was asked to give three pieces of demographic information, age, education and occupation.

The mean and median ages of the respondents are in the early thirties. Regions three and five were the exceptions where the mean and median ages are in the late and mid-thirties.

Six percent of those snowmobilers responding to the survey had completed college and had some post-graduate education.

The managerial-professional occupation accounted for 24 percent of the snowmobile respondents, while 27.5 percent of the respondents are craftsmen.

## Attitudes Toward Trail Development

Overall trail development drew a favorable response, by 80 percent. The respondents were also asked if they would be willing to contribute one Saturday a year to construct or maintain a trail? The respondents were less enthusiastic about this question, 44 percent yes, 23 percent no, and 40 percent don't know.

As a statewide average, full day use trails were desired. Substantial difference of opinions occurred from region to region, 6W preferring short outing type and region 10 interested in multi-day use designed trails.

On the average, respondents would like to see rest shelters developed 15.2 miles apart. Other factors not brought out in the study, such as terrain differences might indicate locating rest shelters a shorter distance apart.

## Characteristics of Snowmobile Trips

If consideration is given to loading equipment and travel time to and from a destination, snowmobiling can be an all day event. The study shows that the average snowmobile occasion to be 4.7 hours.

The average snowmobiler participates in the activity 10 times per year.

State totals indicate respondents snowmobile with friends 43 percent of the time, family 24 percent, family and friends 23 percent and alone only six percent.

Observing nature was the most frequently (45%) reported activity while snowmobiling. Bar-hopping was the least (1%) frequently reported activity while snowmobiling.

The survey asked if other user types would affect their return to a trail. The results show that snowmobilers are generally neutral towards cross-country skiers, snowshoers and off road vehicles. They favor dog sledgers and are opposed to other snowmobilers. They may favor dog sledgers because they have not have encountered many on a trail ride.

## Most Needed Snowmobile Trail

The strongest feeling on the characteristics of a trail was a chance to view wildlife, return to starting point and well marked trails.

Trail length most desired statewide, averaged out to 32.4 miles. Loop or network type trail was favored by 94 percent of the respondents. This response was similar to the response favoring the need for trails returning to the starting point.

## Financing Snowmobile Areas

Statewide, the response to finance snowmobile trails through the license approach was 33.2 percent, but this high percentage was greatly influenced by Region 11. Region 11's respondents preferred this approach (41.6 percent). Four of the regions preferred the user fee approach opposed to the license fee. The state total for user fees was only 20.3 percent. The general tax fund was preferred by 20.7 percent statewide, while no region favored it over the license fee.

## Snowmobile Patrol

Patrolling snowmobile trails by law enforcement officers was opposed by 65 percent of the respondents. A positive reaction of 73 percent was given to patrols offering first-aid and assistance.

## Complaints and Comments

The respondents were given the opportunity to comment or complain to specific questions. A total of 125 different comments and complaints were received. Similar comments and complaints totaling one percent or less in a region were not listed. The three most frequently found complaints were: more trails are needed (9%); snow cover is inadequate (5%); and frequency of groomed trails is inadequate (4%). The four most frequently made comments were: we approve of your survey; we don't snowmobile very often; we don't snowmobile anymore; and more trails are needed.

## Staff Recommendations

- . Non loop trails should be given low priority by state and federal agencies operating and/or financing snowmobile trails.
- . State and federal agencies should make investments in non-loop trails only when objective information clearly shows that the non-loop trail justified of loop alternatives, scarce resources or superior resource quality.
- . State and federal agencies should give priority to general trails (over new-groomed trails). This priority applies to state or federal agency administered trails as well as state or federal administered grants program which enable local governments to provide trails.

- . Trails which provide visual variety (changes in landform, regulations, water as well as opportunities to view wildlife in a non-disruptive way) should receive priority over alternative trails if location to populations center and other considerations are equal.
- . State and federal agencies administering grants program, should ensure that existing mileage is well signed and information on trail location is well distributed.
- . Warming huts and toilets should be provided at reasonable intervals along the trails.
- . Region or site specific trail development plans should take into consideration large regional differences in snowmobiler opinion such as length of desired trip and support facility development.

#### MINNESOTA CAMPING

The following report is a copy of the original text taken from the Minnesota Camping Report Number 2333. It does not, however, contain the tables or appendices referenced. Copies of the entire report which contains 46 tables or appendices can be obtained from the State of Minnesota, Documents Section (see page A.013). These tables and appendices give additional information concerning the regional and statewide responses as well as all of the questions asked in the survey.

The Minnesota Department of Natural Resources, in order to provide facilities to meet the needs and desires of the Minnesota camping public, undertook a study of resident campers during the summer of 1978. The camping study was conducted in conjunction with a larger examination of outdoor recreation participation within the state where 20,000 resident households were interviewed via telephone during 1977-1978 (see SCORP reports 2316 and 2324, Minnesota Winter and Summer Interregional Outdoor Recreation Flows). Camping questionnaires were mailed to 1640 persons over 16 years of age who reported having recently participated in camping. Those to receive camping questionnaires were identified utilizing a random selection method patterned after a method developed by Leslie Kish<sup>1</sup>. Of the 1350 questionnaires sent out, 450 were returned to the DNR resulting in a 34 percent overall rate of return (Table 1). Four mailings were made, one each during late May-early June, July, August and September. Although the actual number of questionnaires sent out during each mailing varied, they averaged nearly 340. Each of the 13 Minnesota Economic Development regions was sampled at the rate of 180 campers, with the exception of the Metropolitan region which nearly 400 campers were sent questionnaires.

<sup>1</sup> Kish, Leslie. 1965 Survey Sampling. John Wiley and Sons, New York. pp. 396-398.

The data presented in this report appear to be adequate for planning purposes. A discussion of confidence intervals for selected results and regions appear in Appendix A. As expected statewide data are the most precise. Data for Region 11 are slightly more reliable than for other regions due to a larger sample size. A comparison between the age classes of camping survey respondents and age classes of campers identified through the telephone survey appear in Appendix B.

The purposes of this study were to determine more about resident campers in the state than was learned from the participation survey. More specifically, the objectives were to: (1) identify the intensity of camping; (2) identify the types of camping; (3) determine the types of campgrounds desired; and (4) identify the socio-psychological types of campers. The questionnaire used to obtain data appear in Appendix C of the full report.

Throughout this report, data are reported for three groups of campers: (1) all campers; (2) the level of respondent camping experience, and (3) backpackers. The experience level of campers was determined by the number of years respondents had participated in the activity. The three experience categories are: inexperienced: two or less years of camping experience; experienced: 3 to 5 years experience; and very experienced: those with over 5 years of camping experience.

Tables contain survey results by Minnesota Economic Development Region for all campers and backpackers, but only by state total for camping experience level. Responses were weighted by region to reflect the camping population for each region. This process was used to produce state total data as well. A discussion of the expansion method appears in Appendix D.

#### Number of Campers and Camping Trips

The estimated population of Minnesota campers is over 1.4 million. One half of the state's campers reside in Region 11, the Metro Region. Nearly 10 percent reside in Regions 3 and 10, and 5 percent are from Regions 7W and 9 (Table 2). These campers took an estimated 5,777,600 camping trips during 1977. Residents of Region 11 accounted for over one half of these trips. Campers from Regions 3 and 10 each took 10 percent of the trips, Region 9, 5 percent, and Regions 4, 7W, and 8, 4 percent.

Over one half of the camping trips or a total of 3,200,000 were taken to only one location. There was considerable variation among regions associated with this phenomenon. The range in percentage of total trips by region was from 68 percent (Region 7E) to 26 percent (Region 6E). Conversely, 45 percent of the camping trips included more than one camping location (Table 3).

The mean number of camping trips taken per year was 5.4. The median number of trips for all campers, however, was 4. This disparity is due to some respondents reporting an extremely large number of camping trips. When the number of trips was weighted by region to obtain the state total, what is felt an inflated average number of trips resulted. The median was used, therefore, to estimate the total number of camping trips (Table 4). Campers from Region 3 were the most active, taking an average of 8.4 trips during the sample year. Experienced campers took more trips than their inexperienced counterparts. Inexperienced campers took an average of 2.6 trips, experienced



five trips and very experienced nearly six trips during 1977. Backpackers took an average of 3.1 backpacking trips during 1977. As with all campers, the more experienced backpackers took more trips than the less experienced. Over three-quarters of all camping trips were taken by the more experienced campers. There was some difference in the split of trips to one spot and multiple locations when trips taken by campers of different experience levels are examined. Campers with three to five years of camping experience have a greater tendency to take trips which are to only one camping location (Table 5).

#### Camping Experience

Campers responding to the survey had been camping for many years. The average respondent reported participating in the activity for over 10 years (Table 6). Nearly 20 percent had camped for over 15 years. When broken down by experience level, nearly 10 percent were inexperienced, 23 percent experienced, and 68 percent very experienced (Table 7). A large percentage of backpackers were from the ranks of experienced campers. One quarter of the very experienced category were backpackers, compared to 14 percent of the experienced and 9 percent of the inexperienced groups (Table 8). Statewide, 21 percent of the campers reported also engaging in backpacking, with the largest number of backpackers coming from Region 11 and the greatest percentage of campers who backpack from Regions 1, 3 and 11 (Table 9).

The average camper who had backpacked had done so for over six years. The backpackers from Region 5 were the comparative "old salts" of the activity averaging nearly 17 years of experience. They were followed by residents of Region 7E with 13 years, and Region 3 with nearly 12 years experience. Those of least average experience were the residents of Region 7W averaging 2.2 years (Table 10). Examined from a slightly different perspective, while 76.6 percent were from the ranks of the very experienced campers, quite a few very experienced campers were newcomers to backpacking. An indication of rapid growth (Table 11).

#### Distance Traveled on Camping Trips

The average round trips distance for camping trips taken during 1977 was 243 miles. Trips to only one location averaged 206 miles and trips to multiple locations averaged 285 miles. As listed in Table 12, there was wide regional variation. Similar variation occurred among the three experience groupings.

#### Number of Persons in Camping Party

The average camping party was comprised of four persons (Table 13). The more experienced camper parties tended to be slightly larger (Table 14). Per party figures are based upon the number of persons sharing a tent or camping vehicle.

#### Equipment Used and Owned

Over one-half of the respondents reported they used tents of other than the backpacking variety for their camping outings. If the additional 12 percent who used backpacking tents are added, the resulting total exceeds 65 percent. Pickup campers and tent trailers were each used by 15 percent, camp trailers were used by 12 percent (Table 15). Campers from Region 2, 3, and 5 were most prone to use tents. Inexperienced campers reported a greater frequency of

tent use than experienced campers. A higher percentage of less experienced campers used pickup campers and motor homes. Since the very experienced campers represent over two-thirds of the camping public and since nearly 70 percent reported using tents, programs should be reviewed to ensure adequate tent sites are provided (Table 16).

Camping equipment ownership as was expected was very similar to the equipment used while camping. Tents were owned by the majority of the respondents; 60 percent owning large tents and 30 percent backpacking tents. Pickup campers were owned by 18 percent of the respondents, 17 percent owned tent trailers, 11 percent camp trailers, 7 percent camper vans, and 5 percent motor homes (Table 17).

Those with the most camping experience were more frequent owners of backpacking tents and camp trailers. Higher percentages of the intermediate group owned tent trailers. The inexperienced campers were more frequent owners of motor homes, large tents, and pickup campers (Table 18).

#### Level of Campground Development

Fully developed campgrounds were generally used by one-half of the respondents. Primitive sites were used by 37 percent and 12 percent indicated the use of undeveloped sites. It is somewhat of a surprise that only one-half of the respondents used fully developed units (Table 19). There was wide regional variation. Nearly three-quarters of the residents of Region 1 reported using fully developed units. Two-thirds of the respondents from Region 3 and 9 indicated primitive sites.

There was not a great deal of difference between the type of campground used by campers of differing experience levels. The experienced category were more frequent users of fully developed units, while a higher percentage of the inexperienced indicated primitive sites and a slightly higher percentage of the very experienced indicated the use of undeveloped sites (Table 20).

Respondents, in addition to the above, were asked to indicate on a 9-point scale the amount of campground development they desired, with 0 being no development and 8 being full development. Table 21 displays the results. The average score was 3.6, meaning the average respondent desired a campground which was somewhat developed, but not lavishly, in short, on the primitive side. There was limited regional variation. Interestingly, only Region 7E had an average score of above 4. Table 22 contains the same data for the three levels of camping experience. The very experienced group desired more development than the other two groups. These results indicate many campers are using camp sites which are developed to a greater degree than campers desire and than is necessary. Perhaps a program where many camp sites of limited development are produced rather than a small number of fully developed sites is called for.

## Campground Ownership

The majority of campers indicated they usually overnighted at public sector campgrounds (47 percent). Residents of Region 2 and 3 indicated most frequent use of public sector sites. Residents of Regions 4, 7W, and 10 most often used private campgrounds (table 23). When examined by experience level, the intermediate group indicated a preference for the privately operated campgrounds, while the inexperienced and very experienced groups more frequently chose government units (Table 24).

## Comparative Cost of Camping

Camping was perceived as being less expensive than other forms of overnighting by over 90 percent of all respondents. Only one percent of the respondents felt camping was more expensive. There was general agreement among the three classes of campers, with the inexperienced group indicating a slightly lower percentage in the less expensive category (Tables 25 and 26).

## Camping Fees

Campers were asked how much they would be willing to spend per night for a campsite at a fully developed, a primitive, and an undeveloped campground. The average response for a fully developed campground was just over \$5.00 (Table 27). Inexperienced campers would be willing to pay a bit more than other campers. A fee of \$2.70 for a primitive, and a fee of \$1.30 for an undeveloped site was thought to be fair by the average camper (Tables 28 and 29). Inexperienced campers would be willing to pay more than the other groups for a site at a primitive campground. There was little difference between experience levels for undeveloped sites (Tables 30, 31 and 32).

## Responsibility for Providing Campgrounds

Two-thirds of the respondents felt the State of Minnesota should be responsible for providing campgrounds within Minnesota. The private sector was singled out as being the campground providers by 19 percent of the sample and the federal government was indicated by 7 percent. There was regional variation (Table 27). The most experienced campers felt more strongly than other campers that the state should provide camping facilities (70 percent, Table 24).

## Type of Area Usually Preferred for Camping

State parks were most frequently reported the most popular type of area to camp in by Minnesota campers (41 percent). These were followed by private campgrounds and wilderness areas (30 percent each), National Forests (22 percent), State Forests (15 percent), National Park Service units (13 percent), State Wildlife areas (11 percent), National Wildlife areas (9 percent), and county parks (7 percent) (Table 35). There was considerable regional variation. State parks were selected by 62 percent of residents in Region 11, but by only 22 percent of Region 8 residents. Wilderness areas held most appeal for residents of Region 3 (48 percent). Table 35 should be examined closely for regional variation and to understand the complexity of the camping market.

There was not a great amount of variation between persons of various camping experience levels although the very experienced showed a greater preference for National Forests and wilderness areas, and a lower preference for private campgrounds from other campgrounds. The inexperienced group showed a slightly higher preference for National Park Service units (Table 36).

#### Desired Types of Facilities and programs at Campgrounds

Hiking trails were the most desired campground facilities as indicated by three-quarters of the sample. Fishing areas and showers were desired by 70 percent, stores and nature walks by 46 percent, boat launches 43 percent, electrical hookups 39 percent, and historic sites and water hookups each by 30 percent. These items were followed in decreasing order by swimming pools, service stations, bicycle trails, sewer hookups, sewage dumps, riding trails, interpretive programs, visitor centers, and restaurants all of which were selected by over 10 percent of the respondents (Table 37). As depicted in Table 38, there was some variation in the desires of campers when examined by their level of experience.

#### Items Found in an Ideal Campground

Highly desired campground design elements included a location near water (91 percent) and a location in the woods (71 percent). Items indicated by over one-half of the sample in addition included a location out of sight and sound of others, quality restrooms, and small sized campgrounds. A substantial portion of the sample also indicated campgrounds should be less than 200 miles from home and be accessible by paved road (Table 39).

The greater the level of camping experience on the part of respondents, the greater the desire for a site located near water, located in the woods, and away from other campers. Inexperienced campers felt more strongly about being located near others, having access roads paved, and campgrounds located in rural areas more than 200 miles from home (Table 40).

Backpackers likewise felt campsites should be located near water, in the woods, and in remote locations. They also felt campgrounds should be small and undeveloped (Table 41).

#### Other Activities Participated in While Camping

Camping is an activity which demands the attention of the Department of Natural Resources and others charged with providing facilities which will make the individual camper's experience more enjoyable. There appear to be other activities which are closely associated with camping which, if provided for, could increase the camping experience. For example, three-quarters of the campers interviewed in conjunction with this study stated they also hiked and fished while camping. Nearly one-half indicated they engaged in boating while on camping outings and 37 percent indicated they studied nature (Table 42). These items closely match the desired campground design elements listed in Table 39.

One's camping experience does not appear to make much difference in the selection of activities companion to camping. As can be seen in Table 43, the inexperienced group of campers slightly less frequently report engaging in other activities while camping. This may be explained by the newness of camping to this group and, therefore, camping being the only activity engaged in by many of those people (Table 43). Backpackers, as would be expected, reported a higher percentage of hiking and nature study. Those who backpack reported a higher percentage of hunting than those who engage only in other forms of camping (Table 44).

#### Reasons for Camping

By understanding some of the factors which motivate Minnesota residents to go camping, outdoor recreation planners and managers may better design and locate camping facilities. Those interviewed were asked to record their degree of agreement or disagreement with a series of 29 statements concerning camping. On the average, campers strongly agreed with statements which were items not often found in urban situations. For example, the smells and sounds of nature and scenery each averaged a score of 4.6 on a scale of 1 to 5, 1 being strong disagreement and 5 being strong agreement. Peace and calm received a rating of 4.5, family togetherness 4.5, change in daily routine 4.4, do things with companions 4.2, and exploration 4.1. The only item strongly disagreed with, receiving a low mean score, was status with a rating of 1.5. There was limited variation between the three camping experience categories, although status was less of a camping motivation for the very experienced campers (Table 45).

Those persons who backpacked gave exploration, solitude, exercise and getting away from crowding higher ratings than those who did not (Table 46).

#### Summary

- . There are an estimated 1,444,400 resident campers in Minnesota. One-half reside in the Metropolitan Region.
- . These campers took 5,777,600 trips during 1977.
- . Over 55 percent of camping trips were taken to one location.
- . The average camper reported taking over 5 trips during 1977.
- . Minnesota campers are by and large very experienced campers. Two-thirds have been camping for over 5 years, one-third for over 10 years.
- . One-quarter of all Minnesota campers are also backpackers.
- . The majority of Minnesota campers own tents and use them on camping outings.
- . The average camping round travel distance is 200 miles.
- . One-half of the campers usually stay at fully developed campgrounds, one-third use primitive sites and 12 percent undeveloped sites.

- . There is an indication that many campers would be satisfied with less than fully developed campgrounds.
- . Campers indicate they use public sector camping facilities more frequently than private sector units. They also indicate the State of Minnesota should be the primary supplier of campgrounds within the state.
- . Campers indicated fees of \$5.00, \$2.70, and \$1.30 are reasonable fees for sites at fully developed, primitive and undeveloped campgrounds were requested by over 70 percent of survey respondents.
- . Three-quarters of the interviewed campers stated they also hiked and fished while on camping trips.
- . Over one-half of the campers indicated their ideal campground would be located in the woods near water out of sight and sound of others with quality restrooms and have a few sites.
- . Strong motivations for camping included: the smells and sounds of nature; scenery; peace and calm; family togetherness; change in daily routine; relaxation; exploration; and association with people who enjoy themselves.

