

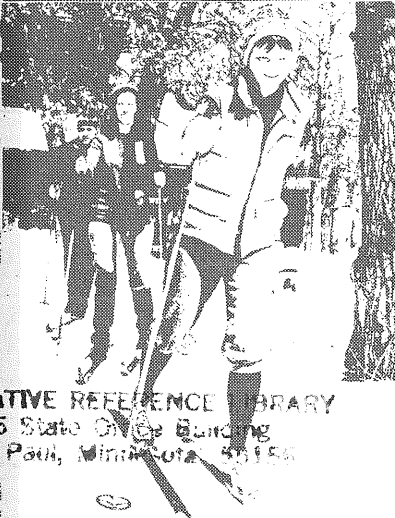
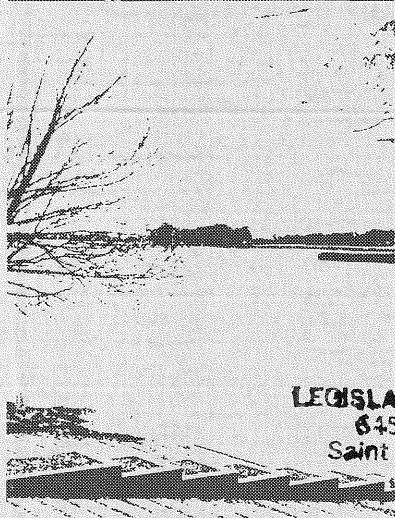
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1984-1989

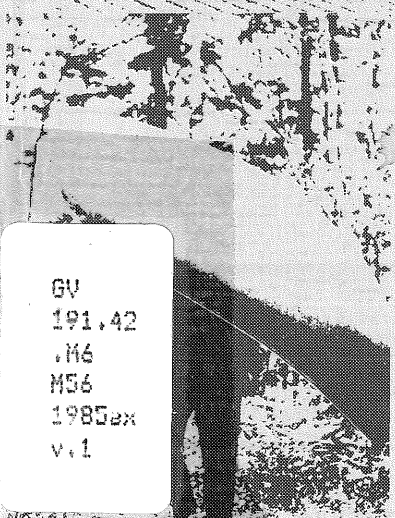


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Minnesota State Comprehensive Outdoor Recreation Plan

1984-1989

**Minnesota Department of Natural Resources
Office of Planning and Special Services**

**Volume I
Chapters 1-4**

Prepared with assistance from:

The Legislative Commission on Minnesota Resources
and the Department of Interior:
National Park Service



RUDY PERPICH
GOVERNOR

STATE OF MINNESOTA

OFFICE OF THE GOVERNOR

ST. PAUL 55155

Dear Fellow Minnesotan:

I am pleased to endorse the State of Minnesota's 1985 Statewide Comprehensive Outdoor Recreation Plan. This plan will guide our state's use of federal Land and Water Conservation Funds for the next five years.

Based on public input provided through research, advisory groups, and recreation agencies and their constituents this document represents recreational needs of the state. The 1985 SCORP is contained in two volumes. Volume I contains the goals of the Minnesota's major recreation suppliers, the recreation desires of Minnesotans and information on the recreation and natural resources of the state. Volume II of his document contains the issues that the state will be attempting to address over the next five years. These issues provide the direction in which the state will focus development and acquisition efforts. I feel the public review and the input will serves the recreation concerns of Minnesotans.

Sincerely,

A large, stylized handwritten signature of Rudy Perpich in black ink.

Rudy Perpich, Governor
State of Minnesota

AN EQUAL OPPORTUNITY EMPLOYER

Volume I

Table of Contents

List of Tables	Page v
List of Figures	vi

1. Goals and Objectives

2. Minnesota Recreation Suppliers

	Page
Federal Agencies	2.001
U.S. Department of Agriculture	
U.S. Forest Service	2.001
Soil Conservation Service	2.002
U.S. Department of Interior	2.002
National Park Service	2.002
Bureau of Land Management	2.005
U.S. Fish and Wildlife Service	2.005
U.S. Department of Defense	2.006
U.S. Army Corps of Engineers	2.006
State Agencies	2.006
Department of Energy and Economic Development	2.006
Department of Military Affairs	2.006
Department of Transportation	2.007
Minnesota Historical Society	2.007
Iron Range Resources and Rehabilitation Board	2.008
Minnesota Department of Natural Resources	2.008
Regional Agencies	2.012
Twin Cities Metropolitan Council	2.012
Regional Development Commissions	2.014
Mississippi Headwaters Board	2.015

3. Minnesota Recreation Resources

	Page
Statewide Physical Resources	3.001
Climate	3.001
Landforms	3.001
Lakes and Rivers	3.004
Vegetation	3.006
Attractive Scenic Areas	3.006
Landscape Regions	3.006

Regional Physical Resources	3.011
Region 1	3.011
Region 2	3.013
Region 3	3.013
Region 4	3.015
Region 5	3.015
Region 6E	3.015
Region 6W	3.016
Region 7E	3.016
Region 7W	3.016
Region 8	3.016
Region 9	3.017
Region 10	3.017
Region 11	3.018
Cultural Resources	3.019
Land Use Zones	3.019
Population Distribution	3.021
Recreation Opportunity Spectrum	3.021
Public Land Ownership	3.021
Federal Land	3.026
State Land	3.026
County Land	3.026
Administrative Areas and Sites	3.029
Federal	3.029
U.S. Fish and Wildlife Service	3.029
National Park Service	3.029
Voyageurs National Park	3.029
St. Croix National Scenic Riverway	3.029
Grand Portage National Monument	3.033
Pipestone National Monument	3.033
U.S. Army Corps of Engineers	3.033
U.S. Forest Service	3.033
National Register of Natural Landmarks	3.033
State	3.033
Department of Natural Resources	3.033
State Forests	3.033
State Parks	3.033
Trails	3.037
Water Access Sites	3.037
Scientific and Natural Areas	3.037
Canoe and Boating Routes	3.037
Wildlife Management Areas	3.041
State Trout Lakes and Streams	3.041
Department of Transportation	3.041
Historical Society	3.041
Iron Range Resources and Rehabilitation Board	3.041
Mississippi Headwaters Board	3.043
Local	3.043
Private	3.043
The Nature Conservancy	3.043
Statewide Recreation Facilities	3.043
Parks	3.047
Water-oriented Facilities	3.047

Water Accesses	3.047
Swimming Beaches	3.051
Marinas	3.051
Overnight Accommodation Facilities	3.057
Resorts	3.057
Campgrounds	3.057
Group Camps	3.057
Strongly Population-Oriented Facilities	3.062
Athletic Field Facility Types	3.062
Picnic Grounds	3.062
Golf Courses	3.062
Downhill Ski Areas	3.083
Trails	3.083
Wildlife Management Facilities	3.088
Wildlife Areas	3.088
Scientific and Natural Areas	3.088

4. Recreation Demand

	Page
Sources of Information	4.001
Factors Used to Assess Future Activity Participation	4.001
The Changing Age Structure of the Population	4.001
Changes in the Geographic Distribution of Population	4.010
Activity Demand	4.014
Statewide Activity Demand	4.014
Residents	4.014
Nonresidents	4.019
Geographic Patterns of Activity Demand	4.023
Long-Travel-Distance Activities	4.025
Class A1: Summer and Winter	4.025
Class A2: Fall Hunting	4.028
Short-Travel-Distance Activities	4.030
Class B: Peak Participation Rates in Older Age Brackets	4.030
Class C: Relatively Uniform Participation Rates from Youth to at least Early 50s	4.030
Class D: Peak Participation Rates in Youngest Age Brackets with Variable Length of Decrease in Participation Rates with Increasing Age ..	4.030
Class E: Peak Participation Rates in Mid-Teens and 20s	4.037
Class F: Other Patterns of Age-Class Participation Rates	4.037
Facility Adequacy Study	4.037
Household Demand for Facility Groups	4.037
Household and Recreation Leader Demand for Individual Facilities	4.037
Trail Group	4.042
Garden Group	4.043
Water Group	4.044
Hunting Group	4.044
Thrill Group	4.045
Athletic Group	4.045
Responsibility for Providing Recreation Facilities	4.045

5. Recreation Issues 1984-1989

Volume II

	Page
Issue 1: The State's Role in Tourism Planning and Development	5.001
Overview	5.001
Aiding the Private Sector	5.002
Public Facility Development	5.003
Public Policy	5.003
Information and Research	5.004
Coordinating Promotional Efforts and Information	
Distribution	5.004
Marketing Tools	5.005
Research	5.005
Issue 2: Conserving and Protecting Natural Resources for Recreation	5.006
Water-Oriented Resources	5.006
Water Quality	5.006
Shorelands	5.007
Wetlands	5.007
Land Resources	5.007
Outstanding State and National Resources	5.008
Other Special Resources	5.009
Issue 3: Preserving and Managing Natural and Cultural Heritage Resources for Recreation	5.009
Issue 4: Improving Recreation Resources Through Policy, Management and Intergovernmental	
Cooperation	5.010
Policy	5.010
Coordinating Policy	5.010
New Policy Directions	5.011
Policy Monitoring	5.012
Management	5.012
Intergovernmental Cooperation	5.013
Issue 5: Improving People Management	5.015
Managing Recreationists	5.016
Managing Recreation Staff	5.016
Managing Volunteers	5.017
Issue 6: High-Priority Areas for Acquisition and Development	5.017
Responsibilities of All Levels of Government	5.017
Federal Government Responsibilities	5.018
Responsibilities Shared by Federal and State Government	5.018
State Government Responsibilities	5.019
Local Government Responsibilities	5.020
Issue 7: Staffing the Operations and Maintenance of Outdoor Recreation Areas	5.021
Issue 8: Financing Our Outdoor Recreation Facilities	5.022
Issue 9: Meeting the Needs of Special Populations	5.023
Minority Population Density	5.025

Appendix A

	Page
Minnesota Sites Listed in the National Register of Historic Places	A.001

Appendix B

Projected Demand	B.001
------------------------	-------

List of Tables

Chapter 3

Table	Title	Page
3-S.01	Land Use in Minnesota	3.019
3-S.06	State Forest Distribution and Amount of Ownership	3.034
3-S.07	Forests, Parks or Reserves Larger than 500 Acres Administered by County or Local Government	3.044
3-S.08	Outdoor Recreation Facility Capacity Measures and Their Geographic Relationship to Population	3.046
3-S.09	Trail Miles	3.087
3-S.10	Trail Ownership	3.089
3-S.11	Trail Miles per 100,000 Regional Residents in 1980	3.091

List of Tables

Chapter 4

Table	Title	Page
4-S.01	Projected Change in Resident In-State Activity Participation, 1980-1995	4.009
4-S.02	In-State Activity Participation by Residents at Various Travel Distances from Home	4.013
4-S.03	Projected Resident In-State Participation in Low-Participation Activities, 1980-1995	4.019
4-S.04	Projected Non-Resident Activities Participation, 1978-1995	4.020
4-S.05	Comparison of Geographic Patterns of Existing Participation with Projected Participation	4.024
4-S.06	Facility Response Groups	4.040
4-S.06A	Comparison of Statewide and Regional Rankings of Facility Response Groups	4.042
4-S.07	Facility Response Groups That Have Statistically Significant Demand Differences Between Regions and State	4.043
4-S.08	Facilities For Which Suppliers Should Assume The Most Responsibility	4.047
4-S.09	Correlation of Suppliers Responsibilities, Assigned to Suppliers by Local Government Leaders	4.048

List of Tables

Appendix B

Table	Title	Page
B-S.01	Trail Group: Percent of Households and Local Government Leaders Desiring More of Each Facility	B.049
B-S.02	Garden Group: Percent of Households and Local Government Leaders Desiring More of Each Facility	B.050
B-S.03	Water Group: Percent of Households and Local Government Leaders Desiring More of Each Facility	B.051
B-S.04	Hunting Group: Percent of Households and Local Government Leaders Desiring More of Each Facility	B.052
B-S.05	Thrill Group: Percent of Households and Local Government Leaders Desiring More of Each Facility	B.053
B-S.06	Athletic Group: Percent of Households and Local Government Leaders Desiring More of Each Facility	B.054
B-S.07	Percentage of Households and Local Government Leaders Desiring More of Each Facility: Ordered by Percentage Difference	B.055
B-S.08	Amount of Responsibility To Be Assumed By Different Suppliers: Ordered by Federal Responsibility	B.056
B-S.09	Amount of Responsibility To Be Assumed By Different Suppliers: Ordered by State Responsibility	B.057
B-S.10	Amount of Responsibility To Be Assumed By Different Suppliers: Ordered By County/Region Responsibility	B.058
B-S.11	Amount of Responsibility To Be Assumed By Different Suppliers: Ordered By City/Town Responsibility	B.059
B-S.12	Amount of Responsibility To Be Assumed By Different Suppliers: Ordered By Private Sector Responsibility	B.060

List of Figures

Chapter 3

Figure	Title	Page
3-S.01	Precipitation	3.002
3-S.02	Runoff	3.002
3-S.03	Surface Features	3.003
3-S.04	Percent of County Area Covered by Lake Basins of 10 Acres or Larger	3.005
3-S.05	Lake Classes	3.007
3-S.06	Major Forest Types	3.008
3-S.08	Landscape Regions	3.009
3-S.09	Development Regions	3.012
3-S.10	Natural Lake Ecology for Large Lakes	3.014
3-S.11	Land Use Zones	3.020
3-S.12	Population Density 1980	3.022
3-S.13A	Minnesota Recreation Opportunity Spectrum	3.023
3-S.14A	Land Ownership in Minnesota	3.024
3-S.14B	Density of Total Public Ownership	3.025
3-S.15	Density of Federally Owned Lands	3.027
3-S.16	Density of State Owned Lands	3.028
3-S.17	Density of County Owned and Administered Lands	3.030
3-S.18	Waterfowl Production and Wildlife Management Areas	3.031
3-S.19	Major Federal Management Units Offering Outdoor Recreation Opportunities	3.032
3-S.20	State Forests: Distribution and Amount of Ownership	3.035
3-S.21	Distribution of State Parks, Recreation Areas and Waysides Among Landscape Regions	3.036
3-S.22	Minnesota Recreational Land Trails	3.038
3-S.23	Scientific and Natural Areas	3.039
3-S.24	Recreation Rivers	3.040
3-S.25	Trout Lake and Stream Areas	3.042
3-S.26	Nature Conservancy Preserves	3.045
3-S.27A	Facility Concentration Areas: Land in Parks	3.048
3-S.27B	Minnesota Outdoor Recreation Facilities: Acres in Parks	3.049
3-S.27C	Minnesota Outdoor Recreation Facilities: Ownership of Acres in Parks	3.049
3-S.27D	Minnesota Outdoor Recreation Facilities: Acres in Parks per 1000 People	3.049
3-S.28A	Facility Concentration Areas: Water Access Parking Spaces	3.050
3-S.28B	Minnesota Outdoor Recreation Facilities: Parking Spaces at Water Accesses	3.052
3-S.28C	Minnesota Outdoor Recreation Facilities: Ownership of Parking Spaces at Water Accesses	3.052
3-S.28D	Minnesota Outdoor Recreation Facilities: Parking Spaces at Water Access per 1000 People	3.052
3-S.29A	Facility Concentration Areas: Swimming Beach Frontage	3.053
3-S.29B	Minnesota Outdoor Recreation Facilities: Feet of Swimming Beach	3.054
3-S.29C	Minnesota Outdoor Recreation Facilities: Ownership of Swimming Beaches	3.054
3-S.29D	Minnesota Outdoor Recreation Facilities: Feet of Swimming Beach per 1000 People	3.054
3-S.30A	Facility Concentration Areas; Rental Watercraft at Marinas	3.055
3-S.30B	Minnesota Outdoor Recreation Facilities: Rental Watercraft at Marinas	3.056
3-S.30C	Minnesota Outdoor Recreation Facilities: Ownership of Rental Watercraft at Marinas	3.056
3-S.30D	Minnesota Outdoor Recreation Facilities: Number of Rental Watercraft at Marinas per 1000 People	3.056
3-S.31A	Facility Concentration Areas: Resort Lodging Units	3.058
3-S.31B	Minnesota Outdoor Recreation Facilities: Resort Lodging Units	3.059
3-S.31C	Minnesota Outdoor Recreation Facilities: Ownership of Resort Lodging Units	3.059
3-S.31D	Minnesota Outdoor Recreation Facilities: Resort Lodging Units per 1000 People	3.059
3-S.32A	Facility Concentration Areas: Campsites in Campgrounds	3.060
3-S.32B	Minnesota Outdoor Recreation Facilities: Campsites in Campgrounds	3.061
3-S.32C	Minnesota Outdoor Recreation Facilities: Ownership of Camping Sites	3.061
3-S.32D	Minnesota Outdoor Recreation Facilities: Number of Camping Sites per 1000 People	3.061
3-S.33A	Facility Concentration Areas: Group Camp Capacity	3.063
3-S.33B	Minnesota Outdoor Recreation Facilities: Group Camp Capacity	3.064
3-S.33C	Minnesota Outdoor Recreation Facilities: Ownership of Group Camps	3.064

3-S.33D	Minnesota Outdoor Recreation Facilities: Group Camp Capacity per 1000 People	3.064
3-S.34A	Facility Concentration Areas: Athletic Field Area	3.065
3-S.35A	Facility Concentration Areas: Tennis Courts	3.066
3-S.36A	Facility Concentration Areas: Skating Rinks	3.067
3-S.37A	Facility Concentration Areas: Baseball/Softball Diamonds	3.068
3-S.34B	Minnesota Outdoor Recreation Facilities: Acres of Athletic Field	3.069
3-S.35B	Minnesota Outdoor Recreation Facilities: Number of Tennis Courts	3.070
3-S.36B	Minnesota Outdoor Recreation Facilities: Number of Skating Rinks	3.071
3-S.37B	Minnesota Outdoor Recreation Facilities: Number of Baseball/Softball Diamonds	3.072
3-S.34C	Minnesota Outdoor Recreation Facilities: Ownership of Athletic Field Acres	3.073
3-S.35C	Minnesota Outdoor Recreation Facilities: Ownership of Tennis Courts	3.074
3-S.36C	Minnesota Outdoor REcreation Facilities: Ownership of Skating Rinks	3.075
3-S.37C	Minnesota Outdoor Recreation Facilities: Ownership of Baseball/Softball Diamonds	3.076
3-S.34D	Minnesota Outdoor Recreation Facilities: Number of Athletic Fields per 1000 People	3.077
3-S.35D	Minnesota Outdoor Recreation Facilities: Number of Tennis Courts per 100,000 People	3.078
3-S.36D	Minnesota Outdoor Recreation Facilities: Number of Skating Rinks per 100,000 People	3.079
3-S.37D	Minnesota Outdoor Recreation Facilities: Number of Baseball/Softball Diamonds per 100,000 People	3.080
3-S.38A	Facility Concentration Areas: Picnic Tables in Picnic Grounds	3.081
3-S.38B	Minnesota Outdoor Recreation Facilities: Picnic Tables in Picnic Grounds	3.082
3-S.38C	Minnesota Outdoor Recreation Facilities: Ownership of Tables in Picnic Grounds	3.082
3-S.38D	Minnesota Outdoor Recreation Facilities: Number of Picnic Tables per 1000 People	3.082
3-S.39A	Facility Concentration Areas: 18-Hole Golf Course Equivalents	3.084
3-S.39B	Minnesota Outdoor Recreation Facilities: Number of 18-Hole Golf Course Equivalents	3.085
3-S.39C	Minnesota Outdoor Recreation Facilities: Ownership of 18-Hole Golf Course Equivalents	3.085
3-S.39D	Minnesota Outdoor Recreation Facilities: Number of 18-Hole Golf Course Equivalents per 100,000 People	3.085
3-S.41A	Downhill Ski Areas	3.086
3-S.42A	Facility Concentration Areas: Public Wildlife Land	3.092
3-S.42B	Minnesota Outdoor Recreation Facilities: Acres of Public Wildlife Areas	3.093
3-S.42C	Minnesota Outdoor Recreation Facilities: Ownership of Public Wildlife Areas	3.093
3-S.42D	Minnesota Outdoor Recreation Facilities: Acres of Public Wildlife Areas per 100,000 People	3.093

List of Figures

Chapter 4

Figure	Title	Page
4-S.01	Population by Age and Sex	4.003
4-S.02	Sex/Age Activity Participation Rates by Residents: Summer Fishing	4.005
4-S.03	Sex/Age Activity Participation Rates by Residents: Ice Fishing	4.005
4-S.04	Sex/Age Activity Participation Rates by Residents: Camping	4.006
4-S.05	Sex/Age Activity Participation Rates by Residents: Golfing	4.006
4-S.06	Sex/Age Activity Participation Rates by Residents: Tennis	4.007
4-S.07	Sex/Age Activity Participation Rates by Residents: Bicycling	4.007
4-S.08	Sex/Age Activity Participation Rates by Residents: Ice Skating	4.008
4-S.09	Sex/Age Activity Participation Rates by Residents: Downhill Skiing	4.008
4-S.10	Population Density Change, 1970-1980	4.011
4-S.11	Minnesota Projected Population, 1980-2000	4.012
4-S.12	Distance Traveled to Recreate by Residents: Swimming, Tennis, Picnicking	4.015
4-S.13	Distance Traveled to Recreate by Residents: Camping, Fishing, Boating	4.015
4-S.14	Distance Traveled to Recreate by Metro Region Residents: Camping, Fishing, Boating	4.016
4-S.15	Distance Traveled to Recreate by Non-Metro Regions Residents: Camping, Fishing, Boating	4.016
4-S.16	Projected Instate Recreation by Residents in Summer: Boating, Camping, Fishing Picnicking, Canoeing, Nature Study, Visiting Historic Sites	4.017
4-S.17	Projected Instate Recreation by Residents in Summer: Ball, Bicycle, Driving for Pleasure, Golf, Hiking, Tennis, Swimming	4.017

4-S.18	Projected Instate Recreation by Residents in Winter: Cross-Country Skiing, Ice Fishing, Skating, Sledding, Snowmobiling	4.018
4-S.19	Total Summer NonResident Outdoor Recreation Demand Areas, 1978	4.021
4-S.20	Total Summer NonResident Outdoor Recreation-Related Touring Expenditures, 1978	4.022
4-S.21	Projected Demand Areas, 1995: Summer Fishing	4.026
4-S.22	Projected Demand Increase in Growth Area, 1980-1995: Summer Fishing	4.027
4-S.22A	Hunting Demand Areas, 1978: Big Game	4.029
4-S.23	Projected Demand Areas, 1995: Hiking	4.031
4-S.24	Projected Demand Increase in Growth Areas, 1980-1995: Hiking	4.032
4-S.25	Projected Demand Areas, 1995: Cross-Country Skiing	4.033
4-S.26	Projected Demand Increase in Growth Areas, 1980-1995: Cross-Country Skiing	4.034
4-S.27	Projected Demand Areas, 1995: Playing Baseball/Softball	4.035
4-S.28	Projected Demand Increase in Growth Areas, 1980-1995: Playing Baseball/Softball	4.036
4-S.29	Projected Demand Areas, 1995: Playing Tennis	4.038
4-S.30	Projected Demand Increase in Growth Areas, 1980-1995: Playing Tennis	4.039
4-S.31	Facilities Needs Assessment: Region 4	4.041

List of Figures

Appendix B

Figure	Title	Page
B-S.A	Current Population and Projected Population Change: Total Population	B.001
B-S.B	Current Population and Projected Population Change: Less Than 15 Years Old	B.002
B-S.C	Current Population and Projected Population Change: 15 to 29 Years Old	B.003
B-S.D	Current Population and Projected Population Change: 30 to 54 Years Old	B.004
B-S.E	Current Population and Projected Population Change: 55 Years Old and Older	B.005
B-S.01	Projected Demand Areas, 1995: Ice Fishing	B.006
B-S.02	Projected Demand Increase in Growth Areas, 1980-1995: Ice Fishing	B.007
B-S.03	Projected Demand Areas, 1995: Boating	B.008
B-S.04	Projected Demand Increase in Growth Areas, 1980-1995: Boating	B.009
B-S.05	Projected Demand Areas, 1995: Canoeing	B.010
B-S.06	Projected Demand Increase in Growth Areas, 1980-1995: Canoeing	B.011
B-S.07	Projected Demand Areas, 1995: Camping	B.012
B-S.08	Projected Demand Increase in Growth Areas, 1980-1995: Camping	B.013
B-S.09	Projected Demand Areas, 1995: Visiting Historic Sites	B.014
B-S.10	Projected Demand Increase in Growth Areas, 1980-1995: Visiting Historic Sites	B.015
B-S.11	Projected Demand Areas, 1995: Birdwatching	B.016
B-S.12	Projected Demand Increase in Growth Areas, 1980-1995: Birdwatching and Nature Study	B.017
B-S.12A	Hunting Demand Areas, 1978: Waterfowl	B.018
B-S.12B	Hunting Demand Areas, 1978: Upland Game Birds	B.019
B-S.13	Projected Demand Areas, 1995: Golfing	B.020
B-S.14	Projected Demand Increase in Growth Areas, 1980-1995: Golfing	B.021
B-S.15	Projected Demand Areas, 1995: Picnicking	B.022
B-S.16	Projected Demand Increase in Growth Areas, 1980-1995: Picnicking	B.023
B-S.17	Projected Demand Areas, 1995: Driving for Pleasure	B.024
B-S.18	Projected Demand Increase in Growth Areas, 1980-1995: Driving for Pleasure	B.025
B-S.19	Projected Demand Areas, 1995: Bicycling	B.026
B-S.20	Projected Demand Increase in Growth Areas, 1980-1995: Bicycling	B.027
B-S.21	Projected Demand Areas, 1995: Skating	B.028
B-S.22	Projected Demand Increase in Growth Areas, 1980-1995: Skating:	B.029
B-S.23	Projected Demand Areas, 1995: Sledding	B.030
B-S.24	Projected Demand Increase in Growth Areas, 1980-1995: Sledding	B.031
B-S.25	Projected Demand Areas, 1995: Snowmobiling	B.032
B-S.26	Projected Demand Increase in Growth Areas, 1980-1995: Snowmobiling	B.033
B-S.27	Projected Demand Areas, 1995: Swimming	B.034
B-S.28	Projected Demand Increase in Growth Areas, 1980-1995: Swimming	B.035

B-S.29	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 1	B.036
B-S.30	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 2	B.037
B-S.31	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 3	B.038
B-S.32	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 4	B.039
B-S.33	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 5	B.040
B-S.34	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 6E	B.041
B-S.35	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 6W	B.042
B-S.36	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 7E	B.043
B-S.37	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 7W	B.044
B-S.38	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 8	B.045
B-S.39	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 9	B.046
B-S.40	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 10	B.047
B-S.41	Minnesota Outdoor Recreation Facilities Needs Assessment: Region 11	B.048



Chapter 1

Goals & Objectives



1. Goals and Objectives

SCORP

Minnesota's Statewide Comprehensive Outdoor Recreation Plan (SCORP) represents a continuous planning process for the state's outdoor recreation lands and facilities. SCORP is the result of a cooperative, coordinated planning process involving the efforts of both public and private-sector recreation suppliers and incorporating the opinions and needs of the state's citizens.

SCORP is not a predetermined blueprint for the future but a guide which allows for the changing needs of Minnesota's citizens and resources. The SCORP planning process began in 1965; an updated SCORP is published every five years.

The federal government, through the National Park Service (NPS), requires a SCORP from each state as a prerequisite to distribution of Land and Water Conservation Fund (LAWCON) monies, which are used for the acquisition and development of outdoor recreation facilities.

Minnesota was granted \$1.3 million in LAWCON funding for fiscal 1984. The LAWCON assistance is in the form of matching grants; that is, the state or local unit of government must contribute 50 percent of the costs for outdoor recreation projects with LAWCON providing the remaining half.

Half of the LAWCON money received is used to assist municipalities and other local units of government; the other half goes to statewide recreation facilities such as state parks and state trails. Projects are selected for funding based on priorities established in SCORP.

The NPS requires that SCORPs submitted by states be action-oriented and comprehensive. They must include an assessment of resources, programs and opportunities; an analysis of present and future recreation needs; the identification of options and alternatives and recommendations, policies and priorities for outdoor recreation.

In accordance with NPS requirements and guidelines, Minnesota has formulated a goal for its SCORP, and a series of objectives to meet that goal.

SCORP's Goal:

To direct a continuing planning process that coordinates all public-and private-sector recreation plans that provide the public with opportunities for outdoor recreation in Minnesota.

Objectives of the Planning Process

1. To identify the goals, objectives and policies of Minnesota's significant regional and state outdoor recreation systems.
2. To pinpoint conflicting policies among Minnesota's outdoor recreation suppliers, and to provide a process to resolve these policy issues.
3. To provide information and the planning and communication processes needed to make reasonable choices among acquisition and development alternatives.
4. To coordinate the development and provision of the recreation management information necessary to ensure Minnesota's continued eligibility to receive LAWCON funds.
5. To coordinate the development of criteria for a fair and efficient Open Project Selection Process to ensure funding application equality.

The Outdoor Recreation System

At the heart of SCORP is the Minnesota Outdoor Recreation System, the broad spectrum of areas and facilities for all types of outdoor recreation provided by all levels of government and by the private sector. A coordinated recreation system, responsive to the needs of both the public and the state's resources, should be the result of the SCORP planning process. The goals and objectives of the outdoor recreation system serve to focus and guide SCORP planning efforts.

Goals for Outdoor Recreation in Minnesota

The goals for outdoor recreation in Minnesota are to manage and protect appropriate natural, historical and

archaeological resources in Minnesota and to develop supporting facilities and programs for an outdoor recreation system that provides quality recreation and aesthetic experiences for all persons.

Objectives of the Outdoor Recreation System

To achieve the outdoor recreation system goals, certain objectives have been established. These objectives are general in nature and are intended to provide an overall guide for developing the recreational system.

1. To incorporate into the outdoor recreation system resource areas of high quality and diversity in sufficient quantity to conserve for the public's benefit the state's natural, historical and archaeological heritage.
2. To provide sufficient recreation resources (lands, waters and facilities) to meet the recreation interests and needs of all Minnesotans and visitors.
3. To achieve full cooperation and coordination among the public agencies and the private entities that have jurisdiction over components of the recreation system. The specific capabilities of each agency should be recognized and used to achieve the best planning, development, operation, maintenance and protection of outdoor recreation areas and to ensure visitor satisfaction with those areas.
4. To assist the several levels of government to develop recreational facilities which are best suited to meet their constituents' needs, within the systems goals.
5. To assist government agencies in seeking financing to achieve their objectives.
6. To maximize the participation of private sector recreation suppliers. The public sector should provide only those facilities which the private sector cannot provide.
7. To remain flexible enough to meet changing needs of the public or conditions of the resources.
8. To continue research on recreation problems to provide planners and administrators with the data necessary to protect resources and meet recreation needs.
9. To monitor the condition of recreation and open space areas so that deterioration of resources can be arrested before it becomes irreversible.
10. To provide and expand facilities and programs for environmental education wherever feasible.

11. To provide readily available and accessible outdoor recreation opportunities to all residents and visitors regardless of disability, age, sex, race, residence or economic status.

Contents of the Plan

To accomplish the above goals and objectives, SCORP 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 recreation facility users; and an action program to meet recreation needs.

The Department of Energy and Economic Development (DEED) is responsible for coordinating long-range, statewide economic development and land use planning, as well as various phases of regional, county and municipal planning.

The data systems established by the Department of Natural Resources (DNR) and DEED can provide information to aid other agencies and local units of government in their planning and decision making.

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

Public Input

A common pitfall of many planning processes is inadequate public involvement—too little and too late. Less well known but equally common 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.

To ensure a wide spectrum of opinion and expressed need, the SCORP planning process employed a multiple-source approach. The bulk of public input came from three major, separate efforts, each targeted to a specific recreational clientele.

First, an Outdoor Recreation Policy Advisory Committee (ORPAC) solicited the advice of citizens interested in outdoor recreation. This committee is made up of federal, state, city, local government and special interest group representatives. It is through ORPAC that issues are raised, SCORP drafts are reviewed, and future LAWCON funding priorities are set before being sent to the governor for his signature.

Second, representatives of Minnesota's Association of 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 from data display to the implications of, and possible solutions to, issues raised.

Third, mailed surveys provided a broad cross section of opinions and desires from Minnesota citizens, who were recognized early in the SCORP effort as the most important source of consultation.

Legal Authority

Minnesota's authority to participate in the Land and Water Conservation program is granted under Minnesota Statutes 86.71. This section also designates the governor as the state authority who "applies for, accepts, receives and disburses" 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; DEED 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 M.S. 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 in 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."

Chapter 2

Minnesota Recreation Suppliers





2. Minnesota Recreation Suppliers

Recreation suppliers at the federal, state, regional and local levels and in 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 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.

This chapter presents some of the most important recreation goals, objectives and policies of the agencies responsible for outdoor recreation in Minnesota. This chapter is provided to assist these agencies in developing and improving their recreation programs and plans.

Federal Agencies

U.S. Department of Agriculture

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

U.S. Forest Service

The Forest Service administers national forest land in Minnesota under the direction of several laws. Current direction for providing recreation opportunities is based primarily on the following laws: the Multiple-Use, Sustained Yield Act of 1960; the Wilderness Act of 1964; the National Environmental Policy Act of 1969; the Eastern Wilderness Act of 1975; the Forest and Rangeland Renewable Resource Planning Act of 1974 as amended by the National Forest Management Act of 1976; and the Boundary Waters Canoe Area Wilderness Act of 1978.

At the national level, Forest Service recreation objectives are:

1. to make opportunities for forest recreation available to all segments of society;
2. to encourage participation and enhance the quality of experiences through management of National Forest System lands, research, technical assistance to state and private forest managers, and coordination with private and public suppliers;
3. to develop and maintain professional excellence in recreation management, with emphasis on being the host to recreation visitors in such ways as providing information and education facilities and promoting user safety;
4. to manage through service with a minimum of regulation;
5. to increase the supply of outdoor recreation opportunities and services through programs which emphasize dispersed recreation, while accommodating the Forest Service's current share of developed or concentrated site recreation; and
6. to use the private sector's capabilities to develop and maintain, on National Forest System lands, needed public recreation facilities, providing the long-term public interest is protected.

In Minnesota, the Forest Service manages the Chippewa and Superior national forests.

In the Chippewa National Forest, recreation goals are:

1. to increase the supply of dispersed recreation opportunities that complement the private sector;
2. to provide opportunities for a non-motorized semi-primitive recreation experience;
3. to limit or reduce the amount of developed camping opportunities from the current level;

4. to locate and evaluate historical sites and to manage those of a significant nature;
5. to protect and enhance scenic values along travel corridors and significant water bodies; and
6. to increase water access, either drive-in or carry-in, to lakes which currently lack a public access, and for which there is a demonstrated need.

In the Superior National Forest, recreation goals are:

1. to increase opportunities for semi-primitive recreation outside of the wilderness;
2. to limit or reduce the number of developed campgrounds currently available;
3. to locate and preserve historical and archaeological sites;
4. to increase access to lakes and streams; and
5. to enhance or preserve scenic values along travel corridors and scenic river candidates.

Wilderness goals for the Superior National Forest are:

1. to increase the opportunities for primitive recreation in the Boundary Waters Canoe Area;
2. to manage the BWCA to preserve its wilderness character through direct and indirect control methods; and
3. to implement the provisions of the 1978 Boundary Waters Canoe Area Wilderness Act.

Soil Conservation Service

The primary objectives of the Soil Conservation Service for outdoor recreation are:

1. to minimize erosion on land used for recreation;
2. to ensure that sedimentation of water bodies resulting from erosion is reduced and maintained at an acceptable level;
3. to provide technical assistance to land users, primarily on private or nonfederal public lands, in developing appropriate recreation opportunities on their land within the capabilities of the land or water resource; and
4. to ensure that all water-based recreation developments, within the authorities of the Small Watershed Protection and Flood Prevention Act and the Re-

source Conservation and Development Program, are planned, designed and operated to provide high-quality outdoor recreation opportunities.

To carry out these objectives, it is the policy of the Soil Conservation Service to provide technical and, when authorized, financial assistance to individuals, groups and units of government concerned with soil and water conservation on land used for recreation.

Within the scope of this policy and the objectives, the Soil Conservation Service has responsibility for:

1. determining suitability of lands for proposed recreation use, in keeping with the soil and water capabilities;
2. planning recreation use and land/water treatments to minimize erosion and maintain the capability of the resource base while ensuring safe, high-quality recreation opportunities;
3. establishing, maintaining and using recreation and other practice standards so that effective soil and water conservation practices are applied; and
4. providing technical assistance for the operation and maintenance of recreational developments to ensure their safe and beneficial operation.

U.S. Department of Interior

Three U.S. Department of Interior agencies administer programs affecting the recreation resources of Minnesota: the National Park Service, the Bureau of Land Management and the Fish and Wildlife 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 resource 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 Country Trail and the Upper Mississippi Wild and Scenic River.

Minnesota contains one national park, Voyageurs National Park. Its authorizing legislation in 1971 established 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 park's resources. Traditional or customary activities not dependent on the park's resources are permitted, but only if they do not consume resources, negatively affect resources, 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, Voyageurs 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 parklands qualifying as wilderness. Voyageurs management objectives demand intergovernmental cooperation, monitoring of resource impact, provision of 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 the reestablishment, 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 which occurred after the fur trade declined.

Minnesota's other national monument is Pipestone National Monument. Its twofold goal is to preserve and manage the ethnic, historic, archaeological and geological 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. Pro-

tection activities encourage continuation of natural processes, except when that protection would interfere with quarrying. The service seeks to communicate the traditions and handicraft of the Upper Midwest Indians 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, interpreting and perpetuating the river's cultural and natural resources, and monitoring the effects of current land uses and buildings. The service also seeks to eliminate impediments to the free flow of the stream and, where appropriate, to 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 with the private sector to communicate information about the river to the public and to develop recreational facilities.

In 1981 the National Park Service assumed the responsibility of administering the Land and Water Conservation Fund (LAWCON) Program. The program was administered by the Bureau of Outdoor Recreation from 1965 to 1978. In 1978 the Heritage Conservation Recreation Service was created and was given charge of the program until 1981, at which time the program was assigned to the National Park Service. The National Park Service receives its basic policy direction from Public Law 88-29. The service is concerned with planning and coordination/review of planning relative to recreation in Minnesota through administration of the Statewide Comprehensive Outdoor Recreation Planning Process (SCORP) and distribution of the LAWCON monies.

The Park Service's role in Minnesota is to ensure that the state produces a SCORP which is action-oriented and comprehensive, and which represents a continuous planning process for outdoor recreation lands and facilities. Before it considers granting the state financial

assistance for acquisition or development projects, the service also reviews the planning projects of other agencies (federal and state) to ensure that they are compatible. The Park Service also provides technical assistance for recreation projects.

NPS policy requires that SCORPs submitted by states contain the following elements:

1. State assessment and overview of issues.
2. Analysis of demand predictions and projections.
3. Assessment of resources, programs and opportunities.
4. Analysis of future needs.
5. Special studies.
6. Identification of options and alternatives.
7. SCORP recommendations, policies and priorities.
8. Problems and needs of Indian tribes.
9. Project selection process (description follows).

Open Project Selection Process

1. *Purpose.* The purpose of the open project selection process is to ensure equal opportunity for all eligible project sponsors and all sectors of the general public to participate in the processes and benefits of the Land and Water Conservation Fund (LAWCON) State Assistance Program, and to enable the states to affirmatively address and to better attempt to meet priority needs.
2. *Goals.* The open project selection process developed by each state shall be designed to accomplish the following goals:
 - a. To provide for public knowledge of and participation in the formulation and/or application of the project selection process used by the state in allocating LAWCON assistance.
 - b. To provide the opportunity for all eligible state and local agencies to submit project applications and have them considered on an equitable basis.
 - c. To ensure that the distribution of LAWCON assistance is accomplished in a nondiscriminatory manner, especially with regard to minority populations, the elderly and disabled persons, and to ensure a fair and equitable evaluation of all applications for LAWCON assistance.

- d. To ensure that all units of government are aware of the availability of LAWCON assistance and how to obtain it.

3. *Requirements for an open project selection process.* Each state shall, as a condition of eligibility to receive assistance under the fund program, implement an open project selection process which has the following components:

- a. *Priority rating system.* Each state shall develop a priority rating system for selecting projects that ensures the fair and equitable evaluation of all projects and at a minimum:

(1) places strong emphasis on the project's conformance with priority needs identified through the SCORP process;

(2) encourages public participation in the formulation of the project proposal at the project sponsor level;

(3) recognizes the need for proposed projects, to the greatest extent practicable, to be accessible to all segments of the general public including minority populations (defined as including Blacks, Hispanics, Native Americans and Asian Americans), the elderly, and the disabled; and

(4) requires conformance of the project with the eligibility and evaluation criteria outlined in the LAWCON Grants Manual, parts 640 and 660.

- b. *Project selection process.* Each state shall develop a project selection process which evaluates and selects projects on the basis of quality and conformance with the priority rating system. The current practice of dividing the state's apportionment between state and local projects may continue at the state's option. In this case, the state's project selection process could be applied separately to these two categories. The distribution of a state's apportionment strictly on a geographic basis is prohibited.
- c. *Recurring funding cycle.* Each state shall institute a recurring funding cycle to regularize the timing for receiving, evaluating and selecting project proposals. The funding cycle may recur quarterly, semi-annually, annually or at any other regular interval within the fiscal year as determined by the state.
- d. *Public notification.* Each state shall inform all potential project sponsors about the program at least once every two years. This may be ac-

complished through direct contact with all potential sponsors or indirectly through state and local organizations. The information supplied shall include the types of areas and facilities eligible for funding, how to apply for LAWCON assistance and how the state's open project selection process works. States are encouraged to make available to project sponsors the criteria used in prioritizing projects and the state's overall goals and objectives for the program.

e. *Program assistance.* Each state shall to the extent practicable provide assistance to any potential project sponsor who requests assistance with project formulation, proposal preparation in obtaining the nonfederal matching share, and other matters necessary for participation in the program.

f. *Affirmative action.* Each state shall take affirmative action to ensure that good faith efforts are made to encourage projects which directly benefit minority populations in the state. This may be accomplished through the SCORP planning process, and shall at a minimum reflect an effort to encourage applications from communities with significant minority populations. Since social conditions vary from state to state, the design of the approach shall be determined by the state.

g. *Advisory boards.* The use of advisory boards, commissions or committees to assist the state in the selection of proposals to receive LAWCON monies is encouraged but not required. If advisory boards, commissions or committees are used by the state they will include in their membership representation of minorities to the extent that such representation reasonably reflects the ratio of the nonminority to the minority population of the state.

4. *Public participation.* The public participation program developed by the state in accordance with the SCORP requirements shall include provisions for ensuring that the preparation and revision of the project selection process and priority rating system are subject to public review and comment (including minority participation in this process) prior to their implementation. The use of public meetings and review by special interest groups, advisory committees, and park/recreation boards, commissions and committees is encouraged.

5. *Implementation.* States shall secure approval of their open project selection process from the regional director for implementation before the obligation of any new funds appropriated by Congress after FY 1982. Any state using an existing process

which accomplishes the goals of the open project selection process may submit a description of the process to the regional director for review and determination that the requirements of the open project selection process have been fulfilled.

6. *Program review.* Regional directors will review each state's open project selection process during the regular program review process. Failure by the state to keep its open project selection process active and up to date may result in the state being found ineligible for participation in the LAWCON program.

Bureau of Land Management

The Bureau of Land Management receives its authority to manage public lands through the Federal Land Policy and Management Act of 1976 (Public Law 94-579). The Minnesota Management Framework Plan, which was completed in 1981, determined that the bureau's goal would be to transfer, exchange or sell all of its 1,193 islands and approximately 43,000 acres of uplands. The bureau's objective is to keep the majority of these public lands in public ownership for appropriate resource use or to use them in exchange to enhance other agencies' landholdings. All other federal, state and local government agencies, as well as organizations and individuals, were consulted as to their interests in bureau lands.

The State of Minnesota and local governments have applied for acquisition of 1,145 islands and 62 upland tracts. Seventy-eight islands and upland tracts are to be transferred to the National Park Service. Public sales are planned for 18 upland tracts and the remaining tracts are open for application or exchange.

In general, public lands have important mineral, wildlife and outdoor recreation values and the goal to manage them for their best-suited use remains paramount.

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service administers a national system of wildlife refuges and fish hatcheries which provide recreation opportunities. A goal of this system is to ensure 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.

The goal of the service's Fishery Resources Program is to promote the conservation and management of fish resources to help maintain and increase oppor-

tunities for both recreation and commercial fishing. To this end, a principal concern must be to enhance the health, diversity and abundance of fish and their habitat. In addition to managing these areas, the service administers research, information and training programs, and 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 Endangered Species and Anadromous Fish programs. These grants allow states to perform research and to acquire, develop and manage fish and wildlife lands.

In Minnesota, the service applies its goals, objectives and policies to seven 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.

U.S. Department of Defense

U.S. Army Corps of Engineers

The Army Corps of Engineers plans, constructs and manages water- resource-oriented projects under the control of the Secretary of the Army. Nationally, the Corps seeks to control erosion, prevent major flood damage, abate pollution, provide navigation, and generate hydroelectric power. The Corps' recreation developments are always in conjunction with one or more of its primary missions.

The Corps seeks to provide opportunities for a wide variety of recreation activities at its projects. It attempts to provide water-oriented recreation in addition to protection and development of timber resources, enhancement of fish and wildlife, and preservation of 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 Corps' recreation objectives include ensuring public access to opportunities for water-oriented recreation, camping and interpretation while preserving sensitive environments.

On the Mississippi River downstream from the Twin Cities, the Corps is concerned primarily with commercial navigation. This stretch of river contains fish and wildlife resources of national importance. In coopera-

tion with state and federal resource agencies, the Corps works to develop navigation maintenance methods that will 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 Agencies

Department of Energy and Economic Development

The Department of Energy and Economic Development, through its Community Development Division, administers the federal Land and Water Conservation (LAWCON) Fund and the Legislative Commission on Minnesota Resources (LCMR) Fund programs. The intent of these two programs is to help local government units acquire and develop basic facilities for outdoor recreation. The LCMR sets overall policy and makes recommendations to the Legislative Advisory Commission and the governor.

The department's goals in outdoor recreation are:

1. to use federal and state funds to help local governments provide quality outdoor recreation facilities throughout the state; and
2. to implement an effective financial assistance program to fund recreational projects which:
 - a. have irreplaceable resources or features that are in danger of commercial (nonrecreational) development, subdivision or other use that may be incompatible with outdoor recreation uses;
 - b. meet generally recognized national design standards for recreational facilities;
 - c. 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; or
 - d. comply with needs as designated in the applicant's recreation plan and in SCORP.

Department of Military Affairs

The Department of Military Affairs provides opportunities for recreational activities at Camp Ripley, a National Guard training site in central Minnesota. The

department views its public recreation role as secondary, although important.

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

Department of Transportation

The Minnesota Department of Transportation (Mn/DOT) affects 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). Mn/DOT's basic policy direction is contained in M.S. Chapter 174.

Bikeways

Mn/DOT's bikeways goals are to identify and develop 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:

1. to 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;
2. to 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;
3. to 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; and
4. to compile and maintain a current registry of bikeways statewide so that accurate information is conveyed to the traveling public.

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 for travelers. Mn/DOT's policies are:

1. to provide parking, resting, restrooms, picnicking, orientation, travel information and other facilities for the convenience of the traveling public;
2. to place new emphasis on state tourism information centers and, through personnel training and continuing education, establish a strong link to state tourism regions;
3. to 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; and
4. to integrate existing rest area services with proposed developments 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 the DNR water access program.

Minnesota Historical Society

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

1. to evaluate the historical resources of the state and formulate a comprehensive plan for their preservation;
2. to assist historical organizations, units of government and individuals in the preservation and interpretation of Minnesota's historical and prehistorical resources;
3. to acquire, preserve and interpret Minnesota historical sites of statewide or national significance;
4. to administer Minnesota's major historic places and structures through acquisition, preservation, development and interpretation for public benefit;
5. to identify, through surveys and research, significant archaeological and historical resources which

provide important evidence of Minnesota's past, and to implement provisions of state, federal and local laws designed to protect such resources;

6. to 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;
7. to conduct necessary research and field investigations to assist in planning, development and interpretation of historic areas;
8. to assist the Minnesota Archaeological Society and regional, county and local historical organizations with their programs relating to archaeological resources;
9. to continue high-quality maintenance and interpretation of major historic sites operated by the society; and
10. to identify all historic places and structures of national, state and local significance worthy of preservation.

Iron Range Resources and Rehabilitation Board

Operating under the authority granted and governed by Minnesota Statute §298.22 and associated statutes and subdivisions, the Iron Range Resources and Rehabilitation Board (IRRRB) is a regionally based state agency concerned with economic development, vocational and human rehabilitation, mineral research, mining, agriculture, tourism, and recreation for the region statutorily defined as the Taconite Tax Relief Area.

The Iron Range Resources and Rehabilitation Board supports the developments of regional recreational opportunities in northeastern Minnesota both as a means to promote economic development through tourism, and to simultaneously provide recreational outlets for its region's citizens.

The IRRRB hopes to achieve this goal through financially assisting in the creation and maintenance of projects and programs that shall strive to provide a network of tourist attractions and recreational facilities that will enhance both our regional tourist appeal and general quality of life.

To promote these objectives, the IRRRB supports those projects and programs that best satisfy the following criteria:

1. Demonstrate communitywide or regional use.
2. Provide year-round use and include structured activities. (The IRRRB is especially interested in developing winter, as well as summer, recreational uses)
3. Enhance the tourism potentials of the Taconite Tax Relief Area.
4. Be innovative and complement existing facilities or provide for an activity not otherwise found in the area.

The IRRRB seeks to utilize the full potential of its Iron Range Interpretative Program as well as its Minelands Reclamation and Trails programs to achieve these recreational goals, funding projects from its own revenues as well as seeking applicable public and private monies for appropriate specific uses.

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 (M.S. Chapter 86A). The DNR units in this outdoor recreation system are natural state parks, recreational state parks, state trails, scientific and natural areas, wilderness areas, forests, wildlife management areas, water access sites, wild and scenic rivers and historic sites.

The preservation and proper use of Minnesota's outdoor recreation resources are becoming increasingly important. At the same time that there is a growing demand for outdoor recreation facilities, there is a shrinking base of potential recreation lands because of the spread of development and urbanization in the state. In addition, because tourism is an important part of Minnesota's economy, maintaining the quality and diversity of recreation resources reaps economic benefits for the state.

It is the DNR's policy to manage units of the outdoor recreation system 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 recre-

ation needs of Minnesota's citizens. 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 and special units; five serve the outdoor recreation population of Minnesota directly, and one does so indirectly.

The Divisions of Parks and Recreation, Forestry, and Fish and Wildlife and the special Trails and Waterways Unit have direct responsibility for providing outdoor recreation opportunities, lands and facilities. The Office of Planning directly influences the distribution of recreation facilities through overall recreation policy development, statewide coordination, maintenance of recreation facility records, recreation surveys and site-specific recreation planning. In addition, development of SCORP by the Office of Planning guides the use of state and federal monies 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.

In the Department of Natural Resources, many divisions work to serve the outdoor recreation needs of Minnesotans and visitors to Minnesota. To effectively provide recreation facilities and services, the divisions must closely coordinate their actions. To do this, the department has instituted the Outdoor Recreation Coordinating Committee (ORCC), which is responsible for developing interdivisional recreation policy and programs, and for ensuring coordination among interdivisional efforts in the area of outdoor recreation. ORCC consists of one representative from each division, bureau and unit. ORCC members review existing practices and new programs and policies. ORCC reports directly to the division directors, who sit as a single decision-making body on the Planning and Environmental Review Team (PERT).

Goals, Objectives and Policies

DNR goals, objectives and policies related to outdoor recreation 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 (M.S. 84.033), and public access sites (M.S. 97.48).

Basic policy direction for forests is provided by M.S. 89.021, which authorizes recreation areas in state forests, and MS. 84A.21 and M.S. 84A.32, which authorize the provision of certain recreational facilities on certain other lands. The 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. These goals and objectives are continuously reviewed through the department's Forest Resources Planning effort.

Basic DNR policy direction for fish and wildlife 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 from 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 acquire sufficient lands for fish and wildlife management, 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).

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 of that game be provided. Aid and advice concerning game management will be supplied to landowners upon request. Department policy also is to encourage sportsmen and conservation organiza-

tions 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 nongovernmental 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 overexploitation, 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 of Minnesotans and visitors to Minnesota. DNR policy is to maintain up-to-date data on recreation user desires and participation rates so as to fulfill this objective. It is DNR policy to maintain an excellent SCORP and to maintain eligibility for Land and Water Conservation (LAWCON) assistance so as to assure monies for acquisition and development. In addition, it is DNR policy to coordinate with the Department of Energy and Economic Development and to actively pursue development and implementation of a statewide LAWCON priority rating scheme for project funding purposes. In keeping with the federal objective to ensure implementation of SCORP through a public input-oriented Open Project Selection Process, the state has developed an Open Project Ranking System. Revised on a biennial basis as a result of public review of state objectives, the Open Project Ranking System provides a numeric ranking of each project submitted to the state for LAWCON funding. This ranking is based on each project's ability to meet publicly prioritized outdoor recreation objectives. Unless superlative site, situation, design or programming qualities are found in lower-ranking projects, LAWCON funds will be applied to projects in the order of their ranking. The DNR indirectly influences outdoor recreation opportunities by developing and managing water resources to assure an adequate supply for recreational users (M.S. 105.405). The DNR's goal is to conserve water resources, to use them in the best interests of the public, and to promote the public health, safety and welfare. DNR policy is to consider scenic qualities and recreational uses and benefits in all decisions concerning the use of public waters.

The Outdoor Recreation System

The DNR administers units of the outdoor recreation system to provide opportunities for diversified outdoor recreation activities that respond to the needs of Minnesota's citizens. The DNR's goal is to preserve an

accurate representation of Minnesota's heritage for public understanding and enjoyment and to provide an adequate supply of scenic, accessible and usable lands and waters. Following are specific policies, by type of unit.

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

DNR 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 reestablish desirable plants and animals that were 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 into 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 (RSPs) should provide a broad selection of outdoor recreation opportunities in a natural setting which may be used by large numbers of people. The 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 should provide recreational travel routes that connect units of the outdoor recreation system or the national trail system; that provide access to or passage through other areas with significant scenic, historic, scientific or recreational qualities; or that reestablish or permit travel along historically prominent travel routes. State trails may also provide for commuter transportation.

State trails are intended to provide ways to explore significant areas of Minnesota by snowmobile, skis and bicycle, on horseback and on foot. Uses on specific trails are determined on a case-by-case basis. In gen-

eral, state trails are of sufficient length for a weekend trip. If camping, parking and rest area facilities are not available in areas connected by state trails, they may be provided in trail waysides.

State scientific and natural areas (SNAs) should protect and perpetuate, in an undisturbed natural state, rare and/or endangered species and natural features which possess exceptional scientific or educational value.

The DNR's policy is to administer SNAs, in consultation with the Commissioner's Advisory Committee on SNAs, to preserve, perpetuate and protect their sensitive 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 provide public access to water suitable for recreation, where such access is either nonexistent or inadequate. Access roads, off-road parking areas and launch ramps are provided as part of most DNR water access sites. Toilet facilities and refuse containers are available only at heavily used sites or in residential 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.

Areas considered for designation as state wilderness areas must appear to be affected primarily by the forces of nature, with evidence of man substantially undetectable or eradicable by restoration. In addition, state wilderness areas will be managed only to the extent necessary to control fire, insects and disease that threaten adjacent lands, and to preserve or reestablish wilderness. Development of public roads, permanent dwellings and recreational facilities, except for nonmotorized 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 should preserve, restore and interpret buildings and other structures, locales, sites, antiquities and related lands that illustrate significant events, personalities and features of the history and archaeology of the state or nation.

The DNR's policy is to manage historic sites, working with the Historical Society to help assure preservation and appropriate interpretation of such sites. The DNR's

policy is also to administer historic sites so as to restore their historical appearance 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 the use 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 (areas 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.

The DNR's policy is to develop the recreational resources of state forests to satisfy recreational demand as fully as possible, compatible with the management of other resources. State forest sub-areas are of two types: day-use areas which accommodate recreational use of the forest in its natural state, including but not limited to picnicking, fishing, swimming, boat launching, hiking, interpretation and nature observation; and campgrounds for overnight camping.

State Wildlife Management Areas (WMAs) are established to protect, develop and enhance through management lands and waters that provide high-quality habitat for the production of wildlife. Opportunities for public hunting, trapping, fishing and other compatible outdoor recreation activities are priorities in WMAs.

The DNR's policy is to maintain or establish optimal game and nongame wildlife populations while maintaining ecological diversity. Vegetation and wildlife on WMAs will be managed with appropriate consideration given to endangered, threatened and special-concern species and compatible recreational use of these lands, waters and associated wildlife and plant species.

State wild, scenic and recreational rivers should protect and maintain the natural characteristics of rivers or streams which, together with adjacent lands, possess outstanding scenic, scientific, historical or recreational value. This protection may extend to designated tributaries and to lakes through which the rivers flow.

Department policy is to classify rivers or river segments included within the system as wild, scenic, or recreational. 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 adja-

cent 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

General

The Metropolitan Council is the regional planning and coordinating agency for the seven-county Twin Cities metropolitan area. The Minnesota Legislature has charged the council with two distinct responsibilities for parks and recreation:

1. A general charge to "prepare and adopt a comprehensive development guide for the metropolitan area" that "shall recognize and encompass physical, social, or economic needs including land use, parks and open space land needs" is contained in the Metropolitan Council Act, M.S. 473.145 (1982).
2. The 1974 Metropolitan Parks Act, M.S. 473.147 (1982), contains a specific mandate to plan and administer a program of grants to implementing agencies for the acquisition and development of a system of Regional Recreation Open Space.

The council's Recreation Open Space Development Guide/Policy Plan responds to both legislative directives. Actual implementation of the council's plan is accomplished by 10 implementing agencies, which are limited by law to counties, municipalities and special park districts. These agencies prepare individual park master plans for review and approval by the council. They acquire and develop the regional system, using council grant funds. They operate and maintain the system using funds from their own local sources, mainly the property tax.

The council's long-range park system plan identifies "generally the areas that should be acquired by a public agency to provide a system of regional recreation open space," establishes priorities for acquisition and development of such space, and includes a 10-year capital improvement program based on the criteria and priorities for such acquisition and development. It describes the current and future needs of metropolitan area residents for regional recreation open space, the extent to which existing facilities satisfy those needs, and objectives that will lead to fulfillment of those needs. In addition, the plan contains procedures, rec-

ommendations and suggestions concerning the activities and responsibilities of the council, the Metropolitan Parks and Open Space Commission, and the implementing agencies for planning, funding and implementing the regional recreation open space system.

The council and the commission use this policy plan as a basis for awarding acquisition and development grants from regional park funds; as a set of policies, standards and criteria to review and rank applications for state and federal park grants and other matters referred to the council for review; and as a set of procedures and guidelines for the activities and responsibilities of the council, the commission and the implementing agencies that carry out the acquisition, development, operation and maintenance of the regional system.

Local Parks and Open Space

Although the council's primary responsibility is the regional system, it also is involved with local parks and open space. The council reviews the park element of local comprehensive plans and advises the Department of Energy and Economic Development on ranking of applications for Land and Water Conservation Fund and Legislative Commission on Minnesota Resources (LAWCON/LCMR) grants in the metropolitan area.

The council's goal is to assist municipalities in providing adequate local recreation open space. This assistance should strengthen the functional distinction between local facilities and the regional system, and coordinate efforts within the region to provide maximum public recreational opportunities. To achieve this goal, the council has developed policies on local comprehensive plans, LAWCON/LCMR grant criteria and limitations on the uses of LAWCON/LCMR funds in the metropolitan area.

Regional Recreation Open Space

The 1974 Metropolitan Parks Act defines regional recreation open space as "the land and water areas determined by the Metropolitan Council to be of regional significance in providing for a balanced system of public outdoor recreation for the metropolitan area." (M.S. 473.127, subd. 14, 1978).

Regional recreation open space is an area to which the public has access, and which, because of the character and development of its natural environment, offers recreational opportunities that attract large numbers of people from the metropolitan area.

The classification system in the plan designates five categories of regional recreation open space: regional parks, regional park reserves, regional trail corridors,

regional historic parks and regional special recreation use areas.

Regional parks provide facilities for six recreational activities: swimming, picnicking, boating, fishing, camping and trail uses. Facilities for all of these activities are not necessary in each park, and other compatible activities might also be provided in some parks.

Regional park reserves are established primarily to protect and enhance significant natural landscape features of the region. Based on analysis of vegetation and topography, these landscape features have been classified into eight landscape types to be represented by the park reserves. The first objective of the park reserves is to restore and preserve natural resources, but they also provide opportunities for outdoor recreation. Reserves provide the same activities as regional parks, but also provide the diverse and extensive resource base needed for nature study.

Regional trail corridors provide opportunities for hiking, biking, ski touring, horseback riding, snowmobiling and canoeing. Pleasure driving also is accommodated in some regional trail corridors. Some corridors may be able to support only two uses because of physical limitations. Some corridors may be used only for canoeing.

Regional historic parks preserve buildings, sites and objectives of historical significance, and provide the opportunity to interpret history, archaeology or paleontology.

Regional special recreation use areas serve a single purpose, such as a conservatory, marina, floral display garden or zoo. A limited number of these opportunities will be provided within the metropolitan area, in nearly all cases within regional parks or park reserves.

The Council's plan provides for a 56,200-acre, 62-unit regional system consisting of 37 regional park reserves, two special recreation use sites linked by nine regional trail corridors by the year 2000. The existing 47,700-acre, 42-unit regional system includes 27 parks, 10 park reserves, one special recreation use site and four regional trail corridors open to the public. Land has been acquired at nine of the remaining 20 sites in the plan.

The purpose of the regional system is to provide recreation open space that will meet the outdoor recreation needs of the metropolitan area. Consistent with this purpose, the council has eight goals for the regional system to be accomplished in conjunction with the implementing agencies:

1. To plan and provide regional facilities within the framework of the larger metropolitan recreation

open space system and facilities provided by the private sector.

2. To acquire park reserves to protect and manage at least one representative example of each of the eight major landscape types found in the metropolitan area and to develop recreational facilities consistent with natural resource protection.
3. To acquire and develop regional parks, park reserves and regional trail corridors sufficient to meet needs for swimming, picnicking, fishing, boating, camping, trail activities, and nature study and appreciation.
4. To provide regional special recreation use areas within regional parks and park reserves to meet identified regional needs when consistent with the overall purpose of the facility.
5. To improve public awareness and accessibility to the regional system through improved public information, expanded mass transit and bicycle access, and accommodations for disabled persons.
6. To provide equitable levels of recreational service throughout the metropolitan area, to finance the capital and operating costs of the regional system and to secure a continuing funding authority.
7. To provide an ongoing opportunity for citizen participation throughout the planning and operation of the regional recreation open-space system.
8. To support general council goals for development of the metropolitan area by locating and scheduling park acquisition and development in coordination with schedules for other metropolitan services.

Policies to achieve these goals address research, the relationship between park and transportation planning, citizen participation, implementing agency designation, park master plans, capital improvement programs, acquisition and development grant eligibility and conditions, restrictions on conversion of regional parkland to other uses, public information, and a study of the means to achieve an adequate, stable and equitable revenue source for operation and maintenance funding. The topic of operation and maintenance funding is of primary concern to the council and the implementing agencies.

The last council plan was adopted in 1980. However, the 10-year Capital Improvement Program is revised annually; the last revision was completed in February 1984. Acquisition and development projects are placed into one of the following categories, in priority order:

Category A: Funds for region wide functions necessary for continuation of the regional open space system.

Category B: Acquisition of parcels critical to completion of the planned recreation open space system.

Category C: Development of facilities that are one or more of the following:

1. Seriously deteriorated facilities in a high recreational use area.
2. Essential to the timely beginning or continuation of a high-priority project.
3. Located in a service area that, in the current biennium, demonstrates deficiencies and high regional user demand.
4. High-quality recreation resources in need of improved public access.

Category D: Metropolitan Council-designated regional trails and regional special uses.

Category E: Funds and projects that support other developments in recreation open space but provide no direct service to users, such as operation and maintenance facilities for implementing agencies' systems

Category F: Acquisition and development projects, which are:

1. Unthreatened parcels, namely inholdings and vacant parcels.
2. Facilities proposed for construction in anticipation of future demands.

In addition to assigning projects to a category, the Metropolitan Parks and Open Space Commission has given each project regional priority by assigning it to a biennium. The commission performed this process by considering several factors:

1. Contribution to the regional open space system.

A key objective of the 1980 policy plan is to achieve a more equitable distribution of regional services. The commission has given priority to areas which have not achieved their service level goals. The commission based comparisons of service levels on council research information.

2. Relation to other existing or planned projects.

The commission examined projects for their impact on one another as well as on the general system. Factors considered included: each project's contribution to the timely development of other projects; relationship to other funding sources, as in projects where regional monies are used to match Great River Road funds; and the project's contribution to concluding a development.

3. Implementing agency priorities.

The commission reviewed implementing agency capital improvement plans with each agency, including discussions of project readiness and the agency's capacity to develop the projects.

4. Redevelopment of existing capacities.

Certain high-use areas in the regional system are in dire need of renovation. These renovation projects would markedly increase the quality of recreational experience for large numbers of users.

The current 10-year Capital Improvement Program for the regional system totals approximately \$169 million. Since its inception in 1973, there have been approximately \$120 million invested in the system. The council will undertake a revision of the Recreation Open Space Development Guide/Policy Plan and Capital Improvement Program in 1984.

Regional Development Commissions

Minnesota is divided into 13 development regions, with 12 Regional Development Commissions (RDCs) and the Metropolitan Council. The RDCs were authorized by the 1969 Minnesota Regional Development Act so that local units of government outside the seven-county area of the Metropolitan Council could plan for the provision of services and facilities using a coordinated approach (M.S. 462.391, subd. 3).

Unlike the Metropolitan Council, the RDCs are not allocated any funds by the Minnesota Legislature to acquire and develop regional park facilities. The RDCs, like the Metropolitan Council, do have a role in ranking the preliminary applications for LAWCON/LCMR funds that are submitted by the communities in their respective regions. The RDCs and the funding agency coordinate their rankings to determine the final statewide ranking results.

Mississippi Headwaters Board

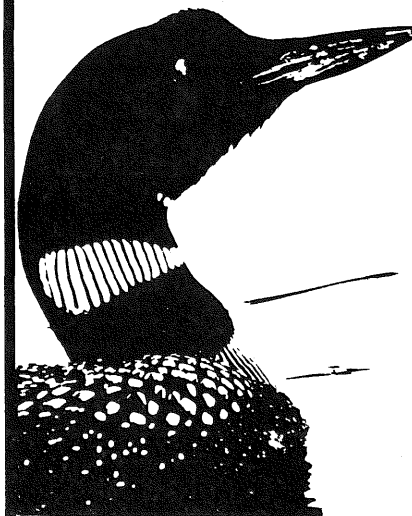
The Mississippi Headwaters Board (MHB) was created in 1981 to manage the Mississippi River corridor. The eight counties represented on the board are Aitkin, Beltrami, Cass, Clearwater, Crow Wing, Hubbard, Itasca, and Morrison. The MHB members developed the Mississippi Headwaters Plan that states "Specifically there is a need to manage these lands along the river in a manner that will enhance the aesthetic recreational values and its fish and wildlife resources."

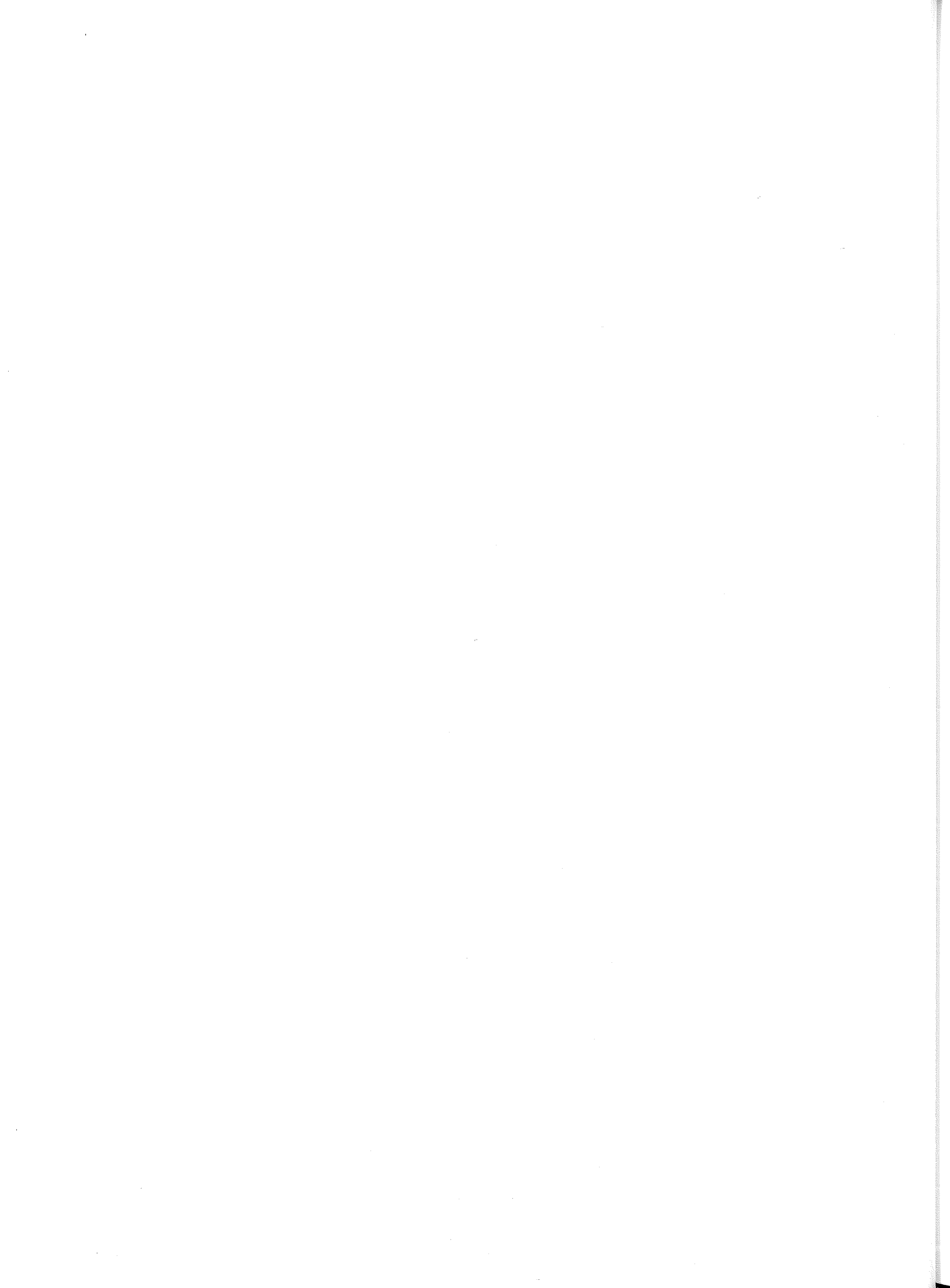
The model ordinance, adopted by the eight member counties, states that the purpose of the Mississippi Headwaters Conservation ordinance is to "Protect and conserve the historic, recreational, archaeological, cultural, fish and wildlife resources of the Mississippi River and adjacent lands."

Since its beginning the MHB has worked towards these goals, in part, by reviewing and in some cases denying proposed development and construction along the river corridor.

Chapter 3

Minnesota Recreation Resources





3. Minnesota Recreation Resources

Statewide Physical Resources

Climate

Minnesota's location in the middle latitudes of interior North America gives it a climate characterized by seasonal extremes of temperature and precipitation. The regular seasonal variations make possible a wide range of outdoor recreation activities, from snow- and ice-based winter activities to warm-season water activities.

The growing season varies widely and critically in the state. The extreme northeast lacks a long enough growing season for most commercial agricultural crops, because of cooler temperatures and a shorter period of frost-free weather. The climate of the northeast, however, is conducive to productive forest growth. The warmer south-central counties lie within the richest part of the corn belt.

Precipitation increases in Minnesota from west to east and from north to south (Fig. 3-S.01). The least precipitation is received in the Red River Valley area of the northwest. After evaporation and plants remove their share of the precipitation, a surplus is left for surface and underground runoff, and for groundwater and bed-rock aquifer recharge. Surface runoff is greatest in the northeast, and decreases rapidly to the west-southwest (Fig. 3-S.02).

The quantity of surface runoff is dependent on the total precipitation, seasonality of precipitation, and demands placed on precipitation by plants (transpiration) and evaporation. Precipitation is higher in the northeast than in the west, and more precipitation is in the form of snow in the northeast. The higher snowfall results in greater runoff in the northeast during the spring snowmelt. In addition, evaporation and transpiration demands on precipitation are higher in the west than in the northeast, largely because of warmer temperatures and more sunlight in the west.

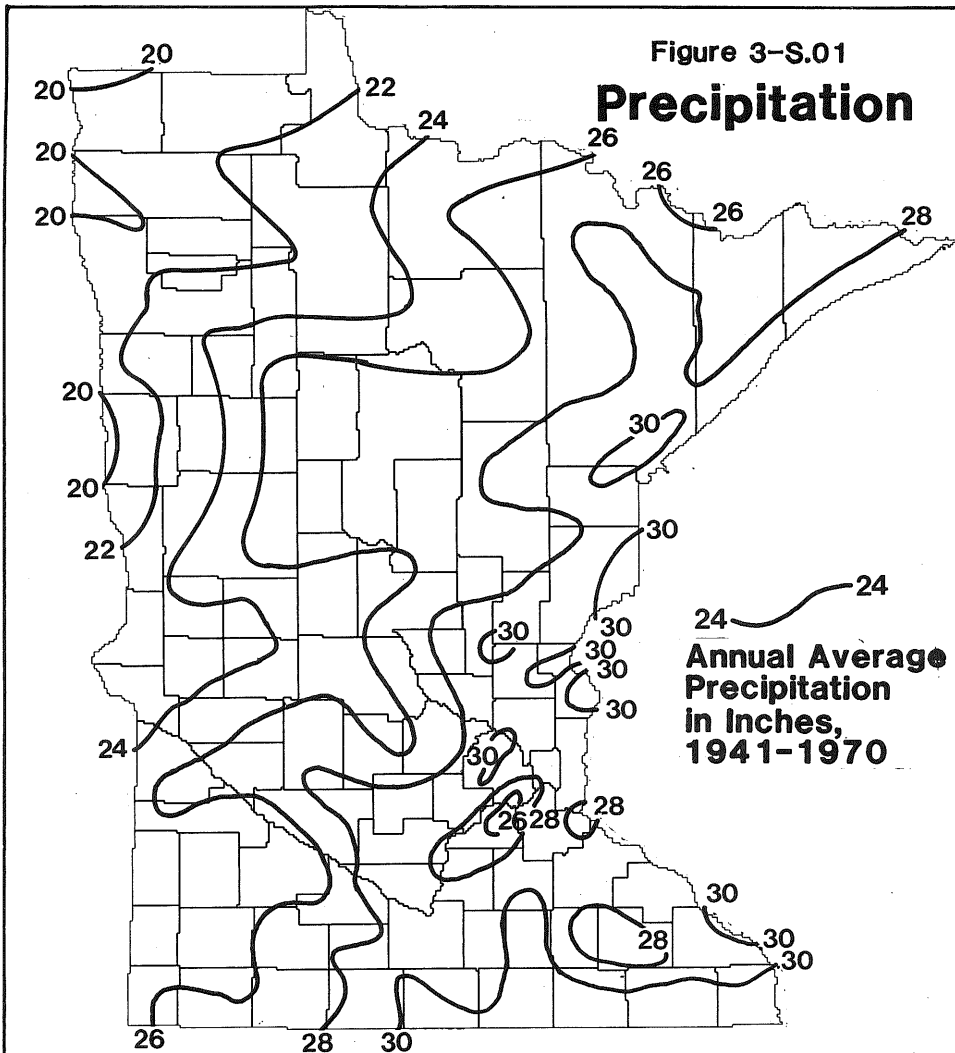
The greater runoff of the northeast results in a total lake replenishment rate that is considerably above that in the lower runoff regions of the west. Recovery from many pollution problems (except for acid rain) will, subsequently, be more rapid in the northeast than in the west and south.

Landforms

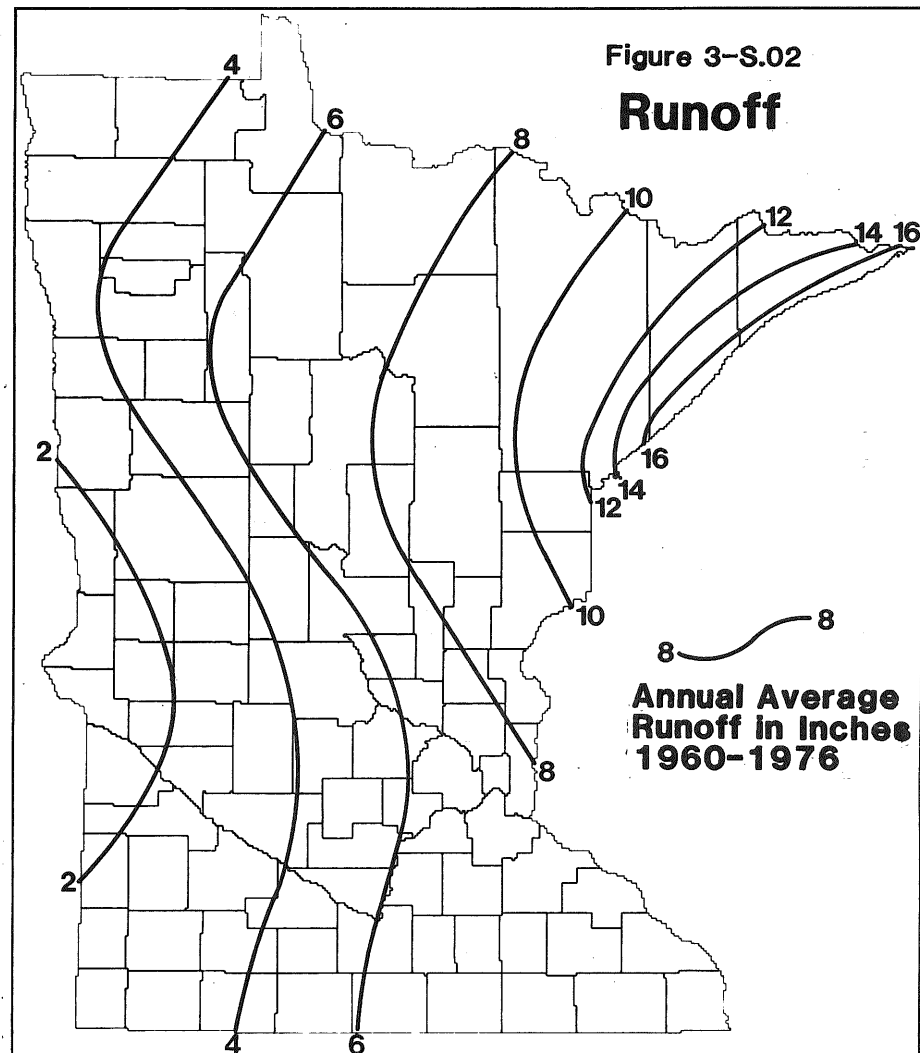
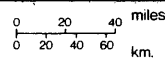
Minnesota straddles three continental divides. The northern uplands slope gently northwestward toward the Red and Rainy Rivers into Hudson Bay, gently southward into the Mississippi basin, and steeply southeastward to Lake Superior and the St. Lawrence basin. The high Coteau des Prairies in the southwestern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

On the foundation of these major features, glacial activity has built great local variety (Fig. 3-S.03). 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, except in three regions of the state: the northeast, the southeast and the Minnesota River valley. Along Lake Superior's North Shore, in the northern border lakes and on the Mesabi Iron 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. The roughest topography is in the northeast, where the highest point in the state—Eagle Mountain—rises 2,301 feet above sea level. 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



Source: Baker and Kuehnast. 1978. Climate of Minnesota; Part V - Precipitation Normals for Minnesota: 1941-1970.



Source: Baker, Nelson and Kuehnast. 1979. Climate of Minnesota; Part XII - The Hydrologic Cycle and Soil Water.

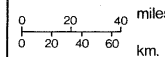
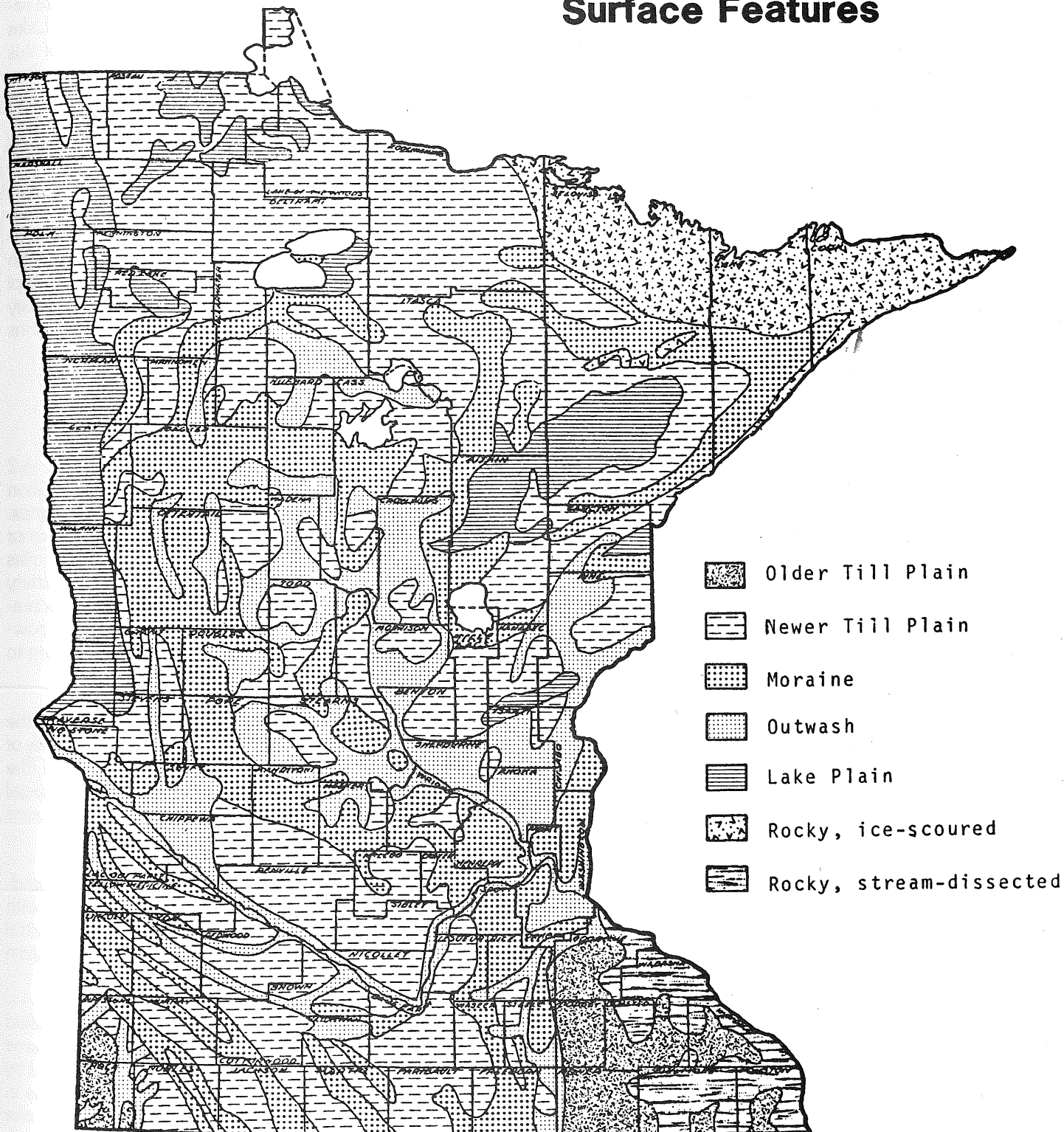


Figure 3-S.03

Surface Features



from Atlas of Minnesota Resources And Settlement

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 streams flow through deeply eroded valleys.

In the ice-scoured northeastern "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, bordered by Lake Superior.

In other areas, glacial deposition created the hilly or morainic belts where many of the lakes are situated. These areas are usually poor farmland, but they have some of the state's most scenic and varied terrain. The greatest moraine development is the Big Moraine belt, stretching in the shape of a reverse question mark 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, left by earlier glaciers, have been subject longer to stream development and natural drainage. 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. However, like the newer till plains, the older plains have provided a vast resource of gently rolling land for agricultural purposes.

At times, the front margins of the glaciers remained stationary, and meltwater 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 basins which filled with water and became lakes. Throughout the ice age, a variety of surface depressions were created, with large variations in area, depth and shape. Thousands of them are now Minnesota lakes. The melting glaciers also formed temporary glacial lakes by releasing large quantities of water which filled low basins.

Lake Agassiz, which once covered all of northwestern Minnesota, was formed as the glacier retreated north-

ward. As the glacier receded, meltwater expanded Lake Agassiz until it filled large areas of the Dakotas, northwestern Minnesota and Canada. When the lake drained, the flat surface of northwestern Minnesota remained, with such residual bodies of water as Red Lake 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 flat, poorly drained Big Bog area.

The glaciers missed the southeastern corner of the state. As a result, the preglacial topography of deep, stream-carved valleys and high, narrow intervening ridges, with no natural lakes (except Lake Pepin, a large Mississippi River lake), characterizes the area today. Steep valley walls, with many rocky bluffs, rise from the floodplains 100 to 500 feet upward to the ridge tops.

Lakes and Rivers

Minnesota has 3.4 million acres of water, equal to 6.2 percent of the state's total 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 91,000 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 powerboating, and from summer fishing and swimming to winter ice boating and snowmobiling.

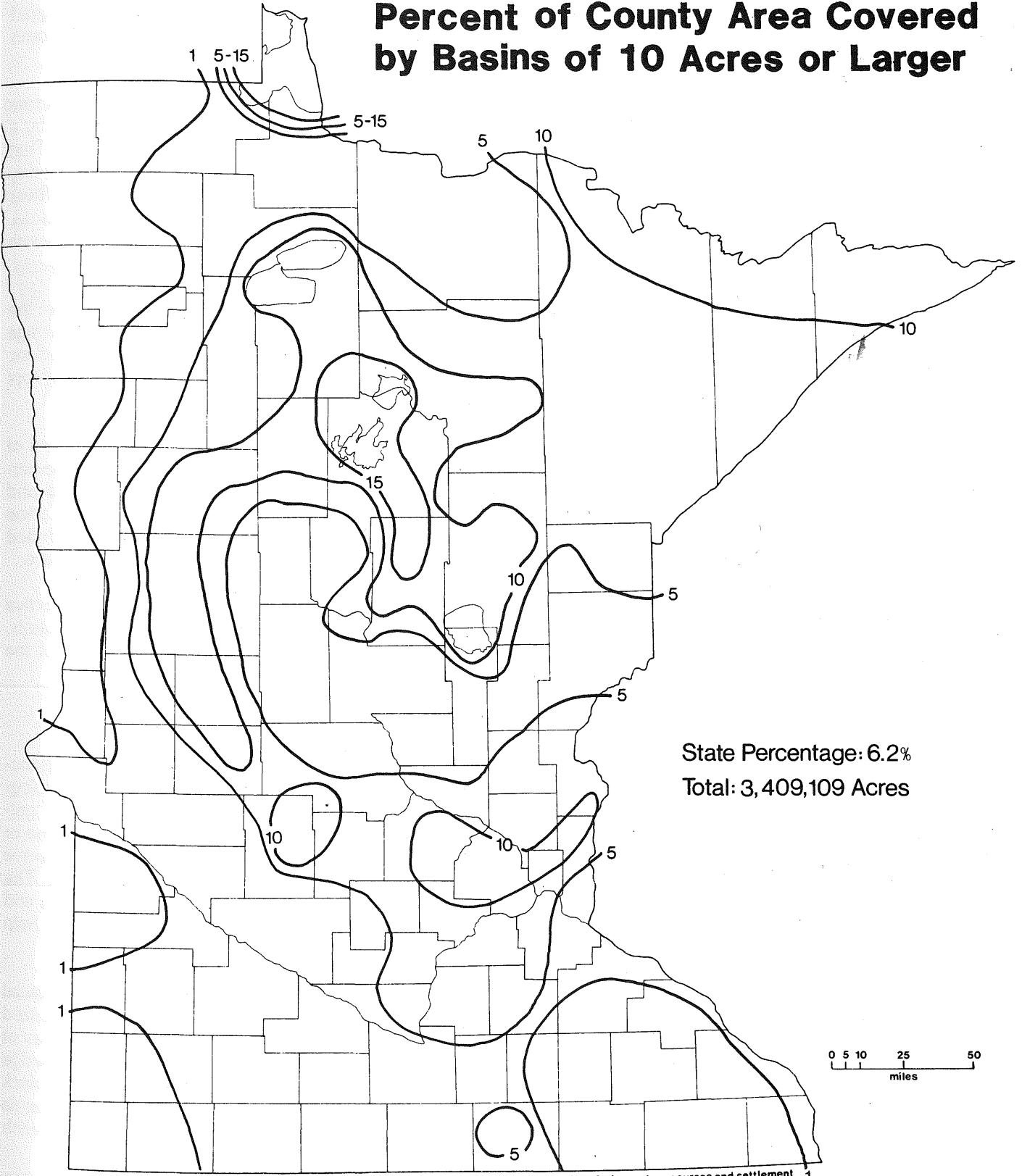
Concentrations of rivers and streams occur along the North Shore of Lake Superior, in the driftless area of southeastern Minnesota and along the edge of the Coteau des Prairies in southwestern Minnesota. Glacial lake plains and the newer till plains are the landforms that have the fewest streams.

Concentrations of lakes are related to particular landforms. Most of Minnesota's lakes are associated with the major glacial moraines of central and north-central Minnesota and the ice-scoured terrain of northeastern Minnesota (Fig. 3-S.04).

The Department of Natural Resources has classified Minnesota lakes by ecological type for fish and game management. These classifications are characterized by the fish societies which exist because of differences in other lake organisms, in chemicals contained in lake water, 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 Min-

Figure 3-S.04

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



nesota; and shallower kinds of lakes, such as game (waterfowl) lakes, in the south (Fig. 3-S.05).

Chemicals in lake water are 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 the present climate became established in the postglacial period, Minnesota overlay the continental transition between forest and grassland. The natural vegetation ran from the dense coniferous and northern hardwood forest in the northeast across to the transition zone in which oak and maple-basswood forests gave way to the "park" mixture of hardwoods and prairies. About 60 percent of the state was forest, 40 percent prairie. Today, most of the original prairie and one-third of the original forest is under cultivation or is grazed. The remaining 40 percent of the state remains in forest (Fig. 3-S.06).

The pine and spruce forest type characteristic of the extreme northeast part of the state blends 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 bottomlands 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 small grains and root crops in the northwest.

Inherent soil fertility, important for agricultural production, is substantially higher in the southwestern prairie till plains than in the northeastern pine-covered moraine. Forest soils are generally more acid and less nutrient-rich than prairie soils. Within the forest regions, the lowest fertility is in the areas of existing, or former, coniferous forest. Minnesota 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.

Attractive Scenic Areas

Minnesota's blend of lakes and rolling hills, its legacy

from the glacial age, makes it unique among the states. Four other natural features are also important.

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

Second is the impressive trench which was cut across the southern part of the state 10,000 years ago by a river as large as today's St. Lawrence Seaway. That river drained a glacial 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 River and by the Mississippi below Fort Snelling.

Third, the southeastern corner of the state includes the dramatic scenery of land whose pre-glacial drainage network was not eradicated by the advancing glaciers. Its surface is cut by the deep valleys of the Mississippi and its tributaries.

Fourth, from Kabetogama to Grand Portage is one of the rougher and more varied parts of the rocky, glacier-scoured "shield" which stretches across Canada and the upper Great Lakes. The Boundary Waters Canoe Area, a public wilderness area unique in the United States, and Voyageurs National Park are located here.

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

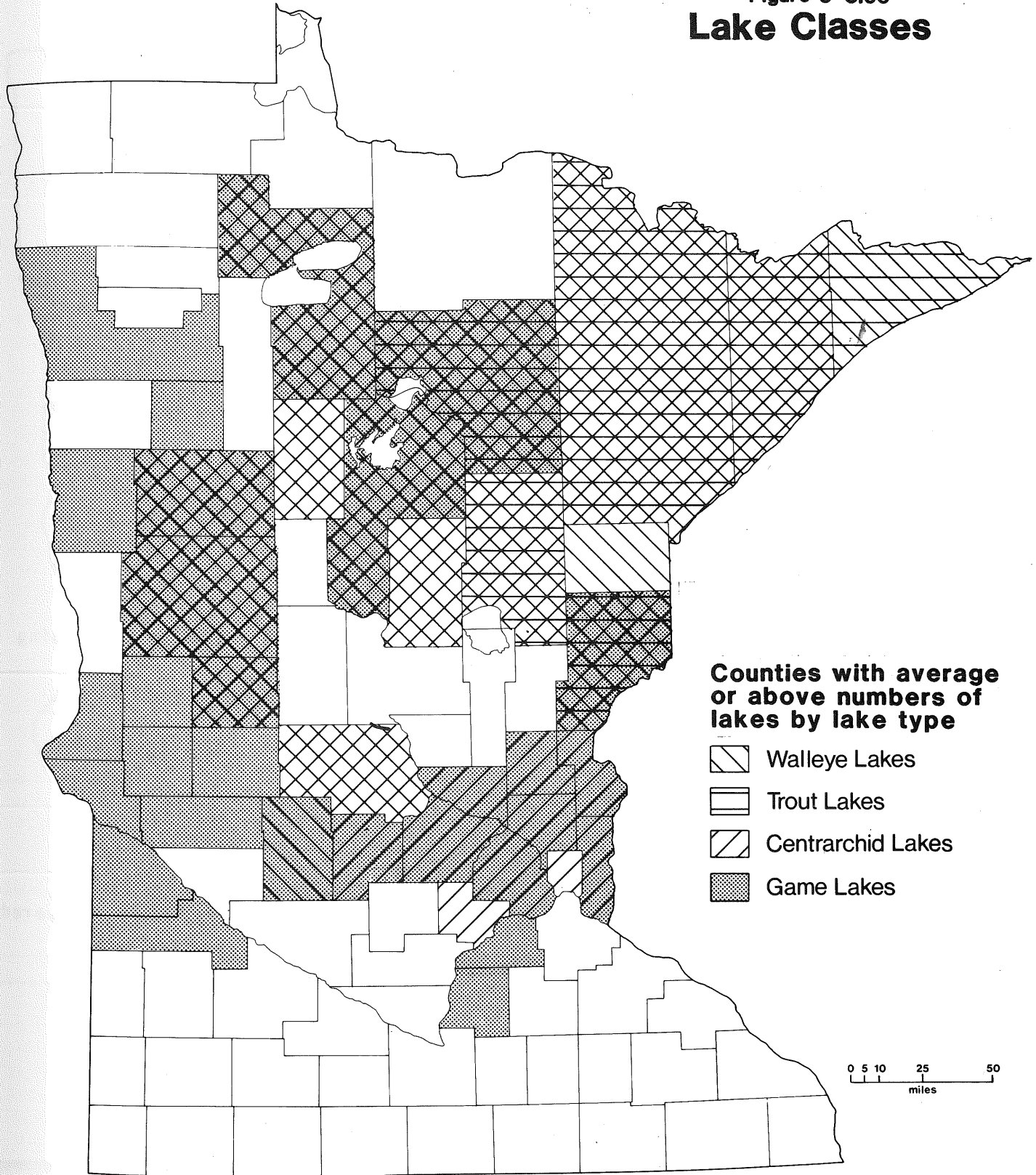
Landscape Regions

Minnesota's landscape regions (Fig. 3-S.08) are distinctive areas of the state grouped by ecological and geological characteristics. The landscape regions guide "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. The landscape regions also guide state trail acquisition and maintenance. They are used as a framework to help ensure the statewide significance of state trails.