#### Staff Recommendations

- . Increase the public information on the availability of less than fully developed campgrounds through effective use of channels of communication.
- . If analysis of campsite supply data shows a lack of less than fully developed campsites, increase the portion of the recreation development budget dedicated to those types of units.
- . Monitor the use of less than fully developed campgrounds to measure effects of increased public information on the availability of less than fully developed campgrounds.
- . Reassess the fee structure for public campsites.
- . Coordinate campsite development with high quality fishing lakes.
- . Include information on nearby fishing opportunities with public information on campsite availability.
- . Ensure that the mix of campgrounds supplied contains a substantial number containing a small number of units.
- . Locate campground developments in areas offering combinations of woodlands, high quality water resources and topographic relief suitable for hiking trails.
- . Emphasize the development of campgrounds that offer the camping party a sense of solitude, remoteness from other campers, and close contact with the natural surroundings.
- . Maintain the supply of fully developed campgrounds provided through state parks and through the private sector.







## CHAPTER V

### ISSUE ANALYSIS

#### INTRODUCTION

This chapter describes the special problems, issues and opportunities to be considered in developing Minnesota's recreation future. These derive from analysis of the information concerning recreation suppliers' roles, available resources and facilities, participation in public recreation polls (3,000 randomly selected citizens), input from public representatives through legislative action, judgements of professional recreation managers and technical staff, and federally determined issues of national significance. Recommended measures, priorities and guidelines that address the issues and options follow each issue statement and supporting data.

## PLANNING

Issue/Opportunity: Achieve the goals of future action plans without reducing the efforts given to completing existing projects and conducting existing programs.

Supporting Data: This issue is raised to afford the opportunity to support ongoing programs of merit.

### Measures and Priorities

1. The state will complete master plans for units of the Minnesota Outdoor Recreation System and establish rules governing their management.
2. The state will develop state forest recreation management plans as part of the over-all state forest plans.
3. Federal and state agencies should implement the recommendations of the Great River Environmental Action Team (GREAT).
4. The U.S. Forest Service will develop BWCAW regulations to implement the intent of the 1964 Wilderness Act and the 1978 BWCA Act.
5. The state Department of Natural Resources, will update the fisheries and wildlife management policies.
6. The National Park Service will develop Voyageurs National Park and the St. Croix National Scenic Riverway according to their General Management plans.
7. The state, Department of Natural Resources, will accelerate the development and adoption of department policies for managing recreation units of the Outdoor Recreation System.
8. The state, Department of Natural of Resources, will ensure adherence to the development policies for units of the Minnesota Outdoor Recreation System.
9. The state will carry out the development in units of the Minnesota Outdoor Recreation System in accordance with approved master plans.
10. The state will carry out necessary maintenance and rehabilitation in units of the Minnesota Outdoor Recreation System.

## PUBLIC PARTICIPATION

Issue/Opportunity: Segments of the public often believe that public resource management does not respond to public desires.

Supporting Data: The national issue of increasing public input into resource management decisions has been well documented. At the federal level, the U.S. Forest Service reviewed the situation in depth and greatly expanded its channels of communication between the Service and the public. Today, legislation and agency rules require extensive public input.

In Minnesota, enabling legislation mandates public input to resource program plans and decisions. Furthermore, in an effort to improve decision making and avoid public backlash, alert agencies have gone beyond legislative mandates in their support of public involvement opportunities.

The breadth and depth of contemporary efforts to involve the public in decision-making clearly indicates that this is an issue.

### Measures and Priorities:

1. Expand representation on the DNR Outdoor Recreation Planning and Technical Advisory Committee (ORPTAC) to better represent local interests.
2. Provide ongoing local, public input and review of SCORP Annual Action Plans by working through DNR Regional offices and Regional Development Commissions.
3. Continue public meetings on all Outdoor Recreation Act 1975 (ORA) management plans.
4. Develop continuous recreation facility/equipment user opinion monitoring by redesigning licenses to include opinion questions and conducting other types of user input efforts.
5. Encourage the Minnesota Association of Regional Commissions to provide ongoing public input into the SCORP one-year Annual Action Plans through their comprehensive planning process.
6. Provide funds for research that will lead to the development of representative techniques.

## EQUAL OPPORTUNITY

Issue/Opportunity: Provide sufficient recreation opportunities for all persons, including special populations (persons who are physically disabled, mentally impaired, visually impaired, hearing impaired, chemically dependent, juvenile delinquent, elderly, chronically ill, disadvantaged, and minorities).

Supporting Data: State and federal legislation has been passed to guarantee facilities and programs equally accessible and useable to special populations. Such legislation includes the Minnesota Architectural Barriers Act, Federal Architectural Barriers Act, and Section 504 of the Rehabilitation Act. The National Forum on Meeting the Recreation and Park Needs of Handicapped People also states: "All disabled citizens, each according to their individual ability, shall be guaranteed access to recreation programs, activities, and/or facilities which are held forth to be 'public'".

Consumers and recreation suppliers have indicated needs and problems yet to be solved. Interviews indicate that needs still exist to increase physical accessibility and usability of programs, especially those close to population concentrations, through programs such as low cost accessible transportation, reservations of camping areas suitable to various special populations, additional low-cost family-oriented experiential programs, reduction of attitudinal barriers regarding special populations, and opportunities to participate in outdoor recreation and education activities in which necessary special equipment could be rented on site.

### Measures and Priorities:

1. Recreation supply agencies should survey and otherwise communicate with the general public and special publics to develop recommendations and suggestions that broaden opportunities for all people.
2. Through policies preserving the natural, archeological and historical resources of Minnesota, state and federal agencies should provide outdoor recreation and education opportunities to all persons throughout the state.
3. All recreation suppliers should provide numerous physically accessible and useable recreation choices, ensuring the freedom of use to everyone, not only to persons with various disabilities, and the elderly.
4. State agencies will continue to improve the physical accessibility of their recreation sites and facilities through alternation of currently inaccessible facilities and appropriate construction of new facilities.
5. State agencies will continue to make outdoor recreation and educational interpretive programs useable by all populations, including special populations. Special emphasis will be given to applying this policy at recreation facilities serving large numbers of people.
6. All recreation supply agencies should undertake efforts to expand assistance to other public and private agencies, toward providing accessible and useable programs to all persons.

7. State agencies will:

extend dissemination of information efforts to give potential users information on those programs available to special populations; provide training to all staff involved in making facilities accessible to, and useable to, Minnesota's outdoor recreation areas;

8. Federal, state and local recreation suppliers should:

establish systems which will allow reservation of sites with high accessibility by persons having significant mobility limitations.

support the expansion of public transportation when such expansion is an efficient means for meeting the outdoor recreation needs of populations.

examine the possibility of establishing low-cost equipment rentals at recreation sites.

## ENERGY CONSERVATION/URBAN OPPORTUNITIES

Issue/Opportunity: Improve the supply of energy conserving close-to-home recreation opportunities for persons residing in Minnesota's more heavily urbanized areas.

Supporting Data: The recreation occasion flow tables in Chapter IV show that Minnesotans do travel outside their home region for recreation. While a desire to get away from home causes some of this travel, much of it can be attributed to the supply of recreation facilities and opportunities. Chapter III and the regional map supplements to SCORP demonstrate that many of these facilities are distant from population concentrations and larger urban centers. In the decade of the energy crisis, a continued need to travel long distances for recreation will place hardships on people. In fact, in the interest of the national economy, it is important to do as much as is possible to curtail distant travel for recreation.

### Measures and Priorities:

1. Expand close-to-home recreation opportunities for the residents of Minnesota's more heavily urbanized areas by programming and developing state and federal recreation facilities located in or near Minnesota's urban centers to meet the needs of urban populations.
2. State and regional agencies which administer outdoor recreation grants programs should add energy conservation criteria to their respective grants evaluation processes.
3. Agencies which administer or promote various components of the State Outdoor Recreation System should develop policies which further the concentration of outdoor recreation participation at appropriate locations.
4. Encourage continuation of the U.S. Forest Services Urban Forestry Program and development of other programs-projects-studies directed at identifying new and better ways to meet the outdoor recreation needs of urban populations.
5. State and federal agencies should conduct research to measure the recreational development potential of resources near urban centers. This research should also help develop methods of encouraging the substitution of these opportunities for more distant recreation opportunities.

## WATER RESOURCE RELATED ISSUES

Issue/Opportunity: Preservation of Wetlands in Minnesota.

Supporting Data: The HCRS requires that each SCORP address wetland preservation, since this is an issue of national significance. Chapter II provides an overview of the federal and state agencies with jurisdiction over protection of wetlands in Minnesota. In Minnesota, wetlands serve to trap nutrients, retain floodwater, provide habitat for fish and wildlife, recharge groundwater, provide aesthetic diversity and provide opportunities for recreational activities, among other things. Chapter III provides an overview of the distribution of wetlands in Minnesota. Chapter IV notes demand for increased hunting and fishing opportunities; opportunities often contingent on the existence of wetlands.

Measures and Priorities:

1. The state should develop statewide and countywide wetland priority zones.
2. The state should accelerate the implementation of the public waters and waterbank programs with emphasis on state wetland priority zones.
3. The Federal Wildlife Service and the DNR Fish and Wildlife Division should continue to protect wetland resources with program emphasis on state wetland priority zones.
4. The Federal Wildlife Service should continue to acquire wetlands for migratory bird species primarily within state wetland priority zones.
5. Federal and state agencies actively involved in wetland management should attempt to manage for native vegetative diversity in wetland areas, in addition to their present primary objectives of wildlife management in these areas.
6. State and federal agencies should conduct research to ascertain the current and potential benefits of Minnesota's wetlands.

Issue/Opportunity: Management of Floodplains

Supporting Data: The HCRS requires that each SCORP address floodplain management since reducing future flood damage is a national priority. Chapter II, references the goals and policies of Minnesota's on-going comprehensive floodplain management program. In areas where the flood plain has been delineated, the local unit of government regulates the use and development of the flood plain consistent with the provisions and regulation of the Flood Plain Management Act. The Act encourages recreational uses of the flood plain which have low-damage and low-hazard potential. There are, however, significant portions of the state where historical development has precluded the implementation of recreation hazard reduction measures.

#### Measures and Priorities:

1. In areas of persistent flood damages where a recreation potential exists, every effort should be made by the DNR, State Planning Agency and local government to make these areas a first priority for recreation acquisition. Care should be taken, however, to assure that recreation development adheres to federal Executive Order 11988 including criteria for user safety.
2. Mapping of flood plain areas in Minnesota should be accelerated.
3. The DNR, Division of Waters should accelerate monitoring of shoreland and flood plain zoning programs to insure proper protection of recreation resources.
4. The DNR, Division of Waters should accelerate the training of federal, state, and local government officials so that they understand the risks of developing in flood plains and can more readily recognize the potential of using these areas for recreation purposes.
5. The federal government should take steps to assure that their actions are consistent with the provisions of Executive Order 11988 on Flood Plain Management which directs federal agencies to actively search for alternatives to flood plain development.

Issue/Opportunity: Better river management in Minnesota would tap an underused recreation resource.

Supporting Data: Chapter IV shows that water based activities enjoy strong support statewide. Additional fishing opportunities were desired by 15 percent of the population. More boating was requested by five percent and nearly three percent wanted more canoeing. At the same time, river management programs have been criticized because they might increase use to levels that would damage resources or infringe on property rights.

#### Measures and Priorities

1. A river management program linking the Wild and Scenic Rivers program, canoe and boating route program, shoreland flood plain program and the stream fisheries program should be developed by the DNR.
2. Both the DNR and Federal Interior should continue acquiring prime scenic landscapes along wild and scenic rivers.
3. Acquisition of lands through purchases or easements that are vital to providing public accesses, waysides, portages and camping areas on state canoeing and boating routes and wild and scenic rivers should be done by the DNR and Metropolitan Council.
4. The DNR should assess the statewide potential of Minnesota rivers as additions to the state's canoeing and boating route program.



5. Support employment of a management staff to administer the state Wild and Scenic Rivers program should be supported by the DNR and the Legislature.
6. Support appropriations to finance additional operations, maintenance, and interpretive personnel for the St. Croix National Scenic Riverway.
7. The DNR should coordinate river planning and management with the nation-wide research currently being developed by the U.S. Forest Service's North Central Forest Experiment Station.
8. Support appropriations to finance operations and maintenance personnel for the Wild and Scenic Rivers of Minnesota should be supported by the DNR and the Legislature.
9. The DNR and the Federal Forestry Experiment Station should sponsor additional rivers recreation research to determine the range of river related outdoor recreation opportunities sought by Minnesota's.

Issue/Opportunity: Publicly-owned lakeshore has more potential for recreation investment than public lands lacking water access.

Supporting Data: The major public owners of the lakeshore resource are the U.S. Department of Agriculture and the Minnesota Department of Natural Resources. Through their forestry divisions, these two agencies control over 1,500 miles of shoreline, or almost 75 percent of the publicly-owned lakeshore in Minnesota. The only other significant portion is the 12 percent administered by the various counties, primarily in northern Minnesota.

Most public lakeshore has been retained in an undeveloped state. However, during a time when this resource was considered to be in surplus, some of the public's best lakeshore was leased to private individuals, since at that time public demand was much less than today. Today, all major land-owning governmental agencies lease lakeshore lots totaling in the thousands statewide, most of them containing seasonal homes. At the same time, to accommodate increasing recreational demand, state and federal government agencies have been purchasing lakeshore property for the last two decades. Yet, except in a few instances, no public lakeshore that is leased for private use has been reconverted to public use for recreation or preservation.

#### Measures and Priorities:

1. Inventory the physical resources of all public shoreline and combine this inventory with lakeshore information already available.
2. Determine potential uses of each segment of public shoreline, including campgrounds, public access, scenic protection, fish and wildlife habitat preservation and rare and endangered species protection.
3. Adjust existing uses of those portions of state-owned shoreline with high potential values for public uses differing from current use and recommend appropriate recreation uses of those lakeshore portions owned by the federal government.

Issue/Opportunity: Need for additional public access to lakes and streams in Minnesota.

Supporting Data: Chapter IV data shows that Minnesotans desire additional boating, canoeing, hunting, fishing and swimming opportunities; all activities requiring access to water. Chapter III, describes the relative distribution of lakes and streams, existing swimming beaches, public access sites and other recreation facilities. Public access is concentrated in Development Regions 3, 4 and 5. Public beach is even more narrowly distributed (20 percent in Region 3). Chapter II addresses the roles of government agencies responsible for, or capable of, providing public access. This chapter notes DNR's and MN/DOT's statewide responsibility and the narrower role of the federal agencies, which is specific to defined locations.

#### Measures and Priorities

1. State, federal, regional and local agencies should seek increased funding for public access in Minnesota.
2. Public suppliers of public access should develop policy guidelines for locating, developing and managing public access.
3. Public recreation suppliers should seek to provide access close to urban areas and in the prime lake areas of the state.
4. Local units of government should assume a greater role in providing public access to lakes and streams within communities.
5. Public recreation suppliers should emphasize providing public access on high-quality fishing lakes with limited or no public access.
6. State and federal agencies should require that acquisition of public access be coordinated with fisheries and wildlife management programs, whenever possible.
7. To the extent they complied with legal safety constraints public access sites should include sufficient shoreland frontage to provide opportunities for unattended swimming.
8. Expand water recreation opportunities in those state administered recreation management units which have the potential to meet citizens priority water recreation needs.

## NATURAL DIVERSITY PROTECTION

Issue/Opportunity: Preservation of Minnesota's natural diversity.

Supporting Data: The protection of Minnesota's natural diversity has long been of concern to government, citizens and private groups. These groups have taken action to protect examples of Minnesota's natural diversity, usually on a case by case basis. However, rapidly expanding populations and their subsequent needs for food, fiber, and housing have accelerated losses to Minnesota's natural diversity. Curbing these losses demands that systematic approaches to preservation of natural diversity be established. Recognizing this, Minnesota established a pilot State Natural Heritage Program, to develop a systematic approach to natural diversity identification and protection.

### Measures and Priorities:

1. The state should expand research efforts to document natural diversity values or affirm the existence of specific elements of natural diversity.
2. The state should expand public information efforts so as to alert the private sector and all public agencies of the availability of comprehensive data on natural diversity.
3. State and federal agencies should evaluate the data collected so as to assess trade offs between development and protection in the environmental review process, and to develop protection priorities.
4. The state should continue to set aside areas (acquisition, easement, lease, register, cooperative agreements) of natural diversity so as to preserve a representation of each landscape region.
5. State and federal agencies should manage protected areas to perpetuate the natural diversity the areas were set aside for.
6. State agencies should seek legislation to protect rare, unique, threatened or endangered elements of natural diversity where sufficient habitat alone can not be acquired to protect an element of natural diversity.

## RECREATION ACTIVITIES

Issue/Opportunity: Provide additional opportunities for hunting.

Supporting Data: Chapter IV notes a strong statewide demand for additional hunting opportunities. Chapter III, shows the present distribution of public land and waters in Minnesota. The majority of this public land is located in the northern third of the state and is open to public hunting. However, most of this land is not set aside and managed specifically for wildlife and hunting opportunities. These purposes are merely two of many for which this land is managed. Further inspection of Chapter III reveals that a majority of the areas (wildlife management areas, waterfowl production areas, and wildlife refuges) managed specifically for wildlife production and hunting opportunities occur as a band of scattered ownership from the southwest-central to the northwestern portion of the state. A good share of these occur in the transition area of the state, with a majority of these areas established for waterfowl and other migratory birds. A lack of remaining wildlands, intensive agriculture, and limited public ownership in the southwestern and southern sector of the state limit the opportunity to hunt or provide habitat for wildlife populations.

### Measures and Priorities:

1. State and federal agencies should fill out ownership of existing WMAs and establish new ones in areas of high demand.
2. Whenever possible, state and federal agencies should couple acquisition of wildlife habitat with public access.
3. State and federal agencies should support and/or seek legislation that would provide financial incentives for preservation of wetlands.
4. State agencies should establish public relations programs that honor private citizens who significantly contribute to preservation of wildlife habitat.
5. Assist private landowners in developing programs that provide public hunting opportunities in private lands while assuming landowner concerns over misuse and abuse of their property.
6. State and federal agencies should establish new WMA and waterfowl production areas in prime wetland zones.
7. State agencies should acquire abandoned railroad rights-of-ways in southern and southwest Minnesota most suitable for wildlife habitat and hunting and manage them for those uses.
8. State agencies should intensively manage county ditches for wildlife habitat.
9. Provide access to large blocks of public land in prime hunting areas. Build roads only where they are compatible with other uses.

10. State and federal agencies should develop additional hunter support facilities (blinds, etc.) in selected areas managed for wildlife.
11. The state should develop a statewide deer management plan.
12. The state should encourage research on wildlife habitat issues and on public attitudes toward hunting.
13. The state should improve the coordination of forest management for timber purposes with wildlife production objectives.
14. The state should expand the wildlife program that provides for preservation and management of wildlife habitat on private lands, primarily in southern and southwestern Minnesota.

Issue/Opportunity: Expand fishing opportunities throughout the state.

Supporting Data: Chapter IV indicates a continuing, strong statewide demand for additional fishing opportunities. Chapter III provides information on the distribution of Minnesota's 6,000 fishing lakes and over 7,000 miles of fishing rivers and streams and public access to such bodies of water. The majority of the prime fishing lakes are concentrated in regions 3, 4 and 5 - northern and northcentral Minnesota. Chapter II indicates that although most recreation suppliers provide facilities such as public access and piers for fishing, only the DNR is responsible for managing the fish population.

Although southern lakes generally contain less desirable fish populations and are subject to periodic winterkill, their relative scarcity makes these lakes an important fishing resource. Expanded opportunities for fishing exist over most areas of the state. A largely ignored fish expansion opportunity exists relative to Minnesota's rivers and streams.

#### Measures and Priorities

1. Maintaining the individual plans developed for management of Minnesota's 6,000 fishing lakes and approximately 7,000 miles of warm and cold water fishing streams should be done by the DNR.
2. The DNR and local governments should intensify management of fisheries near population centers and areas of concentrated summer home development including the Metro Area.
3. The DNR should emphasize lake rehabilitation and fisheries management in southern and southwestern Minnesota.
4. The DNR should accelerate the improvement and management of warm and cold water streams.
5. The DNR should preserve spawning areas throughout the state for game fish.
6. Acquisition of shoreline and/or develop structures for bank fisherman (piers and docks), primarily in urban areas should be done by the DNR and local governments.

7. See public access issue for additional measures, page 5.10.
8. The DNR should intensify effort to protect fish habitat from destruction by incompatible water uses, such as navigational channel maintenance, discharge of deleterious effluents, and destructive shoreland developments.
9. The DNR should establish a catchable stock of striped bass (marine species) in Lake Pepin to supplement existing game fish and to utilize the over abundant gizzard shad as well as other undesirable fish species.
10. Restoring self sustaining lake trout populations in Minnesota's waters of Lake Superior and establish a population of Pacific Salmon for summer anglers should be done by the DNR.

Issue/Opportunity: Insufficient camping opportunities exist in Minnesota.

Supporting Data: Minnesotans want more camping facilities or opportunities. Chapter IV shows that camping is consistently at or near the top of the list in every region. Facility data in Chapter III tends to support this: More than half the state's campgrounds are in Development Regions 3, 4, and 5; the average time residents are willing to travel to camp is one to two hours, but the bulk of the campgrounds are distant from population centers.

In recent years, the state has emphasized campground development in state parks, and all state park plans completed to date show new campground development. Camping in state parks provides only one of the many types of possible camping experiences. In fact the DNR owns many very high quality potential campgrounds or recreation sites outside of state parks. These have not received development emphasis as the current program has concentrated on state parks.

#### Measures and Priorities:

1. Increase the number of campsites in a state park only when higher quality publicly owned sites don't exist near the park.
2. Restructure the state's program developing campgrounds so the campgrounds are placed on the highest quality publicly owned sites regardless of what division owns them and so the state provides a full area of camping opportunities.
3. Expand the number of campsites and campgrounds in state forests that address the needs of campers desiring more primitive and dispersed sites than found in state parks.
4. Provide additional primitive camping areas in state forests.
5. Accelerate the provision of river user oriented campsites on wild and scenic rivers and canoeing and boating routes.
6. Provide additional campgrounds on Corps of Engineers projects.

7. Encourage the development and publicizing of camping facilities on lakes and streams in the Superior and in the Chippewa National Forests where need is apparent.
8. Provide campsites adjacent to lakes and streams on military lands.
9. Encourage the private sector to provide heavily developed campgrounds near major recreation areas.
10. Coordinate campsite development with the public access program, when feasible.

Issue/Opportunity: Increased swimming opportunities is a perceived need in Minnesota.

Supporting Data: Chapter IV indicates that, statewide, nearly 11 percent of the population desires expanded swimming opportunities, with support for this expansion constant in both the Twin Cities Metropolitan Area and the balance of the state. It also indicates that residents are not willing to travel far to swim.

The statewide inventory of swimming facilities in Chapter III shows nearly 2,100 beaches but about 1,800 of them are privately held, and they are located generally distant from population centers. The number of swimming pools is even smaller. There are only 272 swimming pools in the state available to the public.

#### Measures and Priorities

1. Development of unattended swimming beaches in conjunction with public access should be by the DNR.
2. The Legislative Committee on Minnesota Resources should reassess the policy of not allotting matching LAWCON funds for swimming pool development.
3. The State Planning Agency's Office of Local and Urban Affairs and the DNR should encourage the private development of swimming pools through technical assistance and information on cooperative pool development projects.
4. The DNR should expand the provision of swimming beaches in units of the Minnesota Outdoor Recreation System.

Issue/Opportunity: User preferences and demands need to be more strongly considered in trail acquisition and development.

Supporting Data: Data from the recreation surveys indicates that trail activities are not the central reason for most recreation outings, especially when trips are an hour's drive or more. In these cases, the primary activity is, for example, fishing, hunting, camping, or birdwatching. Therefore it is doubtful whether trails distant from population centers will draw great use unless they are closely associated with central activity facilities.

DNR research and the work of others also shows that different types of trail users often conflict with each other. Those conflicts are: cross-country skiing and snowmobiling; cross-country skiing and snowshoeing; snowshoeing and snowmobiling; bicycling and hiking; bicycling and horseback riding; hiking and horseback riding.

When the user conflict is centered in differing experiences being desired by the users, the conflict cannot be overcome with separate, adjacent treadways. However, when the user conflict is based upon negative impacts on the treadway, separate treadways may mitigate the conflict. The latter types of conflict are: cross-country skiing and snowshoeing; bicycling and hiking; hiking and horseback riding; bicycling and horseback riding.

Meeting other trails users, even those seeking the same experience, can create a negative impact. For this reason, encounters are a major parameter of trail capacity. When the option is available, the simplest way to reduce the chance of encounter is to develop trail networks rather than simple straight line or loop trails, which also answers another universal user desire: trails that return to their starting point.

User demand should have a strong effect on the location of trail development. Since meeting demand requires that the right kind of trail be close enough to the demand to help satisfy it. Chapter IV establishes that bicycling trails are the most requested facilities statewide, and the lion's share of this demand is near metropolitan areas. Snowmobile trails are also desired, but residents of rural regions have a stronger desire than residents of urban regions.

Willingness to travel for trail recreation is lowest for bicycling, hiking and cross-country skiing. Moderate trips will be taken for snowmobiling and horseback riding. Backpackers will travel the greatest distances.

Additional direction for meeting demand is found in participation trends. Bicycling, cross-country skiing and hiking show increasing participation. Trail-biking is increasing in southern Minnesota but not in the northern half of the state.

#### Measures and Priorities:

1. Provision of bicycle trails should be strongly emphasized. Since people won't travel far to bicycle they should be placed close to metropolitan areas, the source of the majority of the demand. These trails should be developed as part of an overall bikeway system rather than as scattered segments.
2. Abandoned railroad rights-of-way close to cities should be carefully considered for purchase. Because use will be local in nature, cooperative management agreements should be entered into with local governments, to ensure local input into operations and management.



3. Winter use of trails on abandoned railroad rights-of-way should be parcelled between snowmobiling and cross-country skiing, with no mixing of these activities. The nearer to metropolitan centers, the higher the priority should be for cross-country skiing, and the closer the alignment runs to homes, the lower the priority should be for snowmobiling.
4. State parks near metropolitan areas should receive high priority for development of loop and network trails, primarily for cross-country skiing, hiking and biking.
5. The DNR and the Metropolitan Council should seek to overcome barriers to cross-country skiing trail development in urban areas and to use undeveloped strips of land in urban centers as trail network segments.
6. Straight-line trails should have hiking and skiing loops developed at access points and along the trail when they pass through blocks of public lands.
7. Rural area state parks should receive moderate priority for horse trails, if the resource can carry the use.
8. The North Shore trail should have a summer alignment designed for hiking, based on the North Shore Mineland Reclamation Study, in addition to the current winter snowmobiling alignment. This trail would be the state's major facility for backpacking.
9. The policy of locating trails near urban centers should be primary. The priority should go to trail segments that complete networks (loops within the networks should be 10 miles long or less), followed by loop trails; straight-line trails should receive the lowest priority.
10. The only trail uses that should be mixed seasonally are cross-country skiing with snowshoeing, and bicycling with hiking.
11. Continue development of single use (by season) loop and network trails in areas that already have other recreation facilities.
12. Assess the potential for non-motorized and motorized trails on land in Minnesota's two national forests.
13. Develop more accesses, waysides and campsites in association with state trails.
14. Develop areas for trail bikes. The feasibility of developing these areas in recreational state parks, state forests and federal forests and along state trails should be addressed.
15. Continue to research the habits and desires of trail users with special emphasis on summer trail use.

## HISTORIC OPPORTUNITIES

Issue/Opportunity: Interest in, and concern for, historical preservation is increasing in Minnesota.

Supporting Data: An increasingly mobile and opportunity seeking American society is exhibiting a growing sense of need for continuity with its past, a need expressed in a variety of ways. Interest in family history has produced a boom in geneology; aging neighborhoods are being restored; historic and architecturally significant buildings are being preserved and/or restored; interest in cultural traditions of ethnic groups has experienced a notable resurgence; and Minnesota residents are turning to state and local historical societies in increasing numbers.

One measure of public interest is the growing pressure on the facilities of the Minnesota Historical Society. Mail and telephone calls have doubled in the last ten years. Use of the manuscripts, reference library and other Society resources is growing in kind.

### Measures and Priorities

1. The DNR, Historical Society, and the Federal Government should continue identifying and designating state and nationally significant historic sites and monuments in Minnesota.
2. New legislation to strengthen preservation and interpretation of the state's cultural resources should be sought by the State Planning Agency and the DNR.
3. The DNR and the Historical Society should create plans for and begin implementation of a statewide archaeological interpretation program.
4. The Historical Society should identify, throughout the state, all historic places and structures of national, state and local significance worthy of preservation and specify status of administration.
5. The Historical Society should give priority to acquisition of a limited number of historical communities or neighborhoods, rather than small scattered single historical sites. Concentrate accelerated development of interpretive programs on neighborhoods and communities.
6. The Historical Society should complete and implement master plans for historic sites.
7. All eligible properties to the National Register of Historic Places should be nominated by the DNR and the Historical Society.
8. The Historical Society, the DNR and local governments should acquire lands and structures portraying Minnesota's historical and cultural heritage.

## LAND OWNERSHIP AND COOPERATIVE MANAGEMENT

Issue/Opportunity: Federal, state, county and private lands in northern Minnesota are so intermingled as to greatly hamper effective administration and management.

Supporting Data: Minnesota has an extremely complex pattern of land ownership as noted in Chapter III. This segmented ownership pattern increases management costs and decreases management options, because in many cases economics of scale cannot be realized on managing small scattered tracts of land.

### Measures and Priorities:

1. Continue the land-use classification work on DNR and county-administered lands so that recreational opportunities on public lands are thoroughly investigated.
2. Intensify land exchange programs between governmental agencies and with the private sector where public outdoor recreation opportunities and management efficiency would be improved.
3. Where land exchanges cannot be completed, initiate cooperative management agreements between governmental agencies to improve public outdoor recreation opportunities and management efficiency.

Issue/Opportunity: Fragmented ownership patterns hamper recreation development in Minnesota state parks.

Supporting Data: Approximately 20,000 acres - roughly 10 percent of the land within the statutory boundaries of state parks - remains in private ownership. These private in-holdings often occur in key locations and interfere with the optimum routing of trails, siting of campgrounds and other park development. An additional 10,000 acres of state forest trust fund lands within state parks result in similar park development problems.

### Measures and Priorities:

1. The DNR should acquire private in-holdings and state trust fund lands in state parks from willing sellers. Give priority to acquiring key tracts that will allow completion of high-quality trails, campgrounds and other facilities that the ORA project plans demonstrate have high priority development needs.

Issue/Opportunity: Improved inter-agency cooperation and coordination would strengthen efforts to provide recreation opportunities and facilities.

Supporting Data: Review of the roles of recreation suppliers documented in Chapter II reveals a large potential for duplication. The checks and balances of better inter-agency coordination can help avoid duplication, and provide a well-rounded set of recreation opportunities. This should be the major concern, not what department or agency provides a given facility or opportunity. Without this, efforts of recreation suppliers could potentially ignore

the important concerns of some users while providing an over abundance of opportunities for others. Additionally, failure to coordinate can cause recreation management costs to expand beyond the level they would reach under cooperative programs.

#### Measures and Priorities:

1. The U.S. Forest Service should continue planning of recreation areas in the Superior and Chippewa National Forests. It should give special consideration to motorized users displaced by federal BWCAW legislation and coordinate its actions with the National Park Service (NPS) so that the lands and waters along the northern border, which contains Voyageurs National Park, is comprehensively planned.
2. The U.S. Forest Service should coordinate recreation-oriented acquisition and development with other levels of government, in accordance with the SCORP action plan.
3. DNR's state forest planning program should be coordinated with the federal Resource Planning Act (RPA) process.
4. State fish and game programs should be coordinated with federal management activities on federal lands.
5. The DNR, National Park Service and the United States Forest Service should jointly provide information on recreation opportunities in northeast Minnesota. Information should be provided at inter-agency stations operated at strategic locations operated along major highways or at transportation terminals in Minnesota.
6. The U.S. Fish and Wildlife service should complete planning of the Minnesota Valley National Wildlife Refuge and coordinate this work with state and local planning efforts in the area.
7. The role of the Heritage Conservation Recreation Service as a technical service agency, providing coordinated planning data and assistance, should be expanded.
8. The Corps of Engineers should continue to coordinate its regulation of water levels in the Mississippi River and the reservoirs within the Headwaters project with other agencies to enhance recreation opportunities.
9. The Corps of Engineers should continue to coordinate its management of water levels in navigable rivers with other agencies to enhance fish and wildlife populations.
10. An ORPTAC (Outdoor Recreation Planning Technical Advisory Committee) research subcommittee should be formed to help assure inter-agency coordination of recreation research.
11. The Corps of Engineers should coordinate its provision of public access with the fisheries management activities of other agencies.

12. The State Planning Agency (SPA) should continue to review Minnesota Outdoor Recreation System unit plans.
13. The SPA and DNR should encourage the integration of SCORP into SPA, regional and local planning processes.
14. The SPA should encourage local units of government to use SCORP data as a basis for recreation grant applications and continue to coordinate and review the recreation components of comprehensive regional development plans.
15. Regional or local recreation facilities funded with LAWCON money should be acquired and developed along State Planning Agency, Office of Local and Urban Affairs guidelines.
16. Local units of government should continue to acquire high-quality recreation sites, in accord with the SPA's guidelines and Regional Development Commission recreation objectives.
17. Identification and acquisition of land for regionally significant parks should be accelerated at the regional or local level.
18. Local units of government should promote use of school district outdoor recreation facilities for local municipal recreation purposes under cooperative agreements between units of government.
19. Coordinate the administration of the state's Wild and Scenic Rivers program with the management of the Lower St. Croix River.
20. The DNR should provide local units of government with technical assistance in supporting local desires when those desires are not apparent at the regional data level in Chapter IV.

Issue/Opportunity: State, federal and county land can create problems for some local governments, especially when this property is used for outdoor recreation and attracts substantial numbers of visitors.

Supporting Data: Passage of the federal Payments in Lieu of Taxes Act and numerous statements by local government officials in Minnesota and elsewhere indicate that public lands are sometimes a burden to certain sectors of local government. Services often associated with public lands are cited as straining or surpassing local government budgets, when they should be supported by higher levels of government. These services include road maintenance, law enforcement, search-rescue and emergency services, public health, and waste disposal.

#### Measures and Priorities:

1. The DNR and Legislature should implement state legislation for state payment in lieu of taxes which reimburses local units of government for state and county-administered lands within their jurisdiction.
2. The DNR should seek legislation to authorize the retention of proceeds from the sale of other public lands in a land buying fund thus rewarding efficiency in public land ownership.

## INFORMATION

Issue/Opportunity: Duplicative and uncoordinated data management systems established for handling information on recreation users, recreation facilities, public information and for other purposes, result not only in inconsistent data management policies, but also inefficient operation.

Supporting Data: At least six public agencies maintain at least partly duplicative recreation-related data on "management areas" or "facilities" (resorts, parks, hotels, campgrounds), for example. Each agency separately manages only enough information to meet its legislative charge, whether for natural resource management, public (tourism) information or various licensing purposes. Six different contacts with a facility by six different agencies to maintain six separate data systems is grossly inefficient. This could be improved with a well-designed, multi-agency data system and interagency administrative agreements.

A somewhat similar but apparently less extensive situation exists with land ownership and recreation user files; similar coordination of multi-agency data system design could streamline these data management systems and allow continuous updating of some user data.

### Measures and Priorities:

Establish authority, responsibility and multi-agency consent to design and build three separate but related data systems that manage land ownership, recreation user, and facility-based data, cooperatively maintained and used by all involved agencies.

1. The DNR, Minnesota Department of Transportation and the Department of Economic Development should ensure system security through interagency agreements so that:
  1. One agency could not modify inherently confidential data managed by another agency, and
  2. One agency could collect or validate data for several agencies, with appropriate cost sharing agreements.

Issue/Opportunity: Information on recreation resources in Minnesota is neither catalogued nor transmitted to the public in anything approaching a comprehensive fashion.

Supporting Data: Much of the supporting data exposing this problem comes from the experience of professionals dealing with recreation data. It is a major task to find the location of data on resources, facilities and user patterns. Not only is the data spread within agencies, it is spread among divisions of agencies.

Additionally, the need for centralized, coordinated data distribution is felt by the public. Surveys conducted by the Metropolitan Council indicate that users of facilities have little knowledge of their options. The lack of options information is on a level as basic as regionally significant parks.

Measures and Priorities:

1. \* Establish a multi-agency cooperative agreement among the primary agencies that manage data systems relating to recreation and tourism.
  2. \* Standardize and coordinate data products and information dissemination methods as much as possible.
  3. \* Establish remote computer terminals at the several primary public information offices across the state, including:
    - a. the major Highway Information Centers
    - b. the Tourism Information Center(s)
    - c. the DNR License Center and other major points of public contact.
  4. \* Establish a standardized series of recreation information publications, pamphlets and maps made up of a collection of all agencies' data.
  5. \* Provide recreation facility data on microfiche and aperture cards, along with a film viewer-printer, to the various information centers.
  6. DED and DOT should coordinate design of the public tourism information system with roadside signing policies so that the public can easily locate tourism-related or recreational areas.
  7. DED and DNR should coordinate design of the public tourism information system with the Department of Economic Development (DED) system that manages the public's request for information.
  8. DED should investigate other agencies' use or input to DED's request handling system.
  9. \* Coordinate design of the public tourism information system with the various licensing agencies, since certain facilities can not be legally advertised to the public if they are not currently inspected and licensed for health, safety, etc.
  10. \* Establish information programs to alert on-site users of the opportunities available at units of the outdoor recreation system.
  11. DNR should provide interpretive information to enhance user's experiences with resources.
- \* Multi-Agency Committee, Department of Natural Resources, Department of Economic Develop, Department of Health and Department of Transportation should:

## PRIVATE SECTOR

Issue/Opportunity: Use private-sector resources to increase available recreation opportunities.

Supporting Data: Chapter III shows that private resorts control prime shoreline and water accesses throughout the state, and that most of these resorts are small (under 10 units). Tourism experts indicate that small resorts face financial difficulty due to undercapitalization, increasing prices and taxes and aging facilities. Many of these resorts are being converted to single family residences (both seasonal and permanent). In fact, the number of resorts has dropped by 1/3 in the last 15 years.

In addition, resorts, campgrounds and other public accommodations have objected to competition from state facilities in selected areas; for example requests for higher cabin rental fees at Itasca State Park.

### Measures and Priorities:

1. Develop and establish programs to preserve the resorts or campgrounds that occupy the highest quality sites on our prime recreation lakes. These programs can involve recapitalization, financial incentives for consolidation and the use of public redevelopment authorities.
2. Facilities developed within public recreation areas should not compete with similar existing private facilities. Furthermore, when private facilities do not currently but potentially could exist, public agencies will refrain from provision of these facilities for a reasonable length of time.
3. Establish a policy of leasing state land at the perimeter of recreation units, near gateways to allow private interests to develop needed facilities in a manner that maintains or adds to the desired unit atmosphere.
4. Encourage local land use regulations that direct development and uses of private land in a way that is complementary to adjacent public recreation areas.
5. Maintain and possibly develop the highway system that supports and makes possible the use of these high quality resources.
6. Continue development of public access in a manner that enhances the recreation development potential of land set back from lake shore in the state's major lake regions. In this case the public access system serves the same function as the highway system in terms of making investment and development possible.
7. Continue public development in the major lake regions to support and enhance private recreation development.
8. Establish an awards program to recognize private individuals who contribute to public recreation through fish and wildlife habitat enhancement.