Agassiz Lowlands. Once entirely covered by Glacial Lake Agassiz, the Agassiz lowlands are characterized by extensive peatlands with intermittent 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. Aspen-birch stands and jackpine barrens cover the slightly elevated beach ridges.

Aspen Parklands. The aspen parklands are a transition zone between northwestern Minnesota's grasslands and coniferous forests. Once covered by Glacial Lake

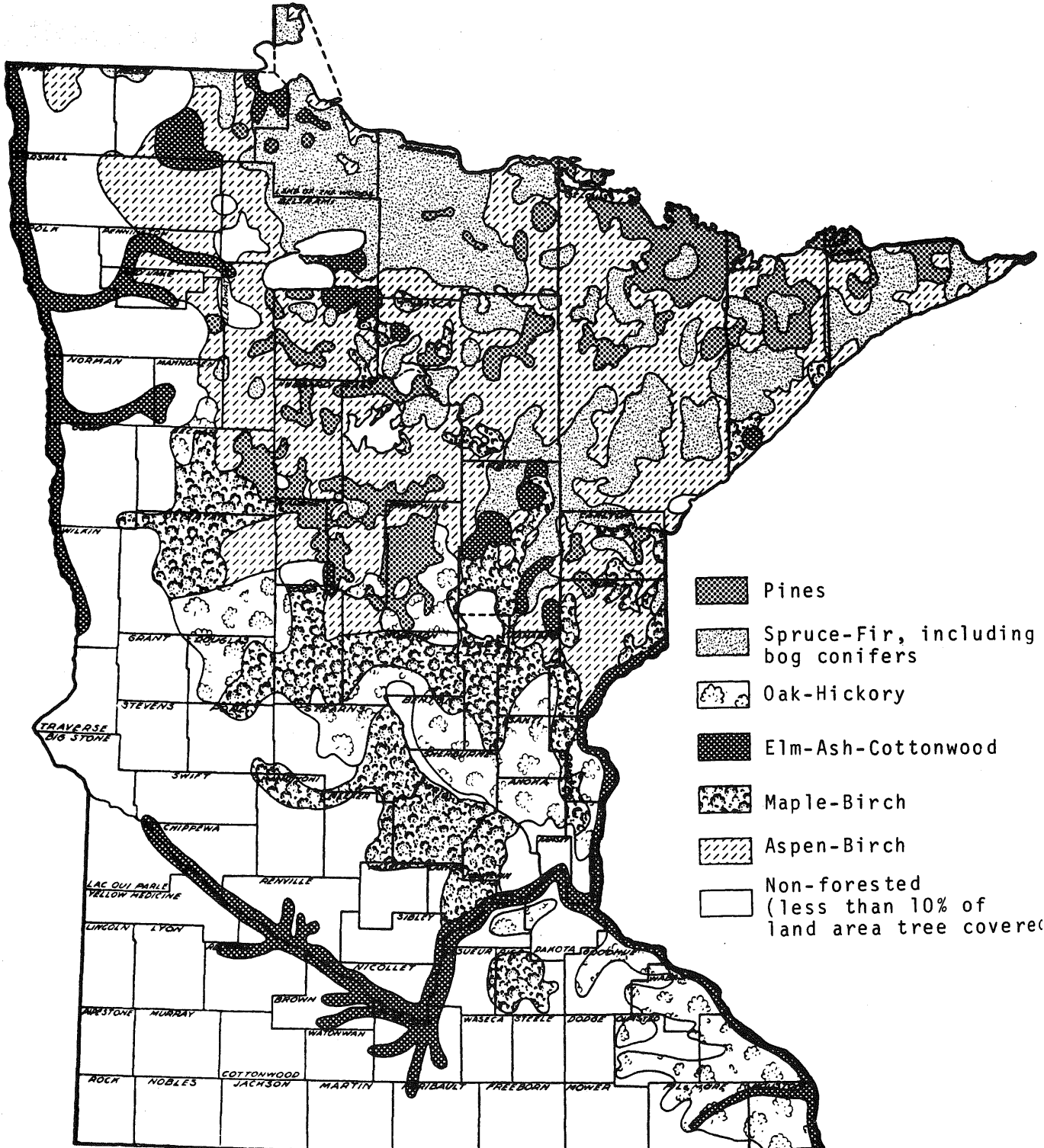
Figure 3-S.05
Lake Classes



DEPARTMENT OF NATURAL RESOURCES

Figure 3-S.06

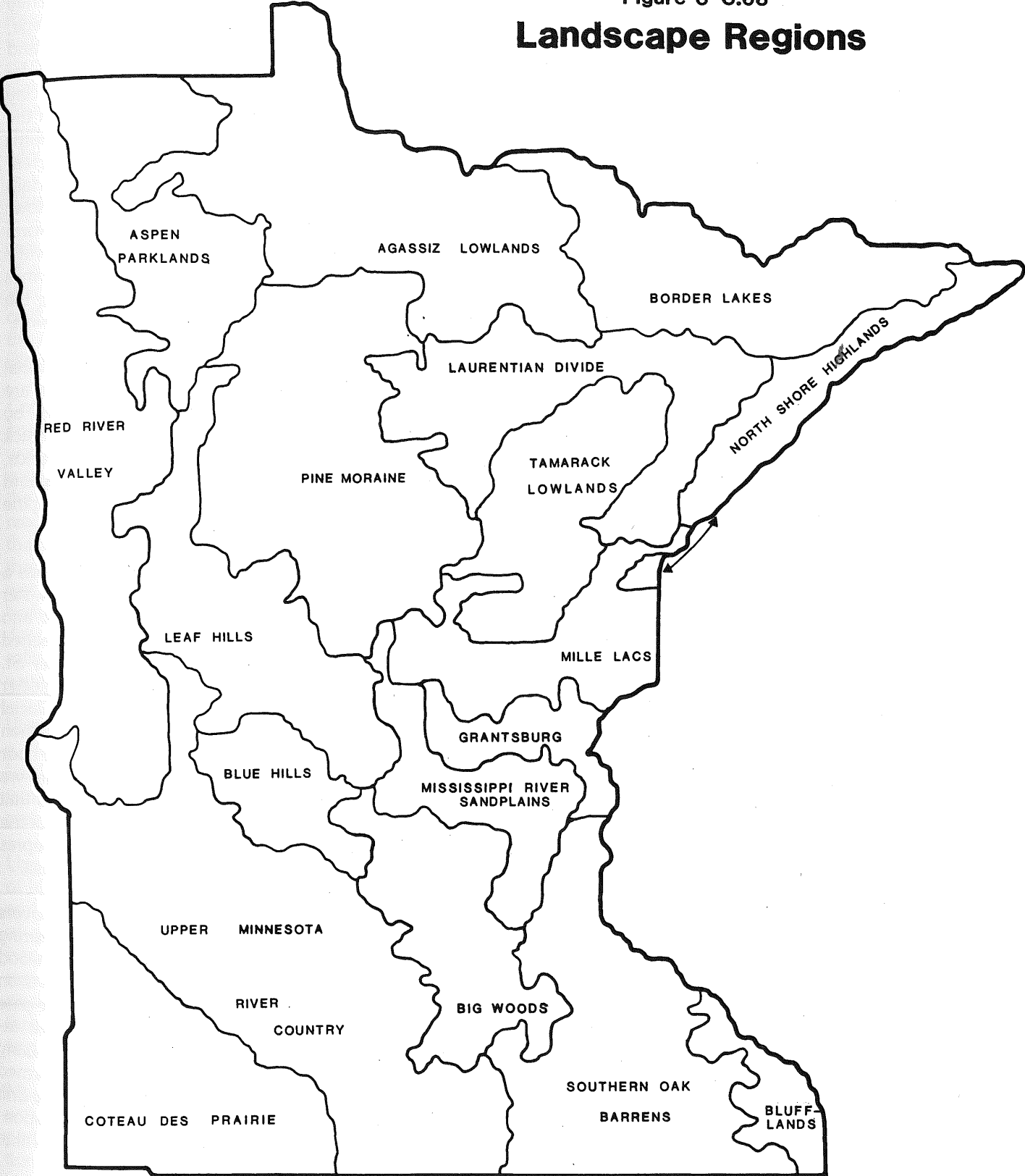
Major Forest Types



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

Figure 3-S.08

Landscape Regions



Agassiz, this is largely level country with potholes and shallow marshes. Ridges marking the beachlines of the extinct lake are dissected by streams crossing to the Red River.

Leaf Hills. Encompassing the northern Alexandria moraine complex and pitted outwash plain, the leaf hills are characterized by steeply rolling terrain and sparkling lakes. Big Woods vegetation dominates — maple-basswood and aspen-oak, with brush-prairie openings in the west.

Pine Moraine. Formed at the leading edge of repeated glacial advances, the northern pine moraine forms ranges of hills containing coarse, gravelly materials and boulders, pockmarked by countless lakes, ponds and bogs. Dominant vegetation includes white and Norway pines, aspen-birch, mixed hardwoods, jackpine barrens and conifer bogs.

Red River Valley. The Red River Valley region is a nearly flat plain, covered by rich clay and silty soils deposited on the bottom of Glacial Lake Agassiz. This region was once covered by an expanse of prairie grasses and wildflowers that stretched to the Rocky Mountains. In less than 100 years, this landscape was literally turned upside down and converted to cropland. Less than one-tenth of 1 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, periodic burns.

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 that 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 mining operations and 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 rock 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. The gorges of the major streams which flow into Lake Superior are the outstanding feature of this region. Spectacular cascades and waterfalls were formed as the streams 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. Because of lumbering, the dominant forest cover today is aspen-birch regrowth.

Tamarack Lowlands. Once entirely covered by Glacial Lakes Aitkin and Upham, the tamarack lowlands are characterized by extensive peatlands 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 barrens dominate the uplands.

Grantsburg. The Grantsburg landscape region has a complex glacial history. As the glacier melted, water accumulated along the north margin of the ice into sizable Glacial Lake Grantsburg. Eventually it reached a level high enough to spill over into the lower St. Croix River near Taylors Falls. As the front of the glacier melted southeastward, new drainage outlets for Glacial Lake Grantsburg were established. The lake level then fell and wave action smoothed sediments on the floor of the lake. This created the smooth, sandy plain we see today. The few ridges may have been 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 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 were undoubtedly formed by melting blocks of glacial ice that were buried by drift or earlier outwash. The terminal moraine dam responsible for the formation of Mille Lacs Lake falls within this landscape region.

Mississippi River Sand Plain. The Mississippi River sand plain is a large, sandy plain with a fairly level surface that dips gently toward the south. This outwash

plain is a delta-like formation deposited by glacial melt-water streams. A few areas of relief occur 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 relief and high water table, the sand plain has many wet, marshy areas and some extensive lakes. The presettlement vegetation was oak savanna—stunted oak groves interspersed with prairie openings—which 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, which is part of the Big Moraine.

Coteau des Prairies. The Coteau des Prairies is a high prairie ridge that extends diagonally across the southwestern corner of Minnesota from the northwest to the southeast. Topographical 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 form the drainage divide between waters of the Minnesota and Missouri rivers.

Virtually all of this region was covered by prairie. Only a few major streams could support floodplain hardwoods. Except in areas where rocky soils prevented agricultural disturbance, most of the original prairie has been converted to cropland.

Upper Minnesota River Country. The most famous of Minnesota's glacial rivers, Glacial River Warren, cut and shaped the Minnesota River valley as it flowed 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 level terrain and finer soil materials than the rest of the Big Moraine.

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

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

Blufflands. Located in extreme southeastern Minnesota, the blufflands region 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 blufflands region now consists of three parts: rolling uplands; steep, wooded valley walls with many exposed rock bluffs; and flat valley floodplains.

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

Southern Oak Barrens. Biologically, the southern oak barrens are a broad transition zone between the prairie to the west and the deciduous forest to the north and east. Originally, this area was oak savanna, a prairie with occasional oak groves and scattered individual trees.

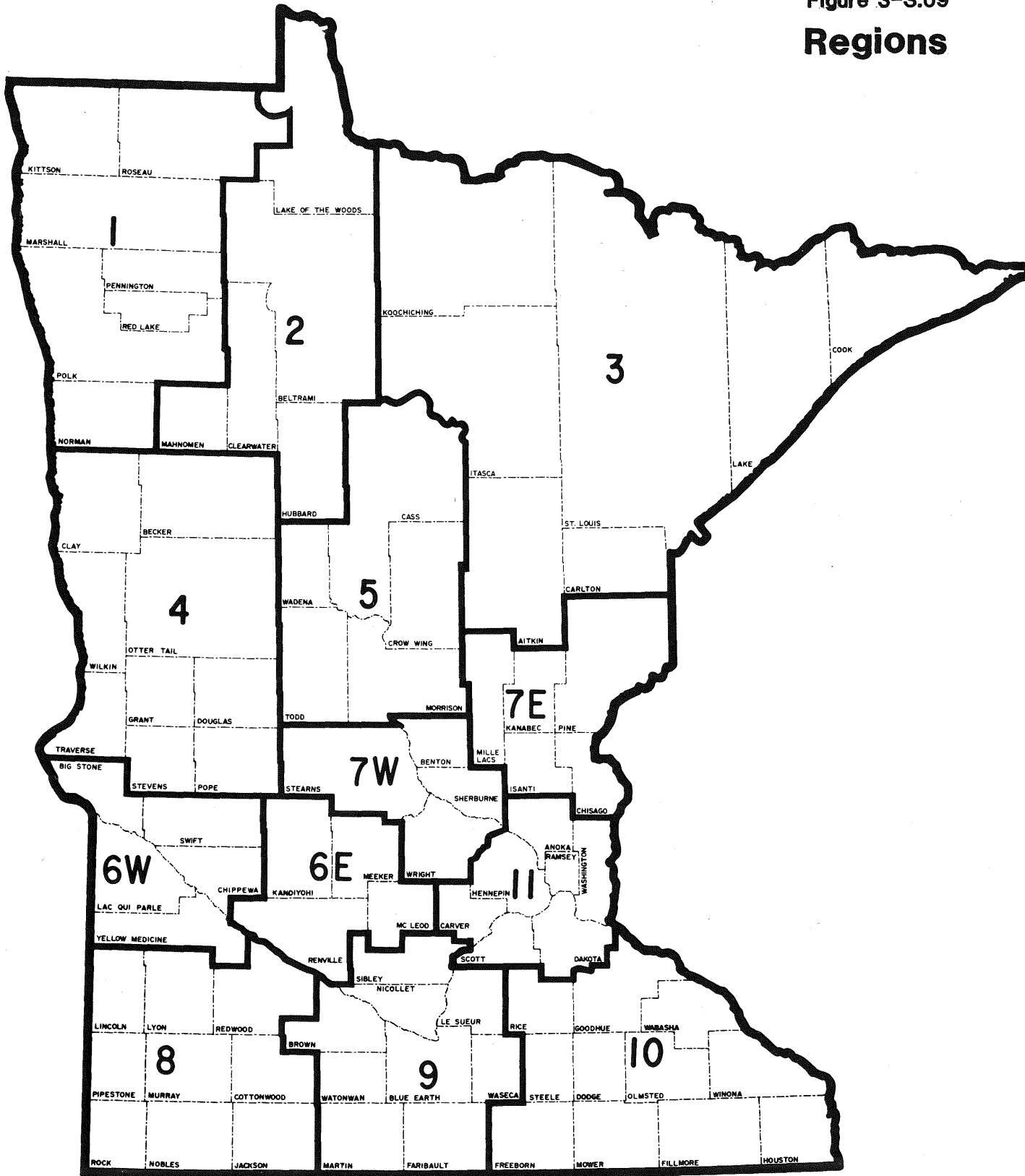
Regional Physical Resources

This section contains an overview of the important recreational resource characteristics of Minnesota's 13 economic development regions (Fig. 3-S.09). Some of the original development regions no longer participate in the Minnesota Association of Regional Commissions but all the original boundaries are used as the geographic context for the following discussions.

Region 1

Region 1, located in the northwestern corner of the state on the clay and silty lake-plain soils of Glacial Lake Agassiz, is about 71 percent farmland. Another

Figure 3-S.09
Regions



11 percent of the land is pasture or open. Former beach ridges from Lake Agassiz provide the most significant topographical relief.

The region's flatlands contain swamps, marshes and scattered stands of conifers, aspens and willows, which provide ideal habitat for moose, deer, waterfowl and ruffed and sharp-tailed grouse. Forest and marsh account for 17 percent of the region. The eastern bog country and western plains 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, particularly in terms of area covered by large fish lakes (Fig. 3-S.10), the streams and related ditch systems provide good northern pike fishing for local residents. Opportunities for hunting deer, moose, upland birds and waterfowl also are available. The potential exists for increasing deer, sharp-tailed grouse and prairie chicken populations, provided state lands are not diminished and are properly distributed to ensure good-quality habitat.

Region 1 also has substantial wetlands that produce and attract large waterfowl populations. Major management units include the Agassiz National Wildlife Refuge and the Thief Lake, Twin Lakes and Roseau state wildlife management areas. In late summer these areas also host flocks of rare sandhill cranes. The potential for wetlands interpretation is considerable.

Region 2

Region 2 ranks high in recreation fish lake acreage (Fig. 3-S.10). (On Fig. 3-S.10, Red Lake is excluded from Region 2 lake acreage because little of it is open for public recreational use.) Most of the large recreational lakes in the region are walleye lakes, which are preferred by a majority of resident anglers. Region 2 shares with Canada one of the prime recreational waters of North America, Lake of the Woods, which offers challenging boating, sailing and fishing. Aspen-birch cover predominates in the forested 50 percent of the region. Bog conifers also are common.

Beltrami Island State Forest and the Red Lake Wildlife Management Area in northern Beltrami and southern Lake of the Woods counties cover what was once voyageur 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 the diverse habitats created by a watery wilderness surrounded by marginal agricultural lands.

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 its surrounding area are owned by the Red Lake band of the Chippewa tribe and are not available for recreational use.

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 small- to medium-sized, high-quality lakes and numerous streams.

Because of the varied terrain and abundant forests and lakes, Bemidji and Park Rapids have developed into major vacation centers. Between them is Itasca State Park, source of the Mississippi River.

The lake fisheries of the region can be improved through intensification of fisheries service efforts and an expanded public access program to distribute fishing pressure.

Region 3

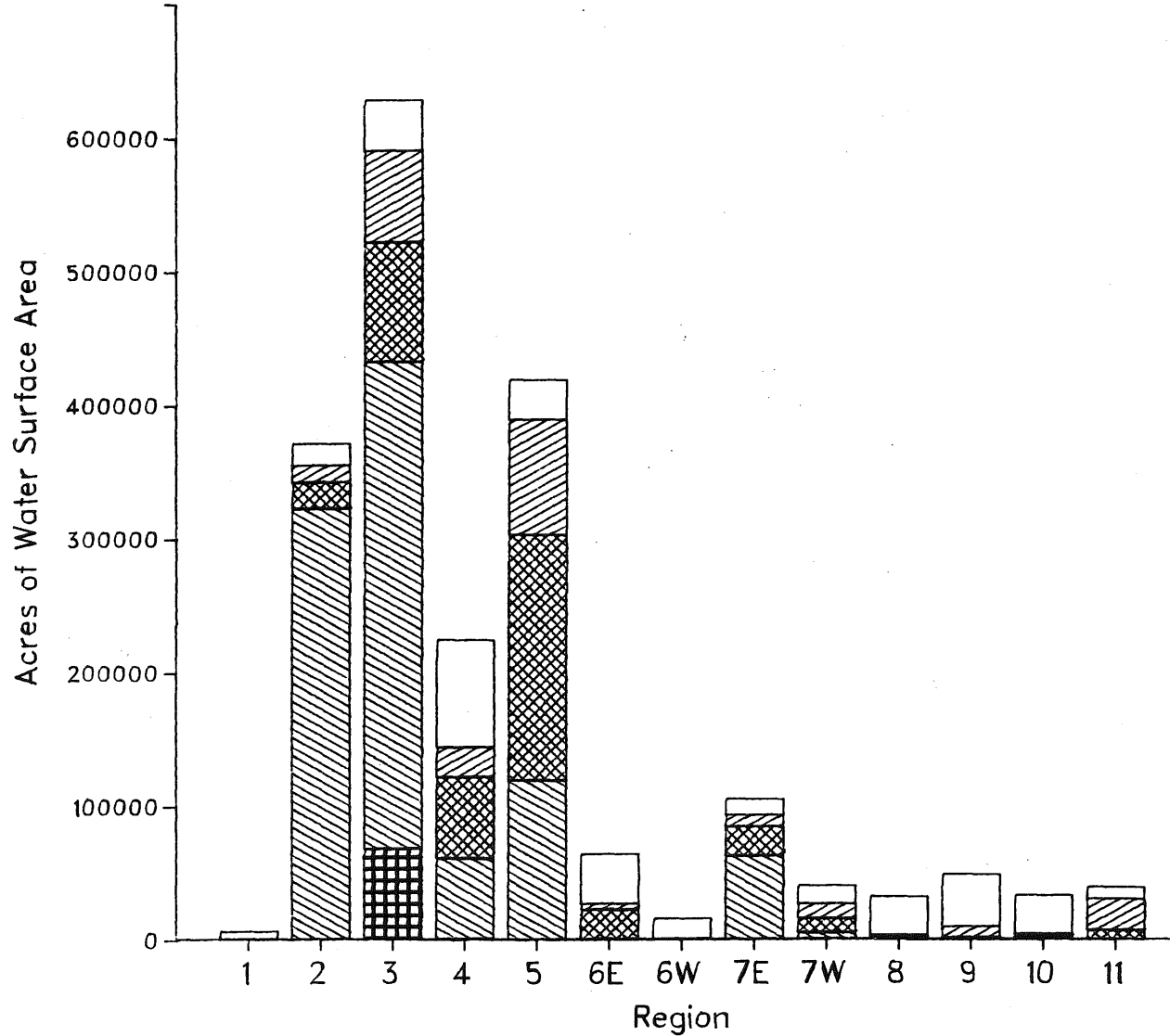
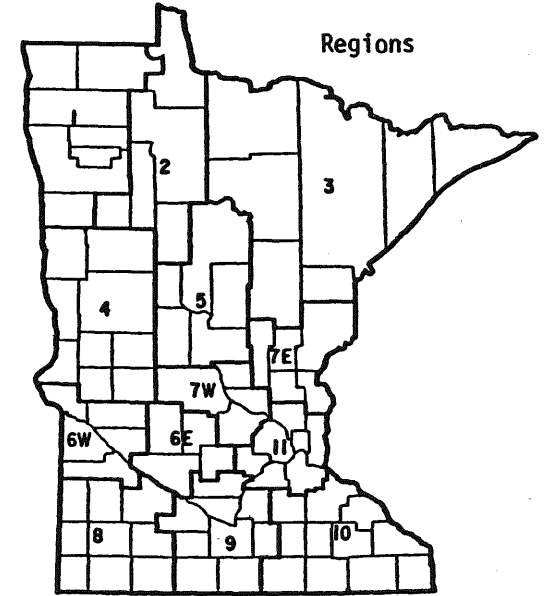
Bounded on the north and east by Lake Superior and the province of Ontario, Region 3 ranks first among Minnesota regions in water and forest acreage. Region 3 contains Minnesota's only national park and the unique Boundary Waters Canoe Area, the only designated lake wilderness in the United States. The region contains major concentrations of large recreational fish lakes, including sizable acreages of trout and walleye lakes (Fig. 3-S.10). Voyageurs National Park is located in the western part 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 fishing. Along the North Shore of Lake Superior, 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. The Cloquet and St. Louis rivers in the southeast, and the Little Fork, Big Fork and Vermillion rivers, which feed the border lakes-Rainy River complex in the north, also offer substantial canoeing opportunities.

Large game animals dominate the northern part of the region. Moose populations have been largely stable in the past 10 years, because losses due to maturing forests have been offset by gains due to the vegetative

FIGURE 3-S.10
MINNESOTA
NATURAL LAKE ECOLOGY for Large Lakes
 Acres by Development Region
 Statewide Acreage: 2,033,472



The minimum size for a large lake is 145 acres.
 Excludes game lakes, and excludes Upper and Lower Red lakes and Lake Superior



disturbances of logging and fire. Deer populations have been basically stable, too. The area also 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 48 contiguous states.

More than 80 percent of Region 3 is forested; the region includes 27 state forests and 2 national forests. Sixty-one percent of the region is publicly owned, the highest percentage among the state's regions. Of this total, federal lands account for 24 percent, state lands for 22 percent and county lands for roughly 15 percent; 39 percent of Region 3 is in private ownership. 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 4

Region 4 is west-central Minnesota's lake region. Its larger fish lakes alone cover more than 200,000 acres (Fig. 3-S.10) and are concentrated in scenic, partially wooded countryside along a 90-mile arc of moraine hills that parallels State Highway 59 and Interstate Highway 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 Glacial Lake Agassiz, lakes are replaced by farmlands and wetlands. Drumlin fields and long beach ridges of Glacial Lake Agassiz are locally uncommon features in this area.

In Region 4's prairie-woodland border, wetlands are numerous and of varied types. While drainage losses are severe in certain areas, the overall 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 also are important.

These lake and wetland resources have produced a major vacation industry focusing on water-related activities—year-round fishing and waterfowl and deer hunting in the fall.

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

Region 5

A classic northwoods lake area, Region 5 has a landscape that varies from nearly level or gently rolling

outwash plains with large concentrations of fish lakes (Fig. 3-S.10), to the irregular topography with small, poorly drained areas characteristic of moraines. Forests of aspen-birch and jack pine cover 50 percent of the region. Another 9 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. The lakes 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 provide ideal walleye habitat and also support large populations of northern pike, bass and muskies. This area also is known for its good diving duck populations and grouse and deer hunting opportunities.

The 800,000 acres encompassed by the Chippewa National Forest and state forests are a vast resource. 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. Bobcats, minks, otters, muskrats and porcupines 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 commonly sighted.

Region 6E

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 rolling to hilly area of knob-and-kettle topography abounds in small potholes and marshes as well as good large recreational fish lakes (Fig. 3-S.10). The large fish lakes form an ecological transition between the less fertile lake types of the north and the more eutrophic lake types of the south.

Farther 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.

Some state and federal wildlife areas and recreational lakes with substantial surrounding forest cover are found 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 pheasants and Hungarian partridge are found, but the area is a major duck migration

route and part of the breeding range for prairie divers and puddlers. There is an active nesting colony of great blue herons in Meeker County.

Region 6W

Forming part of Minnesota's border with South Dakota, region 6W contains the headwaters of the Minnesota River. Crossed by the river valley, the northern half of the region is generally flat to gently rolling outwash and lacustrine plain; the southern half is a broad till plain. Few large recreational fish lakes are located in the region (Fig. 3-S.10). Among the most noted lakes are Artichoke, Big Stone and Lac qui Parle.

A large proportion 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 are in the moraine areas. The Big Moraine complex cuts through the northeastern part of the region; the moraine in Big Stone County has important possibilities for wetland preservation because of the density and diversity of its wetland types.

Although Region 6W 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 puddlers and divers. Two major wildlife areas, Lac qui Parle State Wildlife Management Area and the federal Big Stone National Wildlife Refuge, extend along the Minnesota River for 36 miles. These areas, major migratory stopover points for geese in the central flyway, are managed for both resident and migratory species. This area offers prime goose and other waterfowl hunting in the fall. In addition, grebes, pelicans, cormorants and herons have nesting colonies in the refuges.

Region 7E

Bordered on the east by the St. Croix River, the northern portion of Region 7E is an area of loamy soils, gently rolling terrain and many peat bogs. To the south, this changes to the flat, sandy soils of the Anoka sand plain. Once mostly forested, largely with red and white pine mixed with northern hardwoods, Region 7E today is only 50 percent forested; roughly 20 percent is cultivated and 25 percent is in pasture. The forested areas are 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 much of its acreage of large fish lakes

is attributable to Mille Lacs Lake. However, the region does have excellent rivers, such as the Snake and St. Croix. The St. Croix River valley also contains sizable state parks and forests that are within a 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 sharp-tailed 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 7W

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 to the moraines of Wright and Stearns counties. The Mississippi and a second major river, the North Fork of the Crow, flow through an 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 includes 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 puddlers.

The region's southern terminus, Wright County, has quality lakes that draw recreationists from the nearby Twin Cities metropolitan area. As Wright County has been drawn into the metropolitan expansion zone, lakeshore has been heavily used for permanent residences. Two major rivers offer additional recreation opportunities. 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 8

The Coteau des Prairies, a high prairie ridge that extends diagonally across the southwestern corner of Minnesota from the northwest to the southeast, covers 60 percent of Region 8. 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 divide waters flowing to the Minnesota River from those flowing to the Mississippi 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 divers and puddlers.

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

East of the coteau is a broad, loamy plain of prime agricultural land. The original prairie in this area has been converted almost completely to agriculture. Eighty-eight percent of the region is cultivated, 9 percent is pasture or open and less than 1 percent is forested.

Region 9

Region 9 contains some of Minnesota's richest farm country. Productive agricultural areas are 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. This provided excellent habitat for native waterfowl and prairie chickens and still supports medium-sized pheasant populations and some partridge. However, intensive land clearing and wetland drainage for agriculture have seriously diminished game populations.

While most of Region 9 is level, several areas have significant local relief. In the north smooth rolling hills are part of a band of moraines that extends across Nicollet and Sibley counties into Le Sueur County. The region's lakes are also concentrated in these three counties. The potential for preservation of remaining wetland habitat in these areas is high, although the surrounding areas are intensively cultivated. Active colonies of great blue herons are found in both Nicollet and Le Sueur counties. Much of the moraine area in

Sibley and Nicollet counties has already been subject to some drainage. Most of the region, particularly Le Sueur 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, New Ulm and Mankato.

Region 10

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

West of a line from the Twin Cities to the Iowa border, the principal landform of Region 10 is gently rolling, fertile farmland. East of this line, the rolling land gives way to small hills and ultimately to the deep valleys of the Cannon, Zumbro, Whitewater and Root rivers. This is an area of small dairy farms and orchards mixed with steep hillsides and bottomlands. Sixty-six percent of the region is cultivated, 17 percent is pasture or open, and 13 percent is forested.

The natural resource potentials of the western area are in the farmlands and shallow lakes. This area already provides some of the state's best pheasant hunting and panfishing opportunities. The cluster of small shallow lakes in western Rice County in particular has become a focal point for resort development.

The eastern part of Region 10 is bounded on the west by transitional prairie and on the east by the Mississippi River. Forested rock bluffs rise 500 feet above the broad Mississippi floodplain. The Great River Road parallels the river for 100 miles, providing one of Minnesota's most scenic drives. This area includes limestone and sandstone cliffs, trout streams, Lake Pepin, and the northern reach of the Upper Mississippi Wildlife and Fish Refuge.

The valley area's interior has been formed by four stream systems (the Cannon, Zumbro, Whitewater and Root) which cut deep valleys into once-flat prairie country. During the early settlement period, the rivers' relatively steep gradients powered gristmills, and Mississippi River towns served as markets for hardwood logs cut

from the inland plateaus and valley slopes. Eventually, excessive timber harvesting caused massive sheet and valley erosion that altered farmlands. Farming changed from cash crops to subsistence or dairy farming.

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.

Richard J. Dorer Memorial Hardwood Forest, a forested area interspersed with agricultural lands, provides 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 the acreage is forested. Present state forest ownership is approximately 33,500 acres. Regionwide, another 43,000 acres are in wildlife and state park units, the majority in the Whitewater Wildlife Management Area and three state parks in the Mississippi River valley.

Region 11

The seven-county Minneapolis-St. Paul metropolitan area occupies a site which has great physical variety. Much of the area extending northward from north Minneapolis, Fridley and Brooklyn Center is a flat 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; 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 Fort 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. By 1900 the two urbanized areas had spread over 150 square miles. The urbanized area now encompasses about 650 square miles.

Since World War II, subdivision has spread over urban and suburban wooded, lake and moraine lands. Extension of the street grid and development of the freeway network have made these high-amenity areas accessible. As a result of this outward expansion, 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, however, 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 there are 265,000 acres of wetlands in the metropolitan area. Small wetland areas are 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 is subject to the most intense fishing pressure; the Minnesota is the poorest major river for fishing because of its physical character and chemical composition. Many of the other rivers and streams contain large game fish populations but receive little fishing pressure.

The numerous lakes are generally rich in animal life, with a diversity of species and good water quality. Large 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. City Lakes Harriet, Calhoun and Nokomis 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.

The open-space network in this region consists of state-owned facilities such as Carlos Avery, three state parks, state corridor trails, state waysides, and a number of regional parks and park reserves. The regional park system contains about 48,000 acres of land and 9,000 acres of water.

The Minnesota Valley National Wildlife and Recreation Area encompasses more than 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 area includes some of the most significant wildlife habitat in the state.

Six regional facilities are state-owned—Afton, William O'Brien and Fort Snelling state parks and the Luce Line, Minnesota Valley and Minnesota-Wisconsin Soo Line 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 opportunities for water-oriented recreation. Other state facilities are Richard J. Dorer Memorial Hardwood Forest and Hastings Scientific and Natural Area in Dakota County and Cedar Creek Natural History Area in Anoka County.

Cultural Resources

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 zone from forest to agriculture (Table 3-S.01).

Within these major regions, subregions have been defined through analysis of the mixture of different land uses within each Minnesota minor civil division (organized rural town or incorporated municipality). When the different mixes are analyzed and grouped for the entire state, several distinctive land use combinations emerge (Fig. 3-S.11). Each of the land use combinations has its own landscapes, which reflect the interaction of people and nature.

Six land use combinations are of particular concern

because of their implications for recreational use. Their common element is lakes, 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 (see Fig. 3-S.11). 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 heavy use pressure on lakes. In the forest zone, three combinations are important for similar reasons: combination 11—forest with undeveloped lakeshore; 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 develop-

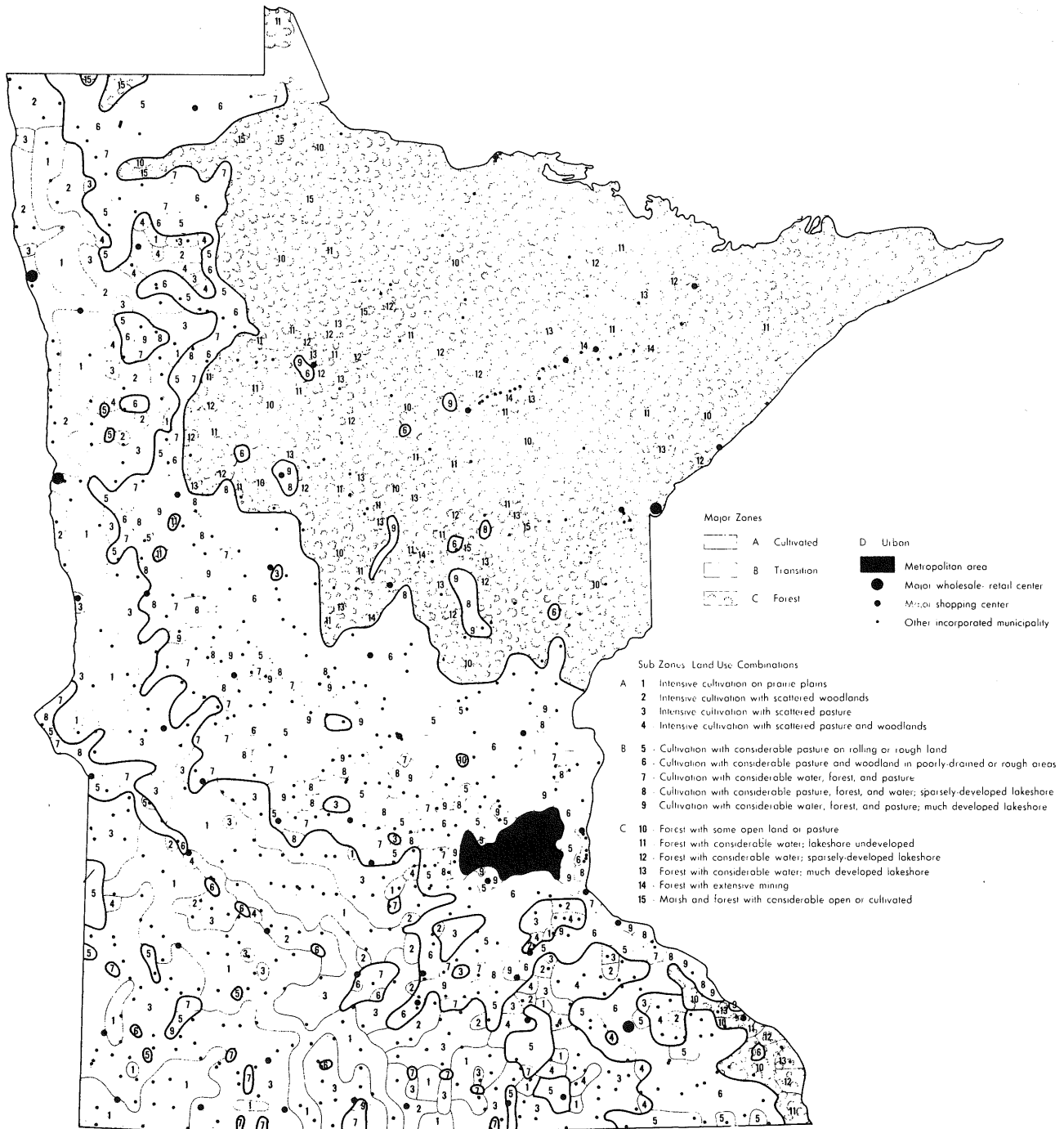
Table 3-S.01
Land Use In Minnesota

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 Management Information System, 1968.

Figure 3-S.11
Land Use Zones



from *Perspective On Minnesota Land Use* • 1974
 by J. Borchert et al.

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. Three urban subzones have been combined into a single urban zone on this map.

ment. Farther 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 farther 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.

Lake and river areas with trees are scarce in the intensively cultivated areas of the state. The scattered areas that do occur have a character different from that of the state's popular northwoods lake country image. They are of important recreational value, nonetheless.

Population Distribution

The settlement pattern of the state was molded by the historical interplay of social, economic and technological forces. At present, most of the state's population resides in relatively compact areas of high density, which is common for a population distribution in a developed urban society (Fig. 3-S.12). Three-fourths of the state's citizens live on 4 percent of the land, where population density exceeds 100 people per square mile of land area (population and area based on minor civil divisions). The seven-county Twin Cities metropolitan area alone contains half of Minnesota's population. Moderate population densities covering extensive areas are found primarily to the south, southeast, north and northwest of the Twin Cities, especially along the principal highway routes, and near such major urban centers as the Iron Range cities, Duluth, Moorhead, Fergus Falls, Mankato and Rochester. Most of the state, however, is sparsely populated. Almost 60 percent of Minnesota has a density of less than 10 people per square mile of land area.

Recreation Opportunity Spectrum

Minnesota offers a wide variety of social and natural resource settings for outdoor recreation. The settings range from pristine landscapes, where encountering other people and their impact is infrequent, to urban landscapes, where encountering other people and their impact is very frequent. The Recreation Opportunity Spectrum (ROS) links these settings to activities compatible with the settings, and to personal experiences elicited by activity participation in the settings. Developed by the U.S. Forest Service, ROS was adapted by the DNR for Minnesota's range of environments.

Recreation settings were characterized by access to people (road access and land use/cover) and the naturalness or artificiality of the landscape (land use/cover). A primitive setting has a natural landscape (e.g., forest and marsh) and is remote from the road network. As the landscape becomes more developed, and as road access improves, the setting classification changes to semiprimitive, natural, rural and, ultimately, to intensive.

The distribution of ROS settings shows which areas possess higher probabilities of providing a given range of recreation experiences. The ROS pattern represents geographic potential; it does not represent the distribution of settings that are now provided at recreation facilities. In Minnesota, the more primitive settings are confined largely to the north and northeastern forest zone, especially in and about the BWCA and in areas of concentrated public land ownership (Fig. 3-S.14B). Natural settings occur within the more primitive areas near the periphery of cities and along road corridors; they include extensive areas along the southeastern and southern periphery of the forest zone. Most of the rest of the state is classified rural because of the large areas devoted to agricultural activities in the native prairie and prairie-forest transition zone. The intensive class occurs largely in conjunction with urban areas, but also in conjunction with extractive land uses, particularly on the Iron Range.

Public Land Ownership

The public sector, through land and water ownership, exerts direct control over substantial recreation resources in the state. The percentages of Minnesota covered by water, in private ownership and owned by public agencies is shown in Fig. 3-S-14a.

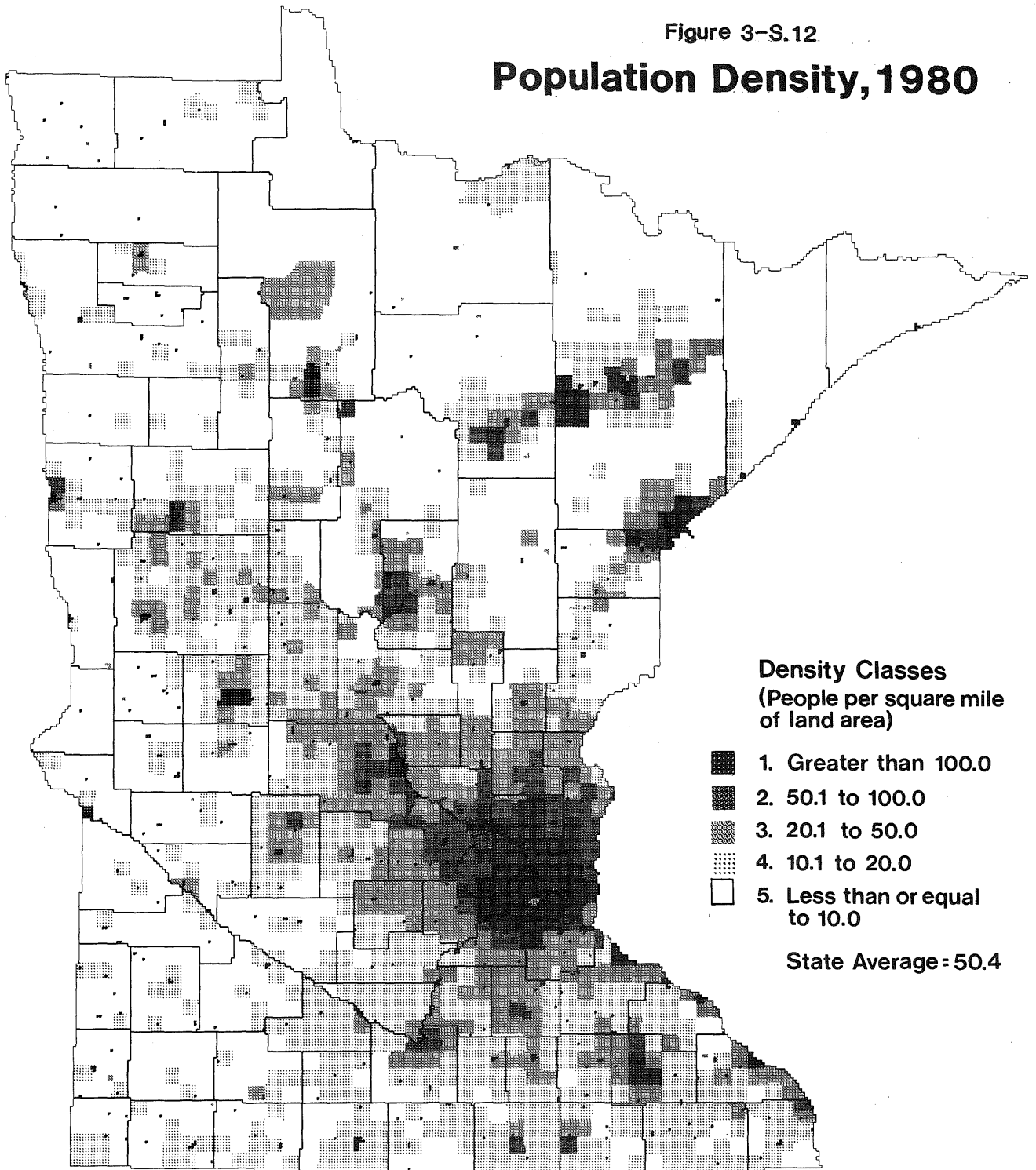
Of the 12 million acres of public land in Minnesota, 11.2 million acres (93 percent) are located in 22 contiguous counties in the northern part of the state. The public ownership in these 22 counties corresponds closely to the large forested area of northern Minnesota and the more scattered forest and marshland areas in the northwestern part of the state (Fig. 3-S.14B).

The remaining 800,000 acres of public land in Minnesota are 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.

Fig. 3-S.14B shows the percentage of 40-acre parcels with public ownership in a township. Each forty may not be entirely under public ownership, but each forty has at least some public ownership. As a consequence, public holdings for some townships--in which small parcels of 1 to 10 acres have been acquired for fish, wildlife,

Figure 3-S.12

Population Density, 1980



Source: U.S. Department of Commerce, Bureau of the Census, 1981, 1980 Census of Population and Housing.

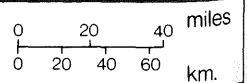
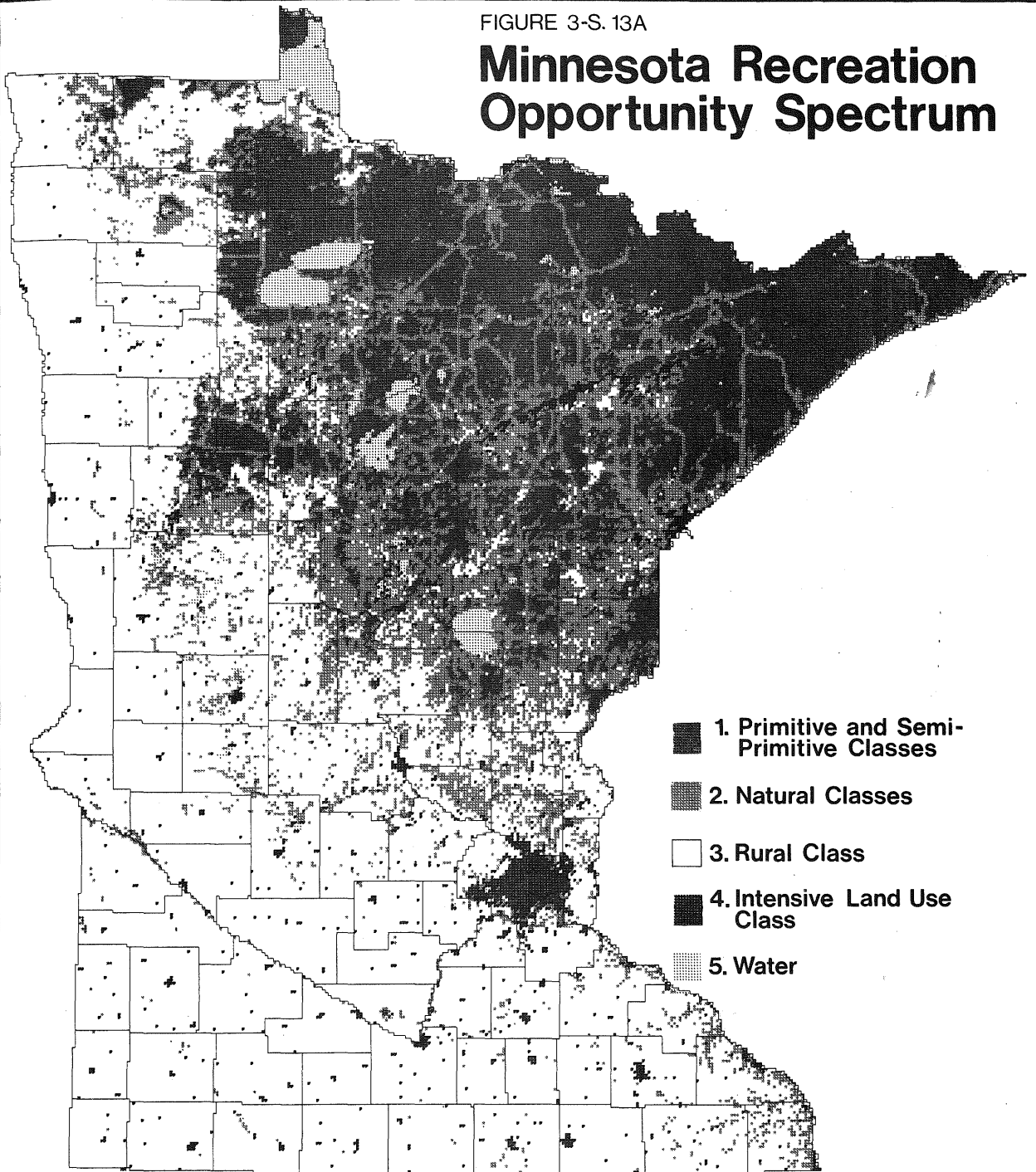


FIGURE 3-S. 13A

Minnesota Recreation Opportunity Spectrum



Source: Adapted by Minnesota Department of Natural Resources for use with MLMIS. Adapted from: U.S. Department of Agriculture, Forest Service. No Date. ROS Users Guide.

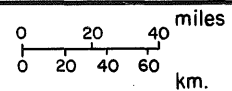
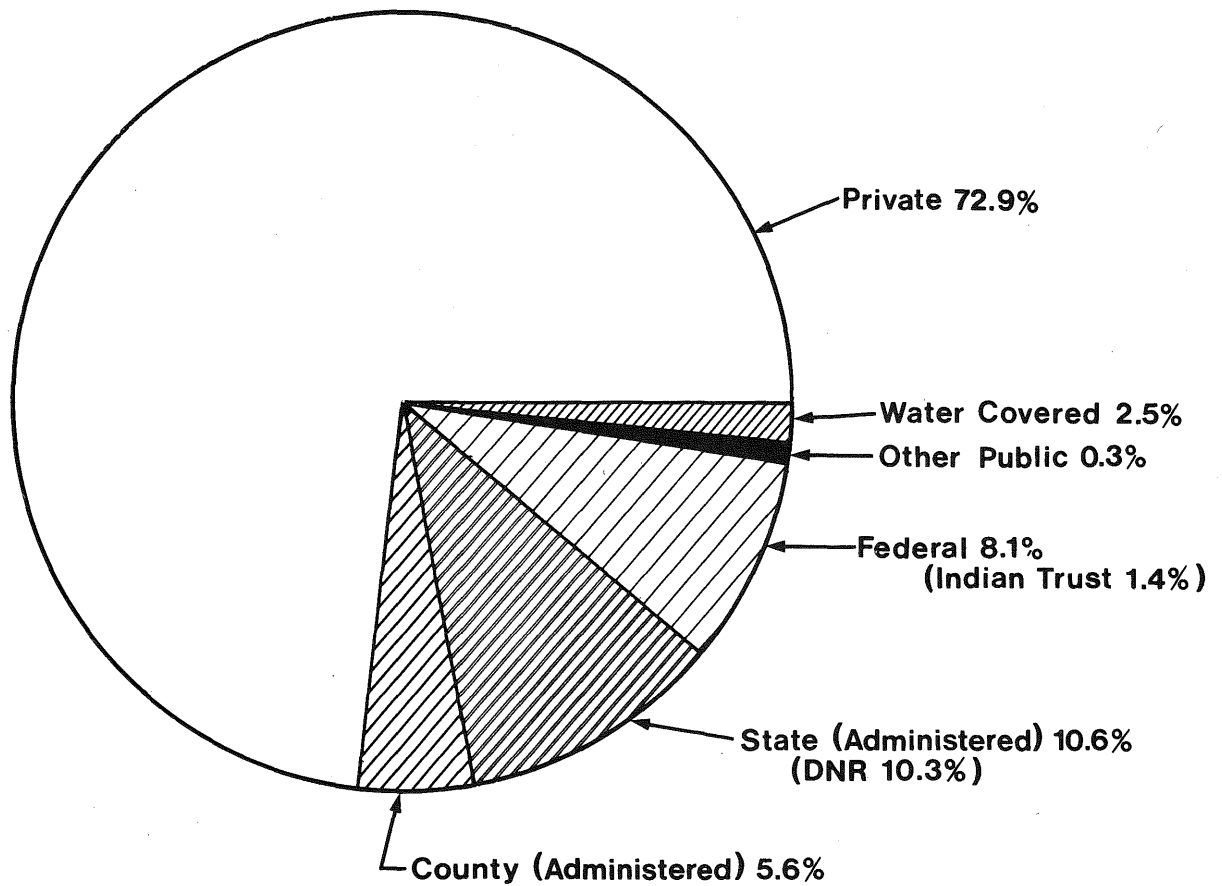


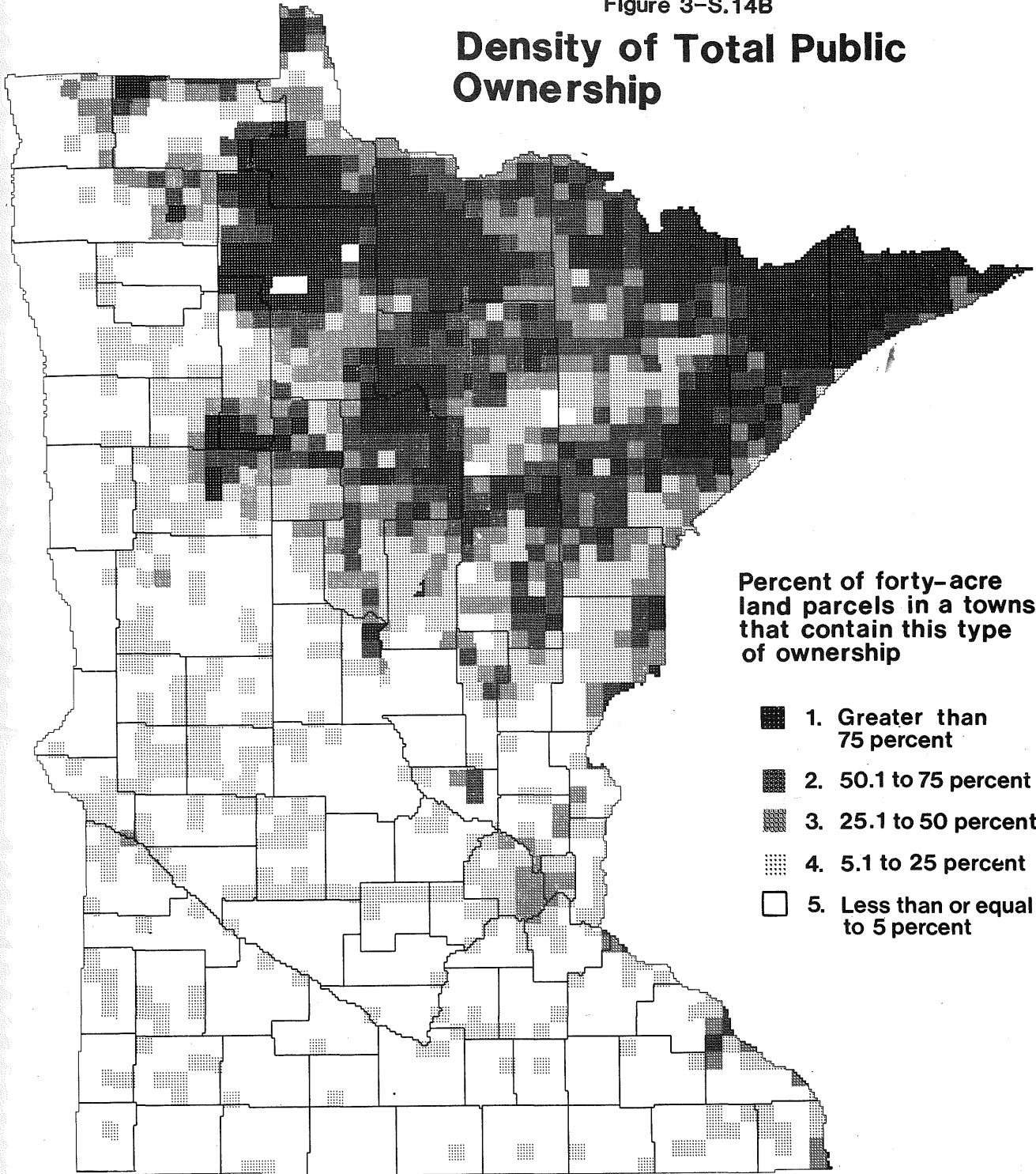
Figure 3-S.14A
Land Ownership in Minnesota



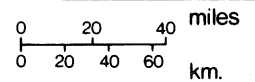
Source: U.S. Dept. of Interior, Bureau of Land Management, 1980
Minnesota Department of Natural Resources, 1982
Minnesota Land Management Information System, 1978

Figure 3-S.14B

Density of Total Public Ownership



Sources: Minnesota Department of Natural Resources (1982 data for state owned lands that are DNR administered or tax-forfeited and county administered). Minnesota Land Management Information System (1978 data, except for 1969 data for federal lands in the categories of Bureau of Indian Affairs and Corps of Engineers)



access and other public purposes—are visually over-represented on the ownership maps.

Federal Land

Originally, all of Minnesota was in the public domain. In the 1800s, federal government disposals to the state, individuals and corporations 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 increased federal land in Minnesota to more than 8 percent of the state's area (if Indian trust lands are included in the total).

Federal land is concentrated in northern Minnesota (Fig. 3-S.15). Superior National Forest and Voyageurs National Park in the northeast and Chippewa National Forest in north-central Minnesota are easily identified in the distribution of federal holdings. Indian reservations and wildlife lands compose the majority of federal land in northwestern Minnesota. The wide band of federal land in west-central Minnesota represents extensive acquisition of wildlife habitat, either for wildlife refuges or waterfowl production. The more scattered ownership patterns in east-central and southeastern Minnesota are Indian reservations, wildlife refuges and reservoir/water level control areas.

State Land

Congress granted Minnesota several million acres of public 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 to facilitate economic development and growth. Gradual modification of this policy resulted in permanent ownership of certain lands, 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 of lands 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 nonpayment of taxes. State legislative action resulted in the establishment of conservation areas in six counties in northwestern Minnesota and in 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 past 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 professional resource management. More than half of the present state forests and state parks were established between 1930 and 1950. The vast majority of this land is either trust-fund, conservation-area or county tax-forfeited land acquired by the state through county board resolution. Acquisition of land from private owners is a relatively recent development. The purchased land includes private holdings within state park boundaries, fish and wildlife habitat, public accesses to lakes and rivers, key state forest parcels and lands acquired for other public purposes. The relatively wide distribution of state ownership is illustrated in Fig. 3-S.16.

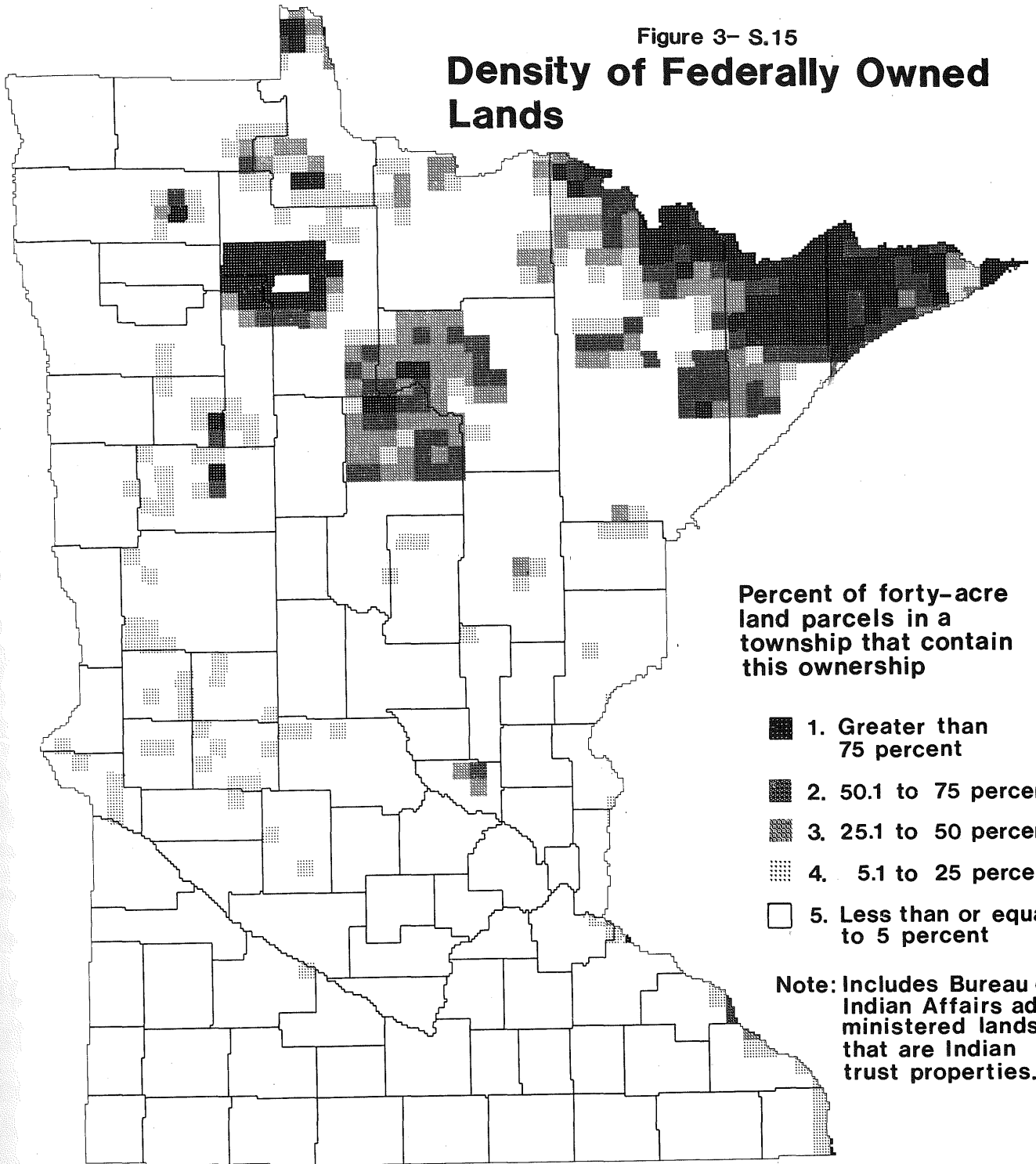
County Land

The majority of land administered by counties is state-owned, tax-forfeited land located 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 for tax-forfeited land in the late 1800s and early 1900s to get the land back into private ownership and on the tax rolls. However, after the resources (such as timber) were harvested, or during periods of business depression, much of this land was tax-forfeited once again.

In the forested areas of northern Minnesota, it was generally assumed that logging, draining, settling and

Figure 3- S.15

Density of Federally Owned Lands



Source: Minnesota Land Management Information System (1969 data for Bureau of Indian Affairs and Corps of Engineers; 1978 data for other federal lands).

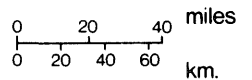
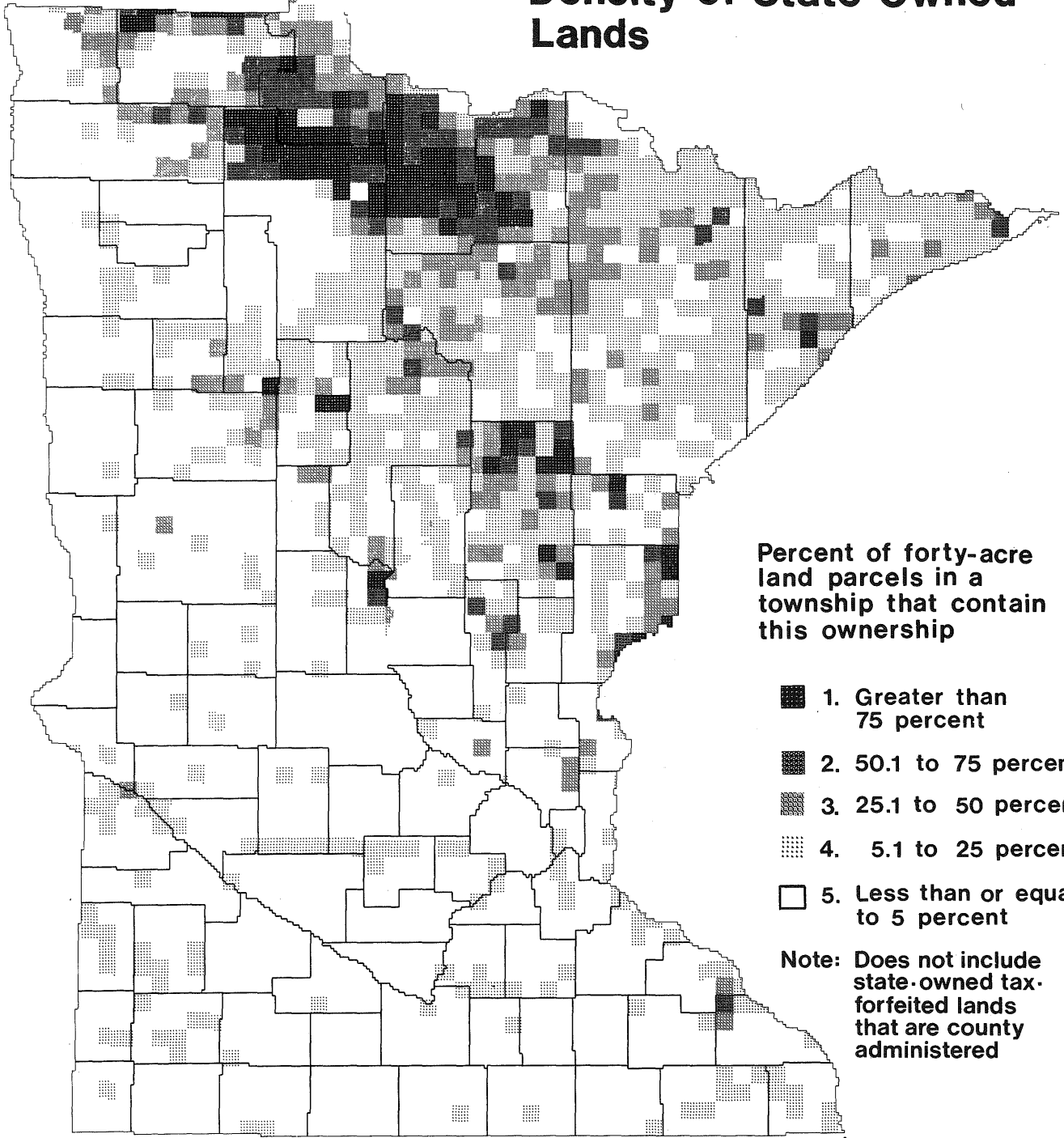
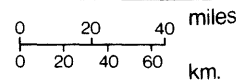


Figure 3-S.16

Density of State Owned Lands



Sources: Minnesota Department of Natural Resources (1982 data, DNR administered lands). Minnesota Land Management Information System (1978 data for other state administered lands).



farming the land held the promise of long-term economic prosperity and stability. However, the northern land generally proved unsuitable for agriculture. With the end 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 past 40 years, the northern counties have disposed of more than half of the tax-forfeited land. The majority of it has been returned to the tax rolls through sale to the private sector or has been transferred to the state for management. In recent years, 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 have 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 land ownership shown on Fig. 3-S.17 is concentrated in Regions 2, 3 and 5 in north-central Minnesota. Nearly half of this land has been dedicated by the counties as memorial forest land to be managed in accordance with forestry principles. Counties actually own only certain park and recreation lands, primarily in the southern part of the state. That land, however, is significant in providing recreational opportunities for local and regional populations, particularly in the densely settled parts of the state.

Administrative Areas and Sites

Federal

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service, Department of Interior, administers the second-largest federally owned acreage in Minnesota. Its more than 300,000 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 (Fig.

3-S.18). These areas are an important hunting resource. Public hunting on these areas is allowed 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—include more than 200,000 acres. Spread throughout the state, they provide hunting, fishing and trapping. In addition, they are available for nonconsumptive wildlife uses such as birdwatching, photography and painting.

National Park Service

Voyageurs National Park. The National Park Service, Department of Interior, administers Voyageurs National Park. Located on Rainy Lake in northern St. Louis County and eastern Koochiching County, the park boundary encompasses 219,000 acres of pristine land and water (Fig. 3-S.19). 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 powerboating. 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.

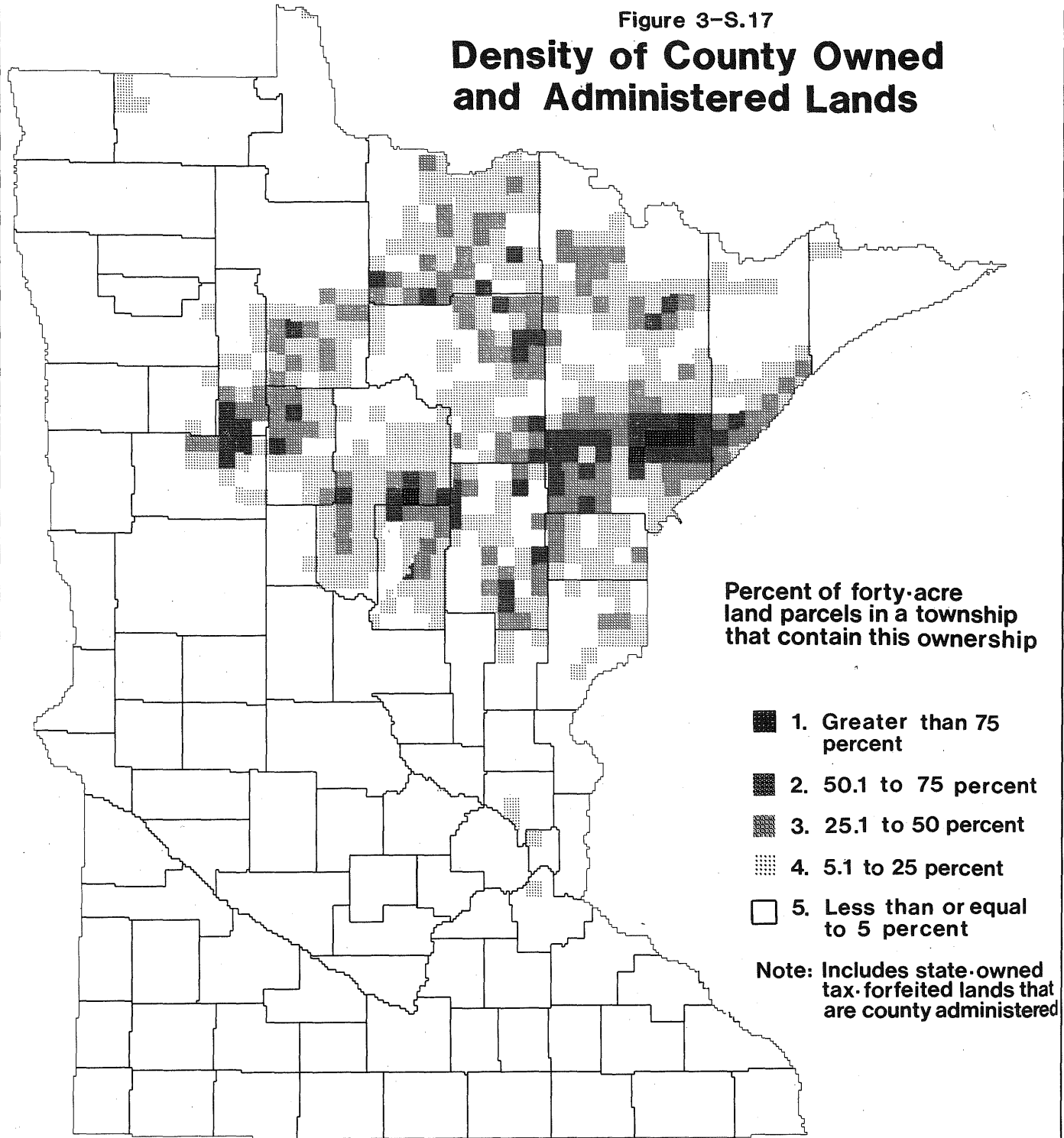
St. Croix National Scenic Riverway. The St. Croix River was designated a national wild and scenic river in two stages. The upper portion, above Taylors Falls, was designated in 1968, the portion below Taylors Falls in 1972. Master plans establish riverway boundaries, within which lands will be protected from adverse development and limited recreational facilities will be provided.

The St. Croix River forms the Minnesota-Wisconsin boundary from St. Croix State Forest near Markville to Hastings. 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 classified recreational. The lower river is wider, slower and deeper.

The upper riverway offers canoeing, fishing and camping, while the lower provides opportunities for motorboating, canoeing, sailing and fishing. Only occasional shore homes are in the riverway above Osceola, but downstream shore homes become more numerous. Because of its proximity to the Twin Cities area, the riverway is an important recreational resource for much of Minnesota's population.

Figure 3-S.17

Density of County Owned and Administered Lands



Sources: Minnesota Department of Natural Resources (1982 data for state-owned tax-forfeited lands that are county administered). Minnesota Land Management Information System (1978 data for county owned lands).

0 20 40 miles
0 20 40 60 km.

Figure 3-S.18

Waterfowl Production and Wildlife Management Areas

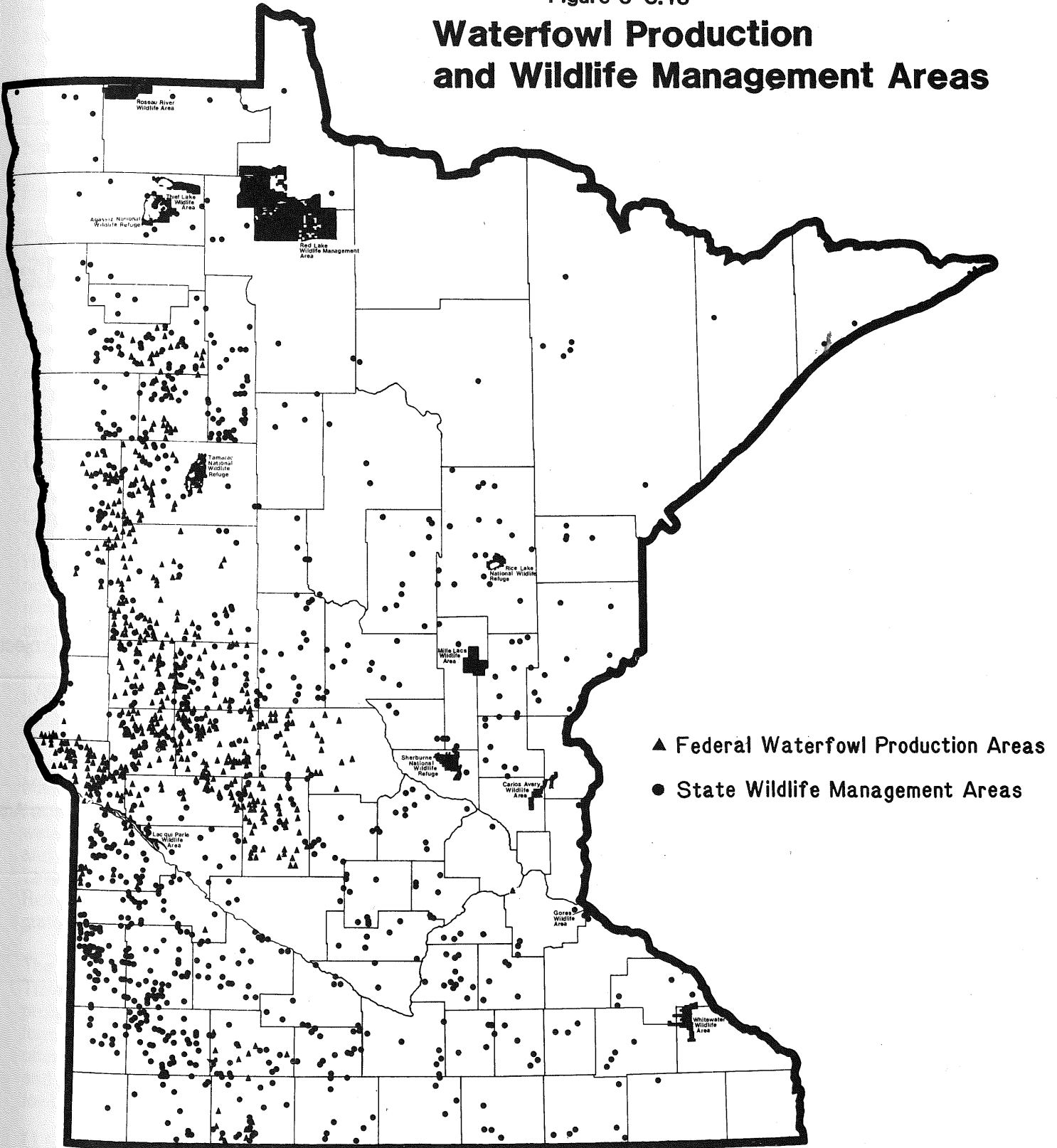
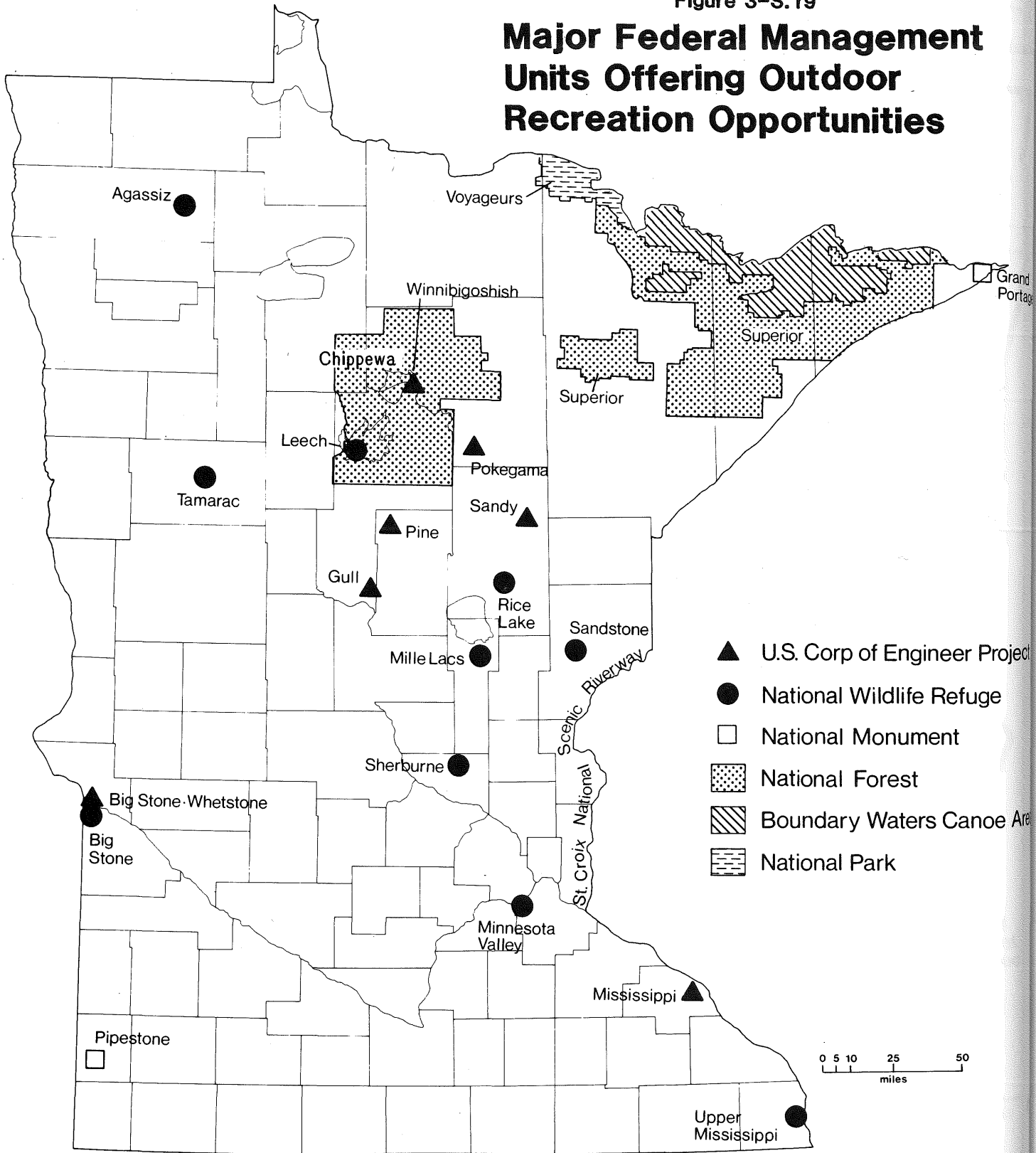


Figure 3-S.19

Major Federal Management Units Offering Outdoor Recreation Opportunities



DEPARTMENT OF NATURAL RESOURCES

Grand Portage National Monument. Designated first as an historic site and later, in 1960, as a national monument, Grand Portage National Monument is at the northeastern tip of Minnesota on the shore of Lake Superior. Grand Portage was a stopover point for the voyageurs, and served as a major cargo transfer point for furs heading for eastern and European markets.

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

Pipestone National Monument. Pipestone National Monument is located in the southwest corner of the state, just north of Pipestone. The monument contains great quarries of stone, used by the plains Indians for pipe making. For at least 300 years ceremonial pipes have been carved from stone quarried here. The monument includes a visitor center, trails and roadside exhibits that communicate its natural and cultural history.

U.S. Army Corps of Engineers

Three major resource systems managed by the Army Corps of Engineers provide recreation opportunities. The largest and most important project, the Mississippi Headwaters system, consists of six large reservoirs in north-central Minnesota. Leech Lake and Lake Winnebigoishish are the largest. They offer excellent walleye fishing, swimming and boating. The smaller reservoirs (Pokegama, Pine, Big Sandy and Gull) also offer swimming, fishing and boating. All of the lakes provide good to excellent resorts, vacation home sites, camping and wildlife habitat.

The Corps manages a series of locks and dams on the Mississippi between the Twin Cities and St. Louis, Missouri. Built for commercial navigation, the impounded waters offer opportunities for hunting, fishing, boating and camping. Located downstream of the outlet of Lake Pepin is the Upper Mississippi Wildlife and Fish Refuge, an important feeding and resting place for migratory waterfowl.

The Corps also controls the Big Stone-Whetstone, Traverse, Marsh 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. In addition, they are important in waterfowl management.

U.S. Forest Service

Superior National Forest lies in the northeastern Minnesota counties of Lake, St. Louis and Cook. The forest provides campgrounds, trails and public accesses for

dispersed wildland recreation such as fishing, camping, hiking, skiing and boating. Chippewa National Forest in north-central Minnesota offers similar camping, hiking and water recreation opportunities.

The Boundary Waters Canoe Area, located on the Minnesota-Canada border, is the nation's only water-based wilderness. The BWCA offers canoeing, fishing, camping and cross-country skiing in the solitude of the wilds. Limited motorboating and snowmobiling are also allowed in the wilderness.

National Register of Natural Landmarks

National natural landmarks are areas which are of exceptional value in illustrating or interpreting the natural heritage of the United States. They must have national significance, and they must present a true, accurate and essentially unspoiled natural example. Minnesota has eight 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 Peatlands in Koochiching County; the Upper Red Lake Peatlands in Beltrami and Lake of the Woods counties; the Cedar Creek Natural History Area in Anoka and Isanti counties; the Pine Point Research Natural Area in Cass County; Lac La Croix (virgin pine forest) in St. Louis County; and Keeley Creek (presettlement landscape) in Lake County.

State

Department of Natural Resources

State Forests. The DNR administers 56 state forests encompassing 3.1 million acres of state-owned land and an additional 1.3 million acres of forestry land outside the boundaries of state forests (see Table 3-S.06 and Fig. 3-S.20). Forest resources under the authority of the commissioner are managed according to the principles of multiple use and sustained yield. Forest resources include timber and other forest crops, recreation opportunities, and fish and wildlife habitat.

Much of the state-owned forestland is ideal for wilderness-type recreation. There are 61 primitive campgrounds on state forestlands, 1,256 miles of trails and thousands of lakes and streams for water-oriented recreation. An 1,800-mile state forest road system provides recreationists with access to state forestlands and with routes for sightseeing. The major recreation activities associated with the state forest system are hunting, fishing, camping and trail use.

State Parks. There are more than 221,500 acres within the statutory boundaries of Minnesota's 64 state parks (Fig. 3-S.21). There are also 10 wayside rests, established to preserve sites of interest and serve as rest

**Table 3-S.06
STATE FORESTS – DISTRIBUTION AND AMOUNT OF OWNERSHIP**

Forest Number	State Forest	County	Amount		Percent Owned	
			Total Acres	State Owned		
1	Emily	Crow Wing	640	640	100.0	
2	Insula Lake	Lake	485	485	100.0	
3	Lake Isabelle	Lake	66	66	100.0	A
4	Nemadji	Pine/Carlton	96,270	90,270	93.7	75-100%
5	Smokey Bear	Koochiching	12,238	10,997	89.8	State Owned
6	Red Lake	Beltrami	66,055	59,257	89.7	
7	Solana	Aitkin	68,176	58,091	85.2	
8	Snake River	Kanabec	9,160	7,758	84.6	
9	Beltrami Island	Belt/L.O.W./Roseau	669,032	505,054	75.6	
10	Birch Lake	Stearns	637	477	74.8	
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.	62,145	42,400	68.2	
15	Hill River	Aitkin	111,392	24,854	67.1	
16	Lost River	Roseau	97,500	63,400	65.0	
17	St. Croix	Pine	42,105	26,046	61.8	B
18	Koochiching	Koochiching	565,582	345,064	61.0	50-74%
19	Smokey Hills	Becker	23,791	14,429	60.6	State Owned
20	Wealthwood	Aitkin	14,053	8,279	58.9	
21	Land O Lakes	Cass/Crow Wing	50,895	29,971	58.8	
22	Paul Bunyan	Hubbard	102,440	59,931	58.5	
23	Chengwatana	Pine/Chisago	28,004	16,119	57.5	
24	D.A.R.	Pine	640	360	56.2	
25	Savanna	Aitkin/St. Louis	218,451	121,193	55.4	
26	Whiteface	St. Louis	4,480	2,480	55.3	
27	Pillsbury	Cass	14,756	7,883	53.4	
28	Two Inlets	Becker	26,225	13,850	52.8	
29	Rum River	Kanabec/Mille L.	33,180	16,612	50.0	
30	Sand Dunes	Sherburne	10,805	5,366	49.6	
31	Huntersville	Wadena/Hubb.	33,222	14,459	43.5	
32	Burntside	St. Louis	62,782	24,673	39.2	
33	Foothills	Cass	45,125	17,556	38.9	
34	Lyons	Wadena	14,720	5,529	37.5	
35	Sturgeon River	St. Louis	142,868	52,155	37.2	C
36	Welsh Lake	Cass	16,336	6,058	37.0	25-49%
37	White Earth	Mahn/Clearw.	113,338	41,617	36.7	State Owned
38	Big Forks	Itasca	124,270	45,293	36.4	
39	Blackduck	Itasca/Belt	123,116	41,375	33.6	
40	Finland	Lake, Cook	307,648	102,519	33.3	
41	Grand Portage	Cook	98,700	32,661	33.0	
42	George Wash.	Itasca	306,828	95,818	31.2	
43	Badoura	Hubbard	15,224	4,400	28.9	
44	Bowstring	Itasca/Cass	414,090	118,083	28.5	
45	Golden Anniv.	Itasca	6,811	1,811	26.5	
46	Pat Bayle	Cook	170,644	39,716	23.2	
47	Kabetogama	St. Louis	697,363	155,365	22.2	
48	Miss. Headwaters	Belt/Hubb./Clear	44,919	9,170	20.4	D
49	Crow Wing	Crow Wing	31,307	6,266	20.0	1-24%
50	Romer	Cass	12,774	2,440	19.1	State Owned
51	NW Angle	Lake of Woods	79,169	14,399	18.1	
52	Buena Vista	Beltrami	104,073	18,480	17.7	
53	Bear Island	Lake/St. Louis	141,187	24,877	17.6	
54	Lk. Jeanette	St. Louis	10,725	1,357	12.6	
55	Cloquet Valley	St. Louis	316,467	39,628	12.5	
56	R.J. Dorer	Various	1,006,819	42,000	4.2	

State Forests: Distribution and Amount of Ownership

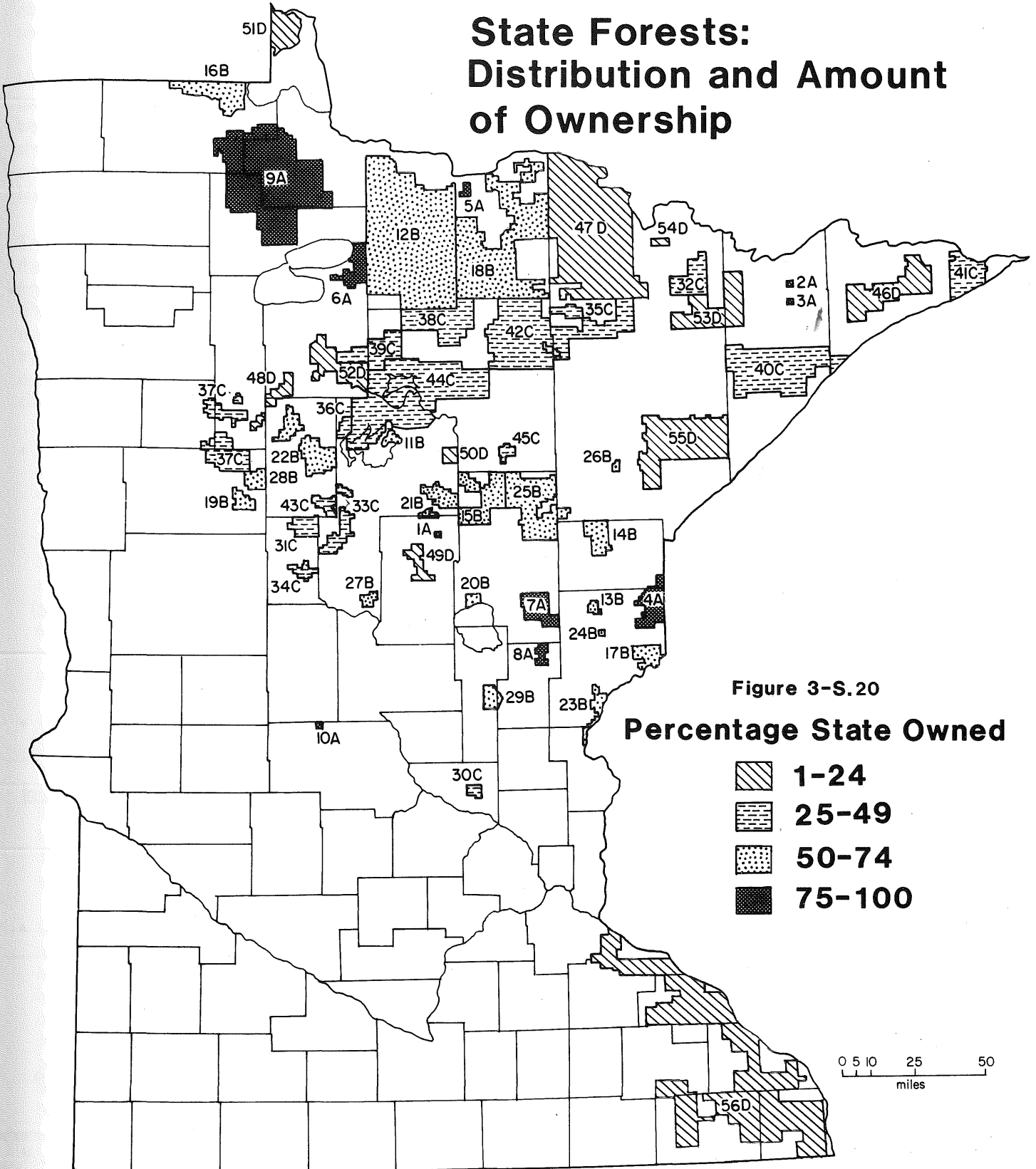
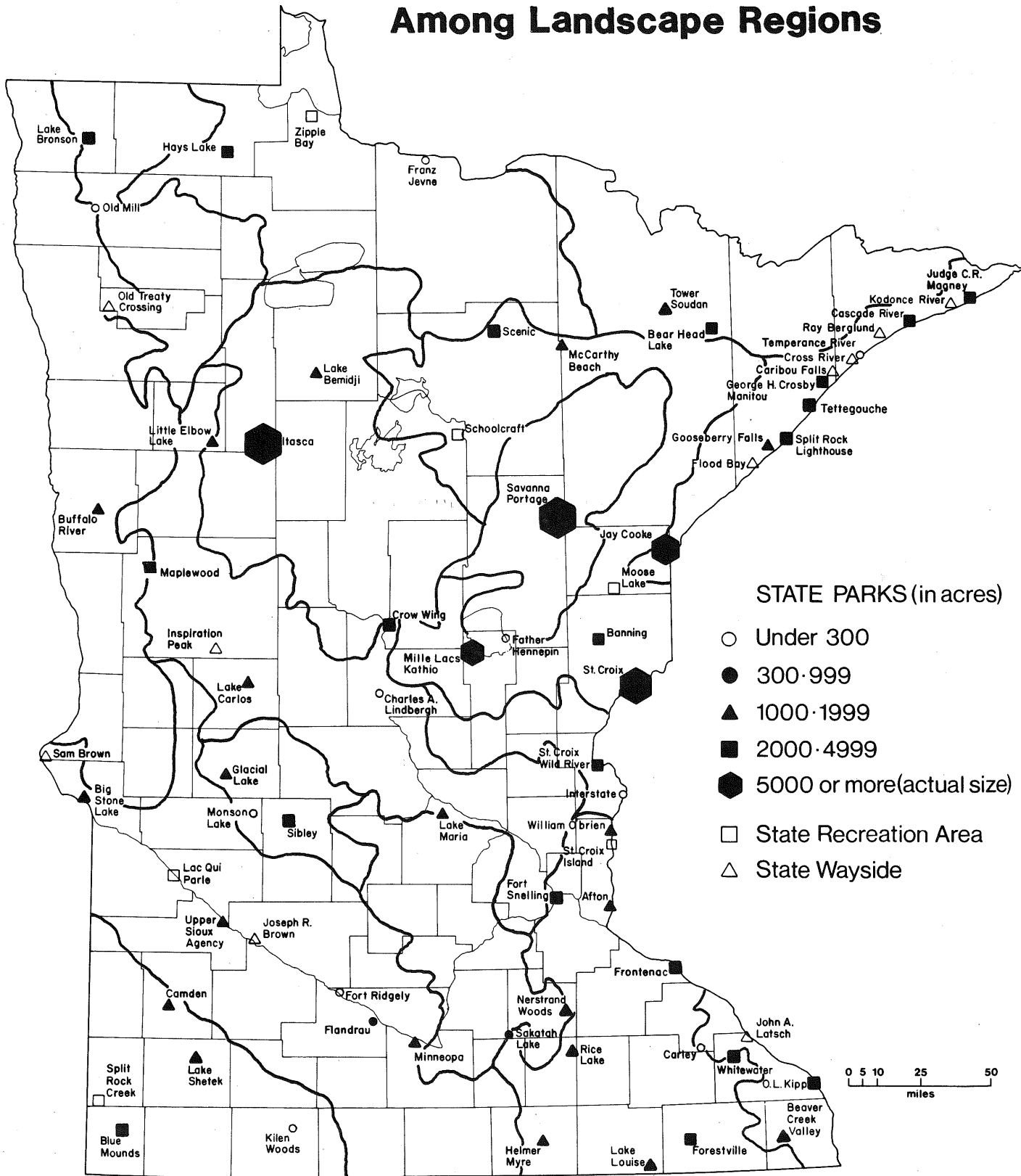


Figure 3-S.21

Distribution of State Park, Recreation Areas and Waysides Among Landscape Regions



DEPARTMENT OF NATURAL RESOURCES

areas, that encompass 2,271 acres. Minnesota's state parks provide a variety of recreation opportunities while preserving a diversity of natural and historic features. State parks provide opportunities for camping, trail use, nature interpretation, fishing, swimming and sight-seeing.