9. Maintain public support of the private sector recreation industry through careful management of the high quality lake resource through:
  - (1) protection of water quality
  - (2) careful management of the shoreline resource and its development
  - (3) careful management of the watersheds of high quality lakes
  - (4) intensive management of the fish populations in the major recreation lakes
  - (5) preservation of high quality recreation experiences through management of the water surface in areas where private investment is great so as to enhance that investment.
10. Preserve for at least limited public use, the highest quality sites on the highest quality lakes. If resorts now occupy such sites guarantee that they will continue to be open to public use through redevelopment actions.

## DEVELOPMENT AND MAINTENANCE

Issue/Opportunity: The expansion of public outdoor recreation opportunities and facilities has placed an increasing burden on government agencies to finance operation and maintenance.

Supporting Data: In the professional judgement of planners and recreation administrators, operation and maintenance are increasing much faster than government agencies' budgets. However, there is little definitive information on the exact nature of these increasing overhead costs in specific terms - greater numbers of users, additional management staff and new or additional types of equipment, for example.

### Measures and Priorities

1. Determine what factors are causing the major increases in operation and maintenance costs.
2. Initiate cooperative management agreements among public agencies for maintenance of recreation facilities through sharing of personnel and equipment. Use these agreements whenever possible, before employing other methods to increase operation and maintenance funds.
3. Seek legislation to tax certain recreation equipment used in conjunction with recreation facilities so that revenues can be used for operation and maintenance of those facilities. (See Measures and Priorities for trails)
4. Request additional operation and maintenance funding based on demonstrated needs and plans.
5. Assess instituting or raising user fees for certain recreation facilities to fund operation and maintenance.
6. Give low-maintenance facilities priority consideration in future outdoor recreation development.





APPENDIX A

MINNESOTA DEPARTMENT OF NATURAL RESOURCES

ANNOTATED BIBLIOGRAPHY



MINNESOTA DEPARTMENT OF NATURAL RESOURCES  
ANNOTATED BIBLIOGRAPHY

OFFICE OF PLANNING  
RESEARCH AND POLICY SECTION

SCORP Demand Survey Documentation Series

Anthony, William. Regional Recreation Modeling. Logan, Utah: Utah State University, 1978, Report Number 2313.

A modeling system used to estimate the number of recreation occurrences for any year through 1993 by activity, region of origin and region of participation.

Cost: \$2.50 available through Research and Policy Section - see page A.013.

Anthony, William. Demographic Data Winter Telephone Survey Compared to State Demographer's Expansions. Logan, Utah: Utah State University, 1978, Report Number 2314.

This report compares the characteristics of sample respondents to those of the state's population. These comparisons indicate how well the sample represents the population.

Cost: \$3.15 available through Research and Policy Section - see page A.013.

Anthony, William. Ownership of Land on Which Winter Recreation Occurs. Logan, Utah: Utah State University, 1979, Report Number 2318.

Tables on land ownership and winter recreation information is contained in this report with a brief explanation on how to interpret and analyze them.

Cost: \$3.75 available through Research and Policy Section - see page A.013.

Anthony, William. Projections of Winter Recreation Occasions 1978-1995. Logan, Utah: Utah State University, 1979, Report Number 2319.

This report addresses the methodology and results of the long range projections of winter recreation occasions in each of Minnesota's 13 Development Regions for the years 1970, 1985, 1990 and 1995.

Cost: \$2.50 available through State Document Division - see page A.013.

Anthony, William. Daily and Weekly Levels of Winter Outdoor Recreation Participation. Logan, Utah: Utah State University, 1979, Report Number 2320.

This report presents the tabular results of daily and weekly participation distribution from data collected in a recreation participation survey during 1977-1978 winter season.

Cost: \$5.70 available through Research and Policy Section - see page A.013.

Anthony, William. Ownership of Land on Which Summer Recreation Occurs. Logan, Utah: Utah State University, 1979, Report Number 2325.

A number of tables on summer recreation occurrences by land ownership with an explanation on how to interpret and analyze them.

Cost: \$3.80 available through Research and Policy Section - see page A.013.

Anthony, William. Projection of Summer Recreation Occasions 1978-1995. Logan, Utah: Utah State University, 1979, Report Number 2326.

This report addresses the methodology and results of the long range projections of summer recreation occasions in each of Minnesota's 13 Development Regions for the years 1970, 1985, 1990 and 1995.

Cost: \$2.25 available through Research and Policy Section - see page A.013.

Anthony, William. Daily and Weekly Levels of Summer Outdoor Recreation Participation. Logan, Utah: Utah State University, 1979, Report Number 2327.

This report presents the tabular results of daily and weekly participation patterns from data collected in a recreation participation survey sponsored by the Minnesota Department of Natural Resources during the 1978 summer season.

Cost: \$10.00 available through Research and Policy Section - see page A.013.

Anthony, William. An Analysis of Minnesota Hunting Questionnaire. Logan, Utah: Utah State University, 1979, Report Number 2329.

A study of the resident hunter so resource managers might better understand the wants and needs of Minnesota hunters. This report presents the summarized findings.

Cost: \$6.95 available through Research and Policy Section.

Becker, William H. and Michael J. Dalton. Interviewers Manual - Winter Telephone Survey. Logan, Utah: Utah State University, 1977, Report Number 2306.

Insights on how to conduct and receive accurate and reliable data in a winter telephone survey on recreation.

Cost: \$3.15 available through Research and Policy Section - see page A.013.

Becker, William H. Computer Coding Manual Summer Telephone Survey. Logan, Utah: Utah State University, 1978, Report Number 2307.

Instructions on coding verbal or written responses into a numeric format that will be easily, quickly and accurately readable by a computer.

Cost: \$3.00 available through Research and Policy Section - see page A.013.

Becker, William H. and Michael J. Dalton. Interviewers Manual - Summer Telephone Survey. Logan, Utah: Utah State University, 1978, Report Number 2310.

Insights on how to conduct and receive accurate and reliable data in a summer telephone survey on recreation.

Cost: \$3.50 available through Research and Policy Section - see page A.013.

Becker, William H. SCORP Surveys An Overview. Logan, Utah: Utah State University, 1978, Report Number 2317.

This document contains the questionnaire schedules used in the SCORP surveys and explains the objectives and sampling techniques of each one in obtaining recreation data for the State of Minnesota.

Cost: \$5.50 available through Research and Policy Section - see page A.013.



Dalton, Michael J. Telephone Survey Pretest and Pretest Questionnaires. Logan, Utah: Utah State University, 1977, Report Number 2301.

This document contains a series of questionnaires that were telephonically administered in September 1977 for data on outdoor recreation in Minnesota. Cost: \$7.50 available through Research and Policy Section - see page A.013.

Dalton, Michael J. Telephone Survey Pretest Results and Recommendations. Logan, Utah: Utah State University, 1977, Report Number 2302.

This document contains the pretest results and recommendations from the telephone survey administered in September 1977 (see Report Number 2301). Cost: \$3.30 available through Research and Policy Section - see page A.013.

Dalton, Michael J. and William H. Becker. Winter Mailed Questionnaires, 1978, Report Number 2305.

A series of mailed questionnaires which are companion to the SCORP Winter Recreation Telephone Survey that were mailed directly to identified participants in hunting, snowmobiling or cross-country skiing. Cost: \$4.35 available through Research and Policy Section - see page A.013.

Dalton, Michael J. Minnesota Cross-Country Skiers. Logan, Utah: Utah State University, 1979, Report Number 2321.

Contained in this report are the survey results of known cross-country skiers dealing with many aspects of cross-country skiing in Minnesota. Tables showing the breakdown of the results for each of the 13 Minnesota Development Regions are also included in the report. Cost: \$2.25 available through State Document Division - see page A.013.

Dalton, Michael J. Minnesota Camping. Logan, Utah: Utah State University, 1979, Report Number 2333.

The results of a survey that attempted to identify the intensity of camping, types of camping, types of camp grounds desired and the socio-psychological types of campers. Cost: \$5.75 available through Research and Policy Section - see page A.013.

Duering, Gail E. Condition of the Winter 1977-78 Participation Data. Logan, Utah: Utah State University, 1978, Report Number 2308.

Checking the data on Winter participation for coding errors, lack of coding, and key punch errors. Cost: \$3.60 available through Research and Policy Section - see page A.013.

Duering, Gail E. Methodology for the Calculation of Outdoor Recreation Participation and Inter-Regional Recreation Participation Flows. Logan, Utah: Utah State University, 1978, Report Number 2315.

The methodology used in the calculation of recreation participation flows in Minnesota. Cost: \$2.60 available through Research and Policy Section - see page A.013.

Parent, C. R. Michael. Telephone Survey Sampling Methods. Logan, Utah: Utah State University, 1977, Report Number 2303.

Evaluation of the pros and cons of various sampling methods as they relate to sample size.

Cost: \$2.90 available through Research and Policy Section - see page A.013.

Parent, C. R. Michael. Inter-Regional Winter Recreation Activity Occasion Flows. Logan, Utah: Utah State University, 1979, Report Number 2316.

A tabulated survey on the frequency of occasions by activity type by region of origin and region of occurrence and the methodology followed to arrive at the figures in the appendices of the report.

Cost: \$2.75 available through State Document Division - see page A.013.

Parent, C. R. Michael. Minnesota Snowmobile Report. Logan, Utah: Utah State University, 1979, Report Number 2322.

Contained in this report are the survey results of known snowmobilers dealing with many aspects on snowmobiling in Minnesota. This report presents data in summary form and on a regional basis.

Cost: \$1.75 available through State Document Division - see page A.013.

Parent, C. R. Michael. Inter-Regional Summer Recreation Activity Occasion Flows. Logan, Utah: Utah State University, 1979, Report Number 2324.

A tabulated survey on the frequency of occasions by activity type by region of origin and region of occurrence and the methodology followed to arrive at the figures in the appendices of the report.

Cost: \$3.00 available through State Document Division - see page A.013.

Parent, C.R. Michael. Minnesota Vacation Home. Logan, Utah: Utah State University, 1980, Report Number 2332.

The results of a survey taken of vacation home owners and the use of their vacation homes during the year.

Cost: \$2.90 available through Research and Policy Section - see page A.013.

### SCORP Resource Information

Office of Planning, Research and Policy Section, Minnesota Department of Natural Resources. Regional Component of the Statewide Comprehensive Outdoor Recreation Plan, 1979. (Section 1 SCORP Index)

An overview of resources, facilities, demand and policies presently within the region. (Minnesota Department of Natural Resources is working with 13 Regional Development Commissions and prepares a separate Index document for each.)

Office of Planning, Research and Policy Section, Minnesota Department of Natural Resources. Index to Maps of Resources and Outdoor Recreation Facilities, 1979. (Section 2 SCORP Index)

A documentation of the regional resources and outdoor recreation facility maps for the region. (Minnesota has 13 Regional Commissions and prepares a separate document for each.)

Office of Planning, Research and Policy Section, Minnesota Department of Natural Resources. Maps of Resources and Outdoor Recreation Facilities Development Region.

A series of maps pertaining to resources and outdoor recreation facilities in a specific Development Region.

Office of Planning, Research and Policy Section, Minnesota Department of Natural Resources. State of Minnesota Public Land Ownership 1978 (1979). (Map and Text supplement to map).

The Public Land Ownership Map presents, for the first time on a single, large-scale map, the complex public landownership pattern of the entire state of Minnesota. This map is a product of a Legislative Commission on Minnesota Resources (LCMR) program to accelerate the collection, standardization, and computerization of public land ownership records.

Copies of the map and map text are available from the State Document Division at a cost of \$3.00 combined - see page A.013.

Office of Planning, Research and Policy Section, Water Policy Planning Program, Minnesota Department of Natural Resources. Minnesota Watershed Mapping Project 1979 (Map and supplement).

The "State of Minnesota Watershed Boundaries - 1979" map and map supplement provides an overview of a major effort to develop detailed boundary mapping of over 5,000 watershed, each of which is an area of at least five square miles and is enclosed by a continuous height of land drainage divide, enables close examination of the relationship between Minnesota's land and water, and will improve both planning for and management of the state's waters. The watershed map is a graphic representation that summarizes detailed maps and computer-retrievable data now available through the Department of Natural Resources (DNR) and the State Planning Agency (SPA).

Copies of the map and the map supplement are available from the State Document Division at a cost of \$3.00 combined - see page A.013.

Thornton, James. Common Stream and Watershed Numbering System, 1980. Office of Planning, Research and Policy Section, Minnesota Department of Natural Resources.

Stream and Watershed Numbering System used to number over 5,600 minor watersheds delineated within the State. The system hydrologically orders the watersheds and establishes the inter-relations of watersheds to the whole land and water network. In addition, this report provides insights on how the numbering system can be used as a common link between sets of water related data collected by various agencies.

Cost: \$ 2.70 available through the Research and Policy Section - see page A.013.

Minnesota Department of Natural Resources

Office of Planning, Research and Policy Section. State of Minnesota Watershed Boundaries Mapping Procedure Manual 1979.

Documentation of the systematic rules and guidelines used to delineate and geocode watershed boundaries.

Cost: \$2.20 available through the Research and Policy Section - see page A.013.

Office of Planning, Research and Policy Section, Minnesota Department of Natural Resources. Statewide Comprehensive Outdoor Recreation Plan 1979.

A document containing the resources and facilities of the state and the needs and desires of the people. SCORP also presents the Department's recommended actions for meeting the needs of the people and to preserve and protect the natural resources.

Cost: \$15.00 available through the Research and Policy Section - see page A.013.

SCORP Facility Inventory

Poate, John. Coding Instructions - Minnesota Statewide Comprehensive Outdoor Recreation Plan Inventory, September 1979. Office of Planning, Research and Policy Section, Minnesota Department of Natural Resources.

Intended as technical reference for data entry and as documentation that describes the data system's structure. It is continually being modified and expanded, and is intended primarily for the internal use of the Department of Natural Resources, as a technical manual, and is not printed in quantity.

Poate, John. Office of Planning, Research and Policy Section, Minnesota Department of Natural Resources. SCORP County Maps 1979.

A 130 map sheet series, manually drafted on 1/2" = 1 mile scale base maps, with a computer-generated listing of all outdoor recreation areas attached.

SCORP Inventory facilities can also be computer-mapped at a variety of scales, through the computer language EPPL5.

Copies of SCORP County Maps are available through the State Document Division at a cost of \$2.00 a sheet - see page A.013.

Department of Natural Resources, Outdoor Recreation Act Management Unit Policy

Office of Planning, Research and Policy Section, Minnesota Department of Natural Resources. Areas of Solitude (1979).

Policies established by the Department pertaining to areas of solitude in the state. Sets out guidelines for resource and recreation management.

Office of Planning, Research and Policy Section, Minnesota Department of Natural Resources. Scientific and Natural Areas (1979).

Policies established by the Department pertaining to scientific and natural areas in the state. Sets out guidelines for resource and recreation management.

Office of Planning, Research and Policy Section, Minnesota Department of Natural Resources. Wilderness Areas Policy (1978).

Policies established by the Department pertaining to wilderness areas in the state. Sets out guidelines for resource and recreation management.

Copies of the policy documents available through the Research and Policy Section at no cost - see page A.013.

## RIVERS SECTION

### Wild and Scenic Rivers

Rivers Section, Minnesota Department of Natural Resources. A Management Plan for the Kettle River (1974 ).

A management proposal for inclusion in Wild and Scenic Rivers System.

Rivers Section, Minnesota Department of Natural Resources. A Management Plan for the Mississippi River, St. Cloud to Anoka (1976).

A management plan as mandated by the Outdoor Recreation Act of 1975.

Rivers Section, Minnesota Department of Natural Resources. A Management Plan for the North Fork of the Crow River, Meeker County (1976).

A management plan as mandated by the Outdoor Recreation Act of 1975.

Rivers Section, Minnesota Department of Natural Resources. A Management Plan for the Minnesota River, Lac qui Parle to Franklin (1977).

A management plan as mandated by the Outdoor Recreation Act of 1975.

Rivers Section, Minnesota Department of Natural Resources. A Management Plan for the Crow Wing River (1977 ).

A management proposal for inclusion in the Wild and Scenic Rivers System.

Rivers Section, Minnesota Department of Natural Resources. A Management Plan for the Rum River, Lake Ogechie to Anoka (1978).

A management plan as mandated by the Outdoor Recreation Act of 1975.

Rivers Section, Minnesota Department of Natural Resources. A Management Plan for the Cloquet River (1978).

A management proposal for inclusion in the Wild and Scenic Rivers System.

Rivers Section and Bureau of Engineering, Minnesota Department of Natural Resources. Cannon River Resource Analysis (1979).

A resource analysis of the Cannon River.

Rivers Section and Bureau of Engineering, Minnesota Department of Natural Resources. A Management Proposal for the Cannon River (1979).

A management plan for the Cannon River as mandated by the Outdoor Recreation Act of 1975.

Rivers Section, Minnesota Department of Natural Resources. A Management Plan for the Minnesota River: Resource Analysis (1979).

A management plan for the Minnesota River as mandated by the Outdoor Recreation Act of 1975.

Rivers Section, Minnesota Department of Natural Resources. A Management Plan for the Minnesota River (1979).

A management proposal for inclusion in the Wild and Scenic Rivers System.

Rivers Section, Minnesota Department of Natural Resources. Minnesota's Wild and Scenic River's (brochure) (1978).

Description of the Wild and Scenic Rivers Program.

Rivers Section, Minnesota Department of Natural Resources. Rum River: A Guide to Buying and Selling Property Along Wild and Scenic Rivers (1979).

Explanation of Wild and Scenic River provisions and how they affect landowners.

Rivers Section, Minnesota Department of Natural Resources. Mississippi River (St. Cloud to Anoka): A Guide to Buying and Selling Property Along Wild and Scenic Rivers (1980).

Explanation of Wild and Scenic River provisions and how they affect landowners.

Rivers Section, Minnesota Department of Natural Resources. Cannon River: A Guide to Buying and Selling Property Along Wild and Scenic Rivers (1980).

Explanation of Wild and Scenic River provisions and how they affect landowners.

Supply of these river management plans are limited. In most cases copies are only available to the public from certain public institutions and the State of Minnesota Document Division. If a copy or portion of a plan is needed contact the Document Division for more information - see page A.013.

#### PARK PLANNING

Park Planning Section, Minnesota Department of Natural Resources. A Management Plan for O. L. Kipp State Park, June, 1979.

A management plan for O.L. Kipp State Park, (as mandated by the Outdoor Recreation Act of 1975).

Park Planning Section, Minnesota Department of Natural Resources. A Management Plan for Maplewood State Park, December, 1978.

A management plan for Maplewood State Park, (as mandated by the Outdoor Recreation Act of 1975).

Park Planning Section, Minnesota Department of Natural Resources. A  
Management Plan for Lake Maria State Park, June, 1979.

A management plan for Lake Maria State Park, (as mandated by the Outdoor Recreation Act of 1975).

Park Planning Section, Minnesota Department of Natural Resources. A  
Management Plan for Scenic State Park, November, 1978.

A management plan for Scenic State Park, (as mandated by the Outdoor Recreation Act of 1975).

Park Planning Section, Minnesota Department of Natural Resources. A  
Management Plan for Sibley State Park, April, 1979.

A management plan for Sibley State Park, (as mandated by the Outdoor Recreation Act of 1975).

Park Planning Section, Minnesota Department of Natural Resources. A  
Management Plan for Camden State Park, September, 1979.

A management plan for Camden State Park, (as mandated by the Outdoor Recreation Act of 1975).

Park Planning Section, Minnesota Department of Natural Resources. A  
Management Plan for Afton State Park, May, 1979.

A management plan for Afton State Park, (as mandated by the Outdoor Recreation Act of 1975).

Park Planning Section, Minnesota Department of Natural Resources. A  
Management Plan for Father Hennepin State Park, August, 1978.

A management plan for Father Hennepin State Park, (as mandated by the Outdoor Recreation Act of 1975).

Park Planning Section, Minnesota Department of Natural Resources. A  
Management Plan for Fort Snelling State Park, June, 1978.

A management plan for Fort Snelling State Park, (as mandated by the Outdoor Recreation Act of 1975).

Park Planning Section, Minnesota Department of Natural Resources. A  
Management Plan for Forestville State Park, September, 1978.

A management plan for Forestville State Park, (as mandated by the Outdoor Recreation Act of 1975).

Park Planning Section, Minnesota Department of Natural Resources. A  
Management Plan for Interstate State Park, September, 1979.

A management plan for Interstate State Park, (as mandated by the Outdoor Recreation Act of 1975).

All of the above park plans are available through the Park Planning Section at no charge - quantities are limited - see page A.013.

## DIVISION OF FISH AND WILDLIFE

### SECTION OF WILDLIFE

#### Management Area Plans

Division of Fish and Wildlife, Minnesota Department of Natural Resources.  
Carlos Avery Management Area Master Plan, 1977-1986, August 1977.

A master plan for Carlos Avery Wildlife Management Area, (as mandated by the Outdoor Recreation Act of 1975).

Division of Fish and Wildlife, Minnesota Department of Natural Resources. Lac qui Parle Management Area Master Plan, 1977-1986, August 1977.

A master plan for Lac qui Parle Wildlife Management Area, (as mandated by the Outdoor Recreation Act of 1975).

Division of Fish and Wildlife, Minnesota Department of Natural Resources.  
Mille Lacs Management Area Master Plan, 1977-1986, August 1977.

A master plan for Mille Lacs Wildlife Management Area, (as mandated by the Outdoor Recreation Act of 1975).

Division of Fish and Wildlife, Minnesota Department of Natural Resources.  
Talcot Lake Management Area Master Plan, 1977-1986, August 1977.

A master plan for Talcot Lake Wildlife Management Area, (as mandated by the Outdoor Recreation Act of 1975).

Division of Fish and Wildlife, Minnesota Department of Natural Resources.  
Whitewater Management Area Master Plan, 1977-1986, August 1977.

A master plan for Whitewater Wildlife Management Area, (as mandated by the Outdoor Recreation Act of 1975).

Informational brochures have also been published for the above Fish and Wildlife management areas. These include a brief summary of the master plan and a large-scale map of the unit with roads, development, general vegetation and land ownership.

All of these publications are available from the Section of Wildlife. No charge for publications. The supply of master plans is limited (50-80 each). All requests for copies may not be filled. Brochures are in fairly good supply and may be reprinted - see page A.013.

## TRAILS AND WATERWAYS

### TRAIL PLANNING SECTION

#### Trail Plans

Trail Planning Section, Minnesota Department of Natural Resources. A Management Plan for the Fon du Lac Ski Touring and Hiking Trail State Forest Day Use Sub-Area (1978).

A management plan as mandated by the Outdoor Recreation Act of 1975.



Trail Planning Section, Minnesota Department of Natural Resources. A Management Plan for the Wealthwood Ski Touring and Hiking Trail State Forest Day Use Sub-Area (1978).

A management plan as mandated by the Outdoor Recreation Act of 1975.

Trail Planning Section, Minnesota Department of Natural Resources. A Management Plan for the Washburn Lake Solitude Area and Adjacent Ski Touring and Hiking Trail State Forest Day Use Sub-Area (1978).

A management plan as mandated by the Outdoor Recreation Act of 1975.

Trail Planning Section, Minnesota Department of Natural Resources. A Management Plan for the Spider Lake Ski Touring and Hiking Trail State Forest Day Use Sub-Area (1978).

A management plan as mandated by the Outdoor Recreation Act of 1975.

Trail Planning Section, Minnesota Department of Natural Resources. A Management Plan for the Remote Lake Solitude Area Ski Touring and Hiking Trail State Forest Day Use Sub-Area (1978).

A management plan as mandated by the Outdoor Recreation Act of 1975.

Trail Planning Section, Minnesota Department of Natural Resources. A Management Plan for the Rock Lake Solitude Area Ski Touring and Hiking Trail State Forest Day Use Sub-Area (1978).

A management plan as mandated by the Outdoor Recreation Act of 1975.

Trail Planning Section, Minnesota Department of Natural Resources. A Management Plan for the Golden Anniversary Ski Touring and Hiking Trail State Forest Day Use Sub-Area (1978).

A management plan as mandated by the Outdoor Recreation Act of 1975.

All of the above Trail Plans are available through the Trail Planning Section, but the supply is limited - see page A.013.

Trail Planning Section, Minnesota Department of Natural Resources. A Management Plan for the Thistledew Ski Touring and Hiking Trail State Forest Day Use Sub-Area (1978).

A management plan as mandated by the Outdoor Recreation Act of 1975.

Cost: \$2.50, Copies available through State Document Division - see page A.013.

Trail Planning Section, Minnesota Department of Natural Resources. A Management Plan for the Ash River Falls Ski Touring and Hiking Trail State Forest Day Use Sub-Area.

A management plan as mandated by the Outdoor Recreation Act of 1975.

Cost: \$2.50, Copies available through State Document Division - see page A.013.

Trail Planning Section, Minnesota Department of Natural Resources. A Management Plan for the Wet Bark Trail.

A management plan as mandated by the Outdoor Recreation Act of 1975.

Trail Planning Section, Minnesota Department of Natural Resources, Master Plan for the Heartland Trail (1979).

A master plan for the Heartland Trail as mandated by the Outdoor Recreation Act of 1975.

Cost: \$2.50, Copies available through State Document Division - see page A.013.

### Canoe and Boating Routes

Breining, Greg and Linda Watson. A Gathering of Waters 1977.

A guide to canoeing Minnesota designated canoe and boating route rivers.

Cost: \$5.00, Copies available through the State Document Division - see page A.013.

Minnesota Canoe Trails (brochure (1976)).

Description of Canoe and Boating Route Program.

Canoe Route Map series (30 maps on 18 designated canoe and boating route rivers) (1976)

Pocket-sized maps for use on canoe outings

Copies of canoe route maps are available through Minnesota Department of Natural Resources, Trails and Waterways Unit at no cost - see page A.013.

Addresses for Reference Material

Document Division  
117 University Avenue  
St. Paul, Minnesota 55155

Department of Natural Resources  
Office of Planning  
Research and Policy Section  
Box 10  
Centennial Office Building  
St. Paul, Minnesota 55155

Department of Natural Resources  
Office of Planning  
Rivers Section  
Box 10  
Centennial Office Building  
St. Paul, Minnesota 55155

Department of Natural Resources  
Office of Planning  
Park Planning Section  
Box 10  
Centennial Office Building  
St. Paul, Minnesota 55155

Department of Natural Resources  
Division of Fish and Wildlife  
Section of Wildlife  
Box 7  
Centennial Office Building  
St. Paul, Minnesota 55155

Department of Natural Resources  
Trails and Waterways Unit  
Box 52  
Centennial Office Building  
St. Paul, Minnesota 55155



**APPENDIX B**  
**Equipment Inventory**

APPENDIX B

EQUIPMENT INVENTORY



## MINNESOTA RESIDENT EQUIPMENT INVENTORY

Appendix B shows estimates of the number of pieces of equipment owned by Minnesota residents. Each table displays the ownership rates in the thirteen Minnesota Development Regions for a specific type of equipment. The estimates are based on over 10,500 interviews of households administered by telephone during the summer of 1978. Respondents were asked to indicate the number of pieces of equipment owned by members of the household. Equipment was listed even if it was not licensed for use or used in states other than Minnesota. No estimate of the condition of the equipment listed was obtained. Vacation homes were listed regardless of the state they were located in.



TABLE B-01

NUMBER OF BICYCLES IN MINNESOTA  
1978

B.002

REGION	NUMBER	AVERAGE NUMBER OF BICYCLES PER HOUSEHOLD	STANDARD DEVIATION	VARIANCE
STATE TOTAL	2305400	1.8415	1.8027	3.2499
1	50280	1.5966	1.7745	3.1487
2	29200	1.4561	1.6313	2.6611
3	168428	1.5237	1.7337	3.0056
4	96628	1.4939	1.6537	2.7346
5	55571	1.4102	1.7025	2.8984
6E	59737	1.8087	1.8049	3.2577
6W	31109	1.5617	1.6757	2.8080
7E	46360	1.7072	1.7298	2.9922
7W	119709	2.1636	1.7909	3.2072
8	83707	1.8916	1.8049	3.2577
9	131559	1.7680	1.7702	3.1336
10	230177	1.7941	1.7238	2.9716
11	1202931	1.9938	1.8469	3.4112

TABLE B-02

NUMBER OF FISHING BOATS IN MINNESOTA  
1978

REGION	NUMBER	AVERAGE NUMBER OF FISHING BOATS PER HOUSEHOLD	STANDARD DEVIATION	VARIANCE
STATE TOTAL	295799	0.2358	0.4841	0.2344
1	6375	0.2025	0.4785	0.2290
2	9331	0.4660	0.6975	0.4865
3	41101	0.3724	0.5871	0.3447
4	20015	0.3099	0.4850	0.2352
5	16348	0.4142	0.6327	0.4003
6E	8124	0.2456	0.4593	0.2110
6W	3759	0.1884	0.4023	0.1618
7E	9432	0.3452	0.6019	0.3623
7W	16581	0.2997	0.5408	0.2925
8	6781	0.1528	0.4265	0.1819
9	15430	0.2074	0.4816	0.2320
10	17278	0.1347	0.3718	0.1382
11	125238	0.2067	0.4471	0.1999

TABLE B-03

NUMBER OF ICE BOATS IN MINNESOTA  
1978

REGION	NUMBER	AVERAGE NUMBER OF ICE BOATS PER HOUSEHOLD		STANDARD DEVIATION	VARIANCE
B.004	STATE TOTAL	1208	0.0009	0.0305	0.0009
	1	0	0.0000	0.0000	0.0000
	2	56	0.0029	0.0535	0.0029
	3	468	0.0043	0.0654	0.0043
	4	93	0.0014	0.0379	0.0014
	5	172	0.0045	0.0666	0.0045
	6E	106	0.0031	0.0559	0.0031
	6W	32	0.0015	0.0392	0.0015
	7E	0	0.0000	0.0000	0.0000
	7W	0	0.0000	0.0000	0.0000
	8	0	0.0000	0.0000	0.0000
	9	0	0.0000	0.0000	0.0000
	10	0	0.0000	0.0000	0.0000
	11	278	0.0004	0.0211	0.0004

TABLE B-04

NUMBER OF PONTOON BOATS IN MINNESOTA  
1978

REGION	NUMBER	AVERAGE NUMBER OF PONTOON BOATS PER HOUSEHOLD	STANDARD DEVIATION	VARIANCE
B.005 STATE TOTAL	31816	0.0254	0.1819	0.0331
1	386	0.0123	0.1101	0.0121
2	772	0.0385	0.2003	0.0401
3	2448	0.0222	0.1472	0.0217
4	1360	0.0213	0.1445	0.0209
5	2135	0.0541	0.2395	0.0574
6E	1274	0.0385	0.3232	0.1045
6W	207	0.0104	0.1014	0.0103
7E	1015	0.0372	0.1891	0.0358
7W	2284	0.0413	0.1989	0.0396
8	546	0.0123	0.1104	0.0122
9	2286	0.0307	0.3403	0.1158
10	1390	0.0108	0.1035	0.0107
11	15688	0.0259	0.1669	0.0279

TABLE B-05

NUMBER OF SAILBOATS IN MINNESOTA  
1978

B.006	REGION	NUMBER	AVERAGE NUMBER OF SAILBOATS PER HOUSEHOLD	STANDARD DEVIATION	VARIANCE
	STATE TOTAL	34002	0.0271	0.1784	0.0318
	1	96	0.0031	0.0553	0.0031
	2	494	0.0247	0.1647	0.0271
	3	1749	0.0158	0.1248	0.0156
	4	1774	0.0274	0.1724	0.0297
	5	1037	0.0263	0.2173	0.0472
	6E	584	0.0177	0.1317	0.0173
	6W	266	0.0134	0.1148	0.0132
	7E	211	0.0077	0.0876	0.0077
	7W	1269	0.0229	0.1596	0.0255
	8	274	0.0062	0.0783	0.0061
	9	1257	0.0169	0.1289	0.0166
	10	1588	0.0124	0.1755	0.0308
	11	23399	0.0386	0.2059	0.0424

TABLE B-06

NUMBER OF SPEEDBOATS IN MINNESOTA  
1978

REGION	NUMBER	AVERAGE NUMBER OF SPEEDBOATS PER HOUSEHOLD	STANDARD DEVIATION	VARIANCE
STATE TOTAL	116976	0.0932	0.3127	0.0976
1	2076	0.0660	0.2661	0.0708
2	2008	0.1002	0.3152	0.0994
3	8919	0.0807	0.3000	0.0900
4	6014	0.0930	0.2956	0.0874
5	3721	0.0943	0.3026	0.0916
6E	3026	0.0915	0.2883	0.0831
6W	1509	0.0757	0.2645	0.0699
7E	1734	0.0635	0.2501	0.0625
7W	5414	0.0979	0.3072	0.0944
8	3082	0.0694	0.2542	0.0646
9	5257	0.0707	0.2737	0.0749
10	10128	0.0789	0.2864	0.0820
11	64081	0.1057	0.3374	0.1139

TABLE B-07

NUMBER OF CAMPING VEHICLES IN MINNESOTA  
1978

B.008

REGION	NUMBER	AVERAGE NUMBER OF CAMPING VEHICLES PER HOUSEHOLD	STANDARD DEVIATION	VARIANCE
STATE TOTAL	252049	0.2009	0.4572	0.2091
1	6182	0.1963	0.4049	0.1639
2	3708	0.1849	0.4038	0.1630
3	23261	0.2104	0.4339	0.1883
4	9405	0.1466	0.3746	0.1404
5	5978	0.1515	0.3712	0.1378
6E	6053	0.1833	0.4032	0.1626
6W	3670	0.1840	0.3951	0.1561
7E	6683	0.2446	0.4440	0.1972
7W	11759	0.2125	0.4309	0.1857
8	8631	0.1944	0.4165	0.1752
9	14859	0.1997	0.4801	0.2305
10	23633	0.1842	0.4109	0.1689
11	128163	0.2116	0.4932	0.2432

TABLE B-08

## NUMBER OF CANOES-KAYAKS IN MINNESOTA

1978

REGION	NUMBER	AVERAGE NUMBER OF		STANDARD DEVIATION	VARIANCE
		CANOE-KAYAKS PER HOUSEHOLD			
B.009	STATE TOTAL	153866	0.1226	0.3756	0.1410
	1	1980	0.0629	0.2490	0.0620
	2	3306	0.1649	0.4142	0.1716
	3	21862	0.1978	0.4540	0.2061
	4	6113	0.0945	0.3748	0.1405
	5	5978	0.1515	0.3915	0.1533
	6E	2283	0.0690	0.2535	0.0643
	6W	1213	0.0608	0.2452	0.0601
	7E	3807	0.1393	0.3884	0.1509
	7W	6091	0.1101	0.3365	0.1133
	8	1507	0.0340	0.1811	0.0328
	9	7429	0.0998	0.3291	0.1083
	10	9334	0.0728	0.2986	0.0891
	11	82960	0.1370	0.4004	0.1603



TABLE B-09

NUMBER OF CROSS-COUNTRY SKIIS IN MINNESOTA  
1978

REGION	NUMBER	AVERAGE NUMBER OF CROSS-COUNTRY SKIIS PER HOUSEHOLD		STANDARD DEVIATION	VARIANCE
STATE TOTAL	395211	0.3053	0.8956	0.8021	
B.010	1	5842	0.1592	0.5095	0.3244
	2	6104	0.3123	0.8697	0.7564
	3	43704	0.4006	0.9523	0.9068
	4	13572	0.2080	0.7013	0.4919
	5	7762	0.2018	0.6870	0.4720
	6E	5863	0.1727	0.6450	0.4160
	6W	2184	0.1032	0.5297	0.2806
	7E	6540	0.2199	0.7484	0.5601
	7W	18715	0.3111	0.9783	0.9570
	8	3682	0.0796	0.3929	0.1544
	9	7340	0.1003	0.4610	0.2125
	10	19354	0.1442	0.5381	0.2896
	11	254453	0.4061	1.0470	1.0962

TABLE B-10

NUMBER OF FOUR-WHEEL DRIVES IN MINNESOTA  
1978

REGION	NUMBER	AVERAGE NUMBER OF FOUR-WHEEL DRIVES PER HOUSEHOLD	STANDARD DEVIATION	VARIANCE	
B.011	STATE TOTAL	135675	0.1081	0.3721	0.1385
	1	4540	0.1442	0.3766	0.1418
	2	3059	0.1525	0.3722	0.1385
	3	14691	0.1329	0.3749	0.1406
	4	9860	0.1524	0.3760	0.1414
	5	4209	0.1066	0.3185	0.1015
	6E	4301	0.1300	0.3594	0.1292
	6W	2723	0.1365	0.4416	0.1950
	7E	3680	0.1347	0.3676	0.1351
	7W	6260	0.1131	0.3216	0.1034
	8	6439	0.1451	0.4451	0.1981
	9	10287	0.1382	0.3950	0.1560
	10	12710	0.0991	0.3188	0.1016
	11	52914	0.0874	0.3769	0.1421

TABLE B-11

NUMBER OF ICE FISHING HUTS IN MINNESOTA  
1978

REGION	NUMBER	AVERAGE NUMBER OF ICE FISHING HUTS PER HOUSEHOLD	STANDARD DEVIATION	VARIANCE
B.012 STATE TOTAL	156906	0.1251	0.3870	0.1498
1	3960	0.1258	0.3667	0.1345
2	4727	0.2357	0.4693	0.2202
3	14341	0.1297	0.3718	0.1382
4	15677	0.2424	0.5691	0.3239
5	9638	0.2442	0.5324	0.2835
6E	8389	0.2536	0.5161	0.2663
6W	3374	0.1691	0.4404	0.1940
7E	5499	0.2012	0.4449	0.1979
7W	16327	0.2951	0.5640	0.3181
8	4452	0.1003	0.3154	0.0995
9	10972	0.1475	0.4291	0.1841
10	3972	0.0310	0.1902	0.0362
11	55573	0.0917	0.3338	0.1114

TABLE B-12

NUMBER OF SNOWMOBILES IN MINNESOTA  
1978

REGION	NUMBER	AVERAGE NUMBER OF SNOWMOBILES PER HOUSEHOLD	STANDARD DEVIATION	VARIANCE
STATE TOTAL	404730	0.3226	0.7577	0.5740
1	18595	0.5905	0.9364	0.8768
2	10506	0.5239	0.8985	0.8073
3	55618	0.5032	0.8494	0.7215
4	27016	0.4177	0.7843	0.6152
5	17385	0.4405	0.8166	0.6669
6E	15239	0.4614	0.8416	0.7083
6W	7400	0.3709	0.7402	0.5479
7E	16750	0.6130	1.0194	1.0391
7W	23518	0.4251	0.7601	0.5777
8	15412	0.3472	0.7626	0.5816
9	24803	0.3333	0.7084	0.5018
10	36343	0.2833	0.7073	0.5003
11	136140	0.2248	0.6933	0.4807

B.013

TABLE B-13

NUMBER OF SNOWSHOES IN MINNESOTA  
1978

REGION	NUMBER	AVERAGE NUMBER OF SNOWSHOES PER HOUSEHOLD	STANDARD DEVIATION	VARIANCE
STATE TOTAL	145448	0.1123	0.4569	0.2088
1	3385	0.0923	0.3706	0.1373
2	3780	0.1934	0.5392	0.2907
3	40481	0.3711	0.7765	0.6030
4	4867	0.0746	0.3390	0.1150
5	5577	0.1450	0.4590	0.2107
6E	1705	0.0502	0.4087	0.1670
6W	847	0.0401	0.2321	0.0539
7E	3763	0.1267	0.4383	0.1921
7W	7252	0.1205	0.4097	0.1679
8	1949	0.0421	0.2733	0.0747
9	3211	0.0439	0.2528	0.0639
10	8428	0.0627	0.3155	0.0995
11	60199	0.0960	0.4468	0.1997

B.014

TABLE B-14

NUMBER OF TRAILBIKES IN MINNESOTA  
1978

REGION	NUMBER	AVERAGE NUMBER OF TRAILBIKES PER HOUSEHOLD	STANDARD DEVIATION	VARIANCE
STATE TOTAL	148377	0.1183	0.4196	0.1761
1	6085	0.1933	0.5249	0.2755
2	3491	0.1741	0.5198	0.2702
3	16090	0.1456	0.4546	0.2067
4	9169	0.1418	0.4463	0.2009
5	5063	0.1283	0.4092	0.1675
6E	3557	0.1075	0.3668	0.1345
6W	1864	0.0935	0.3294	0.1085
7E	3891	0.1424	0.4254	0.1810
7W	6937	0.1254	0.4058	0.1647
8	5548	0.1250	0.4629	0.2143
9	7315	0.0983	0.3586	0.1286
10	18469	0.1440	0.5033	0.2533
11	60891	0.1005	0.3886	0.1510

TABLE B-15

NUMBER OF VACATION HOMES IN MINNESOTA  
1978

REGION	NUMBER	AVERAGE NUMBER OF VACATION HOMES PER HOUSEHOLD		STANDARD DEVIATION	VARIANCE
B.016	STATE TOTAL	89919	0.0717	0.2915	0.0850
	1	1593	0.0506	0.2393	0.0573
	2	1297	0.0647	0.2460	0.0605
	3	10144	0.0918	0.2687	0.0634
	4	5225	0.0808	0.2781	0.0773
	5	2074	0.0526	0.2231	0.0498
	6E	2442	0.0738	0.4284	0.1840
	6W	1095	0.0549	0.2278	0.0519
	7E	1480	0.0542	0.3125	0.0977
	7W	2876	0.0520	0.2220	0.0493
	8	1918	0.0432	0.2033	0.0413
	9	2286	0.0308	0.1727	0.0298
	10	3773	0.0294	0.1690	0.0285
	11	53711	0.0886	0.3313	0.1097







APPENDIX C

ACTION PLAN



## ACTION PLAN

### INTRODUCTION

Specific actions to be taken under the recommended measures, priorities and guidelines as described in Chapter V of the SCORP document comprise the Action Plan. These were developed through a combination of professional and public input throughout the state. Addressed in the Action Plan are the priority actions that will occur in the next biennium. The measures in the Action Plan will sometimes have more than one action, at times by more than one division of DNR. Also the actions to be taken will sometimes come under more than one measure. In that case actions are cross referenced to other measures.