Minnesota's 64 state parks include 166 campgrounds (semimodern, rustic, canoe, group), 31 swimming beaches, with approximately 7,500 feet of beach shoreline open to a variety of uses, 25 interpretive centers, park naturalists at 31 parks, and 16 national historic sites.

Trails. Of the nearly 13,000 miles of recreational trails that exist in Minnesota, about 9,700 miles are either funded through or directly administered by the DNR (Fig. 3-S.22). These trails are used primarily for snowmobiling, hiking, cross-country skiing, horseback riding, and bicycling, and provide a broad range of trail opportunities. The 9,700 miles are divided into three classes.

- *State trails* are recreational travel routes which may connect other trails and recreation areas and which are generally of sufficient length for a weekend trip. State trails are intended to provide ways to explore significant areas of Minnesota by snowmobile, skis, bicycle, horseback and hiking. Uses on specific trails are determined on a case-by-case basis. If camping, parking and rest area facilities are not available in areas connected by state trails, they may be provided in trail waysides. Of the 1,400 miles of authorized state trails, 460 miles have been developed.
- *Unit trails* (state park and forest trails) are generally designed for day use (Fig. 3-S.22). Most of the developed trails accommodate a single use during a given season and are generally short-distance loop trails. All of the state park and forest trails are designed to give the user a satisfying outdoor experience. There are about 920 trail miles in state parks and more than 1,200 in state forests.
- *Grant-in-aid trails* account for more than 7,000 trail miles. More than 6,500 miles of the grant-in-aid trails are for snowmobiling; the remaining 500 miles are authorized as ski-touring trails. Most of the grant-in-aid snowmobile trails are located in north-central Minnesota (Fig. 3-S.22). The Minnesota grant-in-aid program helps trailer-user groups and local units of government develop a trail system that meets local needs.

Water Access Sites. The DNR administers approximately 1,100 water access sites on 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 which need the access to permit public use. Water access sites generally contain parking lots, boat ramps, and, at certain locations, toilets, picnic tables and other facilities. Anglers, hunters and boaters are the primary users.

Scientific and Natural Areas. The DNR administers scientific and natural areas (SNAs) to protect and perpetuate in an undisturbed natural state rare and endangered species, and natural features which possess exceptional scientific or educational value.

The 34 designated SNAs in the state system encompass more than 10,000 acres. These areas (Fig. 3-S.23) protect natural communities and species such as native prairie, virgin Big Woods, orchid bogs, heron rookeries, piping plover and prairie bush clover; and remnants of the original Minnesota landscape that are rare, endangered or that represent typical original features in the landscape regions. SNAs also provide important opportunities for interpretive programs, educational opportunities and scientific research.

Canoe and Boating Routes. The DNR has designated 19 rivers as canoe and boating routes (Fig. 3-S.24) and has provided access to and camping on the approximately 2,800 miles in this system. Most of these rivers lie in the eastern half of the state.

The Mississippi River from its origin to the Iowa border and nine of its tributaries, the St. Croix, Minnesota, North Fork of the Crow, Rum, Pine, Cannon, Zumbro, Root and Crow Wing rivers, form the largest single system. These rivers provide excellent opportunities for beginning canoeists, fishermen, campers and hunters. The Straight River in southeastern Minnesota also offers opportunities to the novice canoeist.

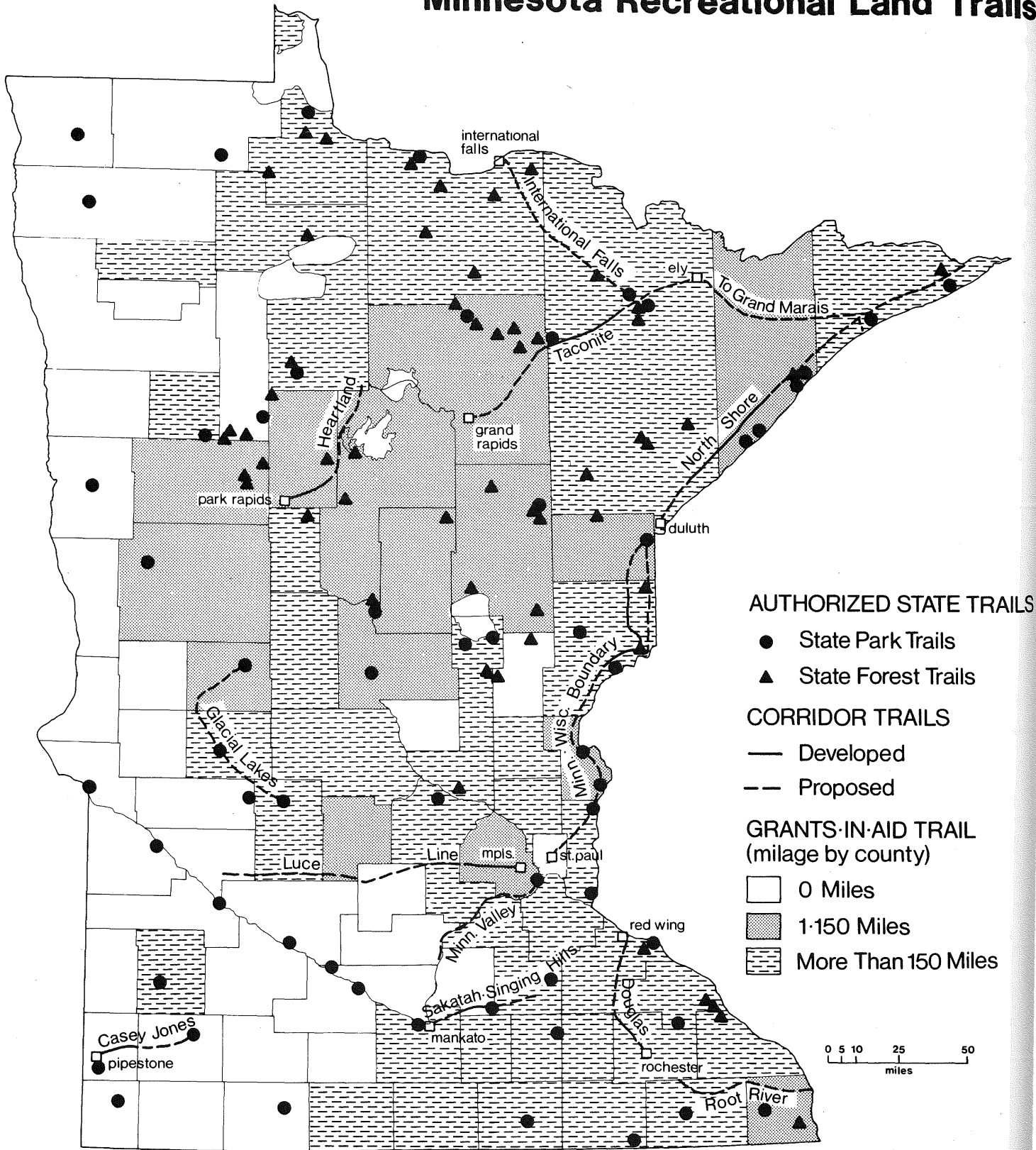
The Kettle and Snake rivers, flowing into the St. Croix on the Minnesota-Wisconsin boundary, and the St. Louis and Cloquet rivers near Duluth furnish white-water excitement for more experienced users. In northern Minnesota, the Big and Little Fork rivers provide white-water stretches in a wilderness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

The Kettle and Rum rivers, the Mississippi from St. Cloud to Anoka, the North Fork of the Crow in Meeker County, the Minnesota from Lac qui Parle to Franklin and the Cannon River are designated state wild and scenic rivers.

Figure 3-S.22

Minnesota Recreational Land Trails



AUTHORIZED STATE TRAILS

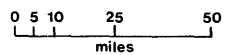
- State Park Trails
- ▲ State Forest Trails

CORRIDOR TRAILS

- Developed
- - - Proposed

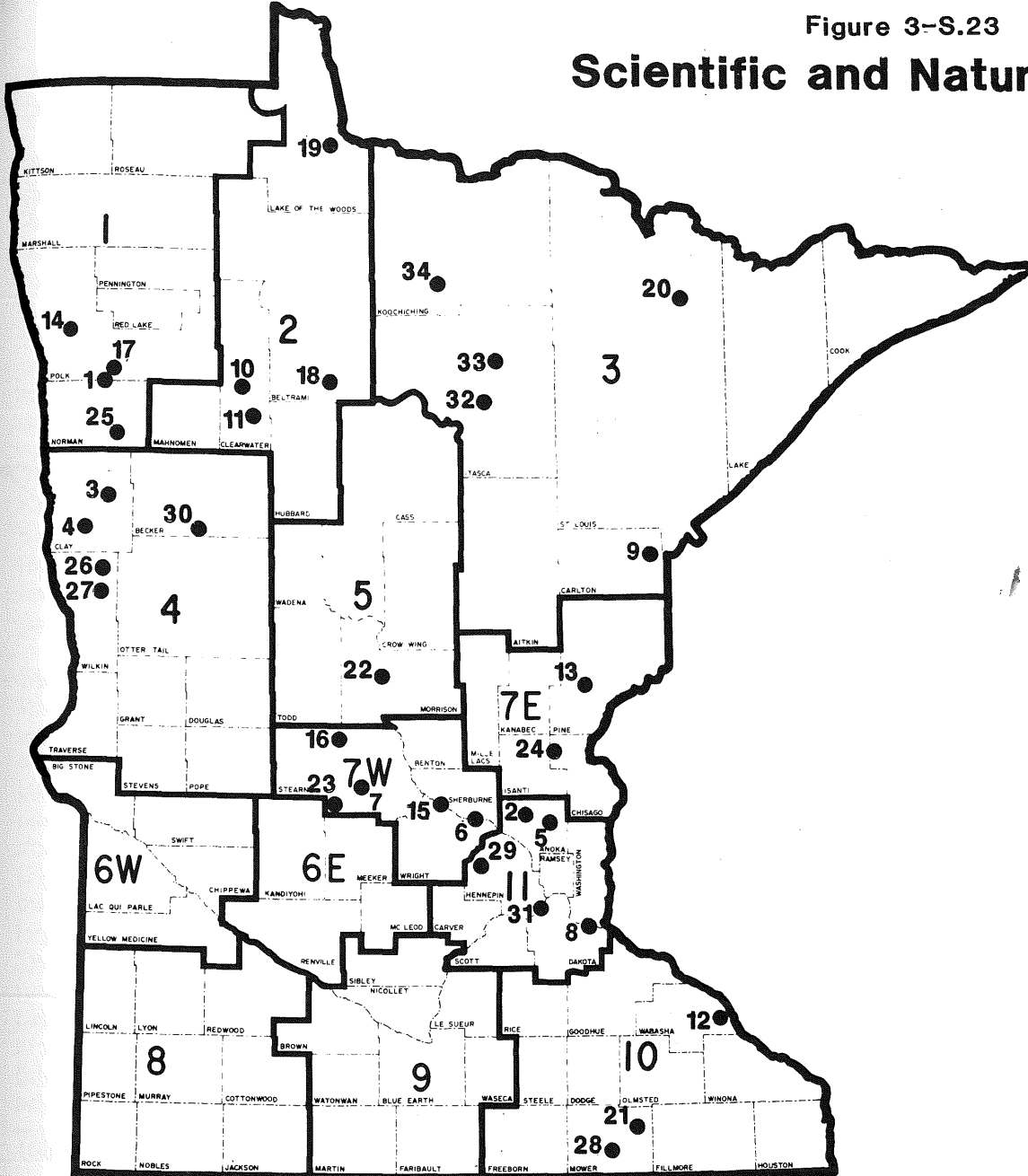
GRANTS-IN-AID TRAIL (milage by county)

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



DEPARTMENT OF NATURAL RESOURCES

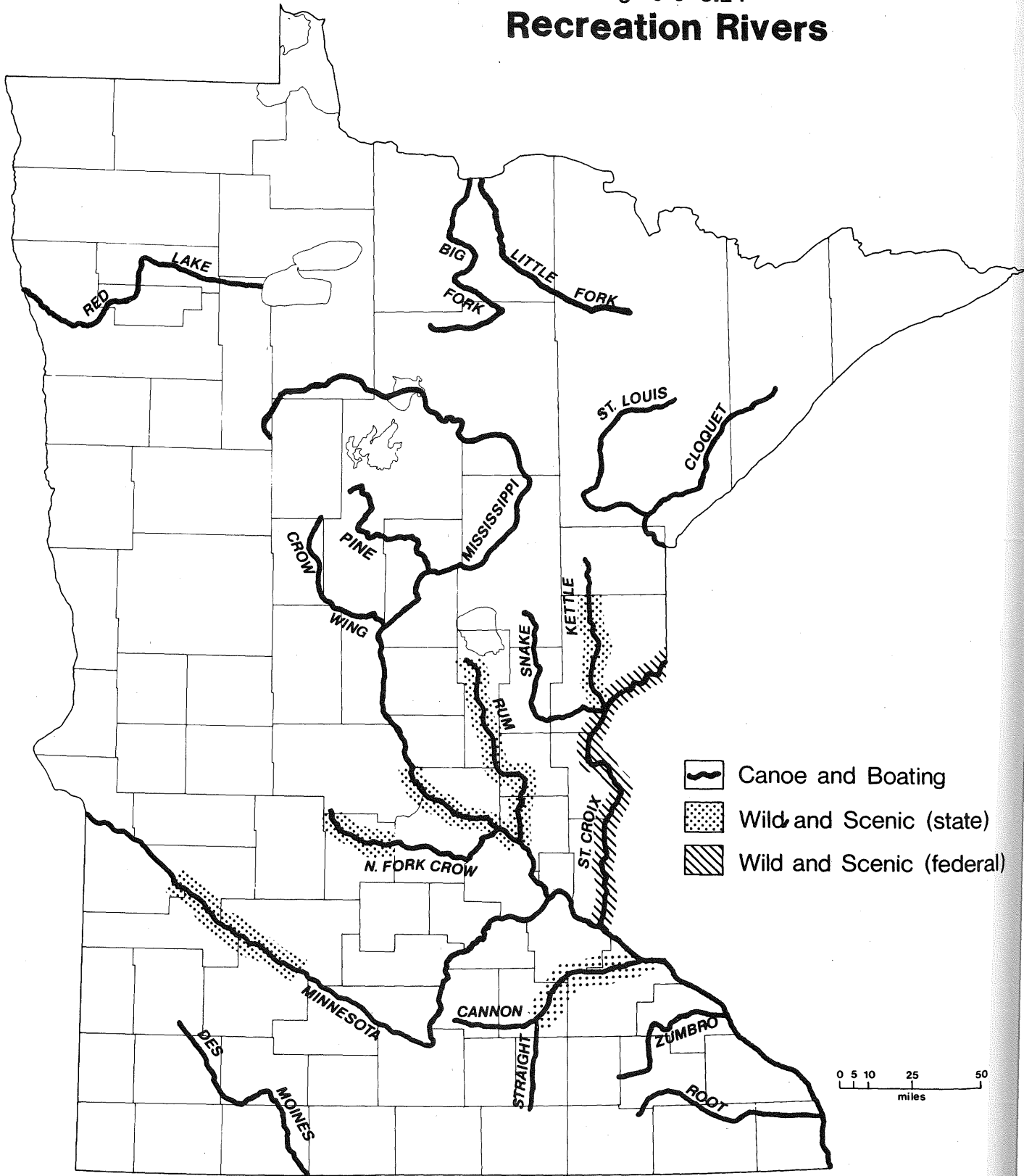
Scientific and Natural Areas



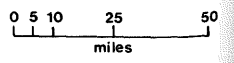
Site Column		Site Column		Site Column		
Region	Acres		Region	Acres		
1	417	Agassiz Dunes	4	1285	Bluestem Prairie	
1	80	Malmberg Prairie	5	220	Ripley Ester	
1	1660	Pembina Trail Preserve	7W	62	Clear Lake	
1	240	Twin Valley Prairie	7W	62	Cold Spring Heron Colony	
2	320	Iron Spring Bog	7W	142	Mississippi River Island	
2	1580	Itasca Wilderness Area	7W	80	Partch Woods	
2	108	Pennington Bog	7W	56	Roscoe Prairie	
2	81	Pine Curry Island	7E	720	Kettle River	
3	50	Hemlock Ravine	7E	24	Rush Lake Island	
3	140	Purvis Lake	10	182	Kellogg-Weaver Dunes	
3	40	Botany	10	21	Racine Prairie	
3	80	Caldwell Brook Ceder Swamp	10	6	Wild Indigo	
3	40	Ladies-Tresse's Swamp	10	28	150	Helen Allison Savanna
4	160	Blazing Star Prairie	11	2	86	Boot Lake
4	300	Western Prairie North	11	5	400	Hastings
4	300	Western Prairie South	11	8	69	Woldsfeld Woods
4	724	Greenwater Lake	11	29	221	Blackdog Preserve
			11	31	18	

10,099 Total Acres

Figure 3-S.24
Recreation Rivers



DEPARTMENT OF NATURAL RESOURCES



Recreation sites on canoe and boating rivers include primitive campsites, rest areas and access points.

Wildlife Management Areas. The DNR manages 971 state wildlife management areas. The Section of Wildlife, Division of Fish and Wildlife, directly administers 480,000 acres, while another 435,000 acres are managed cooperatively with other DNR divisions.

Wildlife management areas are managed primarily for production of game and nongame wildlife species and for public hunting and trapping. Wildlife management areas are located in 81 of Minnesota's 87 counties; 80 percent of them are in the western third of the state. The acquisition of wildlife management area lands has been concentrated in western Minnesota to preserve the remnants of wetland and prairie habitat for waterfowl production (Fig. 3-S.18). Additional wildlife land has been acquired and is managed for upland and big game species.

State Trout Lakes and Streams. The DNR 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 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 (Fig. 3-S.25). The north-central portion of the state has the second-greatest concentration of trout lakes. The largest concentration of trout streams is along the North Shore of Lake Superior. Here brook trout and annual runs of Lake Superior salmon and steelheads offer nationally famous fishing. Another group of streams, in southeastern Minnesota, offers excellent brown trout fishing. The remainder of the trout streams are scattered across the north-central section of the state, where fishing for brown trout is available.

Minnesota Department of Transportation

With more than 2.5 million bicyclists in Minnesota, there is high public demand for bicycle transportation facilities and maps. The Minnesota Department of Transportation's (MnDOT's) Bicycle Transportation Program has received national acclaim for its approach to bikeway planning, construction and mapping.

Between 1977 and 1981, MnDOT built 676 miles of bikeways (280 miles on local roads and 396 miles on trunk highways). Ninety percent of these miles were in the form of road enhancements, such as paved shoulders.

MnDOT manages a computerized roadway data base to analyze public roads for bicycle travel suitability, and to use in project design. MnDOT also manages the statewide mapping program known as Minnesota Bike-

ways Maps. More than 100,000 maps have been sold since 1979.

Minnesota Historical Society

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

The Minnesota Historical Society administers 24 historic sites and is responsible for the state's historical marker program. The society administers all federal funds for historic preservation work and administers the state grant-in-aid program for local projects.

The Historical Society provides technical assistance, research services and other assistance to agencies, organizations and individuals engaged in preserving and interpreting historic sites.

Numerous Minnesota historic sites are on the National Register of Historic Places. Some are also designated as national historic landmarks. Refer to Appendix A for a listing of sites.

Iron Range Resources and Rehabilitation Board

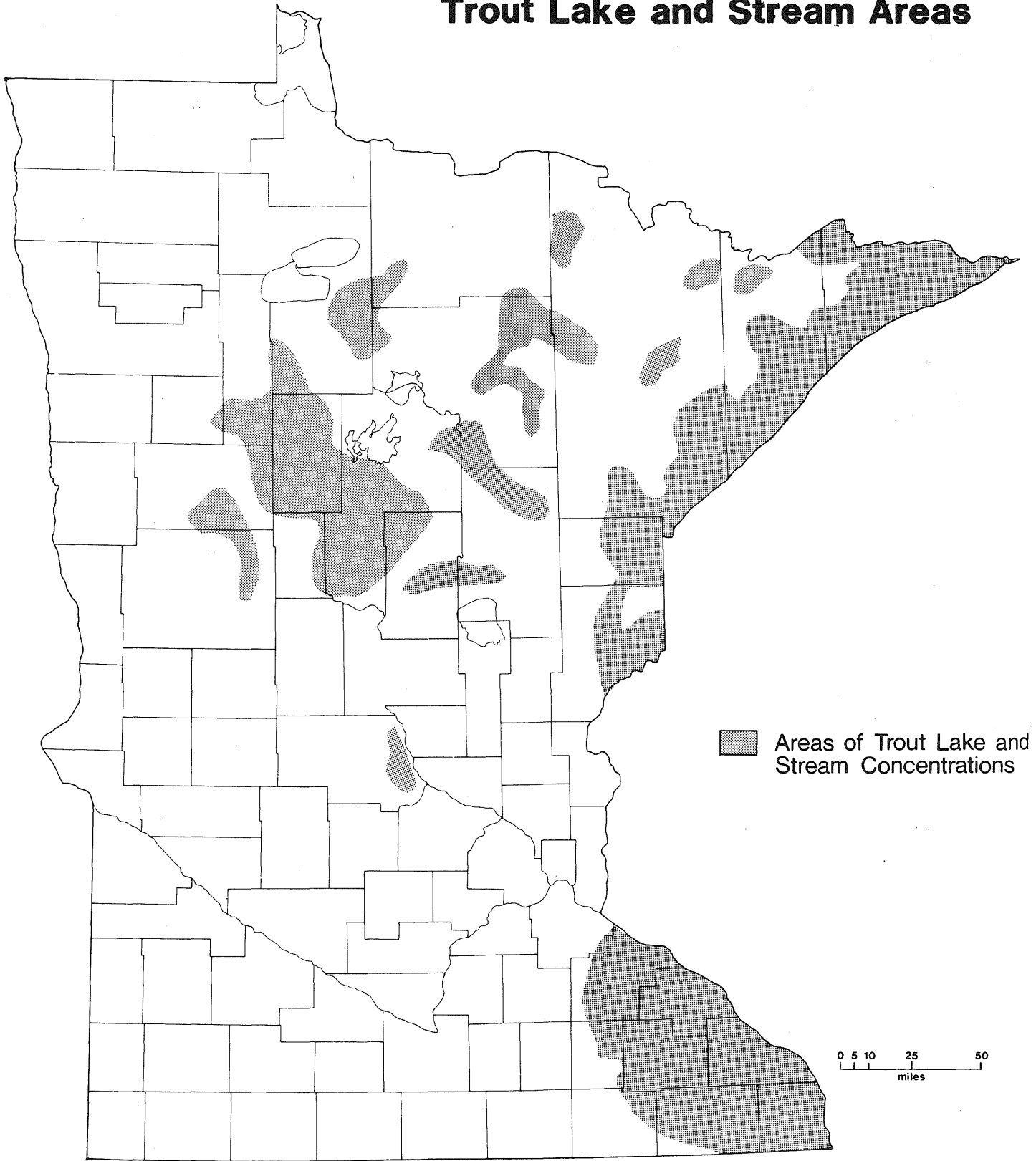
The Iron Range Resources and Rehabilitation Board (IRRRB) operates within its umbrella (Iron Range Interpretative Programs) the Iron Range Interpretative and Iron Range Research Centers in Chisholm, the Paulucci Planetarium in Hibbing, the Hill Annex Mine Tours in Calumet, and the Croft Historical Park in Crosby. These facilities provide educationally oriented recreational attractions for tourists and regional residents.

In 1983, the IRRRB purchased Giant's Ridge Recreation Area, a ski area that discontinued operation in 1981. The IRRRB plans to: construct a new chalet; install chair lifts; renovate and expand facilities and programs; improve and expand existing alpine, cross-country, and snowmobile trails; develop off-season programs; and increase marketing efforts in the hopes of creating an economically viable operation.

Through its Mineland Reclamation Division, the IRRRB has reclaimed dangerous or otherwise unusable ore excavation sites. Reclamation takes place through the reshaping, stabilization, and revegetation of these former mining sites. Recently, Mineland Reclamation efforts have been expanded to provide safe public accesses to water-filled mine pits. When properly improved and stocked with fish, these pits will provide additional fishing and boating opportunities for tourists and local residents. This effort is closely coordinated with the Department of Natural Resources. The IRRRB is continuing its commitment to the planning, development, and maintenance of summer and winter recrea-

Figure 3-S. 25

Trout Lake and Stream Areas



DEPARTMENT OF NATURAL RESOURCES

tional trails. The primary emphasis of IRRRB efforts is on complementing existing trails' funding sources and assisting local user organizations.

The Mississippi Headwaters Board

The Mississippi Headwaters (MHB) was created, under the leadership of county officials, to provide a low cost and politically acceptable alternative to federal management of the Mississippi River with the assistance of the Legislative Commission on Minnesota Resources. The MHB management plan was developed in cooperation with the DNR in response to the National Park Service's proposal to manage the river corridor federally. MHB and its member counties have developed two accesses on the Mississippi River in Itasca county; reviewed and certified two DNR campsites in Aitkin county; and have assisted in the improvement of an access in Clearwater county.

Local (Major Areas)

While the state and federal governments manage the largest acreages, local governments manage a substantial amount of recreation land. All of the large forests shown on Table 3-S.07 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 forests, which total more than 300,000 acres. Aitkin, Clearwater and Mahnomen counties have three forests each, for a total of 18 statewide. Both the St. Louis and Itasca county forestlands provide hunting, camping and hiking.

Twenty-one large county or city parks are located in the Twin Cities metropolitan area, seven of them in Hennepin County. Outside the metropolitan area, seven counties (Cass, Beltrami, Winona, Rice, Lyon, St. Louis and Olmsted) each have one large county or city park.

Private

The Nature Conservancy

The Nature Conservancy is a national nonprofit conservation organization that receives its support from the general public. The objective of the conservancy is to preserve and protect ecologically significant land and the diversity of life it supports.

To achieve this goal, the conservancy purchases lands with a revolving fund which is replenished through fund raising; accepts gifts of land; retains and provides stewardship for 60 percent 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.

In Minnesota, the local chapter owns and manages more than 15,000 acres of prairies, woods and islands. Of these holdings, 37 preserves are suitable for passive recreational use by the public (Fig. 3-S.26).

Statewide Recreation Facilities

The cultural and natural resource distributions, presented earlier in this chapter, have traditionally been major considerations of private and public outdoor recreation suppliers in the development of facilities. The cumulative effect, over the years, of countless private and public development decisions is represented by the current supplies of recreation facilities, which are the topic of this section.

Regional descriptions of 17 outdoor recreation facilities in Minnesota are presented below. Facilities are described with respect to four factors which, together, depict broadly how the resources of the state have been developed for outdoor recreation purposes.

The first factor is a representative measure of a facility's capacity to supply outdoor recreation activities. The capacity measure for each facility type is in Table 3-S.08. All of the measures are quantitative; differences in quality between facilities of the same type are not taken into account by the measures. Nonetheless, the capacity measures are effective in providing a statewide perspective on patterns of facility development.

The second descriptive factor is facility ownership. Original ownership classes of the SCORP Facility Information System have been grouped into a private category and four public categories: federal, state, county and regional, and local (municipal, township).

As a third descriptive factor, facility capacity is compared with regional populations. Such a comparison provides an indication of the extent to which facility development serves a regional market or an extra-regional market. Comparisons of facility supply capacity with population also formed an effective basis for the categorization of population-oriented facilities (see Table 3-S.08).

The last descriptive factor is the geographic distribution of a facility. Statewide facility maps generally show the outlines of the underlying natural resource base upon which the facilities have been developed, and of cultural factors (e.g., urban centers) that have guided development patterns. In the construction of these statewide maps, a standardized method is used to make the maps more comprehensible.

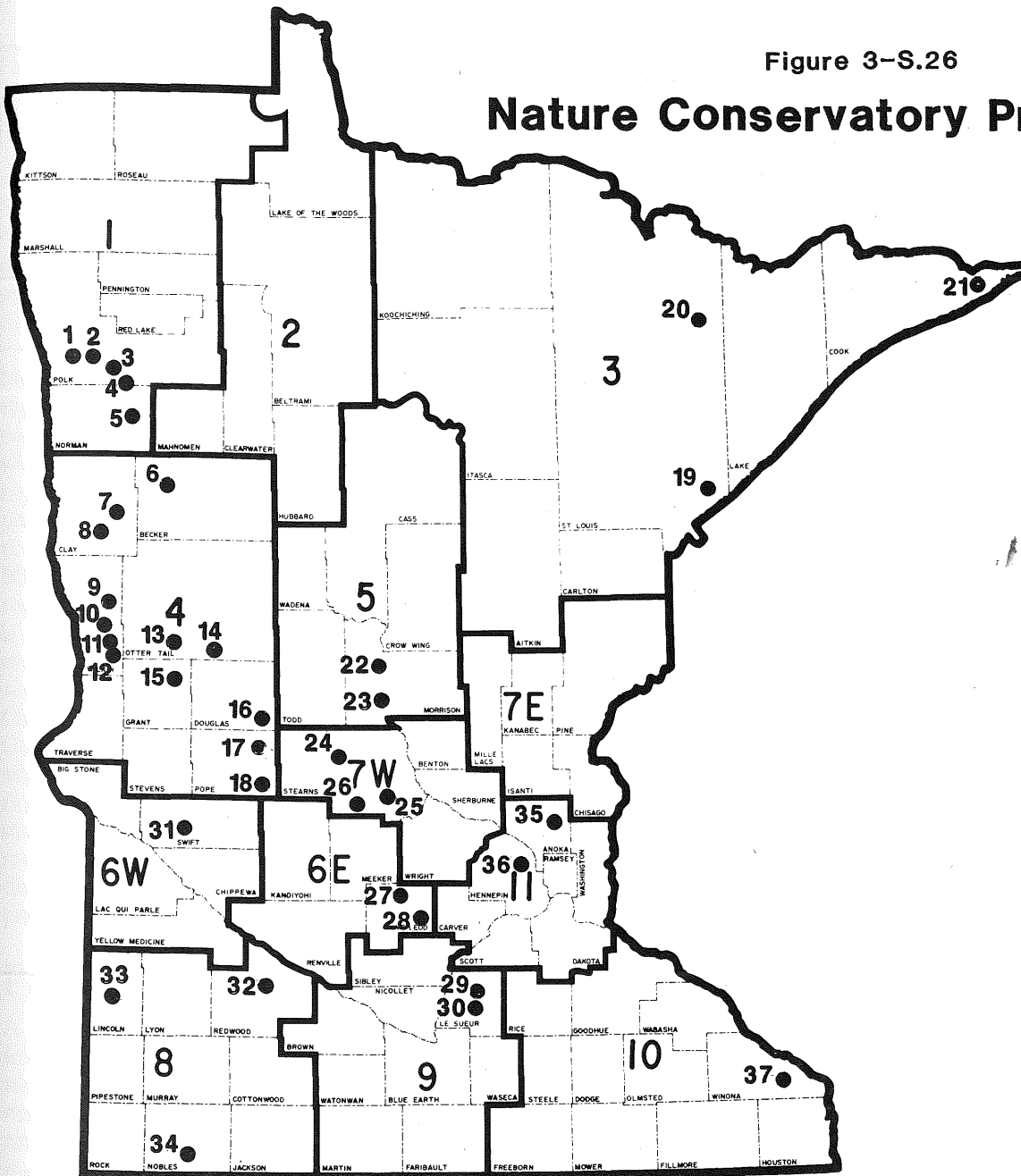
Table 3-S.07
Forests, Parks, or Reserves Larger than 500 Acres
Administered by County or Local Government Agencies

An asterisk (*) denotes noncontiguous areas with the same name.

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	4,815	Hennepin
Three Island County Park	4,241	Beltrami
Carver Park Reserve	3,287	Carver
Crow-Hassan Park Reserve	2,587	Hennepin
Baker Park Reserve	2,619	Hennepin
Lake Rebecca Park Reserve	2,175	Hennepin
Bunker Hills County Park	1,351	Anoka
Lebanon Hills County Park	1,637	Dakota
St. Paul Water Reservoir	630	Ramsey
Cleary Lake Regional Park	1,046	Scott
James W. Wilkie Regional Park	1,204	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	2,359	Scott/Dakota
Fon Du Lac Municipal Park	576	St. Louis
Oxbow County Park	570	Olmsted
Battle Creek County Park	1,301	Ramsey
Theodore Wirth City Park	690	Hennepin
Rice Creek-Chain of Lakes Park Reserve	2,551	Anoka
Lake Elmo Park Reserve	1,993	Washington
Bald Eagle-Otter Tail Regional Park	846	Ramsey
Spring Lake Park Reserve	775	Dakota
Coon Rapids Dam Regional Park	558	Anoka/Hennepin
Martin Island/Linwood Lake Regional Park	737	Anoka
Hidden Falls-Crosby Farm Regional Park	620	Ramsey

Figure 3-S.26

Nature Conservatory Preserves



NORTHWEST PRESERVES

1. Malmberg Prairie
2. Pankratz Memorial Prairie
3. Pembina Trail Preserve
4. Agassiz Dunes Natural Area
5. Frenchman's Bluff
6. Zimmerman Prairie
7. Blazing Star Prairie
8. Bluestem Prairie
9. Western Prairie
10. Foxhome Prairie
11. Town Hall Prairie
12. Kettledrummer Prairie
13. Otter Tail Prairie
14. Seven Sisters Prairie
15. Egret Prairie
16. Staffanson Prairie
17. Strandness Prairie
18. Ordway Prairie

NORTHEAST PRESERVES

19. Hawk Ridge Nature Preserve
20. Burntside Islands
21. Susie Island

CENTRAL PRESERVES

22. Ripley Esker
23. Mac Dougall Homestead
24. Partch Woods
25. Cold Spring Heron Colony Preserve
26. Roscoe Prairie

SOUTHWEST PRESERVES

27. Laible Woods
28. Schaefer Prairie
29. Ottawa Bluffs
30. Kasota Prairie
31. Chippewa Prairie
32. Wahpeton Prairie
33. Hole-in-the Mountain Prairie
34. Compass Prairie

METRO AND EAST PRESERVES

35. Helen Allison Savanna
36. Woodsfeld Woods
37. Queens Bluff

Table 3-S.08
Outdoor Recreation Facility Capacity Measures
and Their Geographic Relationship to Population

(data taken from the SCORP Facility Inventory System in January 1984)

Facility Type	Capacity Measure	Correlation* with Population
Park	Area owned by park administrator	.12
Water oriented		
Water access	Parking spaces	.18
Swimming beach	Frontage length	.10
Marina	Number of rental watercraft	.07
Overnight accommodations		
Resort	Number of lodging units	-.02
Campground	Number of campsites	.02
Group camp	Maximum number of people accommodated per day	.06
Strongly population oriented		
Athletic field	Area	.87
Tennis court	Number of courts	.94
Skating rink	Number of rinks	.89
Baseball/softball diamond	Number of diamonds	.94
Moderately population oriented		
Picnic ground	Number of tables	.52
Golf course	Number of 18-hole equivalents	.59
Downhill ski areas	Number of areas	.40
Trails	Mileage by administrator-intended use	(NC)
Wildlife management		
Wildlife areas	Area in public ownership	-.03
Scientific and natural areas	Area in public ownership	-.01

* Pearson product-moment correlation coefficient of facility measure with township population density that was computed from Minor Civil Division populations, 1980. There are 2,537 public land survey townships in Minnesota. A correlation coefficient of zero indicates no relationship between the two variables being compared; a coefficient of 1 indicates a perfect relationship between two variables that increase (and decrease) together; a coefficient of -1 indicates a perfect relationship between a variable that increases while the other variable decreases.

NC Trail correlations by use were not computed, because trail alignment data were not completely available at a township scale in an automated information system.

Facility capacity data for each township were averaged with capacities from adjacent townships. In effect, distribution patterns have been smoothed geographically. The intent of this map smoothing is to produce a distribution pattern that has greater regional cohesiveness. Many of the facilities have highly variable capacities over short distances. Seeing regional patterns through the local variability is often difficult. Of course, these regional patterns are produced at the expense of local detail, but regional patterns are the focus of this section.

Much of the following information is summarized by region. (Note: a region refers to one of Minnesota's 13 original economic development regions, regardless of whether the regional commission still exists.) These regions, however, are not always effective in portraying patterns in outdoor recreation information. This is particularly true for water-oriented facilities. For example, Mille Lacs Lake's facilities are divided among three regions; a southern lake area (Le Sueur, Rice counties) is split by a regional boundary; Lake of the Woods recreational development is included with the lake areas of southern Beltrami County and Hubbard County, which are separated from Itasca and Cass County lakes; Itasca and Cass County lake areas are separated; and Aitkin and Itasca lakes are included with northeastern Canadian-border lakes. To produce a more effective regional context for recreation development would require the construction of regional boundaries around the factors that create the geographic patterns of facilities.

Parks

A park is a general facility type that runs the gamut from population-oriented local neighborhood parks to resource-oriented Voyageurs National Park. A park may consist only of open space but more commonly other facilities, such as picnic grounds, water accesses and campgrounds, are present.

An illustration of the range in classes of parks is gained through a comparison of population with park acreages administered by different levels of government. For all administrators, the correlations between park area and population is .12 (see Table 3-S.08). This correlation increases markedly to .46 for regional, county and local park areas combined, and to .76 for local park areas alone. In contrast, there is no relationship (a correlation of zero) between either federal or state park acreages and population.

The distribution of parkland acreage is less regionally concentrated than that of most other facility types (Fig. 3-S.27A). The state offers large facilities throughout Minnesota. Thus, state parks and recreation areas correspond to concentration areas on the distribution map. Also evident in the distribution pattern is Voyageurs

National Park in northwest St. Louis and northeast Koochiching counties. The extensive concentration zone in the Twin Cities represents a combination of state, county and local parks.

Region 3, containing Voyageurs National Park and a number of state parks, clearly dominates among the regions in terms of parkland (Fig. 3-S.27B). Next in total parkland is Region 11, followed by Regions 7E, 2, 10 and 4. The lowest parkland acreages are found in Regions 6W, 7W and 1.

The state is the principal provider of parkland area (Fig. 3-S.27C). The federal government is second, with virtually all of its contribution made through Voyageurs National Park in Region 3. Very little land, either statewide or within any of the regions, is administered by the private sector. County and local facilities represent the majority of park acreage in Regions 5, 7W and 11, the latter of which is 90 percent county and local.

Park acreage per capita is particularly high in Regions 2, 3 and 7E (Fig. 3-S.27D). Other regions have per capita values lower than the statewide average, but the average is skewed by Voyageurs National Park. The lowest per capita value is found in Region 7W; the next-lowest values are in Regions 9 and 11. These per capita values illustrate the fact that large parks, which dominate regional acreage totals, generally are designed to serve wide-ranging markets that extend beyond regional boundaries.

Water-Oriented Facilities

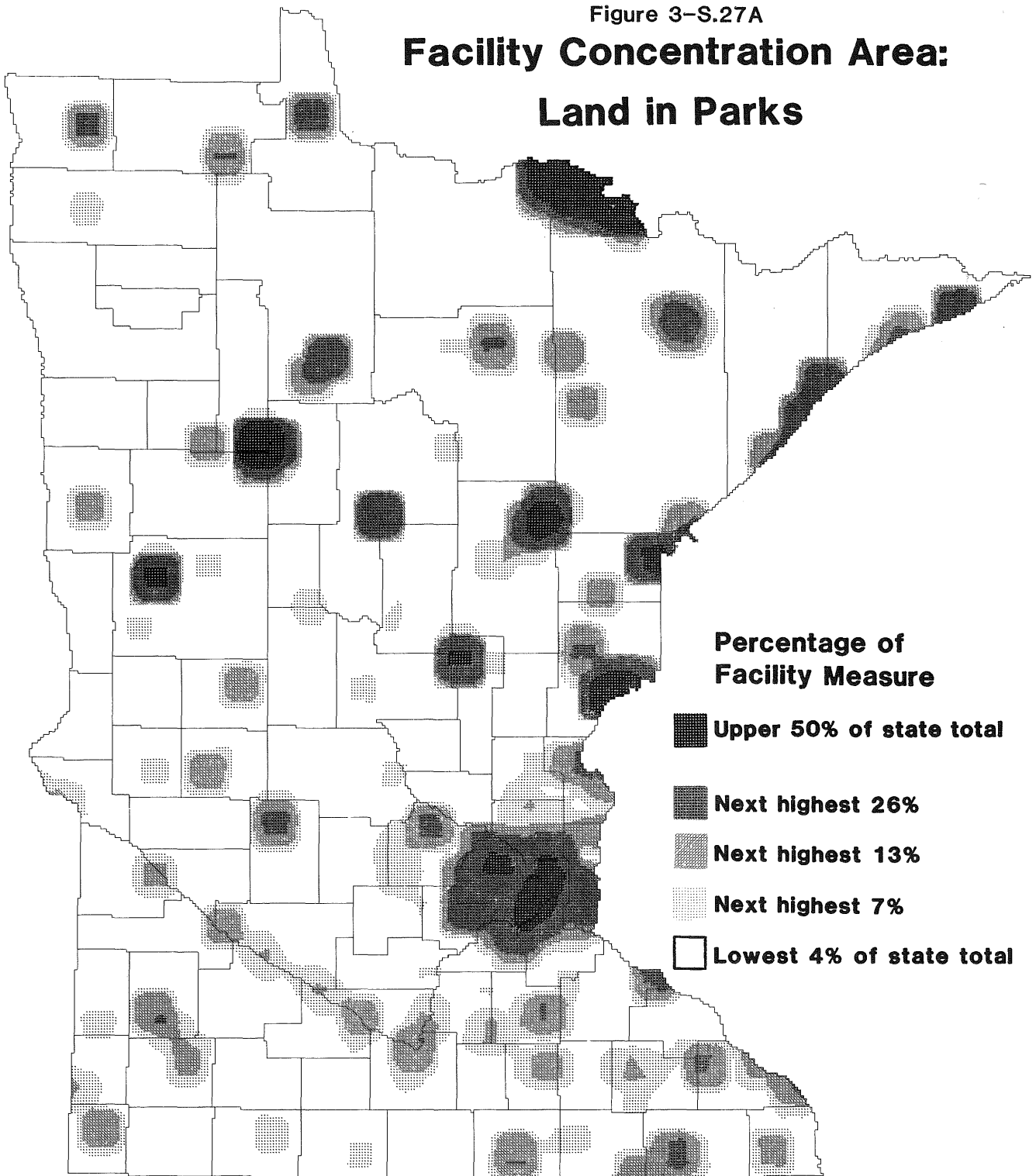
Water Accesses

Water accesses are important outdoor recreation facilities in Minnesota, because they allow the use of the state's principal recreation resource, the public waters. Water accesses are used in a variety of activities, including hunting, fishing and boating. The measure of facility supply for water accesses is parking spaces. Developed parking spaces are, by public policy, the measure of access capacity, and their numbers can be manipulated to control use.

The distribution of water access parking spaces outlines the prime lake regions and some of the major rivers (Fig. 3-S.28A). Dense concentrations occur in the ice-scoured border lakes region, particularly along the periphery of the BWCA and Voyageurs National Park. The Big Moraine lake complex has heavy development extending from the north-central lakes region (primarily Aitkin, Crow Wing, Itasca, Cass, Hubbard and southern Beltrami counties) into the west-central lakes region (primarily Becker, Ottertail, Douglas, Pope and Todd counties), southeastward into the central lakes region

Figure 3-S.27A

Facility Concentration Area: Land in Parks



NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

FIGURE 3-S.27B
MINNESOTA
OUTDOOR RECREATION FACILITIES
Acres in Parks
Statewide Total: 425,756

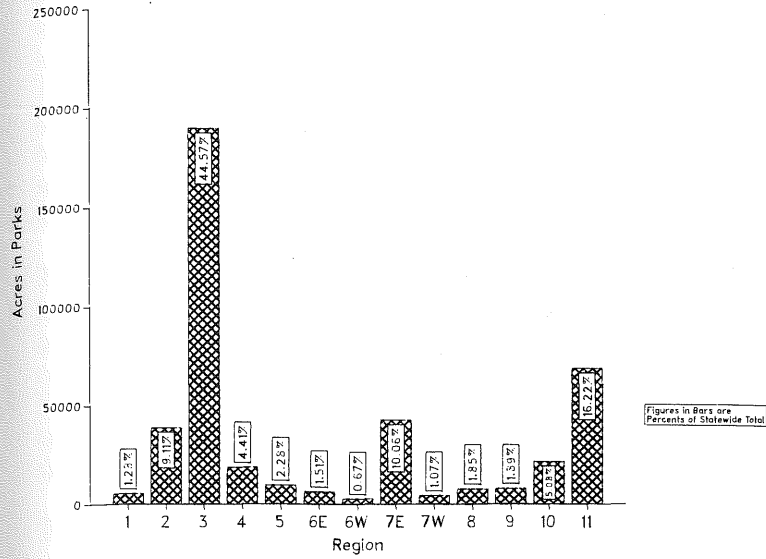


FIGURE 3-S.27D
MINNESOTA
OUTDOOR RECREATION FACILITIES
Acres in Parks/1000 People
Statewide Average: 104

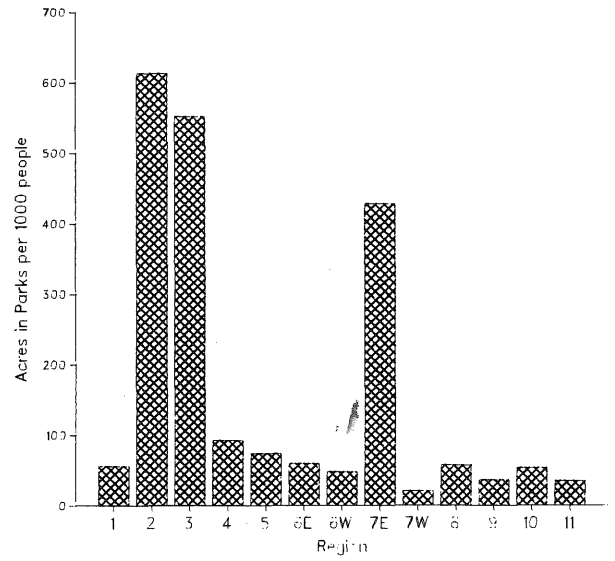
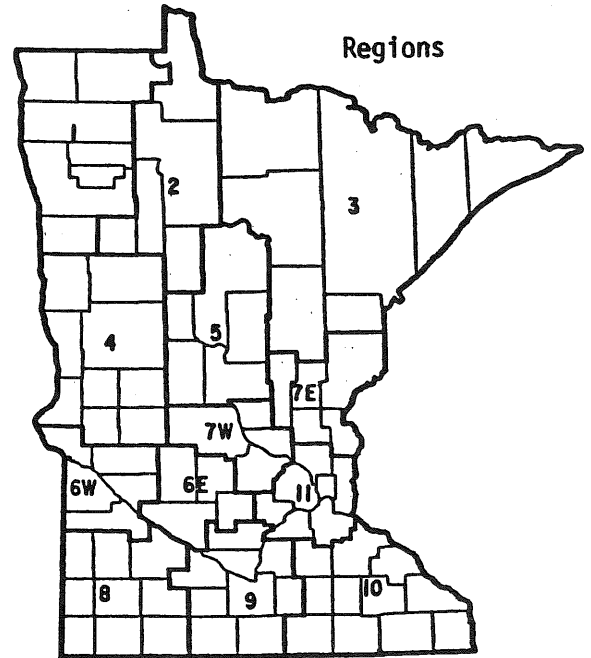
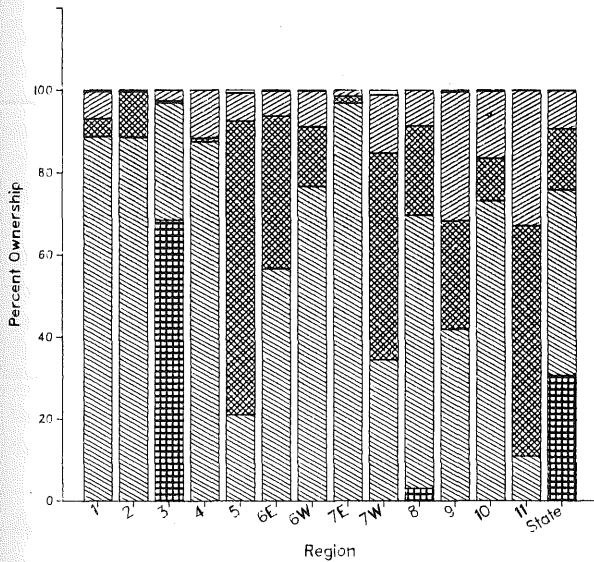


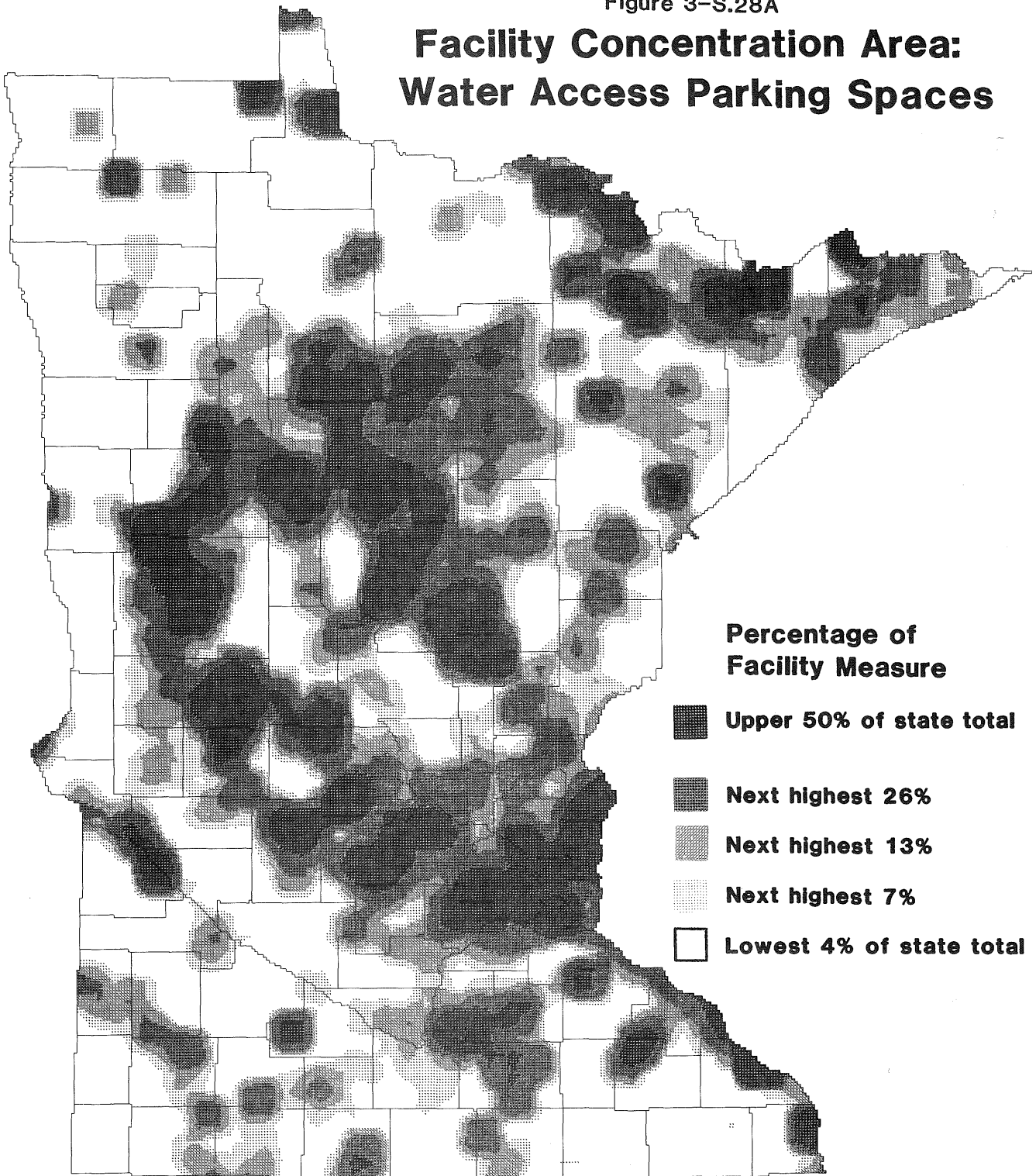
FIGURE 3-S.27C
MINNESOTA
OUTDOOR RECREATION FACILITIES
Ownership of Acres in Parks
Statewide Total: 425,756



A PARK may have only open space intended for recreation. More commonly, it has a combination of facility types, such as athletic fields, playgrounds, and picnic grounds.

Figure 3-S.28A

Facility Concentration Area: Water Access Parking Spaces



NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

(primarily Kandiyohi, Stearns, Meeker and Wright counties), into the Twin Cities metropolitan area and vicinity, and southward into the southern lakes region (primarily Le Sueur and Rice counties). Less extensive concentrations are found at Lake of the Woods, Lac qui Parle Reservoir on the upper Minnesota River, the lower St. Croix River, the Mississippi River below the Twin Cities, Byllesby Reservoir on the Cannon River, Zumbro Lake on the Zumbro River, and the reservoirs north of Duluth. The widely dispersed lakes in the southwest are marked by scattered zones of moderate to sparse densities.

The principal lake-area regions (2,3,4 and 5) contain just over one-half of the statewide parking space capacity at water accesses (Fig. 3-S.28B). Another 20 percent of the state total is about evenly split between Regions 10 and 11. Regions 1 and 6W, which have relatively few large recreational lakes, have the lowest development totals.

The public sector administers most water access parking spaces (Fig. 3-S.28C). The state is the largest supplier and is an important provider in all regions. The federal government provides large numbers of spaces in Region 3 (Superior National Forest, BWCA and Voyageurs National Park) Region 5 (a large portion of Chippewa National Forest), and Region 10 (an impounded reach of the Mississippi River, containing the northern portion of the Upper Mississippi River Wildlife and Fish Refuge). County and local provision varies considerably among the regions. Private sector provision is concentrated in Region 7E and the principal lake-area regions (2,3,4 and 5), where they account for approximately one-half of regional totals. Overall, the private sector provides 40 percent of statewide development.

In relation to population, Regions 2,3,4, 5 and 7E have the largest per capita development, much of which was privately developed for vacation travelers (Fig. 3-S.28D). The Twin Cities metropolitan area (Region 11), although ranking fourth among the regions in total water access parking spaces, has the least number per capita.

Swimming Beaches

The distribution of swimming beach frontage is heavily concentrated in the major lake areas, especially in the northeastern border, north-central, west-central, central, Twin Cities and southern lakes areas (Fig. 3-S.29A).

The principal lake-area regions (2,3, 4 and 5) account for three-fourths of the state's swimming beach frontage (Fig. 3-S.29B). Region 11 is the next largest. Regions 1 and 6W, which have few large lakes, have the least beach frontage.

The private sector, which is the major provider in Regions 2, 3, 4 and 5, administers nearly 80 percent of statewide frontage (Fig. 3-S.29C). Private beach frontage also dominates in Regions 7E, 7W and 9, and accounts for just under one-half of Region 8 beach frontage.

County and local governments are the largest public sector administrators. In Region 11 (the Twin Cities) the public sector is the biggest provider, with local and county governments administering most of the beach frontage. The public sector is also the main provider in Regions 6W, 8 and 10.

Lake-area Regions 2, 3, 4 and 5 have the greatest swimming beach frontage per capita; much of this frontage is provided at resorts and campgrounds for vacation travelers (Fig. 3-S.29D). This heavy concentration of beach frontage in a few regions leaves most of the remaining regions with per capita frontage that is less than the statewide average. The Twin Cities metropolitan area has the least amount of swimming beach frontage per capita.

Marinas

Marinas offer the public rental watercraft and mooring and docking facilities. The distribution of marina rental watercraft is similar to that of other water-oriented facility types (Fig. 3-S.30A). The principal lake areas possess the greatest concentrations. The major concentration areas in the northeastern border lakes region primarily represent rental watercraft provided by outfitters for vacationers who desire wilderness and semiwilderness experiences. Other concentration areas are at Lake of the Woods, the reservoirs north of Duluth, the St. Croix River, Byllesby Reservoir on the Cannon River, Lake Zumbro on the Zumbro River, and along the impounded reach of the Mississippi River below the Twin Cities.

Lake-area Regions 2, 3, 4 and 5 contain three-fourths of the state's rental watercraft at marinas (Fig. 3-S.30B). Region 7E, with 7 percent of the state total, is the next largest. It is followed by Region 11, which contains 6 percent of the statewide total.

The private sector provides 95 percent of the state's rental watercraft at marinas (Fig. 3-S.30C). The largest public sector provision is in Region 8, which ranks as one of the lowest regions in terms of rental watercraft. Other regions with more than 10 percent of rental watercraft publicly provided are 7E, 10 and 11.

Consistent with other water-oriented facility types, marina rental watercraft per capita is highest in principal lake-area Regions 2, 3, 4 and 5, where large numbers of tourists are served (Fig. 3-S.30D). Also well above

FIGURE 3-S.28B
MINNESOTA
OUTDOOR RECREATION FACILITIES
Parking Spaces at Water Accesses
Statewide Total: 46,807

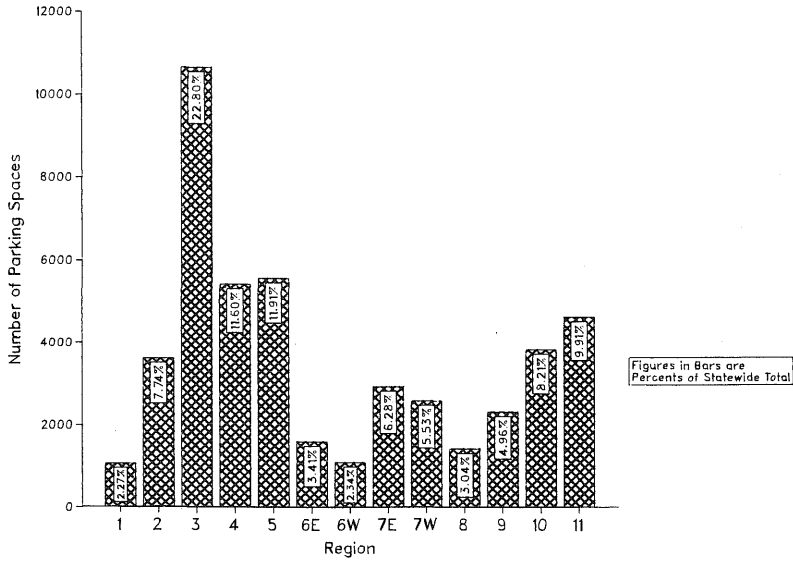


FIGURE 3-S.28D
MINNESOTA
OUTDOOR RECREATION FACILITIES
Parking Spaces at Water Accesses/1000 People
Statewide Average: 11.5

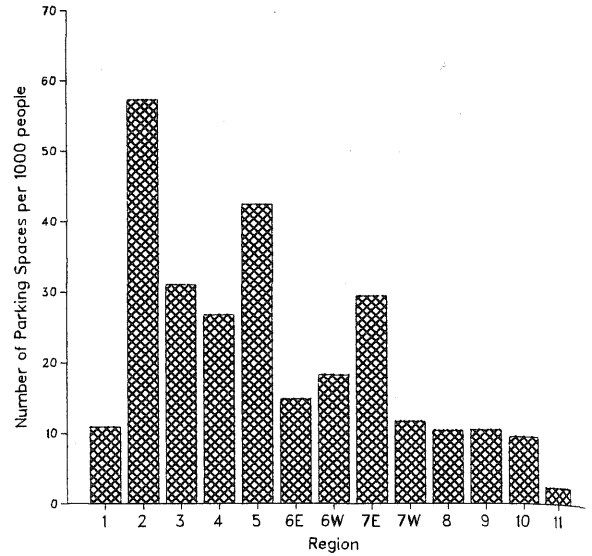
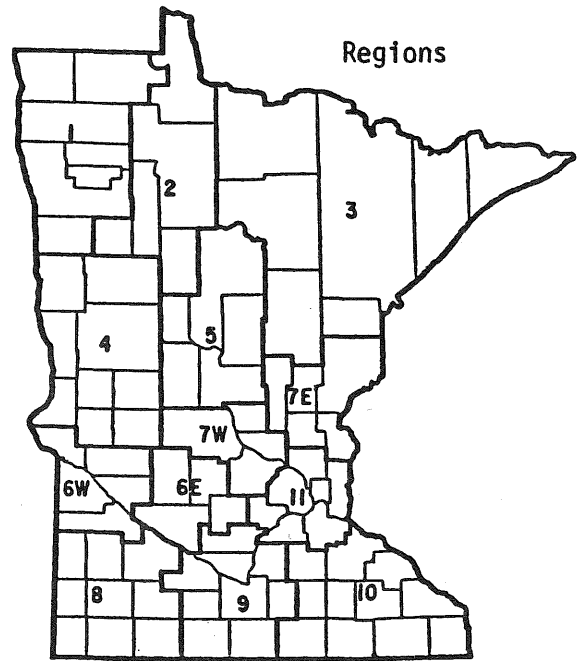
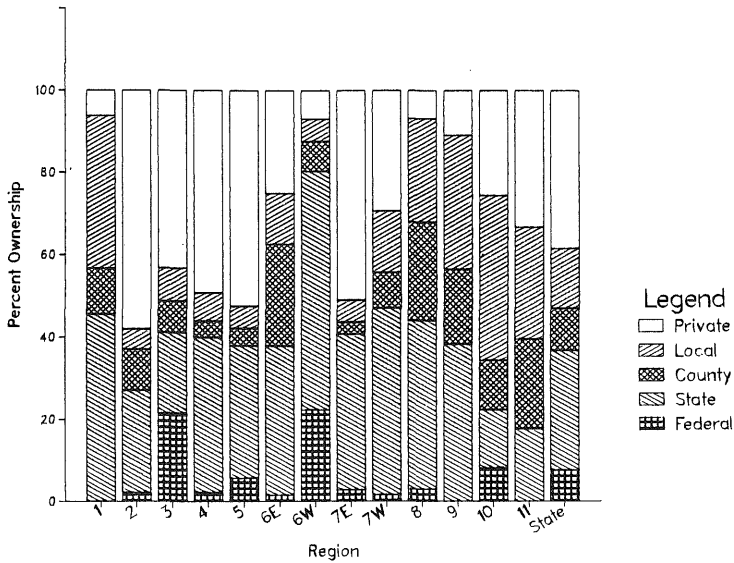


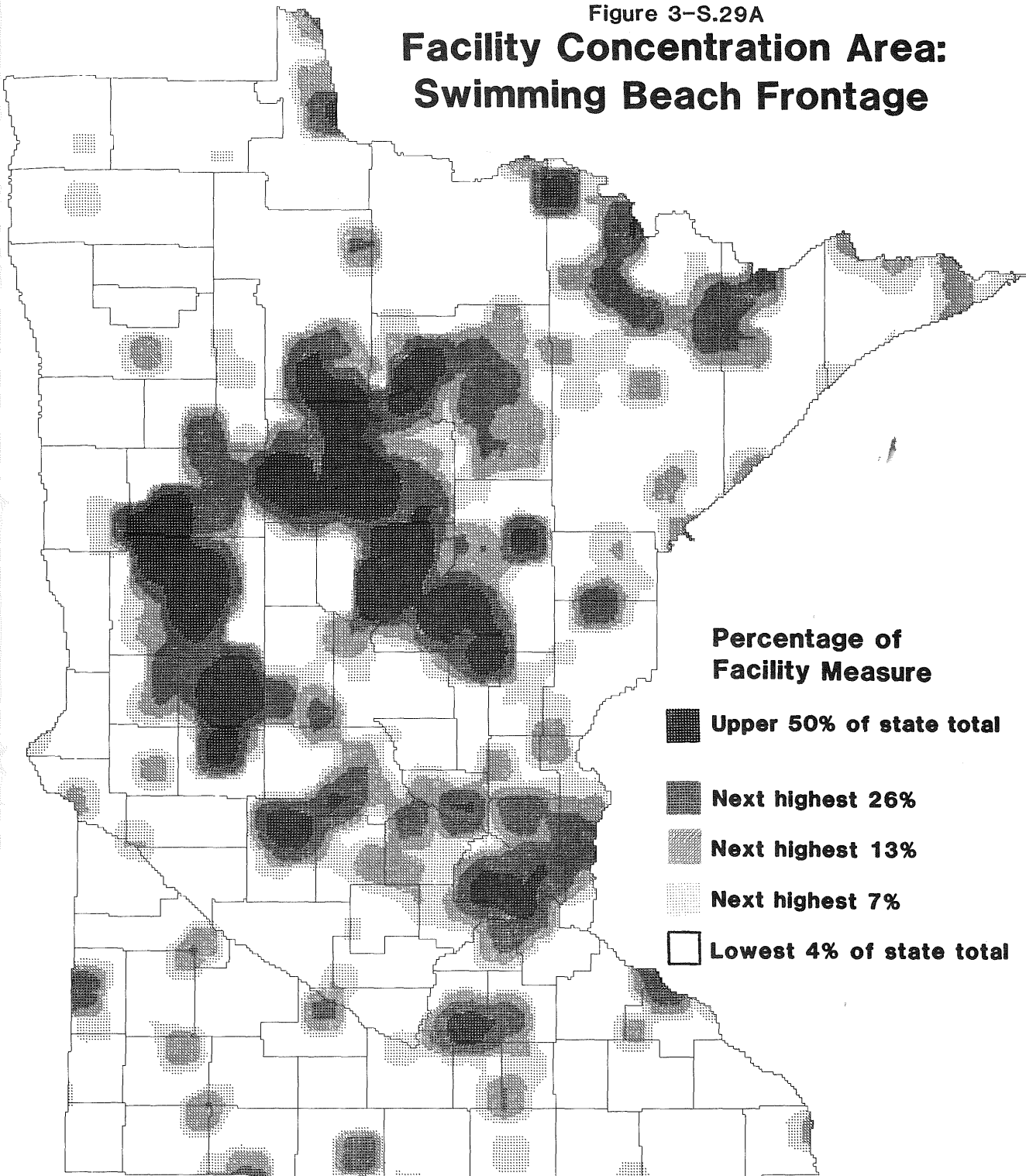
FIGURE 3-S.28C
MINNESOTA
OUTDOOR RECREATION FACILITIES
Ownership of Parking Spaces at Water Accesses
Statewide Total: 46,807



A WATER ACCESS is for launching watercraft and usually, but not necessarily, has a ramp for launching from a trailer. An area designated and intended by the administrator for carrying a canoe or light boat from a vehicle to water is considered a **WATER ACCESS**. Developed parking spaces at the access is, by policy, the measure of access capacity and may be used to control use.

Figure 3-S.29A

Facility Concentration Area: Swimming Beach Frontage



NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

FIGURE 3-S.29B
MINNESOTA
OUTDOOR RECREATION FACILITIES
Feet of Swimming Beach
Statewide Total: 434,760

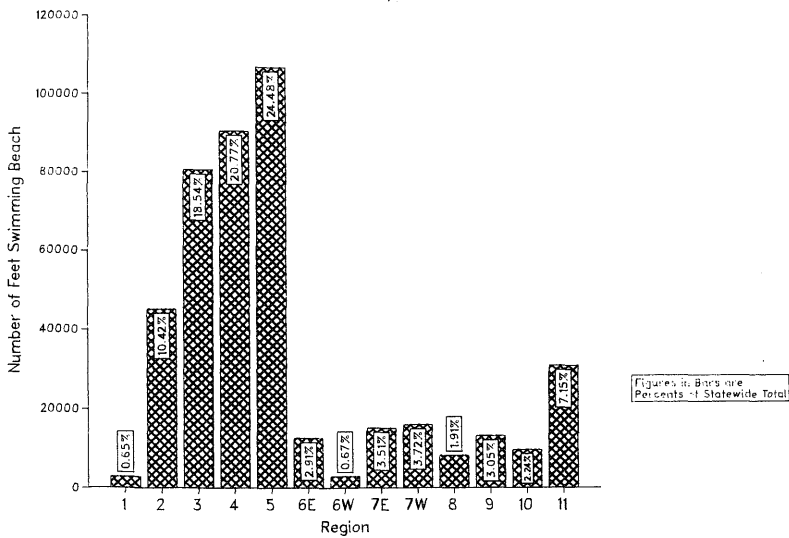


FIGURE 3-S.29C
MINNESOTA
OUTDOOR RECREATION FACILITIES
Feet of Swimming Beach/1000 People
Statewide Average: 105

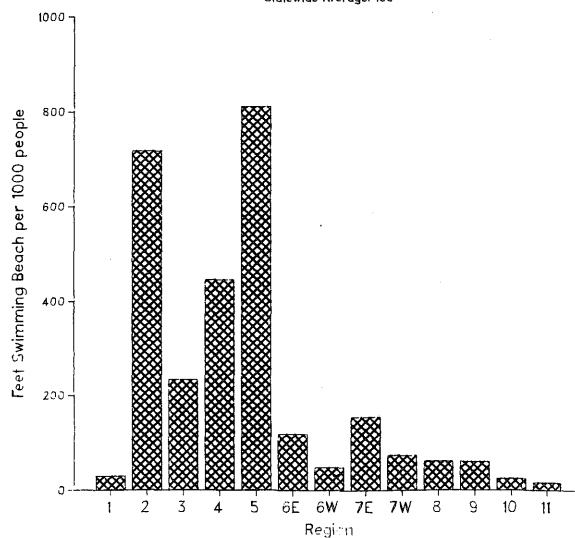
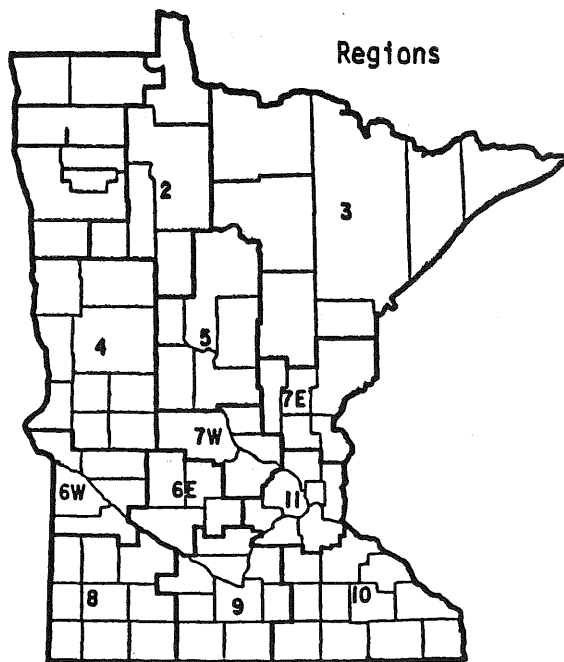
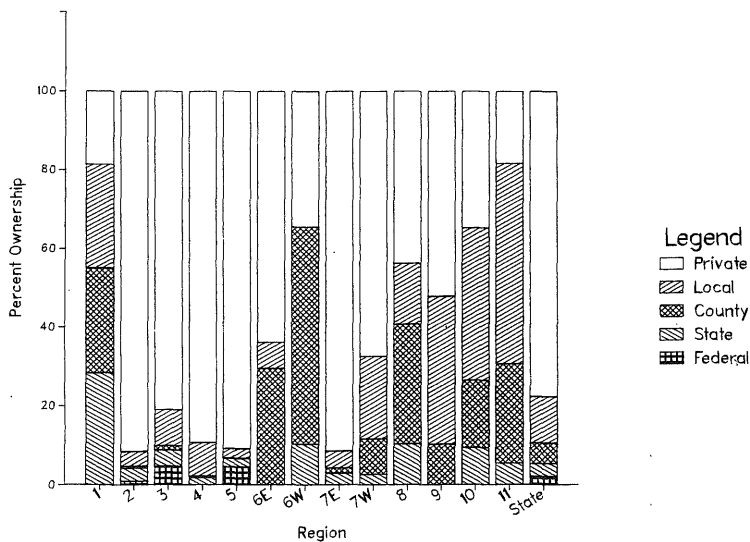


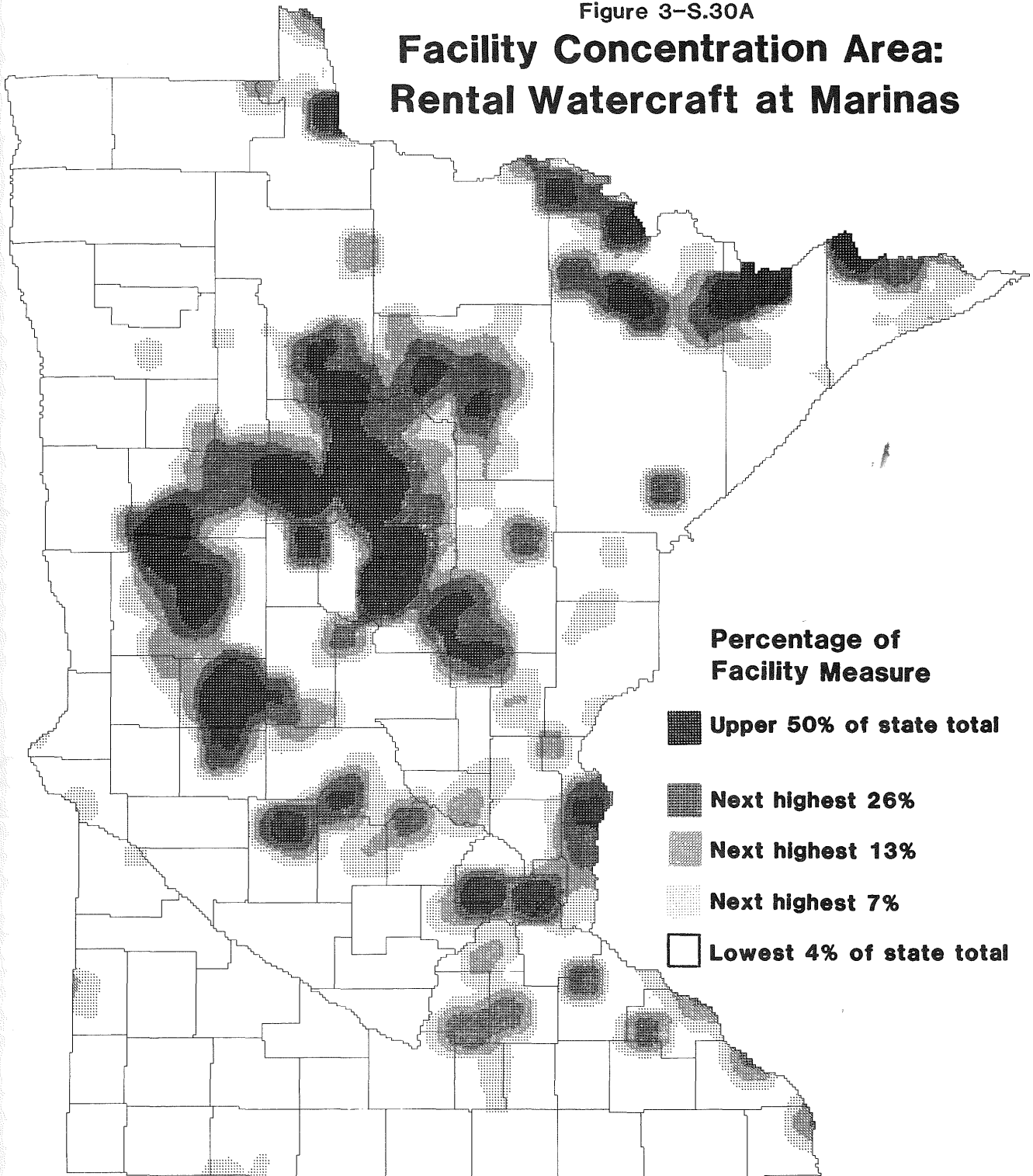
FIGURE 3-S.29C
MINNESOTA
OUTDOOR RECREATION FACILITIES
Ownership of Swimming Beaches
Statewide Total Feet: 434,760



A SWIMMING BEACH usually contains a designated water and land area. It specifically excludes ponds excavated for swimming, which are considered SWIMMING POOLS.

Figure 3-S.30A

Facility Concentration Area: Rental Watercraft at Marinas



NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

FIGURE 3-S.308
MINNESOTA
OUTDOOR RECREATION FACILITIES
Rental Watercraft at Marinas
Statewide Total: 22,269

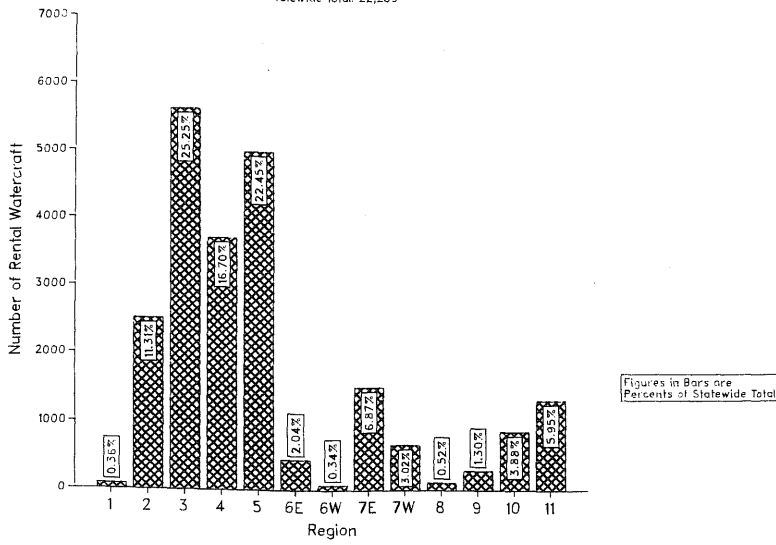


FIGURE 3-S.300
MINNESOTA
OUTDOOR RECREATION FACILITIES
Number of Rental Watercraft at Marinas/1000 People
Statewide Average: 5.46

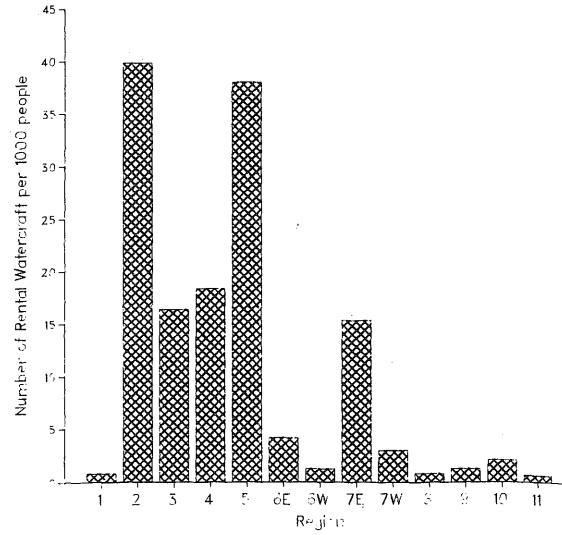
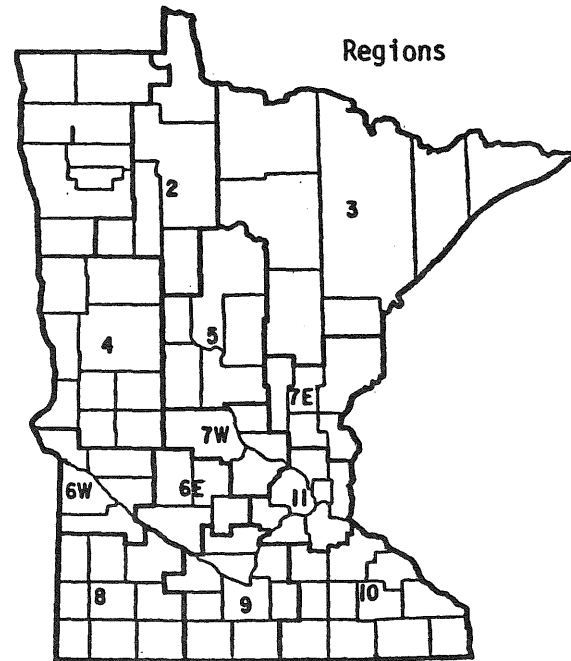
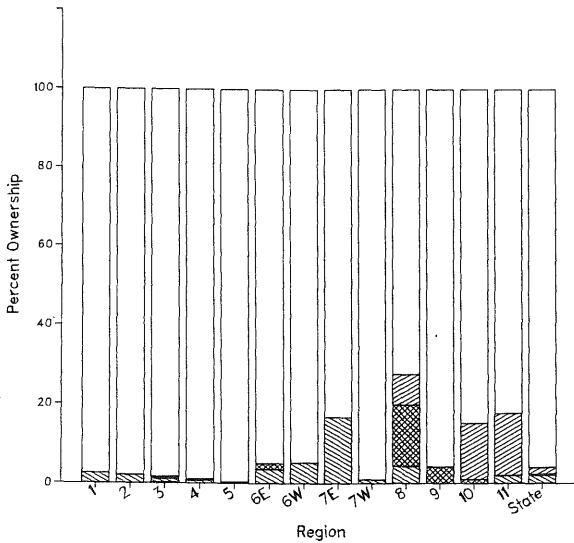


FIGURE 3-S.30C
MINNESOTA
OUTDOOR RECREATION FACILITIES
Ownership of Rental Watercraft at Marinas
Statewide Total: 22,269



A MARINA is a facility type that provides rental watercraft and/or watercraft mooring/dock-age.

the statewide average is Region 7E. Remaining regions are below the statewide average; Region 11 has the lowest per capita number of marina rental watercraft.

Overnight Accommodation Facilities

Resorts

A resort provides indoor lodging and generally offers such facilities as rental watercraft, a swimming beach and water access. Resort facilities are distinguished from hotel-motels by their on-site recreation facilities, natural resource setting, and their primary purpose as a vacation-oriented, rather than transient-oriented, indoor lodging facility.

Resorts are primarily on lakes, and the distribution of resort lodging units reflects that orientation (Fig. 3-S.31A). Dense concentrations of lodging units exist in the northeastern border, north-central, west-central, central and southern lakes areas. Major lodging unit concentrations also are found along the North Shore of Lake Superior, which does not show such concentrations for facility types related to on-water activities (e.g., swimming beach, water access and marina).

Ninety percent of resort lodging units are located in the principal lake-area Regions 2, 3, 4 and 5 (Fig. 3-S.31B), where virtually all are in private ownership (Fig. 3-S.31C). The per capita distribution of resort lodging units also is skewed strongly toward lake regions (Fig. 3-S.31D). All other regions, with the exception of 7E, which approximates the state average, have per capita values below the statewide average.

Campgrounds

Campgrounds consist of designated campsites, which can be reached directly by automobile or indirectly by trail or water. Campsites are normally designed to accommodate a family-sized group.

Campsites in the BWCA are not included in this distribution analysis. In 1984, 403 of the approximately 2,200 total "camping locations" were open in the BWCA. Camping locations are opened and closed on a periodic basis. A camping location is designed to accommodate groups of up to 10 people and is not completely, therefore, the equivalent of the normal campsite in the SCORP inventory, which is designed for a smaller, family-sized group. Average group size at a camping location, however, is near 4, well below the maximum of 10.

A major part of the overall distribution of campsites reflects the water resources of the state (Fig. 3-S.32A). Campsite concentrations are evident throughout the

principal lake areas. The omission of BWCA campsite data diminishes concentrations in the northeastern border lakes region. The North Shore of Lake Superior exhibits a string of concentration areas, similar to the concentrations of resort accommodations. Additional concentrations are along the south shore of Lake of the Woods, along the St. Croix River and along the Mississippi River below the Twin Cities.

Campsites are a common facility in Minnesota state parks and recreation areas, and these areas show up in the campsite distribution pattern. Additional campsite concentration areas, which are located neither in major public facilities nor in the prime rate resources areas of the state, are situated along major routes of travel. Examples of such areas are along Highways 10 and 169 in Sherburne County, and along Highway 52 in Goodhue County.

Located in lake-area Regions 2, 3, 4 and 5 are 50 percent of statewide campsites (Fig. 3-S.32B), significantly less than the 90 percent of statewide resort lodging units found in these same regions. The next-largest regions are 7E and 10, each of which contains just over 10 percent of the state's campsites. Regions 1 and 6W have the smallest number of campsites in campgrounds.

The private sector provides 60 percent of the state's campsites (Fig. 3-S.32C). The largest public administrator is the state (15 percent of the state total), followed by local, federal and county governments.

The public sector is the primary provider of campground campsites in Regions 1, 6W and 8, all of which have small numbers of campsites. In Region 3, half of the campsites are publicly administered, primarily by the federal and state governments. In the remaining nine regions, the private sector dominates campsite ownership.

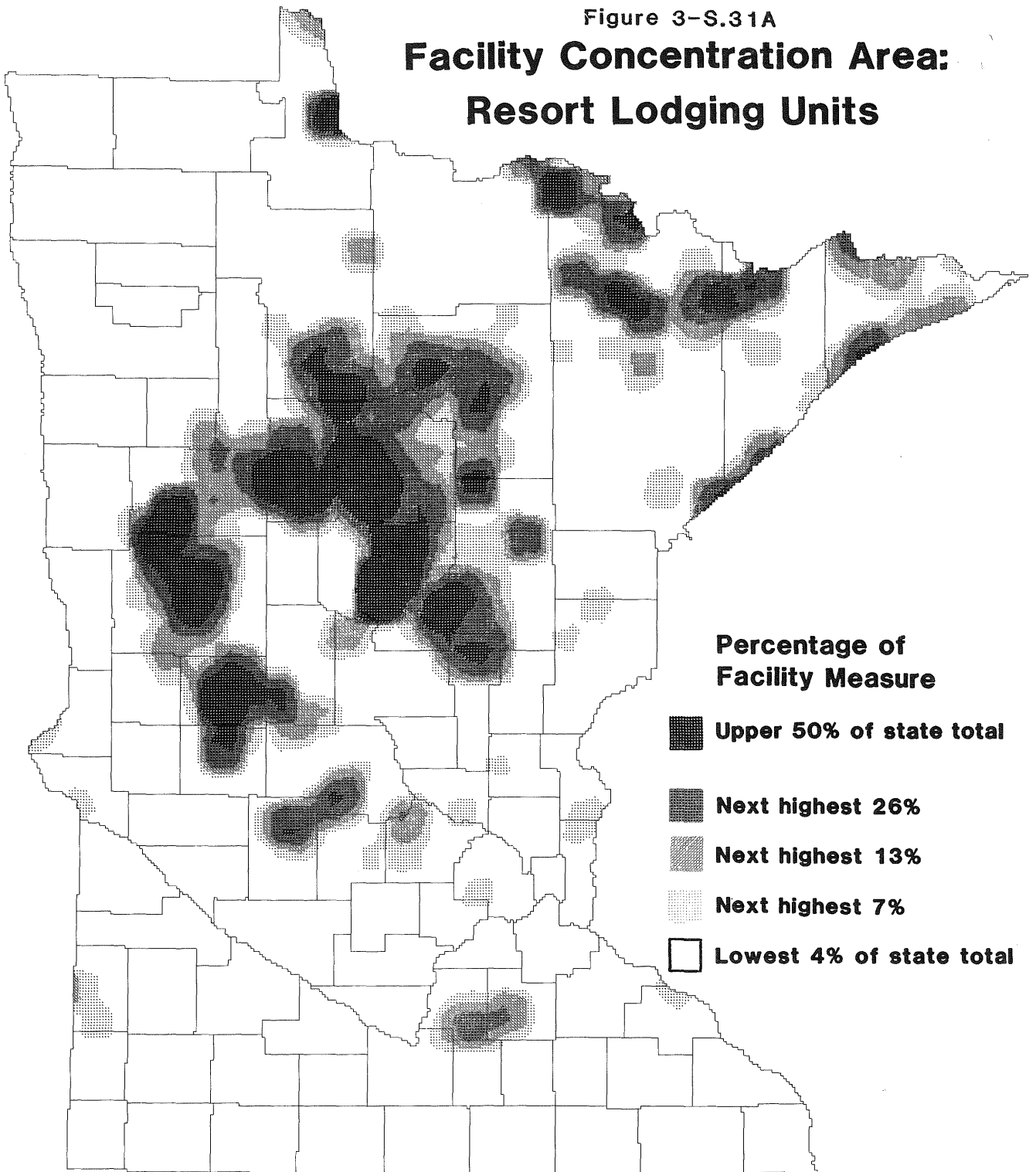
Lake-area Regions 2, 3, 4 and 5 and Region 7E have an especially large number of campsites per capita, indicating that extraregional markets are intended to be served (Fig. 3-S.32D). In the other regions, with the exception of Region 11, which has the smallest number of campsites per capita, campsites per capita are near the statewide average.

Group Camps

Group camps differ from campgrounds in that they are intended for large groups such as scouts and religious groups. A group camp may consist of barracks structures, or areas designated for tents or temporary structures. Group camp capacities are measured in terms of the number of people they can accommodate on a daily basis.

Figure 3-S.31A

Facility Concentration Area: Resort Lodging Units



NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

FIGURE 3-S.31B
MINNESOTA
OUTDOOR RECREATION FACILITIES
 Resort Lodging Units
 Statewide Total: 16,630

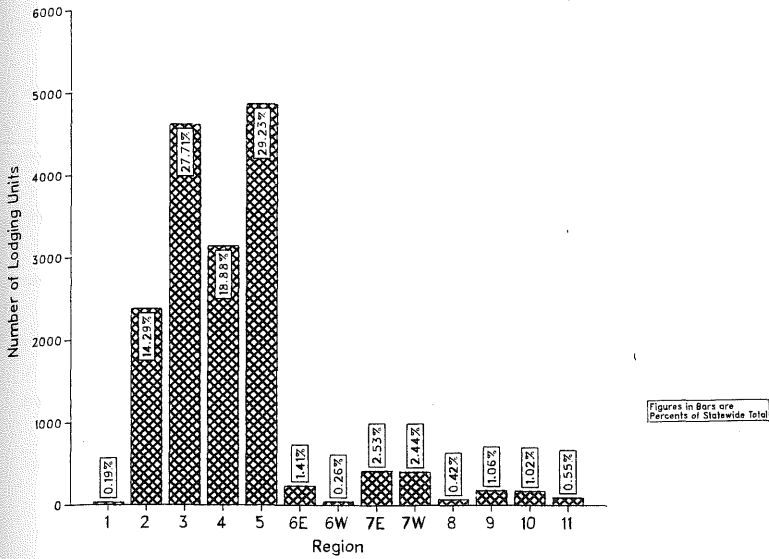


FIGURE 3-S.31D
MINNESOTA
OUTDOOR RECREATION FACILITIES
 Resort Lodging Units/1000 People
 Statewide Average: 4.08

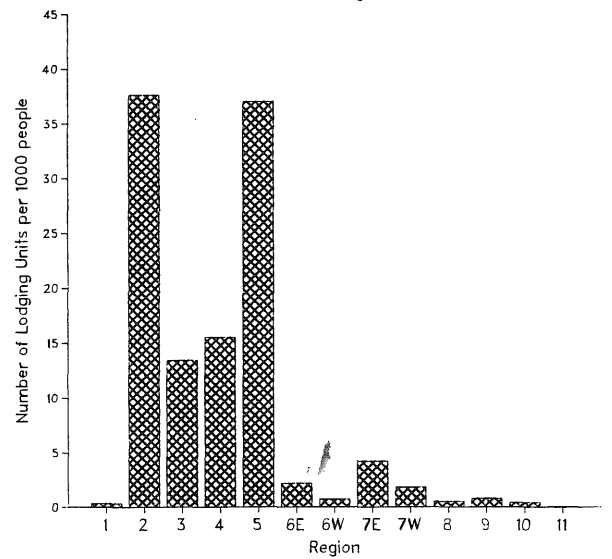
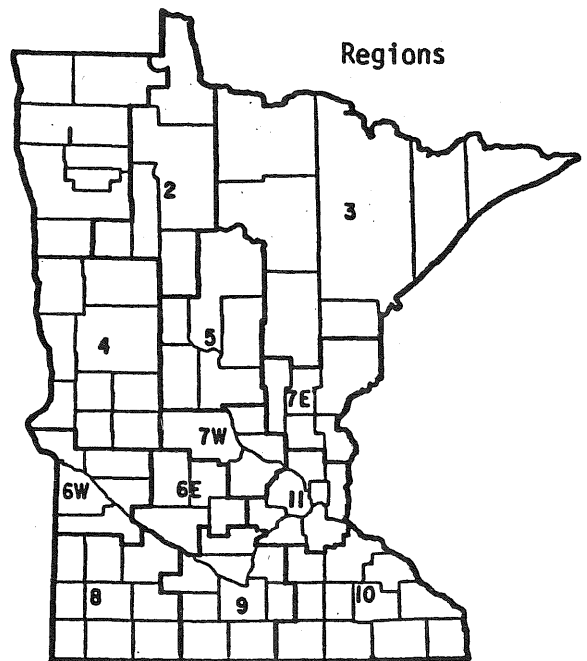
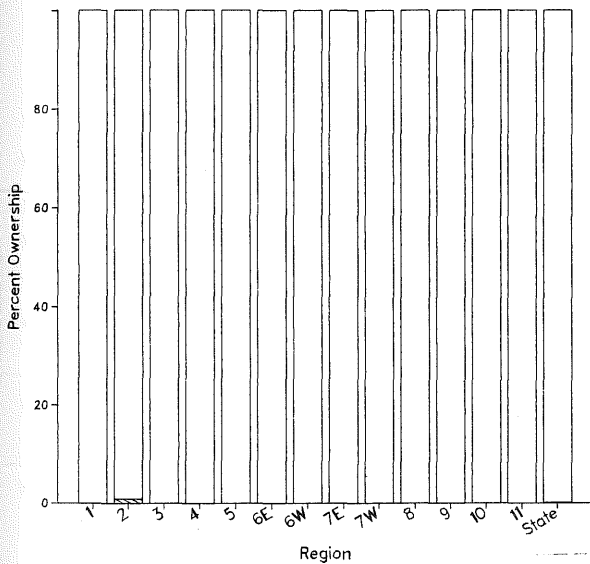


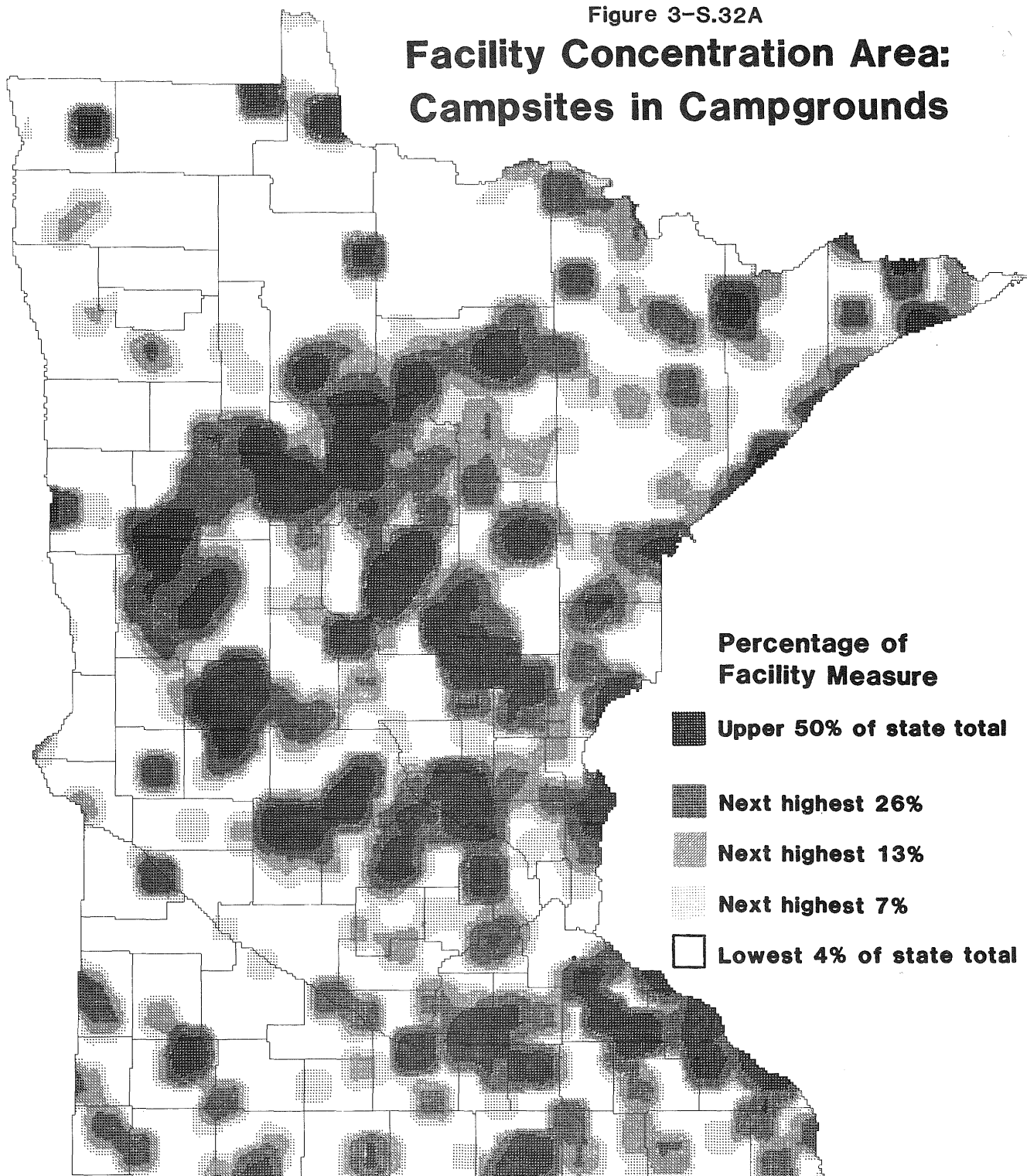
FIGURE 3-S.31C
MINNESOTA
OUTDOOR RECREATION FACILITIES
 Ownership of Resort Lodging Units
 Statewide Total: 16630



A RESORT has indoor lodging units, is specifically designed to support recreation-activities usually in a vacation related time span), and generally offers a variety of facility types, such as rental watercraft, a swimming beach, and water access. The RESORT facility type is distinguished from the HOTEL-MOTEL type by both its on-site recreation facilities and natural resources, and by its primary intent as a vacation oriented, rather than transient-oriented, indoor lodging facility.