Each Measure and Priority is identified by a number which indicates the sequential order of the measure and priority as presented in SCORP, Chapter V. Only those measures and priorities listed in Chapter V, and found in the Action Plan are not being acted on this biennium. If in the future, funding allows and a high priority exists for Action on any of the remaining measures they will be placed in the updated Annual Action Plan.

Figure A shows Minnesota's continuous recreation planning process. This depicts how future action plans will be developed. The research and policy staff develops an annual policy plan update and a proposed action plan based on citizen input, agency review and data base. The proposed action plan is reviewed and altered by the executive branch and submitted to the governor in budget form. The governor's office reviews this, makes necessary changes and submits it to the legislature for funding. The legislature appropriates funds for the actions they concur with. Those funded actions then become the final annual action plan. Unfunded actions are reviewed for possible later submission.

The costs shown in the Action Plan are estimated. With the costs of materials, labor and properties continuously rising it may become necessary to shift monies designated for one project to another to ensure the completion of a project that may be of a greater priority. It also may occur that some costs were over estimated. Again, the excess amount would be shifted to a higher priority project needing additional money. In the event a project is not completed because of funding or available manpower the action will continue to be of high priority and completed the following biennium.

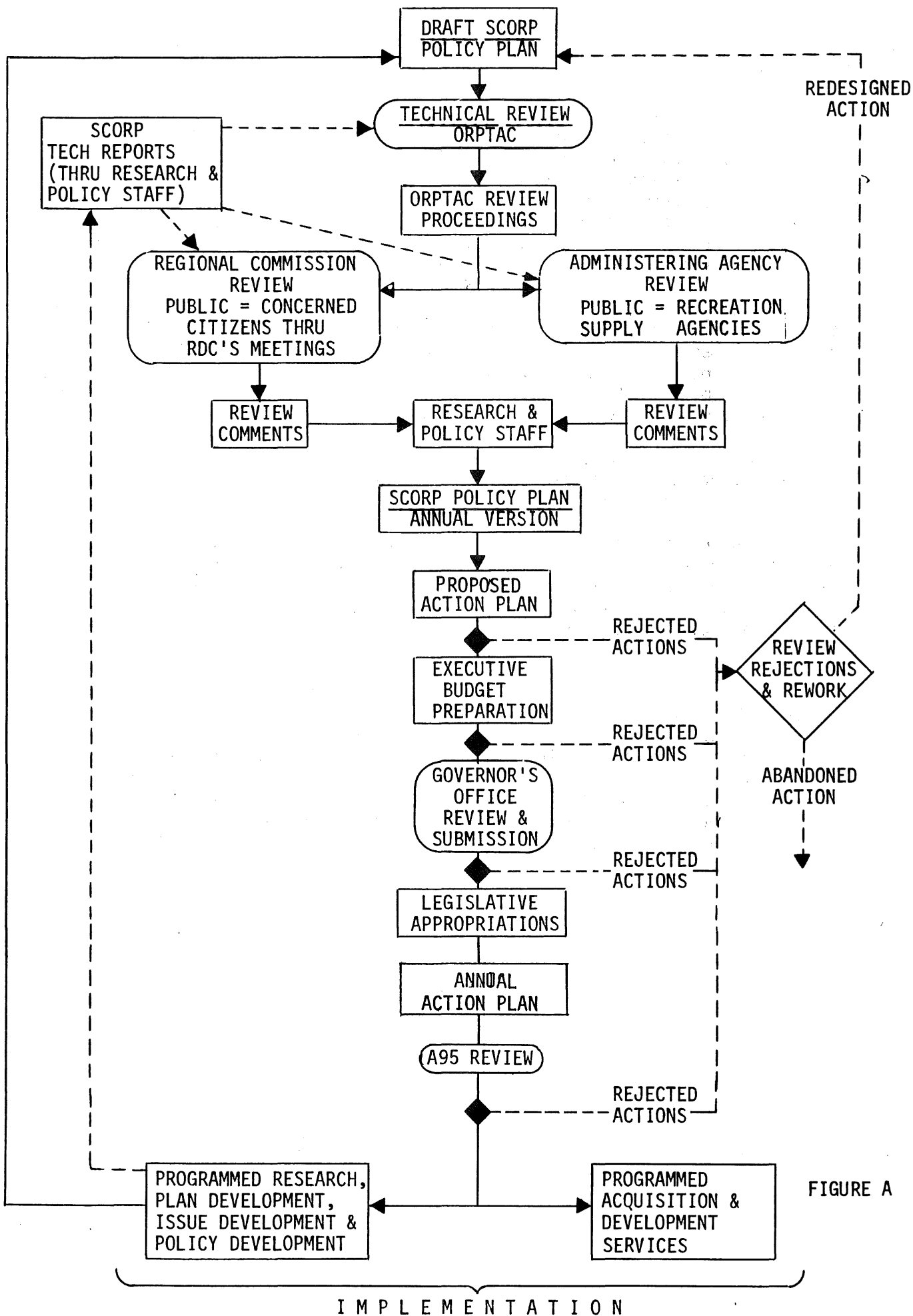


FIGURE A

## ISSUES, OPPORTUNITIES AND RECOMMENDATIONS

Issue/Opportunity: Achieve the goals of future action plans without reducing the efforts given to completing existing projects and conducting existing programs.

Supporting Data: This issue is raised to afford the opportunity to support ongoing programs of merit.

### Measure and Priority 1:

The state will complete master plans for units of the Minnesota Outdoor Recreation System and establish rules governing their management.

#### Actions:

Public Access	Develop statewide public access policies, procedures and priorities
Trails	Develop Statewide policies, procedures and priorities for state trails and incorporate into Statewide Trail plan. Complete plans for the following trails: International Falls - Ely Trail Rochester - LeRoy Trail Sakatan Singing Hills Trail Minnesota - Wisconsin Boundary Trail
Wildlife	Complete masterplans for Minnesota's four major wildlife management units at a cost of \$81,000 and develop a statewide deer management plan.
State Parks	Develop Statewide policies, procedures and priorities for natural and recreational state parks. Develop plans for ten parks at a cost of \$600,000.
Scientific and Natural Areas	Develop statewide policies, procedures and priorities for Scientific and Natural Areas.
Rivers	Complete plans on the following rivers: Minnesota River North Fork of Crow River Snake River

### Measure and Priority 9:

The state will carry out the development in units of the Minnesota Outdoor Recreation System in accordance with approved master plans.

<u>Actions</u>		<u>ESTIMATED COST</u>
Lake Bronson State Park	vegetative management	6,000
Maplewood State Park	reconstruct and surface road acquire 215 acres	400,000 see fragmented ownership
Scenic State Park	signing and landscaping	3,000
Gooseberry State Park	well & waterline replacement	50,000
Father Hennepin State Park	upgrade campground	20,000
	complete sewer system	13,500
	screen Shop area	5,000
	vegetative management	5,000
Hayes Lake State Park	vegetative management & beach redesign	1,500
Interstate State Park	expand contact station	3,000
	campground revegetation	10,000
	picnic shelter construction	15,000
	install service area water system	40,000
Lake Maria State Park	upgrade roads and parking	20,000
Minneopa State Park	vegetative screening	4,000
Camden State Park	construct warehouse	40,000
Sibley State Park	interp center landscaping	5,000
	vegetative management	10,000
	entrance sign	2,500
Forestville State Park	complete service area	15,000
	construct contact station and office	75,000
	upgrade roads and parking	70,000
O.L. Kipp State Park	scenic overlooks	10,000
	entrance gate	1,000
	acquire 277 acres for general park use and development	see fragmented ownership
Mille Lacs Kathio State Park	develop trails center parking lot	5,000

Whitewater State Park	remodel refectory	5,000
	upgrade picnic area and	
	campground	5,000
	move building fence boundary	10,000
Helmer Myre State Park	construct contact station/office	70,000
	realign park entrance road	50,000
Ft. Snelling State Park	pave roads and parking areas	200,000
	landscaping	40,000
	expand picnic facilities	20,000
	upgrade service area	75,000
	install security alarms systems	5,000
	obliterate building	20,000
	vegetative management	15,000
Afton State Park	construct entrance road and	
	parking lot	534,000
	construct park office/contact	
	station and service area	390,000
	utilities	21,000
	construct comb. picnic shelter	
	and trail center	185,000
	build steps and path	50,000
	upgrade trails	20,000
	new beach combination	
	building	175,000
	construct water control	
	structure	50,000
St. Croix Wild River State Park	construct wood storage building	15,000
	boundary survey and service	
	building	12,000
Blue Mounds State Park	acquire 240 acres	see fragmented ownership
Split Rock Lighthouse State Park	acquire 196 acres	see fragmented ownership
Luceline State Trail	print trail plan	
Heartline State Trail	print trail plan	
Douglas State Trail	print trail plan	
Northshore State Trail	print trail plan	
Taconite State Trail	print trail plan	

Total State Trail Planning Cost\*  
340,000

\*includes costs of trail plans under Measure and Priority 1.



Measure and Priority 10:

The state will carry out necessary maintenance and rehabilitation in units of the Minnesota Outdoor Recreation System.

<u>Actions</u>	<u>Estimated Cost</u>
Hayes Lake State Park	revegetate abandoned roads \$5,000
Itasca State Park	renovate sewage disposal plant 250,000
	upgrade overlooks 10,000
	renovate Bearpaw Campground building 5,000
	rehab Pine Ridge Campground drainage system 6,000
	rehab Contact/Information stations 30,000
	rehab water system and maintenance area 32,000
	obliterate and landscape roads 80,000
	upgrade boat harbor 10,000
	upgrade fish cleaning house 5,000
	rehab Bearpaw campground pump house 10,000
	rehab Elk Lake group camp 10,000
	upgrade Brower Inn 10,000
Buffalo River State Park	beach area well rehabilitation and picnic area and stream bed improvement 45,000
Lake Carlos State Park	sewer development 95,000
Scenic State Park	screening boat landing 5,000
	erosion control 5,000
Moose Lake State Park	signing 9,000
	landscaping campground 7,000
Bear Head Lake State Park	rehabilitate water system 2,000
	fuel storage 2,000
Temperance River State Park	rehabilitate campground 7,000
	rehabilitate hiking and ski touring trails 30,000
McCarthy Beach State Park	landscaping, signing, trails, and utilities 9,000
St. Croix State Park	road improvements 25,000
Charles Lindberg State Park	group camp improvement 3,000
	timber stand upgrading 3,000

Banning State Park	road improvements	25,000
	contact office rehabilitation	73,000
	landscaping and picnic area	
	rehabilitation	6,000
	trail improvement	5,000
Goosebury Falls State Park	rehabilitate major use area	
	support trails	20,000
Baptism River State Park	rehabilitate biking and cross	
	country skiing trails	15,000
Savanna Portage State Park	rehabilitate trails	10,000
George Crosby Maniton State Park	rehabilitate backpacking	
	and ski touring trails	30,000
Camden State Park	rehab roads and parking	40,000
	obliterate old buildings	5,000
Sibley State Park	rehab roads and parking area	25,000
Blue Mound State Park	rehab sewage system	60,000
	landscape campground and remodel	
	service area	15,000
Kilen Woods State Park	upgrade public use area	
	(for external fire rings and	
	picnic tables)	5,000
Big Stone Lake State Park	rehab roads and grounds	7,000
Lac qui Parle State Park	rehab public use area	10,000
Lake Shetek State Park	repair sewage pond	25,000
Split Rock Creek State Park	rehab water system and campground	
	drainfield	5,000
	rehab public use area	10,000
Forestville State Park	rehab picnic area	8,000
O.L. Kipp State Park	rehab primitive group camp	2,000
	rehab trails	20,000
Frontenac State Park	rehab trails	27,000
	rehab water system	5,000
Helmer Myre State Park	landscaping	20,000
Lake Louise State Park	rehab dam	30,000
	tree planting	4,000

Nerstrand Woods State Park	rehab group camp water system	2,000
Rice Lake State Park	upgrade group camp well	6,000
Sakatah Lake State Park	rehab roads and utilities	7,000
	well for primitive camp	1,000
	campground rehabilitation	3,000
Minnesota Valley State Trail	rehab trails	36,000
William O'Brien State Park	upgrade entrance area and signs	18,000
	upgrade sewage stabilization pond	5,000
Cascade River State Park	rehabilitate ski touring trails	25,000

Measure and Priority 11:

Appropriate resource, facility and market information will be used by the State Planning Agency and DNR in evaluating proposed LAWCON Projects.

Action

SPA and DNR will use data collected from the attached PRELIMINARY APPLICATION FORM (Figure B) to evaluate LAWCON projects.

# PRELIMINARY APPLICATION

## LAND AND WATER CONSERVATION FUND AND LEGISLATIVE COMMISSION ON MINNESOTA RESOURCES

Unit of local government which will be responsible for the project.

B. Person authorized to sign on behalf of the local unit.

Name \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zip \_\_\_\_\_

Phone Area Code \_\_\_\_\_ / \_\_\_\_\_

C. Person to whom inquiries about application should be directed.

Name \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zip \_\_\_\_\_

Phone Area Code \_\_\_\_\_ / \_\_\_\_\_  
(Indicate whether business or home)

C. Name of project.

D. Recreation facilities proposed to be developed in the project.

E. Type of project. (Check either or both) (Do not include land already owned or facilities in existence.)

1. Acquisition ☒

2. Development ☒

Parcel	No. of Acres	Cost
_____	_____	\$ _____
_____	_____	_____
_____	_____	_____
_____	_____	_____
E-1 Subtotal		\$ _____

No. or Length (i.e. 600'	Facility	Cost
_____	access road	\$2500)
_____	_____	_____
_____	_____	_____
_____	_____	_____
E-2 Subtotal		\$ _____

TOTAL ESTIMATED COST (E-1 + E-2) \$ \_\_\_\_\_

F. Indicate source and amount of local share. (Since the possibility exists that the local share could be 50%, please anticipate a local share equal to 50% of the total cost.)

Signature of person identified in B. I hereby certify that the unit of local government identified in A. is willing and able to undertake the project described in this application

Signed \_\_\_\_\_

Date \_\_\_\_\_  
FIGURE B

---

H. Attach a county, municipal or plat map on which the following has been shown:

1. The project.
  2. The nearest access road.
  3. Ownership of land adjacent to the project.
  4. The nearest park with similar facilities. List here the facilities existing in that park \_\_\_\_\_
- 

What is the distance between the proposed project and this park:

\_\_\_\_\_ Distance in Miles

---

I. 1. Land already owned and facilities in existence. Indicate acres already owned \_\_\_\_\_ acres.

2. (a) If acquisition:

1) Parcels to be acquired.

2) A preliminary site plan showing the facilities for which the site is being acquired.

2. (b) If development, a preliminary site plan showing the location and type of facilities to be constructed.

3. Any future acquisition or development being considered.

---

J. Attach a copy of the 5 year recreation action plan of the applicant unit of government. This is required by law and should be the applicant's 5 year financial plan for recreation acquisition, development and maintenance.

---

K. Attach a copy of the appropriate pages from the recreation plan of the applicant unit of government which contain references to the project. Maps and statements regarding price of this project are particularly important. Indicate the year the plan was prepared and if it has been adopted by the Planning Commission and the governing body.

---

TO BE COMPLETE THIS APPLICATION MUST HAVE ALL APPROPRIATE BLANKS FILLED IN AND ITEMS H, I, J, AND K ATTACHED. PLEASE LABEL ATTACHMENTS WITH APPROPRIATE LETTER. MAIL THREE (3) COMPLETE APPLICATIONS TO:

(2 copies) 1. PARKS AND RECREATION GRANTS SECTION  
STATE PLANNING AGENCY  
200 CAPITOL SQUARE BUILDING  
ST. PAUL, MINNESOTA 55101

(1 copy) 2. APPROPRIATE REGIONAL DEVELOPMENT  
COMMISSION OR CLEARINGHOUSE AS  
LISTED ON ATTACHMENT I.

Issue Opportunity: Segments of the public often believe that public resource management does not respond to public desires.

Supporting Data: The national issue of increasing public input into resource management decisions has been well documented. At the federal level, the U.S. Forest Service reviewed the situation in depth and greatly expanded its channels of communication between the service and the public. Today, legislation and agency rules require extensive public input.

In Minnesota, enabling legislation mandates public input to resource program plans and decisions. Furthermore, in an effort to improve decision making and avoid public backlash, alert agencies have gone beyond legislative mandates in their support of public involvement opportunities.

The breadth and depth of contemporary efforts to involve the public in decision-making clearly indicates that this is an issue.

Measure and Priority 4:

Develop continuous recreation facility/equipment user opinion monitoring by redesigning licenses to include opinion questions and conducting other types of user input efforts.

Action

The redesign of certain state licenses (boating, canoeing, etc.) will be initiated this year at a cost of \$25,000. This effort will permit the continuous gathering of recreation use and opinion data.

Issue/Opportunity: Provide sufficient recreation opportunities for all persons, including special populations (persons who are physically disabled, mentally impaired, visually impaired, hearing impaired, chemically dependent, juvenile delinquent, elderly, chronically ill, disadvantaged, and minorities).