Figure 3-S.32A

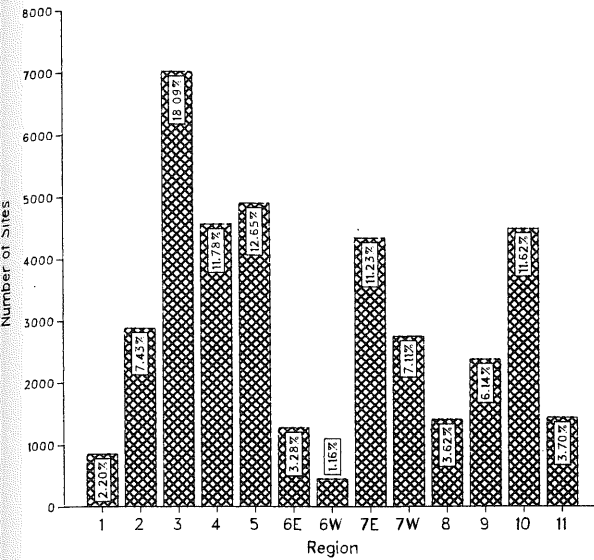
Facility Concentration Area: Campsites in Campgrounds



NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

FIGURE 3-S.32B
MINNESOTA
OUTDOOR RECREATION FACILITIES
Campsites in Campgrounds
Statewide Total: 32,722



Figures in Bars are
Percents of Statewide Total

FIGURE 3-S.32D
MINNESOTA
OUTDOOR RECREATION FACILITIES
Number of Camping Sites/1000 People
Statewide Average: 9.50

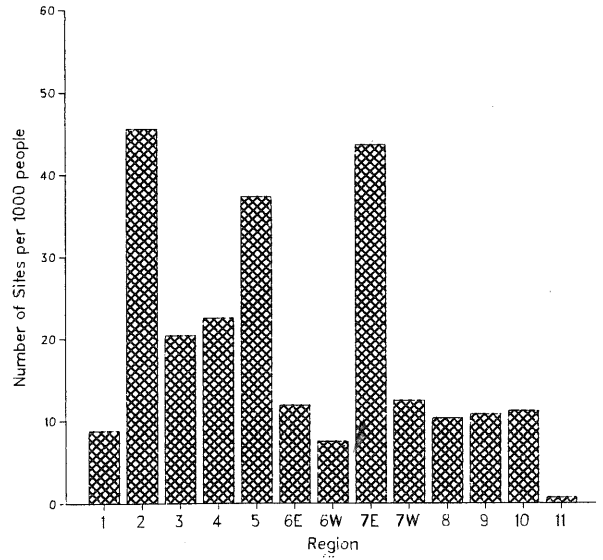
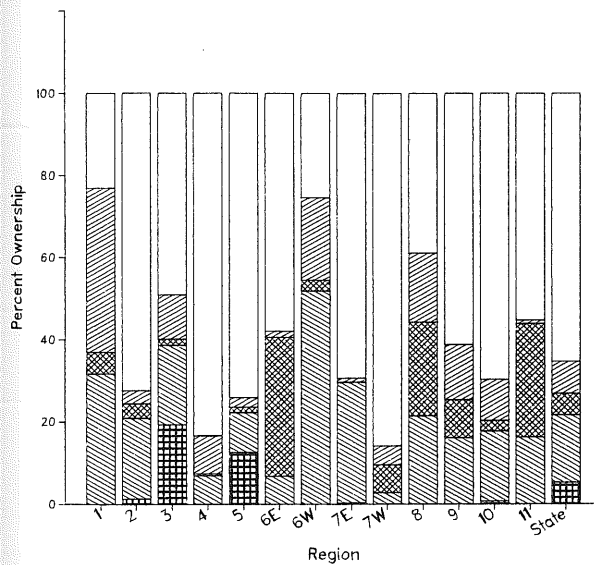
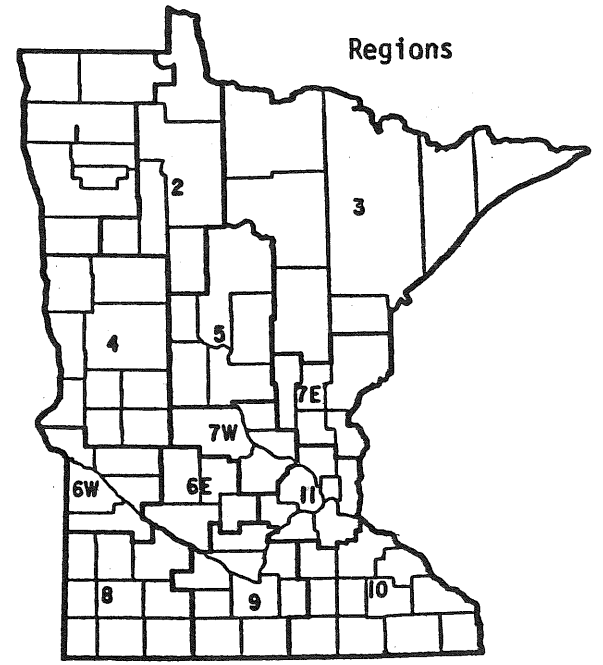


FIGURE 3-S.32C
MINNESOTA
OUTDOOR RECREATION FACILITIES
Ownership of Camping Sites
Statewide Total: 38,722



Legend
 Private
 Local
 County
 State
 Federal



A CAMPSITE can be reached directly by vehicle or indirectly by trail or watercraft. Designated sites generally designed to accommodate a family-sized group are combined into campgrounds.

Concentrations of group camps are located in the principal lake areas and along the St. Croix River (Fig. 3-S.33A). Group camps are considerably more concentrated in the northern part of the state than are campgrounds. The Twin Cities metropolitan area also has a much greater concentration of group camps than campsites.

Principal lake-area Regions 2, 3, 4 and 5 contain 61 percent of the state's group camp capacity (Fig. 3-S.33B). The Twin Cities (Region 11), third-largest region in terms of group camp capacity, contain 12 percent of the state total. Of the remaining regions, 7E and 7W are the largest and together contain 14 percent of the state total. The lowest capacity regions are 6W, 8 and 1.

Group camp ownership is 90 percent private (Fig. 3-S.33C). In the public sector, the state is the largest administrator. Forty-seven of the 64 state parks and recreation areas offer group camping facilities. County ownership in Region 11 is notable and represents 33 percent of total capacity in this comparatively large-capacity region.

Per capita group camp capacity is largest in Regions 2, 3, 4, 5 and 7E, indicating that markets beyond the local regions are intended to be served (Fig. 3-S.33D). The Twin Cities region has the lowest per person capacity of group camps, even though it ranked third among the regions in total capacity.

Strongly Population-Oriented Facilities

Athletic Field Facility Types

Athletic fields and such commonly associated facilities as skating rinks, tennis courts and baseball/softball diamonds are distributed according to population. Major concentrations correspond to population concentrations: the Twin Cities metropolitan area, Grand Rapids, Duluth, Fergus Falls, Mankato, Rochester and so on (Fig. 3-S.34A, Fig. 3-S.35A, Fig. 3-S.36A, Fig. 3-S.37A). The Twin Cities metropolitan area contains much of statewide capacity of each of the facility types, because it contains approximately one-half of the state's population (Fig. 3-S.34B, Fig. 3-S.35B, Fig. 3-S.36B, Fig. 3-S.37B).

Local governments administer at least 90 percent of each athletic field facility type (Fig. 3-S.34C, Fig. 3-S.35C, Fig. 3-S.36C, Fig. 3-S.37C). The private sector is the second-largest ownership category for each facility type. Private ownership, overall, is more concentrated in Regions 2, 3, 4 and 5 than elsewhere. These same regions tend to have greater private sector

supplies of other facility types as well, especially water-related facility types.

Since the athletic field facility types are population-oriented, facility capacity measures per capita are more uniform among the regions than for any of the other facility types presented in this overview (Fig. 3-S.34D, Fig. 3-S.35D, Fig. 3-S.36D, Fig. 3-S.37D).

Picnic Grounds

A picnic ground may be simply an area designated by the administrator for picnicking, and it does not necessarily require tables or shelters, although it commonly contains such items. Picnic grounds do not include campsites with individual picnic sites.

Picnic tables in picnic grounds are provided both for local populations and for tourists, commonly as part of another facility such as a local or state park. The distribution of picnic tables is concentrated in urban areas as well as in lake regions and at major park facilities such as Lake Bronson, Lake Shetek and Whitewater state parks (Fig. 3-S.38A).

The Twin Cities metropolitan area (Region 11), the most populous region, contains 25 percent of the picnic tables in the state (Fig. 3-S.38B). It is followed in size by Region 10, the second-most populous region, and then by Regions 3, 4, 5, 9 and 7E. Each of the remaining regions has less than 5 percent of statewide picnic tables in picnic grounds. Regions 6W and 1 have the fewest picnic tables.

Just over 70 percent of picnic tables in picnic grounds are administered by the public sector, with local governments administering 40 percent of the state total (Fig. 3-S.38C). The state and county each administer approximately 15 percent of the statewide total.

Ownership varies widely from region to region. In some regions more than 90 percent of picnic tables are publicly owned (6W, 8 and 11), while in other regions private ownership predominates (2, 4 and 5). There is also wide variation among public providers from region to region.

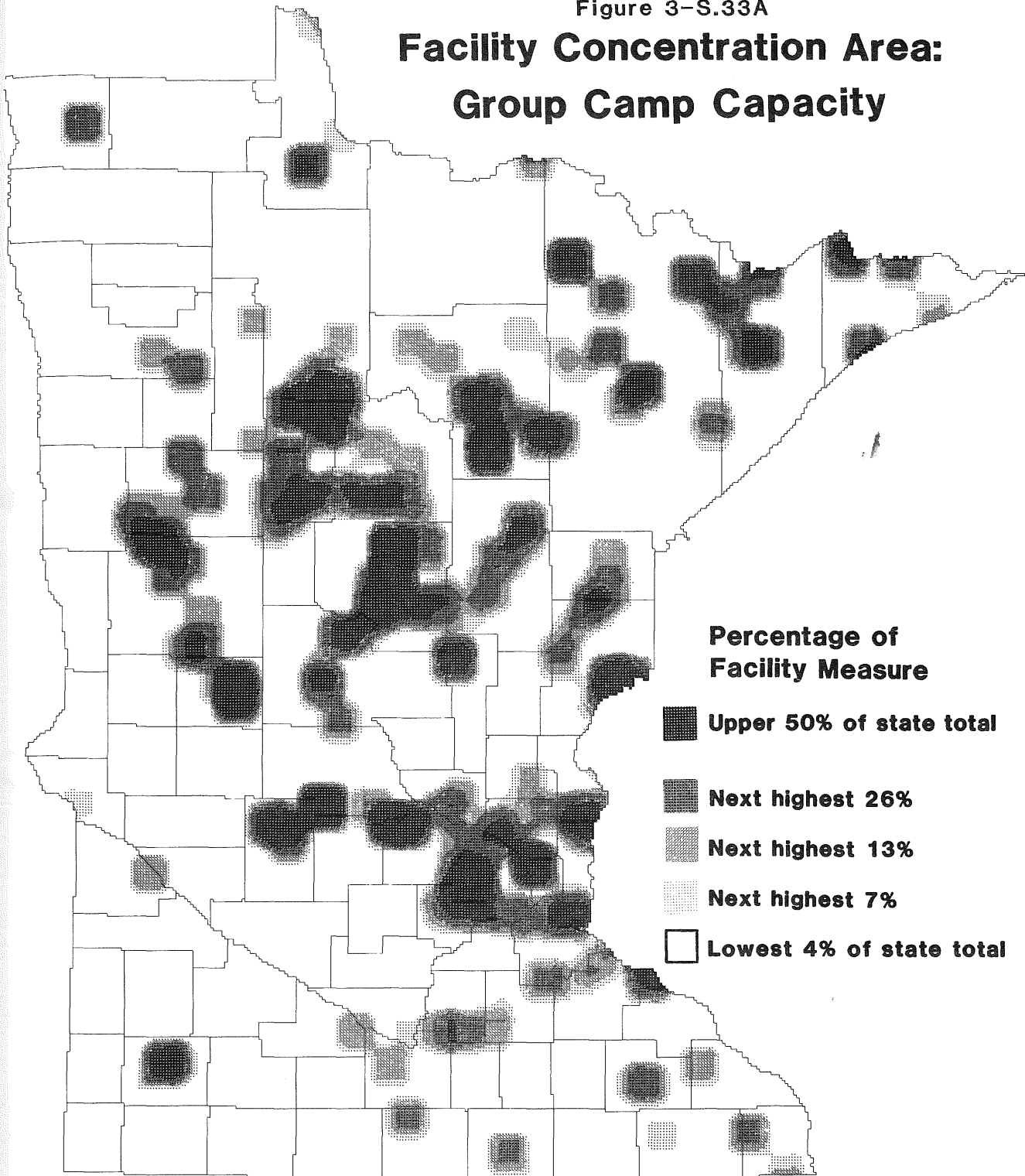
Because it is partly population oriented, the per capita distribution of picnic tables is more uniform across the regions than is that of resource-oriented facilities (e.g., water access parking spaces). The highest per capita number of tables is in Regions 2, 4, 5 and 7E, while the two lowest are in Regions 7W and 11 (Fig. 3-S.38D). The remaining regions have per capita figures that are just above the statewide average.

Golf Courses

Golf courses are distributed, to a large extent, according to population. However, areas of the state with sizable

Figure 3-S.33A

Facility Concentration Area: Group Camp Capacity



NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

FIGURE 3-S.33B
MINNESOTA
OUTDOOR RECREATION FACILITIES
Group Camp Capacity
Statewide Total: 33,914

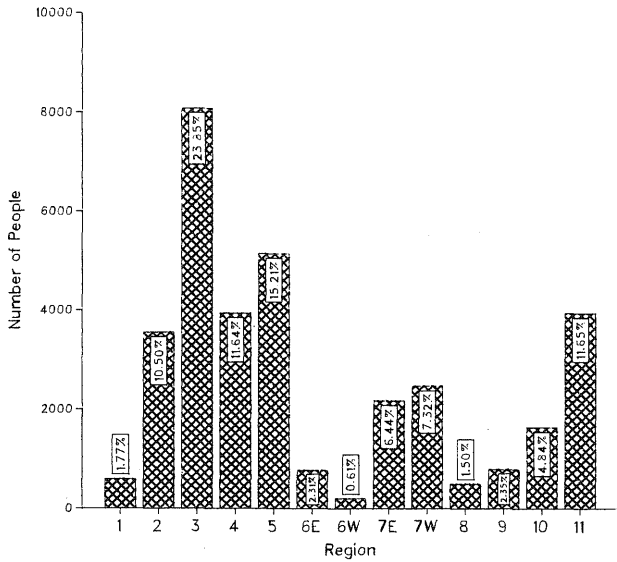


FIGURE 3-S.33D
MINNESOTA
OUTDOOR RECREATION FACILITIES
Group Camp Capacity/1000 People
Statewide Average: 8.32

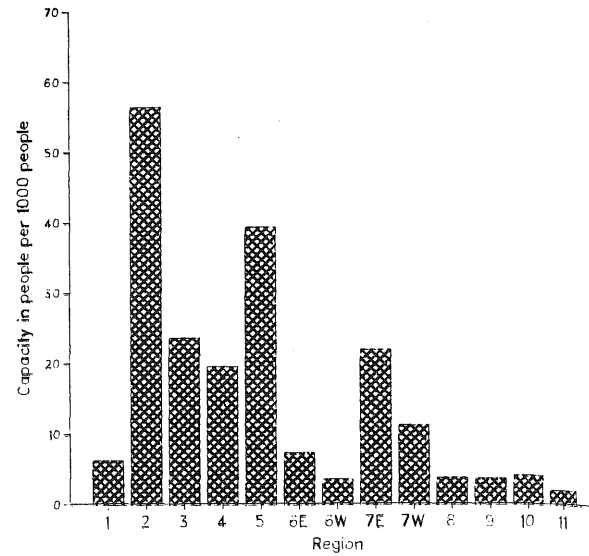
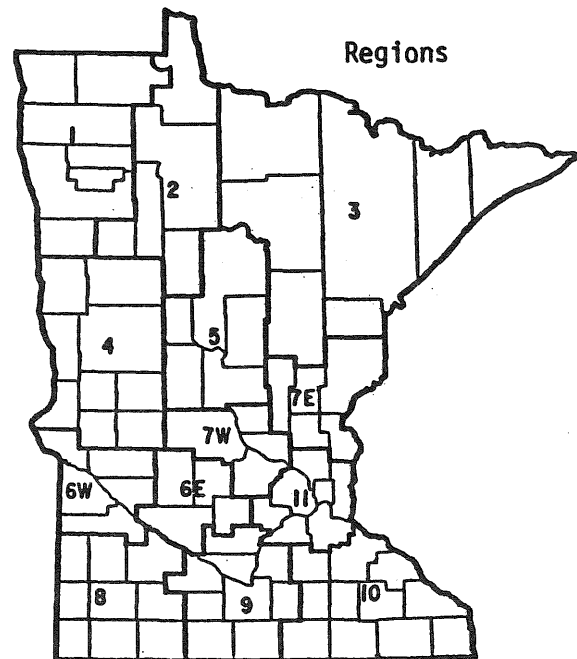
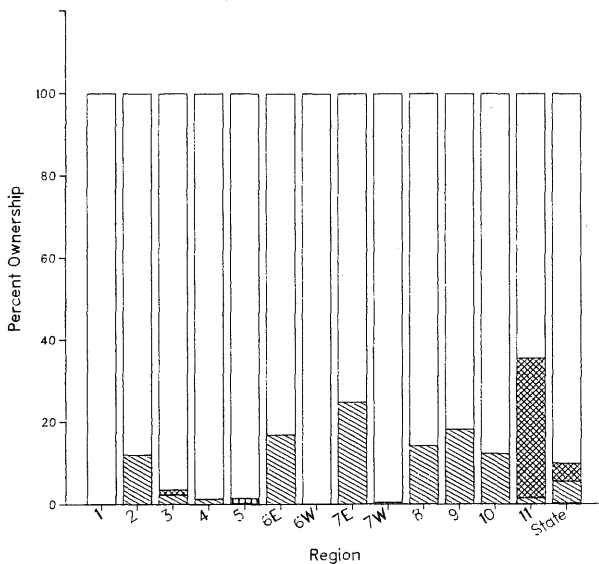


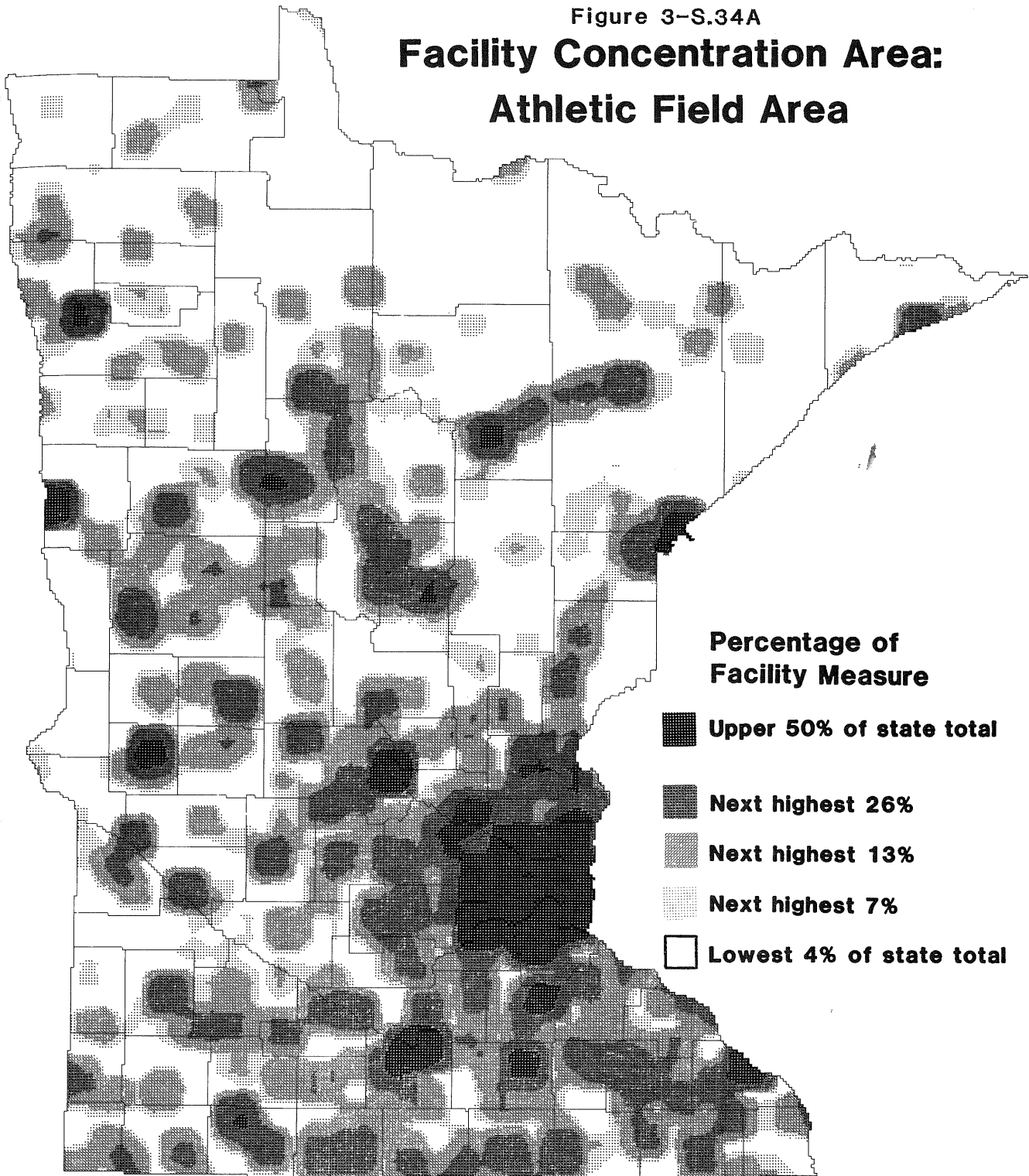
FIGURE 3-S.33C
MINNESOTA
OUTDOOR RECREATION FACILITIES
Ownership of Group Camps
Statewide Total Capacity: 33,914



A GROUP CAMP is intended for large groups, such as scouts and church groups. It may consist of a barracks structure or an area designated for tents or temporary structures.

Figure 3-S.34A

Facility Concentration Area: Athletic Field Area

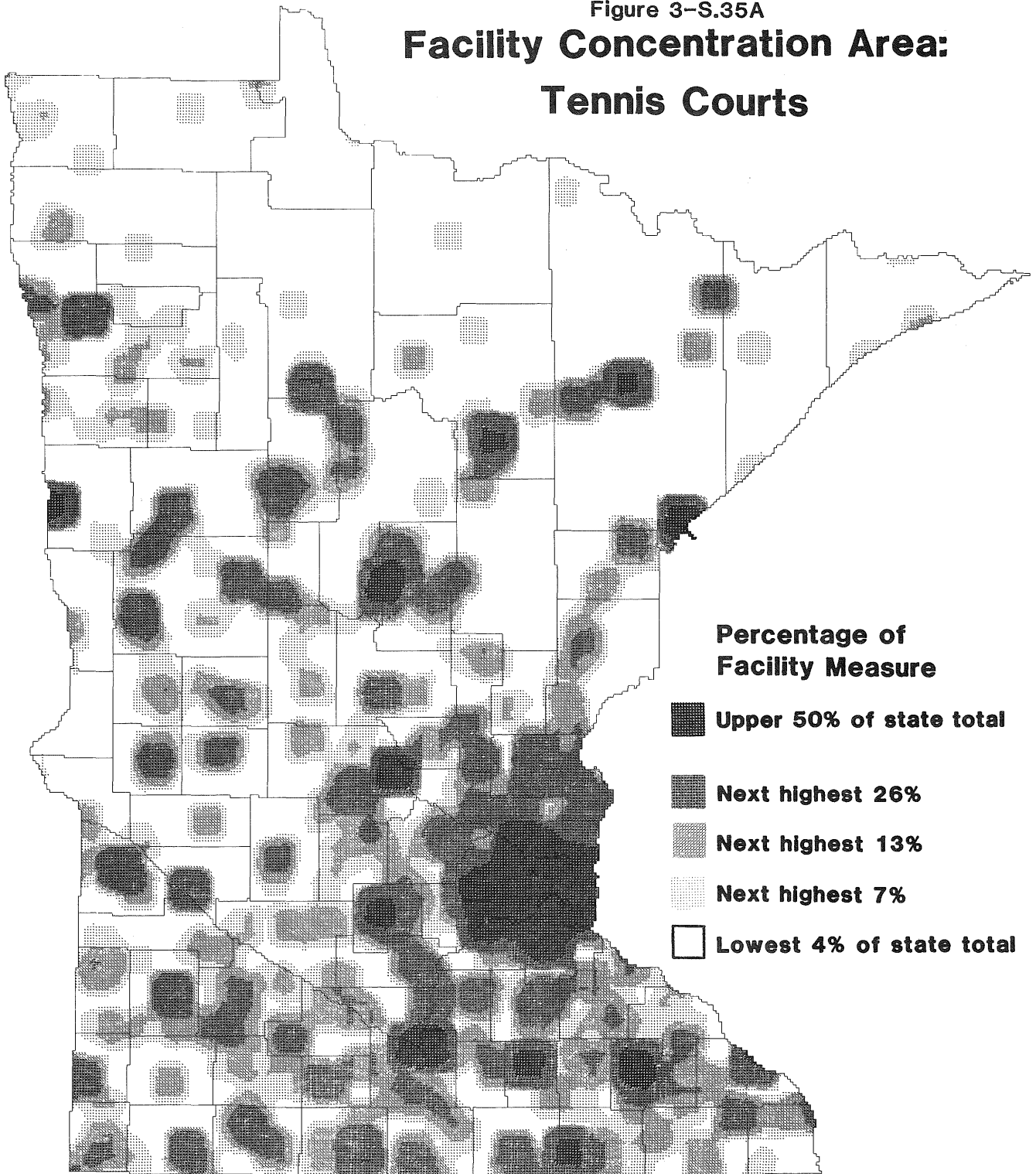


NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

Figure 3-S.35A

Facility Concentration Area: Tennis Courts

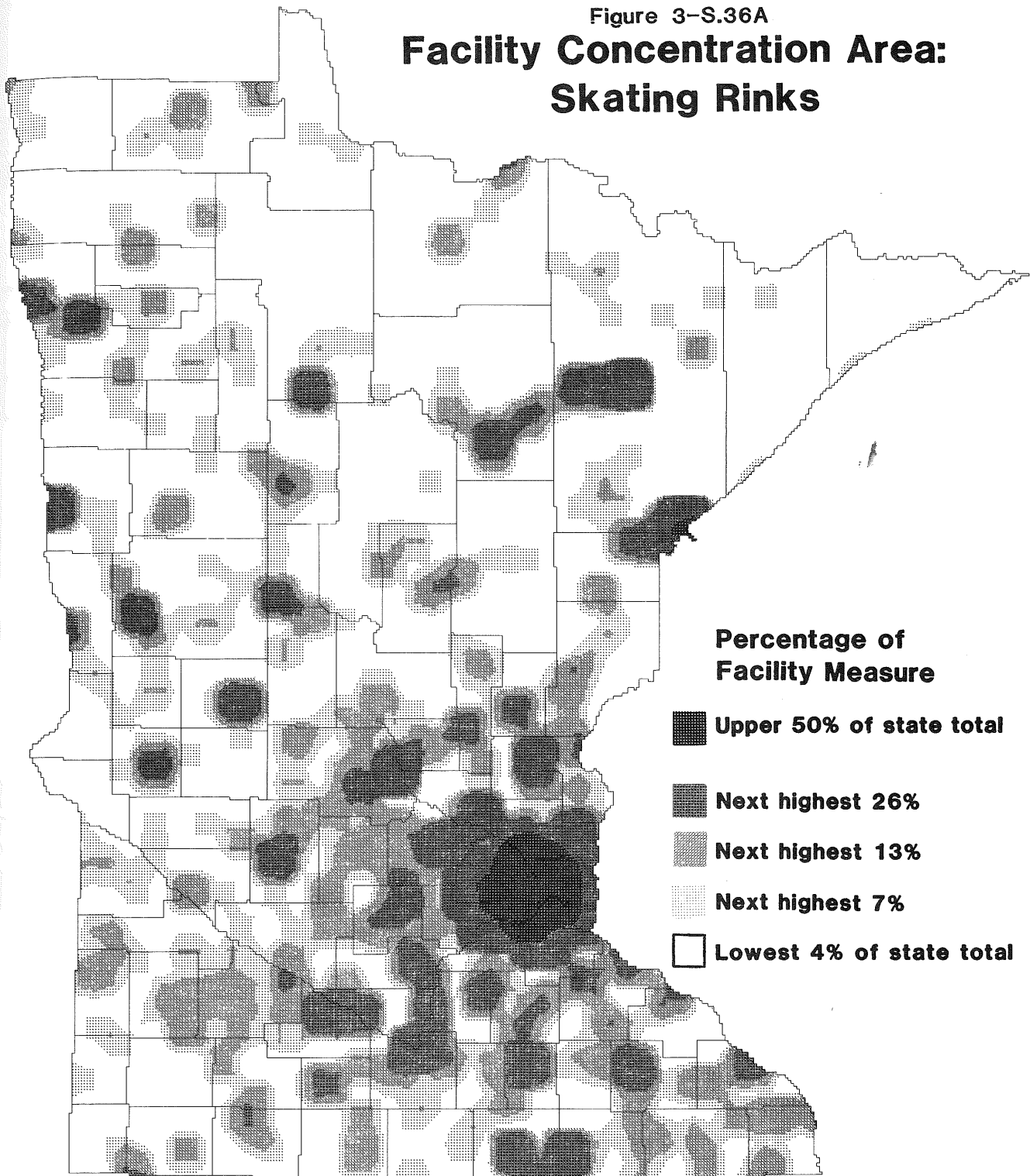


NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

Figure 3-S.36A

Facility Concentration Area: Skating Rinks

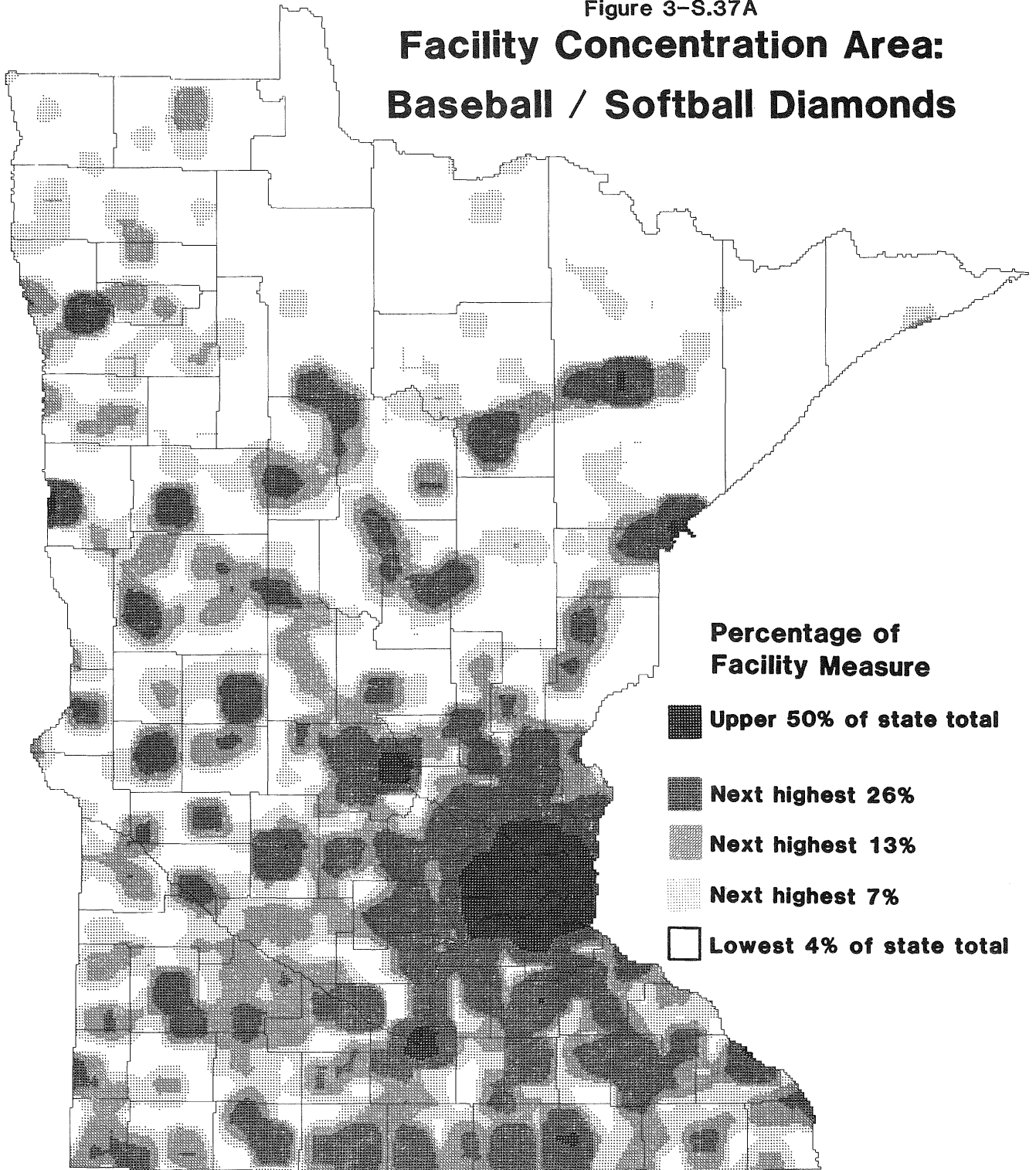


NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

Figure 3-S.37A

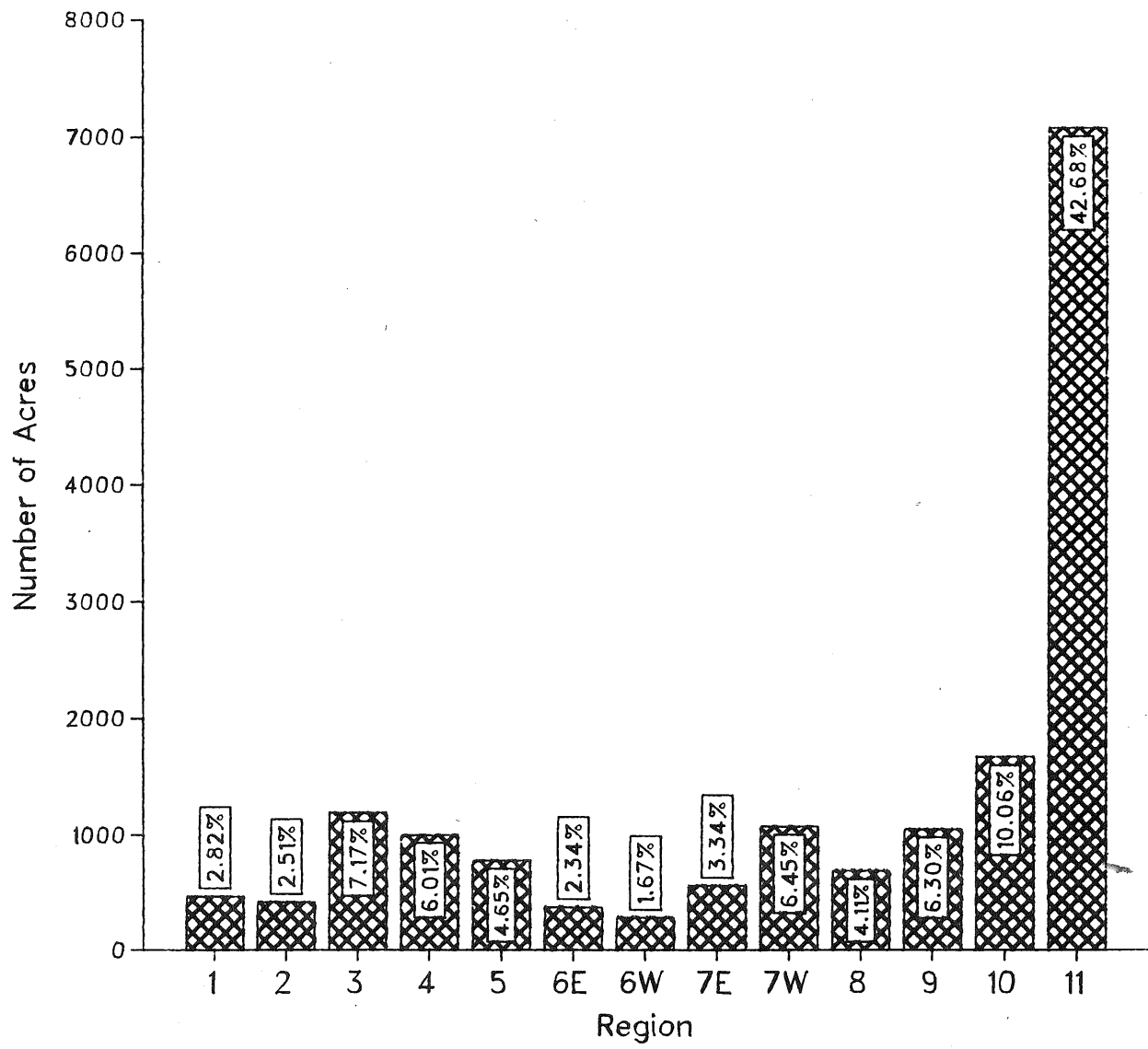
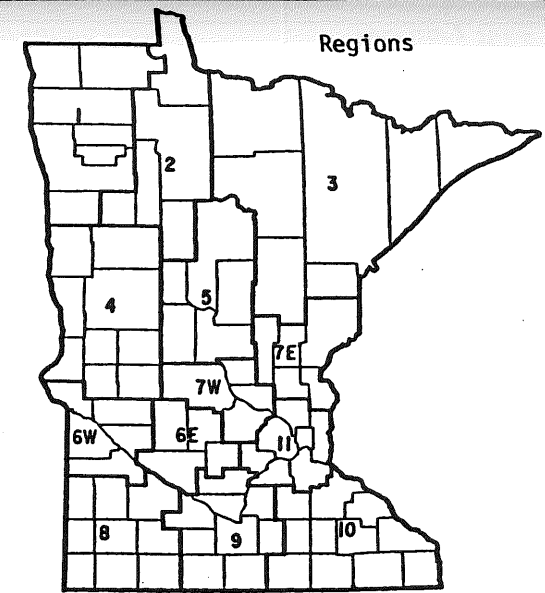
Facility Concentration Area: Baseball / Softball Diamonds



NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

FIGURE 3-S.34B
MINNESOTA
OUTDOOR RECREATION FACILITIES
 Acres of Athletic Fields
 Statewide Total: 16,575

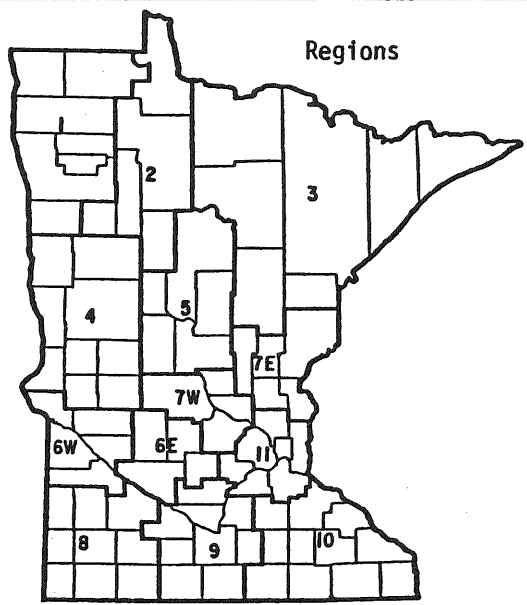
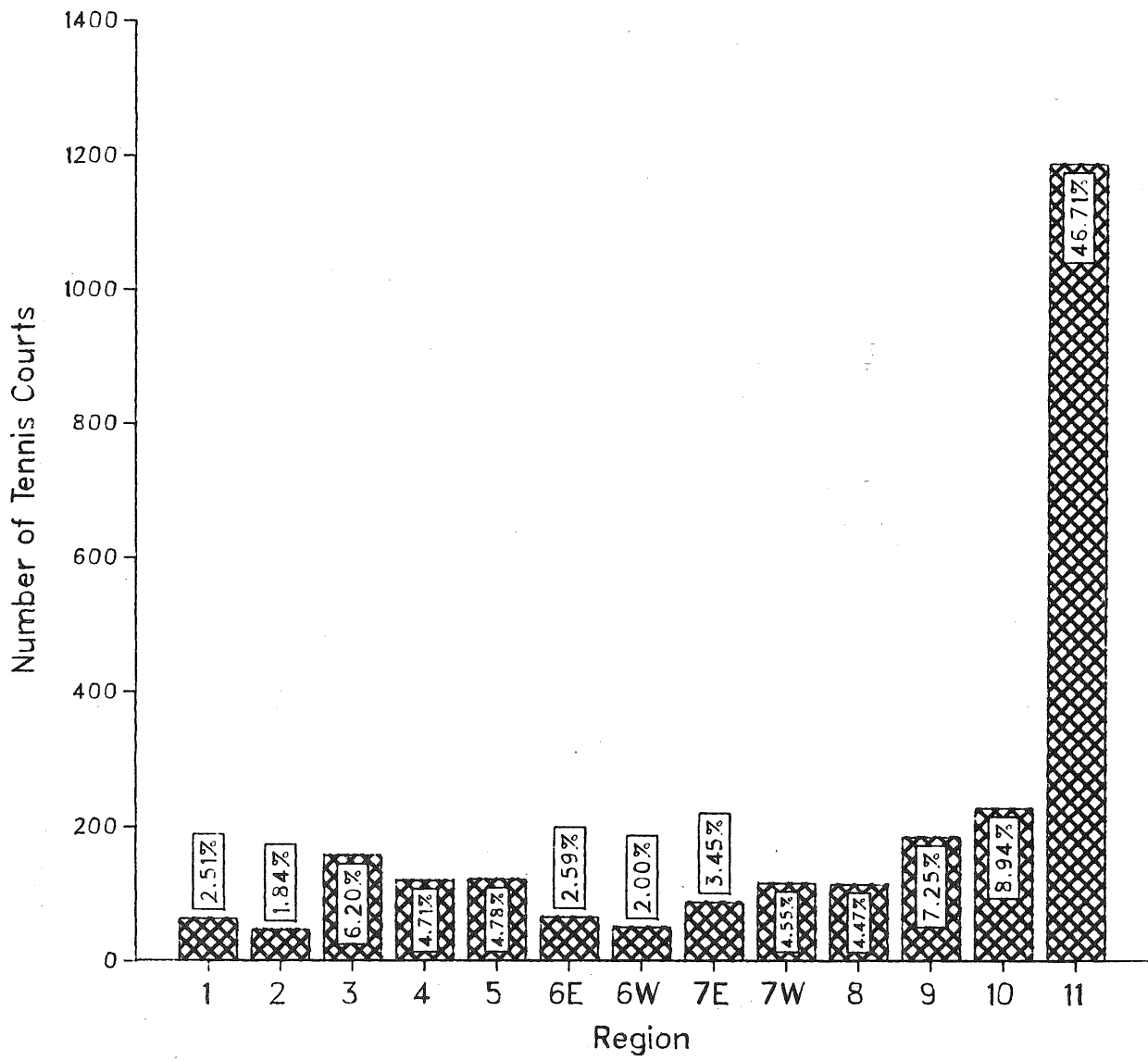


An ATHLETIC FIELD may be either undeveloped open space designated for a variety of athletic activities or an area developed specifically for baseball, tennis, skating, soccer and so on. The PLAYGROUND facility type is excluded.

Figures in Bars are Percents of Statewide Total

3.069

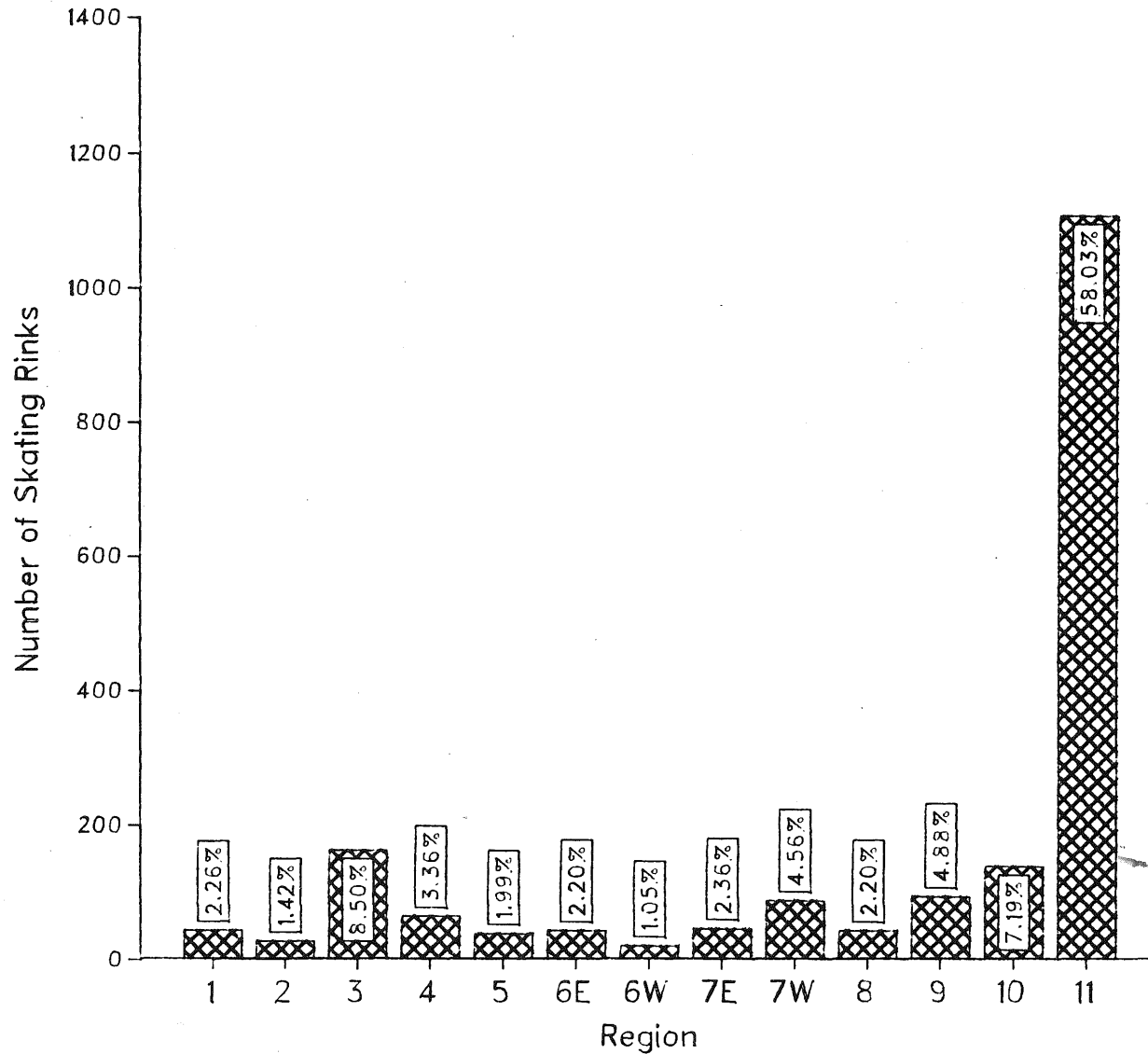
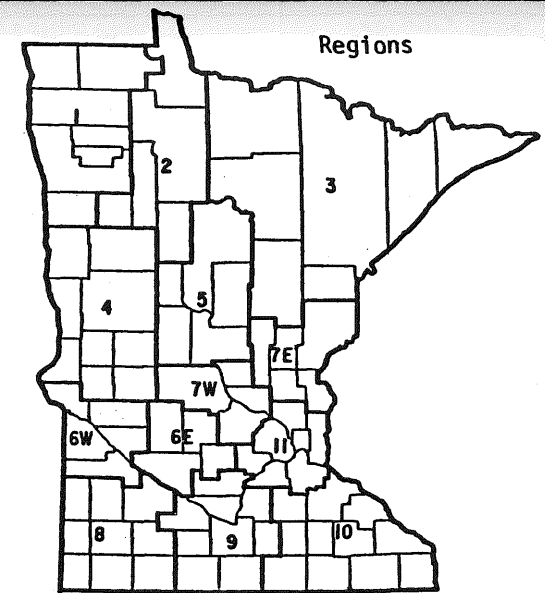
FIGURE 3-S.35B
 MINNESOTA
 OUTDOOR RECREATION FACILITIES
 Number of Tennis Courts
 Statewide Total: 2550



Figures in Bars are
 Percents of Statewide Total

3.070

FIGURE 3-S.36B
MINNESOTA
OUTDOOR RECREATION FACILITIES
 Number of Skating Rinks
 Statewide Total: 1906

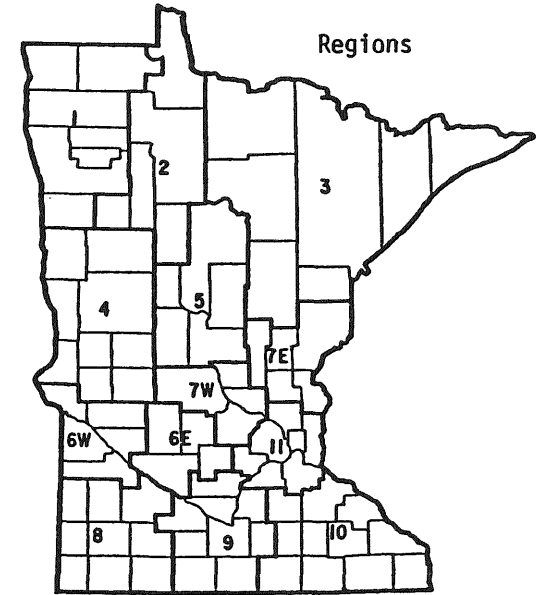
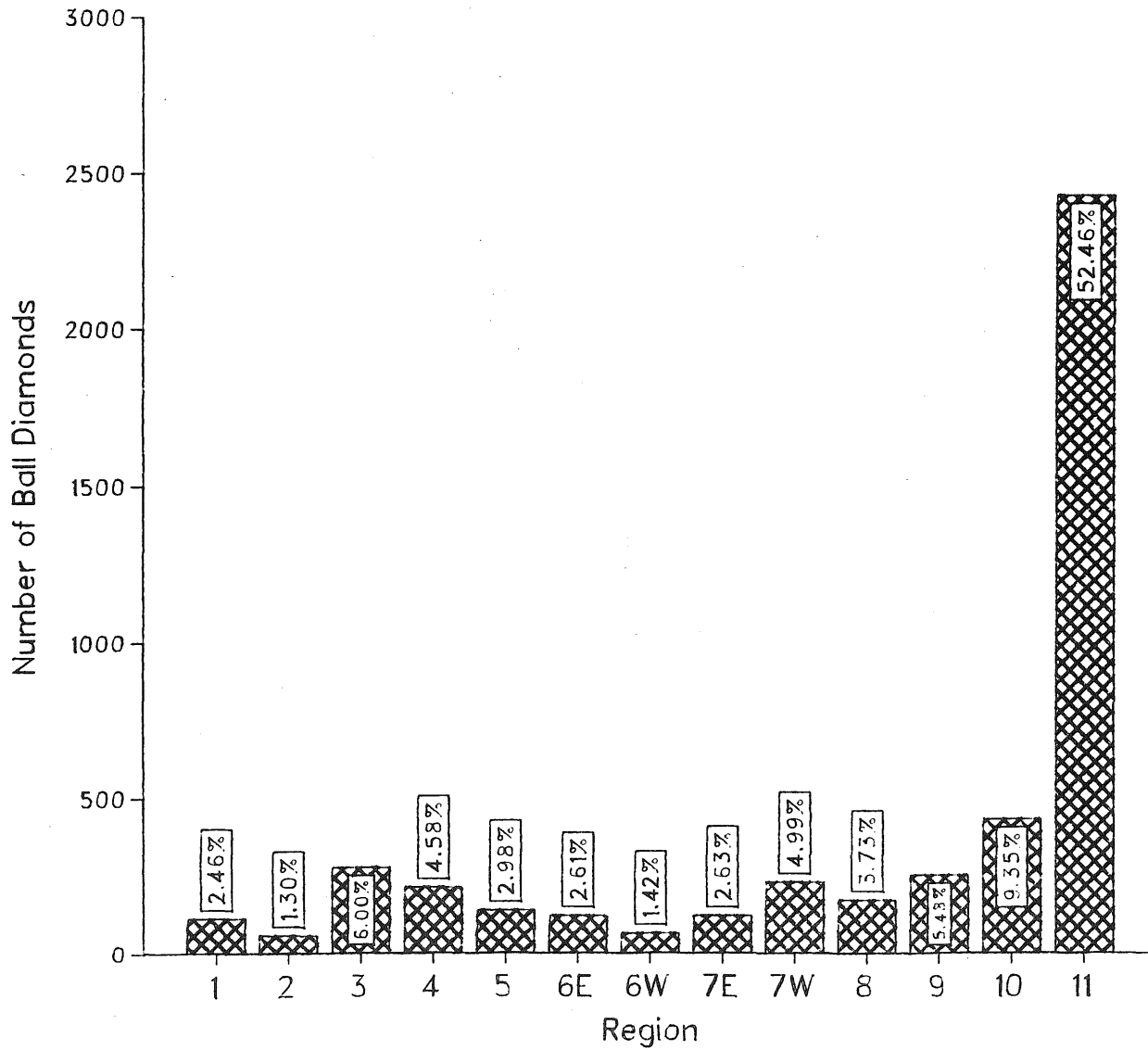


A SKATING RINK is a facility that is predominantly maintained by the administrator for free skating and/or hockey.

Figures in Bars are Percents of Statewide Total

3.071

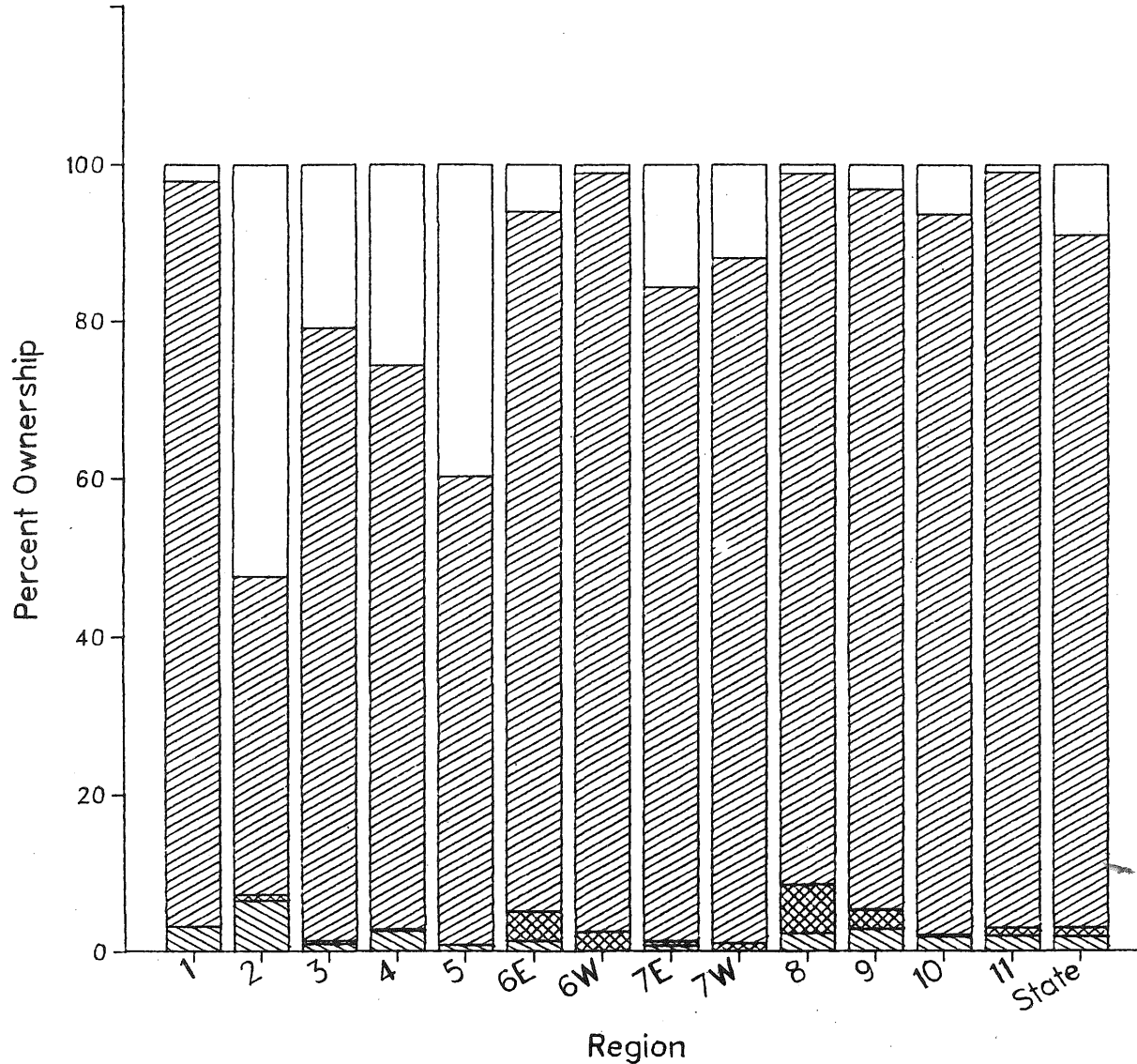
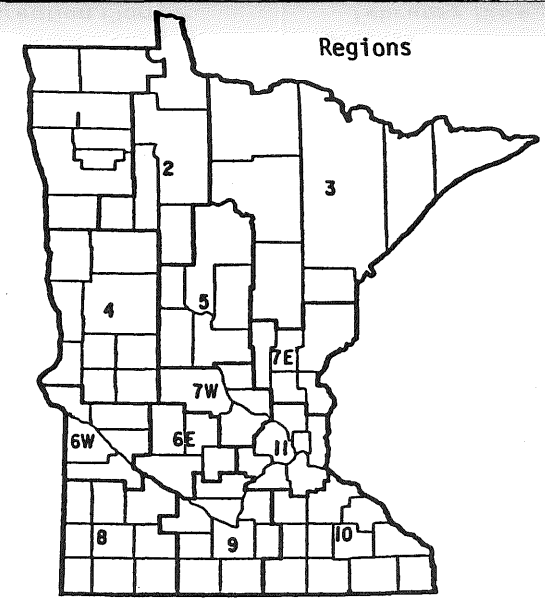
FIGURE 3-S.37B
MINNESOTA
OUTDOOR RECREATION FACILITIES
 Number of Baseball/Softball Diamonds
 Statewide Total: 4632



Figures in Bars are Percents of Statewide Total

3.072

FIGURE 3-S.34C
MINNESOTA
OUTDOOR RECREATION FACILITIES
 Ownership of Athletic Field Acres
 Statewide Total: 16,575

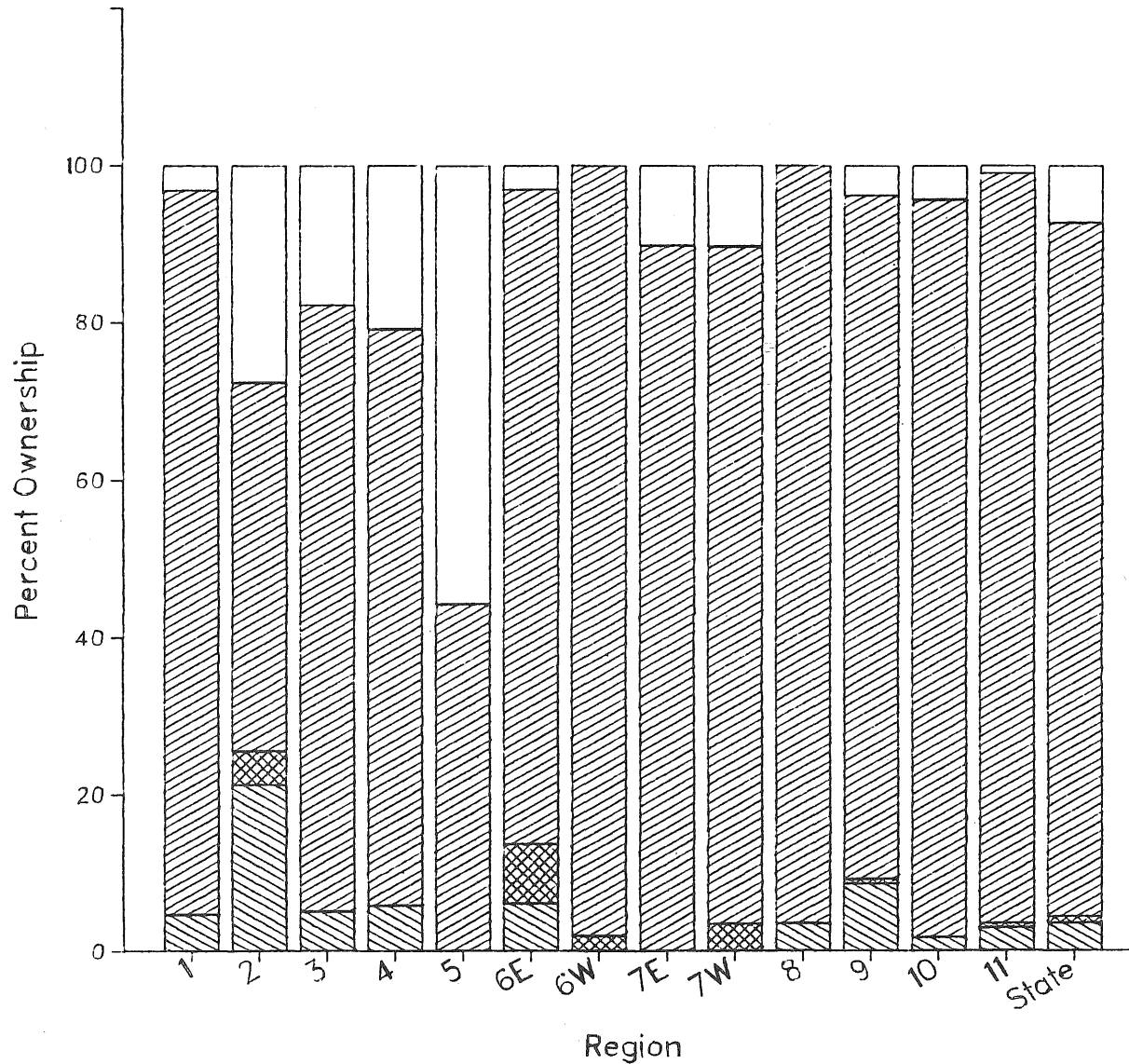
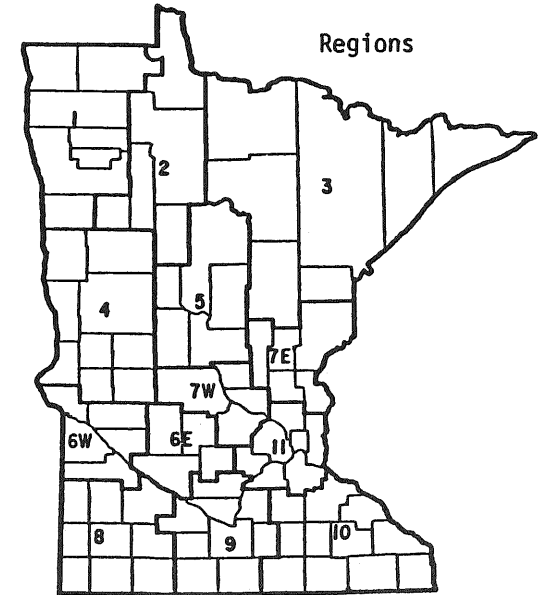


An ATHLETIC FIELD may be either undeveloped open space designated for a variety of athletic activities or an area developed specifically for baseball, tennis, skating, soccer and so on. The PLAYGROUND facility type is excluded.

- Legend**
- Private
 - ▨ Local
 - ▩ County
 - ▧ State
 - ▦ Federal

3.073

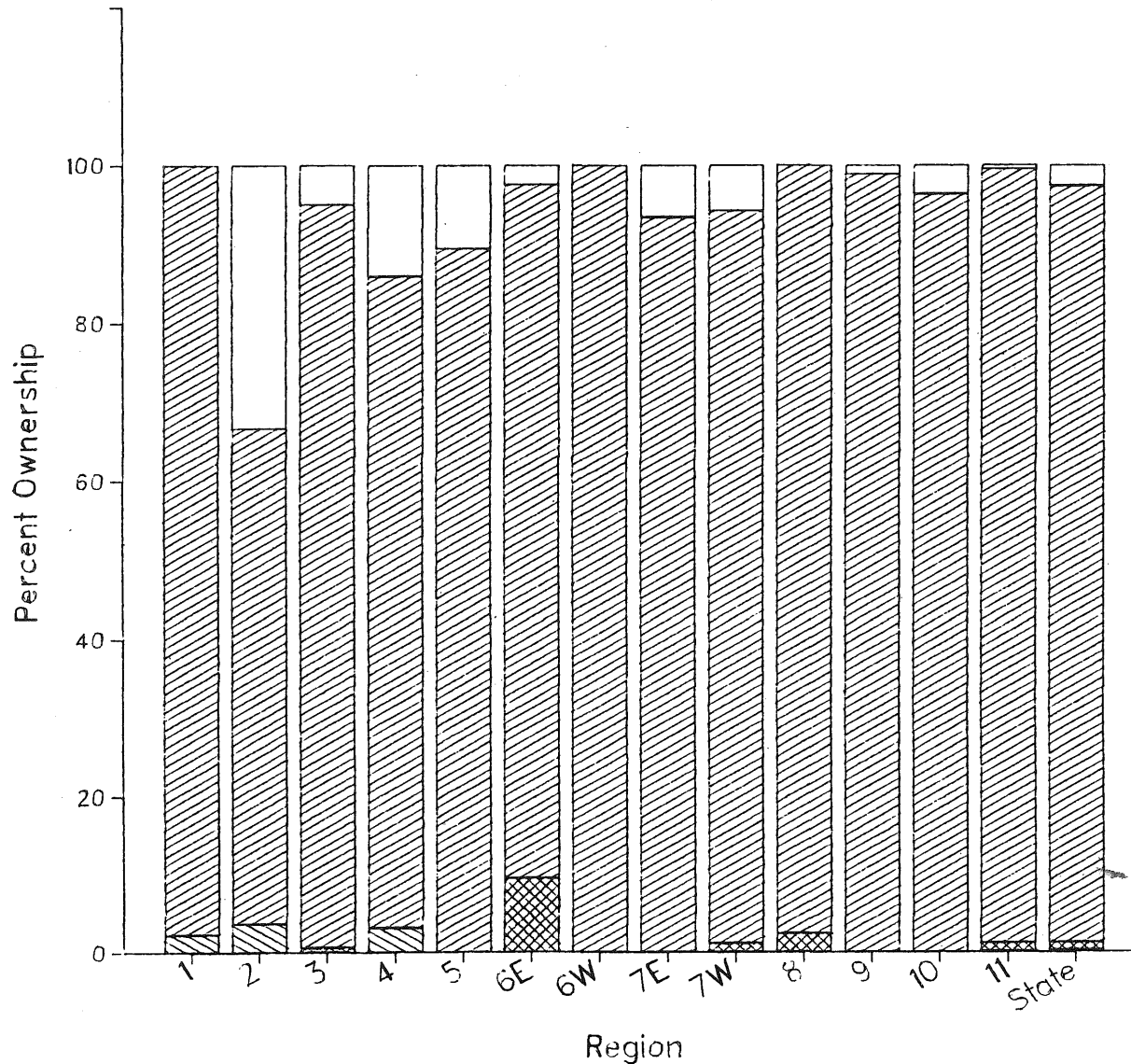
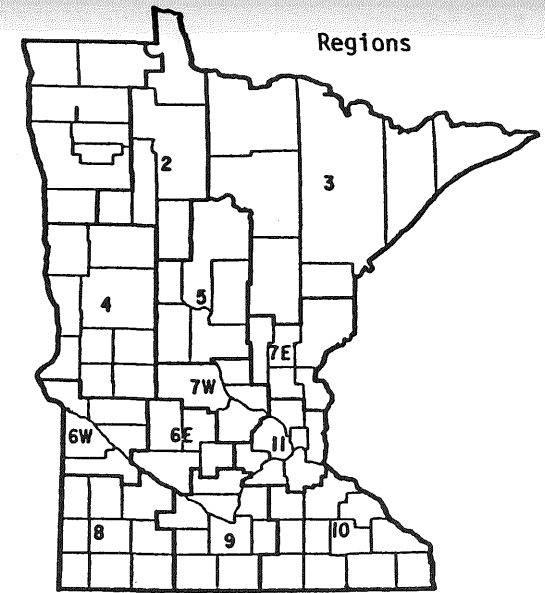
FIGURE 3-S.35C
 MINNESOTA
 OUTDOOR RECREATION FACILITIES
 Ownership of Tennis Courts
 Statewide Total: 2550



- Legend
- Private
 - ▨ Local
 - ▩ County
 - ▧ State
 - ▦ Federal

3.074

FIGURE 3-S.36C
MINNESOTA
OUTDOOR RECREATION FACILITIES
 Ownership of Skating Rinks
 Statewide Total: 1906



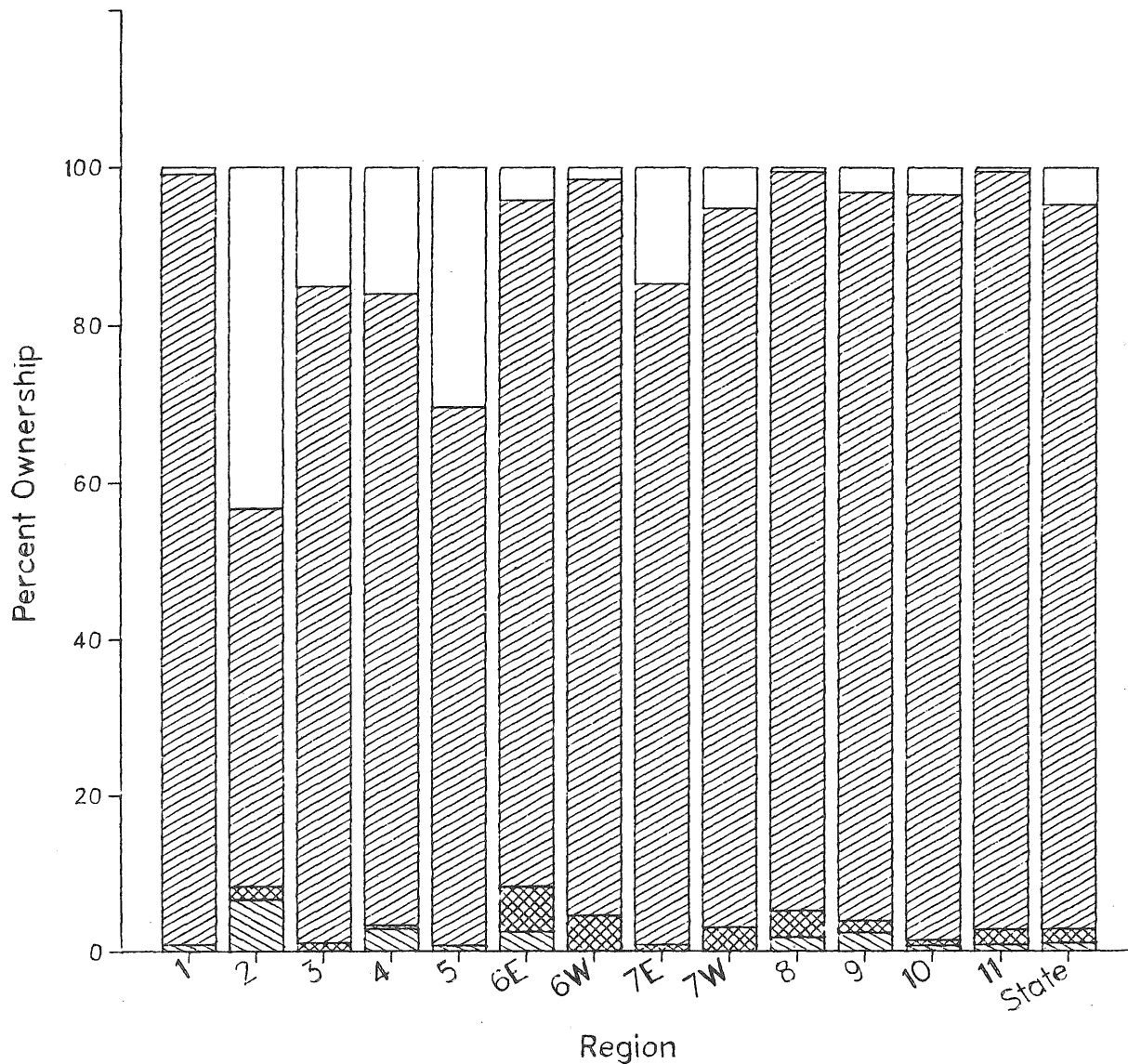
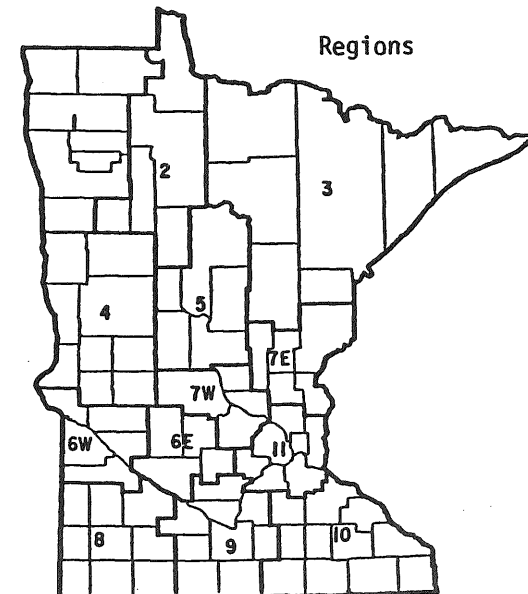
A SKATING RINK is a facility that is predominantly maintained by the administrator for free skating and/or hockey.

Legend

- Private
- ▨ Local
- ▩ County
- ▧ State
- ▦ Federal

3.075

FIGURE 3-S.37C
MINNESOTA
OUTDOOR RECREATION FACILITIES
 Ownership of Baseball/Softball Diamonds
 Statewide Total: 4632

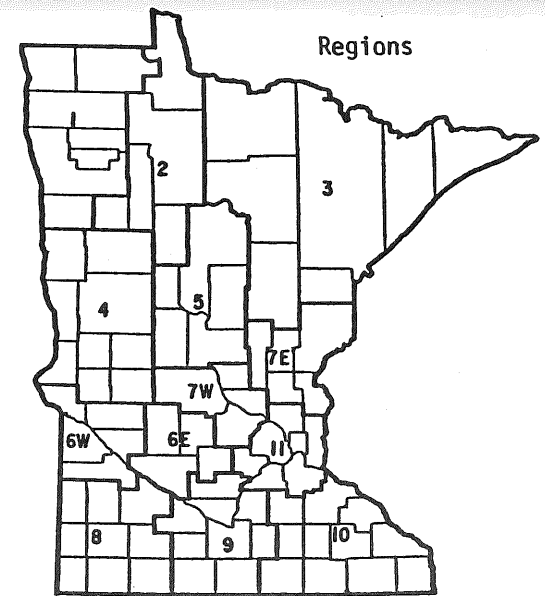
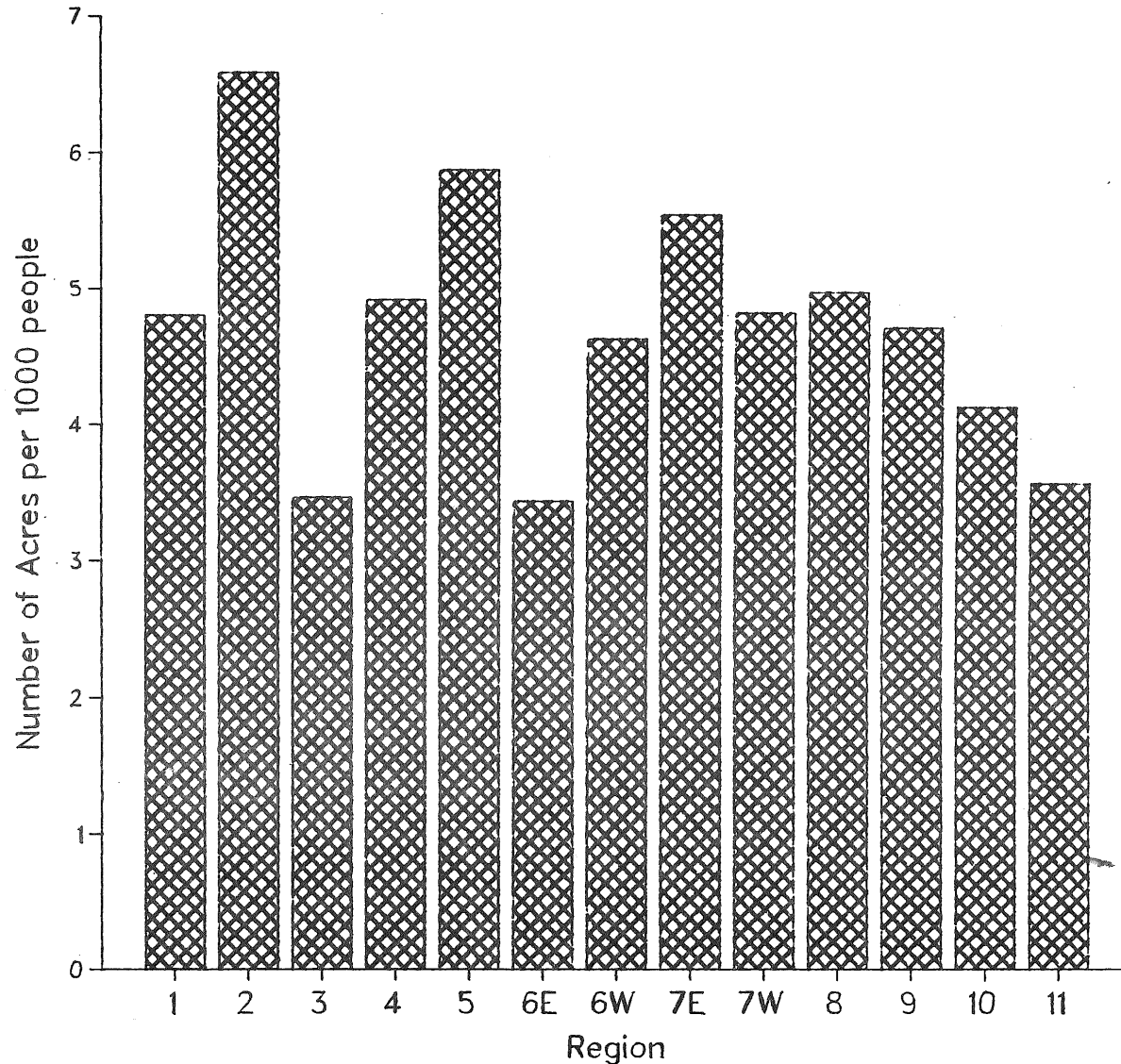


Legend

- Private
- Local
- County
- State
- Federal

3.076

FIGURE 3-S.34D
MINNESOTA
OUTDOOR RECREATION FACILITIES
 Number of Acres of Athletic Field/1000 People
 Statewide Average: 4.07

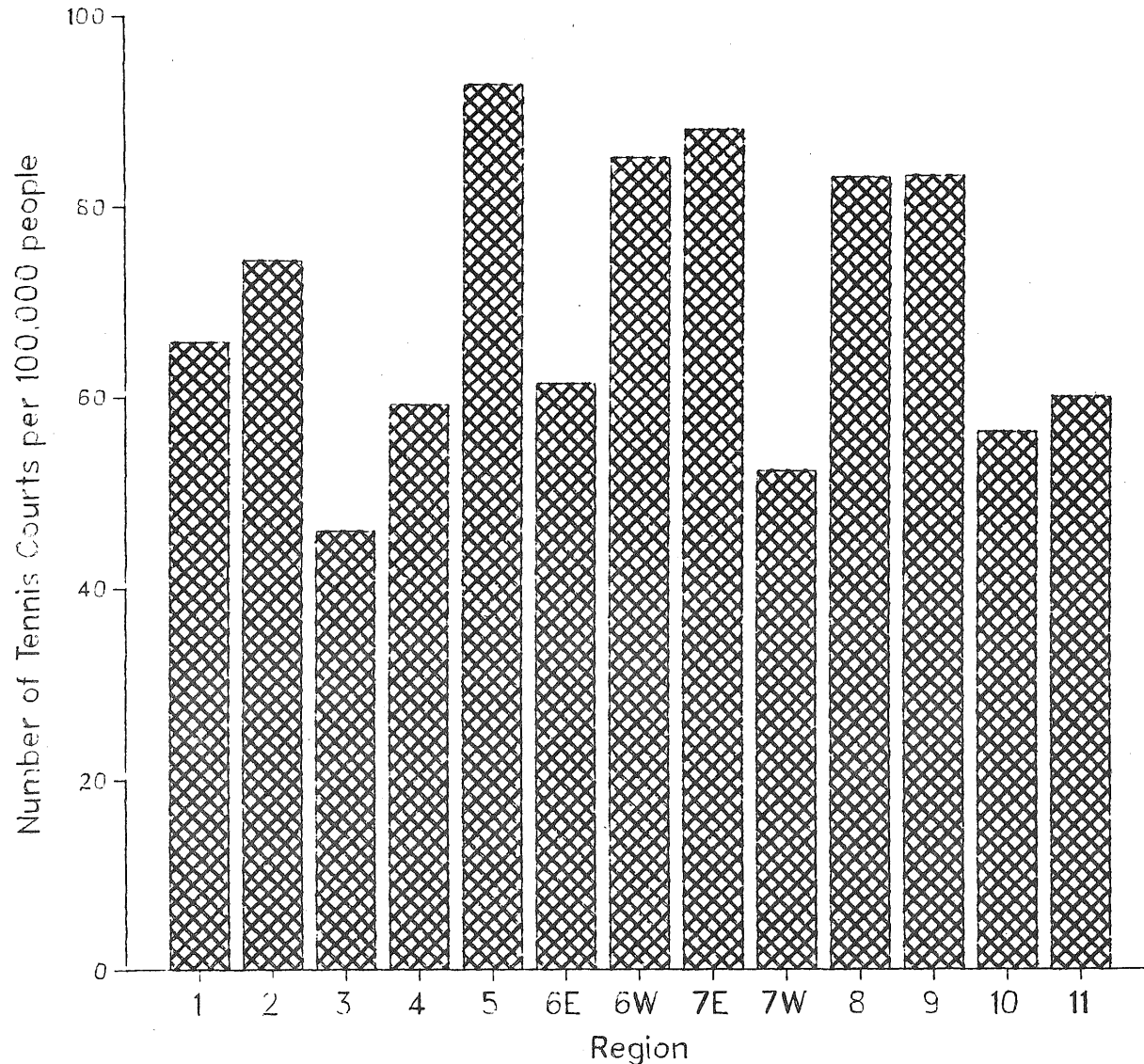
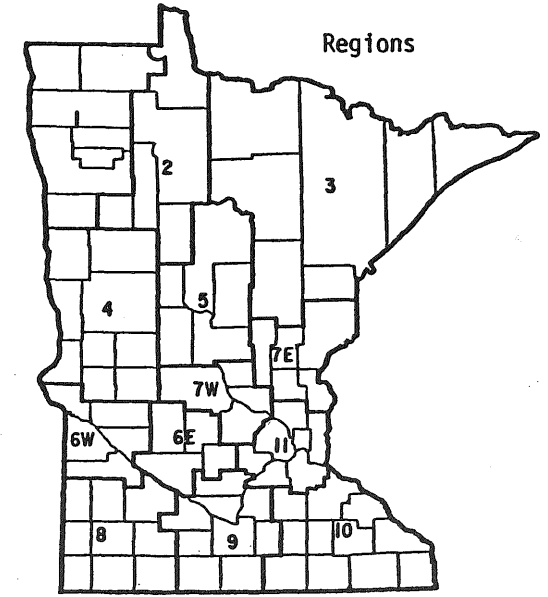


An ATHLETIC FIELD may be either undeveloped open space designated for a variety of athletic activities or an area developed specifically for baseball, tennis, skating, soccer and so on. The PLAYGROUND facility type is excluded.

3.077

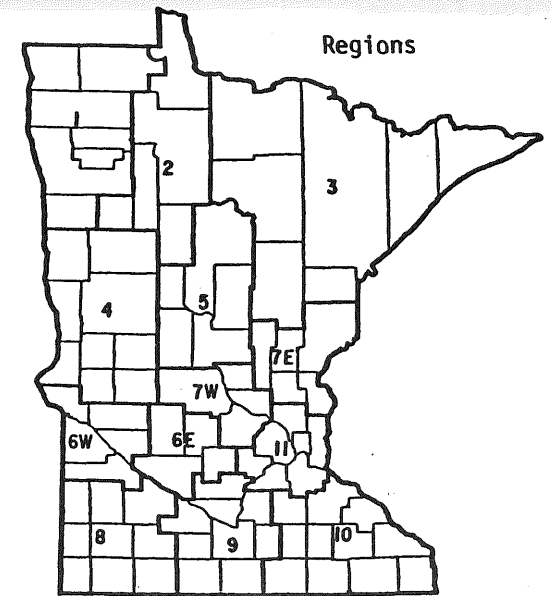
Source: Minnesota Dept. of Natural Resources, Office of Planning – State Comprehensive Outdoor Recreation Plan
 U.S. Bureau of the Census, 1980

FIGURE 3-S.35D
MINNESOTA
OUTDOOR RECREATION FACILITIES
Number of Tennis Courts/100,000 People
Statewide Average: 62.5

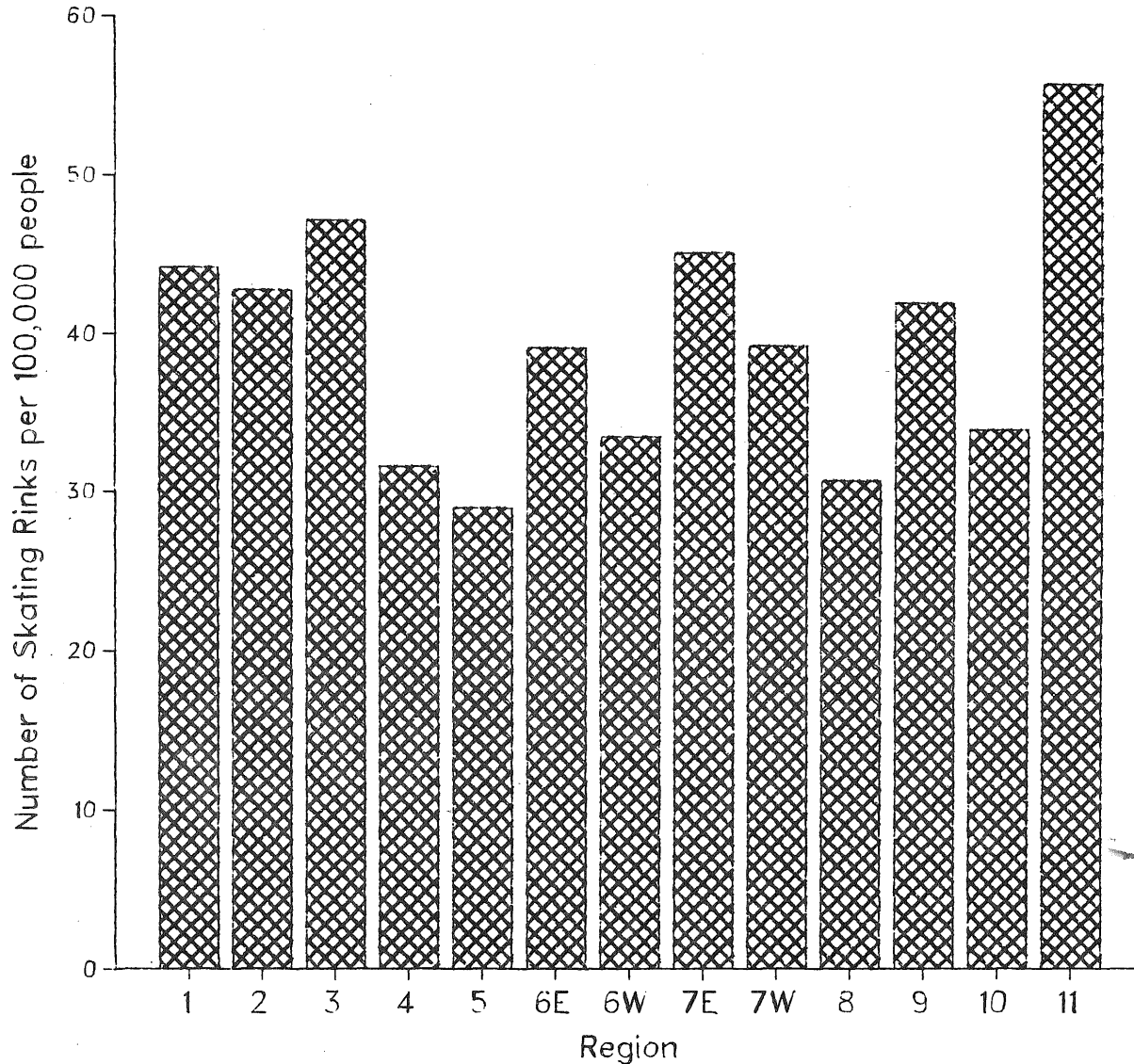


Source: Minnesota Dept. of Natural Resources, Office of Planning – State Comprehensive Outdoor Recreation Plan
U.S. Bureau of the Census, 1980

FIGURE 3-S.36D
MINNESOTA
OUTDOOR RECREATION FACILITIES
 Number of Skating Rinks/100,000 People
 Statewide Average: 46.7



Regions

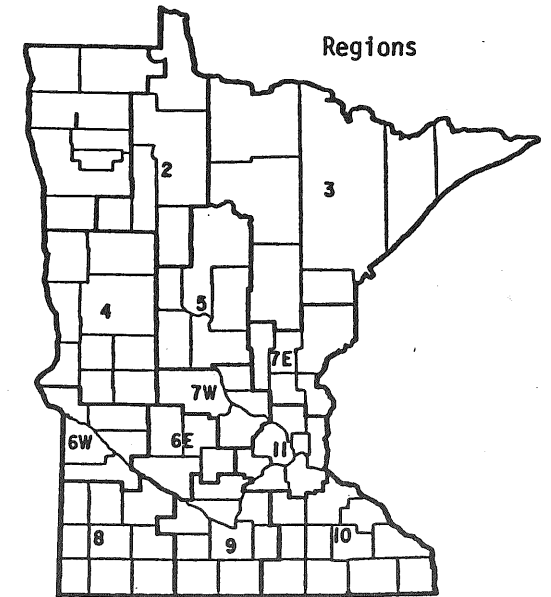
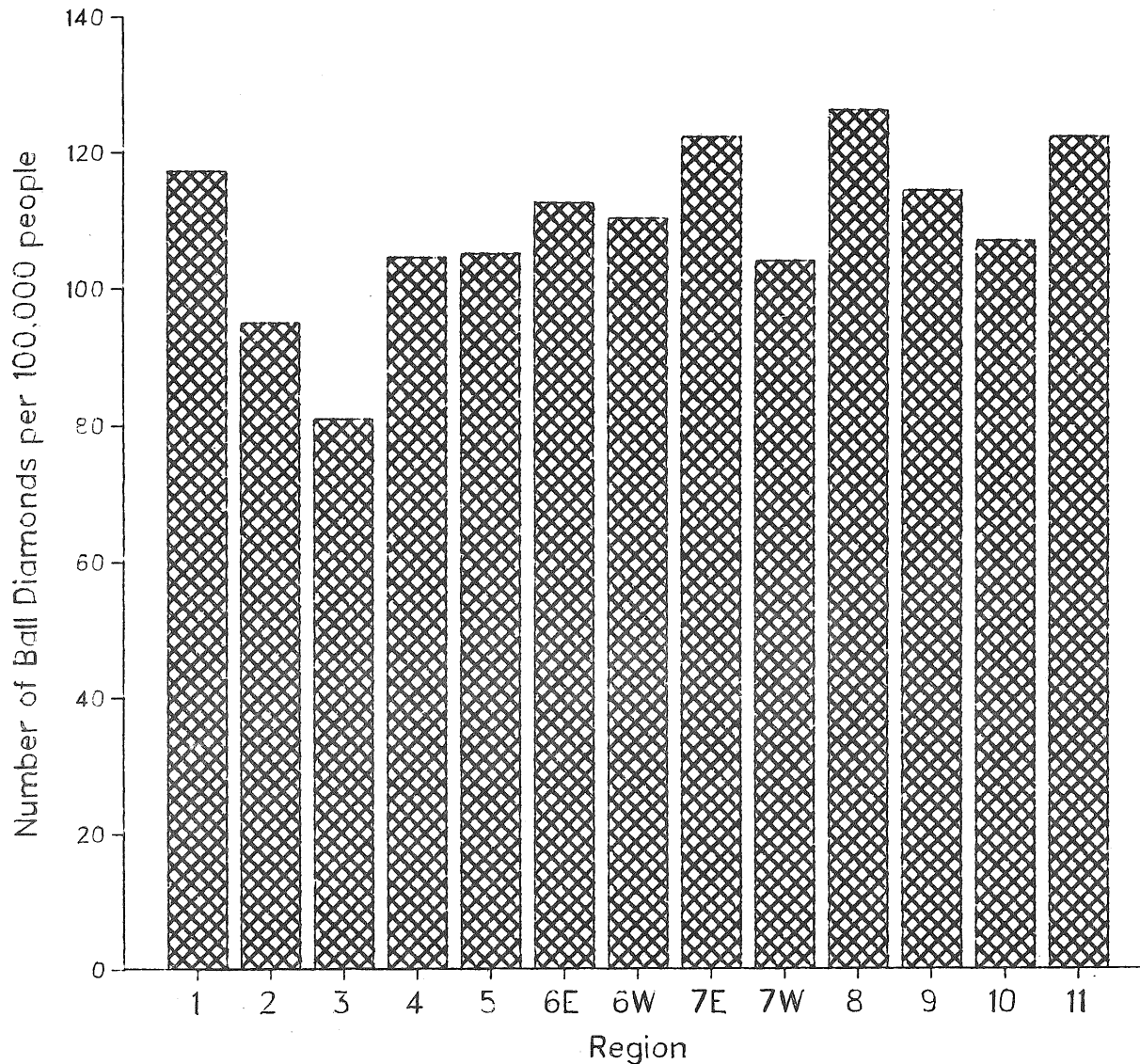


A SKATING RINK is a facility that is predominantly maintained by the administrator for free skating and/or hockey.