Supporting Data: State and federal legislation has been passed to guarantee facilities and programs equally accessible and useable to special populations. Such legislation includes the Minnesota Architectural Barriers Act, Federal Architectural Barriers Act, and Section 504 of the Rehabilitation Act. The National Forum on Meeting the Recreation and Park Needs of Handicapped People also states: "All disabled citizens, each according to their individual ability, shall be guaranteed access to recreation programs, activities, and/or facilities which are held forth to be 'public'".

Consumers and recreation suppliers have indicated needs and problems yet to be solved. Interviews indicate that needs still exist to increase physical accessibility and usability of programs, especially those close to population concentrations, through programs such as low cost accessible transportation, reservations of camping areas suitable to various special populations, additional low-cost family-oriented experiential programs, reduction of attitudinal barriers regarding special populations, and opportunities to participate in outdoor recreation and education activities in which necessary special equipment could be rented on site.

Measure and Priority 4:

State agencies will continue to improve the physical accessibility of their recreation sites and facilities through alternation of currently inaccessible facilities and appropriate construction of new facilities.

Actions

Facility development in state parks will continue to emphasize equal access to all segments of Minnesota's population. As such, a portion of the \$8.0 million expended on buildings and other facilities this year will assure they are designed to permit entry and use by special populations.

		<u>Estimated Cost</u>
Itasca State Park	renovate Forest Inn restrooms	20,000
	rehab Squaw Lake Group Camp	10,000
Scenic State Park	rehab campground and buildings	15,000
Savanna Portage State Park	remodel campground sanitation facilities	10,000
Judge C.R. Magney State Park	improve campground water system and buildings	15,000
McCarthy Beach State Park	improve campground buildings	5,000

St. Croix State Park	replace group camp sanitation building	100,000
Charles Lindbergh State Park	trail accessibility upgrading	2,000
Sibley State Park	upgrade campground building	85,000
Blue Mound State Park	remodel campground sanitation building	25,000
Gooseberry Falls State Park	upgrade trail accessibility	10,000
Kilen Woods State Park	remodel sanitation and picnic buildings for handicapped accessibility	5,000
Lake Shetek State Park	remodel group camp sanitation building for handicapped accessibility	20,000
Forestville State Park	make trail handicapped accessible	5,000
Nerstrand Woods State Park	remodel campground sanitation building for handicapped accessibility	15,000
Sakatah Lake State Park	remodel campground sanitation building for handicapped accessibility	22,000
Afton State Park	make beach facilities handicapped accessible	15,000
Lake Maria State Park	handicap and intertrail development	8,000

Measure and Priority 5:

State agencies will continue to make outdoor recreation and educational interpretive programs useable by all populations, including special populations. Special emphasis will be given to applying this policy at recreation facilities serving large numbers of people.

Actions

Interstate State Park	complete trails to interp sites	15,000
Upper Sioux Agency State Park	rehab interp center	11,000



Issue/Opportunity: Improve the supply of energy conserving close-to-home recreation opportunities for persons residing in Minnesota's more heavily urbanized areas.

Supporting Data: The recreation occasion flow tables in Chapter IV show that Minnesotans do travel outside their home region for recreation. While a desire to get away from home causes some of this travel, much of it can be attributed to the supply of recreation facilities and opportunities. Chapter III and the regional map supplements to SCORP demonstrate that many of these facilities are distant from population concentrations and larger urban centers. In the decade of the energy crisis, a continued need to travel long distances for recreation will place hardships on people. In fact, in the interest of the national economy, to do as much as is possible to curtail distant travel for recreation.

Measure and Priority 1:

Expand close-to-home recreation opportunities for the residents of Minnesota's more heavily urbanized areas by programming and developing state and federal recreation facilities located in or near Minnesota's urban centers to meet the needs of urban populations.

Actions

Jay Cooke State Park (Duluth area)	add primitive campsites	5,000
	rehabilitate campground	10,000
Afton State Park (Twin Cities Metro area)	construct picnic sites and water/sanitation systems	12,000
	add campsites	25,000
	acquire 125 acres	see fragmented ownership

State participation in planning for the Minnesota River Valley National Wildlife Refuge and State Recreation Area will provide increased recreation opportunities in the Twin Cities metropolitan area. Planning will cost approximately \$18,000 per year. Development funds will come from the state park \$8.0 million F.Y. 1980 development budget.

See also the following related issues/measures' actions

Issues

Measure

Need for additional public access to lakes and streams in Minnesota	...provide close to urban areas and in the prime lake areas of the state
---	--

Expand fishing opportunities throughout the state	Intensify management of fisheries near population centers...
---	--

User preferences and demands  
need to be more strongly  
considered in trail  
acquisition and development

Provision of bicycle trails should be  
strongly emphasized...close to metropolitan  
areas...

State parks near metropolitan areas should  
receive high priority for development of  
loop and network trails, primarily for  
cross-country skiing, hiking and biking.

User preferences and demands  
need to be more strongly  
considered in trail  
acquisition and development

The policy of locating trails near urban  
centers should be primary.

Issue/Opportunity: Preservation of Wetlands in Minnesota.

Supporting Data: The HCRS requires that each SCORP address wetland preservation, since this is an issue of national significance. Chapter II provides an overview of the federal and state agencies with jurisdiction over protection of wetlands in Minnesota. In Minnesota, wetlands serve to trap nutrients, retain floodwater, provide habitat for fish and wildlife, recharge groundwater, provide aesthetic diversity and provide opportunities for recreational activities, among other things. Chapter III provides an overview of the distribution of wetlands in Minnesota. Chapter IV notes demand for increased hunting and fishing opportunities; opportunities often contingent on the existence of wetlands.

Measure and Priority 1:

The state should develop statewide and countywide wetland priority zones.

Actions

Efforts to preserve wetlands will be implemented under a new law passed this session. This law requires a statewide inventory of type III, IV, and V wetlands and streams with subsequent designation as public waters. In addition, the law mandates public hearings of those wetlands that could be converted to agricultural use. Approximately \$161,000 is provided this year for the inventory and acquisition efforts. Other portions of the DNR general budget are used to enforce water dissemination resource regulations and of wetland information. Another \$615,000 is to be expended this year to acquire wildlife habitat with emphasis on waterfowl (wetland preservation).

DNR Task Force will formulate a natural resource land management plan for Roseau and Marshall Counties, one of the prime wetland areas in Minnesota. Portion of six task force members salaries for six months \$5,000.

## Issue/Opportunity: Management of Floodplains

Supporting Data: The HCRS requires that each SCORP address floodplain management since reducing future flood damage is a national priority. Chapter II, references the goals and policies of Minnesota's on-going comprehensive floodplain management program. In areas where the flood plain has been delineated, the local unit of government regulates the use and development of the flood plain consistent with the provisions and regulation of the Flood Plain Management Act. The Act encourages recreational uses of the flood plain which have low-damage and low-hazard potential. There are, however, significant portions of the state where historical development has precluded the implementation of recreation hazard reduction measures.

### Measure and Priority 1:

In areas of persistent flood damages where a recreation potential exists, every effort should be made to make these areas a first priority for recreation acquisition. Care should be taken, however, to assure that recreation development adheres to federal Executive Order 11988 including criteria for user safety.

#### Action

Planning of the Minnesota River National Wildlife Refuge and Recreation Area on the floodplain of the Minnesota River is being conducted by the state and federal agencies. The state will spend approximately \$18,000 this year on planning for this area.

### Measure and Priority 2:

Mapping of flood plain areas in Minnesota should be accelerated.

#### Action

A stream inventory and data retrieval system providing standardized stream location and river mile indexing will be undertaken during F.Y. 80 at an approximate cost of \$69,000.

Issue/Opportunity: Better river management in Minnesota would tap an under-used recreation resource.

Supporting Data: Chapter IV shows that water based activities enjoy strong support statewide. Additional fishing opportunities were desired by 15 percent of the population. More boating was requested by five percent and nearly three percent wanted more canoeing. At the same time, river management programs have been criticized because they might increase use to levels that would damage resources or infringe on property rights.

Measure and Priority 2:

Continue acquiring prime scenic landscapes along wild and scenic rivers (both state and national).

<u>Actions</u>	<u>Estimated Cost</u>
Rum River	acquire lands & scenic easements 500,000
Mississippi River	acquire lands & scenic easements 225,000
Cannon River	acquire lands & scenic easements 100,000
Snake River	acquire lands & scenic easements 100,000
Kettle River	acquire lands & scenic easements 100,000
Cloquet River	acquire lands & scenic easements 40,000
St. Louis River	acquire lands & scenic easements 40,000
Crow River	acquire lands & scenic easements 40,000
Minnesota River	acquire lands & scenic easements 15,000
St. Croix River	acquire lands & scenic easements 192,000

Measure and Priority 3:

Acquire lands through purchases or easements that are vital to providing public accesses, waysides, portages and camping areas on state canoeing and boating routes and wild and scenic rivers.

<u>Actions</u>	<u>Estimated Cost</u>
Red Lake River	survey river to identify potential accesses and campsites 5,800
Crow Wing River	land acquisition campsites 7,000

Kettle River	proposed access site	see fragmented ownership
Snake River	land acquisition in Kanabec County for access site and 2 campsites-Land acquisition in Pine County for one campsite	10,000
Rum River	land acquisition for campsites	8,000
Des Moines River	land acquisition for access and campsites in Jackson County	40,000
Des Moines River	land acquisition for access site in Cottonwood County	5,000
Des Moines River	land acquisition in Jackson County for access site and picnic area	5,000
Zumbro River	produce fact sheets for land acquisition	see fragmented ownership
Mississippi River	land acquisition for access sites	40,000
Root River	produce fact sheets for land acquisition	see fragmented ownership

#### Measure and Priority 4:

Assess the statewide potential of Minnesota rivers as additions to the state's canoeing and boating route program.

#### Actions

The canoe and boating route program employs a person to research the statewide river system to make recommendations to the legislature of all potential canoe and boating routes for future considerations.

DNR will spend approximately \$167,000 during F.Y. 80 to maintain river sites, sign hazards, conduct river surveys and to study Minnesota Rivers for inclusion in the state canoe and boating system. DNR will spend approximately \$280,000 to study rivers for possible inclusion in the Wild and Scenic Rivers System.

#### Measure and Priority 5:

Support employment of a management staff to administer the state Wild and Scenic Rivers program.

### Actions

Wild and scenic river program employs a person for coordination of the program in Region III and to establish policies and procedures for the program.

Wild and scenic rivers program employs a person for land use controls for program plans and the coordination of the implementation of these land use controls statewide.

### Measure and Priority 7:

Coordinate river planning and management with the nationwide research currently being developed by the U.S. Forest Service's North Central Forest Experiment Station.

### Action

The canoe and boating route program employs a person to consult with the North Central Forest Experiment Station on information on campsite design, access design and criteria for canoe and boating route rivers in the state.

Issue/Opportunity: Publicly-owned lakeshore has more potential for recreation investment than public lands lacking water access.

Supporting Data: The major public owners of the lakeshore resource are the U.S. Department of Agriculture and the Minnesota Department of Natural Resources. Through their forestry divisions, these two agencies control over 1,500 miles of shoreline, or almost 75 percent of the publicly-owned lakeshore in Minnesota. The only other significant portion is the 12 percent administered by the various counties, primarily in northern Minnesota.

Most public lakeshore has been retained in an undeveloped state. However, during a time when this resource was considered to be in surplus, some of the public's best lakeshore was leased to private individuals, since at that time public demand was much less than today. Today, all major land-owning governmental agencies lease lakeshore lots totaling in the thousands statewide, most of them containing seasonal homes. At the same time, to accommodate increasing recreational demand, state and federal government agencies have been purchasing lakeshore property for the last two decades. Yet, except in a few instances, no public lakeshore that is leased for private use has been reconverted to public use for recreation or preservation.

Measure and Priority 2:

Determine potential uses of each segment of public shoreline, including campgrounds, public access, scenic protection, fish and wildlife habitat preservation and rare and endangered species protection.

Action

The DNR will update a 1969 lakeshore study during F.Y. 80 at a cost of \$5,000. Information provided by the study will permit analysis of the current status of lakeshore and will also help guide future state actions relative to the use of state administered lakeshore.



Issue/Opportunity: Need for additional public access to lakes and streams in Minnesota.

Supporting Data: Chapter IV data shows that Minnesotans desire additional boating, canoeing, hunting, fishing and swimming opportunities; all activities requiring access to water. Chapter III, describes the relative distribution of lakes and streams, existing swimming beaches, public access sites and other recreation facilities. Public access is concentrated in Development Regions 3, 4 and 5. Public beach is even more narrowly distributed (20 percent in Region 3). Chapter II addresses the roles of government agencies responsible for, or capable of, providing public access. This chapter notes DNR's and MN/DOT's statewide responsibility and the narrower role of the federal agencies, which is specific to defined locations.

Measure and Priority 1:

State, federal, regional and local agencies should seek increased funding for public access in Minnesota.

Action

DNR has budgeted about \$1.85 million for additional public access sites.

Measure and Priority 3:

Public recreation suppliers should seek to provide access close to urban areas and in the prime lake areas of the state.

Action

During F.Y. 80 the metropolitan council will accelerate the acquisition and development of public access to public waters through a special appropriation of \$1.5 million.

		<u>Estimated Cost</u>
Zippel Bay State Park (Lake of the Woods)	dredge channel to lake	25,000
Fort Snelling State Park (Twin Cities Metro Area)	expand boat launch area	22,000
Afton State Park (Twin Cities Metro Area)	install boat docks	20,000

Measure and Priority 5:

Public recreation suppliers should emphasize providing public access on high-quality fishing lakes with limited or no public access.

		<u>Estimated Cost</u>
Itasca State Park	expand, upgrade Mary Lake public use area	5,000
	rehabilitate Squaw Lake access	12,000
	rehabilitate Elk Lake access	1,000

Measure and Priority 8:

Expand water recreation opportunities in those state administered recreation management units which have the potential to meet citizens priority water recreation needs.

<u>Actions</u>		<u>Estimated Cost</u>
Hayes Lake State Park	expand beach and picnic areas	2,500
Itasca State Park	upgrade swimming beach and shelter	2,000
Bearhead Lake State Park	upgrade lifeguard facilities	1,000
Lake Bronson State Park	install boat docks	10,000

Issue/Opportunity: Preservation of Minnesota's natural diversity.

Supporting Data: The protection of Minnesota's natural diversity has long been of concern to government, citizens and private groups. These groups have taken action to protect examples of Minnesota's natural diversity, usually on a case by case basis. However, rapidly expanding populations and their subsequent needs for food, fiber, and housing have accelerated losses to Minnesota's natural diversity. Curbing these losses demands that systematic approaches to preservation of natural diversity be established. Recognizing this, Minnesota established a pilot State Natural Heritage Program, to develop a systematic approach to natural diversity identification and protection.

Measure and Priority 1:

The state should expand research efforts to document natural diversity values or affirm the existence of specific elements of natural diversity.

Actions

To assure preservation of Minnesota's natural diversity, additional information on Minnesota's natural resources are needed. The Natural Heritage Program is the state's primary data collection effort with a budget of \$175,000 for the coming year. This effort will ascertain important elements of natural diversity. Concurrently, 17 Scientific and Natural Areas are being inventoried to see if they possess sufficient elements of natural diversity to qualify them for continuation as Scientific and Natural Areas - primary repository, of elements of natural diversity.

Measure and Priority 4:

The state should continue to set aside areas (acquisition, easement, lease, register, cooperative agreements) of natural diversity so as to preserve a representation of each landscape region.

<u>Actions</u>		<u>Estimated Cost</u>
Maplewood State Park	landscape picnic area	10,000
	vegetative management	10,000
Itasca State Park	vegetative management	20,000
Jay Cooke State Park	vegetative management	5,000
	acquire 93 acres for diversity protection	see fragmented ownership
Scenic State Park	vegetative management	20,000
Gooseberry State Park	vegetative management	6,000
Lake Maria State Park	vegetative management	10,000

Camden State Park	vegetative management	15,000
Kilen Woods State Park	vegetative management	5,000
Forestville State Park	vegetative management acquire 123 acres	10,000 see fragmented ownership
O.L. Kipp State Park	vegetative management acquire 40 acres	15,000 see fragmented ownership
Frontenac State Park	vegetative management	15,000
Whitewater State Park	vegetative management	15,000
Rice Lake State Park	vegetative management	1,000
Afton State Park	vegetative management acquire 80 acres	41,000 see fragmented ownership
Camden State Park	acquire 143 acres	see fragmented ownership
Interstate State Park	acquire 28 acres	see fragmented ownership
Maplewood State Park	acquire 320 acres	see fragmented ownership
Boot Lake Scientific and Natural Area	protect elements of natural diversity	<hr/> cost estimate unavailable
Green Water Lake Scientific and Natural Area	protect elements of natural diversity	

Measure and Priority 5:

State and federal agencies should manage protected areas to perpetuate the natural diversity the areas were set aside for.

<u>Actions</u>		<u>Estimated Cost</u>
Lake Bemidji State Park	obliterate dump	5,000
	vegetative management	7,000
	wildlife management	500
Maplewood State Park	water resource management	1,000
	erosion control	1,000
Itasca State Park	erosion control	5,000
	Headwaters Area Landscaping	5,000
Jay Cooke State Park	erosion control	20,000
	acquire 26 acres	see fragmented ownership
Bearhead Lake State Park	rehabilitate campground	7,000
Father Hennepin State Park	erosion control	1,000
Interstate State Park	picnic area rehabilitation	20,000
	shoreline erosion control	5,000
Crow Wing State Park	riverbank erosion control	10,000
	acquire 76 acres	see fragmented ownership
Camden State Park	restore gravel pits	5,000
Sibley State Park	revegetate old building sites	5,000
	rehabilitation public use area	5,000
	acquire 50 acres	N.A.
Lake Shetek State Park	control lakeshore erosion	5,000
	rehabilitate picnic area and campgrounds	5,000
Forestville State Park	streambank erosion control	5,000
Frontenac State Park	streambank erosion control	5,000
Whitewater State Park	obliterate campground and south building sites	8,000
Beaver Creek Valley State Park	landscaping	6,000
Carley State Park	upgrade roads and parking	2,000
	campground rehabilitation	2,500
	trails rehabilitation	1,000

Ft. Snelling State Park	rehabilitate old mill area soils	5,000
Afton State Park	reduce beach and trails erosion	15,000
William O'Brien State Park	trails upgrading	3,000
Glacial Lakes State Park	erosion control	5,000
Lake Carlos State Park	erosion control	2,500
Judge Magney State Park	erosion control	5,000
Lake Bemidji State Park	acquire 66 acres	see fragmented ownership
McCarthy Beach State Park	acquire 97 acres	see fragmented ownership
Maplewood State Park	acquire 46 acres	see fragmented ownership
Mille Lacs Kathio State Park	acquire 39 acres	see fragmented ownership
Nerstrand Woods State Park	acquire 10 acres	see fragmented ownership
O.L. Kipp State Park	acquire 20 acres	see fragmented ownership
Rice Lake State Park	acquire 35 acres	see fragmented ownership
Savanna Portage State Park	acquire 50 acres	see fragmented ownership
Whitewater State Park	erosion control	15,000

Issue/Opportunity: Provide additional opportunities for hunting.

Supporting Data: Chapter IV notes a strong statewide demand for additional hunting opportunities. Chapter III, shows the present distribution of public land and waters in Minnesota. The majority of this public land is located in the northern third of the state and is open to public hunting. However, most of this land is not set aside and managed specifically for wildlife and hunting opportunities. These purposes are merely two of many for which this land is managed. Further inspection of Chapter III reveals that a majority of the areas (wildlife management areas, waterfowl production areas, and wildlife refuges) managed specifically for wildlife production and hunting opportunities occur as a band of scattered ownership from the southwest-central to the northwestern portion of the state. A good share of these occur in the transition area of the state, with a majority of these areas established for waterfowl and other migratory birds. A lack of remaining wildlands, intensive agriculture, and limited public ownership in the southwestern and southern sector of the state limit the opportunity to hunt or provide habitat for wildlife populations.