3.079

Source: Minnesota Dept. of Natural Resources, Office of Planning – State Comprehensive Outdoor Recreation Plan
 U.S. Bureau of the Census, 1980

FIGURE 3-S.37D
MINNESOTA
OUTDOOR RECREATION FACILITIES
 Number of Baseball-Softball Diamonds/100,000 People
 Statewide Average: 113

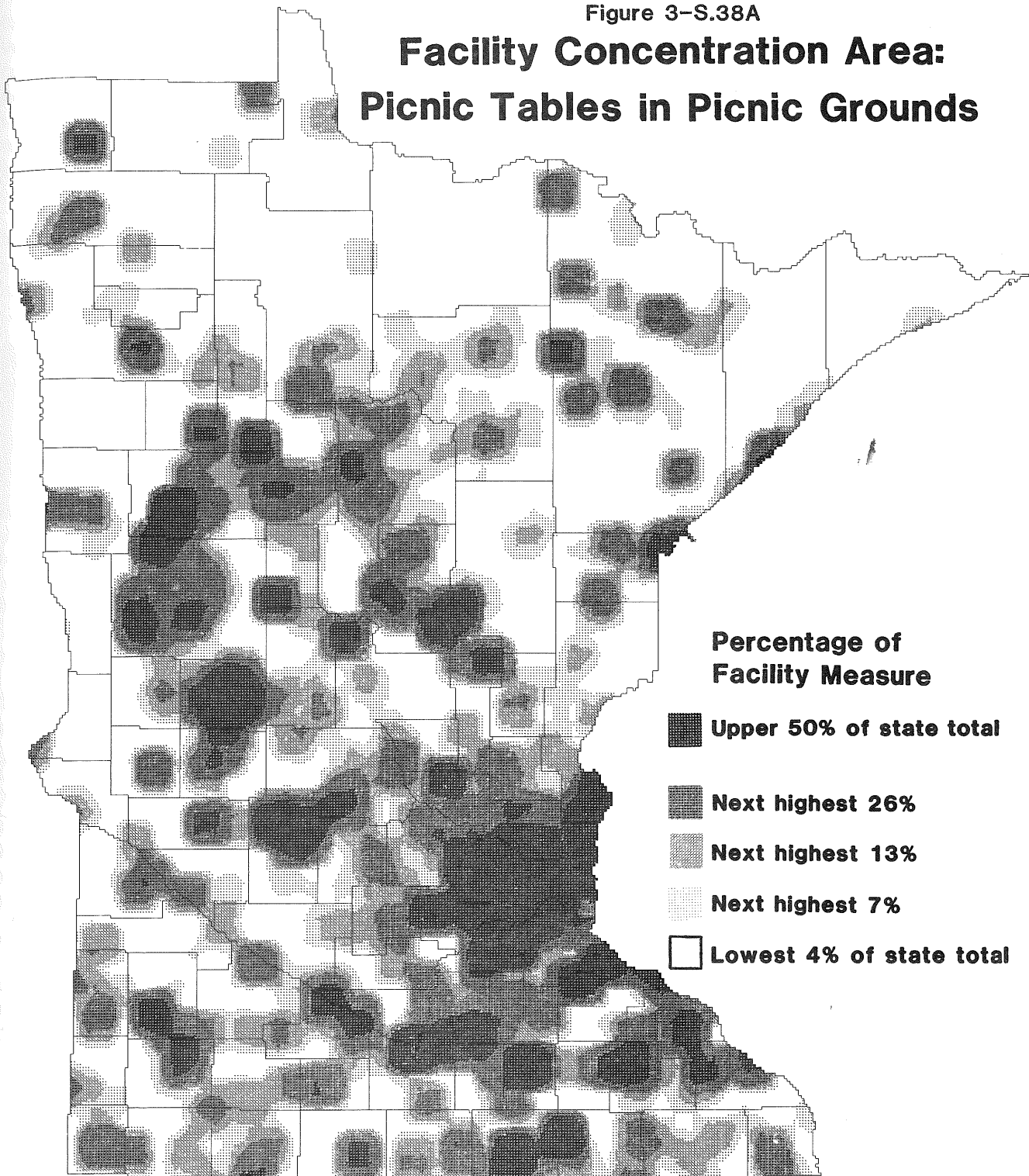


3.0803

Source: Minnesota Dept. of Natural Resources, Office of Planning – State Comprehensive Outdoor Recreation Plan
 U.S. Bureau of the Census, 1980

Figure 3-S.38A

Facility Concentration Area: Picnic Tables in Picnic Grounds



NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

FIGURE 3-S.38B
MINNESOTA
OUTDOOR RECREATION FACILITIES
Picnic Tables in Picnic Grounds
Statewide Total: 34,561

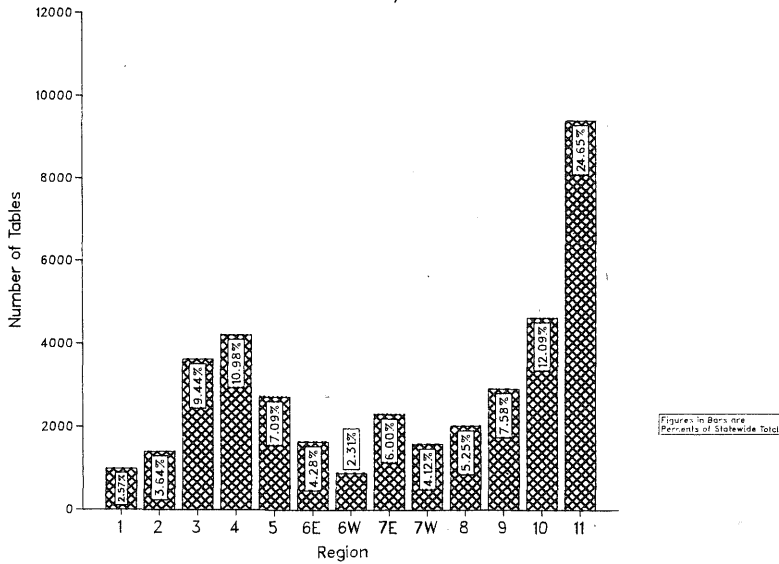


FIGURE 3-S.38U
MINNESOTA
OUTDOOR RECREATION FACILITIES
Number of Picnic Tables/1000 People
Statewide Average: 9.41

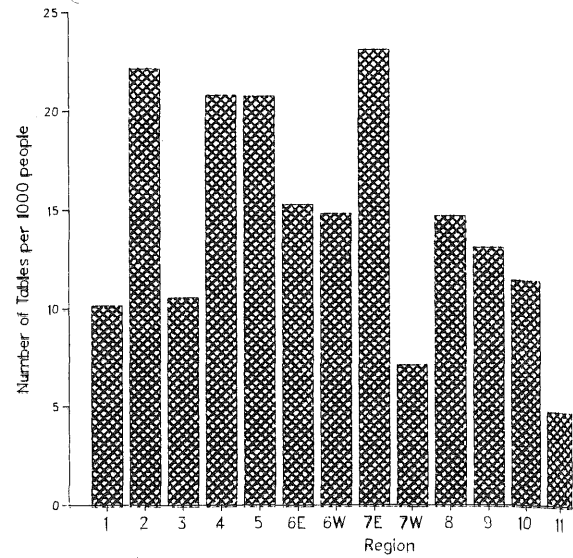
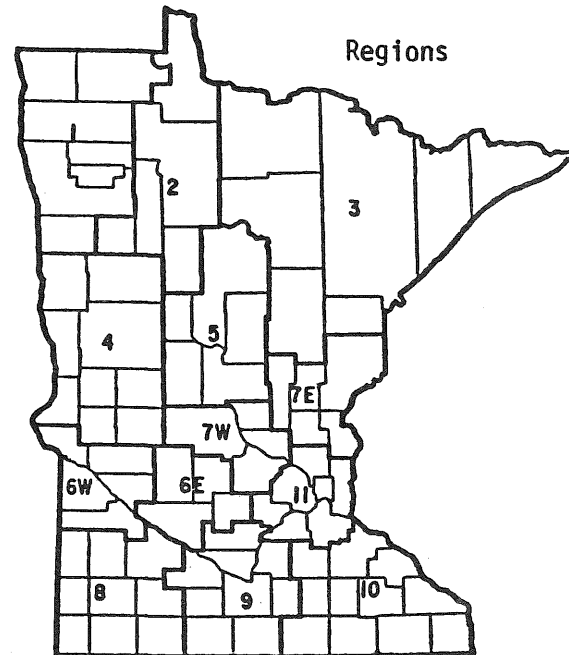
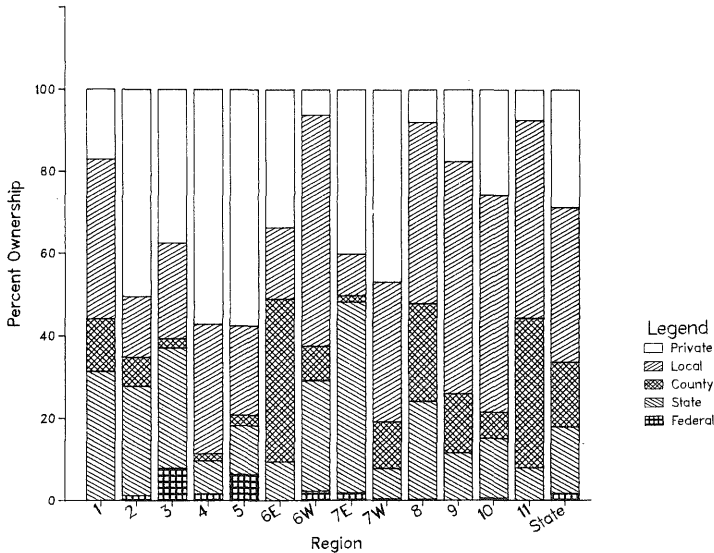


FIGURE 3-S.38C
MINNESOTA
OUTDOOR RECREATION FACILITIES
Ownership of Tables in Picnic Grounds
Statewide Total: 34,561



A PICNIC GROUND may be simply a designated area and does not necessarily require tables or shelters. It specifically excludes campsites with individual picnic sites.

tourist industries often offer golfing opportunities for vacationers, and large resorts may have their own courses. Golf course concentrations occur, therefore, near population centers (e.g., the Twin Cities metropolitan area, Rochester, Mankato and Duluth) in major tourist areas (e.g., Crow Wing County) and at large resorts (e.g., Quadna, northern Aitkin County) (see Fig. 3-S.39A).

Nearly one-third of the state's 18-hole golf course equivalents (that is, total holes divided by 18) are located in the Twin Cities metropolitan area, and another 12 percent are located in second-most populous Region 10 (Fig. 3-S.39B). Regions 3, 4, 5 and 9 each contain between 5 and 10 percent of the statewide total. Each of the remaining regions contains less than 5 percent of the state's total. Regions 2, 6E and 6W have the fewest course equivalents.

Three-fourths of the state's 18-hole golf course equivalents are in private ownership (Fig. 3-S.39C). Local governments administer the greatest share of public facilities. The largest public ownership is in Region 11 (approximately 45 percent of the regional total), where the largest number of courses are located. In Region 11, the counties, in addition to local governments, are important providers.

Since golf courses have a partial population orientation, per capita distribution is more uniform than that of resource-oriented facility types (e.g., water-oriented facilities). The highest per capita number of courses is in Region 5, followed by Regions 6W and 1 (Fig. 3-S.39D). Region 11 has the lowest number per capita, even though it has the largest number of 18-hole course equivalents. The remaining regions are near the statewide average.

Downhill Ski Areas

Seventy percent of downhill ski areas are located in the following regions: 11 (23 percent of the state total), 3 (16 percent), 4 (16 percent) and 10 (13 percent) (see Fig. 3-S.41A). The distribution of ski areas indicates that it is partly oriented to population (see Table 3-S.08). This is evident for the Twin Cities metropolitan area, where 45 percent of the statewide facilities are within a two-hour drive of Minneapolis-St. Paul.

Trails

Trail distribution is examined using trail mileage of administrator-intended uses. The same section of trail commonly has more than one intended use. Consequently, total trail miles for all uses will be greater than the actual length of trails.

The greatest trail length is for snowmobiling (see Table 3-S.09) followed by hiking, cross-country skiing, horse-

back riding, interpretation and off-road vehicles (ORVs—trail bikes, four- and three-wheeled vehicles). For all intended uses, higher trail mileages are consistently concentrated in the Twin Cities metropolitan area and in the counties of the transition and forest zones, especially the northern forest zone. Agricultural areas tend to have lower mileages, particularly Regions 1, 6W, 8, 9 and the western counties of Region 4.

One-half of hiking trail mileage is located in Regions 3 (32 percent of the state total) and 11 (18 percent) (see Table 3-S.09). Another 20 percent of hiking mileage is evenly split between Regions 5 and 7E. The lowest mileages are in Regions 1 and 6W, each with less than 1 percent of the statewide total.

Snowmobiling mileage is also largest in Region 3, where 27 percent of the statewide total is located. Region 3 is followed by Regions 10 (13 percent) and 5 (12 percent). Each of Regions 2, 4, 7E and 11 contains just under 10 percent of the statewide total. The lowest mileage regions are in the agricultural areas of the west and south (Regions 1, 6W, 8 and 9).

Cross-county skiing mileage is concentrated in Regions 3 and 11, which together account for 63 percent of the state total. The next-largest region is 10, with 6.5 percent of total mileage. The regions of the west and south (1, 6W, 8 and 9) and Region 7W contain the lowest regional mileage totals.

Horseback riding mileage is not concentrated in one or two regions. Region 7E has the longest aggregate mileage (17 percent of the statewide total), followed by Region 11 (17 percent), 10 (14 percent) and 3 (10 percent). As with other intended trail uses, the regions of the west and south (1, 6W, 8 and 9) have short total mileages.

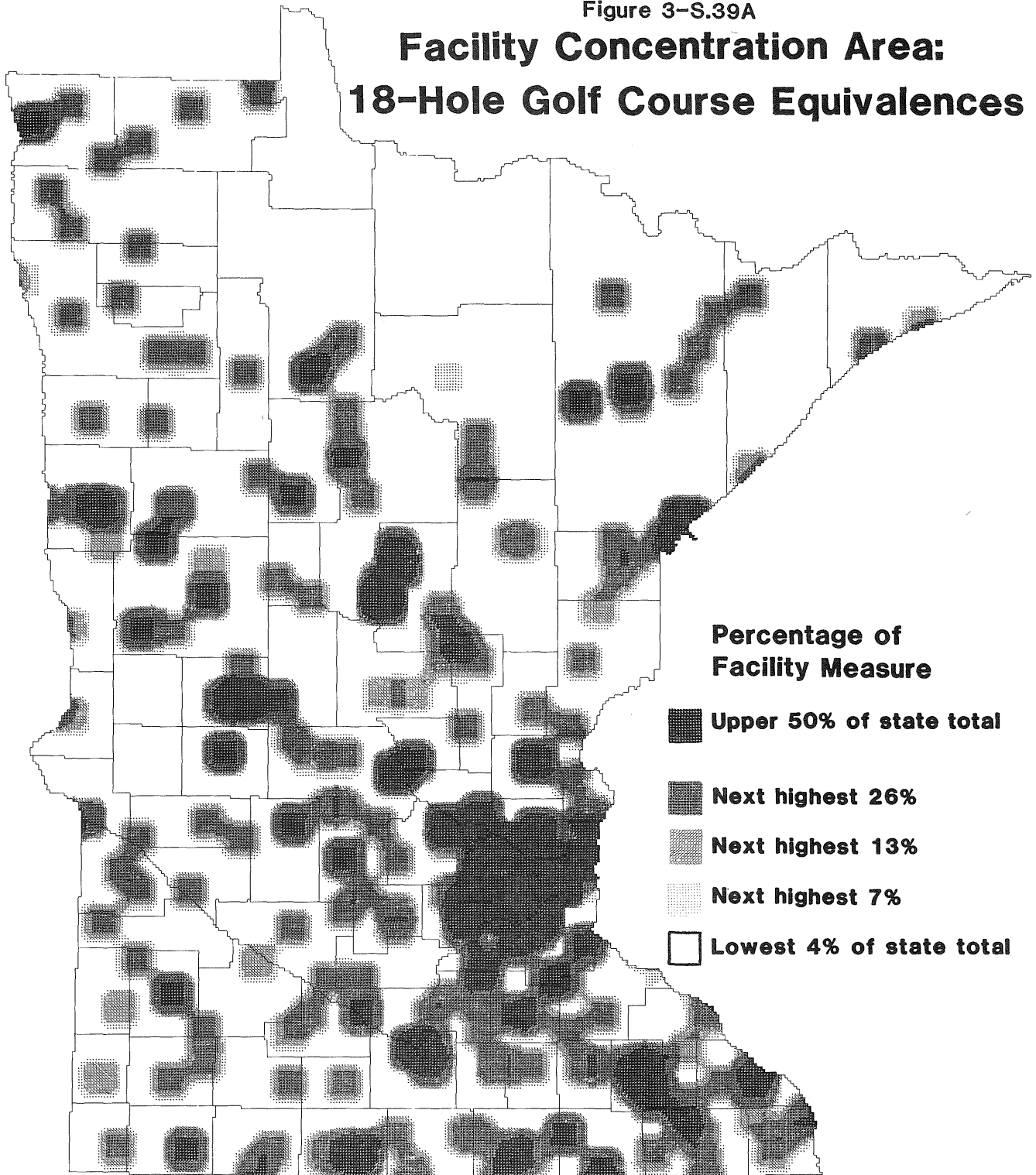
There are comparatively few ORV trail miles. More than half the mileage is located in Region 6E (55 percent of the state total), while most of what remains is located in Regions 2 (17 percent) and 3 (16 percent). The only other region with a relatively large aggregate mileage is 7E, which contains 7.6 percent of the state total.

More than two-thirds of interpretive use trail mileage is in four regions: Region 3 (23 percent of the state total), Region 11 (23 percent), Region 2 (15 percent), and Region 10 (8 percent). The regions with the least mileage are 1, 6W and 9, each of which contains less than 2 percent of the statewide total.

Trail ownership varies considerably from intended use to intended use. In general, trail ownership has a smaller private sector component than other facility types. For hiking, the state is the principal administrator with 40

Figure 3-S.39A

Facility Concentration Area: 18-Hole Golf Course Equivalences



NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

FIGURE 3-S.398
MINNESOTA
OUTDOOR RECREATION FACILITIES
Number of 18-Hole Golf Course Equivalents
Statewide Total: 183.6

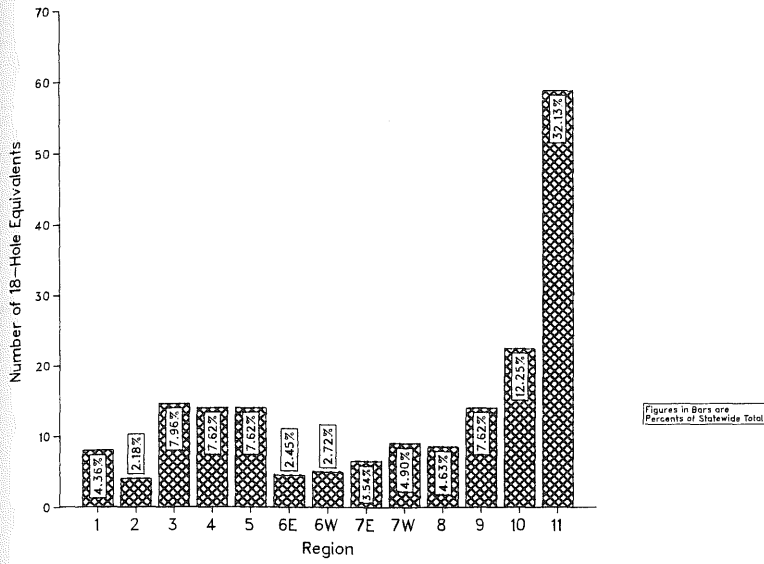


FIGURE 3-S.390
MINNESOTA
OUTDOOR RECREATION FACILITIES
Number of 18-Hole Golf Course Equivalents/100,000 People
Statewide Average: 4.5

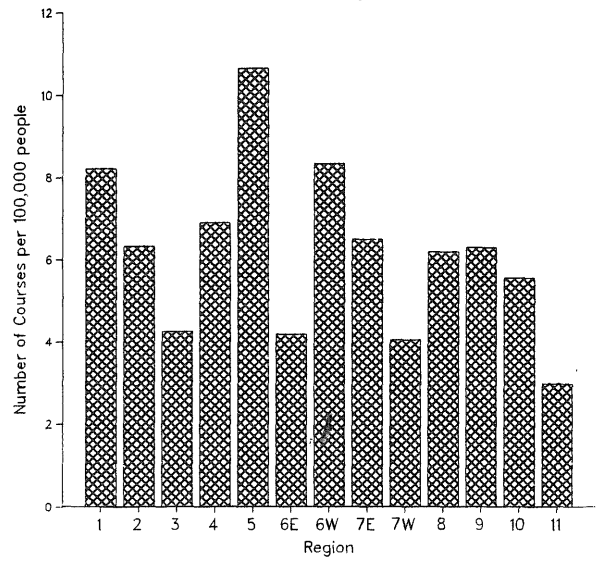
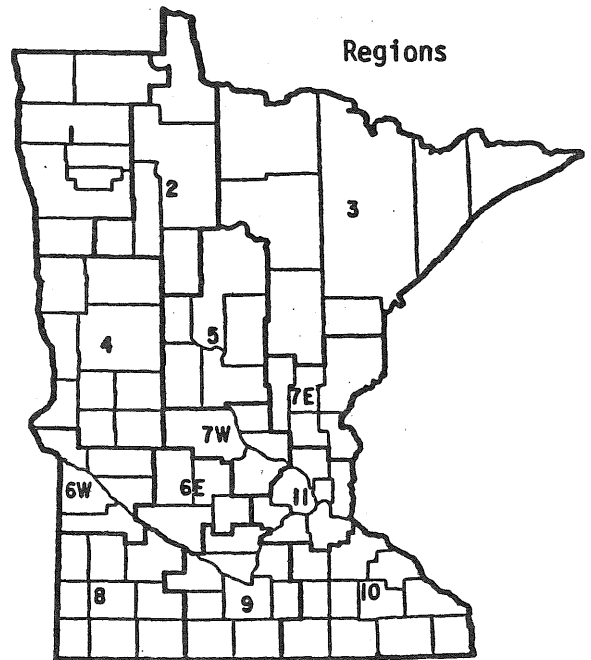
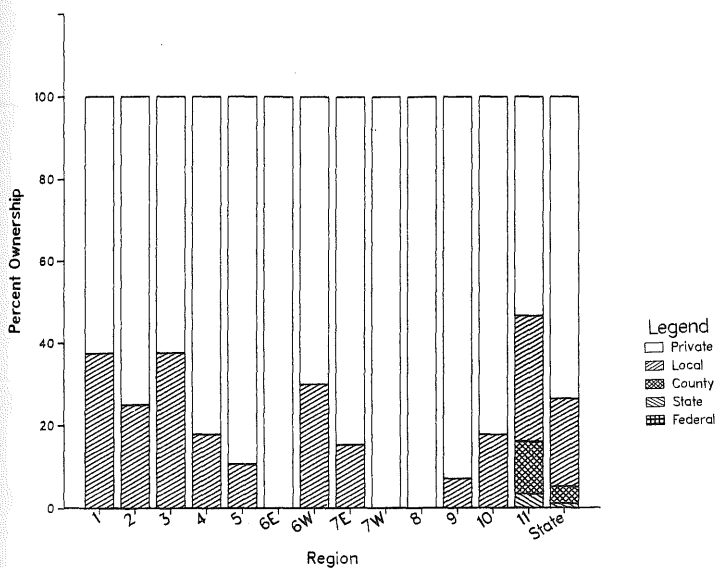
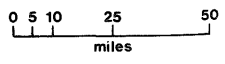
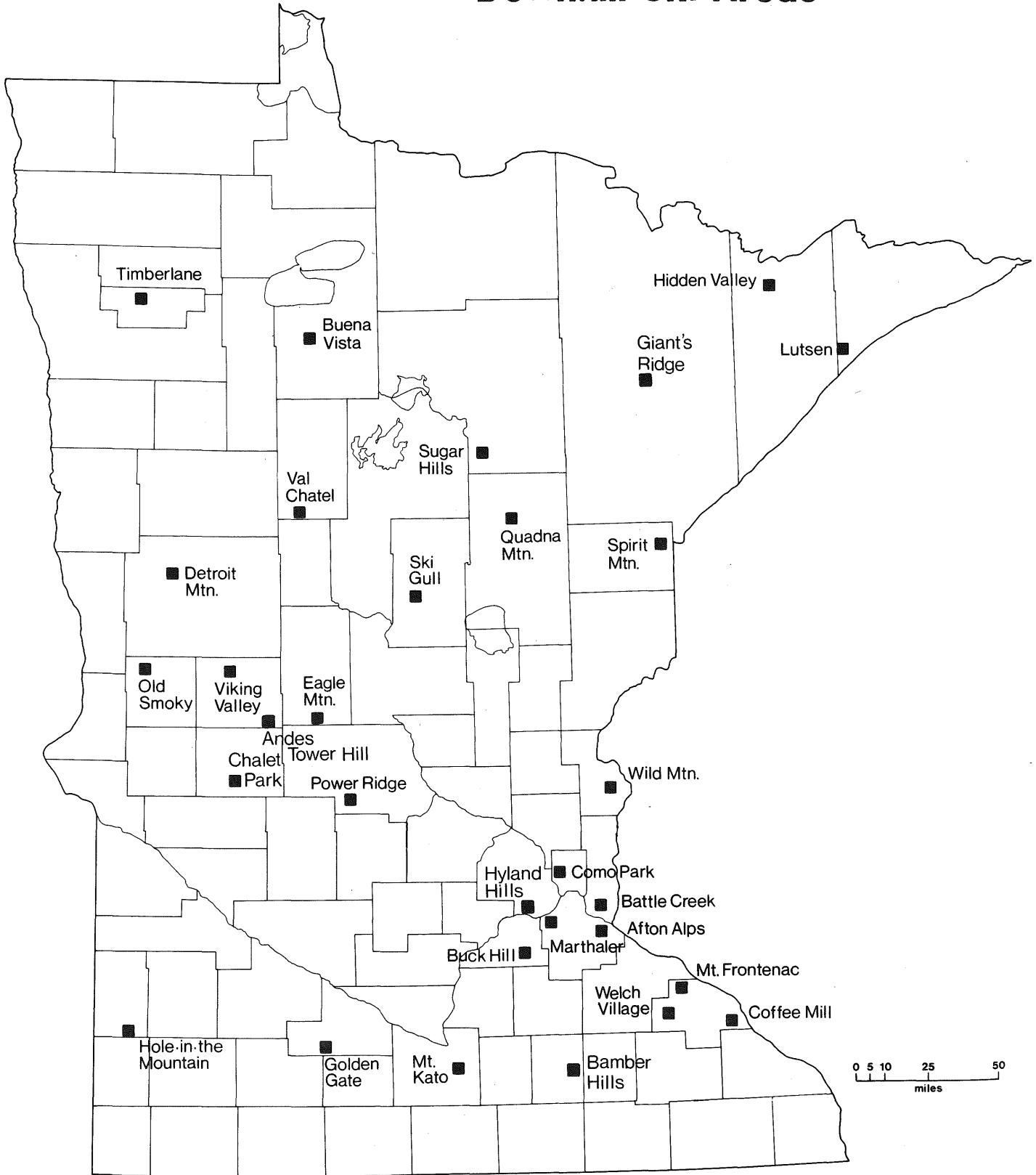


FIGURE 3-S.39C
MINNESOTA
OUTDOOR RECREATION FACILITIES
Ownership of 18-Hole Golf Course Equivalents
Statewide Total: 183.6



GOLF COURSES include both long and short courses, and driving practice ranges. Miniature golf courses are specifically excluded.

Figure 3-S.41A
Downhill Ski Areas



DEPARTMENT OF NATURAL RESOURCES

**Table 3-S.09
Trail Miles^a
Administrator-Intended Use**

REGION	HIKE*	SNOW*	XSKI*	HORSE*	ORV*	INT*	
1	39.30	101.80	12.90	7.50	0.00	4.00---	KEY TOTAL MILES PERCENT OF STATE
	0.99	1.12	0.59	0.69	0.00	0.89---	
2	266.80	844.80	88.50	37.00	21.50	66.30	
	6.74	9.32	4.04	3.42	17.37	14.71	
3	1258.80	2457.60	813.90	109.30	19.90	104.40	
	31.80	27.12	37.17	10.10	16.07	23.16	
4	208.50	694.30	98.00	93.70	0.00	30.30	
	5.27	7.66	4.48	8.66	0.00	6.72	
5	396.60	1061.00	137.80	98.00	4.00	43.10	
	10.02	11.71	6.29	9.06	3.23	9.56	
6E	54.10	394.50	82.00	79.50	68.00	9.10	
	1.37	4.35	3.74	7.35	54.93	2.02	
6W	25.50	12.40	11.50	6.00	0.00	5.50	
	0.64	0.14	0.53	0.55	0.00	1.22	
7E	410.00	777.30	90.30	188.70	9.40	15.40	
	10.36	8.58	4.12	17.44	7.59	3.42	
7W	98.30	427.70	54.60	50.70	0.00	12.90	
	2.48	4.72	2.49	4.69	0.00	2.86	
8	96.10	46.60	59.50	39.20	0.00	14.10	
	2.43	0.51	2.72	3.62	0.00	3.13	
9	108.30	278.80	35.30	39.20	1.00	3.80	
	2.74	3.08	1.61	3.62	0.81	0.84	
10	287.30	1219.00	141.80	149.10	0.00	37.90	
	7.26	13.45	6.48	13.78	0.00	8.41	
11	708.60	744.90	563.70	184.20	0.00	104.00	
	17.90	8.22	25.74	17.02	0.00	23.07	
STATE	3958.10	9060.70	2189.80	1082.10	123.80	450.80	
	100.00	100.00	100.00	100.00	100.00	100.00	

*Hike - Hiking; Snow - Snowmobiling; Xski - Cross-country skiing; Horse - Horseback riding; ORV - Off-road vehicles; Int - Interpretation.

^aData reflect the status of the SCORP Facility Information System in January 1984.

percent of the statewide total (see Table 3-S.10). The private sector provides an additional 21 percent of the state total. Each of the other three ownership categories accounts for between 10 and 15 percent of Minnesota hiking mileage. Snowmobiling trail mileage, much of which was developed as part of the grant-in-aid program, is predominantly county-administered (65 percent of the state total); the state is the next-largest administrator (23 percent). The state is the principal administrator of cross-country ski mileage (34 percent of the state total) and virtually all of what remains is administered by the other public sector developers: county (27 percent), federal (19 percent) and local (18 percent). Horseback riding trail mileage is 54 percent state-administered; most of the rest is under private (23.5 percent) and county (17.5 percent) administration. The low ORV mileage is dominated by county (58 percent of the state total) and state (35 percent) administrators. The state is the largest administrator of interpretive trails, with 32 percent of the state total. It is followed closely by the private sector (29 percent). Most of the interpretive mileage that remains is either under local (21 percent) or county (13 percent) administration.

Trail ownership is regionally concentrated. For example, in Region 3, where the federal government manages most of its land, the federal government provides a greater share of trail mileage for each of the intended uses than it does statewide. Other examples of regions where an owner accounts for a greater share of mileage in a majority of intended uses (at least four of the six intended uses) than it does statewide are: state in Regions 1, 2, 6W, 7E, 8 and 10; county in Regions 6E, 9 and 11; local governments in Regions 9 and 11; and the private sector in Regions 2, 4 and 5.

The per capita distribution of trail lengths by intended use is regularly below the state average in the agricultural regions of the west and south (Regions 1, 6W, 8 and 9), in Region 7W and in the Twin Cities metropolitan area (Region 11) (see Table 3-S.11). Per capita trail mileages are regularly high in Regions 2, 3, 5 and 7E. The remaining three regions (4, 6E and 10) have per capita trail mileages that are closer to the state averages of intended uses.

Wildlife Management Facilities

Wildlife Areas

Wildlife areas are intended for the production and management of wildlife, especially waterfowl. Wildlife areas

also provide for hunting, trapping and fishing, and for such nonconsumptive activities as bird-watching and photography.

The largest concentration of public wildlife lands is in the western part of the state (Fig. 3-S.42A). Most of these lands are remaining wetlands in the native prairie or in the forest-prairie transition zone. Much of the land was purchased to ensure against further habitat loss. Large national and state wildlife refuges stand out in the distribution pattern as heavy concentrations in both the western and eastern parts of the state.

Just over 60 percent of public wildlife acres are in the regions along the western border of the state (Regions 1, 4, 6W and 8) (see Fig. 3-S.42B). Regions 1 and 4 have particularly large wildlife acreages. An additional 20 percent of Minnesota wildlife land is located in Regions 2, 8 and 10.

Approximately 60 percent of public wildlife land is in state ownership; the remainder is virtually all in federal ownership (Fig. 3-S.42C). Variations in ownership patterns from region to region are largely due to the location of major management units and acquisition activity for smaller units. Region 11 has the only county-administered wildlife land, which is located in Carver County.

Wildlife area locations are keyed to the distribution of particular natural resources, especially productive wetlands. Public wildlife lands are by no means population oriented (Fig. 3-S.42D).

Scientific and Natural Areas

SNAs are small, state-owned DNR-administered lands that have been designated as this type of management unit because of their exceptional scientific and educational value. SNAs protect natural vegetation features such as native prairies and virgin hardwood stands, as well as unique and rare animal habitats. The DNR continually evaluates land for potential SNA status.

Half of statewide SNA acreage is located in western regions: Region 4 (27 percent of the state total), and Region 1 (24 percent). An additional 21 percent of the state's acreage is in Region 2 (see Fig. 3-S.23 for SNA distribution).

Like wildlife areas, SNAs are mainly resource oriented and not population oriented.

**Table 3-S.10
Trail Ownership^a**

(percent of administrator-intended use by administrator)

REGION	USE	FEDERAL*	STATE	COUNTY	LOCAL	PRIVATE
1	Hiking	0.00	84.74	2.54	10.18	2.54
	Snowmobiling	0.00	83.30	15.72	0.98	0.00
	X-Country Ski	0.00	100.00	0.00	0.00	0.00
	Horseback Ride	0.00	86.67	0.00	13.33	0.00
	ORV	0.00	0.00	0.00	0.00	0.00
	Interpret	0.00	37.50	0.00	62.50	0.00
2	Hiking	10.34	24.06	22.11	1.12	42.35
	Snowmobiling	0.47	38.58	50.30	0.00	10.65
	X-Country Ski	19.32	51.98	27.23	1.47	0.00
	Horseback Ride	0.00	56.76	0.00	0.00	43.24
	ORV	0.00	100.00	0.00	0.00	0.00
	Interpret	0.00	66.06	1.51	0.00	32.43
3	Hiking	29.42	37.44	9.95	4.12	19.07
	Snowmobiling	6.15	36.79	50.64	1.59	4.82
	X-Country Ski	41.59	28.44	17.89	9.62	2.46
	Horseback Ride	20.59	29.09	7.32	0.00	43.00
	ORV	37.69	62.31	0.00	0.00	0.00
	Interpret	7.57	45.21	2.87	13.03	31.32
4	Hiking	6.76	30.46	2.40	7.15	53.24
	Snowmobiling	0.00	13.31	75.69	1.50	9.51
	X-Country Ski	14.39	42.76	27.35	2.24	13.27
	Horseback Ride	0.00	37.78	0.00	10.99	51.23
	ORV	0.00	0.00	0.00	0.00	0.00
	Interpret	3.30	14.85	16.50	16.50	48.84
5	Hiking	8.88	34.64	4.29	0.25	51.94
	Snowmobiling	0.00	12.14	79.17	0.00	8.69
	X-Country Ski	31.93	49.56	18.51	0.00	0.00
	Horseback Ride	0.00	69.39	6.12	0.00	24.49
	ORV	0.00	0.00	100.00	0.00	0.00
	Interpret	6.26	4.18	4.64	4.87	80.05
6E	Hiking	0.00	27.36	47.69	0.92	24.03
	Snowmobiling	0.00	1.90	94.80	0.00	3.30
	X-Country Ski	0.00	10.37	88.41	1.22	0.00
	Horseback Ride	0.00	5.66	85.53	0.00	8.81
	ORV	0.00	0.00	100.00	0.00	0.00
	Interpret	0.00	54.95	23.08	0.00	21.98
6W	Hiking	3.92	60.78	23.53	3.92	7.84
	Snowmobiling	0.00	96.77	0.00	3.23	0.00
	X-Country Ski	4.35	60.87	26.09	8.70	0.00
	Horseback Ride	0.00	100.00	0.00	0.00	0.00
	ORV	0.00	0.00	0.00	0.00	0.00
	Interpret	18.18	18.18	27.27	18.18	18.18

*Some federal mileage may occur in one region but be allocated to another region because of the location of the managing agencies' headquarters.

Table 3-S.10 (continued)
Trail Ownership^a
(percent of administrator-intended use by administrator)

REGION	USE	FEDERAL	STATE	COUNTY	LOCAL	PRIVATE
7E	Hiking	0.00	92.20	0.24	0.24	7.32
	Snowmobiling	0.00	43.83	47.42	0.13	8.62
	X-Country Ski	0.00	100.00	0.00	0.00	0.00
	Horseback Ride	0.00	94.17	0.00	0.00	5.83
	ORV	0.00	100.00	0.00	0.00	0.00
	Interpret	0.00	19.48	31.17	9.74	39.61
7W	Hiking	8.65	15.26	19.13	1.02	55.95
	Snowmobiling	0.00	4.37	80.20	0.00	15.43
	X-Country Ski	15.57	21.98	60.26	2.20	0.00
	Horseback Ride	0.00	48.72	0.00	0.00	51.28
	ORV	0.00	0.00	0.00	0.00	0.00
	Interpret	65.89	0.00	5.43	3.88	24.81
8	Hiking	.83	64.00	27.68	5.41	2.08
	Snowmobiling	0.00	44.42	38.41	0.00	17.17
	X-Country Ski	0.00	78.15	21.85	0.00	0.00
	Horseback Ride	0.00	58.67	41.33	0.00	0.00
	ORV	0.00	0.00	0.00	0.00	0.00
	Interpret	13.48	35.46	26.95	9.93	14.18
9	Hiking	0.00	41.37	21.79	22.07	14.77
	Snowmobiling	0.00	11.60	80.06	4.35	3.99
	X-Country Ski	0.00	31.44	39.38	29.18	0.00
	Horseback Ride	0.00	80.61	4.08	10.20	5.10
	ORV	0.00	0.00	0.00	100.00	0.00
	Interpret	0.00	26.32	21.05	26.32	26.32
10	Hiking	0.00	56.56	9.15	18.27	16.01
	Snowmobiling	0.00	9.34	88.19	0.58	1.89
	X-Country Ski	0.00	60.37	20.73	18.90	0.00
	Horseback Ride	0.00	69.15	0.00	1.34	29.51
	ORV	0.00	0.00	0.00	0.00	0.00
	Interpret	0.00	48.28	6.60	21.90	23.22
11	Hiking	1.20	17.22	23.87	56.57	1.13
	Snowmobiling	0.00	5.72	60.17	33.98	0.13
	X-Country Ski	0.78	14.14	35.64	49.44	0.00
	Horseback Ride	0.49	29.80	48.69	5.19	15.83
	ORV	0.00	0.00	0.00	0.00	0.00
	Interpret	0.00	13.46	30.19	54.42	1.92
State	Hiking	11.78	40.03	12.74	14.14	21.31
	Snowmobiling	1.71	23.44	65.14	3.57	6.14
	X-Country Ski	19.50	33.85	26.83	18.30	1.51
	Horseback Ride	2.16	54.38	17.48	2.48	23.50
	ORV	6.06	39.98	58.16	0.81	0.00
	Interpret	5.10	32.41	13.00	20.74	28.75

^aData reflect the status of the SCORP Facility Information System in January 1984.

Table 3-S.11
Trail Miles per 100,000 Regional Residents in 1980^a
 -----ADMINISTRATOR-INTENDED USE-----

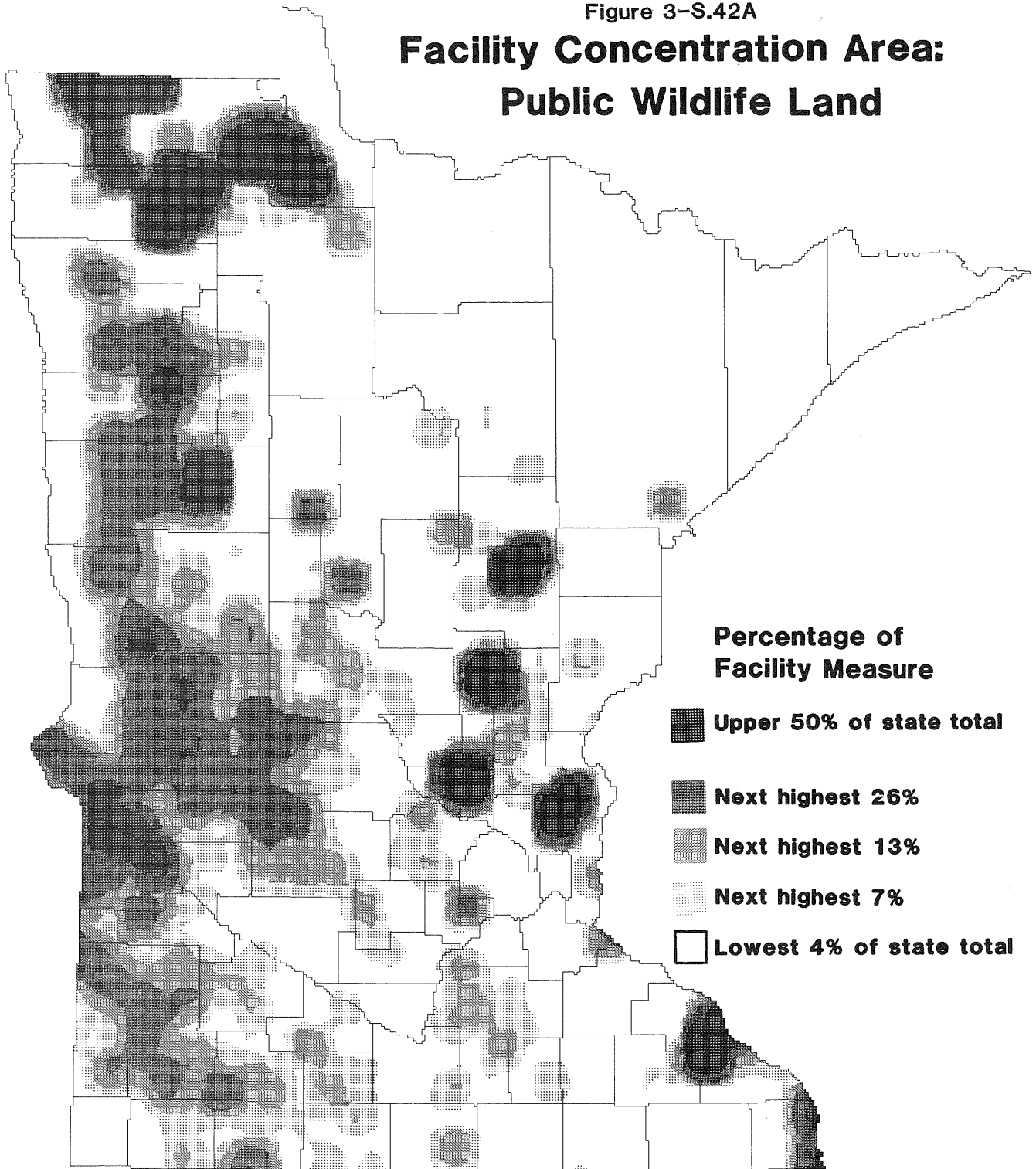
REGION	HIKE*	SNOW*	XSKI*	HORSE*	ORV*	INT*
1	40.42	104.71	13.27	7.71	0.00	4.11
2	422.55	1337.98	140.16	58.60	34.05	105.00
3	366.60	715.78	237.05	31.83	5.80	30.41
4	102.92	342.72	48.37	46.25	0.00	14.96
5	302.13	808.28	104.98	74.66	3.05	32.83
6E	50.37	367.27	76.34	74.01	63.31	8.47
6W	42.63	20.73	19.22	10.03	0.00	9.19
7E	410.91	779.02	90.50	189.12	9.42	15.43
7W	44.29	192.71	24.60	22.84	0.00	5.81
8	70.13	34.00	43.42	28.60	0.00	10.29
9	48.79	125.60	15.90	17.66	0.45	1.71
10	71.01	301.31	35.05	36.85	0.00	9.37
11	35.68	37.51	28.39	9.28	0.00	5.24
STATE	97.11	222.30	53.72	26.55	3.04	11.06

*Hike - Hiking; Snow - Snowmobiling; Xski - Cross-country skiing; Horse - Horseback riding; ORV - Off-road recreation vehicles; Int - Interpretation.

^aTrail data reflect the status of the SCORP Facility Information System in January 1984. Population information taken from *1980 Census of Population and Housing*, Bureau of the Census, U.S. Department of Commerce, 1981.

Figure 3-S.42A

Facility Concentration Area: Public Wildlife Land



NOTE: The Map has been geographically smoothed, in order to highlight regional patterns over local patterns. The smoothing was done by averaging facility capacity data for each township with capacities from adjacent townships.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan (circa mid 1970's to early 1980's).

FIGURE 3-S.42B
MINNESOTA
OUTDOOR RECREATION FACILITIES
Acres of Public Wildlife Areas
Statewide Total: 1,028,051

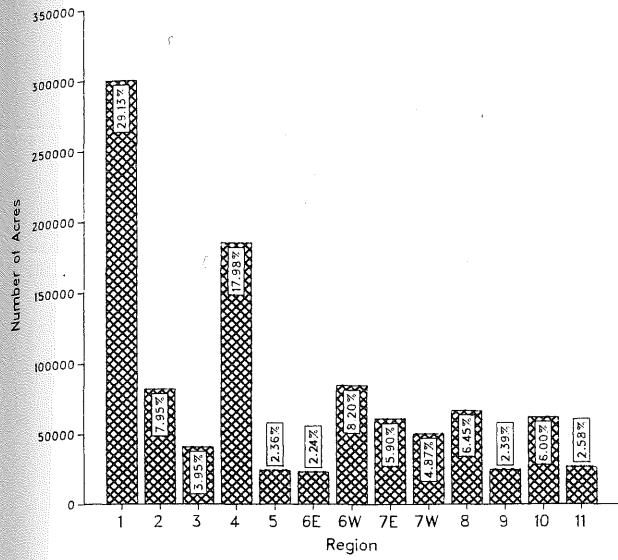
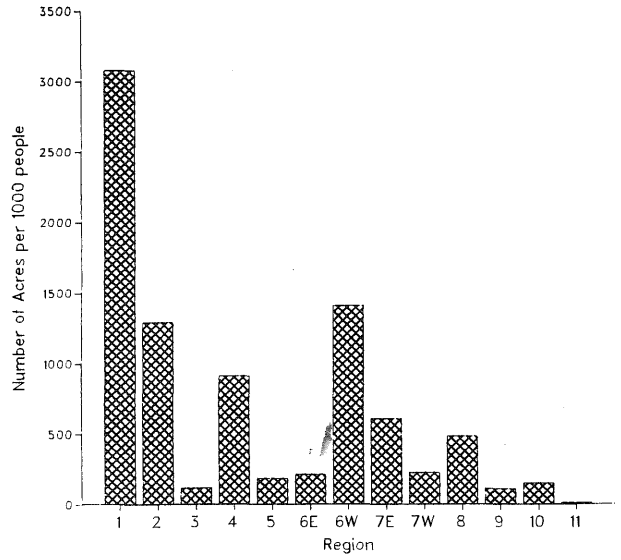
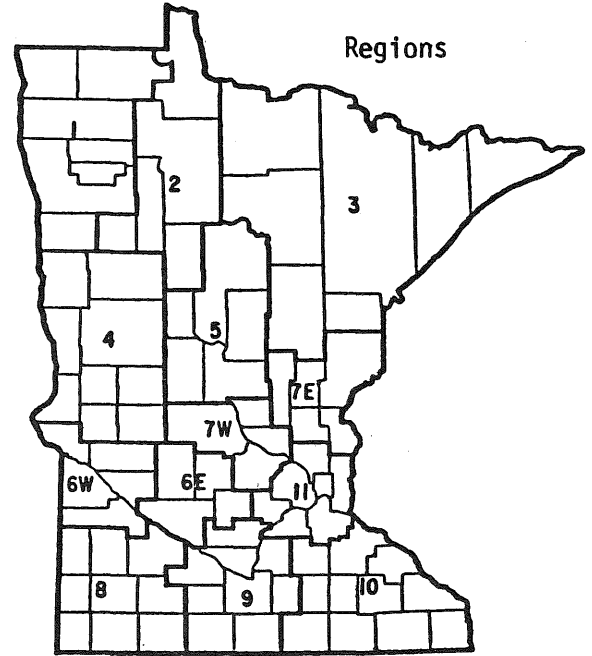
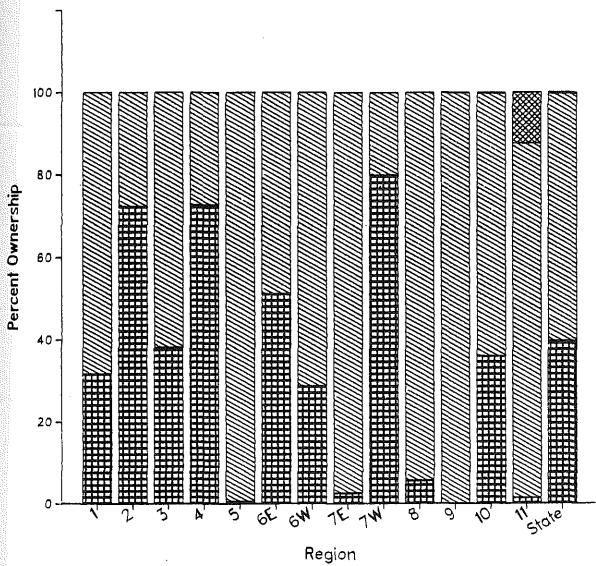


FIGURE 3-S.42D
MINNESOTA
OUTDOOR RECREATION FACILITIES
Acres of Public Wildlife Areas/1000 People
Statewide Average: 252



Figures in Bars are Percents of Statewide Total

FIGURE 3-S.42C
MINNESOTA
OUTDOOR RECREATION FACILITIES
Ownership of Public Wildlife Acres
Statewide Total: 1,028,051



Legend
 Private
 Local
 County
 State
 Federal

WILDLIFE AREAS are administered primarily at the state and federal levels (e.g. state wildlife management areas and federal waterfowl production areas) and are intended for the production and management of wildlife, especially waterfowl.

Chapter 4

Recreation Demand





4. Recreation Demand

Public demand for outdoor recreation is the factor most responsible for the current distribution of facilities. And public demand will have an overriding influence on the future course of facility development. For this study, public demand for outdoor recreation has been measured in two ways: by the level of participation in various activities and by the public's opinion on whether additional outdoor recreation facilities are needed.

This chapter examines current and projected patterns of activity participation and the demand for additional outdoor recreation facilities. First, the basic factors that influence activity participation—the age structure and geographic distribution of the population—are examined. Next, these demand factors are used to forecast near-term changes in participation patterns and to describe geographic patterns of activity demand. The last part of the chapter examines how satisfied the state's residents and local-government recreation leaders are with the present distribution of outdoor recreation facilities. This final section also presents the opinions of local-government recreation leaders on the level of responsibility that public and private facility providers have for the development of different facility types.

Sources of Information

All activity participation is reported in terms of occasions. One occasion for an activity is one person participating in that activity during one day. In that day, the one occasion could have occurred in a single continuous time period or in more than one time period. If on one day more than one activity was participated in, one occasion is reported for each of these activities.

The activity participation data presented here for residents are from statewide telephone surveys conducted in 1978. Minnesota residents were asked how often they participated in a variety of summer (May 7 to September 7) and winter (December 1 to March 15) outdoor recreation activities. Approximately 10,500 households were contacted in each season. Information on the respondents' age, gender, home location and place of recreation participation was also collected.

One activity that was only partly measured by the telephone survey was trout fishing. The dates of the winter

portion of the survey included only the initial part of the trout season.

Data on resident hunting, an important fall activity in Minnesota, were collected in a two-stage SCORP survey. An initial screening to identify hunters was conducted during the 1978 telephone survey. As a follow-up to this initial identification, a sample of hunters was mailed a survey form, which requested detailed hunting-related information, including the basic demographic and geographic data items collected in the telephone survey for other activities. Approximately 1,000 usable returns were obtained from the mail survey. The results of the hunting survey have been incorporated into the discussions of the other activities, except for one topic: the geographic patterns of projected participation. The examination of forecasted use distributions is incomplete.

Three groups of hunted species are discussed: big game, waterfowl and upland game birds. Hunting of small mammals is not included, because the SCORP survey results are too different from the data collected for small-mammal hunting by the Section of Wildlife of the DNR. Evidently, the total-season recall of hunting trips required by the SCORP survey technique was inappropriate for this type of hunting, which tends to be more casual and thus less well remembered than the other types of hunting.

A third 1978 SCORP survey measured nonresident participation in summer (June 1 to August 31) outdoor recreation activities. Nonresident recreationists who entered the state by motor vehicle—the primary mode of recreation travel to Minnesota—were asked to keep travel diaries and return them to the survey contractor. The questions were the same as those in the resident survey; in addition, nonresidents were asked about their expenditures while touring.

A similar nonresident survey for winter was not performed. The number of winter travelers to the state for outdoor recreation purposes is undoubtedly small compared with the number of summer visitors. It is known from the resident SCORP survey that actual travel distances for recreation are considerably shorter in the winter than in the summer. Likewise, for the fall activity

of hunting, nonresidents account for only a minor portion (less than 3 percent) of total in-state participation (see Minnesota volume of: 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, U.S. Department of Interior, Fish and Wildlife Service; and, U.S. Department of Commerce, Bureau of Census).

Detailed information on the SCORP surveys can be found in 1978 SCORP Surveys: an Overview, Minnesota Department of Natural Resources, Office of Planning, Report 2317.

The demand for additional outdoor recreation facilities was assessed in 1984 SCORP statewide mail surveys. Residents and local-government recreation leaders rated the adequacy of the supply of 37 types of facilities. In addition, local-government recreation leaders gave their opinions on how much responsibility public and private facility providers have for the development of different types of facilities. Details on these two surveys can be found in Appendix C.

Factors Used to Assess Future Activity Participation

The statewide structure of outdoor recreation activities was updated in the 1978 SCORP surveys, whose major contribution to understanding Minnesota outdoor recreation was the collection of comparable data across activities and across the state. The surveys determined the amount of activity participation, the distribution of activity participation among demographic groups (e.g., age/sex cohorts), the geographic patterns of recreation participation, and the relationship between geographic patterns of activity participation and home locations of recreationists. None of what was found in 1978 is static, of course, for activities wax and wane in their popularity, and the Minnesota population continues to grow, to gray and to move about the state. Nor is what existed in 1978 without sizable persistence, because neither the learned behavior inherent in recreation participation nor the state's settlement pattern is subject to rapid, short-term change. And important recreation resources, such as lakes, obviously do not migrate.

This section examines some of the basic factors that are important for understanding the near-term changes in recreation participation. These factors—the changing age structure and distribution of the population—are beyond the control of recreation planners. In other words, they need to be accommodated in the planning process.

The forecasting framework, within which the effects of the preceding factors are assessed, is of a “conditional” type, not an “historical” type. Historical forecasts specify what the future state will be, all influences considered. Conditional forecasts have a different structure: *if* factor 1 and 2 change as specified, *and if* their effect is measured by the given cause-effect relationship, *then* the future state is thusly specified. Virtually all forecasts have a conditional structure, although it is not uncommon to find them misrepresented or misconstrued as having a historical structure, much to the detriment of effective communication.

The forecast methodology applied here to assess the change in resident activity participation from 1980 to 1995 is straightforward: activity participation rates from the 1978 SCORP survey have been held constant, and participation has been rolled forward using population projections for age, sex and residence. (The 1978 sample data have been expanded by the 1980 U.S. Census and are considered equivalent to 1980 data.) This forecast methodology is appropriate for established activities but is inadequate for activities that are rapidly rising or declining in popularity. To effectively forecast such activities would require periodic monitoring of participation. Such monitoring would be a worthwhile channel for energies spent on demonstrations of whose anecdotal evidence is least anecdotal. An example of an emerging activity is three-wheeling, which was not even included in the 1978 surveys because of its unimportance.

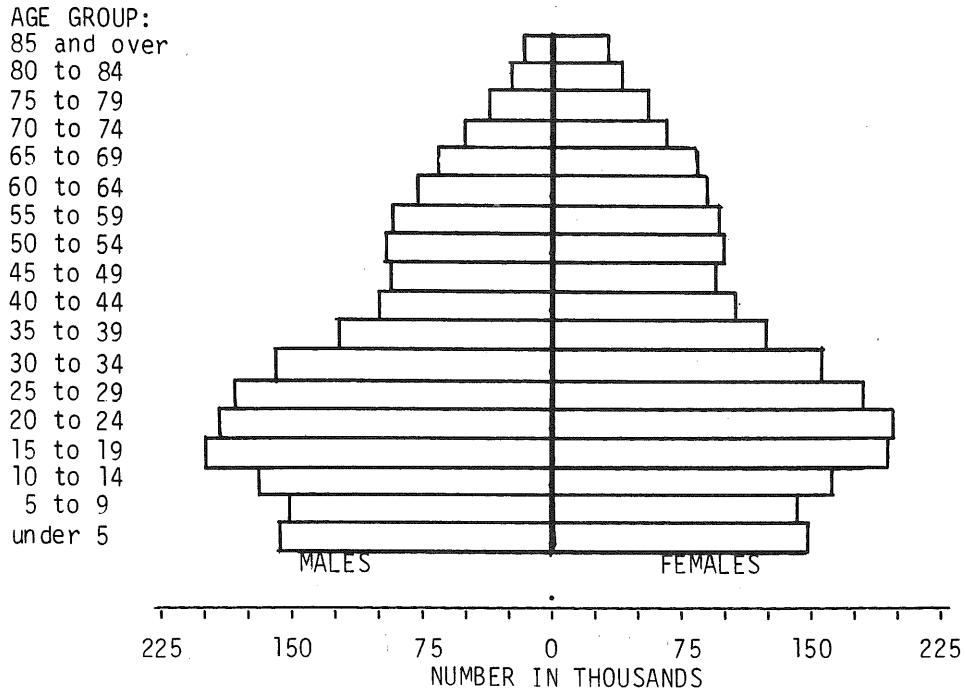
The Changing Age Structure of the Population

The changing age structure of the population is important in activity participation forecasts because participation in many activities varies significantly with age. In 1980, the population distribution (Fig. 4-S.01) displays the normal tapering in the older age brackets, a uniform distribution between 60 and 35, a large bulge in young adults (the “baby boom” generation), and a tapering from the young adults into the youngest age brackets (the “baby bust” generation). As the population is aged to 1995, elderly age brackets show moderate increases, and the baby boom generation produces major increases in the middle age brackets. Large decreases are experienced in those age brackets in which the baby bust generation replaces the baby boom generation, and moderate increases are found in the youngest age brackets, which represent the children of the baby boom generation (the “echo boom” generation).

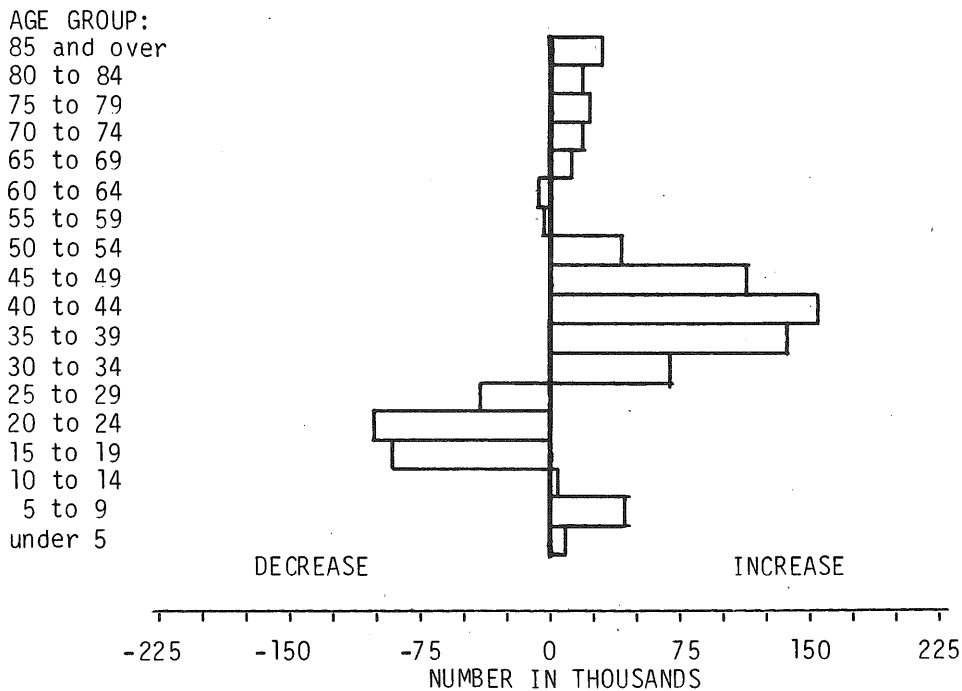
The results of the SCORP recreation participation survey have been charted according to age-class and sex (e.g., summer fishing, Fig. 4-S.02). Coupled with forecasted changes in the population age-class struc-

Figure 4-S.01

1980 Population by Age and Sex



Change by Age 1980-1995 Population



Source: State Demographer Unit, Minnesota Department of Energy, Planning and Development. 1983. Minnesota Population Projections: 1980 - 2010.

ture, the sex/age participation rate of an activity determines the projection of statewide participation. For example, a uniform profile of participation rates across age classes means that an activity is unaffected by changes in the population age-class distribution and will grow in statewide participation at a pace that is equivalent to the forecasted increase in population (Fig. 4-S.02 and 4-S.03 — these participation rates are uniform in comparison to other activity participation rates described below). In addition, uniform participation across those age classes that include a major share of the population also will grow in statewide participation near the increase in population (Fig. 4-S.04).

Activities with a uniform participation rate across age classes are few. Most activities have definite participation rate peaks in certain age classes. For such activities, statewide projections of future participation depend on the age-class location of the peak, the concentration of participation in the peak, and the length of the forecast (that is, how far population bulges, for instance, are rolled into the future).

Golfing is an example of an activity with relatively low participation rates in age brackets forecasted to have major population declines (the baby bust generation) and higher participation rates in the age brackets forecasted to have large population increases (the baby boom plus older age brackets — Fig. S-4.05). Golfing is projected to have a statewide participation increase in excess of the forecasted population gain.

Activities with participation rate peaks at younger ages, in which population is forecasted to increase moderately or decline, will reflect these moderate gains or losses in their statewide participation. Tennis (Fig. 4-S.06), bicycling (Fig. 4-S.07) and ice skating (Fig. 4-S.08) are projected to have small to moderate increases in statewide participation. In contrast, downhill skiing is projected to experience a decrease in statewide participation because of the concentration of its participation rate peak in the teen and young-adult age brackets that are forecasted to have population declines between 1980 and 1995 (Fig. 4-S.09).

Table 4-S.01 displays projected changes in statewide participation for all activities and provides a summary statistic that is a measure of the degree of uniformity in participation rates across age classes. The lower the value of this summary statistic, the greater the uniformity in participation rates across the age classes. The lowest value of the summary statistic is .16, the highest value is 1.46, and the median value is .66.

The two summer activities on Table 4-S.01 with the highest projected increases in participation (bird watching/nature study and golf) share two characteristics: a relatively low participation rate in youthful age classes,

including those expected to experience the largest population declines, and a high participation rate in older age classes, including those forecasted to experience the largest population increases. Projected participation gains for the next three activities (fishing, visiting historic sites and hiking) are near the forecasted state population gain (10.4 percent) because of the uniformity of participation rates across age classes.

Trap/skeet shooting has a broad participation rate peak that extends from the age brackets forecasted to have the largest population declines into the age brackets forecasted to have the largest population increases. The increases exceed the decreases and result in a large projected rise in participation.

The activities on Table 4-S.01 from picnicking to driving for pleasure have a relatively uniform participation rate across age classes; all of these activities have projected participation increases not far below the forecasted population gain.

The next group of activities, from canoeing to bicycling, has a moderate projected participation increase. Although canoeing has its largest participation rate in the age classes forecasted to experience the largest population declines, it has enough participation in the age classes forecasted to have the largest population gains that its projected participation increase is of moderate size. Swimming, archery and bicycling are projected to have moderate participation increases, because each possesses a strongly concentrated participation rate peak in the age classes of the echo boom generation, which are forecasted to show moderate population gains.

The activities with the lowest projected participation increases (from horseback riding to backpacking on Table 4-S.01) have high participation rates in the teen and early-adult age classes, which are forecasted to experience the largest losses in population.

For winter activities, cross-country skiing has the largest projected participation rise, which is accounted for by higher participation rates in the age classes of the baby boom generation than in the age classes of the baby bust generation.

Ice fishing has uniform participation rates across the age classes and a projected increase in participation nearly identical to the forecasted gain in state population. Snowshoeing has dual participation rate peaks in age classes forecasted to increase in size: one occurs in the age classes of the echo boom generation and the other occurs in the age classes of the baby boom generation.

Both sledding and ice skating have participation rate

FIGURE 4-S.02

Minnesota Outdoor Recreation Survey
Sex/Age Activity Participation Rates by Residents
who Recreate Instate
Fishing

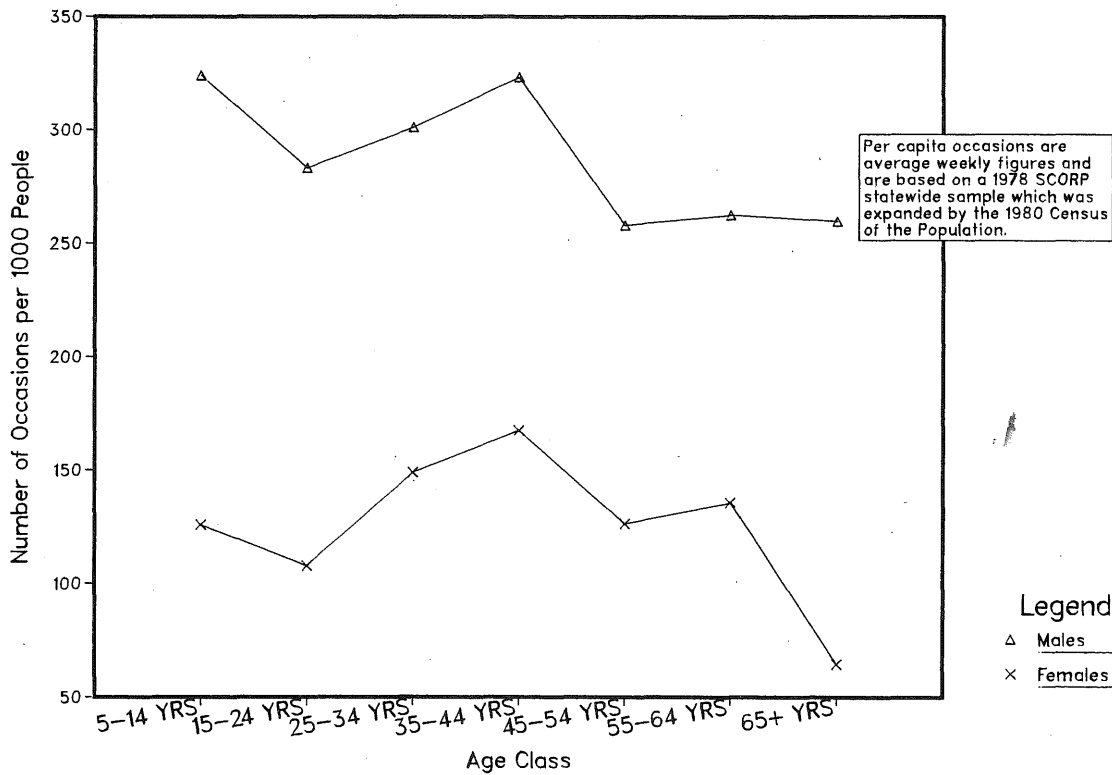


FIGURE 4-S.03

Minnesota Outdoor Recreation Survey
Sex/Age Activity Participation Rates by Residents
who Recreate Instate
Ice Fishing

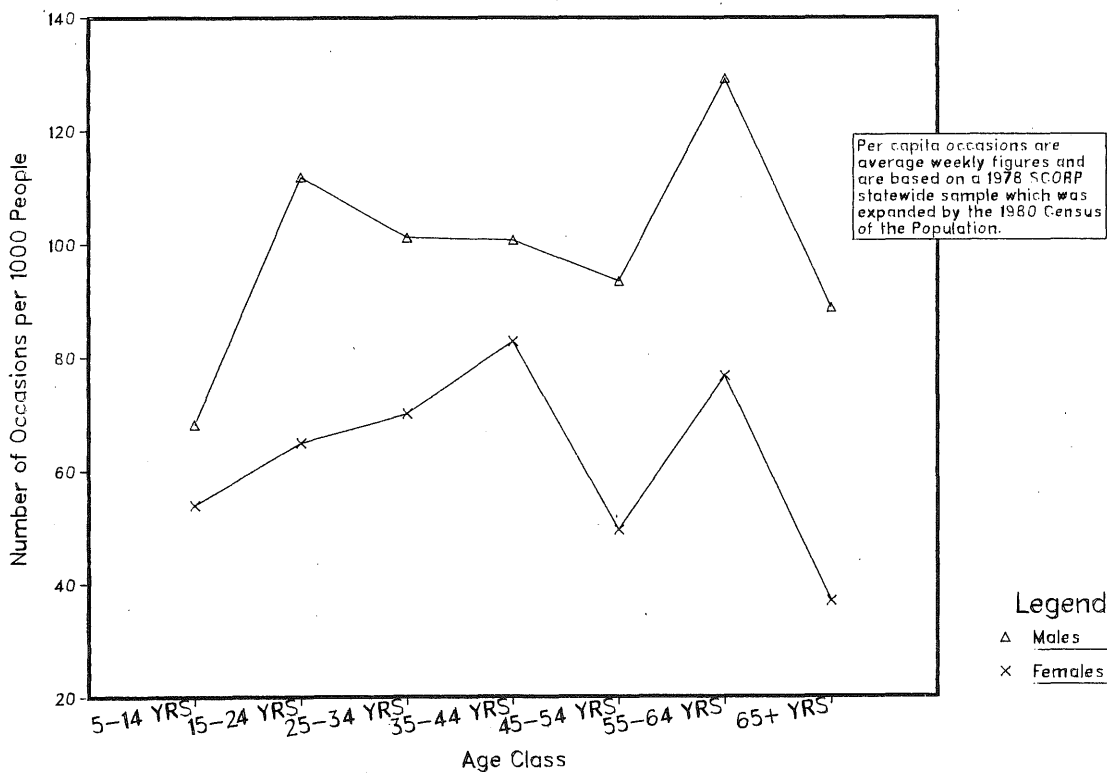


FIGURE 4-S.04

Minnesota Outdoor Recreation Survey
Sex/Age Activity Participation Rates by Residents
who Recreate Instate
Camping

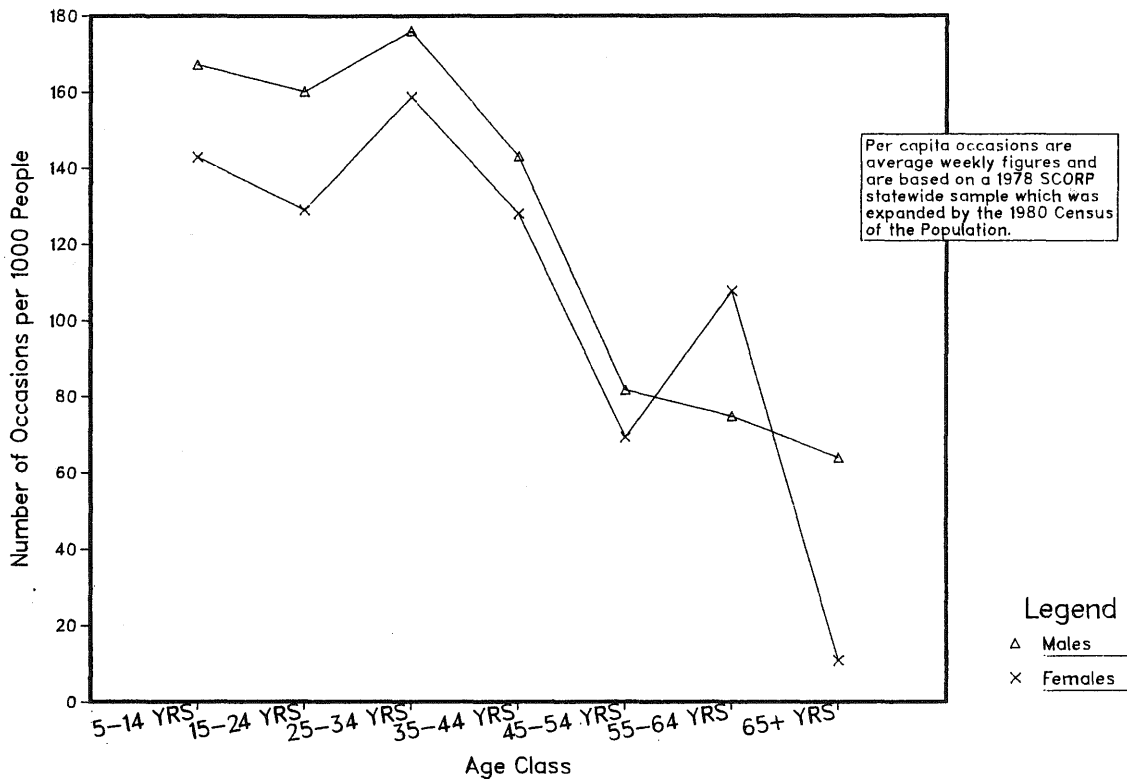


FIGURE 4-S.05

Minnesota Outdoor Recreation Survey
Sex/Age Activity Participation Rates by Residents
who Recreate Instate
Golfing

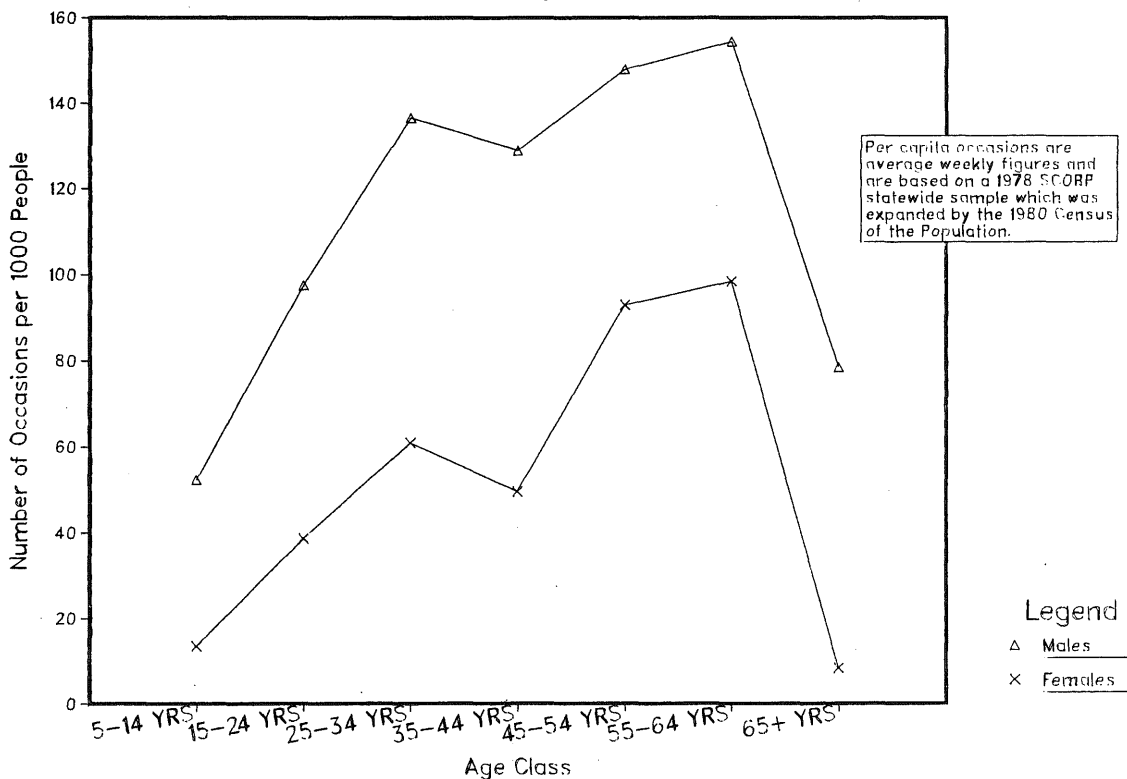


FIGURE 4-S.06

Minnesota Outdoor Recreation Survey
 Sex/Age Activity Participation Rates by Residents
 who Recreate Instate
 Tennis

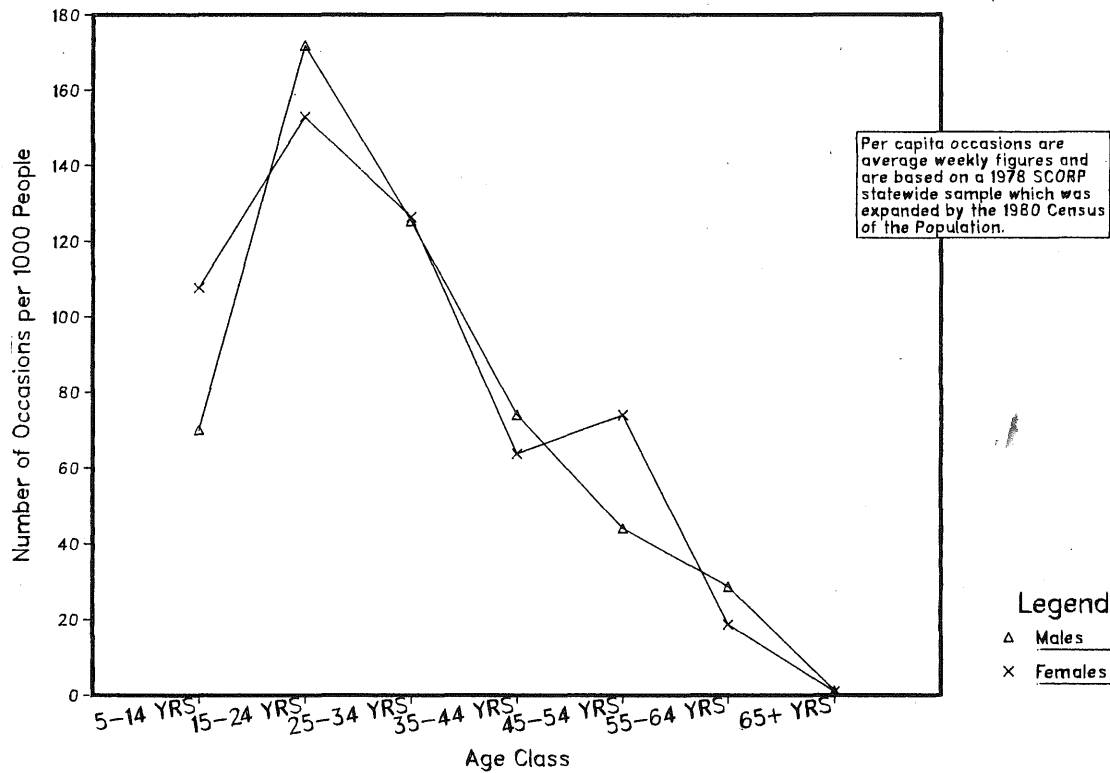


FIGURE 4-S.07

Minnesota Outdoor Recreation Survey
 Sex/Age Activity Participation Rates by Residents
 who Recreate Instate
 Bicycling

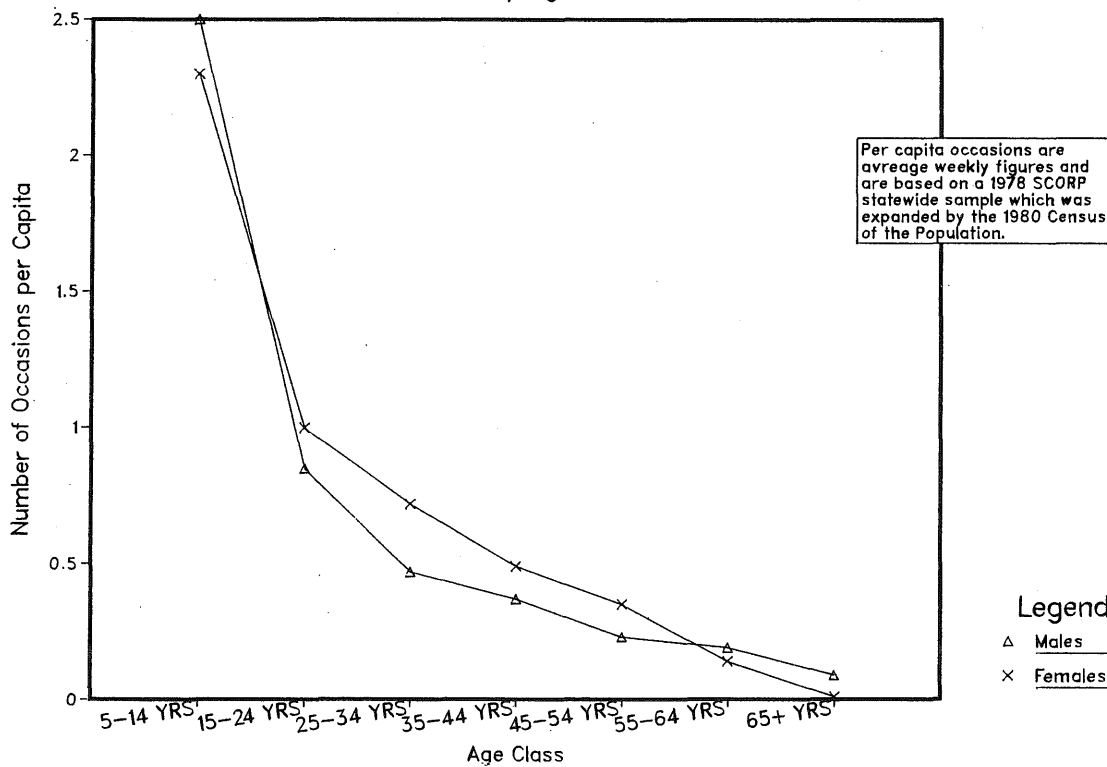


FIGURE 4-S.08

Minnesota Outdoor Recreation Survey
Sex/Age Activity Participation Rates by Residents
who Recreate Instate
Ice Skating

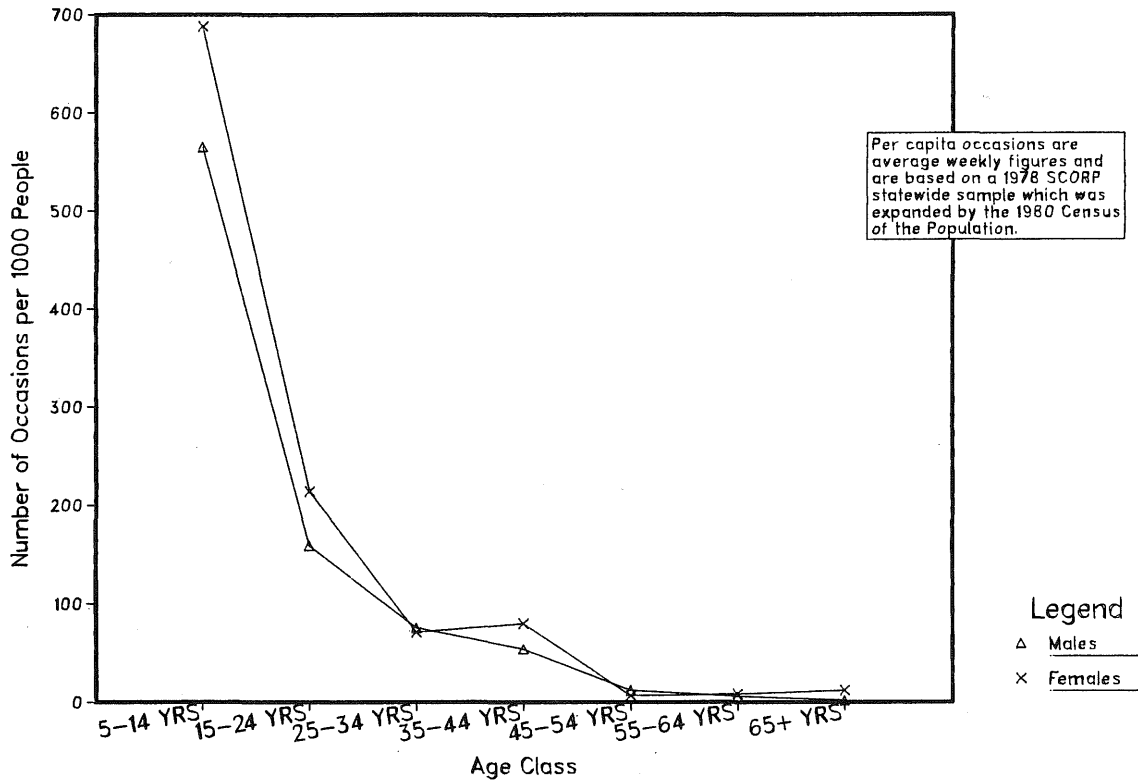


FIGURE 4-S.09

Minnesota Outdoor Recreation Survey
Sex/Age Activity Participation Rates by Residents
who Recreate Instate
Downhill Skiing

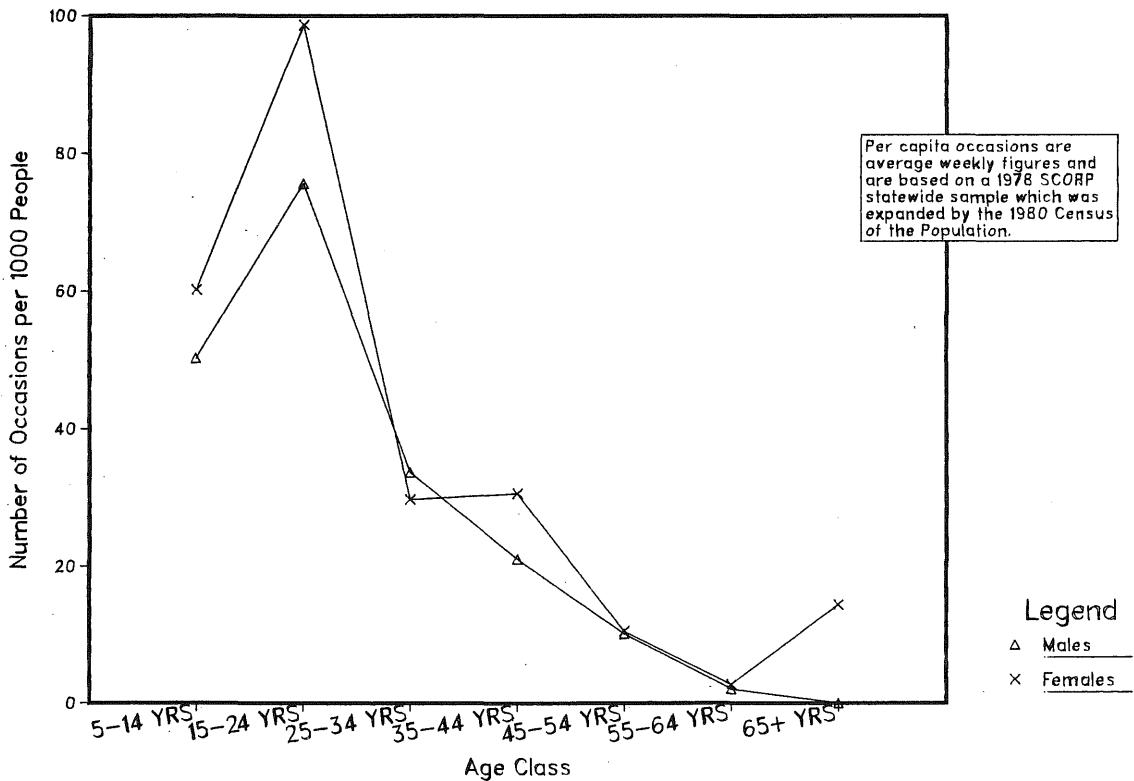


Table 4-S.01
Projected Change in Resident In-State Activity Participation^a
1980-1995

Activity	Percent Change ^b	Uniformity of Participation Across Age Classes ^c
Summer		
Bird Watching/Nature Study	15.1	.47
Golf	12.9	.48
Fishing	11.7	.16
Visiting Historic Sites	10.4	.22
Hiking	10.1	.34
Trap/Skeet Shooting	9.9	.70
Picnicking	9.7	.34
Boating	8.9	.39
Camping	8.1	.37
Driving for Pleasure	7.3	.22
Canoeing	5.5	.59
Swimming	4.2	.75
Archery	3.9	.70
Bicycling	3.4	.94
Horseback Riding	1.6	.89
Tennis	1.0	.67
Baseball/Softball	-0.0	.90
Trailbiking/Four-Wheeling	-0.0	.79
Orienteering	-4.5	1.00
Backpacking	-6.6	.77
Winter		
Cross-Country Skiing	11.6	.47
Ice Fishing	10.5	.27
Snowshoeing	10.2	.59
Sledding	7.4	1.46
Snowmobiling	6.3	.66
Skating	1.2	1.21
Downhill Skiing	-4.8	.74
Hunting		
Big Game	12.4	.39
Waterfowl	7.4	.47
Upland Game Birds	6.2	.52

^aSource: Minnesota Department of Natural Resources, Office of Planning, State Comprehensive Outdoor Recreation Plan.

^bMinnesota's Population is projected to increase 10.4 percent between 1980 and 1995.

^cThe measure of uniformity (or dispersion about the mean) is the coefficient of variation (= standard deviation/mean). It is the appropriate statistic for comparing dispersions about means when the means are of different sizes. The lower the coefficient of variation, the greater the uniformity in participation rates across age classes.

peaks in the age classes of the echo boom generation, which are forecasted to experience moderate population gains. The reason ice skating has a projected participation increase lower than that for sledding is the higher participation rates of ice skating in the age classes of the baby bust generation.

Snowmobiling shows a moderate degree of uniformity in participation rates across the age classes and a moderate projected increase in participation. It has its highest participation rates in the age brackets below 25.

Downhill skiing has a concentrated participation peak in the age classes of the baby bust generation; this accounts for its projected decline in participation.

For hunting, big game species have the largest projected increase, followed by waterfowl and upland game birds (Table 4-S.01). Big game hunting has a greater share of its participation in the age brackets of the baby boom generation than either waterfowl or upland game birds, which have more concentrated participation rate peaks in the age brackets of the baby bust generation. All of the hunting types have low participation rates in the young age brackets (below 15 years old) of the echo boom generation. The projected percentage increase for big game hunting is one of the largest of any activity.

Changes in the Geographic Distribution of Population

The preceding discussion considered participation projections on a statewide basis. Another important dimension of activity projections is the redistribution of participation within the state. For example, an activity may have a projected statewide participation change of zero; yet, certain areas may show large gains in participation, which are offset by large losses in other areas. Knowledge of the locations of such areas is important in directing the development of outdoor recreation facilities.

A key factor in redistributions of activity participation is population change. During the 1970s the highest population growth was at the fringe of, and immediately surrounding, the seven-county Twin Cities metropolitan area (Fig. 4-S.10). Other areas of high growth were near such regional centers as Rochester, Mankato, Marshall, Willmar, Alexandria, Detroit Lakes, Moorhead, Park Rapids, Bemidji, Brainerd, Grand Rapids, Duluth, and along an axis from Hibbing to Virginia. These population growth areas consistently show up on maps of projected participation increases for population-based activities.

Recent State Demographer forecasts to the year 2000

have a great deal in common with the 1980 population pattern, and with changes in that pattern from 1970 to 1980. The forecasts show the seven-county Twin Cities metropolitan area retaining approximately half the state's population between 1980 and 2000 (Fig. 4-S.11). The state population increase for the 1970s (7.1 percent) is forecasted to remain unchanged in the 1980s (7.2 percent) and to decrease moderately to 5.2 percent in the 1990s.

The pattern of county population changes in the 1970s also is forecasted to largely persist to the year 2000. One exception is the Iron Range. Counties that include the Iron Range in northeastern Minnesota are forecasted to have 1980-2000 population growths below those that would be expected if 1970s patterns persisted. This is due to the projected continuation beyond 1980 of economic conditions more adverse than those of the 1970s.

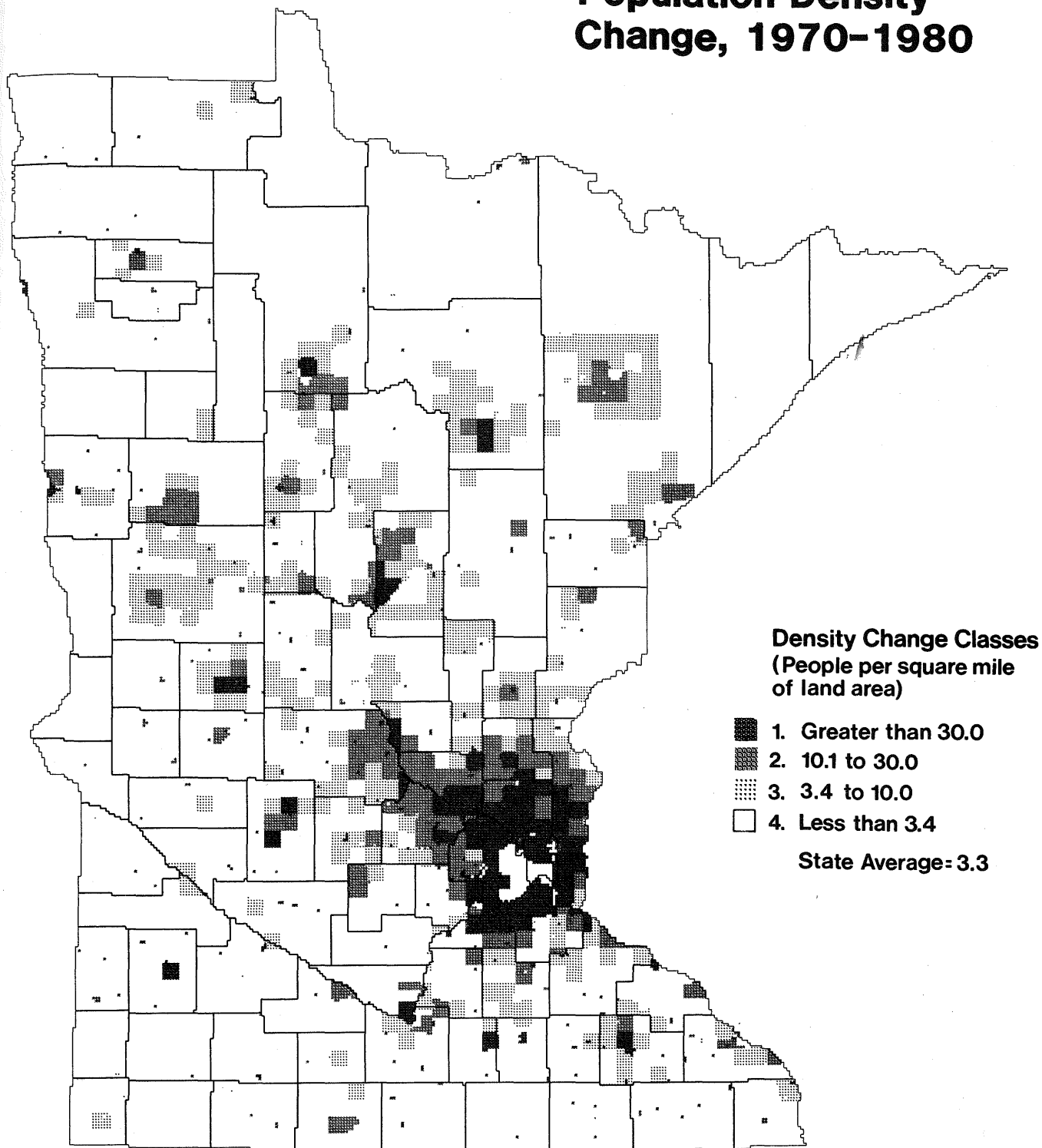
Within the 1980-1995 forecast of general population change (Fig. B-S.A), different age classes have different projected patterns of change (Fig. B-S.B—less than 14 years old; B-S.C—15 to 29 years old; B-S.D—30 to 45 years old; B-S.E—55 years and older). The age-specific change patterns are important for understanding the distribution of forecasted participation changes for activities with concentrated participation-rate peaks in specific age brackets, especially when much of that participation occurs close to home.

Each age bracket has a 1980 distribution that corresponds closely with the total population distribution in 1980. The age brackets that include the baby boom generation and older age classes (Fig. B-S.D and B-S.E) have large forecasted increases in the regions of the state that had high densities in 1980. In contrast, the younger age brackets (Fig. B-S.B and B-S.C) are forecasted to have major increases outside of the highest density areas in 1980. Stated differently, much of the growth in young recreationists is forecasted to be in areas of previously low densities, while much of the growth in over-30 recreationists is forecasted to occur in the regions of the state with previously high densities.

Areas of population increase will show participation increases for recreation activities that generally occur close to home (Table 4-S.02). Two-thirds of the activities have more than 70 percent of participation occurring within 25 miles of home, and approximately half of the activities have more than 80 percent of participation within 25 miles. A continuous view of the rapid fall of participation with increasing distance from home is displayed on Fig. 4-S.12 for selected population-based activities (swimming, tennis and picnicking). The participation decrease with distance from home is most extreme for tennis. A small amount of participation occurs at greater distances for swimming and pic-

Figure 4-S.10

Population Density Change, 1970-1980



Source: U.S. Department of Commerce, Bureau of the Census, 1981, 1980 Census of Population and Housing.

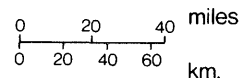
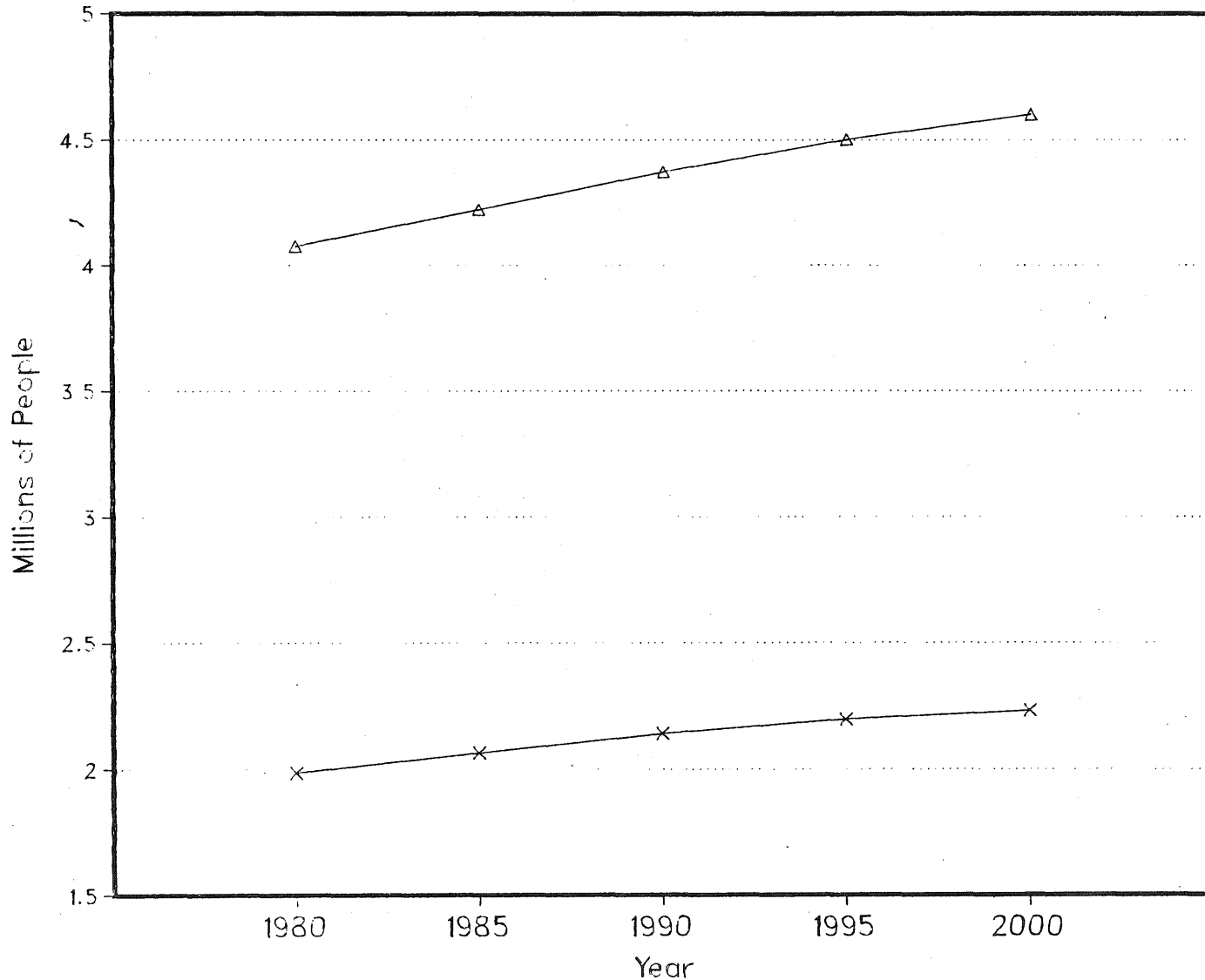


FIGURE 4-S.11

Minnesota Projected Population 1980 to 2000



4.012

Legend

- △ State Total
- × Metro Area Only

Source: Minnesota Dept. of Energy, Planning, and Development – Office of the State Demographer
U.S. Bureau of the Census, 1980

Table 4-S.02
In-State Activity Participating by Residents at
Various Travel Distances from Home^{a,b}

Activity	Percent of Participation: Greater than 75 miles	Percent of Participation: Between 26 & 75 Miles	Percent of Participation: Less than or Equal to 25 Miles
Summer			
Camping	47.1	30.6	22.3
Backpacking	45.3	8.5	46.2
Canoeing	38.7	11.4	49.9
Fishing	33.0	18.9	48.1
Boating	31.3	14.1	54.6
Visiting Historic Sites	25.9	21.8	52.3
Bird Watching/ Nature Study	22.1	9.2	68.7
Archery	13.4	14.6	72.0
Orienteering	12.8	.9	86.3
Hiking	12.5	8.0	79.5
Swimming	11.6	8.1	80.3
Picnicking	11.0	14.5	74.5
Trap/Skeet Shooting	9.8	8.5	81.7
Driving for Pleasure	8.9	16.6	74.5
Horseback Riding	5.3	8.3	86.4
Trailbiking/Four-Wheeling	5.0	9.6	85.4
Golf	5.0	4.4	90.6
Tennis	2.4	2.6	95.0
Baseball/Softball	2.1	4.8	93.1
Bicycling	1.0	3.1	95.9
Winter			
Downhill Skiing	14.9	23.0	62.1
Ice Fishing	9.0	21.5	69.5
Snowshoeing	6.2	18.2	75.6
Cross-Country Skiing	6.1	7.0	86.9
Snowmobiling	5.8	9.3	84.9
Skating	1.3	5.0	93.7
Sledding	1.0	6.2	92.8
Hunting			
Big Game	42.2	25.1	32.7
Waterfowl	37.2	19.3	43.5
Upland Game Birds	28.6	28.8	42.6

^aSource: Minnesota Department of Natural Resources, Office of Planning, State Comprehensive Outdoor Recreation Plan.

^bTravel distances are point-to-point calculations from homes to actual recreation destinations found in a 1978 SCORP statewide sample of Minnesotans.

nicking, probably because of participation in these activities on vacation trips.

Areas of population increase will have less influence on the locations of participation gains for activities that generate frequent, long-distance travel (Table 4-S.02). More than 20 percent of backpacking, camping, summer fishing, boating, visiting historic sites, bird watching/nature study and hunting is done at distances greater than 75 miles from home. Even for these activities, however, a significant portion of participation occurs close to home. A continuous view of the decrease of participation with distance from home is shown on Fig. 4-S.13 for selected long-distance activities (camping, fishing and boating). A high proportion (at least 25 percent) of camping, fishing and boating participation is found at distances beyond 100 miles from home. For these same three activities, metro residents travel considerably farther from home than non-metro residents (Fig. 4-S.14 and 4-S.15).

The decrease of metro participation in boating and fishing as travel distance increases is notable (Fig. 4-S.14). A rapid decrease of metro participation occurs within the first 30 miles of home, after which the decrease slows significantly out to 100 miles. Beyond 100 miles, the rate of decrease becomes more rapid again. It is coincidence that at a distance of 100 miles from the metro area are such lake vacation areas as Mille Lacs Lake, Brainerd and Kandiyohi-southern Stearns County. Alexandria is 125 miles from the center of the metro area.

Activity Demand

The discussion of activity demand focuses on high-participation activities (at least 200,000 average weekly activity occasions). These activities account for nearly all of the outdoor recreation occasions in the 1978 SCORP surveys of residents and nonresidents, and for nearly all of the projected increases in outdoor recreation occasions. Low-participation activities are discussed but are not displayed on maps, because their statewide participation values are too small to produce representative distribution patterns.

Statewide Activity Demand

Residents

A large portion of the participation in activities associated with a traditional Minnesota summer vacation occurs relatively far from home (a "large portion" means more than 20 percent of total participation is beyond 75 miles from home — see Table 4-S.02). Of the summer activities in this long travel-distance group, fishing has the highest resident participation (Fig. 4-

S.16). It is followed by boating, camping, nature study (including bird watching), canoeing and visiting historic sites. This ordering of activities by statewide participation is the same as the ordering of activities by the absolute increase in statewide participation between 1980 and 1995. In other words, the largest activities are forecasted to experience the greatest increases in the number of activity occasions.

Hunting, too, has a large portion of participation relatively far from home (Table 4-S.02). Hunting for upland game birds has the largest participation (2,422,000 total season occasions—or hunter days—in 1978), followed by big game (1,851,000) and waterfowl (1,429,000). No change in this ordering by type of species hunted is forecasted to occur between 1978 and 2000. However, big game hunting is projected to have the largest increases in occasions to the year 1995 (up 230,000). Next is hunting for upland game birds (up 150,000 occasions) and waterfowl (up 106,000).

For the summer activities not discussed above, activity patterns are more population-based, since a greater share of participation occurs closer to home. Bicycling has by far the most participation, because of heavy participation by children (Fig. 4-S.17). It is followed by swimming, baseball/softball, driving for pleasure and picnicking (picnicking is on Fig. 4-S.16). A number of activities (tennis, golf and hiking) cluster just below picnicking. Bicycling is projected (1980 to 1995) to experience the greatest increase in participation. Swimming is projected to be next in growth, followed by picnicking, golf, driving for pleasure, hiking, tennis and baseball/softball.

Winter is a time when residents recreate near home. None of the activities has a sizable share of participation at long travel distances (Table 4-S.02). Of the high-participation activities, ice fishing generates the largest share of participation at long travel distances.

The highest-participation activity in the winter is skating (Fig. 4-S.18). Next is snowmobiling, followed by sledding, ice fishing and cross-country skiing. By the year 2000, skating is projected to be overtaken by snowmobiling. Snowmobiling is forecasted (1980 to 1995) to experience the greatest increase in participation, followed by sledding, ice fishing, cross-country skiing and skating.

Of low-participation activities, downhill skiing and horseback riding have the greatest participation (Table 4-S.03). The highest increase in activity occasions is projected for trap/skeet shooting; snowshoeing is projected to experience the second-largest increase. Decreases are forecasted for half of the low-participation activities. All of the activities with projected decreases are popular with the age classes in which the baby bust

FIGURE 4-S.12

Minnesota Outdoor Recreation Survey Distance Traveled to Recreate by Residents

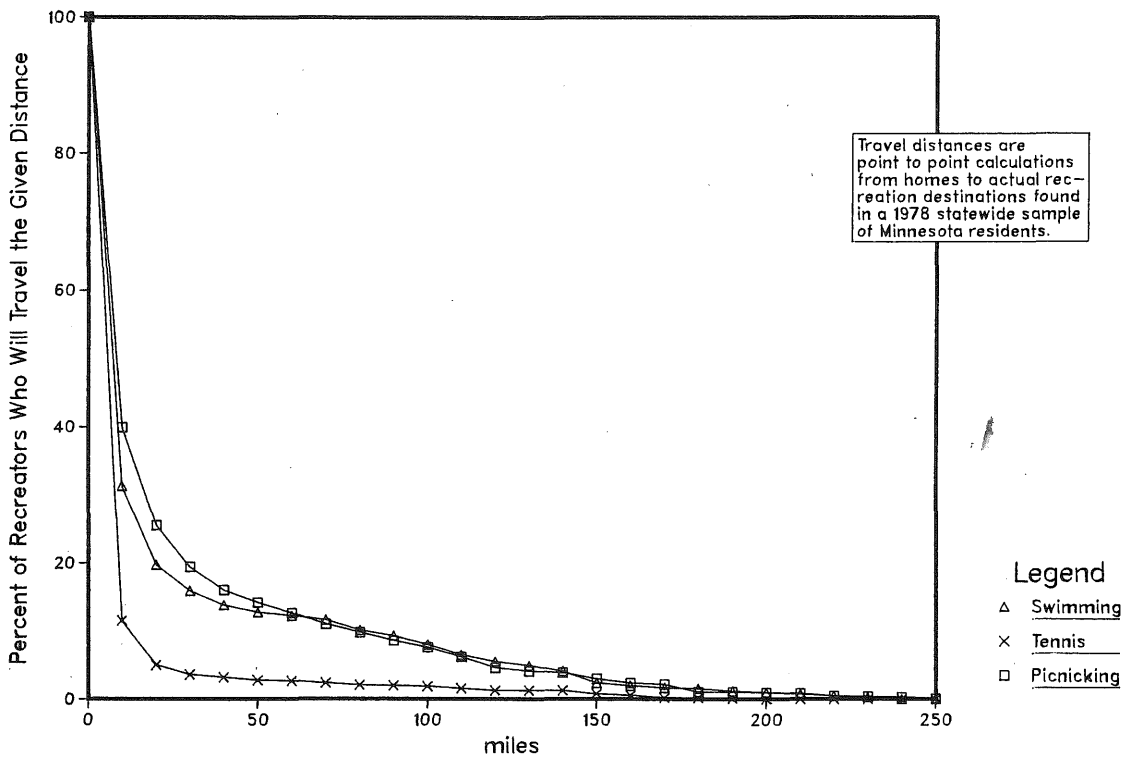


FIGURE 4-S.13

Minnesota Outdoor Recreation Survey Distance Traveled to Recreate by Residents

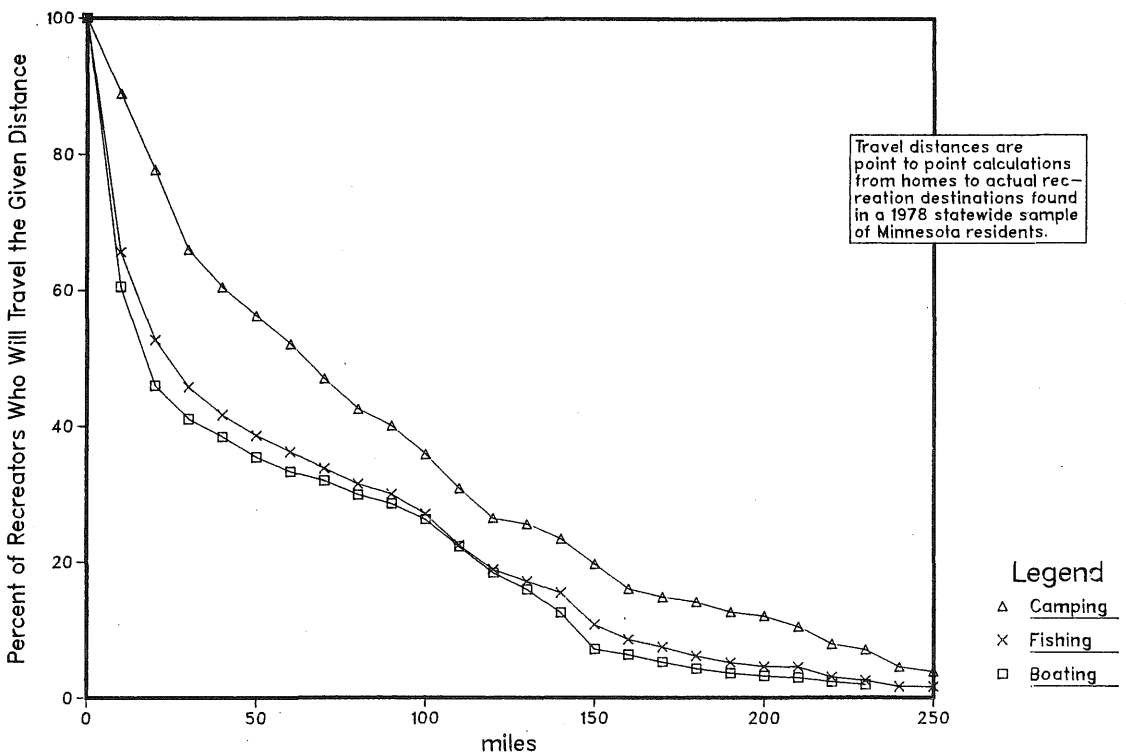


FIGURE 4-S.14

Minnesota Outdoor Recreation Survey Distance Traveled to Recreate by Residents Metro Region

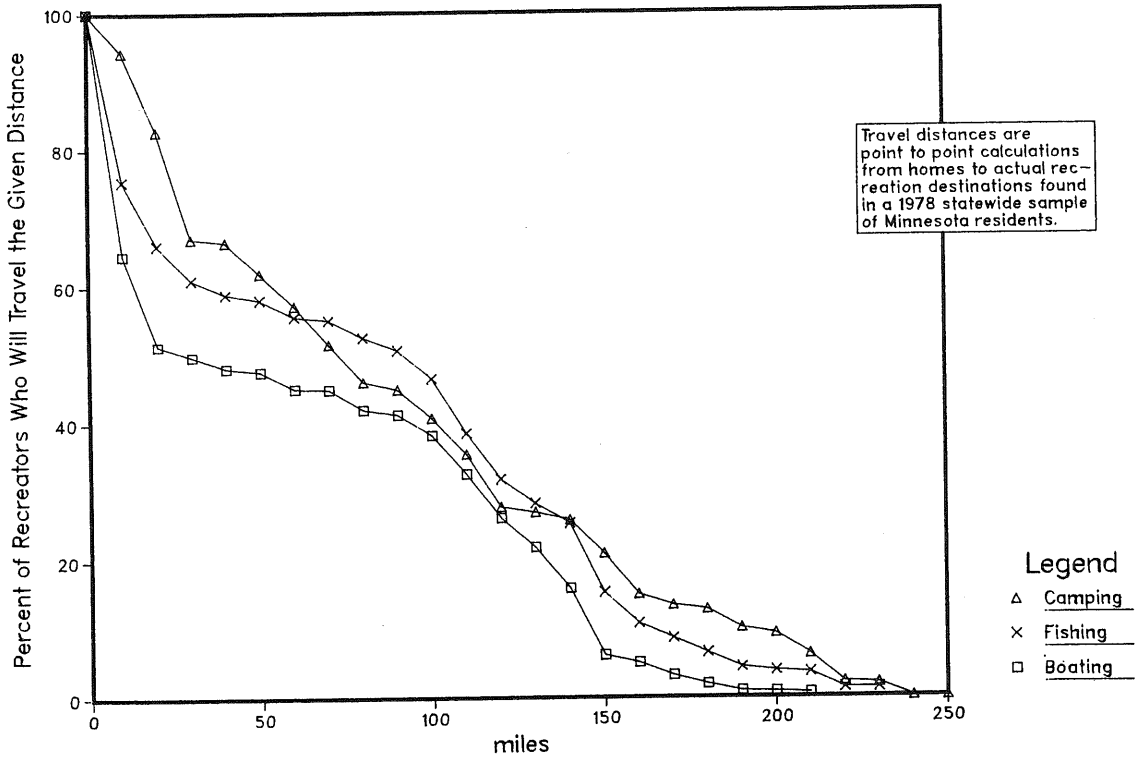


FIGURE 4-S.15

Minnesota Outdoor Recreation Survey Distance Traveled to Recreate by Residents Non-Metro Regions

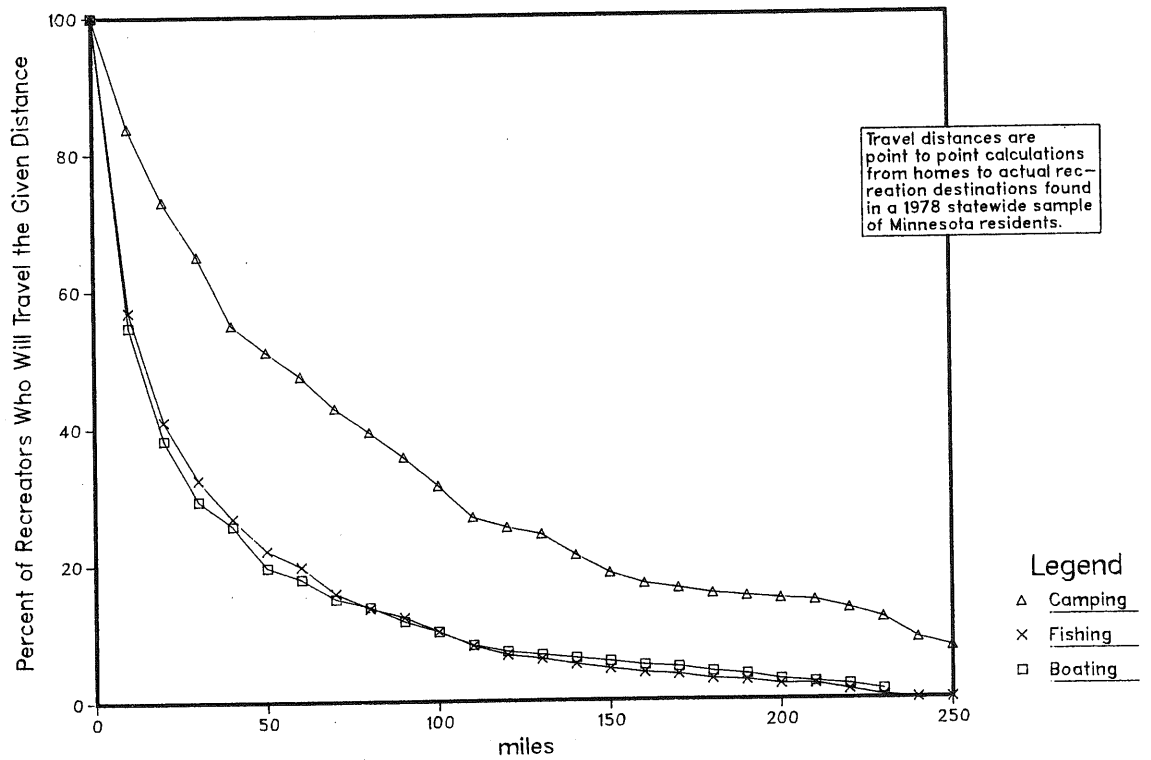


FIGURE 4-S.16

Minnesota Outdoor Recreation Survey Projected Instate Recreation by Residents Summer

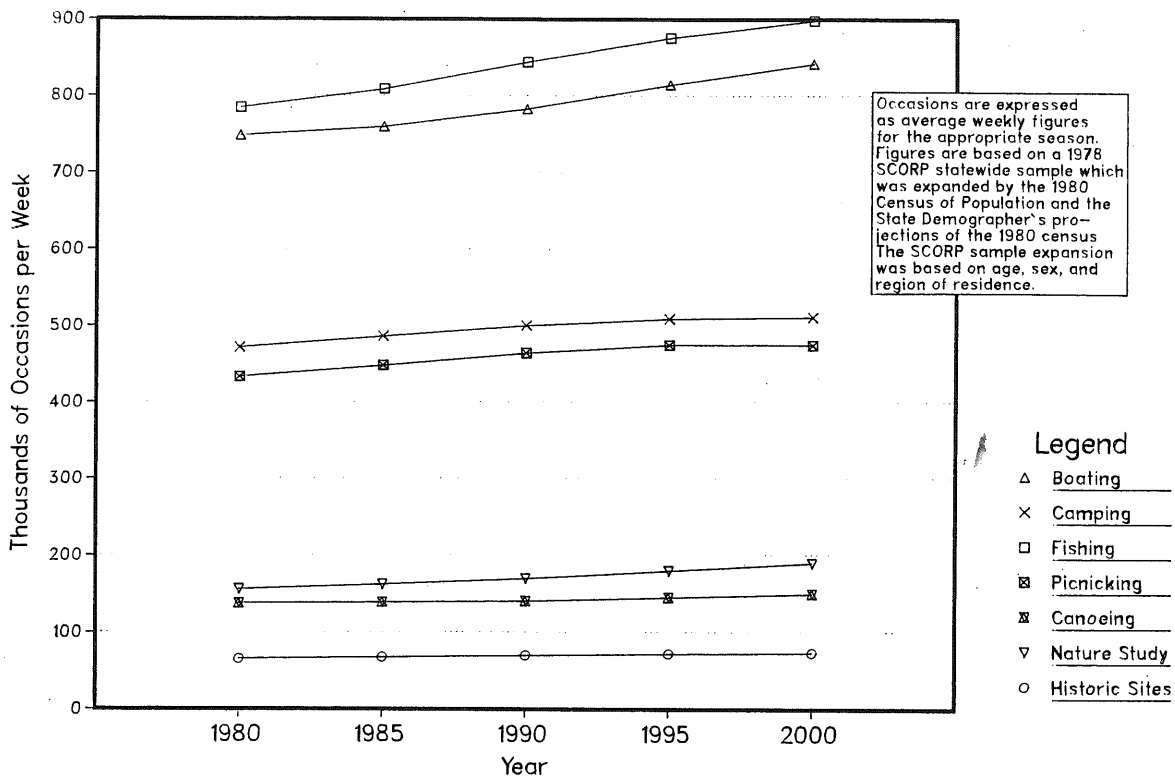


FIGURE 4-S.17

Minnesota Outdoor Recreation Survey Projected Instate Recreation by Residents Summer

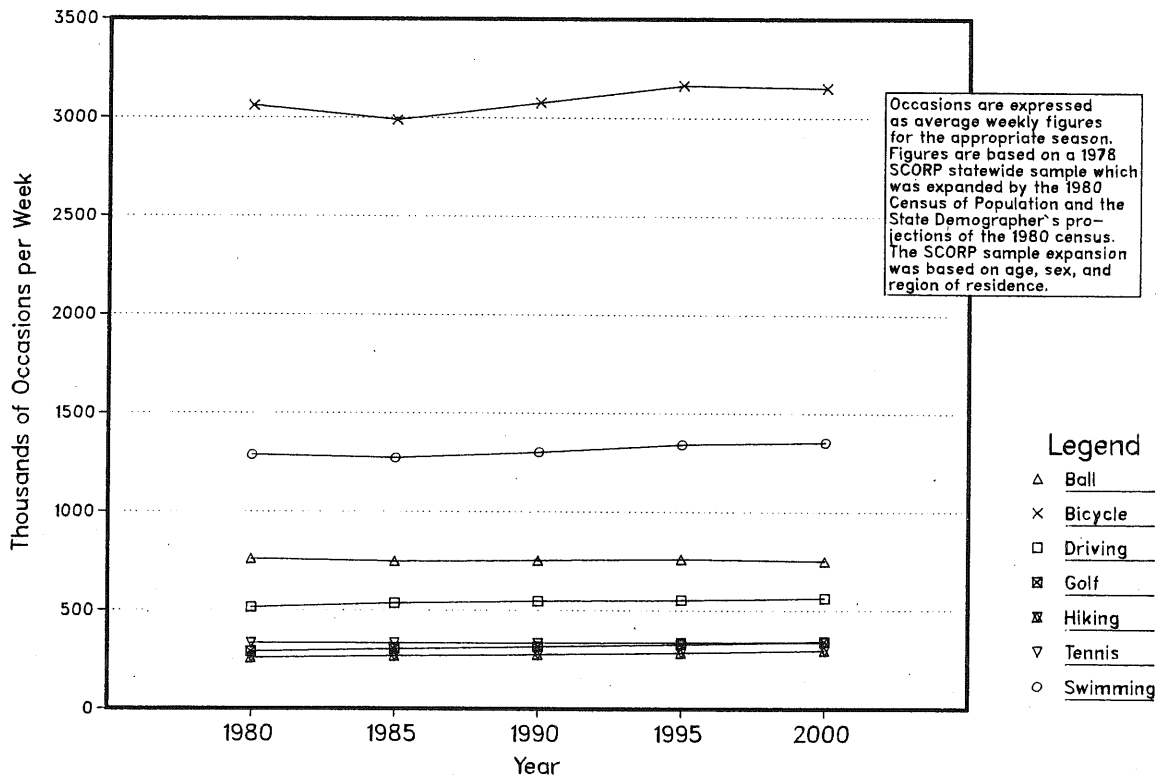
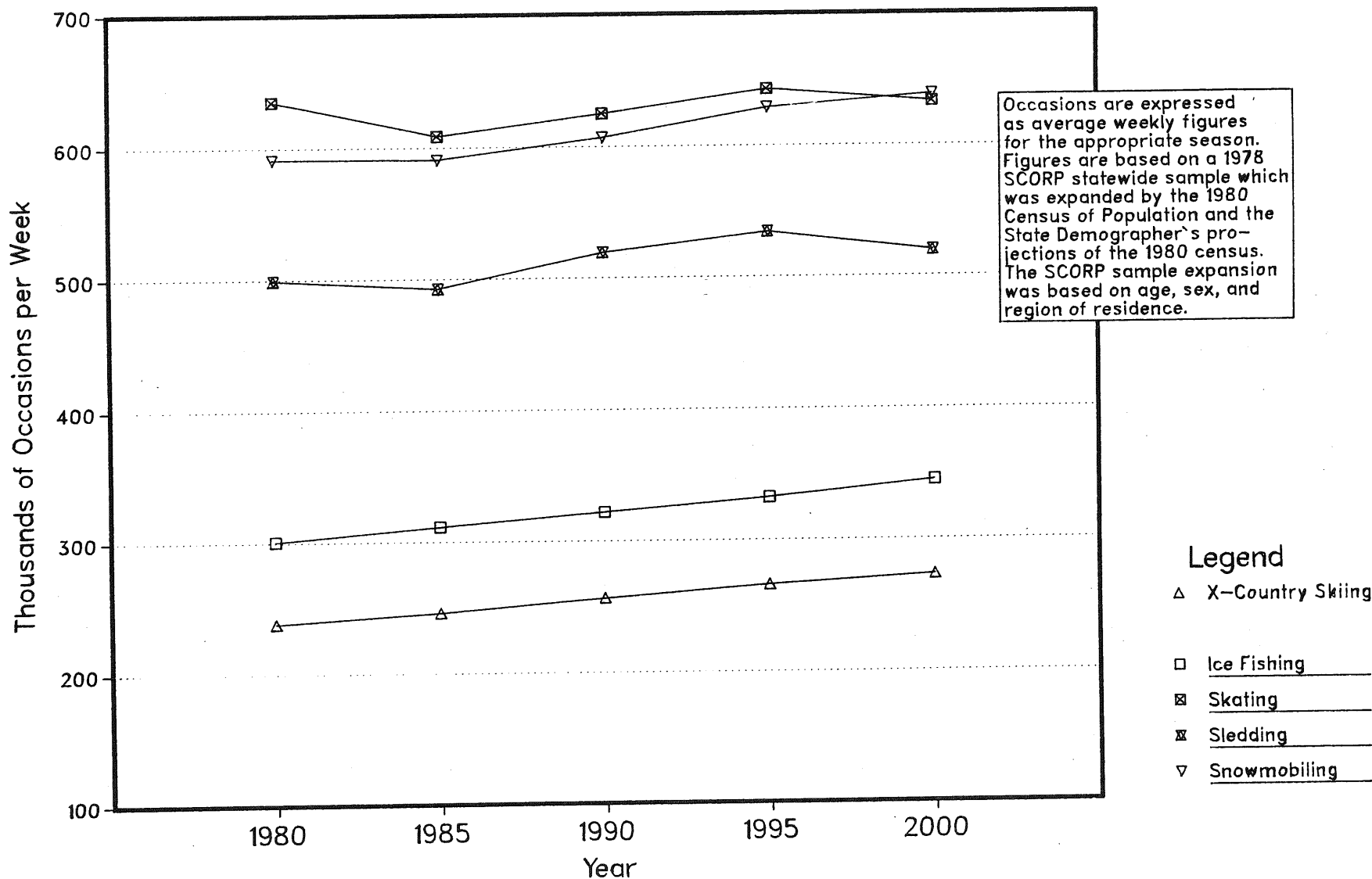


FIGURE 4-S.18

Minnesota Outdoor Recreation Survey Projected Instate Recreation by Residents Winter



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Table 4-S.03
Projected Resident In-State Participation in Low-Participation Activities^{a, b}
1980-1995

(participation figures are average weekly occasions)

	Participation 1980	Participation Change 1980-1995	Percent Change 1980-1995
Summer Activity			
Trap/Skeet Shooting	56,344	5,602	9.9
Horseback Riding	122,727	2,024	1.6
Archery	40,396	1,593	3.9
Orienteering	7,223	- 327	-4.5
Trailbiking/Four-Wheeling	82,841	-2,083	-2.5
Backpacking	32,473	-2,134	-6.6
Winter Activity			
Snowshoeing	30,404	3,107	10.2
Downhill Skiing	146,071	-6,971	-4.8

^aSource: Minnesota Department of Natural Resources, Office of Planning, State Comprehensive Outdoor Recreation Plan.

^bA low-participation activity has less than 200,000 average weekly activity occasions in the surveys for residents (summer and winter data) and nonresidents (summer data). Resident and nonresident participation data are combined in the summer for comparison with the 200,000 figure; in the winter, resident data are compared with this figure. See Table 4-S.04 for nonresident activity participation information.

generation will replace the baby boom generation between 1980 and 1995.

Nonresidents

Nonresidents' participation in recreation activities is quite similar to that of Minnesotans on vacation. They are avid campers, participate heavily in water-oriented activities and are frequent visitors at historic sites (Table 4-S.04). Out-of-state tourists are drawn to Minnesota by resources for which the state is widely renowned: inland lakes and primitive north-woods settings. This is illustrated by the attraction of Lake Superior's North Shore and the BWCA region. Forty percent of nonresident outdoor recreation activity occasions in 1978 occurred within 10 miles of the BWCA or the North Shore (Fig. 4-S.19). Other tourist magnets are the Twin Cities, and the north-central, western and southern lake regions. Itasca State Park and Pipestone National Monument also stand out on the activity occasion distribution. Recreation participation by vacationers traveling through Minnesota shows up along Interstate 90 in the southern part of the state.

Tourist expenditures are an important source of income for the state. Nonresident recreationists spent an aver-

age of \$22 million per week in Minnesota during the summer of 1978. Most expenditures were in cities, where the goods and services required by tourists are provided and where there are opportunities to spend money on nonessential items (Fig. 4-S.20). Two-thirds of the expenditures were on essentials: transportation (22 percent of total), food (25 percent) and lodging (19 percent). Remaining expenditures included personal items (e.g., camera supplies, medicine, laundry and other personal necessities -- 11 percent), shopping (9 percent), recreational equipment (4 percent), and fees and licenses (3 percent).

Similarities between resident and nonresident vacation recreation were used to predict future nonresident activity participation in Minnesota. Projections of nonresident participation were based on projections of participation by residents who traveled at least 100 miles by road (at least two hours' travel time) to a recreation destination (a 75-mile point-to-point distance was considered equivalent to 100 miles by road). Two hours is long enough to eliminate most day trips. Two hours is the time needed to travel from the Twin Cities to such vacation areas as the upper St. Croix River, Mille Lacs Lake, Brainerd, Willmar and Alexandria. Duluth residents would spend two hours traveling to the

Table 4-S.04
Projected Nonresident Activity Participation^a
1978-1995

(participation figures are average weekly occasions)

	Participation 1978	Participation Change 1978-1995	Percent Change 1978-1995 ^b
Summer Activity			
Fishing	467,097	66,374	14.2
Boating	201,404	25,377	12.6
Camping	266,171	20,273	7.6
Visiting Historic Sites	143,060	16,938	11.8
Bird Watching/Nature Study	52,233	12,776	24.5
Swimming	214,925	10,230	4.8
Hiking	87,327	9,623	11.0
Picnicking	84,365	6,884	8.2
Canoeing	95,780	5,910	6.2
Driving for Pleasure	36,440	5,080	13.9
Golf	16,364	3,116	19.0
Bicycling	19,482	3,059	15.7
Trailbiking/Four-Wheeling	12,296	1,903	15.5
Trap/Skeet Shooting	4,452	758	17.0
Horseback Riding	1,981	-46	-2.3
Tennis	13,440	-89	-.7
Backpacking	29,075	-3,364	-11.6
Orienteering	25,112	-6,943	-27.6

^aSource: Minnesota Department of Natural Resources, Office of Planning, State Comprehensive Outdoor Recreation Plan.

^bPercent-change figures are based on a surrogate group of touring residents, and are used to calculate participation change in column 2 from 1978 participation in column 1. See text for further explanation.

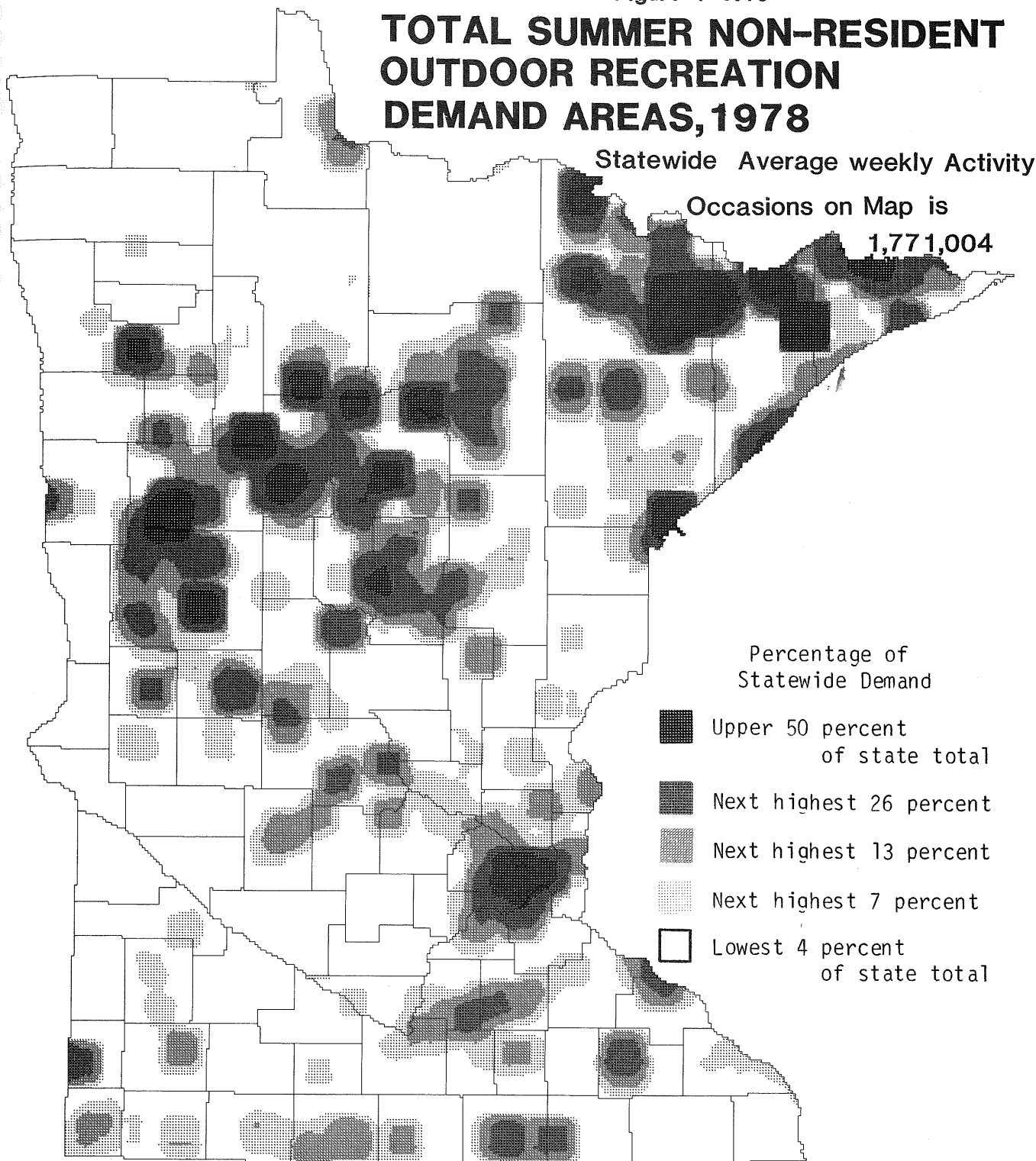
Figure 4-S.19

TOTAL SUMMER NON-RESIDENT OUTDOOR RECREATION DEMAND AREAS, 1978

Statewide Average weekly Activity

Occasions on Map is

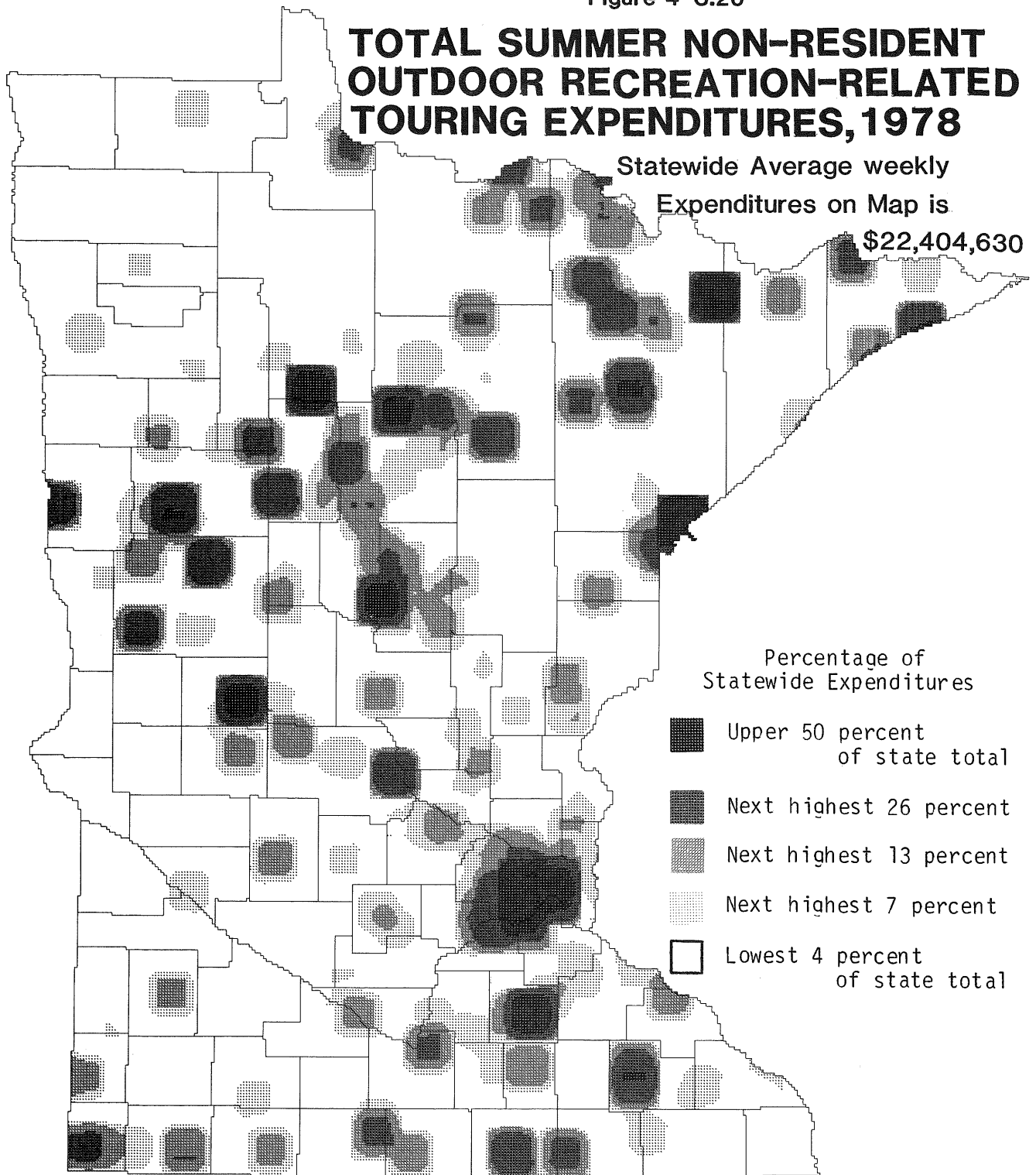
1,771,004



SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan. Statewide non-resident data were collected in a vehicular survey conducted during the summer of 1978.

Figure 4-S.20

TOTAL SUMMER NON-RESIDENT OUTDOOR RECREATION-RELATED TOURING EXPENDITURES, 1978



SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan. Statewide non-resident data were collected in a vehicular survey conducted during the summer of 1978.

BWCA via Ely. By applying such resident forecasts to nonresidents, travel effort is incorporated as a key factor in the nonresident forecasts. Also incorporated into the forecasts are general age-class changes in the population and the implications these changes hold for life-cycle patterns of activity selection and willingness to travel to participate in selected activities.

Projected increases in long-distance resident activity — the basis for nonresident activity forecasts — are larger than the projected increases at any travel distance for most activities (compare the percent-change figures in Table 4-S.04 with those in Table 4-S.01). This is probably due in large measure to the 1980-1995 growth in population in the age brackets (30s, 40s and 50s) that have the most discretionary income, a portion of which is channeled into vacation pursuits.

Fishing, which dominates now, has by far the greatest forecasted increase in nonresident activity (Table 4-S.04). Camping and boating, both popular today, are projected to have the next-largest increases in activity occasions. After camping and boating, projected changes in activity occasions fall off rapidly and eventually become negative. Backpacking and orienteering have the largest forecasted decreases.

In percentage terms, birdwatching/nature study and golf have the greatest projected increases (Table 4-S.04). These activities also have the largest forecasted increases for residents (Table 4-S.01). Canoeing and swimming have forecasted increases that are generally well below those of other increasing activities. Both canoeing and swimming, however, are projected to have larger percentage gains for nonresidents than for residents.

Geographic Patterns of Activity Demand

The geographic distribution of activity demand graphically illustrates the disparities in recreational use of different parts of the state. The distribution patterns reflect the underlying cultural and natural resources that created the activity demand and guided facility development. Projected changes in the patterns of demand show where new use pressure probably will be located, and where facility development most likely will be needed.

Two maps are presented for each activity, excepting hunting, for which only the 1978 distribution pattern is discussed, because the projected patterns have yet to be examined. The first map shows projected 1995 participation distribution. It differs little from the 1980 distribution pattern, because the change in participation between 1980 and 1995 is small compared with 1980

participation for all activities. The second map shows the projected 1980-1995 participation change in growth areas. Growth areas include only those places with increasing activity participation. Places of decreasing activity participation are contained within the unshaded portion of the maps.

In these activity projections, future participation areas are limited to those contained in the 1978 SCORP surveys. The absence of new activity locations in the forecasts creates no problems here, because distribution patterns are examined from a statewide perspective (not a place-by-place perspective) over a forecast period (15 years) that is relatively short. It is highly unlikely that a significant amount of new activity demand will locate in a previously unused, broad area of the state over such a short period of time. And only broad areas of new, heavy participation could materially alter statewide use patterns.

Limiting forecasts of activity participation to existing use areas affects patterns of participation change, but not significantly. Although some activities, such as visiting historical sites, are projected to experience new growth in strict accordance with the geographic pattern of existing use, the primary growth in other activities, such as baseball/softball, will be away from existing use areas, because they are determined by the forecasted change in the distribution of specific age classes (Table 4-S.05). In general, the activities with the least projected persistence in current activity patterns are those which are determined largely by the distribution of children (see distributions of age class forecasts on Figures B-S.A to B-S.E in Appendix B). The activities with the greatest forecasted persistence have heavy adult participation and/or are geographically restricted in their distribution by resource availability and by resource popularity.

In the following discussion of distribution patterns, activities are divided into two willingness-to-travel groups. These two groups are further subdivided on the basis of additional factors that affect similarities in distribution patterns.

For each activity, a share of participation occurs close to home and a share occurs at longer travel distances. Those activities with a large proportion of their participation at longer travel distances are commonly associated with tourism and with traditional Minnesota vacations. Most long-distance activities are water oriented. The water oriented activities have similar distribution patterns because they are geographically restricted by the availability and popularity of the resource.

Activities for which people will travel a great distance were identified on the basis of actual resident travel distances (Table 4-S.02) and on high nonresident par-

Table 4-S.05
Comparison of Geographic Patterns of Existing (1980) Participation with Patterns of Projected (1980 to 1995) Participation Increases in Growth Areas^{a,b}

Activity ^c	Correlation Between Existing Participation and Projected Participation Increases in Growth Areas
Visiting Historic Sites	.97
Bird Watching/Nature Study	.92
Summer Fishing	.85
Golf	.77
Ice Fishing	.77
Picnicking	.73
Boating	.69
Canoeing	.69
Cross-Country Skiing	.69
Hiking	.69
Tennis	.69
Driving for Pleasure	.64
Snowmobiling	.64
Camping	.61
Sledding	.58
Swimming	.52
Bicycling	.40
Skating	.40
Baseball/Softball	.30

^aSource: Minnesota Department of Natural Resources, Office of Planning, State Comprehensive Outdoor Recreation Plan.

^bGrowth areas include only those places with increasing activity participation.

^cIncludes only large-participation activities, which are defined as having at least 200,000 average weekly activity occasions for residents and nonresidents combined.

^dPearson product-moment correlation coefficient, based on the public land survey township as the unit of analysis. The highest correlation possible is 1.0; a correlation relation of zero shows no relationship. There are 2,537 townships in Minnesota.

ticipation rates (Table 4-S.04). They include hunting, summer fishing, ice fishing, boating, canoeing, camping, visiting historic sites and birdwatching/nature study. All except visiting historic sites, birdwatching/nature study, and hunting for big game and upland game birds are water oriented. Hunting and each of the summer activities have at least 20 percent resident participation farther than 75 miles from home. These activities include five of the top six nonresident activities and the five activities with the greatest projected increases in participation. The only nonresident activity with large

participation that is not included in this class is swimming. Swimming, according to resident data on willingness to travel and age-class participation rates, is more similar to a different set of activities. Ice fishing was the only winter activity that generated a sufficient amount of long-distance travel to be included in this class.

All other activities have a greater proportion of participation near home and, therefore, have distribution patterns with a large population-based component. These activities are further subdivided on the basis of resident

age-class participation rates. The age-class participation-rate subdivision is useful because it directly links population patterns to activity origins (home locations) near which activity participation occurs.

The activity subdivisions are:

Long-Travel-Distance Activities

Class A1 — summer and winter

Class A2 — fall hunting

Short-Travel-Distance Activities

Class B — peak participation rates in older age brackets

Class C — relatively uniform participation rates from youth to at least early 50s

Class D — peak participation rates in youngest age brackets with variable length of decrease in participation rates with increasing age.

Class E — peak participation rates in mid-teens and 20s

Class F — other patterns of age-class participation rates

Long-Travel-Distance Activities

Class A1: Summer and Winter Activities (water oriented: summer fishing, ice fishing, boating, canoeing, and camping; based on other resources: visiting historic sites and birdwatching/nature study)

Summer fishing is the biggest out-of-state recreation draw. It is concentrated in and near the BWCA and throughout the other major lake regions, including the morainic lakes in the southwest and lakes in the Twin Cities area (Fig. 4-S.21). Such river reaches as the upper Minnesota, much of the St. Croix, and the Mississippi below the Twin Cities are areas of heavy use. Lake of the Woods is an isolated resource with concentrated use.

Projected participation increases in summer-fishing growth areas correspond closely to the existing pattern of use (Table 4-S.05, Fig. 4-S.22). The major exception is parts of the Twin Cities metropolitan area, where increases are small compared with existing use. This is the result of the forecasted continuation of population losses in the central cities and surrounding older suburbs.

Ice fishing has a distribution pattern different from that of summer fishing. People travel a shorter distance to ice fish than to do summer fishing. This shows up in the population-based participation concentrations (e.g., the Twin Cities and outstate regional centers) and by the reduced use of lake regions away from large population centers (Fig. B-S.01 — see Appendix B). Participation is particularly heavy in the northern Twin

Cities metropolitan area, especially in lake areas to the northwest. Mille Lacs Lake is evident in the participation pattern as one of Minnesota's prime ice fishing resources.

Ice fishing participation is projected to increase near outstate regional centers, on Mille Lacs Lake and in the Twin Cities metropolitan area, especially northwest and northeast of the central cities (Fig. B-S.02). As with summer fishing, large sections of the central metropolitan area that now have heavy use are expected to have no material increase in use. Overall, use increases are distributed largely in accordance with existing use (Table 4-S.05).

Boating has a distribution pattern very similar to that of summer fishing. Boating is concentrated in the major lake regions and in the Twin Cities metropolitan area and vicinity (Fig. B-S.03). Powerboating is restricted in the BWCA, and this accounts for less boating than fishing in that area. Along the periphery of the BWCA, however, participation concentrations are evident.

Projected participation increases in boating growth areas have a moderate degree of correspondence with the existing pattern of use (Table 4-S.05, Fig. B-S.04). Notable exceptions, where increases are small compared with existing use, occur in portions of the Twin Cities metropolitan area, Duluth, the reservoirs immediately north of Duluth, and the southern lakes region, situated between Mankato and Faribault.

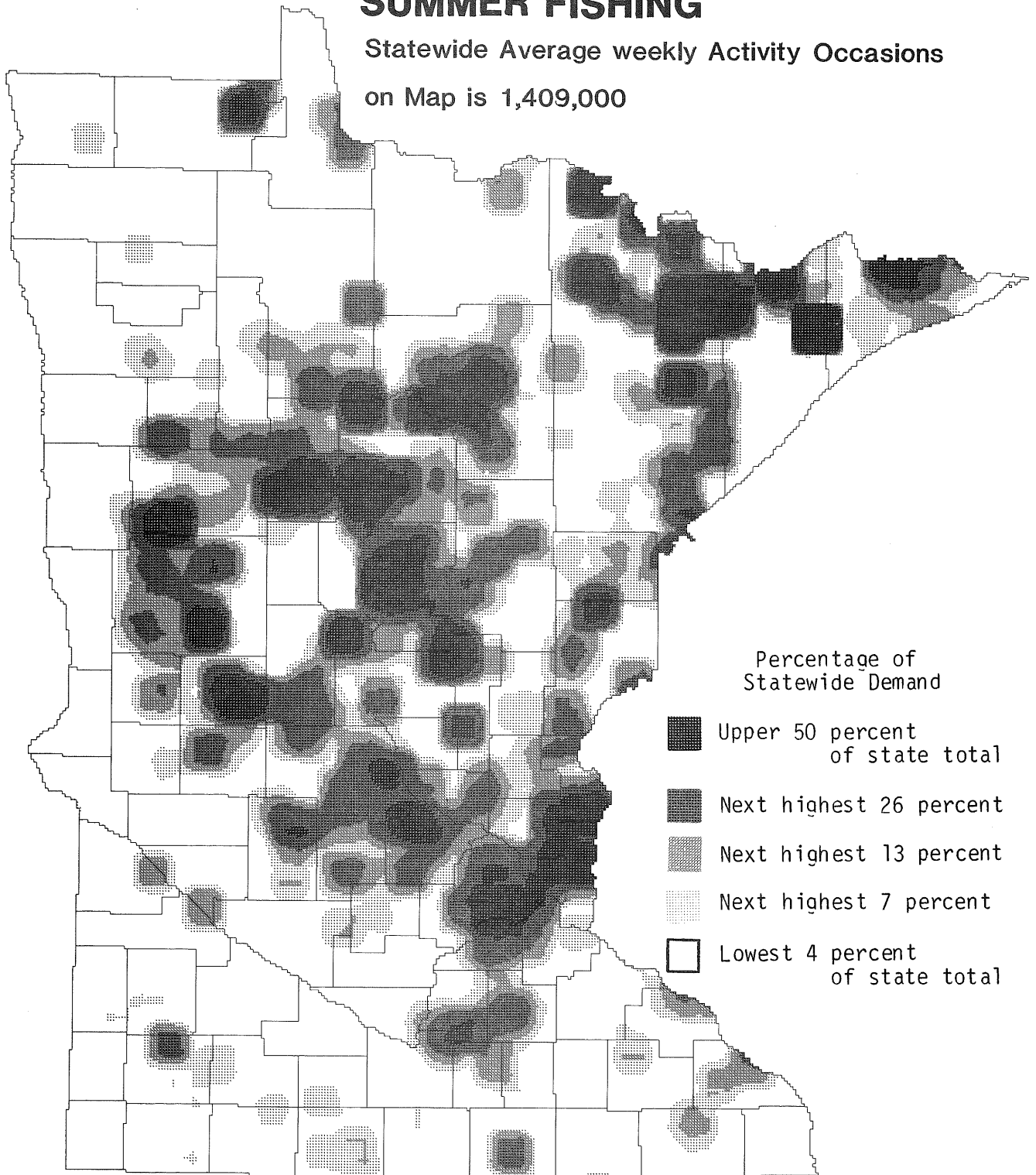
Canoeing (lake and stream) has a more spatially concentrated distribution pattern than does boating (that is, the same share of statewide activity occasions occur within a smaller area for canoeing). Major concentration areas are the Twin Cities metropolitan area, including the lower St. Croix River, and the BWCA (Fig. B-S.05). Lake regions are clearly delineated by the activity distribution pattern, but they account for considerably less canoeing use than boating use. Itasca and St. Croix state parks are evident as activity concentrations.

Participation increases in canoeing growth areas are forecasted to have a moderate degree of correspondence with the pattern of existing use (Table 4-S.05, Fig. B-S.06). The primary exceptions to the continued concentration of use in existing areas occur in the central portions of the Twin Cities metropolitan area and in the Brainerd (Crow Wing County) lakes area.

Camping is chosen for overnight accommodation by people participating in other vacation activities. Since many of the other vacation activities are water oriented, the distribution of camping also has a large, water-oriented component. Heavy use concentrations occur along the North Shore of Lake Superior, in and about the BWCA, and in other lake regions (Fig. B-S.07).

PROJECTED DEMAND AREAS, 1995: SUMMER FISHING

Statewide Average weekly Activity Occasions
on Map is 1,409,000

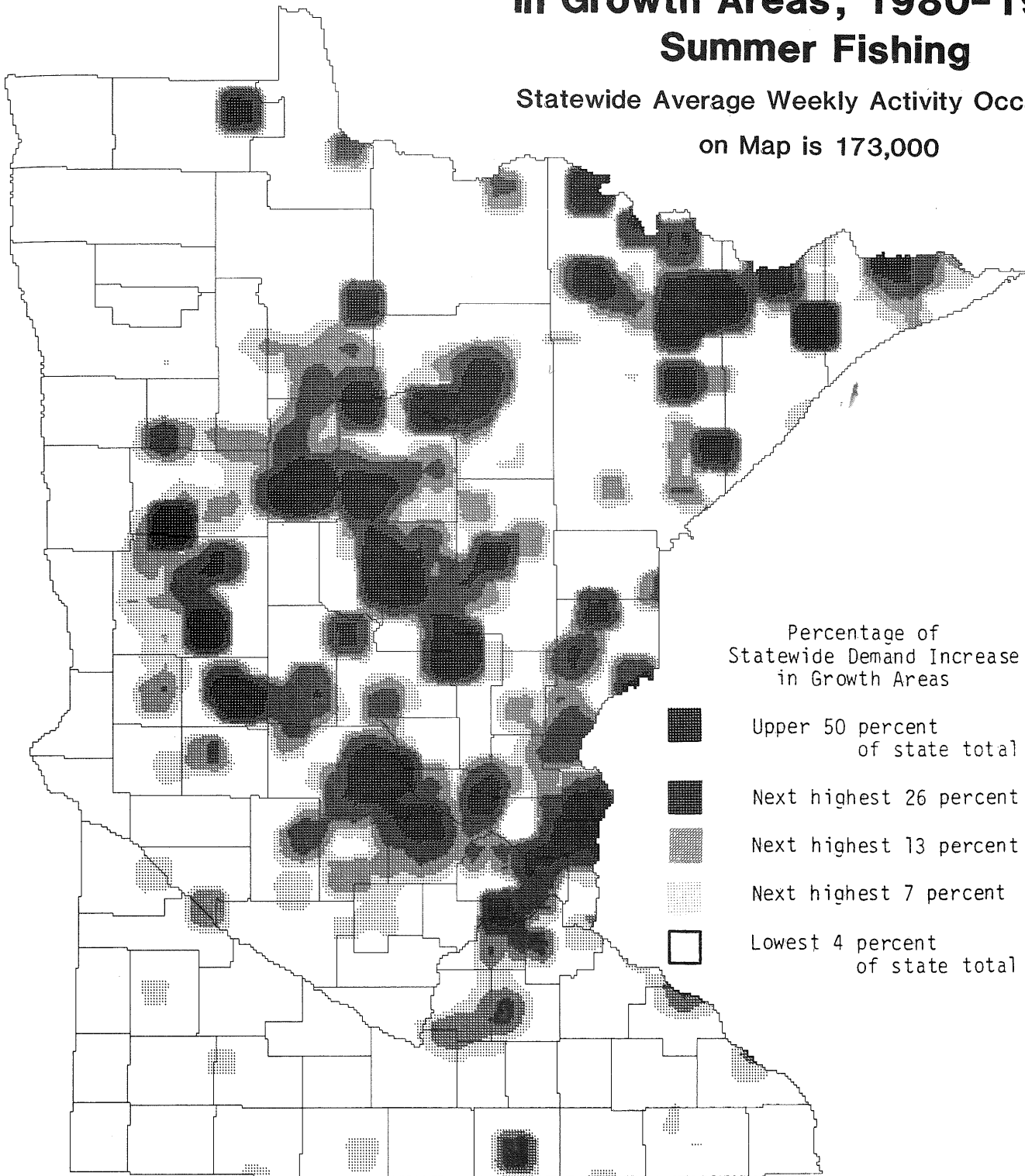


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Projected Demand Increase in Growth Areas, 1980-1995 Summer Fishing

Statewide Average Weekly Activity Occasions
on Map is 173,000



NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

The Twin Cities metropolitan area, including the lower St. Croix River, is an area of high use. Camping by vacationers traveling through Minnesota is evident along Interstate 90, particularly where Interstate 90 crosses Interstate 35 near Albert Lea.

Projected participation increases in camping growth areas have a moderate to low degree of correspondence with the pattern of existing use (Table 4-S.05). The principal increases are forecasted for the areas to the north and west of the Twin Cities metropolitan area, and in scattered areas of the north-central, western and west-central lakes regions (Fig. B-S.08). Although scattered growth is evident in and about the BWCA and along the North Shore of Lake Superior, the increases are below those that represent a continued concentration of use in this region. Similarly, the Twin Cities metropolitan area, especially the lower St. Croix River, has increases that are small compared with existing use.

Visiting historic sites is a popular tourist activity. Examples of concentrated use include the North Shore of Lake Superior, the Iron Range, Itasca State Park, Old Crossing Treaty State Wayside, the Twin Cities metropolitan area, Pipestone National Monument and Rochester (Fig. B-S.09). The pattern of projected participation increases in growth areas is virtually the same as the current pattern (Table 4-S.05, Fig. B-S.10).

The distribution pattern of birdwatching nature study reflects cities (e.g., Twin Cities and Rochester), wildlife areas (e.g., Lac qui Parle and Twin Lake in Kittson County) and such other places as the North Shore, the BWCA and vicinity, and the Mississippi River below the Twin Cities (Fig. B-S.11). Participation increases in growth areas are expected to correspond closely to existing use (Table 4-S.05, Fig. B-S.12).

Of the low-participation activities, backpacking and downhill skiing fit best in this class of activities because of the large proportion of resident participation that occurs at long travel distances (Table 4-S.02).

Class A2: Fall Hunting (species groups: big game, waterfowl and upland game birds).

For all types of hunting, the distribution of activity occasions (hunter days) reflects patterns of hunters; species populations; length of hunting season; and huntable land, which excludes such places as cities. All hunting distributions refer to the 1978 hunting season.

Big game hunting is dominated by deer (96 percent of total-season occasions in 1978), which range throughout the state but which have greatest populations in the forested zone. The major share of activity occasions occurred in widely scattered areas of the forested zone,

probably reflecting the availability of animals and huntable land, a large portion of which is in public ownership (Fig. 4-S.22A). The greatest use concentration was in a broad east-to-west swath from north of Duluth to the Park Rapids area. In the extreme northeast, the mature forest cover, a poor type of forest habitat for deer, had only a small amount of hunting. Outside the forested zone, major concentrations of occasions occurred to the north of the Twin Cities metropolitan area—where Sherburne and Carlos Avery wildlife areas are located—and in such public wildlife management areas as Lac qui Parle in the west and Whitewater in the southeast. In 1978, the deer hunting season was shortest in the agricultural and southeast wildlife management zones.

Waterfowl hunting comprised ducks (84 percent of total-season occasions in 1978) and geese (16 percent). The goose season was longer in the southeast and agricultural wildlife management zones than in the forest and transition zones in 1978; the duck season was uniform across the state in that year.

A primary waterfowl hunting band was located from north to south along the western side of the state, where concentrations of remaining wetlands in the prairie and forest-prairie transition zones are situated (Fig. B-S.12A). Many of these wetlands are in public wildlife management areas. Lac qui Parle wildlife area was an especially heavily hunted area in 1978. Widely scattered hunting occurred in the north-central forested zone, probably in large measure for diving species of ducks. Twin Cities hunters are evident in the occasion pattern along the northern and western sides of the metropolitan region. In the southeast, the Rochester area and the Whitewater and Upper Mississippi wildlife areas had heavy use.

Upland game-bird hunting chiefly comprised various species of grouse (spruce, ruffed and sharptail—55 percent of total-season occasions in 1978) and pheasants (35 percent). Grouse range in the forest and forest-grassland transition zones. Pheasants reach their highest population potential in the prime agricultural areas outside of the northwest, where the range is limited by the length of the winter season. In 1978, however, pheasant populations in these agricultural areas were low, compared with the 1950s and early 1960s, when high populations occurred because of habitat created by the soil bank program. As populations dropped in the prime agricultural areas, such traditionally marginal areas as the southeast and southern fringe of the forest-grassland transition zone rose in relative importance, and contained the highest pheasant populations in the late 1970s. Efforts are under way to restore habitat in the prime agricultural areas.

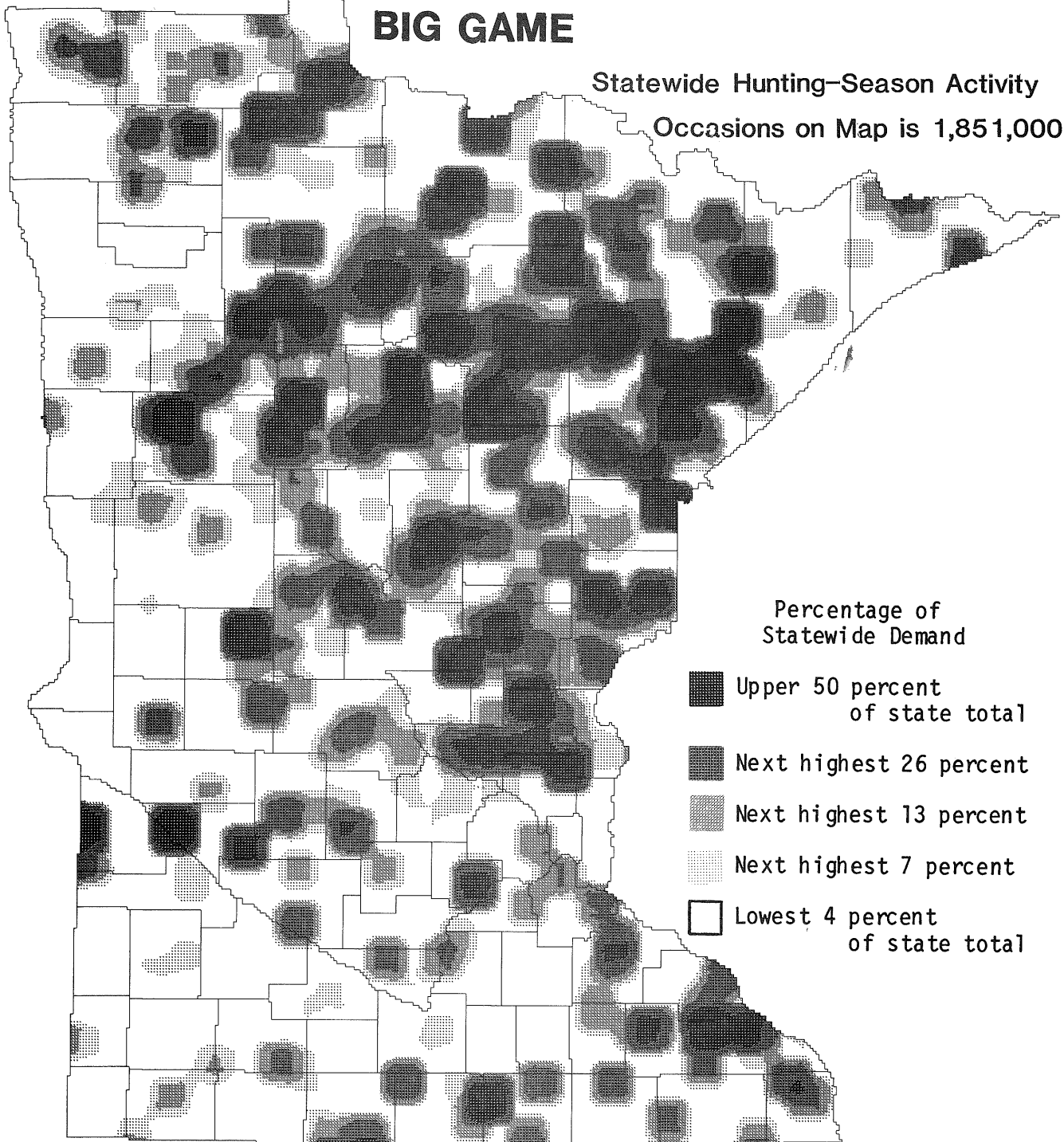
Upland game-bird hunting was widely scattered in the

Figure 4-S.22A

HUNTING DEMAND AREAS, 1978 BIG GAME

Statewide Hunting-Season Activity

Occasions on Map is 1,851,000



NOTE: Activity figures are based on a 1978 SCORP statewide sample of residents. The sample was expanded by the 1980 Census of Population. The sample expansion was based on age, sex, and region of residence.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

forested region of the state in 1978 (Fig. B-S.12B). A concentration band extended from central St. Louis County west into Itasca County (grouse hunting). The primary concentration areas in the state occurred to the north of the Twin Cities metropolitan area (grouse and pheasant) and to the south and southeast of the metro area (pheasant). Sharptails were hunted in the northwest in 1978.

Short-Travel-Distance Activities

Class B — Peak Participation in Older Age Brackets (hiking and golf).

Resident participation rates in hiking and golf rise with increasing age to the early 60s (Fig. 4-S.05). In addition, at least 80 percent of resident participation in hiking and golf is within 25 miles of home (Table 4-S.02), which gives each activity a distribution pattern with a large, population-based component. Hiking also has use concentrations in such vacation areas as the North Shore of Lake Superior, the BWCA and vicinity, and Itasca State Park (Fig. 4-S.23). In these vacation areas, nonresidents contribute heavily to overall use. Projected increases in hiking participation in growth areas moderately reinforce existing patterns of use (Table 4-S.05, Fig. 4-S.24).

Golfing distribution is more strongly based on population (Fig. B-S.13). Golfing participation in growth areas is forecasted to have a high degree of correspondence with existing patterns of use (Fig. B-S.14).

Class C: Relatively Uniform Participation Rates from Youth to at Least Early 50s (cross-county skiing, picnicking and driving for pleasure).

The activities in this class have resident participation rates similar to those of camping (Fig. 4-S.04): participation rates are relatively constant from youth to older age brackets, after which they drop significantly. Relatively uniform participation rates extend from youth to early 50s for cross-county skiing and picnicking, and to the 70s for driving for pleasure. Driving for pleasure, however, has low participation rates in the youngest (pre-license) age brackets, which is comforting.

The distribution pattern of cross-country skiing is population based, except in a few locales such as the northern terminus of the Gunflint Trail (Fig. 4-S.25). Participation increases in growth areas are forecasted to have a moderate degree of correspondence with the pattern of existing use (Table 4-S.05, Fig. 4-S.26).

Picnicking has a distribution pattern with a primary component that reflects population centers and a secondary component that reflects water-oriented vacation areas (Fig. B-S.15). Projected participation in-

creases in growth areas have a moderate degree of correspondence with the pattern of existing use (Table 4-S.05, Fig. B-S.16).

Driving for pleasure occurs primarily close to home, which results in a population-oriented distribution pattern (Fig. B-S.17). Projected participation increases in growth areas have a moderate to low degree of correspondence with the pattern of existing use (Table 4-S.05, Fig. B-S.18). In southwestern Minnesota, projected increases are small compared with existing use.

Of the low-participation activities, snowshoeing fits best in this class because of resident age-class participation rates and willingness to travel.

Class D: Peak Participation Rates in Youngest Age Brackets with Variable Length of Decrease in Participation Rates with Increasing Age (baseball/softball, bicycling, skating, sledding, snowmobiling and swimming).

All of the activities in this class have peak resident participation rates in the age brackets younger than 15 and a variable length of decrease in participation rates with increasing age (e.g., see bicycling on Fig. 4-S.07 and sledding on Fig. 4-S.08). For sledding, age-class participation rates fall below the total-population participation rate during the teenage years. Bicycling, swimming and skating fall below their total-population participation rates during the 20s, baseball/softball during the 30s, and snowmobiling during the 40s.

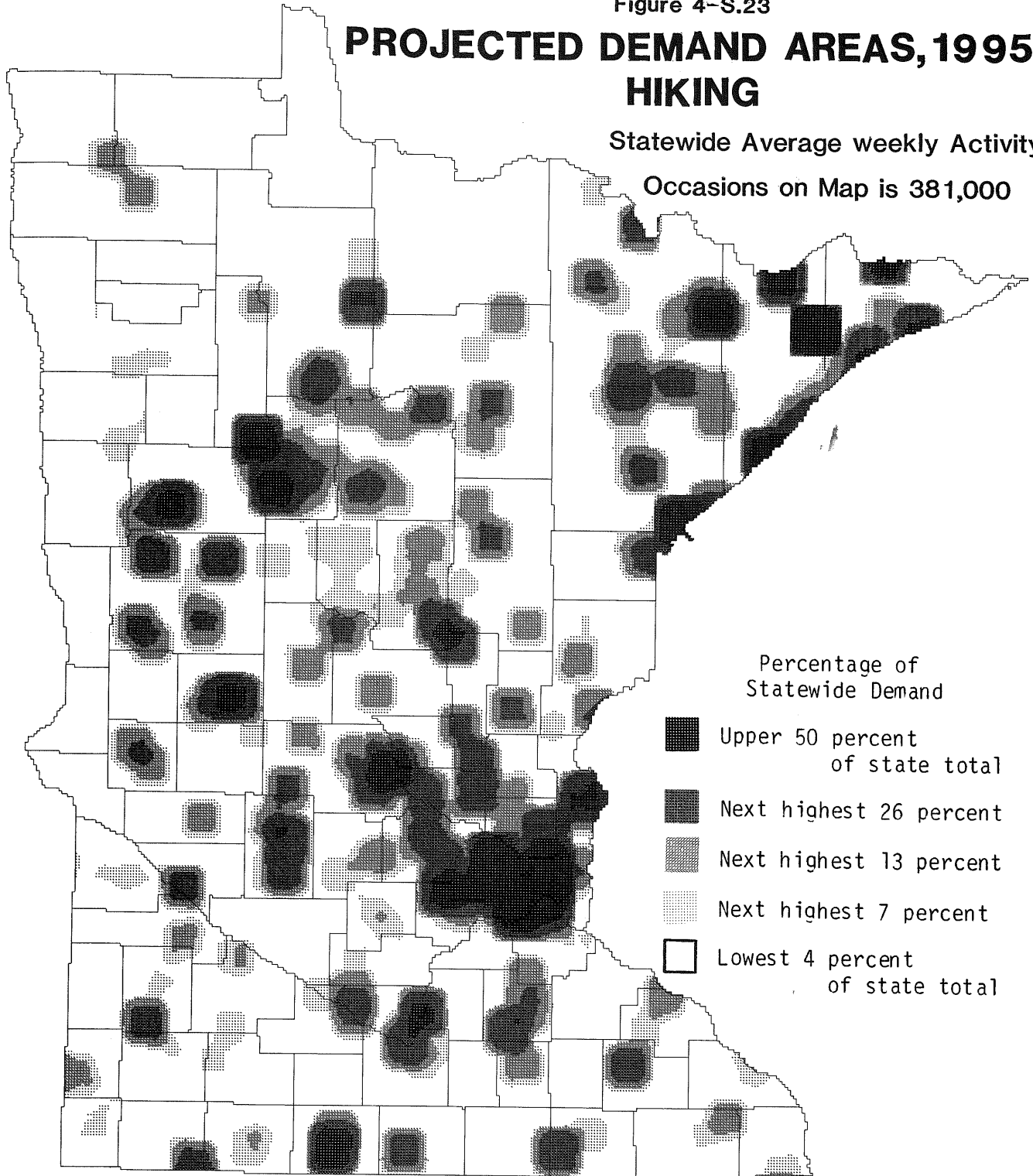
The activities of this class have common participation distributions and common patterns of participation increases in growth areas (see Fig. 4-S.27 and 4-S.28 for baseball/softball; remaining activities are displayed on Figs. B-S.19 through B-S.28). Each activity has a population-based participation distribution, because at least 80 percent of resident participation occurs within 25 miles of home. The major areas of projected participation increases in growth areas extend outward from the periphery of the Twin Cities metropolitan area to the north and west, consistent with forecasted population changes for the youngest age brackets (Fig. B-S.B). Participation increases are also projected for many of the outstate regional centers. Existing places of heavy participation that are forecasted to experience no material increase in use are the central portions of the Twin Cities metropolitan area, Duluth, cities along the Iron Range in St. Louis County, and the southwestern and northwestern parts of the state. All but one of the activities in this class have a low degree of correspondence between projected participation increases in growth areas and the pattern of existing use (Table 4-S.05). That one activity (snowmobiling) has a moderate to low degree of correspondence between projected increases and existing use.

Figure 4-S.23

PROJECTED DEMAND AREAS, 1995: HIKING

Statewide Average weekly Activity

Occasions on Map is 381,000

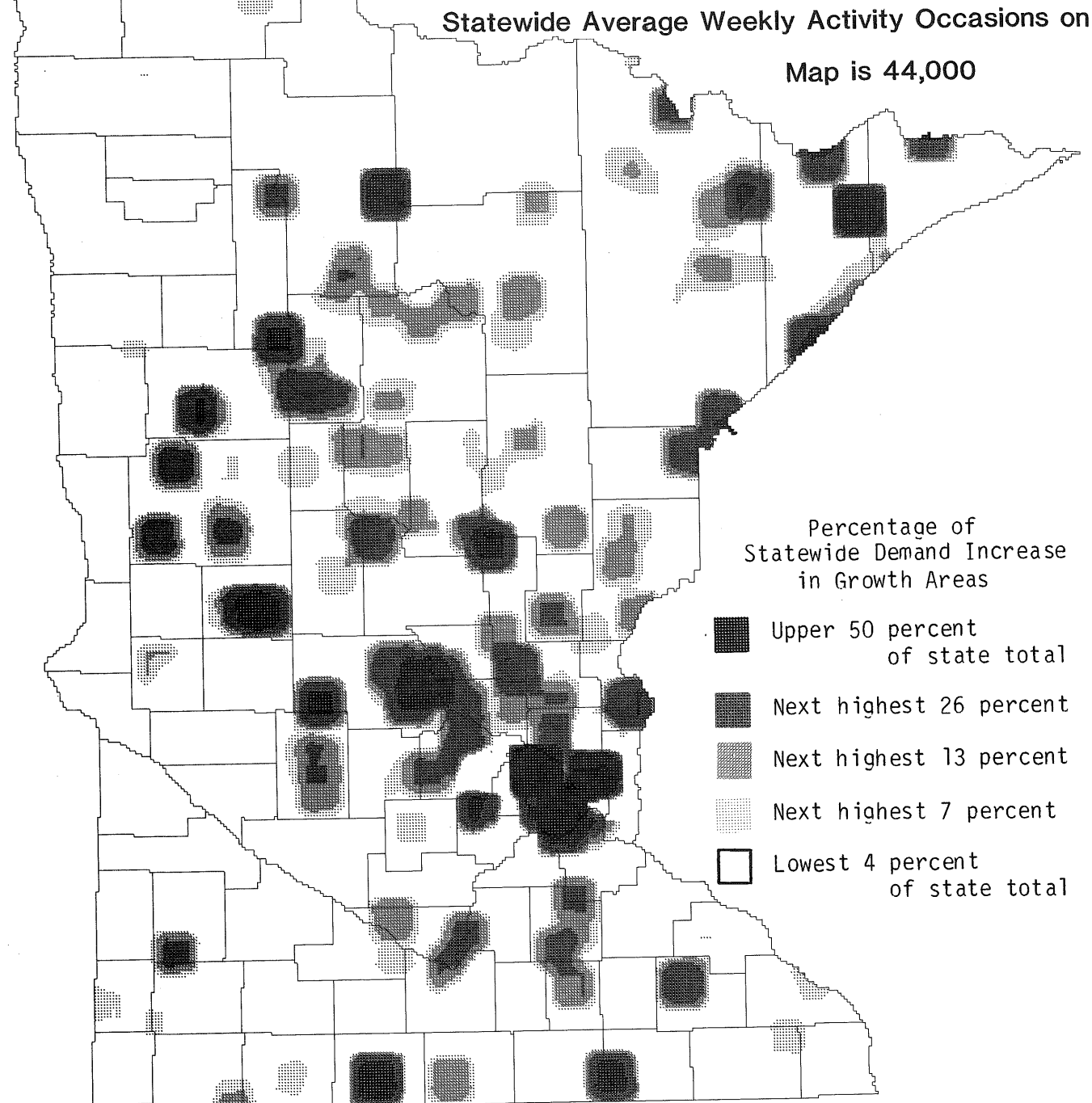


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure 4-S.24

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995: HIKING



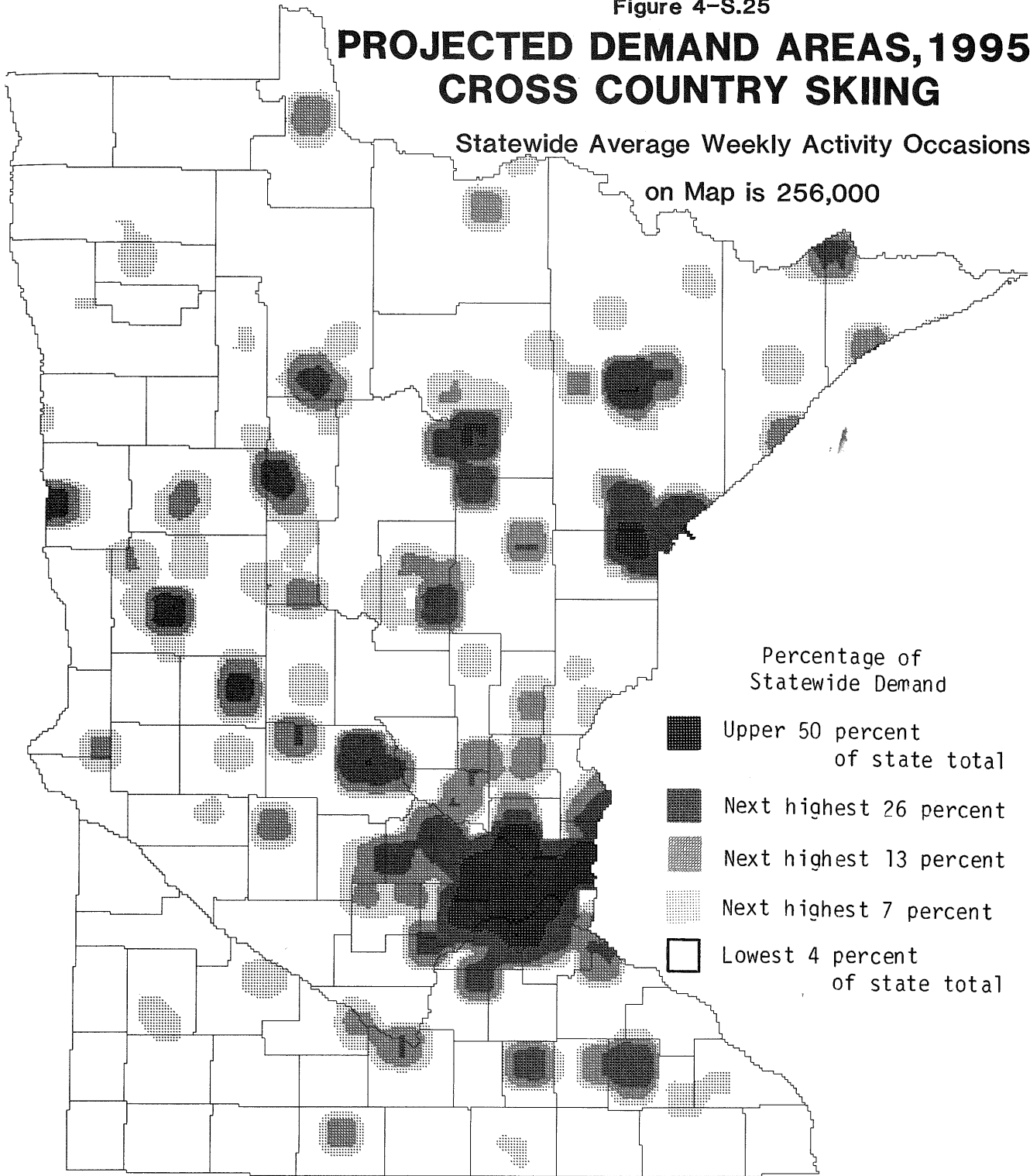
NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure 4-S.25

PROJECTED DEMAND AREAS, 1995: CROSS COUNTRY SKIING

Statewide Average Weekly Activity Occasions
on Map is 256,000

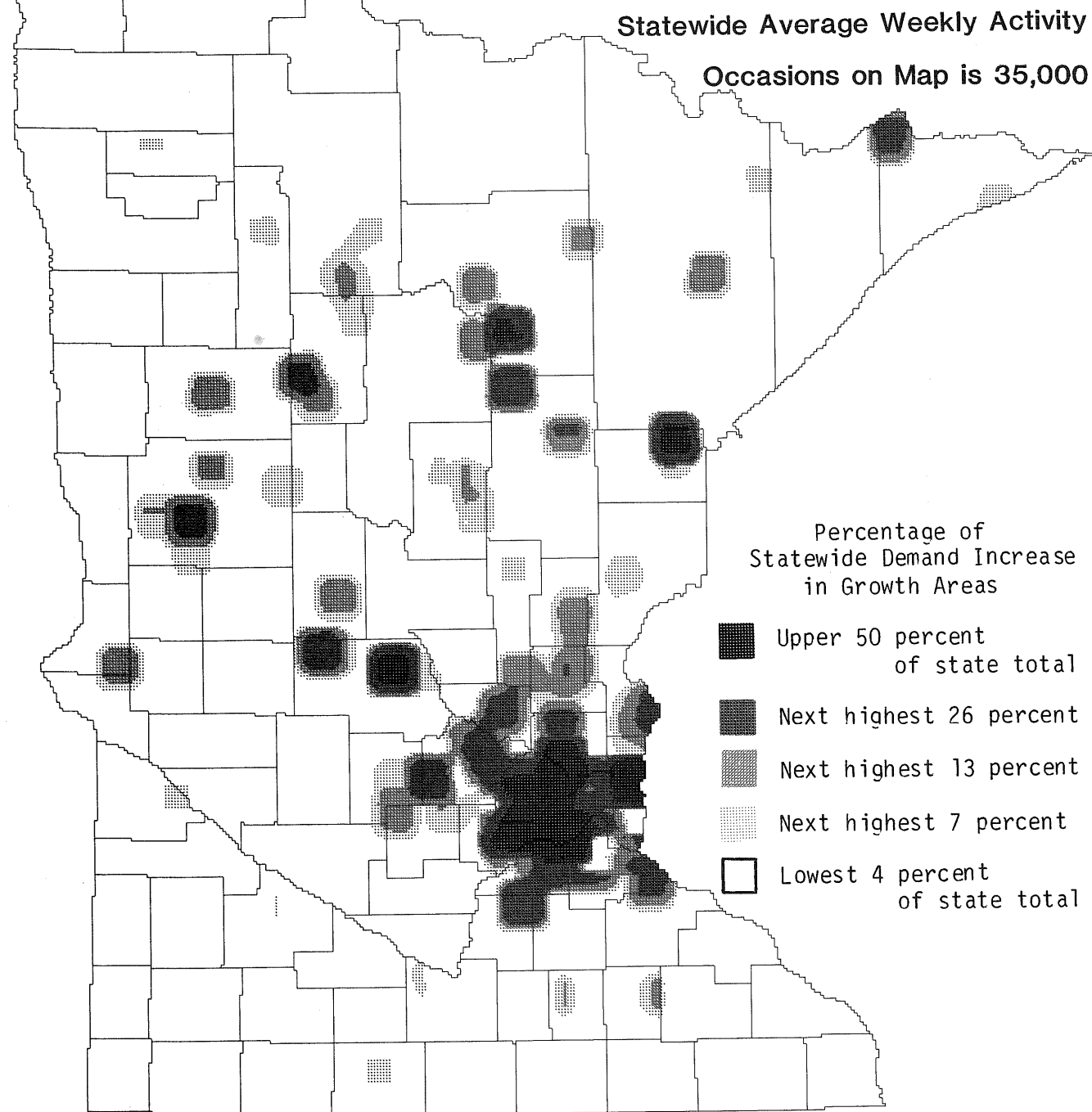


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure 4-S.26

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995 : CROSS COUNTRY SKIING



NOTE: Activity figures are based on 1978 SCORF statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

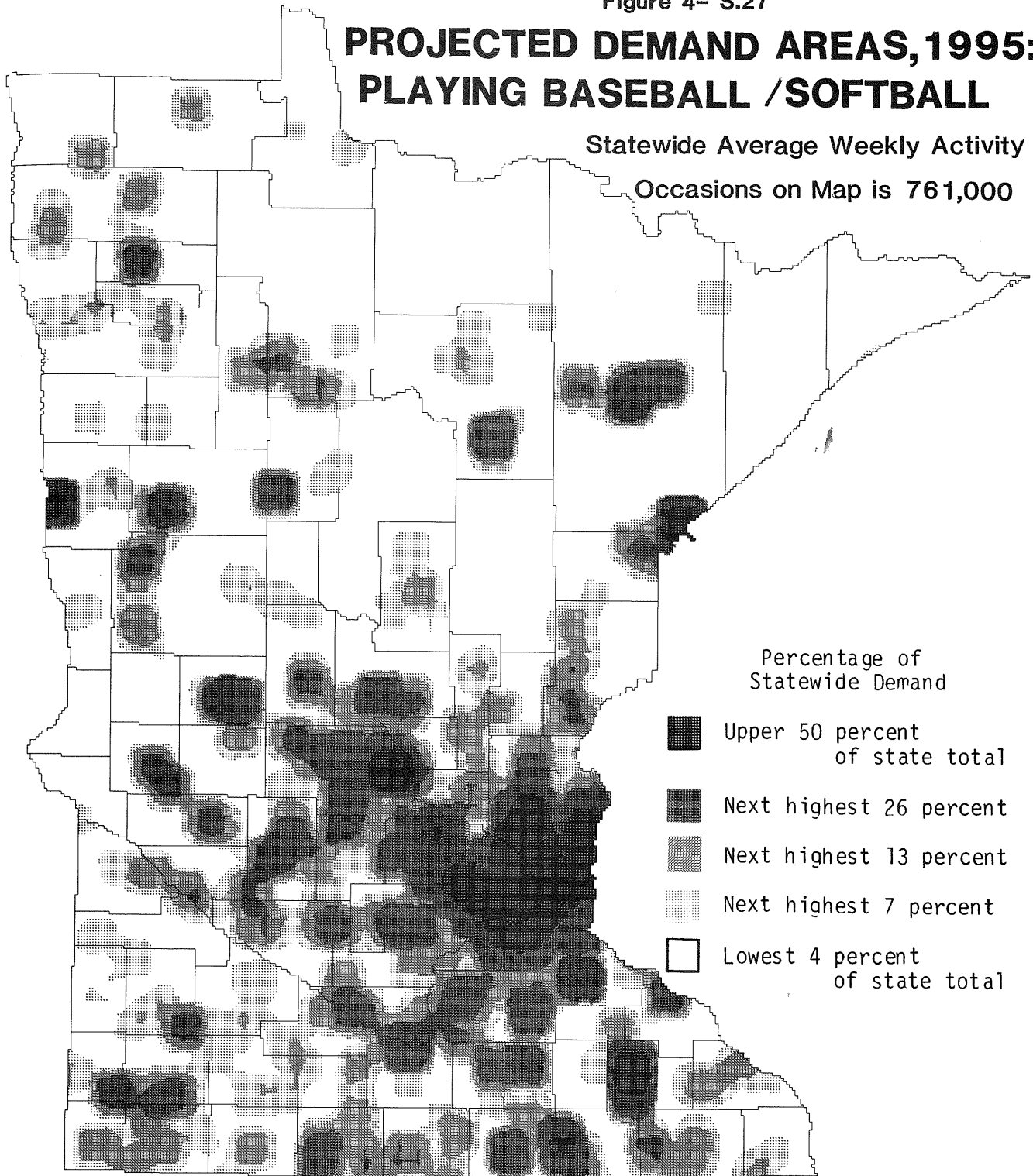
SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure 4- S.27

PROJECTED DEMAND AREAS, 1995: PLAYING BASEBALL /SOFTBALL

Statewide Average Weekly Activity

Occasions on Map is 761,000

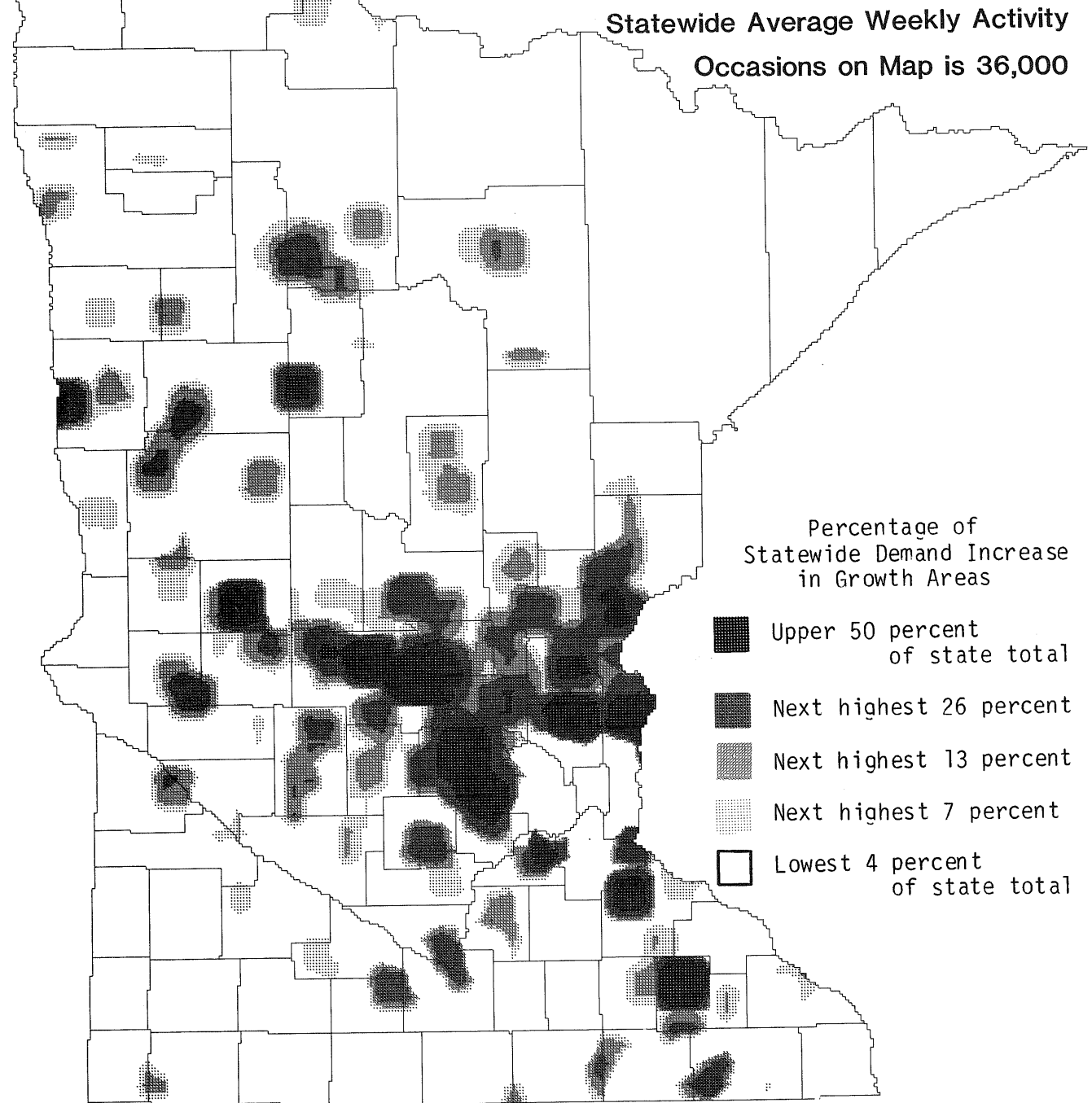


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure 4-S.28

PROJECTED DEMAND INCREASE IN GROWTH AREAS 1980-1995: PLAYING BASEBALL/SOFTBALL



NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Many of the low-participation activities fit best in this class because of resident age-class participation rates and closeness to home: archery, orienteering, horse-back riding, and off-road vehicle use (trailbiking and four-wheeling). Trailbiking, if considered separately from four-wheeling when examining participation rates, would probably fit better in this class than four-wheeling.