Measure and Priority 1:

State and federal agencies should fill out ownership of existing WMAs and establish new ones in areas of high demand.

Action:

The Department of Natural Resources will spend approximately \$615,000 this year to acquire lands in existing wildlife management areas and to establish new wildlife management areas in prime wetland zones. (see fragmented ownership)

Measure and Priority 2:

Whenever possible, state and federal agencies should couple acquisition of wildlife habitat with public access.

Action

The DNR recently supported state legislation which passed that will provide tax credits.

Issue/Opportunity: Expand fishing opportunities throughout the state.

Supporting Data: Chapter IV indicates a continuing, strong statewide demand for additional fishing opportunities. Chapter III provides information on the distribution of Minnesota's 6,000 fishing lakes and over 7,000 miles of fishing rivers and streams and public access to such bodies of water. The majority of the prime fishing lakes are concentrated in regions 3, 4 and 5 - northern and northcentral Minnesota. Chapter II indicates that although most recreation suppliers provide facilities such as public access and piers for fishing, only the DNR is responsible for managing the fish population.

Although southern lakes generally contain less desirable fish populations and are subject to periodic winterkill, their relative scarcity makes these lakes an important fishing resource. Expanded opportunities for fishing exist over most areas of the state. A largely ignored fish expansion opportunity exists relative to Minnesota's rivers and streams.

Measure and Priority 2:

Intensify management of fisheries near population centers and areas of concentrated summer home development including the Metro Area.

Action

Sibley State Park

acquire 45 acres for lake  
access and support facility  
development in Kandiyohi County  
lake region

see  
fragmented  
ownership

Measure and Priority 3:

Emphasize lake rehabilitation and fisheries management in southern and southwestern Minnesota.

Actions

Sibley State Park

fisheries management

Estimated  
Cost

4,000

Fort Snelling State Park

quarry lakes fish management  
water resource management

35,000  
10,000

Lake rehabilitation will be conducted on 20 lakes and rough fish management will be implemented on two rivers in western Minnesota.

143,000

Measure and Priority 4:

Accelerate the improvement and management of warm and cold water streams.



Action

Special attention for stream maintenance and improvement shall be given to northeastern and southeastern Minnesota trout streams. A portion of the \$5.1 million fisheries budget will be devoted to this effort.

Measure and Priority 5:

Preserve spawning areas throughout the state for game fish.

Actions

Estimated  
Cost

Gooseberry State Park	improve river's trout habitat	4,000
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Issue/Opportunity: Insufficient camping opportunities exist in Minnesota.

Supporting Data: Minnesotans want more camping facilities or opportunities. Chapter IV shows that camping is consistently at or near the top of the list in every region. Facility data in Chapter III tends to support this: More than half the state's campgrounds are in Development Regions 3, 4, and 5; the average time residents are willing to travel to camp is one to two hours, but the bulk of the campgrounds are distant from population centers.

In recent years, the state has emphasized campground development in state parks, and all state park plans completed to date show new campground development. Camping in state parks provides only one of the many types of possible camping experiences. In fact the DNR owns many very high quality potential campgrounds or recreation sites outside of state parks. These have not received development emphasis as the current program has concentrated on state parks.

Measure and Priority 1:

Increase the number of campsites in a State Park only when higher quality publicly owned sites don't exist near the park.

<u>Actions</u>		<u>Estimated Cost</u>
Hayes Lake State Park	expand/upgrade group camps	6,000
Gooseberry State Park	develop biker/hiker campground	5,000
Father Hennepin State Park	develop group camp	5,000
St. Croix Wild River State Park	expand group camp	5,000
Camden State Park	develop new semi-mod camp	55,000
Sibley State Park	develop primitive group camp	20,000
Whitewater State Park	develop new campgrounds	200,000
Lake Bemidji State Park	acquire 97 acres	see fragmented ownership

Measure and Priority 3:

Expand the number of campsites and campgrounds in state forests that address the needs of campers desiring more primitive and dispersed sites than found in state parks.

Action

The state forest campground management budget will be increased by \$50,000.

Issue/Opportunity: Increased swimming opportunities is a perceived need in Minnesota.

Supporting Data: Chapter IV indicates that, statewide, nearly 11 percent of the population desires expanded swimming opportunities, with support for this expansion constant in both the Twin Cities Metropolitan Area and the balance of the state. It also indicates that residents are not willing to travel far to swim.

The statewide inventory of swimming facilities in Chapter III shows nearly 2,100 beaches but about 1,800 of them are privately held, and they are located generally distant from population centers. The number of swimming pools is even smaller. There are only 272 swimming pools in the state available to the public.

Measure and Priority 1:

Develop unattended swimming beaches in conjunction with public access.

Action

As interdisciplinary policy task force will address this action as a part of its overall responsibility of developing policy for public access sites. Approximately \$4,000 will be spent on this task force approach. The task force will incorporate this measure into public access development management policies.

Issue/Opportunity: User preferences and demands need to be more strongly considered in trail acquisition and development.

Supporting Data: Data from the recreation surveys indicates that trail activities are not the central reason for most recreation outings, especially when trips are an hour's drive or more. In these cases, the primary activity is, for example, fishing, hunting, camping, or birdwatching. Therefore it is doubtful whether trails distant from population centers will draw great use unless they are closely associated with central activity facilities.

DNR research and the work of others also shows that different types of trail users often conflict with each other. Those conflicts are: cross-country skiing and snowmobiling; cross-country skiing and snowshoeing; snowshoeing and snowmobiling; bicycling and hiking; bicycling and horseback riding; hiking and horseback riding.

When the user conflict is centered in differing experiences being desired by the users, the conflict cannot be overcome with separate, adjacent treadways. However, when the user conflict is based upon negative impacts on the treadway, separate treadways may mitigate the conflict. The latter types of conflict are: cross-country skiing and snowshoeing; bicycling and hiking; hiking and horseback riding; bicycling and horseback riding.

Meeting other trails users, even those seeking the same experience, can create a negative impact. For this reason, encounters are a major parameter of trail capacity. When the option is available, the simplest way to reduce the chance of encounter is to develop trail networks rather than simple straight line or loop trails, which also answers another universal user desire: trails that return to their starting point.

User demand should have a strong effect on the location of trail development. Since meeting demand requires that the right kind of trail be close enough to the demand to help satisfy it. Chapter IV establishes that bicycling trails are the most requested facilities statewide, and the lion's share of this demand is near metropolitan areas. Snowmobile trails are also desired, but residents of rural regions have a stronger desire than residents of urban regions.

Willingness to travel for trail recreation is lowest for bicycling, hiking and cross-country skiing. Moderate trips will be taken for snowmobiling and horseback riding. Backpackers will travel the greatest distances.

Additional direction for meeting demand is found in participation trends. Bicycling, cross-country skiing and hiking show increasing participation. Trail-biking is increasing in southern Minnesota but not in the northern half of the state.

#### Measure and Priority 1:

Provision of bicycle trails should be strongly emphasized. Since people won't travel far to bicycle they should be placed close to metropolitan areas, the source of the majority of the demand. These trails should be developed as part of an overall bikeway system rather than as scattered segments.

<u>Actions</u>		<u>Estimated Cost</u>
Fort Snelling State Park	construct bike trails	30,000
Afton State Park	construct bike and hike trails	120,000
Douglas State Trail	erosion control, resurfacing and separation of bikers and horseback riders	40,000
Luce Line State Trail	upgrade trail and trail related facilities	400,000
Sakatah Signing Hills State Trail	limestone surfacing between Morristown and Elysian, MN	216,000

Measure and Priority 4:

State parks near metropolitan areas should receive high priority for development of loop and network trails, primarily for cross-country skiing, hiking and biking.

Actions

Plan additional trails in Fort Snelling, William O'Brien, Afton and Wild River State Parks (Twin Cities Metro Area Parks) \$15,000

<u>Actions</u>		<u>Estimated Cost</u>
Lake Marie State Park	develop hiking and skiing trails	2,000
Afton State Park	construct hiking and ski trails	70,000
Nerstrand Woods State Park	acquire 33 acres	see fragmented ownership
Frontanac State Park	develop hiking and skiing trails	37,000
O.L. Kipp State Park	acquire 80 acres	see fragmented ownership
	develop hiking and skiing trails	10,000
Jay Cooke State Park	construct ski, hiking trails and parking lot	71,000
St. Croix Wild River State Park	develop hiking and skiing trails acquire 124 acres	12,500 see fragmented ownership

	ski touring, hiking and trail facilities development, bridge construction and minor horsetrails upgrading	20,000
Scenic State Park	ski touring trails, board walks, overlook construction and trail upgrading	25,000
Whitewater State Park	rebuild hiking and cross-country skiing trails	50,000
Interstate State Park	develop hiking trails	25,000

Measure and Priority 7:

Rural area state parks should receive moderate priority for horse trails, if the resource can carry the use.

<u>Actions</u>		<u>Estimated Cost</u>
St. Croix Wild River State Park	develop horseback riding trails	7,500
Camden State Park	develop trails including horseback riding trails	10,000
Sibley State Park	develop horse trail center	20,000
Forestville State Park	develop campground for horseback riders	60,000
	develop horseback riding trails	10,000

Measure and Priority 10:

The only trail uses that should be mixed seasonally are cross-country skiing with snowshoeing, and bicycling with hiking.

<u>Actions</u>		<u>Estimated Cost</u>
St. Croix Wild River State Park	acquire 160 acres reserved for snowmobiling and horseback riding	see fragmented use
Helmer Myer State Park	revamp trail system to separate non-motorized and motorized use	5,000

Measure and Priority 11:

Continue development of single use (by season) loop and network trails in areas that already have other recreation facilities.

<u>Actions</u>		<u>Estimated Cost</u>
Hayes Lake State Park	develop bike, hike and cross-country ski trails	55,000
Lake Bemidji State Park	develop bike, hike and cross-country ski trails	18,000
Lake Bronson State Park	develop bike trails	45,000
	develop cross-country ski trails	6,000
Scenic State Park	develop hiking trail campsites	4,000
Sibley State Park	develop bike trails	10,000
Father Hennepin State Park	develop hiking trails	5,000
Mille Lacs Kathio State Park	develop bike, hiking, horse and snowmobile trails	60,000
Maplewood	develop bike trails	15,000
Forestville State Park	develop hiking and cross-country skiing trail	5,000

Banning State Park	acquire 301 acres	see fragmented ownership
Lake Bemidji State Park	acquire 195 acres	see fragmented ownership
Split Rock Lighthouse State Park	acquire 1,040 acres	see fragmented ownership
Sibley State Park	acquire 110 acres	see fragmented ownership
Gooseberry State Park	develop hiking and ski touring trails	75,000

Measure and Priority 13:

Develop more accesses, waysides and campsites in association with state trails.

<u>Actions</u>		<u>Estimated Cost</u>
Maplewood State Park	develop trail campsites	5,000
Bearhead Lake State Park	acquire 37 acres for buffer and camping in Taconite Trail	see fragmented ownership
St. Croix Wild River State Park	acquire 1 acre for Minnesota Wisconsin Boundary trail access to park	see fragmented ownership



Issue/Opportunity: Interest in, and concern for, historical preservation is increasing in Minnesota.

Supporting Data: An increasingly mobile and opportunity seeking American society is exhibiting a growing sense of need for continuity with its past, a need expressed in a variety of ways. Interest in family history has produced a boom in geneology; aging neighborhoods are being restored; historic and architecturally significant buildings are being preserved and/or restored; interest in cultural traditions of ethnic groups has experienced a notable resurgence; and Minnesota residents are turning to state and local historical societies in increasing numbers.

One measure of public interest is the growing pressure on the facilities of the Minnesota Historical Society. Mail and telephone calls have doubled in the last ten years. Use of the manuscripts, reference library and other Society resources is growing in kind.

Measure and Priority 4:

Identify, throughout the state, all historic places and structures of national, state and local significance worthy of preservation and specify status of administration.

Action

A portion of the \$650,000 for park and wildlife area planning will be devoted to identify and preserving historic values in these areas.

Measure and Priority 8:

Acquire lands and structures portraying Minnesota's historical and cultural heritage.

Actions

Estimated  
Cost

Beaver Creek Valley State Park      acquire 37 acres for  
old millsite

see  
fragmented  
ownership

Issue/Opportunity: Federal, state, county and private lands in northern Minnesota are so intermingled as to greatly hamper effective administration and management.

Supporting Data: Minnesota has an extremely complex pattern of land ownership as noted in Chapter III. This segmented ownership pattern increases management costs and decreases management options, because in many cases economics of scale cannot be realized on managing small scattered tracts of land.

Measure and Priority 1:

Continue the land-use classification work on DNR and county-administered lands so that recreational opportunities on public lands are thoroughly investigated.

Actions

Tettagouche Task Force will formulate a land disposal plan selecting certain DNR-administered lands in Lake County to be offered for sale for private development. No more than 3,400 acres values at not less than \$888,000 is to be offered for sale as perscribed in the bill establishing Tettagouche State Park. Field personnel and central office staff time - \$10,000.

Initiate cooperative planning efforts with northern counties interested in comprehensive public land management and use. Field personnel and central office staff time - \$25,000.

Measure and Priority 2:

Intensify land exchange programs between governmental agencies and with the private sector where public outdoor recreation opportunities and management efficiency would be improved.

Action

Now that legislation has passed enabling the state to exchange lands with the county, plans and policies will be developed through the Land Use Classification Program to encourage land exchanges involving intermingled DNR and county-tax-forfeited ownership patterns. Field personnel and central office staff time - \$10,000.

Measure and Priority 3:

Where land exchanges cannot be completed, initiate cooperative management agreements between governmental agencies to improve public outdoor recreation opportunities and management efficiency.

Action

Develop plans and policies through the Land Use Classification Program to encourage greater use of cooperative management agreements between the DNR and the northern counties. Field personnel and central office staff time - \$5,000.

Issue/Opportunity: Fragmented ownership patterns hamper recreation development in Minnesota state parks.

Supporting Data: Approximately 20,000 acres - roughly 10 percent of the land within the statutory boundaries of state parks - remains in private ownership. These private in-holdings often occur in key locations and interfere with the optimum routing of trails, siting of campgrounds and other park development. An additional 10,000 acres of state forest trust fund lands within state parks result in similar park development problems.

Measure and Priority 1:

Acquire private in-holdings and state trust fund lands in state parks from willing sellers. Give priority to acquiring key tracts that will allow completion of high-quality trails, campgrounds and other facilities that the ORA project plans demonstrate have high priority development needs.

<u>Actions</u>		
<u>Park Name</u>	<u>Acres to be Acquired</u>	<u>Cross-referenced Issues/Measure</u>
Afton State Park	80 125	preservation of diversity camping, close-to-home
Banning State Park	301	trails
Bearhead Lake State Park	37	trails
Beaver Creek Valley State Park	37	historic pres.
Blue Mounds State Park	240	master plan dev.
Camden State Park	143	preservation of diversity
Crow Wing State Park	76	preservation of diversity
Forestville State Park	123	preservation of diversity
Interstate State Park	28	trails & preservation of diversity
Jay Cooke State Park	93 26	trails & preservation of diversity preservation of diversity
Lake Bemidji State Park	195 97 66	trails campgrounds preservation of diversity
Lake Bronson State Park	802 72	trails trails
McCarthy Beach State Park	97	preservation of diversity

Maplewood State Park	320	preservation of diversity
	215	master plan development
	46	preservation of diversity
Mille Lacs Kathio State Park	37	preservation of diversity
	3	
	2	preservation of diversity
Minneopa State Park	41	preservation of diversity
Nerstrand Woods State Park	33	trails
	10	preservation of diversity
O.L. Kipp State Park	277	master plan development
	80	trails
	40	preservation of diversity
	20	preservation of diversity
Rice Lake State Park	35	preservation of diversity
St. Croix Wild River State Park	160	trails
	124	trails
	1	trails
Savanna Portage State Park	50	preservation of diversity
Split Rock Lighthouse State Park	1040	trails
	96	master plan
Sibley State Park	110	trails
	50	preservation of diversity
	45	fisheries management

The Department of Natural Resources will spend approximately \$615,000 this year to acquire lands in existing wildlife management areas and to establish new wildlife management areas in prime wetland zones.

Issue/Opportunity: Improved inter-agency cooperation and coordination would strengthen efforts to provide recreation opportunities and facilities.

Supporting Data: Review of the roles of recreation suppliers documented in Chapter II reveals a large potential for duplication. The checks and balances of better inter-agency coordination can help avoid duplication, and provide a well-rounded set of recreation opportunities. This should be the major concern, not what department or agency provides a given facility or opportunity. Without this, efforts of recreation suppliers could potentially ignore the important concerns of some users while providing an overabundance of opportunities for others. Additionally, failure to coordinate can cause recreation management costs to expand beyond the level they would reach under cooperative programs.

Measure and Priority 6:

The U.S. Fish and Wildlife service should complete planning of the Minnesota Valley National Wildlife Refuge and coordinate this work with state and local planning efforts in the area.

Action

The Minnesota Department of Natural Resources is participating in the planning for the Minnesota Valley National Wildlife Refuge and Recreation Area with the federal government. Minnesota will contribute approximately \$18,000 in planning monies for this project this year.

Measure and Priority 19:

Coordinate the administration of the state's wild and scenic rivers program with the management of the Lower St. Croix River.

Action

Employ a person in the Wild and Scenic Rivers Program to coordinate all state activities involving the Lower St. Croix National Wild and Scenic Riverway.

Issue/Opportunity: State, federal and county land can create problems for some local governments, especially when this property is used for outdoor recreation and attracts substantial numbers of visitors.

Supporting Data: Passage of the federal Payments in Lieu of Taxes Act and numerous statements by local government officials in Minnesota and elsewhere indicate that public lands are sometimes a burden to certain sectors of local government. Services often associated with public lands are cited as straining or surpassing local government budgets, when they should be supported by higher levels of government. These services include road maintenance, law enforcement, search-rescue and emergency services, public health, and waste disposal.

Measure and Priority 1:

Implement state legislation for state payment in lieu of taxes which reimburses local units of government for state and county-administered lands within their jurisdiction.

Action

Develop a plan, including the use of computerized data, to administer the annual payment in lieu of taxes program for DNR administered land and county-administered tax forfeited land. The monies are to be used for the following: property tax relief; resource management/development on county lands; and county and township general revenue funds. Central office staff time - \$20,000.

Issue/Opportunity: Information on recreation resources in Minnesota is neither catalogued nor transmitted to the public in anything approaching a comprehensive fashion.

Supporting Data: Much of the supporting data exposing this problem comes from the experience of professionals dealing with recreation data. It is a major task to find the location of data on resources, facilities and user patterns. Not only is the data spread within agencies, it is spread among divisions of agencies.

Additionally, the need for centralized, coordinated data distribution is felt by the public. Surveys conducted by the Metropolitan Council indicate that users of facilities have little knowledge of their options. The lack of options information is on a level as basic as regionally significant parks.

Measure and Priority 10:

Establish information programs to alert on-site users of the opportunities available at units of the outdoor recreation system.

<u>Actions</u>	<u>Estimated Cost</u>
Lake Bronson State Park                      orientation displays for boat launch area	500
Afton State Park                                      orientation facility	20,000
Whitewater State Park                      orientation signing	2,000

Measure and Priority 11:

Provide interpretive information to enhance user's experiences with resources.

<u>Actions</u>	<u>Estimated Cost</u>
Blue Mounds State Park                      remodel interp center	8,000
Lake Bemidji State Park                      interp program facilities materials and displays	20,000
Gooseberry State Park                      convert refectory into interp center	15,000
Interstate State Park                      convert refectory into interp center	100,000
Banning State Park                              upgrade interp facilities	2,000
Sibley State Park                              provide inter displays, AV equipment and centers furnishings	30,000
Forestville State Park                      interp center displays	2,000
Ft. Snelling State Park                      construct interp center displays	10,000

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