Class E: Peak Participation Rates in Mid-teens and 20s (tennis).

Tennis has peak resident participation rates in the age brackets from the mid-teens into the 20s (Fig. 4-S.06). The participation pattern is population-based, for 95 percent of use occurs within 25 miles of home (Fig. 4-S.29). Projected participation increases in growth areas have a moderate degree of correspondence with the pattern of existing use (Table 4-S.05). Increases in use are expected to be primarily located near the periphery of the Twin Cities metropolitan area and in areas north and northwest of the metropolitan area (Fig. 4-S.30). The center of the metropolitan area is forecasted to have no material increase in existing use.

Of the low-participation activities, four-wheeling, if considered separately from trailbiking, would probably fit better in this class than in the preceding class (Class D), which is characterized by peak participation rates in the youngest age classes.

Class F: Other Patterns of Age-Class Participation Rates (trap/skeet shooting).

Trap/skeet shooting, a low-participation activity, has a broad resident participation peak that extends from the teenage years to the 40s. It is the only activity with such an age-class participation-rate profile in the summer and winter surveys. Hunting, not surprisingly, has a similar distribution of participation across age classes, but it was placed in Class A2 because of the large proportion of use that occurs at long travel distances from home.

Facility Adequacy Study

Public opinion is an important consideration in recreation planning, particularly when public monies are being spent by government agencies. During the spring of 1984, the DNR conducted a mail survey of Minnesota households to learn their opinions of the amount and availability of 37 types of outdoor recreation facilities.

A survey of local-government recreation leaders

(county, municipal and township) was conducted concurrently with the household survey. Mayors, recreation planners, county board members and other local public officials who influence the provision of outdoor recreation facilities were asked about the adequacy of the facilities available to their constituents. Although the smaller size of this survey precluded comparing the responses of leaders from different regions, the statewide results of the leaders survey are compared to the statewide results of the household survey.

The local leaders also were asked how much responsibility they felt each level of government and the private sector should assume for providing each type of recreation facility. The overlapping jurisdictions and uncoordinated actions of these different providers sometimes result in shortages of some facilities and oversupplies of others.

The survey results are presented in three sections. The first two sections examine the demand for additional recreational opportunities expressed by households and by local government leaders. The third section examines the responsibility for supplying the recreational facilities and is based on responses of local government leaders.

Household Demand for Facility Groups

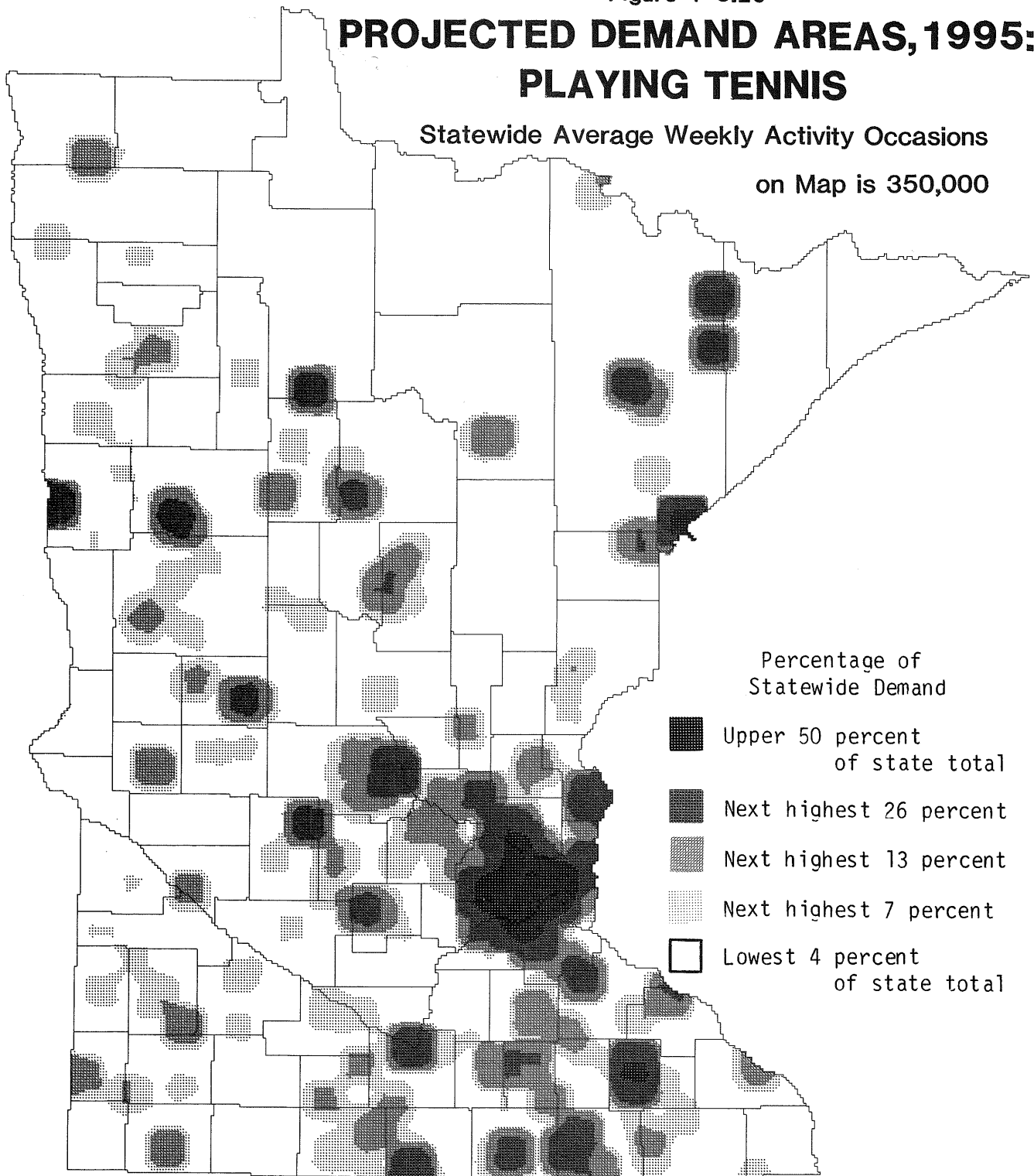
Respondents were asked to rate the adequacy of supply of 37 facility types on a scale of 1 to 7 (1 = More than Enough, 7 = Less than Enough). Based on the similarity in responses, individual facility types were then combined into six groups (Table 4-S.06). In the athletic group of Table 4-S.06, for example, if the respondents ranked the need for swimming pools as high (5, 6, or 7), they were also likely to rank the need for skating rinks as high, tennis courts as high, basketball courts as high, playgrounds as high and so on for the remaining facilities in this group (Table 4-S.06). All other facility groupings have this same pattern of responses for facilities within the group. Some of the facilities (e.g., natural park-like areas) are included in more than one group because the perceived need for them was too widespread to be associated with a single group of facilities. Some of the facility-type labels are rather broad, but designers of questionnaires often must sacrifice some precision and clarity to keep the questionnaire short enough to hold the respondent's interest. For example, historical interpretation can range from park-sponsored orienteering programs to drive-in monuments along public roads, and natural park-like areas can range from Voyageurs National Park to small community parks.

Responses were compiled statewide and by economic

Figure 4-S.29

PROJECTED DEMAND AREAS, 1995: PLAYING TENNIS

Statewide Average Weekly Activity Occasions
on Map is 350,000



NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

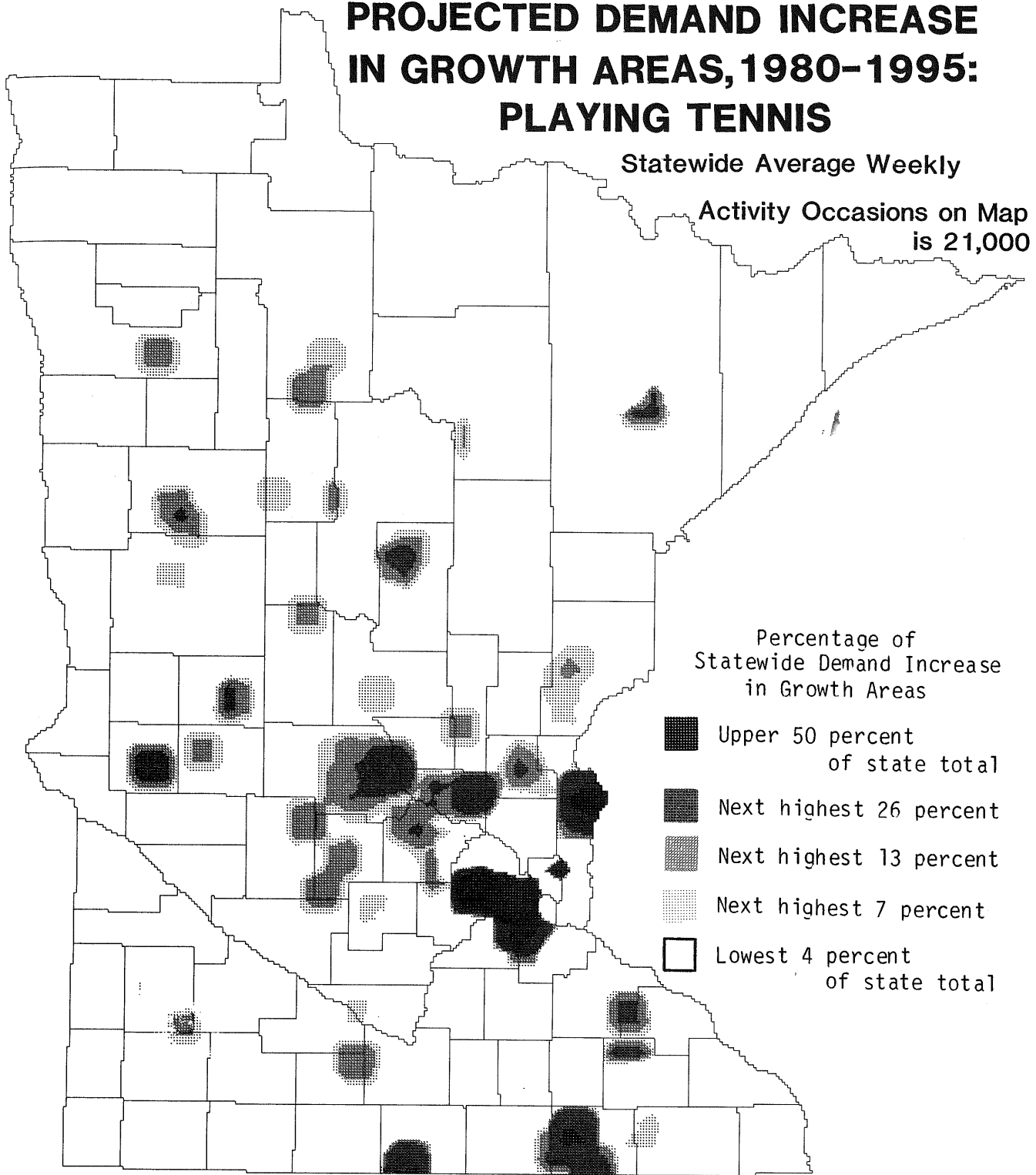
SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure 4-S.30

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995: PLAYING TENNIS

Statewide Average Weekly

Activity Occasions on Map
is 21,000



NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

**Table 4-S.06
Facility Response Groups^a**

<p>Athletic</p> <ul style="list-style-type: none"> Swimming Pools Skating Rinks Tennis Courts Basketball Courts Playgrounds Hockey Rinks Golf Courses Baseball/Softball Fields Football/Soccer Fields 	<p>Garden</p> <ul style="list-style-type: none"> Fountains and Gardens Nature Study Centers Botanical Gardens Zoological Gardens Historical Interpretation *Natural Park-Like Areas *Archery Ranges 	<p>Thrill</p> <ul style="list-style-type: none"> 3-Wheel Drive Areas Dirt Bike Areas 4-Wheel Drive Areas Snowmobile Trails *Horseback Trails *Archery Ranges *Downhill Ski Areas
<p>Water</p> <ul style="list-style-type: none"> Fishing Piers Swimming Beaches River Accesses Campgrounds Boat Launches Picnic Areas *Natural Park-Like Areas 	<p>Trails</p> <ul style="list-style-type: none"> Bicycle Paths Walking paths Hiking Trails Canoe Routes Cross Country Ski Trails *Natural Park-Like Areas *Horseback Trails 	<p>Hunting</p> <ul style="list-style-type: none"> Upland Game Hunting Waterfowl Hunting Rifle Ranges Skeet/Trap Ranges *Archery Ranges

*Included in more than one group.

^aSource: Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan. Data are from a 1984 survey of resident households.

development region. The perceived needs in each region for facilities in the six groups are compared with statewide perceived needs in a series of bar charts (e.g., Region 4 on Fig. 4-S.31 — charts for all regions are in Appendix B, Fig. B-S.29 to B-S.41). On the regional charts, the height of each bar shows the percentage of households that expressed a need of at least 5 on the 1-to-7 scale for all of the facilities within that group. The foreground bar of a facility group represents the regional responses, and the background bar represents statewide responses. The statewide responses remain constant on each regional figure. The bar shading indicates whether or not the difference between the region and the state is statistically significant, that is, reliable for use in recreation policy decisions. For example Region 4 households requested three facility groups (athletic, water, and trails) less frequently than did households statewide; yet, for only two of these (athletic and water) are the differences statistically significant. The remaining three facility groups (garden, thrill, and hunting) were requested more often in Region 4 than statewide. However, only for the hunting group is the difference from the statewide average statistically significant.

For the state as a whole, the trail group of facilities

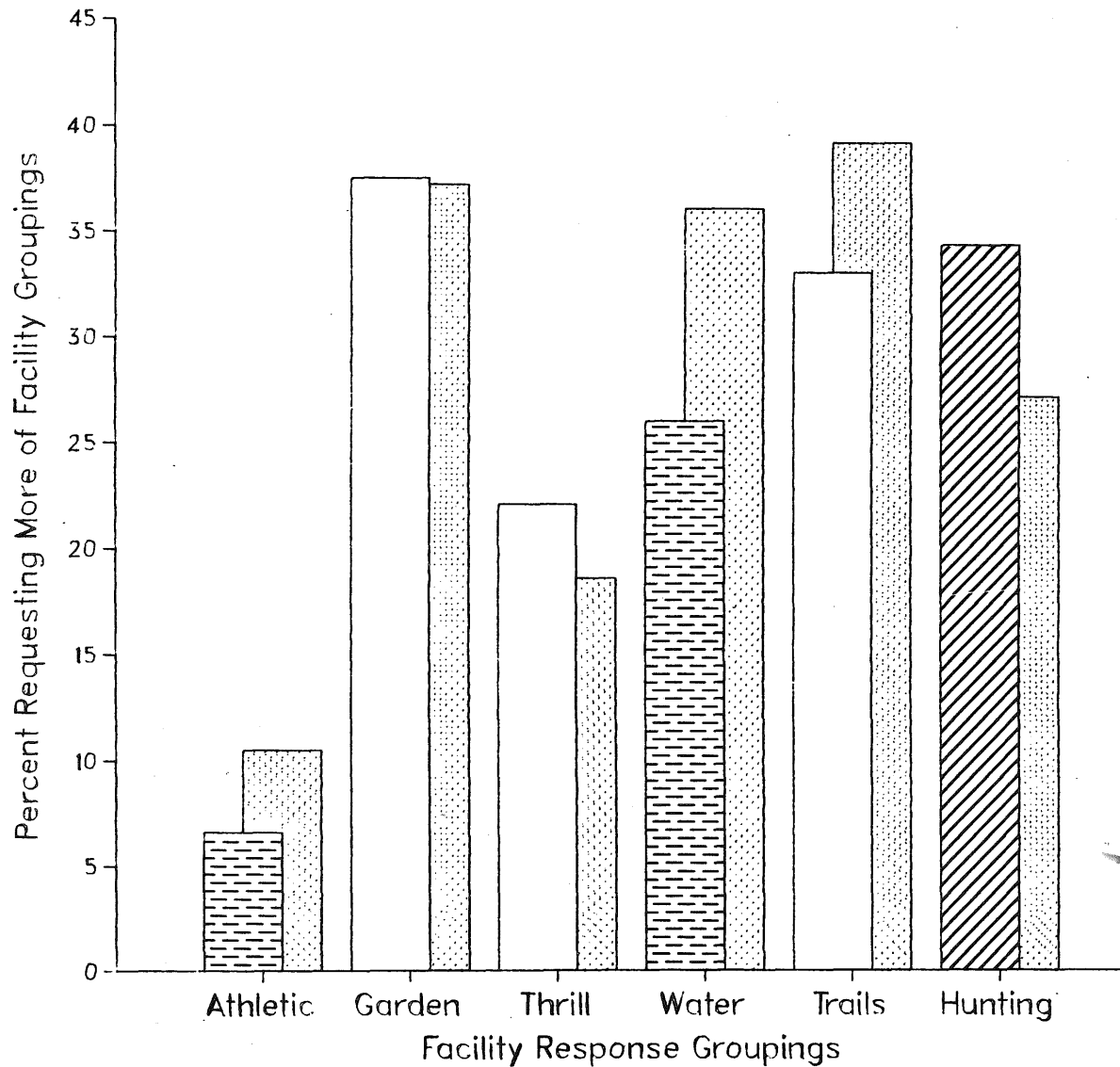
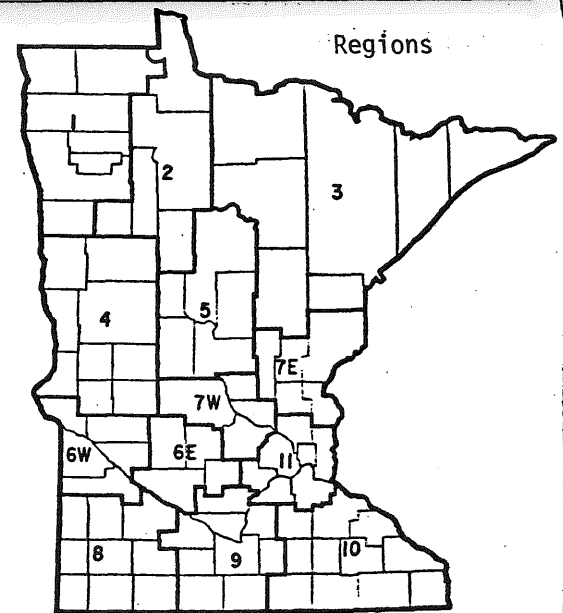
received the highest frequency of “desire more” responses (39 percent). It is followed by the garden group of facilities (37 percent), water group (36 percent), hunting group (27 percent), thrill group (18 percent) and athletic group (10 percent). This statewide ranking of the facility groups by frequency of “desire more” responses corresponds closely to that of the regions, even though there are large interregional differences in facility supply (Table 4-S.06A). Ninety-two percent of all regional rankings are within a rank of one of the statewide rank and half of these are the same as the state rank (e.g., if the statewide ranking of a group is 3, then all regional rankings of this group from 2 to 4 are within a rank of one). None of the regional ranks differed from the state rank by more than two. The two bottom state-ranked facility groups (thrill and athletic) have the largest consistency between the regions and the state, while the top state-ranked facility groups have considerably less consistency between regional and statewide rankings.

The consistency in the ordering of demand is important to know, but ordering, of course, does not address the question of whether there exist significant, absolute differences in demand between regions and the state for more of the facility groups.

FIGURE 4-S.31

Minnesota Outdoor Recreation Facilities Needs Assessment Region 4

Regional Population: 202585



Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

Legend

- Statewide Response
- Statistical Comparison
- Greater Than State
- No Different than State
- Less Than State

4.041

Table 4-S.06A
Comparison of Statewide and Regional Rankings of Facility Response Groups^a

Note: Rankings are in terms of "Desire More" responses.
 A rank of '1' has the most "Desire More" responses.

Facility Response Group	Statewide Rank	-----Rank by Regions-----											Number of Regional Ranks that are:				
		1	2	3	4	5	6E	6W	7E	7W	8	9	10	11	Same as State	Within a Rank of one of State	Within a Rank of Two of State
Trail	1	2	2	3	3	3	1	3	3	1	2	2	1	1	4	4	5
Garden	2	1	1	1	1	1	2	1	1	3	1	1	3	3	1	12	0
Water	3	4	3	2	4	2	3	2	2	2	3	4	2	2	3	10	0
Hunting	4	3	4	4	2	4	5	5	4	4	5	3	4	4	7	5	1
Thrill	5	5	6	5	5	5	4	4	5	5	4	5	5	5	9	4	0
Athletic	6	6	5	6	6	6	6	6	6	6	6	6	6	6	12	1	0
Total											36	36	6				

^aSource: Minnesota Department of Natural Resources, Office of Planning, State Comprehensive Outdoor Recreation Plan. Data are from a 1984 survey of resident households.

Table 4-S.07 shows regionally perceived shortages or surpluses of facility groups that differ significantly from the statewide average. There are far more regional perceptions of shortages than surpluses. Only Region 4 in west-central Minnesota perceived a surplus of more than one facility group, while 9 of the 13 regions perceived no surplus for any of the facility groups.

There is sizable interregional variation in terms how facility-poor a region considers itself. Regions 1 and 6E perceive shortages in the four of the six facility groups. A few regions (7E, 10 and 11) have no perceived shortages relative to statewide perceptions. Across the regions, athletic and garden facilities are most frequently seen as inadequate. They are followed in order by the thrill, trail, hunting and water groups, the latter of which was perceived to be in short supply only by Region 7W.

Household and Recreation Leader Demand for Individual Facilities

A comparison of local recreation leaders with households shows that for almost every facility type a greater percentage of leaders desired additional facilities (Tables B-S.01 - B-S.06, Appendix B). The size of this difference varied with the type of facility (Table B-S.07). Facilities for which leader demand exceeded household

demand by the greatest amount (e.g., hockey rinks, four-wheel drive areas, football/soccer fields) tend to be "developed" types of facilities and/or are generally used by identifiable groups. The difference between leader demand and household demand was smaller for facilities that tend to rely on natural resources or are generally used by a broader segment of the population (e.g., campgrounds, natural park-like areas, picnic areas).

Trail Group

Four of the five most frequently requested facilities are included in the trail group: bicycle paths, walking paths, hiking trails and natural park-like areas (Table B-S.01). The other three facilities in the group (canoe routes, horseback trails and cross-country ski trails) rank in the top half, making this the most frequently requested group of facilities.

Bicycle paths were seen to be in short supply by the greatest number of households (59.5 percent statewide). Eight regions ranked bicycle paths first in demand, and none ranked them below fifth. Regions 3 and 7W indicated a particularly strong desire for additional bicycle paths (73.3 percent and 70.5 percent, respectively).

Demand for most other trail facilities showed larger variations between regions. Cross-country ski trails were requested considerably more often in Regions 1, 3, 6E, and 7W than in Regions 2 and 5.

Table 4-S.07^{a,b}

Facility Response Groups That Have Statistically Significant Demand ("DESIRE MORE") Differences Between Regions and State^{a,b}

Region	Region Demand less than Statewide Demand	Region Demand greater than Statewide Demand
1	.....	..... Garden Thrill
2	.....	..... Athletic Garden
3	.....	..... Athletic Garden
4	Athletic Water .....	..... .....
5	..... Trails	..... Athletic
6E	.....	..... Athletic Garden Thrill
6W	.....	..... Athletic Garden Thrill
7E	.....	..... .....
7W	.....	..... Water Trail
8	Athletic .....	..... Garden Thrill
9	.....	..... Athletic
10	.....	..... .....
11	.....	..... .....

^aSource: Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan. Data are from a 1984 survey of resident households.

^bStatistical difference from statewide response is based on a one-tailed test using a binomial distribution and a 10% type I error rate.

The following excerpt from Table B-S.01 contrasts two regions which reported large differences in their preferences for additional trail-oriented facilities. Households in Region 5 reported being more content with each of the trail facilities than did households in Region 7W.

The difference between the statewide household demand and the local government leaders' demand ranged from near zero (natural park-like areas) to 63 percent (cross-country ski trails), with leaders always having the greater demand.

Percent of Respondents Who Want Additional Facilities

	-----HOUSEHOLDS-----			Leaders
	Reg 5	Reg 7W	State	State
Bicycle Paths	53.0%	70.5%	59.5%	77.3%
Walking Paths	50.8	62.3	55.7	66.1
Hiking Trails	47.7	62.3	54.6	71.2
Natural Park-Like Areas	47.0	61.7	54.3	54.7
Canoe Routes	31.8	52.7	47.3	60.4
Horseback Trails	39.7	50.4	47.0	65.6
Cross-Country Ski Trails	36.1	48.5	43.0	70.1

Garden Group

As a group, the garden facility types elicited the second-largest percentage of "desire more" responses (37 per-

cent). This group contains 4 of the 10 most desired facilities reported by households statewide. Two of the facilities, botanical gardens and zoos, account for much of the interregional variation in demand. In Minnesota,

these facilities are concentrated almost exclusively in the Twin Cities metropolitan area (Region 11). The excerpt from Table B-S.02 highlights the considerably higher desire for these two facilities by the residents in the northern and western areas of Minnesota:

Note, however, the difference in demand for additional zoos between Region 10, which borders the Twin Cities metro region on the southeast, and the other non-metro regions. The relatively low demand for additional zoos

by Region 10 households perhaps reflects the proximity of the Minnesota Zoological Gardens, located in the southern part of the metro area, to population centers in Region 10.

Local government leaders and households differed most strongly over the need for additional historical interpretive facilities and archery ranges. Leader demand for both of these was at least 50 percent greater than household demand.

Percent of Respondents Who Want Additional Facilities

	Reg 1	Reg 2	Reg 3	Reg 6E	Reg 6W	Reg 7W	Reg 9	Reg 10	Reg 11
Botanical Gardens	62.8%	60.8%	63.7%	63.6%	53.1%	56.5%	53.5%	52.6%	43.4%
Zoological Gardens	66.4	60.1	58.9	52.6	57.4	57.9	48.1	39.1	33.8

Water Group

The water group of facilities ranked third in "desire more" responses from households statewide, with 36 percent. Within the group, additional fishing piers and park-like areas were requested most often.

Four facilities account for much of the interregional variation. The excerpt from Table B-S.03 shows that households in Regions 4 and 8 reported being much

more satisfied with available water facilities than did households in Region 7W. Region 10 showed a strong need for additional swimming beaches, and Region 11 showed a strong demand for additional natural park-like areas.

Local government leaders and households agreed more on the need for additional water facilities than for any other facility group. Also, this groups contains the only facility (picnic areas) for which the government leader demand was less than the household demand.

Percent of Respondents Who Want Additional Facilities

	-----HOUSEHOLDS-----						LEADERS
	Reg 4	Reg 7W	Reg 10	Reg 11	Reg 8	State	State
Natural Park-Like Areas	46.4%	61.7	50.4%	58.6%	43.0%	54.3%	54.7%
Swimming Beaches	46.7	61.2	58.6	51.4	41.9	51.7	58.4
Campgrounds	37.8	59.4	41.7	54.9	38.4	49.6	54.5
Picnic Areas	35.8	53.0	42.3	44.1	34.0	43.7	39.0

Hunting Group

The hunting group ranked fourth among the six groups in frequency of "desire more" responses, with 27 percent. The facilities in this group can be divided into two subgroups: those which rely heavily on natural resources (upland game and waterfowl hunting areas), and man-made facilities (rifle, skeet/trap and archery ranges). Households in all regions reported similar demands for additional upland game and waterfowl hunting areas. No two regions differed by more than 15 percent, and no region differed from the statewide average by more than 10 percent.

On the other hand, the three man-made facilities in this group show some large, interregional variations. The excerpt from Table B-S.04 illustrates the largest disparities: (next page)

Households in Region 3 expressed a desire stronger than the statewide average for additional skeet/trap and archery ranges, and Region 6E households perceived a more acute need for rifle ranges than did households in most other regions.

A comparison of household responses and government leaders responses shows a far greater demand by local

leaders for the three man-made facilities (rifle, skeet/trap, and archery ranges) than for the two resource-

oriented facilities (upland game and waterfowl hunting areas).

Percent of Respondents Who Want Additional Facilities

	-----HOUSEHOLDS-----				LEADERS
	Reg 3	Reg 6E	Reg 11	State	State
Upland Game Hunting Areas	39.0%	45.1%	36.0%	40.6%	55.8%
Waterfowl Hunting Areas	41.8	35.8	36.9	39.0	47.2
Rifle Ranges	40.8	47.7	36.6	38.8	58.5
Skeet/Trap Ranges	42.2	36.8	26.6	31.0	55.7
Archery Ranges	52.1	45.9	38.1	41.7	65.2

Thrill Group

Eighteen percent of households statewide requested more "thrill" facilities. The excerpt from Table B-S.05 focuses on those regions with relatively strong or weak desires for additional thrill-type facilities. Note the particularly strong desires of households in Regions 1, 6E and 8, compared with those in Regions 2 and 11. Region 6W households indicated a relative shortage of downhill ski areas.

The local recreation leaders differed most strongly and consistently with households over the adequacy of the thrill facility group. Although leaders ranked these facilities in the same order as did households, their demand exceeded the household demand by very large margins, ranging from 92 percent (four-wheel drive areas) to 39 percent (horseback trails — see Table B-S.07).

Percent of Respondents Who Want Additional Facilities

	-----HOUSEHOLDS-----						LEADERS	
	Reg 1	Reg 6E	Reg 6W	Reg 8	Reg 2	Reg 11	State	State
Downhill Ski Areas	50.4%	50.0%	50.7%	47.3%	23.8%	36.4%	6.7%	60.2%
3-Wheel Drive Areas	45.0	45.5	41.2	38.9	39.6	29.8	33.7	61.2
Dirt Bike Areas	42.1	40.5	38.6	43.1	28.9	29.1	31.9	59.6
4-Wheel Drive Areas	33.3	42.0	37.9	34.7	30.0	21.4	27.0	51.9
Snowmobile Trails	37.5	23.3	29.4	33.5	11.8	24.3	23.7	41.3

Athletic Group

This group of facilities drew fewer "desire more" responses than any other group (10 percent statewide). Only swimming pools ranked in the top half of the 37 facilities; the other 8 facilities were in the bottom third. Within the group, the most frequently requested facility was swimming pools (46 percent); least often requested were the two ballfield facilities — baseball/softball fields (21 percent), and football/soccer fields (20 percent).

Recreation leader demand exceeded household demand by especially large margins for three of the athletic-type facilities: hockey rinks (101 percent), football/soccer fields (91 percent) and baseball/softball fields (87 percent — see Table B-S.07).

Responsibility for Providing Recreation Facilities

Local recreation leaders were asked how much responsibility the different levels of government and the private sector should assume for providing various facilities. For each facility, the respondent was asked to assign to five suppliers (private sector, and federal, state, county/regional and city governments) the amount of responsibility each should take in supplying that particular facility. Tables B-S.08 through B-S.12 in Appendix B give the responsibility assigned to the suppliers for each of the facility types. The figures in the tables are the arithmetic means of all responses reported on a five-point scale, and range from 1.5 (very low respon-

sibility) to 4.5 (very high responsibility). All of the tables contain the same data, but the order in which the facilities are presented is varied to highlight each supplier.

Table 4-S.08 contains a lists of those facilities for which each supplier should assume a high or moderate amount of responsibility. Each column is rank-ordered by the amount of responsibility assigned to the supplier by the local-government recreation leaders.

There is a strong correlation between the type of facility and the local leaders' opinions about the appropriate supplier. They believe the private sector should be most responsible for providing facilities which are used by organized groups (e.g., shooting ranges, off-road vehicle areas) or which are supported by a participation fee (e.g., golf courses, downhill ski areas). Facilities such as hunting areas, campgrounds, and river accesses, which rely heavily on natural resources or which

typically serve large areas, should, according to the leaders, be supplied by broader levels of government. City and regional governments were assigned greater responsibility for providing developed, local facilities such as playgrounds, ballfields and skating rinks.

The local leaders viewed supplier responsibility along a continuum with the federal government and the private sector located at opposite extremes. The size of the correlation coefficients in Table 4-S.09 shows how closely the leaders perceived the roles of any two suppliers. For example, the role of the federal government is viewed as being very similar to that of the state government (.94 correlation coefficient) but very dissimilar to that of the private sector (-.47). Federal, state and county/regional levels of government have similarities in assigned responsibility for facility development. No two other suppliers have even moderate similarities in assigned responsibilities.

Table 4-S.08

Facilities for which Suppliers Should Assume the Most Responsibility
Reported by Local Government Leaders^a

Upper Case: High Responsibility (At least 4 on scale of 1 to 5)

Lower Case: Moderate Responsibility (At least 3.1 and less than 4 on scale)

<u>STATE</u>	<u>COUNTY/REGION</u>	<u>CITY/TOWN</u>
WATERFOWL HUNTING AREAS	PICNIC GROUNDS	PLAYGROUNDS
PUBLIC RIVER ACCESSES	HIKING TRAILS	PICNIC GROUNDS
UPLAND GAME HUNTING AREAS	BOAT LAUNCHING SITES	BASEBALL/SOFTBALL FIELDS
DESIGNATED CANOE ROUTES		TENNIS COURTS
HISTORICAL INTERPRETATION	bicycle paths	BASKETBALL COURTS
CAMPGROUNDS	swimming beaches	SKATING RINKS
BOAT LAUNCHING SITES	natural park-like areas	HOCKEY RINKS
NATURAL PARK-LIKE AREAS	campgrounds	SWIMMING POOLS
SNOWMOBILE TRAILS	walking paths	FOOTBALL/SOCCER FIELDS
HIKING TRAILS	historical interpretation	WALKING PATHS
	public river accesses	
nature study centers	snowmobile trails	bicycle paths
zoological gardens	playgrounds	swimming beaches
picnic grounds	nature study centers	fountains and gardens
bicycle paths	cross country ski trails	natural park-like areas
cross country ski trails	fishing piers	hiking trails
fishing piers	designated canoe routes	golf courses
walking paths	horseback trails	historical interpretation
botanical gardens	baseball/softball fields	campgrounds
swimming beaches	archery ranges	boat launching sites
horseback trails	waterfowl hunting areas	archery ranges
<u>FEDERAL</u>	<u>PRIVATE SECTOR</u>	
WATERFOWL HUNTING AREAS	GOLF COURSES	
	DOWNHILL SKI AREAS	
public river accesses	SKEET/TRAP RANGES	
upland game hunting areas		
historical interpretation	campgrounds	
natural park-like areas	rifle ranges	
campgrounds	horseback trails	
designated canoe routes	archery ranges	
boat launching sites	dirt bike areas	
hiking trails	3-wheel drive areas	
nature study centers	tennis courts	
	boat launching sites	
	4-wheel drive areas	
	skating rinks	

^aSource: Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive outdoor Recreation Plan. Data are from a 1984 survey of resident households.

Table 4-S.09
Correlation of Suppliers' Responsibilities
Assigned to Suppliers by Local Government Leaders^{a,b}

	FEDERAL	STATE	COUNTY/ REGION	CITY/ TOWN	PRIVATE SECTOR
FEDERAL	1.00	.94*	.66*	-.38*	-.47*
STATE		1.00	.76*	-.38*	-.55*
COUNTY/REGION			1.00	.14	-.44*
CITY/TOWN				1.00	-.18
PRIVATE SECTOR					1.00

*Significant at $p = .01$ ($N = 37$)

^aSource: Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan. Data are from a 1984 survey of local government leaders.

^bThe responses of 496 local government leaders were averaged for each of the 37 facility types and five suppliers. These averages were the data items used to compute Pearson product-moment correlation coefficients.

Appendix A

Appendix A

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Casey, Patrick, House	Aitkin
Aitkin County Courthouse and Jail	Aitkin
Malmö Mounds and Village Site	Aitkin
National Woodenware Company Superintendent's Residence	Aitkin
Northern Pacific Depot	Aitkin
Potter-Casey Company Building	Aitkin
Aitkin Public Library	Aitkin
Arthyde Stone House	Aitkin
Savanna Portage	
Swedish Evangelical Lutheran Bethlehem Church	Aitkin
Anoka-Champlin Mississippi River Bridge	Anoka
Anoka Post Office	Anoka
Banfill Tavern/Locke House	Anoka
Colonial Hall and Masonic Lodge No. 30	Anoka
Crescent Grange Hall No. 51	Anoka
District School No. 28	Anoka
Shaw-Hammons House	Anoka
Jackson Hotel	Anoka
Kelsey, Porter, House	Anoka
Kline Sanatorium	Anoka
Leathers, H. G., House	Anoka
Richardson Barn	Anoka
Riverside Hotel	Anoka
Sparre Barn	Anoka
Swedish Evangelical Lutheran Church	Anoka
Ticknor, Heman L., House	Anoka
Windego Park Auditorium/Open Air Theatre	Anoka
Woodbury House	Anoka
Detroit Lakes Library	Becker
Itasca State Park	Becker
St. Benedict's Mission School	Becker
Bemidji Public Library	Beltrami
Rabideau CCC Camp	Beltrami
Saum School	Beltrami
Cota Round Barns	Benton
Esselman Brothers General Store	Benton
Posch Site	Benton
Robinson, Leonard, House	Benton
Ronneby Charcoal Kiln	Benton
Saints Peter and Paul Catholic Church Complex	Benton

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
County Courthouse	Blue Earth
Brandrup, J. R., House	Blue Earth
Chapman, Charles, House	Blue Earth
Cray, Lorin, House	Blue Earth
Eberhart, Adolph Olson, House	Blue Earth
Federal Post Office and Courthouse	Blue Earth
First Baptist Church	Blue Earth
First National Bank of Mankato	Blue Earth
First Presbyterian Church	Blue Earth
Gail, James P., Octagon Farmhouse	Blue Earth
Hubbard, R. D. House	Blue Earth
Irvin, William, House	Blue Earth
Jefferson, Adam, House	Blue Earth
Jones-Roberts Farmstead	Blue Earth
Kern Bridge	Blue Earth
Main Street Commercial Building	Blue Earth
Mankato Holstein Farm Barn	Blue Earth
Mankato Public Library and Reading Room	Blue Earth
Mankato State Teachers College	Blue Earth
Marsh Concrete Rainbow Arch Bridge	Blue Earth
North Front Street Commercial Historic District	Blue Earth
Schmidt, Oscar, House	Blue Earth
Seppman Mill	Blue Earth
Sterling Church	Blue Earth
Troendle, Lucas, House	Blue Earth
Union Depot	Blue Earth
Winnebago Agency House	Blue Earth
Bendixon-Schmid House	Brown
Bjorneberg Garage	Brown
Boesch-Hummel-Maltsahn Block	Brown
Chicago North Western Depot	Brown
Chicago North Western Section House	Brown
Cobden Jail	Brown
Federal Post Office Building	Brown
Fesenmaier, Bernard, House	Brown
Gag, Wanda, Childhood Home	Brown
Hermann Monument	Brown
Kiesling House	Brown
Kreitinger Garage	Brown
Lampert Lumber Co. Line Yard	Brown
Liberal Union Hall	Brown
Lind John, House	Brown
Melges Bakery	Brown
New Ulm Armory	Brown
New Ulm Oil Co. Service Station	Brown
Ochs, A. C., House	Brown
Old Main, Dr. Martin Luther College	Brown
St. Michael's School and Convent	Brown
Schell, August, Brewing Company	Brown
Schell, Otto, House	Brown

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Shady Lane Stock Farm	Brown
Smith, W. W., House	Brown
South Broadway Historic District	Brown
South German Street Historic District	Brown
Synstebly Site	Brown
Thormodson Barn	Brown
Tivoli Gardens	Brown
Turner Hall	Brown
Twente Farm Elevator and Granary	Brown
Winona and St. Peter Freight Depot	Brown
Grand Portage of the St. Louis River	Carlton
Amblard, Emile, Guest House	Carver
Brinkhaus Saloon Livery Barn	Carver
Carver Historic District	Carver
Chanhassen Town Hall	Carver
Coney Island of the West	Carver
Courthouse Saloon	Carver
DuToit, Frederick E., House	Carver
Eder-Baer House	Carver
Greiner, Frederick, House	Carver
Grimm, Wendelin, Homestead	Carver
Guettler House	Carver
Harms Bar	Carver
Hebeisen, Jacob, House	Carver
Hebeisen, Jacob, Hardware Store	Carver
Herald Black	Carver
Illtis Brewery and Ice House	Carver
King Oscar's Settlement	Carver
Knotz House and Carriage House	Carver
Kusske and Hahn Saloon	Carver
Laketown Moravian Brethren's Church	Carver
Lewis, E. H., House	Carver
Maiser, Charles, House	Carver
Mock Cigar Factory and House	Carver
Mohrbacher, Paul, House	Carver
Norwood United Methodist Church	Carver
Peterson, Andrew, Farmstead	Carver
St. Hubertus Catholic Church	Carver
Schimmelpfennig Farm	Carver
Waconia City Hall	Carver
Walnut Street Historic District	Carver
West Union	Carver
Young America City Hall	Carver
Zoar Moravian Church	Carver
Zrust, Alois, House and Carpenters' Catalogue Houses	Carver
Chase Hotel	Cass
Chippewa Agency Historic District	Cass
Great Northern Railway Co. Bridge	Cass
Gull Lake Mounds Site	Cass
Hole-in-the-Day II Cabin Site	Cass

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Neils, Julius, House	Cass
Old Backus	Cass
Rice Lake Hut Rings	Cass
Sherwood Forest Lodge Complex	Cass
Sixth Street Commercial Building	Cass
Soo Line Depot	Cass
Supervisor's Office Headquarters, Chippewa Nat'l Forest	Cass
Winnibigoshish Lake Dam	Cass
Winnibigoshish Resort	Cass
Swensson, Olof, Farm	Chippewa
Budd, Charles H., House	Chippewa
Chippewa County Bank	Chippewa
Lac qui Parle Mission Site	Chippewa
Montevideo Public Library	Chippewa
Anderson, Gustaf, House	Chisago
Angle's Hills Historic District	Chisago
Carlson, J. C., House	Chisago
Center City Historic District	Chisago
Chisago County Courthouse	Chisago
Daubney, John, House	Chisago
Diffenbacher Farmhouse	Chisago
Franconia Historic District	Chisago
Fridhem Chisago Grant House	Chisago
Moody Barn	Chisago
Munch, Paul, House	Chisago
Munch-Roos House	Chisago
Sayer House	Chisago
Taylors Falls Public Library	Chisago
Victor, C. A., House	Chisago
Barnesville City Hall	Clay
Bergquist, John, Cabin	Clay
Bernhardson, Bernhard, Cabin	Clay
Comstock Public School	Clay
Comstock, Solomon Gilman, House	Clay
Fairmont Creamery Company	Clay
Federal Post Office Building	Clay
420 Main Avenue Commercial Building	Clay
Huntoon, Lew, House	Clay
Krabbenhoft, Wulf C., Farmstead	Clay
Main Building, Concordia College	Clay
Olness, John, House	Clay
Patterson-Hernandez House	Clay
Probstfield, R. M., House	Clay
St. John the Divine Episcopal Church	Clay
Itasca State Park	Clearwater
Lower Rice Lake Site	Clearwater
Upper Rice Lake Site	Clearwater
Cook County Courthouse	Cook
Fowl Lake Site	Cook
Grand Portage National Monument	Cook

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Height of Land	Cook
Lightkeeper's House	Cook
Naniboujou Lodge	Cook
Cottonwood County Courthouse	Cottonwood
Jeffers Petroglyph Site	Cottonwood
Mountain Lake Site	Cottonwood
Brainerd Public Library	Crow Wing
Brainerd Water Tower	Crow Wing
Crow Wing County Courthouse and Jail	Crow Wing
Crow Wing State Park	Crow Wing
Cuyuna Iron Range Municipally Owned Elevated Metal Water Tanks, Crosby, Cuyuna, Deerwood, Ironton, Trommald	Crow Wing
Fawcett, Wilford H., House	Crow Wing
Fort Flatmouth Mound Group	Crow Wing
Gordon-Schaust Prehistoric Embankments District	Crow Wing
Grand View Lodge	Crow Wing
St. Colombia Mission Site	Crow Wing
Hay Lake Mount District	Crow Wing
Hemstead, Werner, House	Crow Wing
Ironton Sintering Plant Site	Crow Wing
Minnesota and International Railroad Freight House and Shelter Shed	Crow Wing
Minnewawa Lodge	Crow Wing
Parker Building	Crow Wing
St. Columba Mission Site	Crow Wing
Shawano House	Crow Wing
Soo Line Depot	Crow Wing
Spina Hotel	Crow Wing
Akin, D. F., House	Dakota
Chicago Milwaukee St. Paul and Pacific Depot	Dakota
Church of the Advent	Dakota
Dakota County Courthouse	Dakota
East Second Street Commercial Historic District	Dakota
Eckert, Ignatius, House	Dakota
Exchange Bank Building	Dakota
Fasbender Clinic	Dakota
Ft. Snelling Historic District	Dakota
Fort Snelling-Mendota Bridge	Dakota
Freeman, R., House	Dakota
Good Templars Hall	Dakota
Hastings Foundary-Star Iron Works	Dakota
Horticulture Building, Dakota County Fairgrounds	Dakota
Howes, Byron, House	Dakota
Latto, Rudolph, House	Dakota
LeDuc House	Dakota
MacDonald-Todd House	Dakota

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Methodist Episcopal Church	Dakota
Minneapolis Northfield and Southern Depot (Orchard Gardens)	Dakota
Mendota Historic District	Dakota
Oberhoffer, E. J., House	Dakota
St. Mary's Church	Dakota
Sibley, Henry Hastings, House	Dakota
Stockyards Exchange Building	Dakota
Thompson-Fasbender House	Dakota
VanDyke-Libby House	Dakota
Waterford School District No. 72	Dakota
Wentworth, G. W., House	Dakota
West Second Street Residential Historic District	Dakota
Carlson, Ole, House	Dodge
Eureka Hotel	Dodge
Holtermann, Andrew, House	Dodge
Kasson Municipal Building	Dodge
Kasson Water Tower	Dodge
Leuthold, Jacob Jr., House	Dodge
Mantorville Historic District	Dodge
Nelson, Perry, House	Dodge
Wasioja Historic District	Dodge
Johnson, J. B., House	Douglas
Nelson, Knute, House	Douglas
U.S. Post Office Building	Douglas
Bullis, Adams H., House	Faribault
Center Creek Archaeological District	Faribault
Chicago Milwaukee St. Paul and Pacific Depot and Lunchroom	Faribault
Constans Hotel	Faribault
District School No. 40	Faribault
Dunn, Andrew C., House	Faribault
Faribault County Courthouse	Faribault
First National Bank	Faribault
Good Shepherd Episcopal Church	Faribault
Kremer, Peter, House	Faribault
Leland, Muret N., House	Faribault
Wakefield, James B., House	Faribault
Walters Jail	Faribault
Allis Barn (Reliance Stock Farm)	Fillmore
Chatfield Public Library	Fillmore
Fillmore County Jail and Carriage House	Fillmore
Forestville Townsite	Fillmore
Haven, George H., House	Fillmore
Lanesboro Historic District	Fillmore
Lenora Methodist Church	Fillmore
Lovell, Ellen M., House	Fillmore
Norway Township Stone House	Fillmore
Parson's Block and Hall	Fillmore

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Pietenpol, Bernard H. Workshop and Garage	Fillmore
Preston Brewery	Fillmore
Quickstad Farm Implement Co. Buildings	Fillmore
Ravine House	Fillmore
Rushford City Mill	Fillmore
Rushford Wagon and Carriage Company	Fillmore
Scanlan, Michael, House	Fillmore
Spring Valley Mausoleum	Fillmore
Spring Valley Methodist Church	Fillmore
Spring Valley Public Library	Fillmore
Steffens, Ephraim, House	Fillmore
Strong, William, Estate	Fillmore
Tunnel Mill	Fillmore
Walker and Valentine House	Fillmore
Chicago Milwaukee St. Paul and Pacific Depot	Freeborn
Bartron Site	Goodhue
Baslington, George, Farmhouse	Goodhue
Bringgold, Jacob, House	Goodhue
Cannon Falls Elementary School	Goodhue
Carlson, G. A., Lime Kiln	Goodhue
Chicago and Great Western Depot	Goodhue
Church of the Redeemer	Goodhue
Cross of Christ Lutheran Church	Goodhue
Dammon, Henry, Round Barn	Goodhue
District School No. 20	Goodhue
Ellsworth Hotel Livery stable	Goodhue
E.S., House	Goodhue
Fireman's Hall	Goodhue
First Congregational Church	Goodhue
Fort Sweeney Site	Goodhue
Fryk, E. J., Barn	Goodhue
Gellett, Captain Charles House	Goodhue
Gladstone Building	Goodhue
Gronvold, Dr. Just Christian, Estate	Goodhue
Gunderson, Martin T., House	Goodhue
Hall, Dr. Orrin T., House	Goodhue
Hauge Lutheran Church	Goodhue
Hewitt, Dr. Charles, Laboratory	Goodhue
Holden Church Parsonage	Goodhue
Hoyt, E. S., House	Goodhue
Immanuel Lutheran Church	Goodhue
Kappel Wagon Works	Goodhue
Kenyon Opera House	Goodhue
Keystone Building	Goodhue
Lawther House	Goodhue
Miller, Harrison, Farmhouse	Goodhue
Miller, John, Farmhouse	Goodhue
Minnesota State Training School	Goodhue
Minnesota Stoneware	Goodhue

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Nelson, Julia B., House	Goodhue
Old Frontenac Historic District	Goodhue
Opera House Block	Goodhue
Oxford (Flour) Mill Ruin	Goodhue
Pine Island City Hall and Fire Station	Goodhue
Pratt-Taber House	Goodhue
Red Wing City Hall	Goodhue
Red Wing Historic Mall District	Goodhue
Red Wing Iron Works	Goodhue
Red Wing Residential Historic District	Goodhue
Roscoe Butter and Cheese Factory	Goodhue
Roscoe Store	Goodhue
St. James Hotel Complex	Goodhue
Sheldon, Theodore B., House	Goodhue
Tower View	Goodhue
Towne-Akenson House	Goodhue
Vasa Historic District	Goodhue
Wallauer, Fred, Farmhouse	Goodhue
Wanamingo Town Hall	Goodhue
Yale, Darwin E., House	Goodwin
Yale Hardware Building	Goodhue
Zumbrota Covered Bridge	Goodhue
Fort Pomme De Terre Site	Grant
Advance Thresher/Emerson-Newton Implement Co. Buildings	Hennepin
Ames-Florida House	Hennepin
Anoka-Champlin Mississippi River Bridge	Hennepin
Baird, George W., House	Hennepin
Bartholomew, Riley Lucas, House	Hennepin
Basilica of St. Mary	Hennepin
Bennett-McBride House	Hennepin
Burwell House	Hennepin
Butler Brothers Building	Hennepin
Cahill School	Hennepin
Cappelen Memorial Bridge	Hennepin
Carpenter, Elbert L., House	Hennepin
Carpenter, Eugene J., House	Hennepin
Century Mill	Hennepin
Chamber of Commerce Building	Hennepin
Chicago Milwaukee St. Paul and Pacific Depot	Hennepin
Como-Harriet Streetcar Line and Trolley	Hennepin
Country Club Historic District	Hennepin
Cummins, John R., Homestead	Hennepin
Cutter, B. O., House	Hennepin
Dania Hall	Hennepin
Excelsior Fruit Growers Association Building	Hennepin

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Excelsior Public School	Hennepin
Fire Station No. 19	Hennepin
First Congregational Church	Hennepin
Fisk, Woodbury, House	Hennepin
Flour Exchange	Hennepin
Fort Snelling Historic District	Hennepin
Fort Snelling-Mendota Bridge	Hennepin
Forum Cafeteria	Hennepin
Foshay Tower	Hennepin
Fowler Methodist Episcopal Church	Hennepin
Fredrika Bremer School	Hennepin
Gideon, Peter, Homestead	Hennepin
Great Northern Depot	Hennepin
Grimes, Jonathan Taylor, House	Hennepin
Hanover Bridge	Hennepin
Hennepin County Library	Hennepin
Hewitt, Edwin H., House	Hennepin
Jones, Harry W., House	Hennepin
Lakewood Cemetery Memorial Chapel	Hennepin
Legg, Harry F., House	Hennepin
Little Sisters of the Poor Home for the Aged	Hennepin
Lohmar, John, House	Hennepin
Lumber Exchange Building	Hennepin
Martin, Charles J., House	Hennepin
Maternity Hospital	Hennepin
Milwaukee Avenue Historic District	Hennepin
Milwaukee Road Depot and Freight House	Hennepin
Minneapolis City Hall-Hennepin County Courthouse	Hennepin
Minneapolis Public Library; North Branch	Hennepin
Minnehaha Grange Hall	Hennepin
Minnehaha Historic District	Hennepin
Moline, Milburn, and Stoddard Co.	Hennepin
Morse, Elisha, House	Hennepin
New Main, Augsburg Seminary	Hennepin
Newell, George R., House	Hennepin
Northern Implement Company	Hennepin
Olson, Floyd B., House	Hennepin
Peavey-Haglin Experimental Concrete Grain Elevator	Hennepin
Pillsbury A. Mill	Hennepin
Pond, Gideon H., House	Hennepin
Purcell, William Gray, House	Hennepin
St. Anthony Falls Historic District	Hennepin
Smith, H. Alden, House	Hennepin
Stewart Memorial Church	Hennepin
Turnblad, Swan, House	Hennepin
Thresher Emerson-Newton Company Building	Hennepin
Van Cleve, Horatio P., House	Hennepin

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Washburn A. Mill Complex	Hennepin
Washburn Park Water Tower	Hennepin
Washburn-Fair Oake Mansion District	Hennepin
Wyer-Pearce House	Hennepin
Bunge, Christian Jr., Store	Hennepin
Cameron, Caniel, House	Houston
Church of the Holy Comforter	Houston
Eitzen Stone Barn	Houston
Houston County Courthouse	Houston
Houston County Poor Home	Houston
Johnson, Charles, Flour Mill	Houston
Portland Prairie Methodist Episcopal Church	Houston
Schech's Mill	Houston
Sprague, David R. and Ellsworth A., Houses	Houston
Williams, Spafford, Hotel	Houston
Itasca State Park	Hubbard
Moser, Louis J., Homestead	Hubbard
Shell River Prehistoric Village and Mound District	Hubbard
Erickson Farmstead	Isanti
Farmers Cooperative Mercantile Company of West Stanford	Isanti
German Evangelical Lutheran Church St. Johns	Isanti
Isanti County Courthouse	Isanti
Isanti School District No. 1	Isanti
Linden Barn	Isanti
Olson, Oscar, House	Isanti
Svenska Mission Kyrka i Sodre Maple Ridge	Isanti
West Riverside School	Isanti
Lake Winnibigoshish Dam Archaeological Site	Itasca
Central School	Itasca
Church of the Good Shepherd	Itasca
Coleraine Methodist Episcopal Church	Itasca
Coleraine Public Library	Itasca
Cut Foot Sioux Ranger Station	Itasca
Gran, Frank, Farmstead	Itasca
Hartley Sugar Camp	Itasca
Itasca Lumber Company Superintendent's Residence	Itasca
Lake Winnibigoshish Dam	Itasca
Oliver Iron Mining Company Buildings	Itasca
Turtle Oracle Mound	Itasca
White Oak Point Site	Itasca
Jackson County Courthouse	Jackson
Robertson Park Site	Jackson
Bronson Farm	Kanabec

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Coin School	Kanabec
Kanabec County Courthouse	Kanabec
Knife Lake Historic District	Kanabec
Ogilvie Water Tower	Kanabec
Williams, C. E., House	Kanabec
Zetterberg Company	Kanabec
Lake Bronson Archaeological Site	Kittson
Gold Mine Sites	Koochiching
Koochiching County Courthouse	Koochiching
Laurel Mounds	Koochiching
Little American Mine	Koochiching
McKinstry Mounds and Village Site	Koochiching
Nett Lake Petroglyph Site	Koochiching
Finsted's Auto Marine Shop	Koochiching
St. Peter and Paul Russian Orthodox Church	Koochiching
Scenic Hotel	Koochiching
Camp Release State Monument	Lac qui Parle
Commercial Bank Building	Lac qui Parle
Lac qui Parle Mission Site	Lac qui Parle
Thoreson, Andreus, House	Lac qui Parle
Duluth and Iron Range Depot	Lake
Edna G., (tugboat) Home	Lake
Lake County Courthouse and Sheriff's Residence	Lake
Split Rock Lighthouse	Lake
Fort St. Charles Archaeological Site	Lake of the Woods
Northwest Point (Northwest Angle)	Lake of the Woods
Spooner Public School	Lake of the Woods
Andrews House	Le Sueur
Bridge No. 4846	Le Sueur
Cosgrove, C. N., House	Le Sueur
Dehn House	Le Sueur
Elysian Public School	Le Sueur
Elysian Water Tower	Le Sueur
First National Bank	Le Sueur
Geldner Sawmill	Le Sueur
German Evangelical Salem Church	Le Sueur
Hilltop Hall	Le Sueur
Hotel Broz	Le Sueur
Kasota Town Hall	Le Sueur
Kasota Village Hall	Le Sueur
Le Sueur County Courthouse and Jail	Le Sueur
Mayo, Dr. William W., House	Le Sueur
Needham-Hayes House	Le Sueur
Ottawa Stone Buildings	Le Sueur
Smith-Cosgrove House	Le Sueur
Taylor, George W., House	Le Sueur
Union Hotel	Le Sueur
Westerman Lumber Office and Residence	Le Sueur

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Danebod	Lincoln
Drammen Farmers' Club	Lincoln
Lake Benton Opera, House and Kimball Building	Lincoln
Lincoln County Fairgrounds	Lincoln
Lincoln County Courthouse and Jail	Lincoln
Osbeck, Ernest, House	Lincoln
Tyler Public School	Lincoln
Anderson, J. S., House	Lyon
Anderson, O. G., and Company Store	Lyon
Lyon Gieske, William F., House	Lyon
Kiel and Morgan Hotel	Lyon
Masonic Temple	Lyon
Norseth, Martin, House	Lyon
St. Paul's Evangelical Lutheran Church and Parsonage	Lyon
Hutchinson Free Public Library	McLeod
Winsted City Hall	McLeod
Larson Mill	Marshall
Fairmont Opera House	Martin
Martin County Courthouse	Martin
Wolheter, George, Manson	Martin
Brightwood Beach Cottage	Meeker
Grand Army of the Republic Hall	Meeker
Trinity Episcopal Church	Meeker
Copper Site	Mille Lacs
Great Northern Railroad Depot	Mille Lacs
Kathio Historic District	Mille Lacs
Mille Lacs County Courthouse	Mille Lacs
Petaga Point	Mille Lacs
Saw Mill Site	Mille Lacs
Vineland Bay Site (Kathio School Site)	Mille Lacs
Ayer Mission Site	Morrison
Belle Prairie Village Site	Morrison
Church of Our Saviour	Morrison
Fort Ripley	Morrison
Lindbergh, Charles A., House	Morrison
Little Falls Carnegie Library	Morrison
Morrison County Courthouse	Morrison
Pelkey Lake Site	Morrison
Rice Lake Peninsula Prehistoric District	Morrison
Swan River Indian Village Site	Morrison
Warren, William, Two Rivers Cabin Site and McDougall Homestead	Morrison
Cook-Hormel House	Mower
Exchange State Bank	Mower
Avoca Public School	Murray
Chicago Milwaukee St. Paul and Pacific Depot	Murray
Chicago St. Paul Minneapolis and Omaha Turntable	Murray
Dinehart-Holt House	Murray

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
First National Bank	Murray
Church of the Holy Communion	Nicollet
Cox, E., St. Julien, House	Nicollet
Donahower, Frederick A., House	Nicollet
Fort Ridgely	Nicollet
Harkin, Alexander, Store	Nicollet
Johnson, John A., House	Nicollet
Nicollet County Bank	Nicollet
Nicollet Hotel	Nicollet
Norseland General Store	Nicollet
North Mankato Public School	Nicollet
Old Main, Gustavus Adolphus College	Nicollet
St. Peter Central School	Nicollet
St Peter Public Library	Nicollet
Swift, Henry A., House	Nicollet
Traverse Des Sioux State Park	Nicollet
Union Presbyterian Church	Nicollet
Adrian State Bank	Nobles
Citizens National Bank	Nobles
Kilbride, Dr. E. A., Clinic	Nobles
St. Adrian's Catholic Church	Nobles
Siemer Silo and Barn	Nobles
Sioux City St. Paul Section House	Nobles
Slade Hotel	Nobles
Faith Milling Company	Norman
Norman County Courthouse	Norman
Avalon Hotel	Olmsted
Bush, John G., House	Olmsted
Chateau Dodge Theatre	Olmsted
Chicago and Great Western Depot	Olmsted
Coan House	Olmsted
Eyota Cooperative Creamery	Olmsted
Frank's Ford Bridge	Olmsted
Hotel Zumbro	Olmsted
Krause, Christoph, Farmstead	Olmsted
Mayo, Dr. Charles H., House	Olmsted
Mayowood Historic District	Olmsted
Oronoco School	Olmsted
Pierce House	Olmsted
Pleasant Grove Masonic Lodge	Olmsted
Quarry Hill	Olmsted
Rochester Armory	Olmsted
Rochester Public Library	Olmsted
St. Mary's Hospital Dairy Farm	Olmsted
Stoppel, George, Farm	Olmsted
Toogood Barns	Olmsted
White, Milo, House (Hazelwood)	Olmsted
Whiting, Timothy A., House	Olmsted
Hotel Kaddatz	Otter Tail
Maplewood Site	Otter Tail
Morrison, Mounds	Otter Tail

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Orwell Site	Otter Tail
Phelps' Mill	Otter Tail
Wright, C. J., House	Otter Tail
Thief River Falls Public Library	Pennington
Bethlehem Lutheran Church	Pine
Cloverton School	Pine
Doboszenski Homestead	Pine
Hinckley Fire Relief House	Pine
Hinckley Depot (Northern Pacific Depot)	Pine
Hultgren House and Sand Pit	Pine
Kilstofte, P. P., Farmstead	Pine
Minneapolis Trust Company Commercial Building	Pine
Northwest Pacific Depot	Pine
Northwest Company Fur Post	Pine
Oldenburg, John A., House	Pine
Partridge Township Hall	Pine
Pine City Naval Militia Armory	Pine
Red Clover Land Company Demonstration Farm	Pine
Sandstone Public School Building	Pine
Schwyzer Farmstead	Pine
Stumne Mounds	Pine
Bauman Hall	Pipestone
Calumet Hotel	Pipestone
Christianson House and Store	Pipestone
Farrar House	Pipestone
Gerber Hospital and Garage	Pipestone
Ihlen Mercantile Co.	Pipestone
Pipestone Historic District	Pipestone
Pipestone County Courthouse	Pipestone
Pipestone National Monument	Pipestone
Pipestone Public Library	Pipestone
Pipestone Water Tower	Pipestone
Rock Island Depot	Pipestone
Stordahl Building	Pipestone
St. Peter's Church	Polk
Fremad Association Building/Pope County State Bank Building	Pope
Glenwood Public Library	Pope
Iverson, Urjans, Cabin	Pope
Lowry Public School	Pope
Minnewaska Hospital	Pope
Northern Pacific Depot	Pope
Pennie, Daniel, House	Pope
Pope County Courthouse	Pope
Sunset Beach Hotel	Pope
Terrace Mill Historic District	Pope
Assumption School	Ramsey
Armstrong House	Ramsey
Beebe, Dr. Ward, House	Ramsey

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Blair Flats	Ramsey
Brunson, Benjamin, House	Ramsey
Burbank-Livingston-Griggs House	Ramsey
Butler, Pierce and Walter, House	Ramsey
Central Presbyterian Church	Ramsey
Church of the Assumption	Ramsey
Cobb, Cyrus B., House	Ramsey
Church of St. Agnes	Ramsey
Como Park Conservatory	Ramsey
C.S.P.S Hall	Ramsey
Dahl, William, House	Ramsey
Davern, William and Catherine, Farmhouse	Ramsey
Finch, VanSlyck and McConville Dry Goods Company	Ramsey
First Baptist Church of St. Paul	Ramsey
First National Bank of White Bear	Ramsey
Foss House	Ramsey
Fitzgerald, F. Scott, House	Ramsey
Germania Bank Building	Ramsey
Giesen-Hauser House	Ramsey
Gibbs Farm	Ramsey
Hill, James J., House	Ramsey
Hobe, E. H., House	Ramsey
Hinkel, Jacob, House	Ramsey
Historic Hill District	Ramsey
Irvine, Horace, House (Governor's Residence)	Ramsey
Irvine Park Historic District	Ramsey
Kellogg, Frank B., House	Ramsey
Krank Building	Ramsey
Lauer Flats	Ramsey
Lowertown Historic District	Ramsey
Luckert, David, House	Ramsey
Merchant's National Bank Building	Ramsey
McGill, Andrew R., House	Ramsey
Mickey's Diner	Ramsey
Minnesota Boat Club Boathouse	Ramsey
Minnesota State Capitol	Ramsey
Muench, Adolph, House (The Manor)	Ramsey
Muskego Church	Ramsey
Northern Pacific Railway Company Como Shops Historic District	Ramsey
Noyes, C. P., Cottage (The Red Chalet)	Ramsey
Old Main, Macalester College	Ramsey
Pioneer and Endicott Buildings	Ramsey
Ramsey, Alexander, House	Ramsey
Ramsey County Poor Farm Barn	Ramsey
Ramsey, Justus, House	Ramsey
Rau-Strong House	Ramsey
Rochat-Louise-Sauerwein Block	Ramsey
Salvation Army Women's Home and Hospital	Ramsey
St. Casimir Church	Ramsey

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
St. Joseph's Academy	Ramsey
St. Paul Cathedral	Ramsey
St. Paul Public Library/James J. Hill Reference Library	Ramsey
St. Paul Union Depot	Ramsey
Smith Avenue High Bridge	Ramsey
Spangenberg, Frederick House	Ramsey
St. Paul City Hall and Ramsey County Courthouse	Ramsey
Triune Masonic Temple	Ramsey
University Hall, Hamline University	Ramsey
U.S. Post Office, Courthouse, and Customs House	Ramsey
Woodland Park Historic District	Ramsey
Red Lake County Courthouse	Red Lake
Anderson, J. A., House	Redwood
Bank of Redwood Falls Building	Redwood
Commercial Hotel	Redwood
Chicago North Western Depot	Redwood
Chollar, H. D., House	Redwood
City Blacksmith Shop	Redwood
Clements State Bank Building	Redwood
Gilfillan	Redwood
Honnor-Hosken House	Redwood
Lamberton Farmers Elevator	Redwood
Land and Loan Office	Redwood
Lower Sioux Agency	Redwood
Milroy Block	Redwood
Milroy State Bank Building	Redwood
Minneapolis and St. Louis Depot	Redwood
Odeon Theater	Redwood
Ramsey Park Swayback Bridge	Redwood
Redwood Falls Public Library	Redwood
Revere Fire Hall	Redwood
St. Cornelia's Episcopal Mission Church	Redwood
Scenic City Cooperative Oil Company Building	Redwood
School District No. 8	Redwood
Birch Coulee Battle Site	Renville
All Saints Church	Rice
Annunciation Church of Hazelwood	Rice
Archibald, E. T., House	Rice
Archibald Mill	Rice
Ault Store	Rice
Baker, Laura, School	Rice
Bonde Farmhouse	Rice
Buck, Cassius, House (Buckeye)	Rice
Buckham, Thomas Scott, Memorial Library	Rice
Cathedral of Our Merciful Saviour and Guild House	Rice
Chapel of the Good Shepherd	Rice

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Chapel of the Good Shepherd, Shattuck School	Rice
Church of the Holy Cross	Rice
Congregational Church of Faribault	Rice
Drake Farmhouse	Rice
Faribault, Alexander, House	Rice
Faribault City Hall	Rice
Faribault Commercial Historic District	Rice
Faribault Water Works	Rice
Farmer Seed and Nursery Company	Rice
Goodsell Observatory, Carleton College	Rice
Hutchinson, John, House	Rice
Johnston Hall, Seabury Divinity School	Rice
Lonsdale Public School	Rice
Lord, Drew H., House	Rice
Martin House	Rice
Nerstrand City Hall	Rice
Northfield Historic District	Rice
Noyes Hall, Minnesota School for the Deaf	Rice
Nutting House	Rice
Old Main, St. Olaf College	Rice
Osmundson, Osmund, House	Rice
Phelps Library, Shattuck School	Rice
Rice County Courthouse and Jail	Rice
Rock Island Depot	Rice
Rolvaag, O. E., House	Rice
St. Mary's Hall	Rice
St. Patrick's Catholic Church and Parsonage	Rice
School for the Feeble Minded Hospital (Oaks Building)	Rice
Scoville Memorial Library, Carleton College	Rice
Scriver Block	Rice
Shattuck Historic District	Rice
Shumway Hall and Morgan Refectory, Shattuck School	Rice
Skinner Memorial Chapel Carleton College	Rice
Steensland Library, St. Olaf College	Rice
Theopold Mercantile Company Wholesale Grocery Building	Rice
Valley Grove	Rice
Veblen, Thomas, Farmstead	Rice
Willis Hall, Carleton College	Rice
Wilson, Hudson, House	Rice
Close Brothers Land Company Tenant House	Rock
First National Bank of Beaver Creek	Rock
Gerber, J. W., House	Rock
Hinkly, R. B., House	Rock
Holy Trinity Church	Rock
Jasper Stone Company and Quarry	Rock
Kenneth School	Rock
Kniss House	Rock

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Luverne Public Library	Rock
Maplewood Chapel	Rock
Nuffer Farmstead	Rock
Omaha Depot	Rock
Palace Theater	Rock
Rock County Courthouse and Jail	Rock
Worthington and Sioux Falls Freight Depot	Rock
Canadian National Depot	Roseau
Aerial Life Bridge	St. Louis
Alango School	St. Louis
Anderson House	St. Louis
Bailey, W. T., House	St. Louis
B'nai Abraham Synagogue	St. Louis
Bruce Mine Headframe	St. Louis
Butler, Emmett, House	St. Louis
Buhl City Hall	St. Louis
Buhl Public Library	St. Louis
Car Northland	St. Louis
Carpenter's Hospital	St. Louis
Chester Terrace	St. Louis
Coates House	St. Louis
Delvic Building	St. Louis
Duluth Central High School	St. Louis
Duluth Missabe and Iron Range Depot (Endion)	St. Louis
Duluth Public Library	St. Louis
Duluth South Breakwater Inner Lighthouse	St. Louis
Duluth Union Depot	St. Louis
Duluth Winnipeg and Pacific Depot	St. Louis
Endion Passenger Depot	St. Louis
Endion School	St. Louis
Eveleth Manual Training Center	St. Louis
Eveleth Recreation Building	St. Louis
Finnish Sauna	St. Louis
Fire House No. 1	St. Louis
Hibbing City Hall	St. Louis
Hibbing High School	St. Louis
Holy Family Church	St. Louis
Hull-Rust-Mahoning Mine	St. Louis
Johnson, Otto, House	St. Louis
Jukola Boardinghouse	St. Louis
Kettle Falls Historic District	St. Louis
Kettle Falls Hotel	St. Louis
Kitchi Gammi Club	St. Louis
Lenont, Dr. Charles, House	St. Louis
Limnological Research Station	St. Louis
Lincoln School Building	St. Louis
Longyear E. J. First Diamond Drill Site	St. Louis
Minnesota Point Lighthouse	St. Louis
Mitchell-Tappan House	St. Louis
Moe, Bergetta, Bakery	St. Louis

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Mountain Iron Mine	St. Louis
Munger Terrace	St. Louis
Park Hotel	St. Louis
Pioneer Mine Buildings and "A" Headframe	St. Louis
Polish Catholic Church	St. Louis
Redstone Building	St. Louis
Saints Peter and Paul Ukrainian Catholic Church	St. Louis
Sons of Italy Hall	St. Louis
Soudan Iron Mine	St. Louis
Tower Fire Hall	St. Louis
Traphagen, Oliver G., House	St. Louis
Valon Tuote Raittiusseura (Finnish Temperance Building)	St. Louis
Virginia Brewery	St. Louis
Virginia-Rainy Lake Lumber Co. Manager's Residence	St. Louis
Virginia-Rainy Lake Lumber Co. Office	St. Louis
Virginia Recreation Building	St. Louis
Bisson House	Scott
Coller, J. A., House	Scott
Early Shakopee Residences	Scott
Episcopal Church of the Transfiguration	Scott
Foss and Wells House	Scott
Hooper-Bowler-Hillstrom House	Scott
Jordan Brewery Ruin	Scott
Jordan Historic District	Scott
Kajer Farmstead	Scott
Lenzmeier House	Scott
Merchants Hotel	Scott
Mudbaden Sulphur Springs Company	Scott
New Market Hotel and Store	Scott
Reis Block	Scott
St. Mary's Church of the Purification	Scott
St. Wenceslaus Church Complex	Scott
Shakopee Historic District	Scott
Strunk-Nyssen House	Scott
Fox, Herbert Maximilian, House	Sherburne
Kelley, Oliver H., Homestead	Sherburne
Gibbon City Hall	Sibley
Poehler, August F., House	Sibley
Sibley County Courthouse (Old)	Sibley
Bensen, John N., House	Stearns
Bishop's Residence/Chancery Office	Stearns
Borgerding, Christopher, House	Stearns
Clark and McCormack Quarry and House	Stearns
Clarke, Nehemiah P., House	Stearns
Cold Spring Brewers' Houses: Hermanutz, Eugene, House	Stearns
Oster, John, House	
Peters, Ferdinand, House	

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Ethnic Hamlet Churches-Stearns County	
Catholic Settlement:	Stearns
Church of the Immaculate Conception	
Church of the Sacred Heart	
Church of St. Joseph and Rectory	
Church of St. Mary Help of Christians and Rectory	
Church of St. Stephen and Rectory	
Fairhaven Flour Mill	Stearns
Fifth Avenue Commercial Buildings	Stearns
First National Bank	Stearns
First State Bank	Stearns
Foley-Brower-Bohmer House	Stearns
Gogala, Anton, Farmstead	Stearns
Kimball Prairie Village Hall	Stearns
Lewis, Sinclair, Boyhood Home	Stearns
Majerus, Michael, House	Stearns
Palmer House Hotel	Stearns
St. Cloud Post Office	Stearns
St. John's Abbey and University	Stearns
Stearns County Courthouse and Jail	Stearns
Swany White Flour Mill and Miller's House	Stearns
Abbott, Ezra, House	Steele
Administration Building-Minnesota State	
Public School for Dependent and Neglected Children	Steele
National Farmers' Bank of Owatonna	Steele
Owatonna Free Public Library	Steele
Piper, Daniel S., House	Steele
Steele County Courthouse	Steele
Steele County Courthouse (First)	Steele
Alberta Teachers House	Stevens
Stanton, Lewis H., House (The Chimneys)	Stevens
Morris Carnegie Library	Stevens
Appleton City Hall	Swift
Swift County Courthouse	Swift
First Congregational Parsonage	Wabasha
Grace Memorial Episcopal Church	Wabasha
Hurd House/Anderson House	Wabasha
Lake City City Hall	Wabasha
Rahilly, Patrick Henry, House	Wabasha
Wabasha Commercial Historic District	Wabasha
Wabasha County Poor House	Wabasha
Weaver Mercantile Building	Wabasha
Blueberry Lake Village Site	Wadena
Old Wadena Historic District	Wadena
Reaume's Trading Post	Wadena
Armstrong, W. J., Company Wholesale Grocers	Waseca
Aughenbaugh, W. J., House	Waseca
Janesville Public Library	Waseca
Phelps Farmhouse	Waseca

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Seha Sorghum Syrup Mill	Waseca
Vista Lutheran Church	Waseca
Ward, R. Percy, House	Waseca
Waseca County Courthouse	Waseca
Wolf, W. R., House	Waseca
Chicago, Milwaukee and St. Paul Freight House and Depot	Washington
Copas, John, House	Washington
Croixsyde	Washington
Cyphers house	Washington
Erickson, Johannes, Log House	Washington
Furber, J. P., House	Washington
Grey Cloud Lime Kiln	Washington
Hay Lake School	Washington
Heath Summer Residence	Washington
Hersey, Roscoe, House	Washington
Jackson, Mitchell, Farmhouse	Washington
Jenks, Captain Austin, House	Washington
Lammers, Albert, House	Washington
Marine Mill Site	Washington
Marine on St. Croix Historic District	Washington
Minnesota State Prison (Old)	Washington
McKusick, Ivory, House	Washington
Mower House Arcola Mill Site	Washington
Nelson School	Washington
Oliver, Capt. John, House	Washington
Pest House	Washington
St. Croix Boom Company House and Barn	Washington
St. Croix Boomsite	Washington
St. Croix Lumber Mills/Stillwater Manufacturing	Washington
Sauntry, William, House and Recreation Hall	Washington
Schilling Archaeological District	Washington
Severance, Cordenio, House (Cedarhust)	Washington
Soo Line High Bridge	Washington
Stone Bridge	Washington
Stussi, Henry, House	Washington
Warden's House, Minnesota State Prison (Old)	Washington
Washington County Courthouse	Washington
Webster, Mortimer, House	
Valley Creek Residences: Bolles, Erastus, House	
Newington, Gilbert, House	Washington
Femco Farm #2	Wilkin
IOOF Hall	Wilkin
Peet, David N., Farm	Wilkin
Stiklestad Church	Wilkin
Tenney Fire Hall	Wilkin
Wilkin County Courthouse	Wilkin
Wolverton Public School	Wilkin
Anger's Block	Winona

Appendix A (continued)

Minnesota Sites Listed in the National Register of Historic Places

SITE	COUNTY
Bunnell House	Winona
Choate Department Store	Winona
Grain and Lumber Exchange Building	Winona
Huff-Lamberton House	Winona
Kirch-Latch Building	Winona
Marnach, Nicholas, House	Winona
Merchants National Bank	Winona
Pickwick Mill	Winona
Rockledge	Winona
Schlitz Hotel	Winona
Stockton Roller Mill	Winona
Sugar Loaf Brewery	Winona
Winona County Courthouse	Winona
Winona Free Public Library	Winona
Winona Savings Bank Building	Winona
Winona Hotel	Winona
Akerlund, Gust, Photographic Studio	Wright
Albertville Roller Mill	Wright
Annandale Hotel	Wright
Bull, Henry C., House	Wright
Clearwater Masonic Lodge-Grand Army of the Republic Hall	Wright
Cokato Temperance Hall	Wright
Delano Village Hall	Wright
Eagle Newspaper Office	Wright
Fairhaven Flour Mill	Wright
First Congregational Church	Wright
Franklin Township School No. 48	Wright
Hannaford Farm	Wright
Hanover Bridge	Wright
Hawkins, Dr. E. P., Clinic, Hospital and House	Wright
Howard Lake City Hall	Wright
Marsh, Peter J., Octagon Barn	Wright
Maryville Swedesburg Lutheran Church	Wright
Mealey, Tobias G., House	Wright
Middleville Township Hall	Wright
Nicherson-Tarbox house and Barn	Wright
Rand, Rufus, Summer House and Carriage Barn	Wright
St. Mark's Episcopal Church	Wright
St. Michael's Catholic Church	Wright
Simpson Methodist Church	Wright
Titrud, Olof M., Round Barn	Wright
Webster, William W., House	Wright
Weldele House	Wright
Canby Commercial Historic District	Yellow Medicine
Lund, John G., House	Yellow Medicine
Upper Sioux Agency	Yellow Medicine
Volstead, Andrew, House	Yellow Medicine

Appendix B

CURRENT POPULATION AND PROJECTED POPULATION CHANGE TOTAL POPULATION

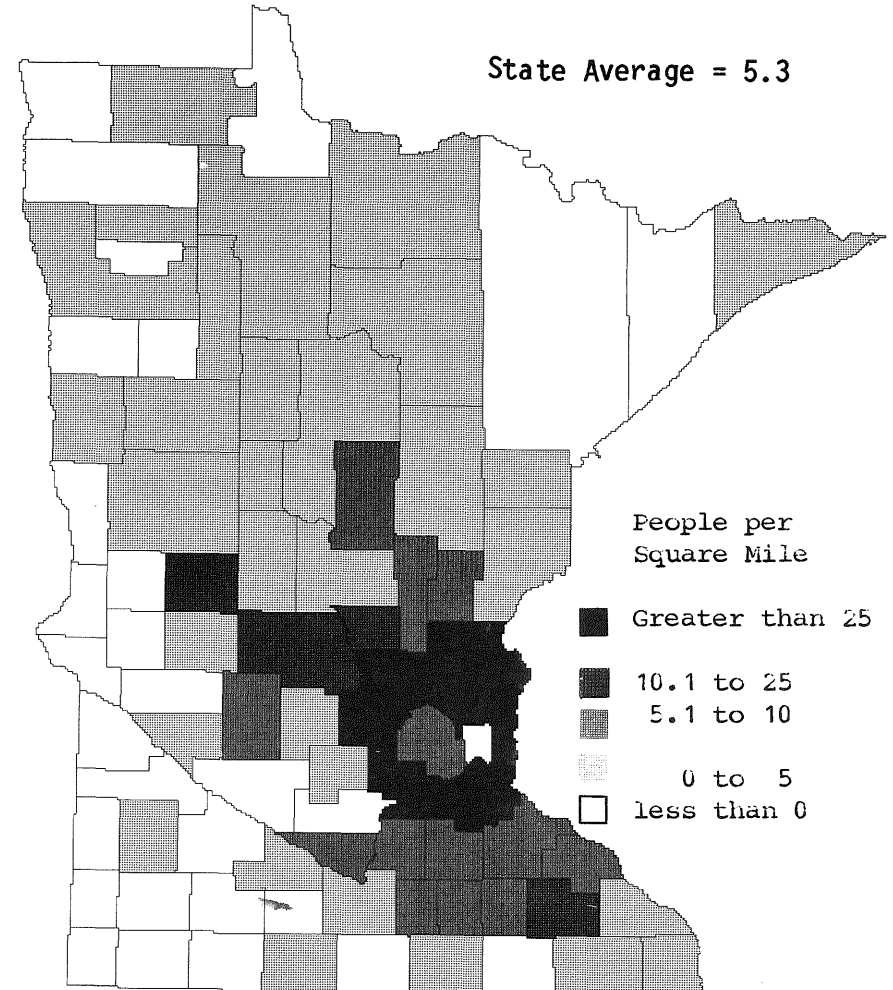
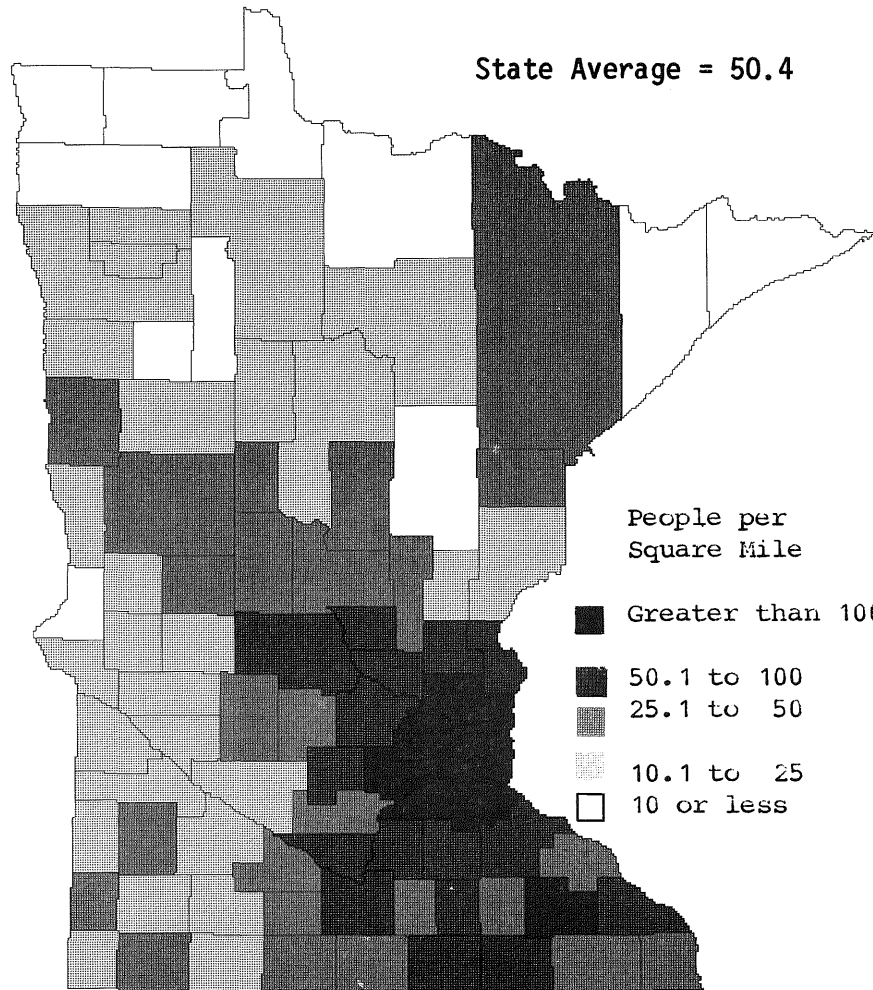
Density, 1980

Projected Density Change, 1980-1995

State Average = 50.4

State Average = 5.3

B.001



Sources: U.S. Department of Commerce. Bureau of the Census. 1981. 1980 Census of Population and Housing. State Demographer Unit, Minnesota Department of Energy, Planning and Development. 1983. Minnesota Population Projections: 1980-2010.

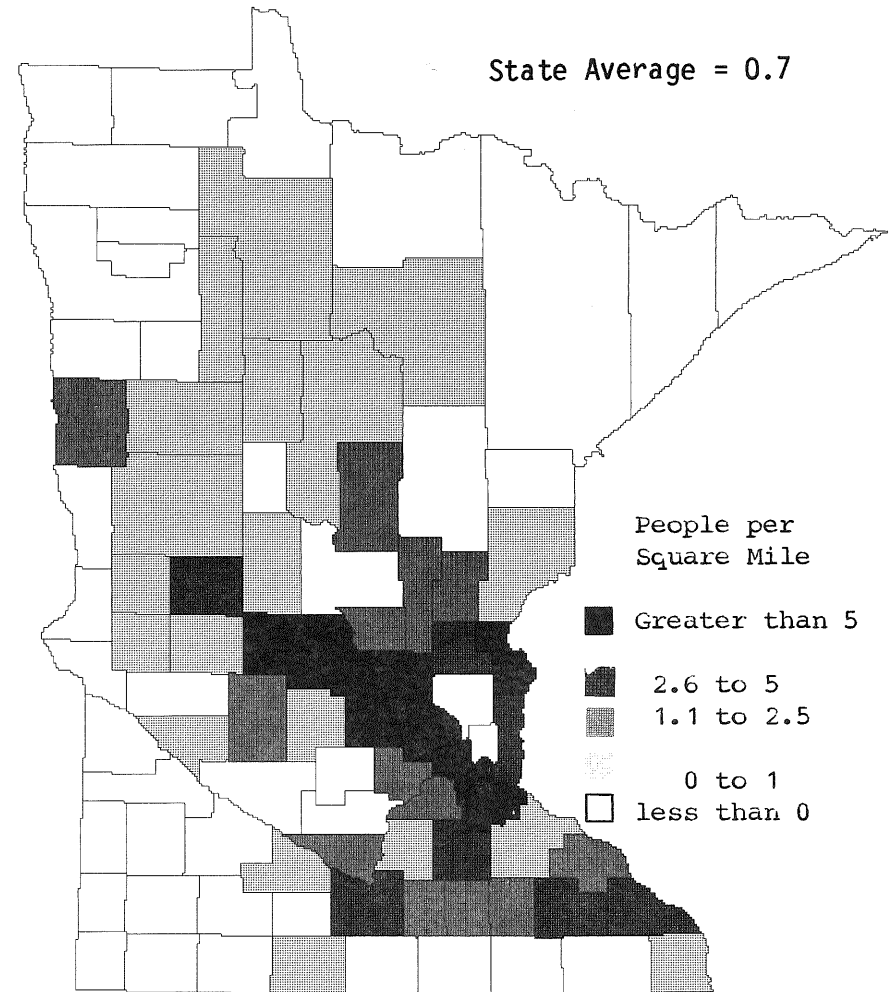
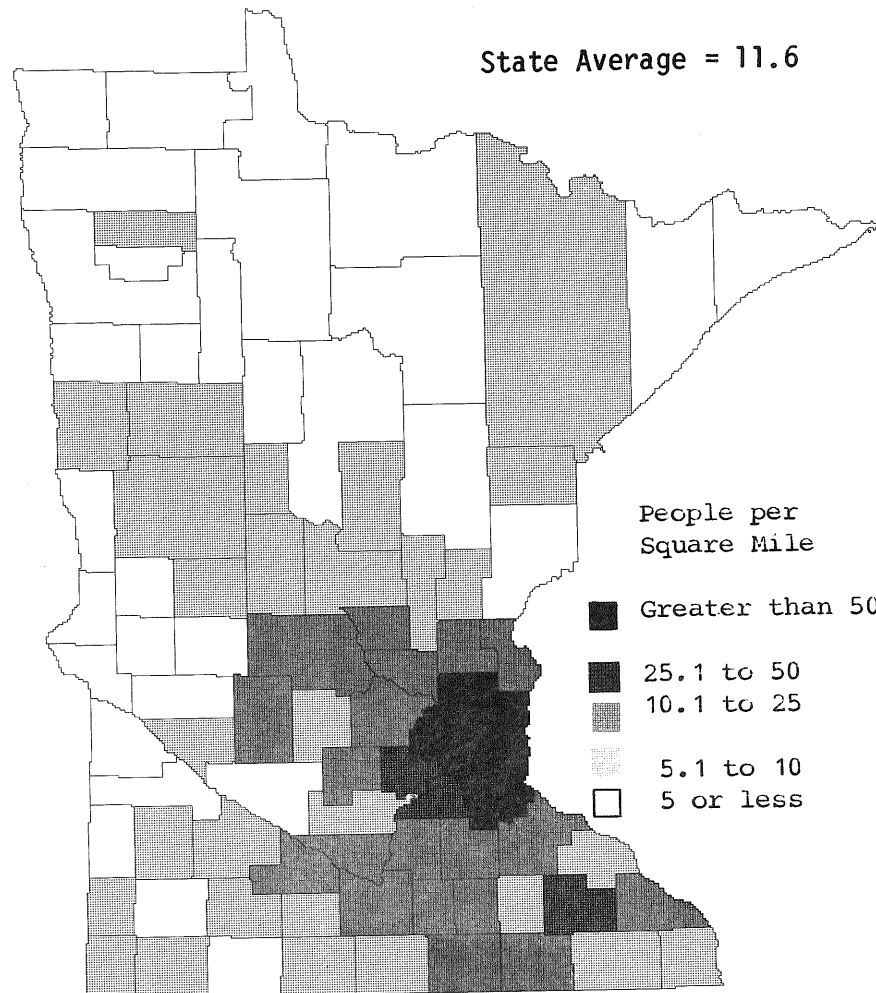
Figure B-S.B

CURRENT POPULATION AND PROJECTED POPULATION CHANGE AGE CLASS: LESS THAN 15 YEARS OLD

Density, 1980

Projected Density Change, 1980-1995

B.002



Sources: U.S. Department of Commerce. Bureau of the Census. 1981. 1980 Census of Population and Housing. State Demographer Unit, Minnesota Department of Energy, Planning and Development. 1983. Minnesota Population Projections: 1980-2010.

CURRENT POPULATION AND PROJECTED POPULATION CHANGE AGE CLASS: 15 to 29 YEARS OLD

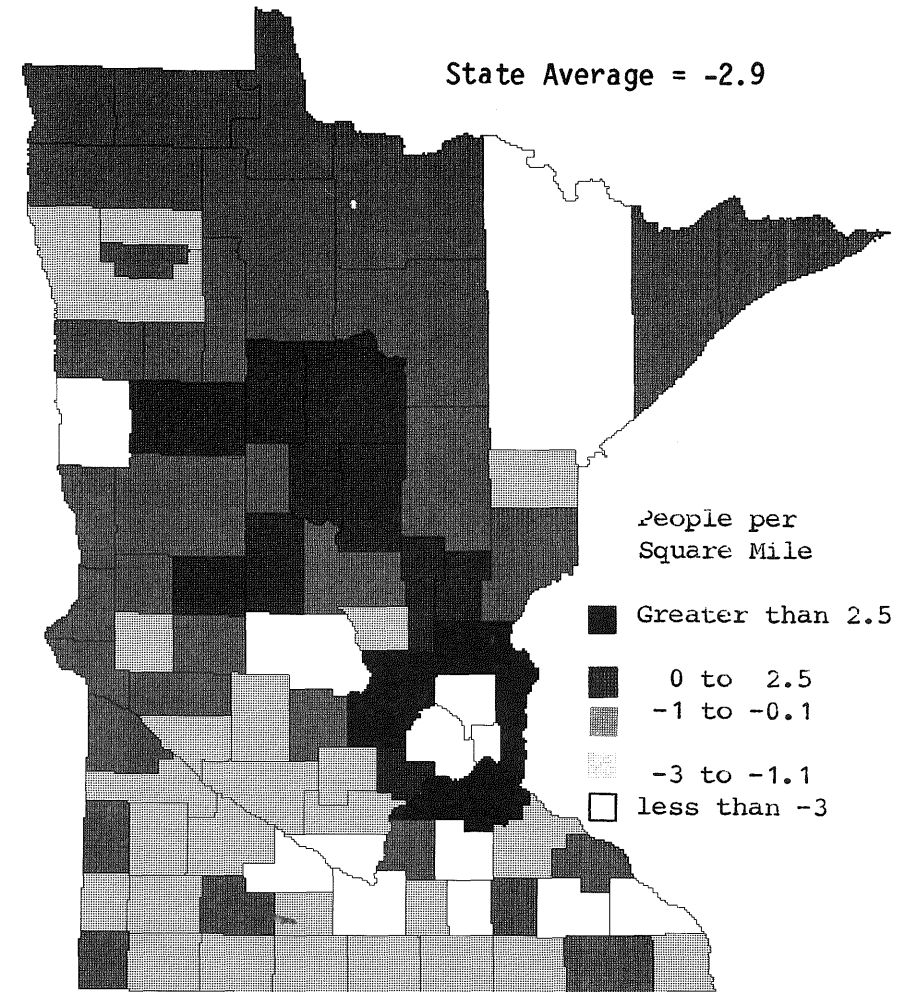
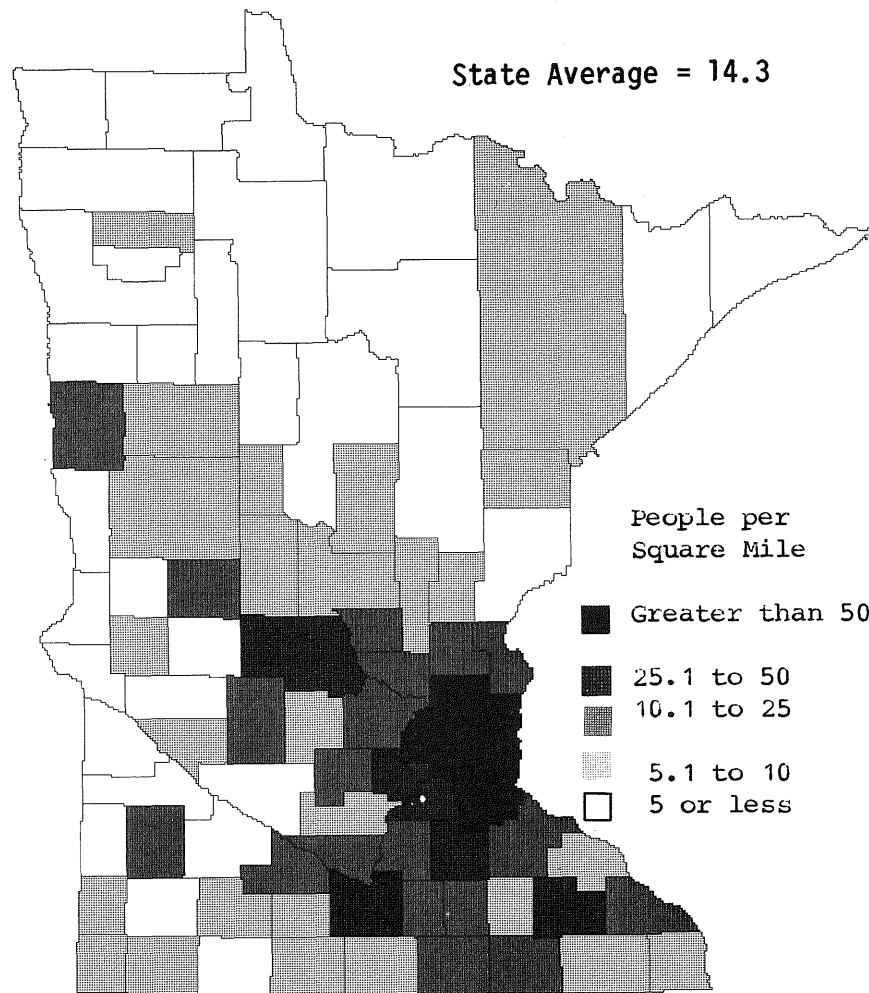
Density, 1980

Projected Density Change, 1980-1995

State Average = 14.3

State Average = -2.9

B.003



Sources: U.S. Department of Commerce. Bureau of the Census. 1981. 1980 Census of Population and Housing. State Demographer Unit, Minnesota Department of Energy, Planning and Development. 1983. Minnesota Population Projections: 1980-2010.

Figure B-S.D

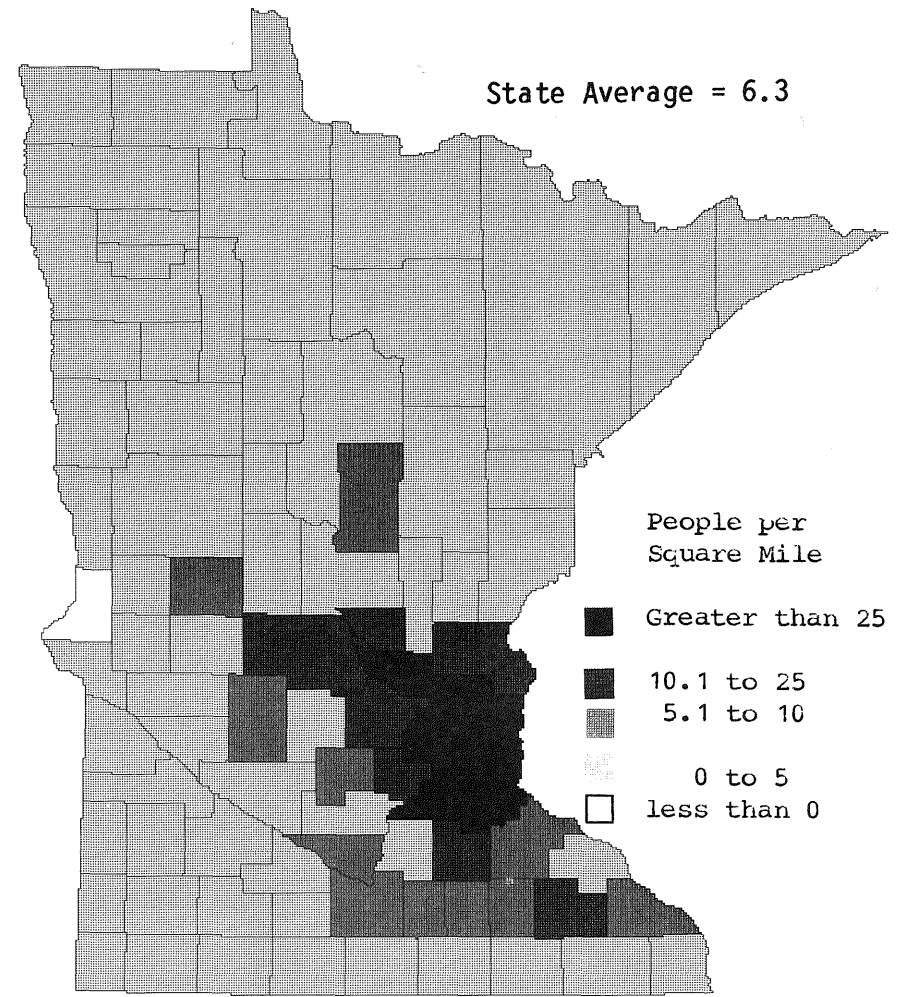
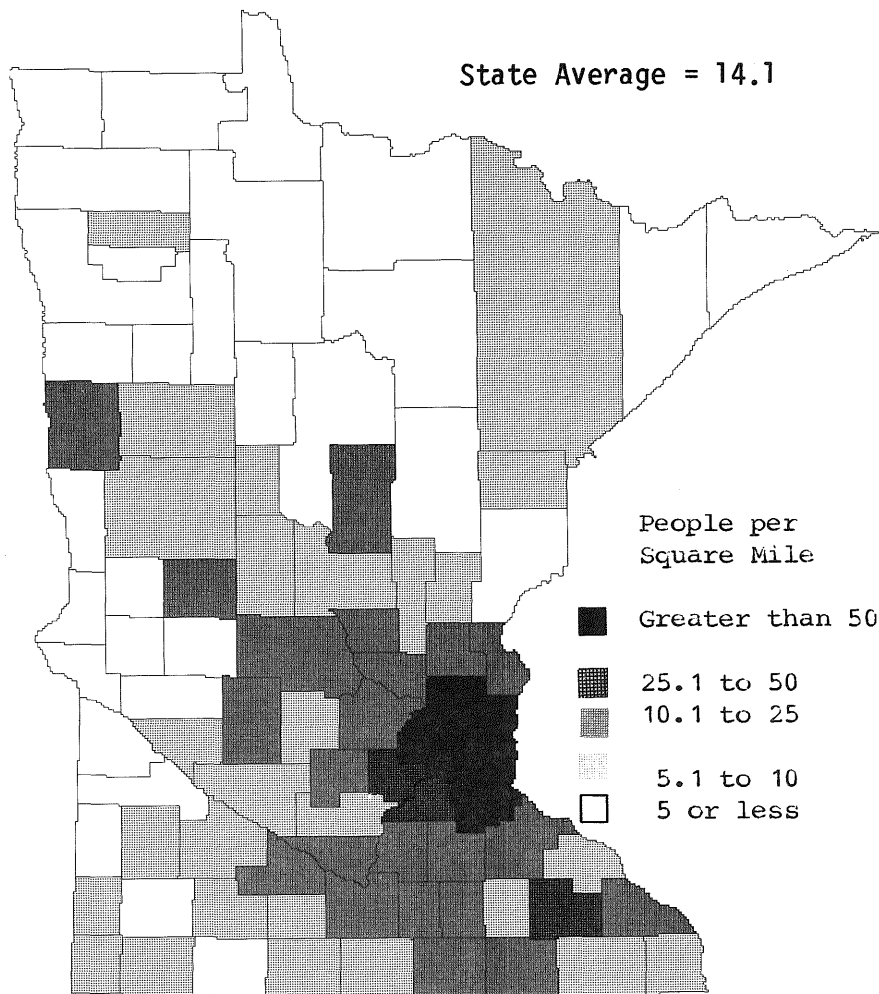
CURRENT POPULATION AND PROJECTED POPULATION CHANGE AGE CLASS: 30 to 54 YEARS OLD

Density, 1980

Projected Density Change, 1980-1995

State Average = 14.1

State Average = 6.3



B.004

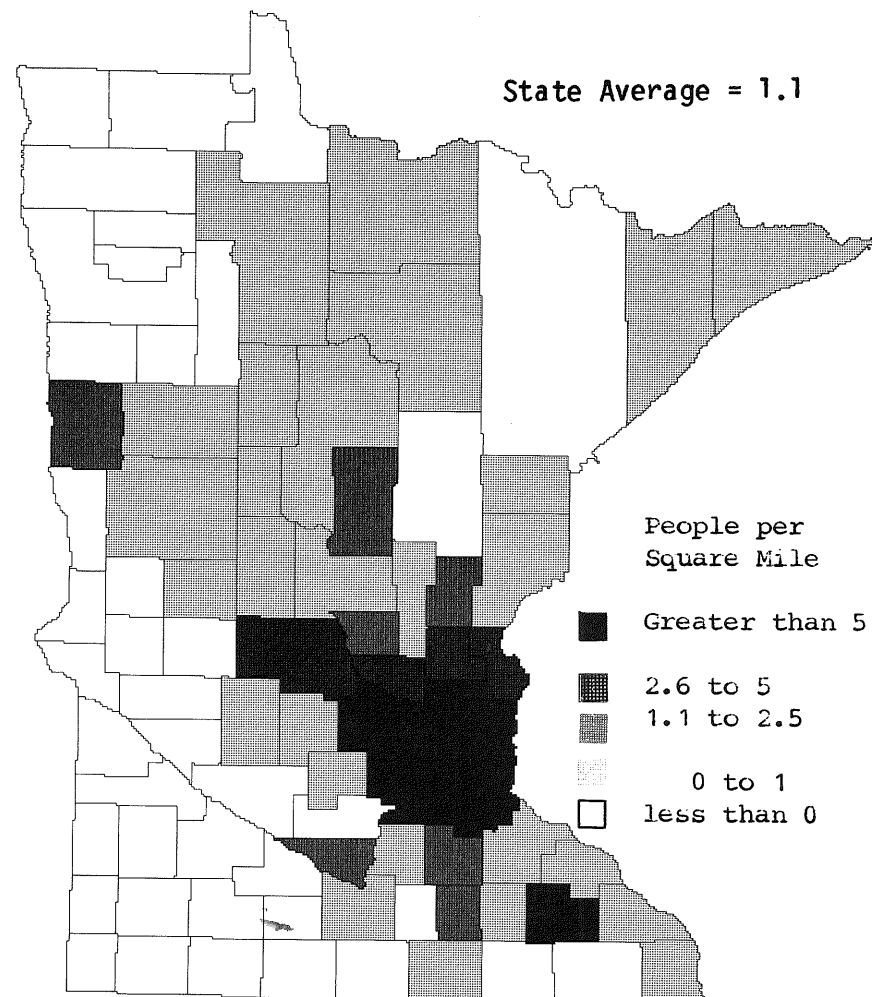
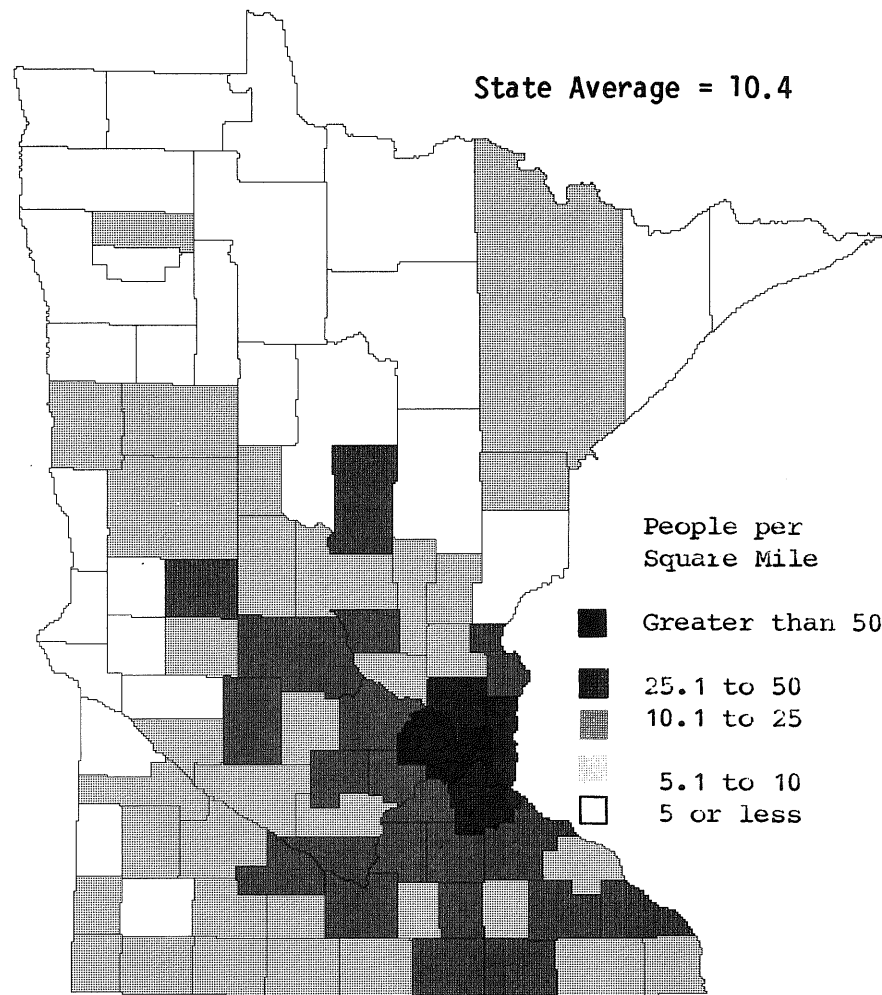
Sources: U.S. Department of Commerce. Bureau of the Census. 1981. 1980 Census of Population and Housing. State Demographer Unit, Minnesota Department of Energy, Planning and Development. 1983. Minnesota Population Projections: 1980-2010.

CURRENT POPULATION AND PROJECTED POPULATION CHANGE AGE CLASS: 55 YEARS OLD AND OLDER

Density, 1980

Projected Density Change, 1980-1995

B.005

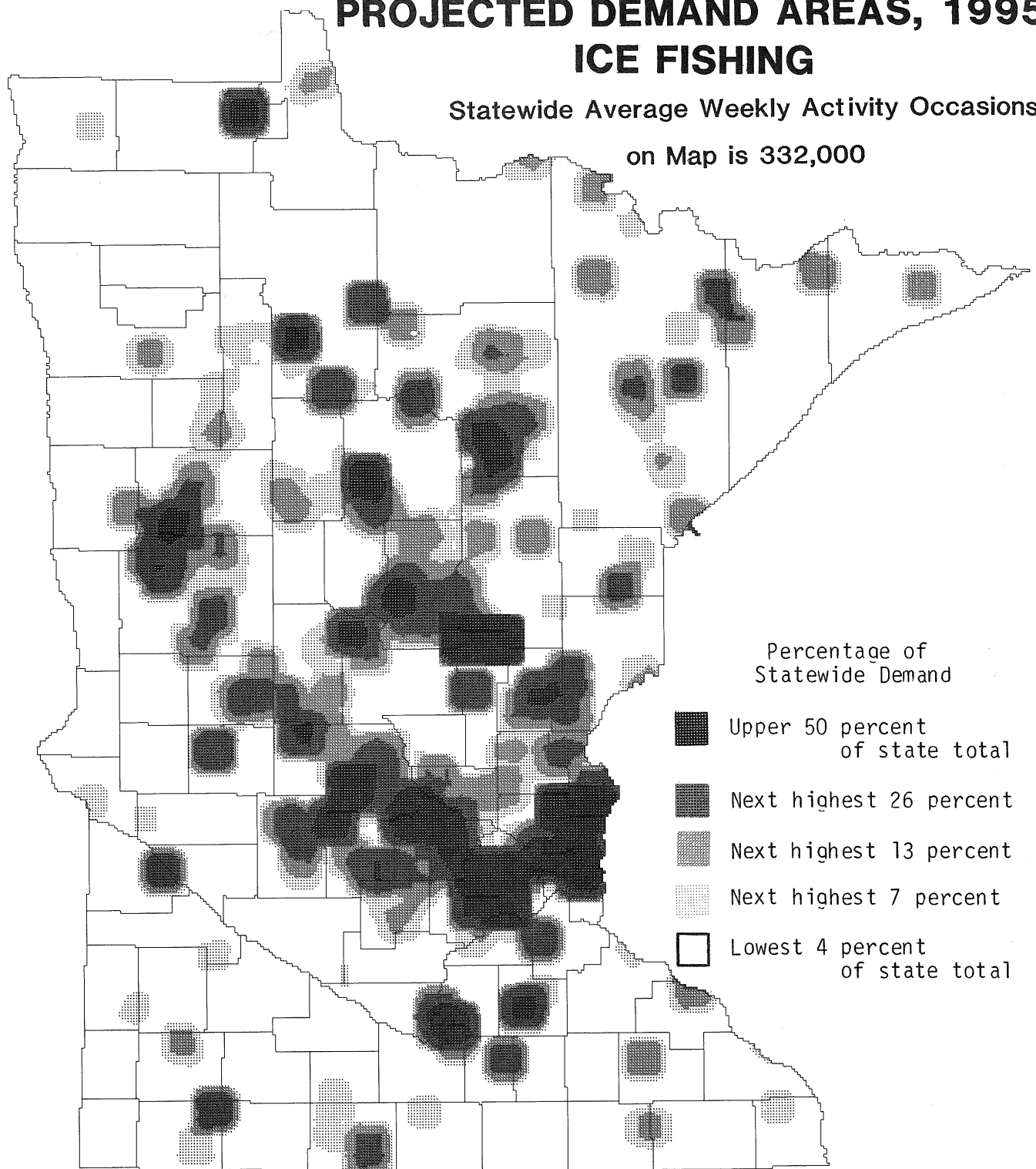


Sources: U.S. Department of Commerce. Bureau of the Census. 1981. 1980 Census of Population and Housing. State Demographer Unit, Minnesota Department of Energy, Planning and Development. 1983. Minnesota Population Projections: 1980-2010.

Figure B-S.01

PROJECTED DEMAND AREAS, 1995: ICE FISHING

Statewide Average Weekly Activity Occasions
on Map is 332,000

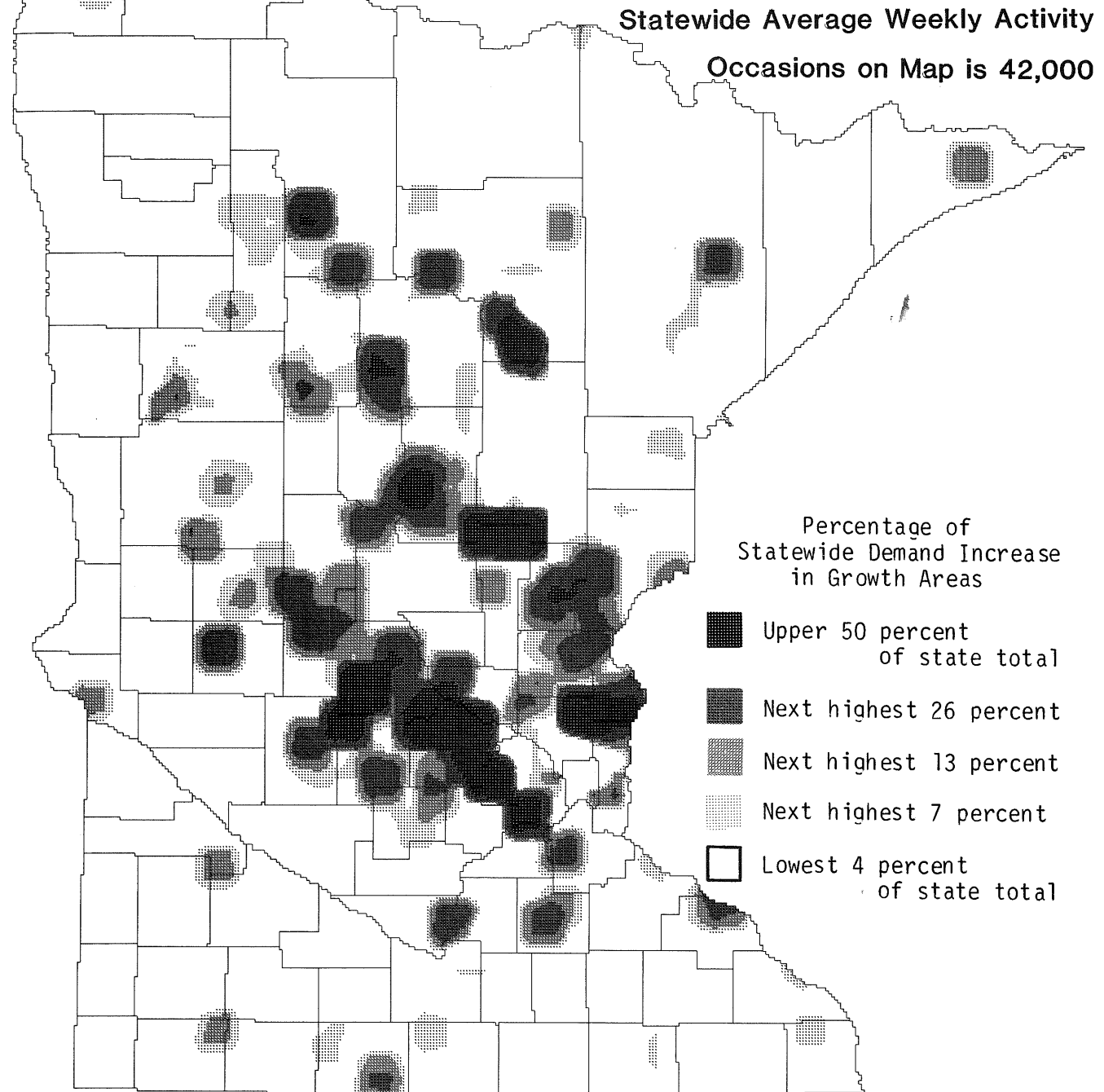


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.02

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995: ICE FISHING

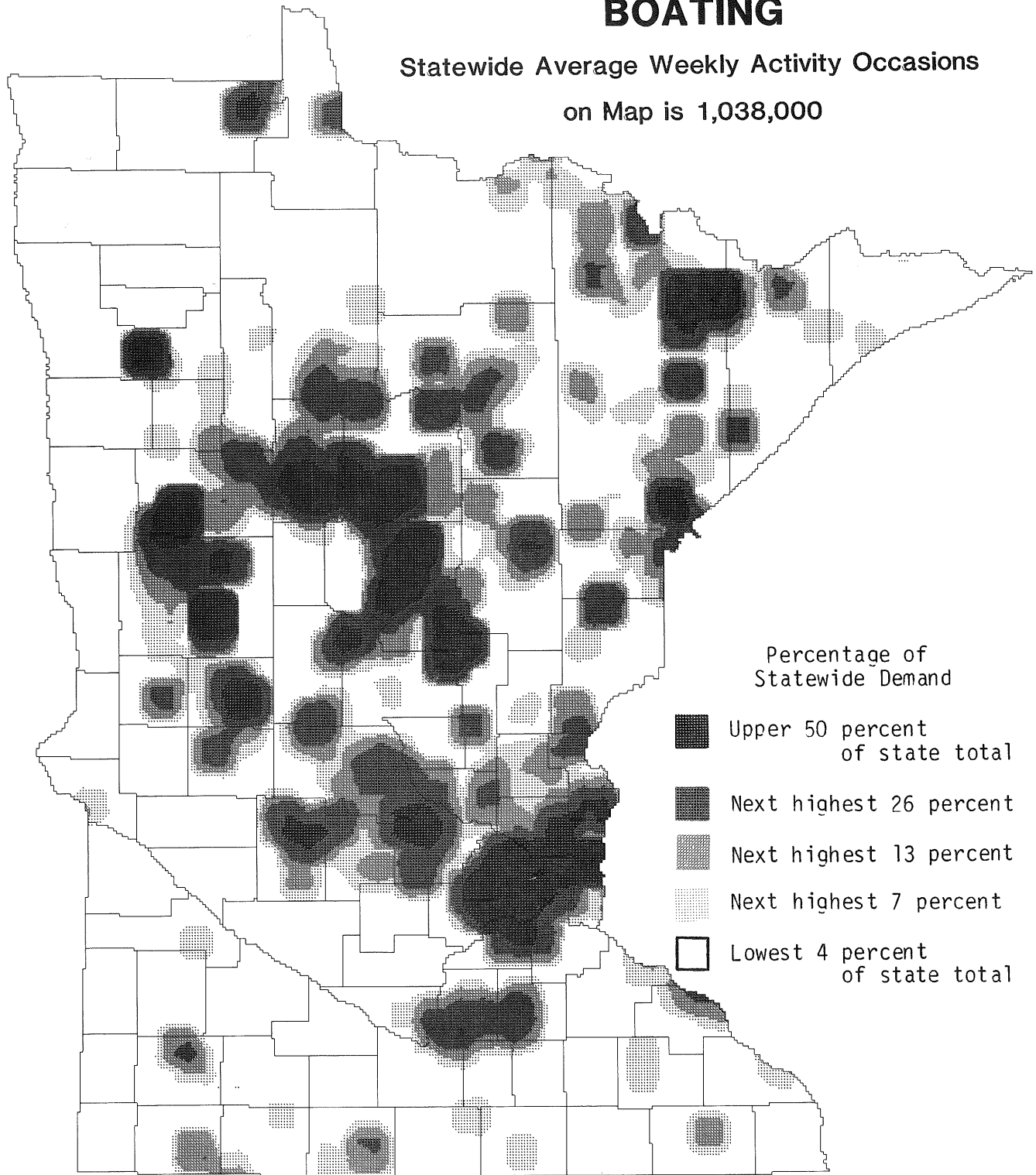


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

PROJECTED DEMAND AREAS, 1995: BOATING

Statewide Average Weekly Activity Occasions
on Map is 1,038,000

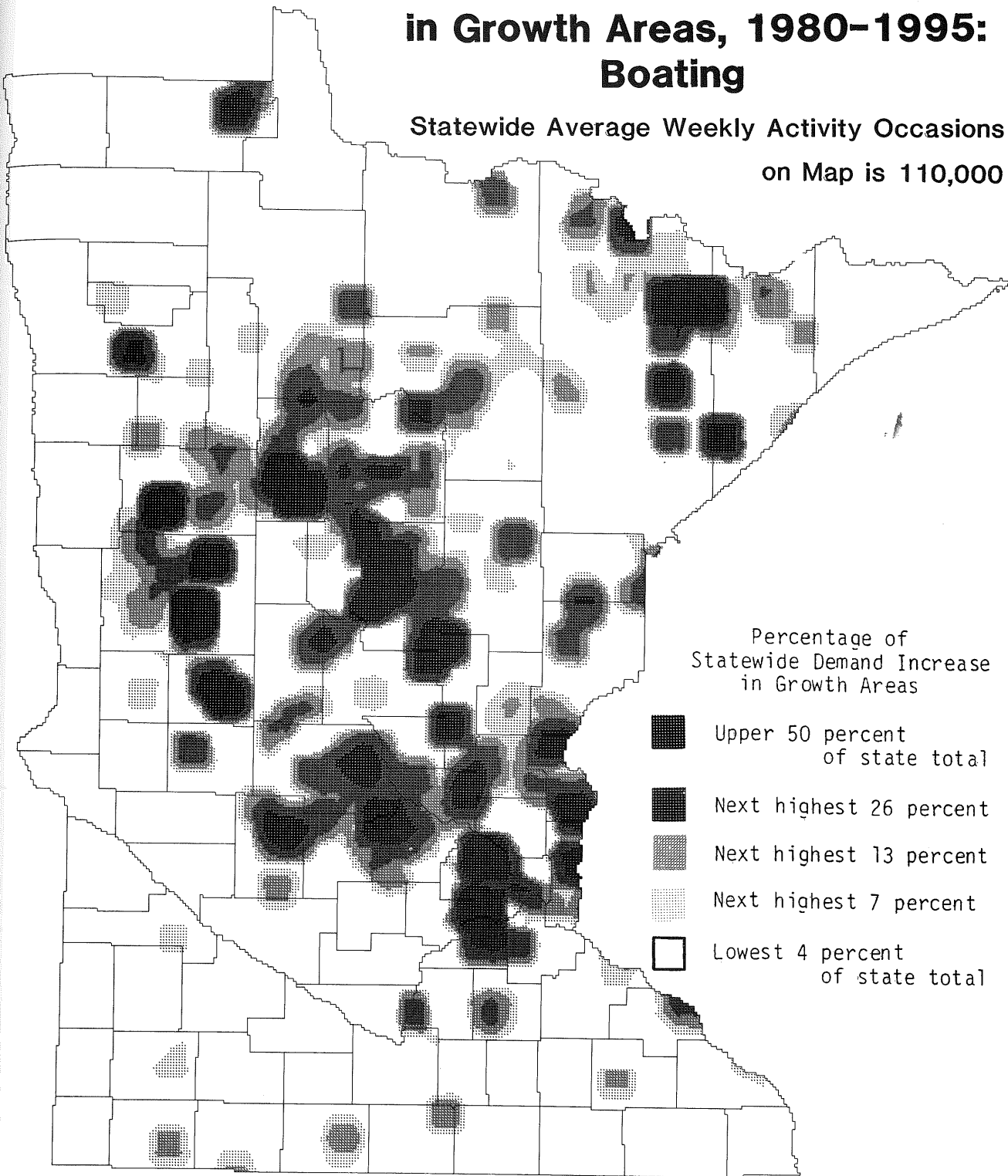


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Projected Demand Increase in Growth Areas, 1980-1995: Boating

Statewide Average Weekly Activity Occasions
on Map is 110,000



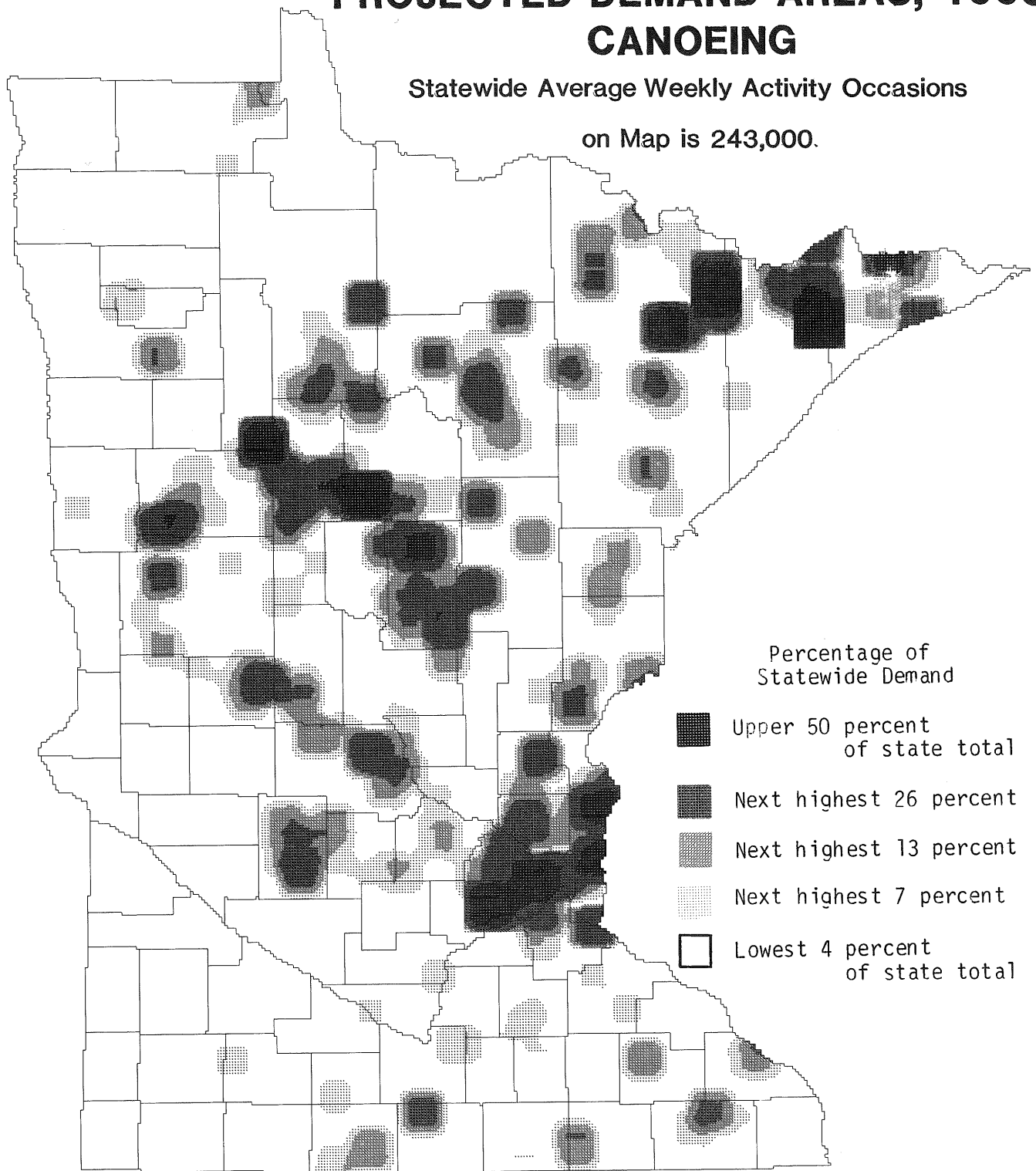
NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

PROJECTED DEMAND AREAS, 1995: CANOEING

Statewide Average Weekly Activity Occasions

on Map is 243,000.



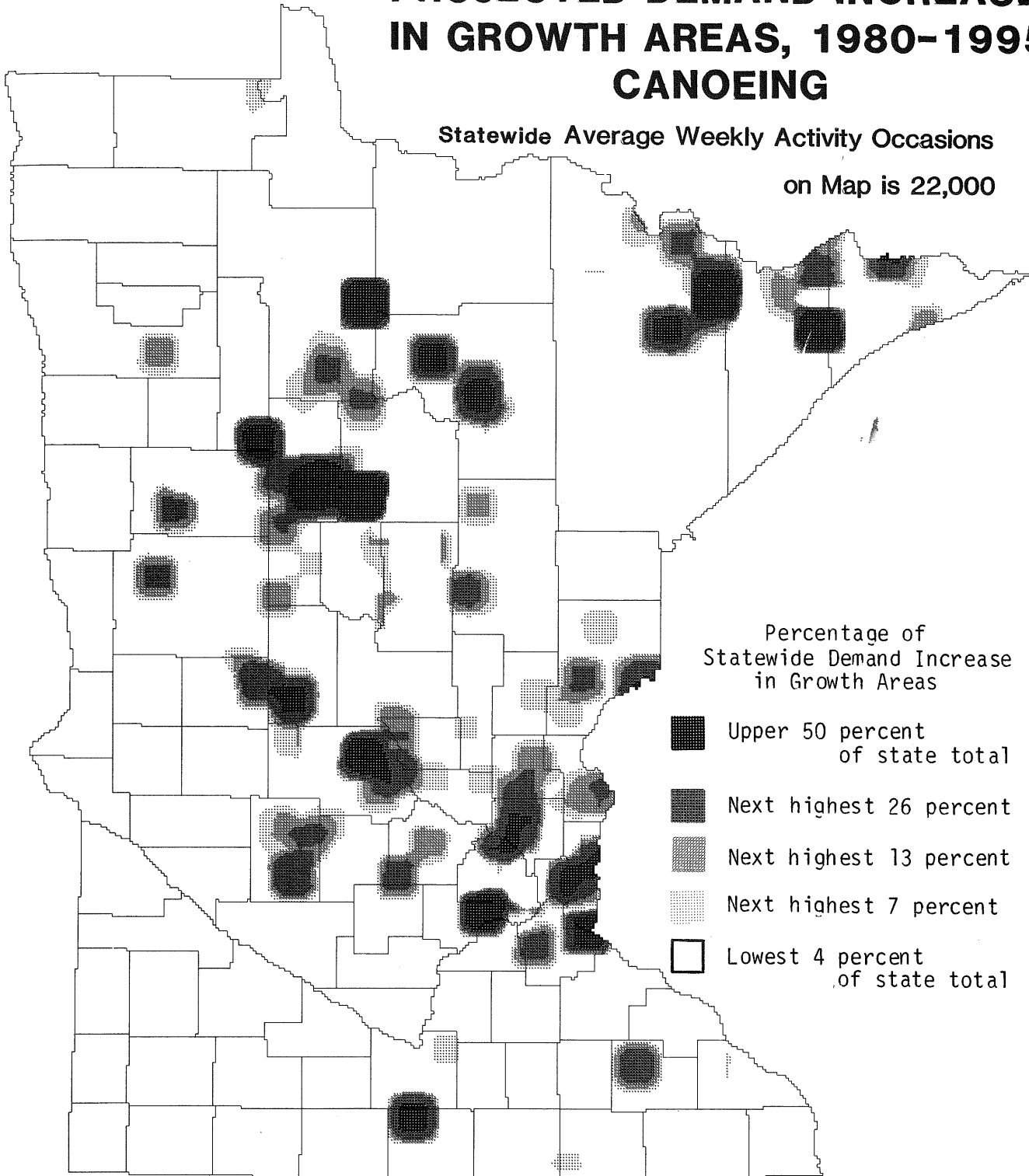
NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.06

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995 CANOEING

Statewide Average Weekly Activity Occasions
on Map is 22,000



NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

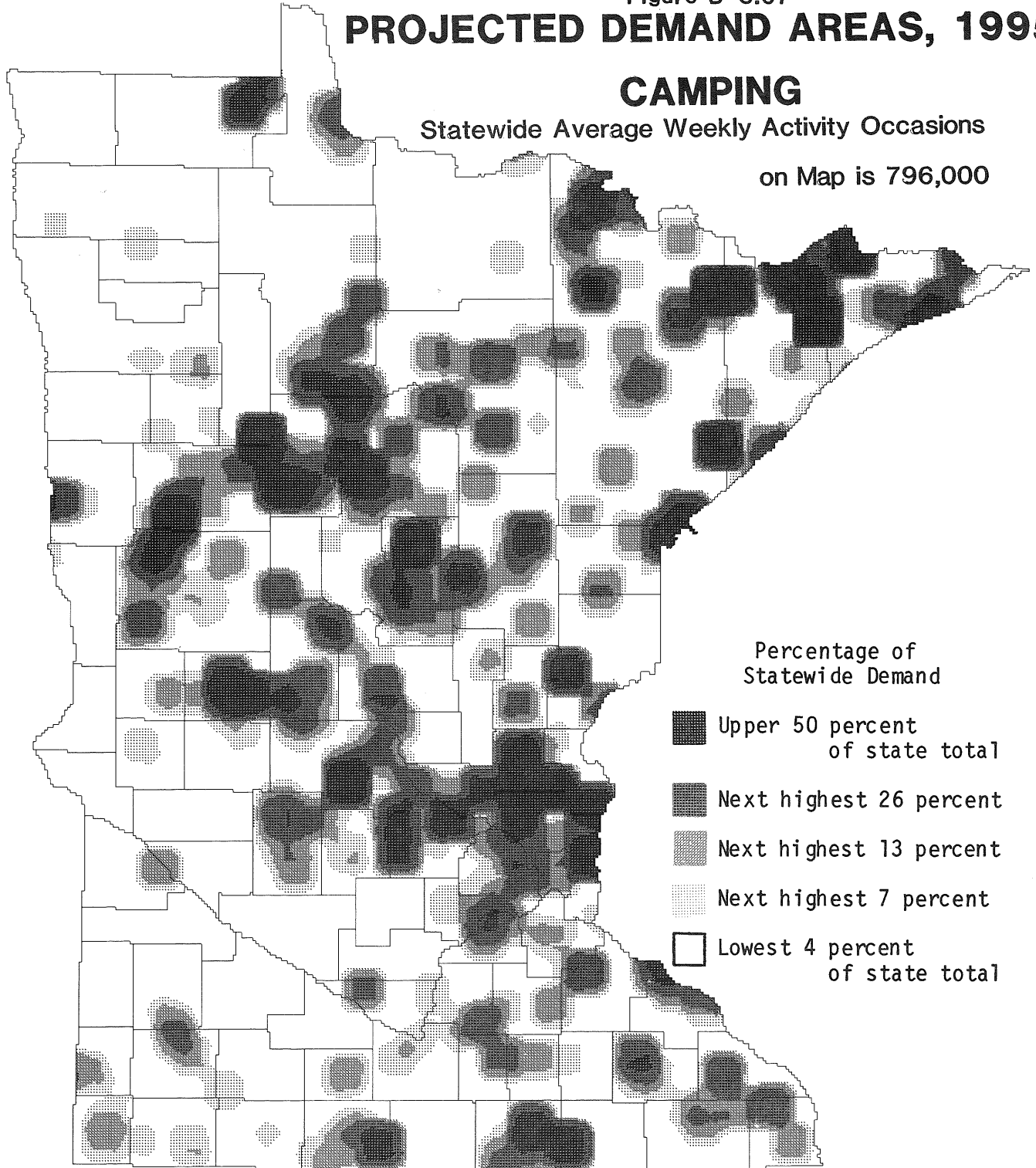
Figure B-S.07

PROJECTED DEMAND AREAS, 1995:

CAMPING

Statewide Average Weekly Activity Occasions

on Map is 796,000

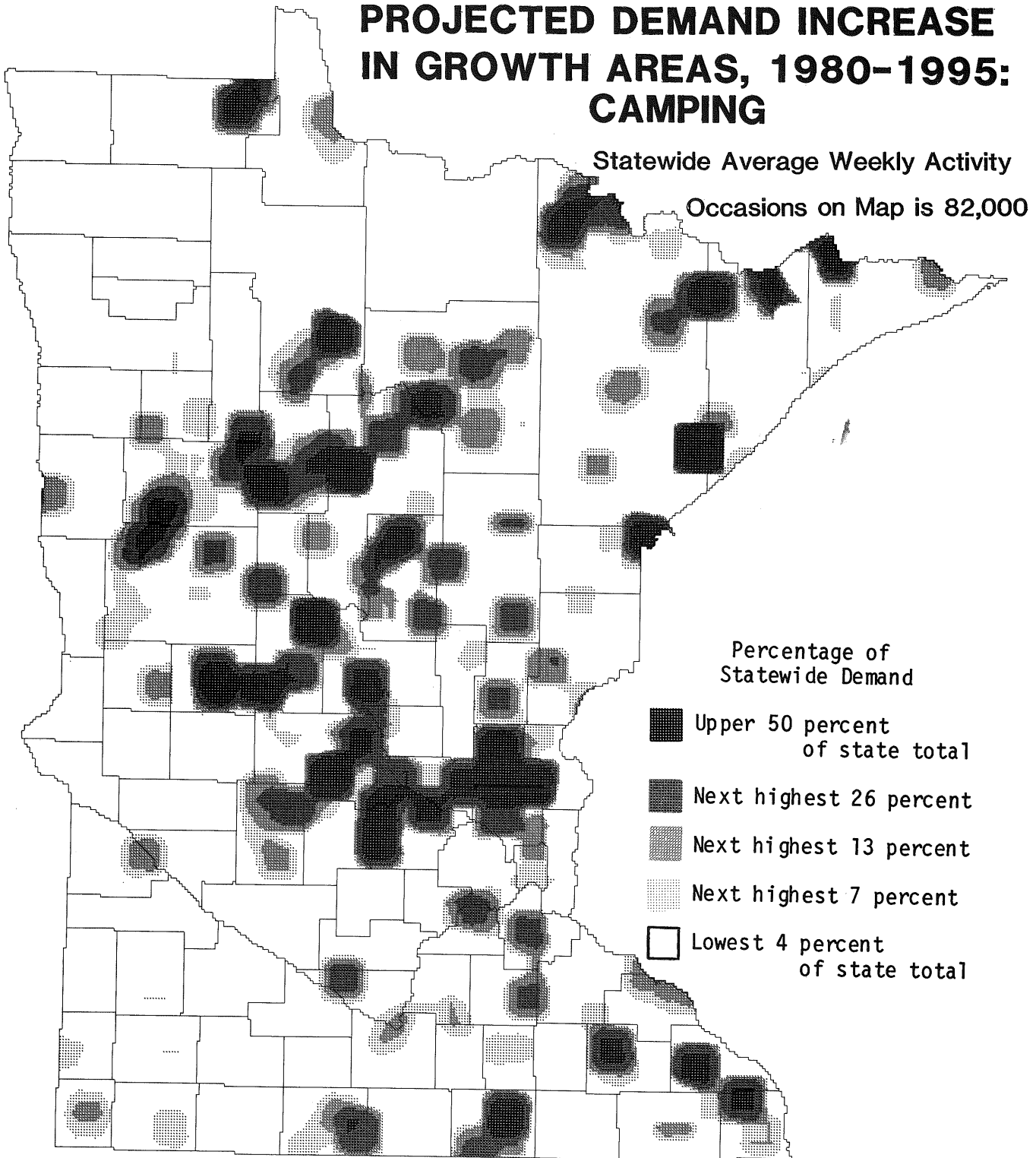


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.08

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995: CAMPING



NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

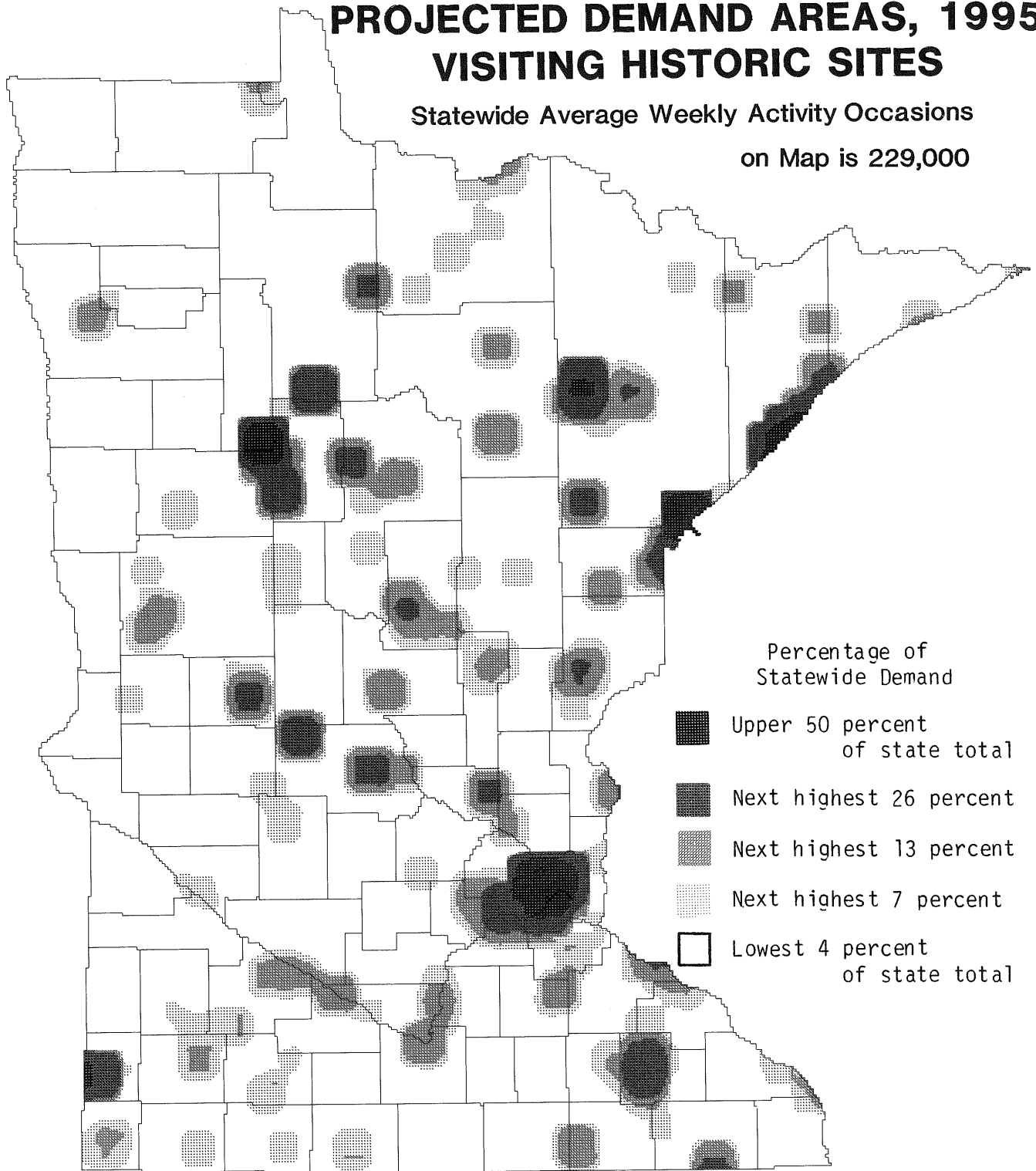
SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.09

PROJECTED DEMAND AREAS, 1995: VISITING HISTORIC SITES

Statewide Average Weekly Activity Occasions

on Map is 229,000



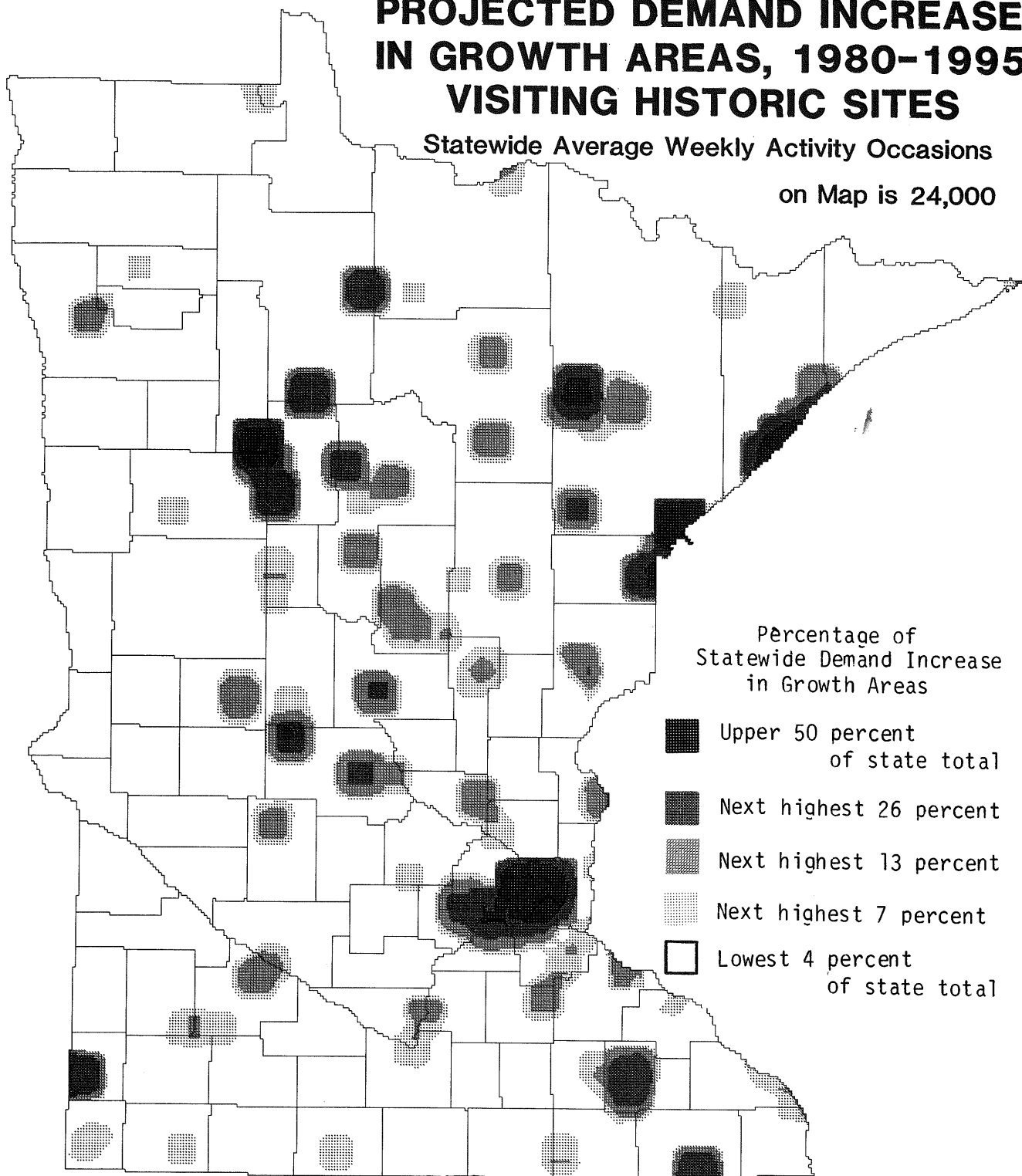
NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.10

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995: VISITING HISTORIC SITES

Statewide Average Weekly Activity Occasions
on Map is 24,000



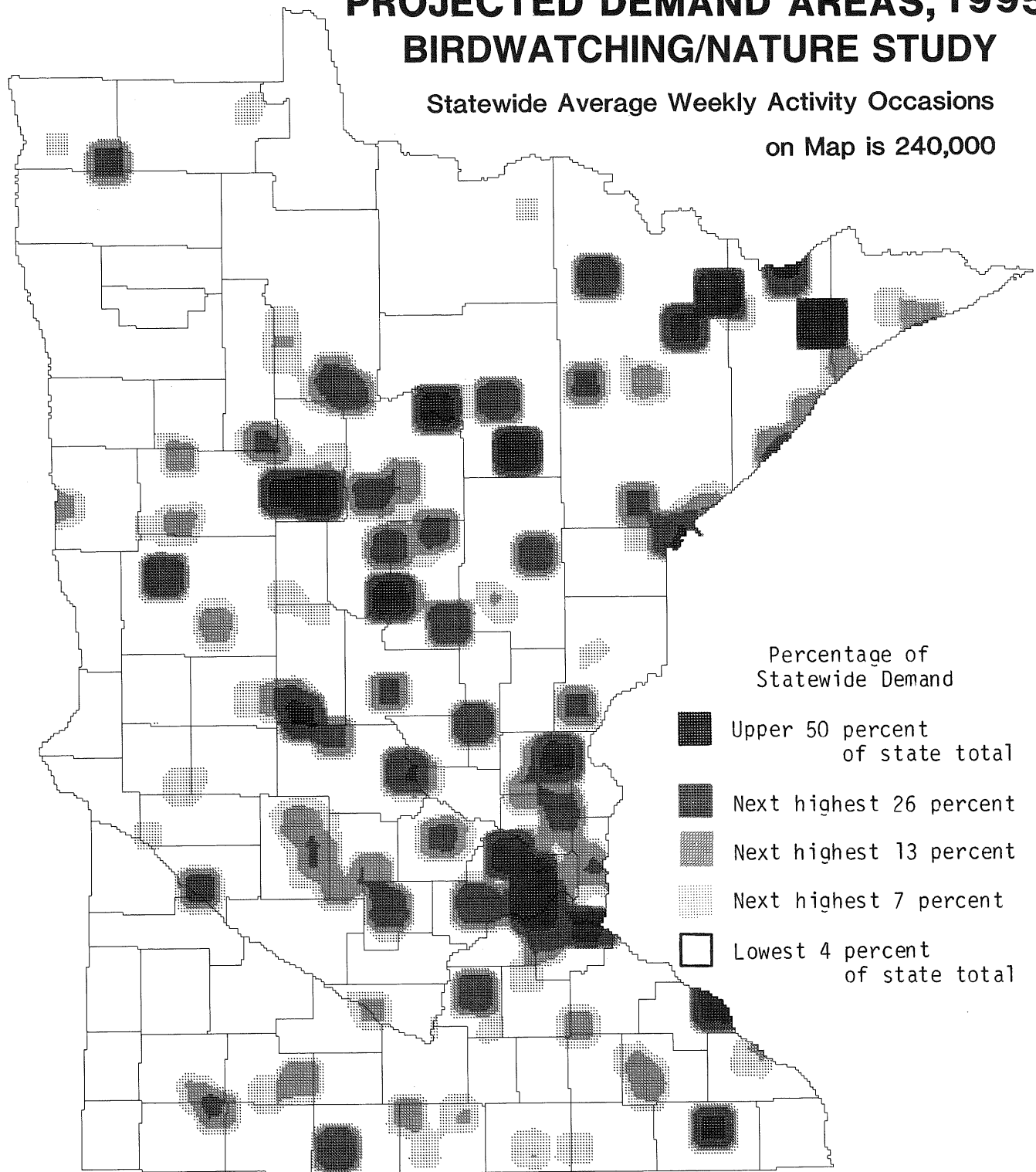
NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.11

PROJECTED DEMAND AREAS, 1995: BIRDWATCHING/NATURE STUDY

Statewide Average Weekly Activity Occasions
on Map is 240,000

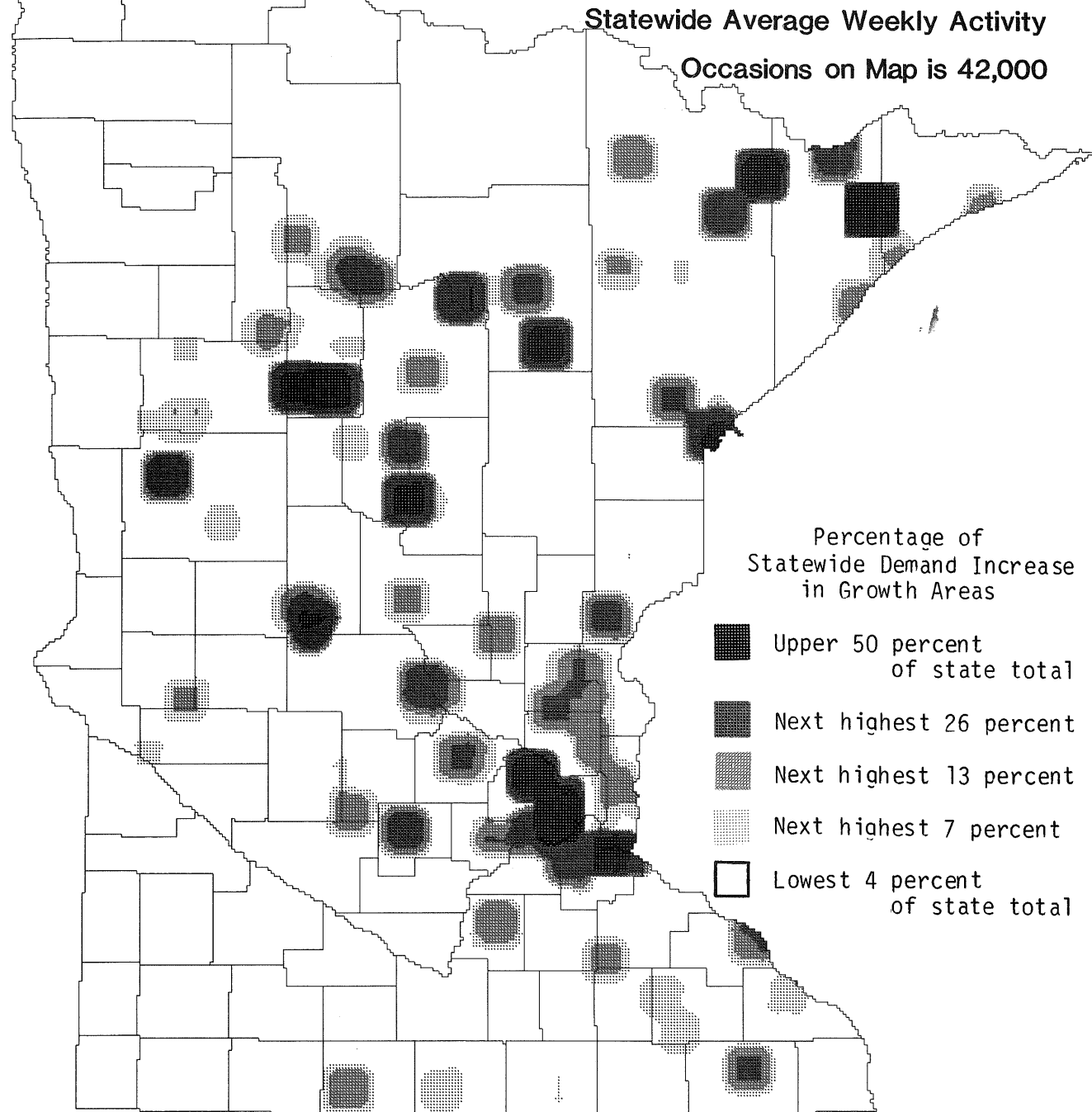


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.12

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995: BIRDWATCHING/NATURE STUDY

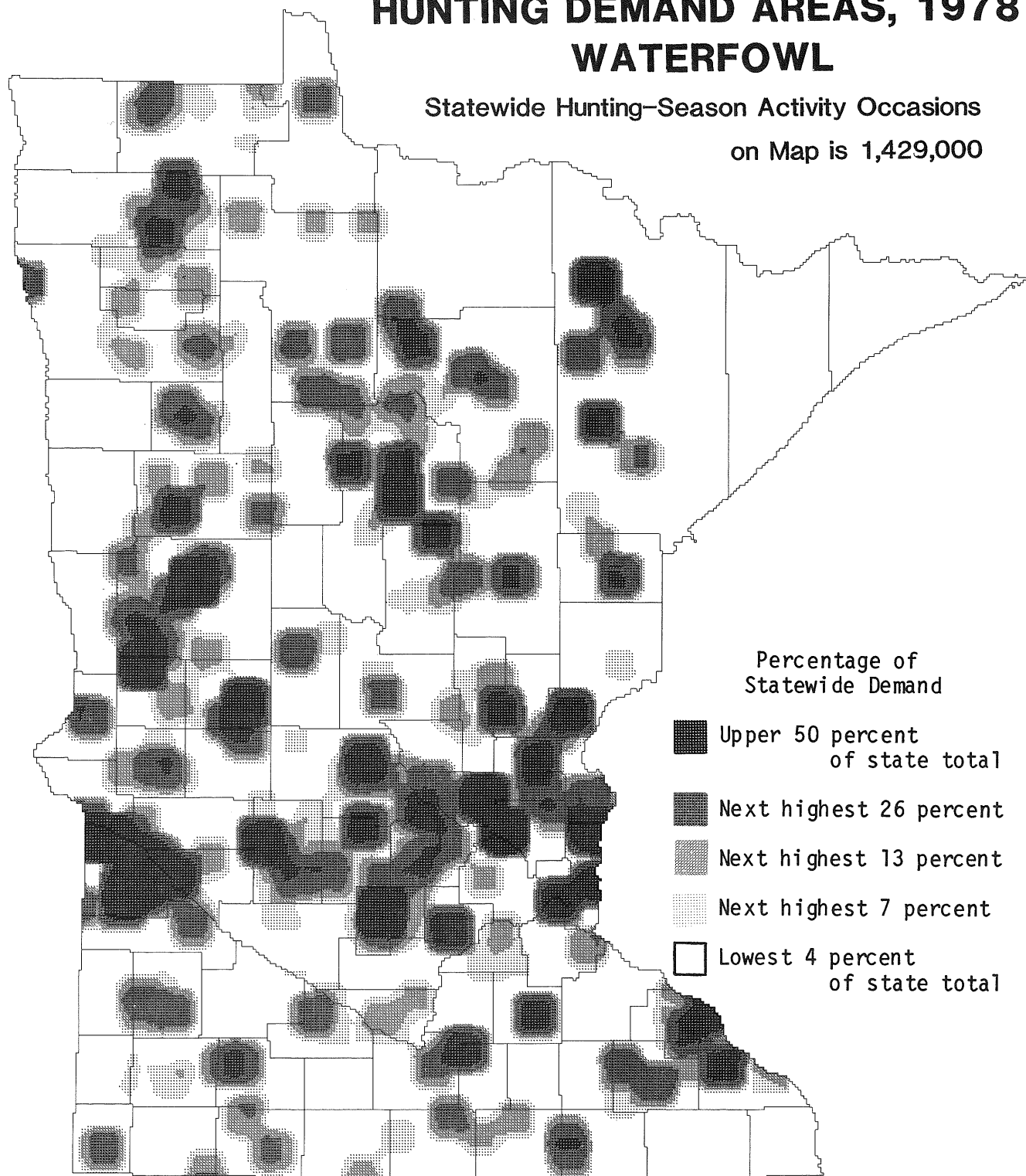


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.12A
HUNTING DEMAND AREAS, 1978
WATERFOWL

Statewide Hunting-Season Activity Occasions
on Map is 1,429,000



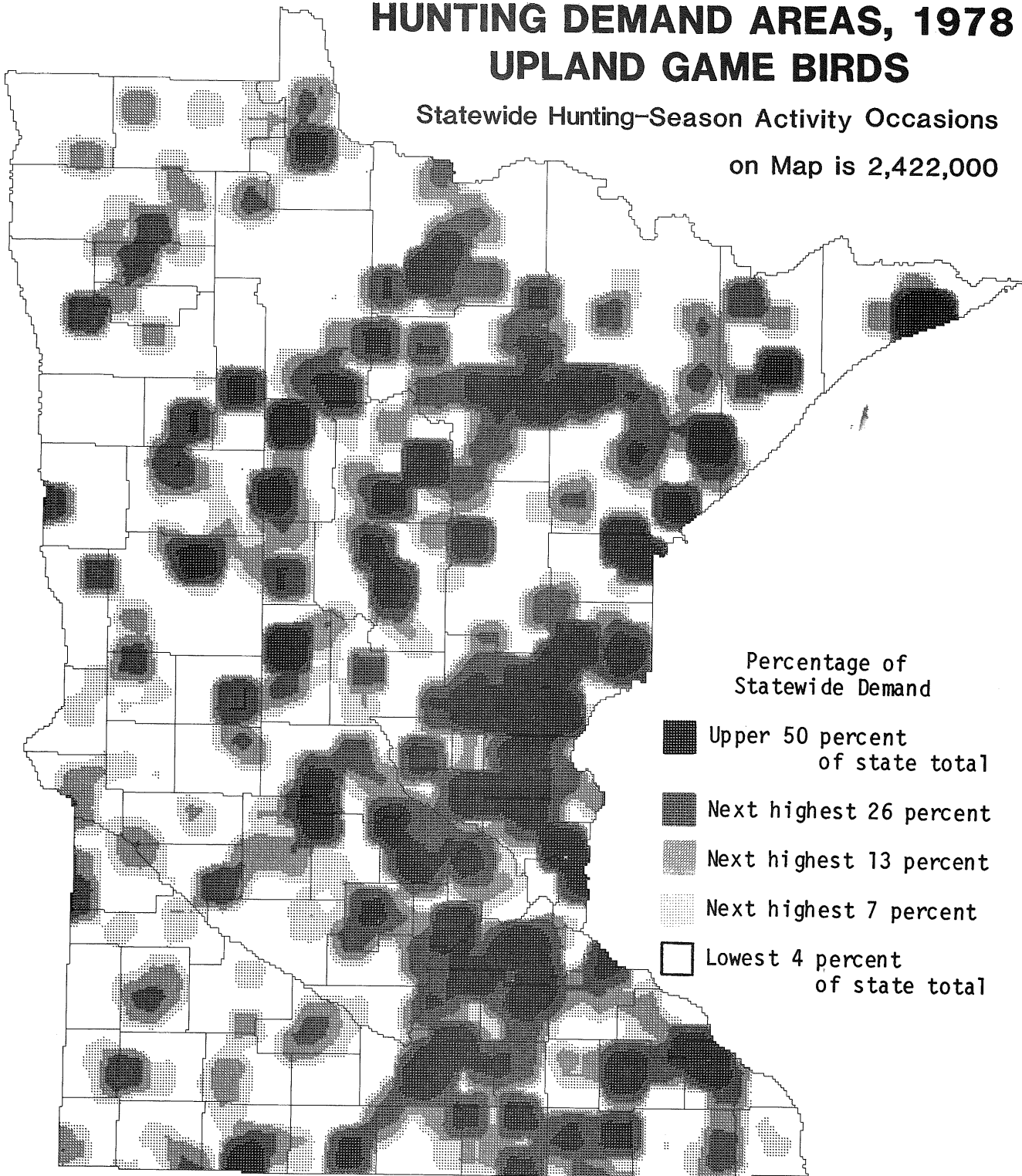
NOTE: Activity figures are based on a 1978 SCORP statewide sample of residents. The sample was expanded by the 1980 Census of Population. The sample expansion was based on age, sex, and region of residence.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.12B

HUNTING DEMAND AREAS, 1978 UPLAND GAME BIRDS

Statewide Hunting-Season Activity Occasions
on Map is 2,422,000



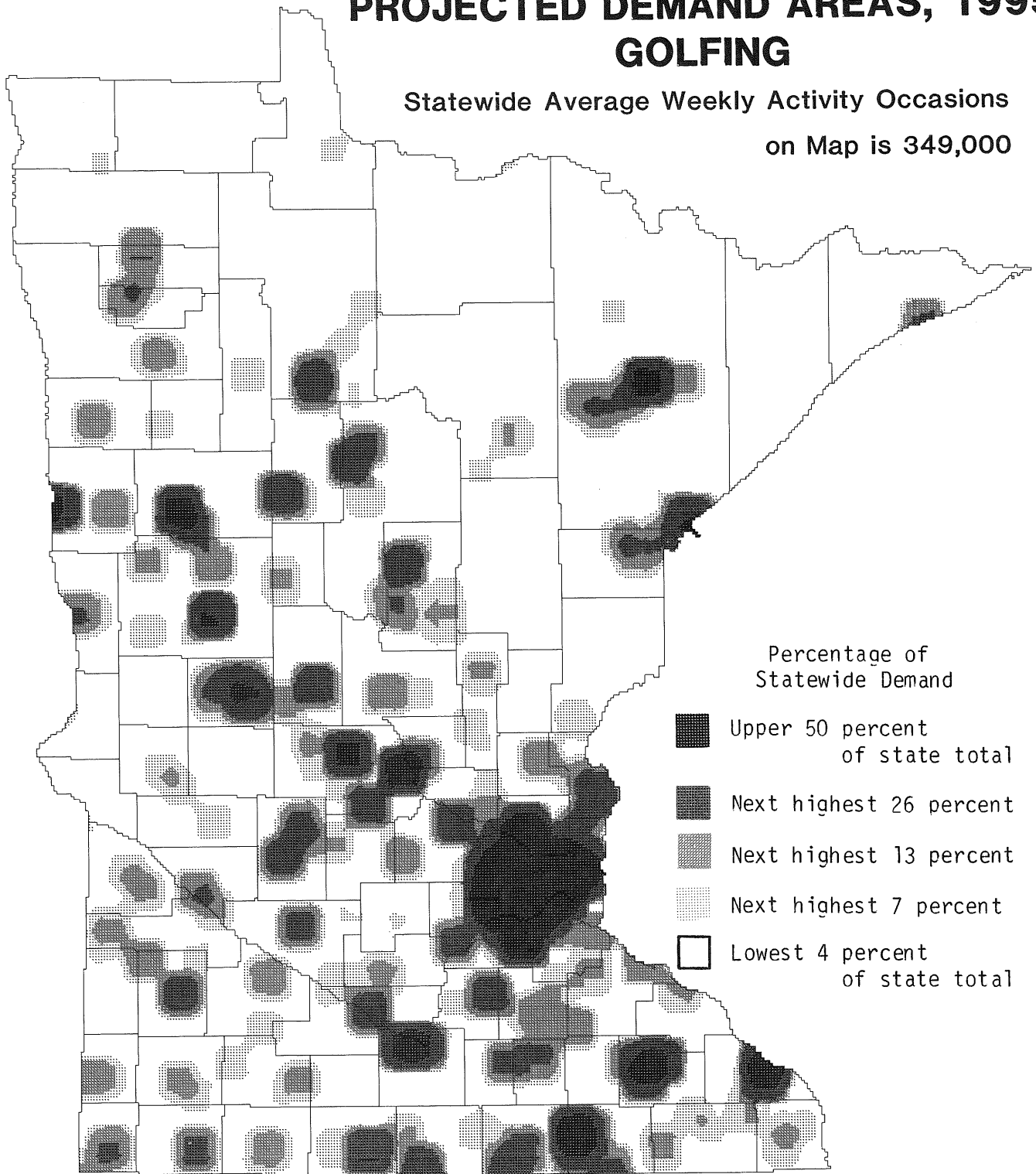
NOTE: Activity figures are based on a 1978 SCORP statewide sample of residents. The sample was expanded by the 1980 Census of Population. The sample expansion was based on age, sex, and region of residence.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.13

PROJECTED DEMAND AREAS, 1995: GOLFING

Statewide Average Weekly Activity Occasions
on Map is 349,000



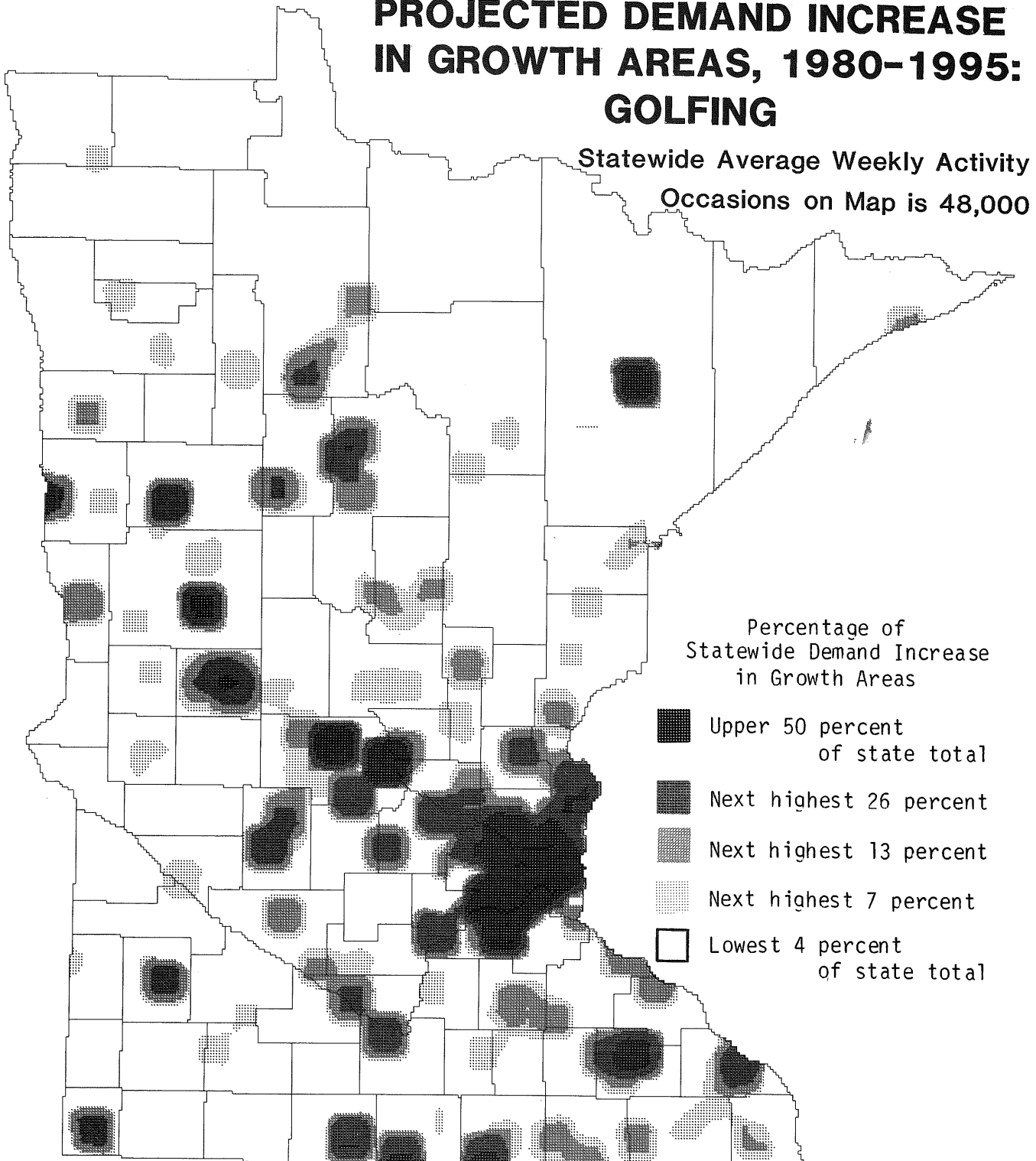
NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.14

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995: GOLFING

Statewide Average Weekly Activity
Occasions on Map is 48,000

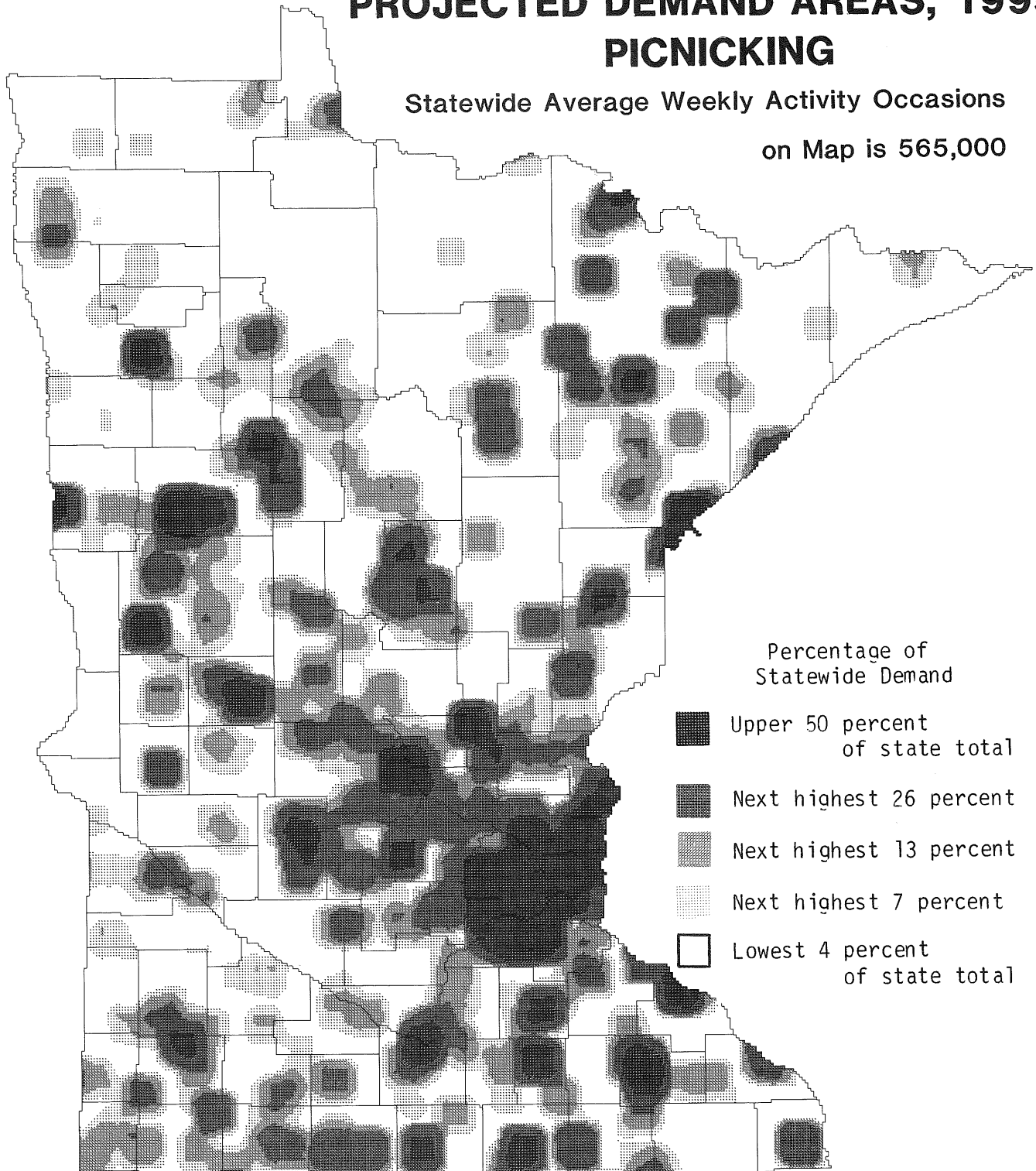


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.15
**PROJECTED DEMAND AREAS, 1995:
PICNICKING**

Statewide Average Weekly Activity Occasions
on Map is 565,000

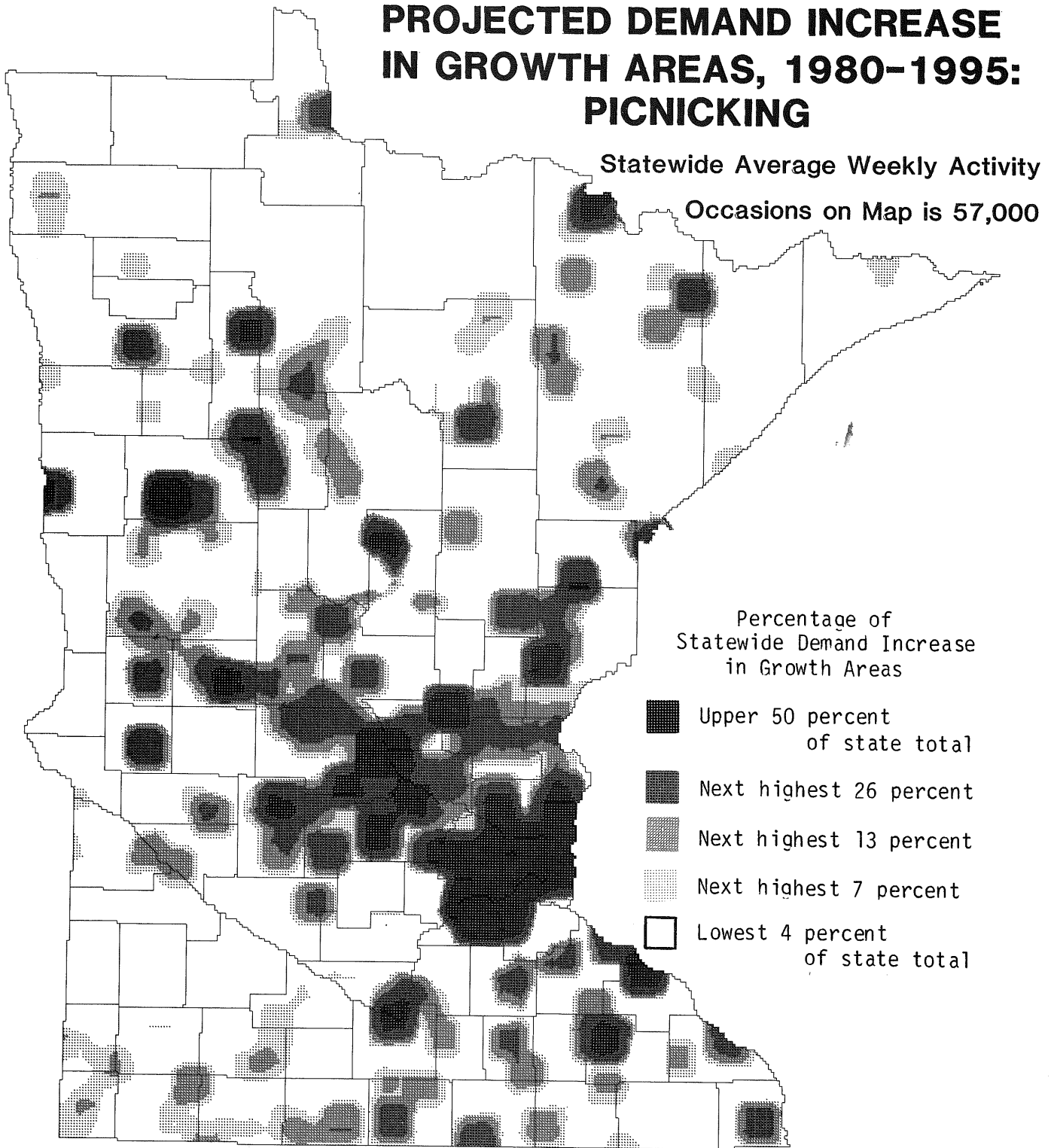


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.16

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995: PICNICKING



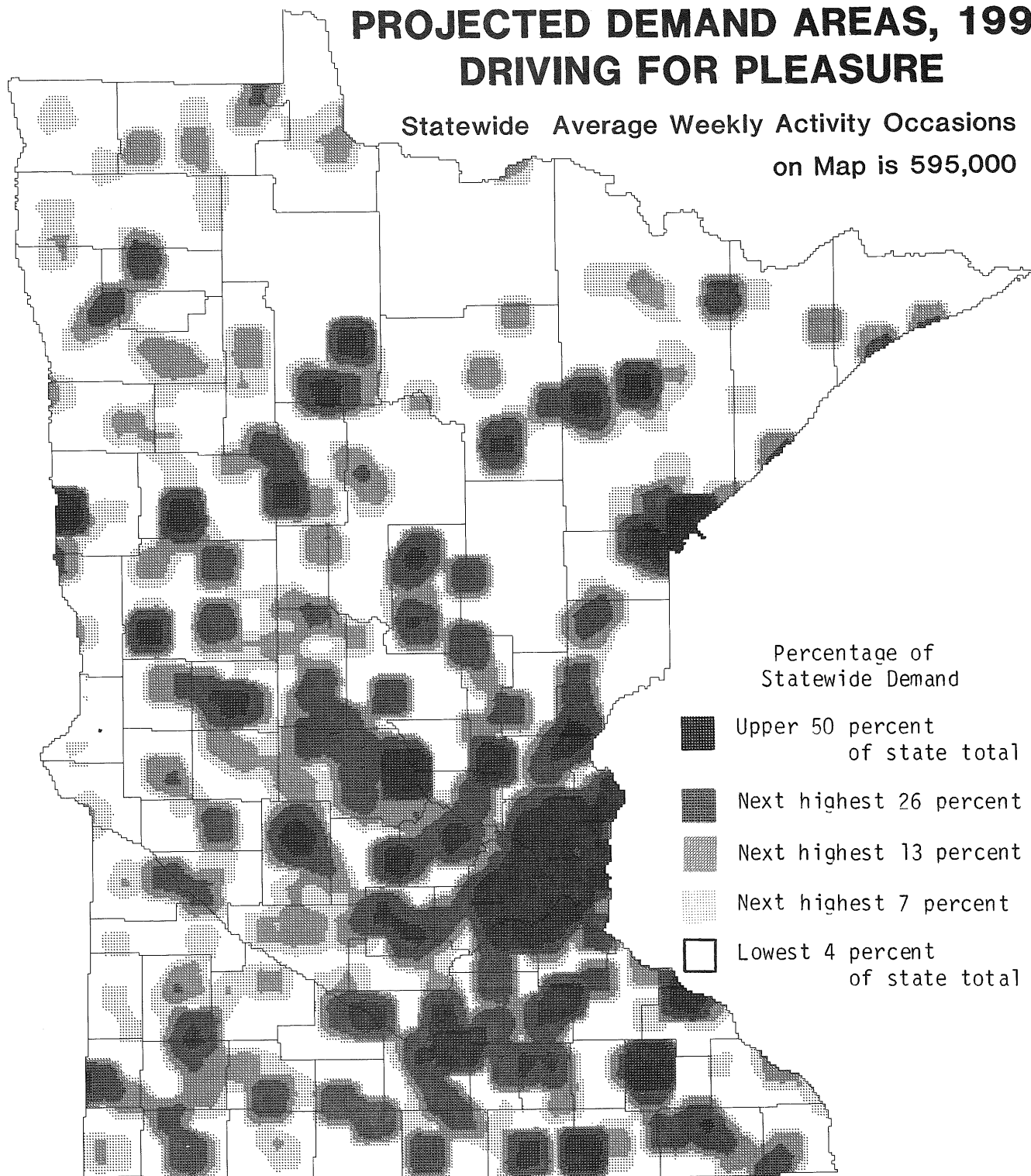
NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.17

PROJECTED DEMAND AREAS, 1995: DRIVING FOR PLEASURE

Statewide Average Weekly Activity Occasions
on Map is 595,000

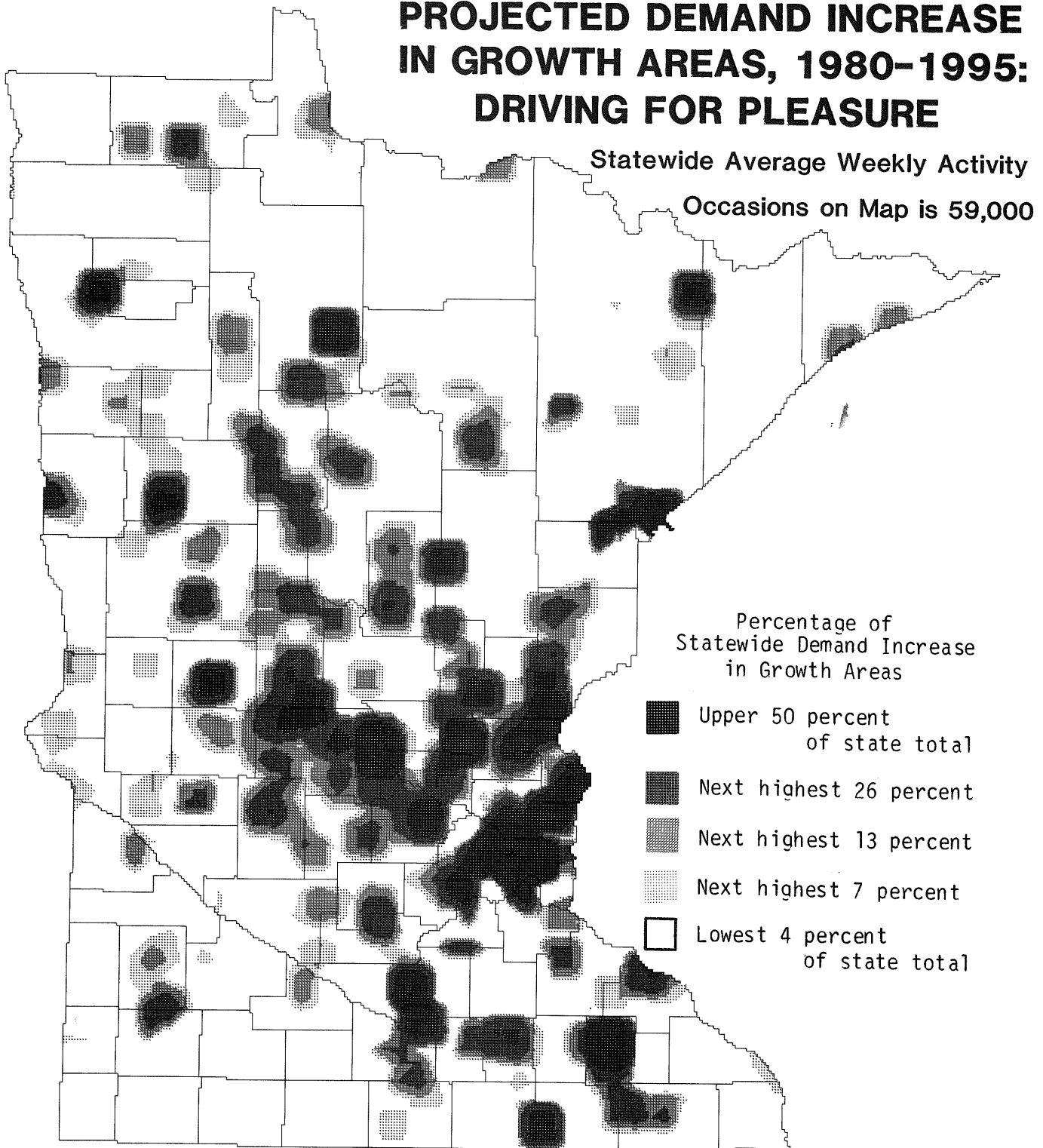


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.18

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995: DRIVING FOR PLEASURE



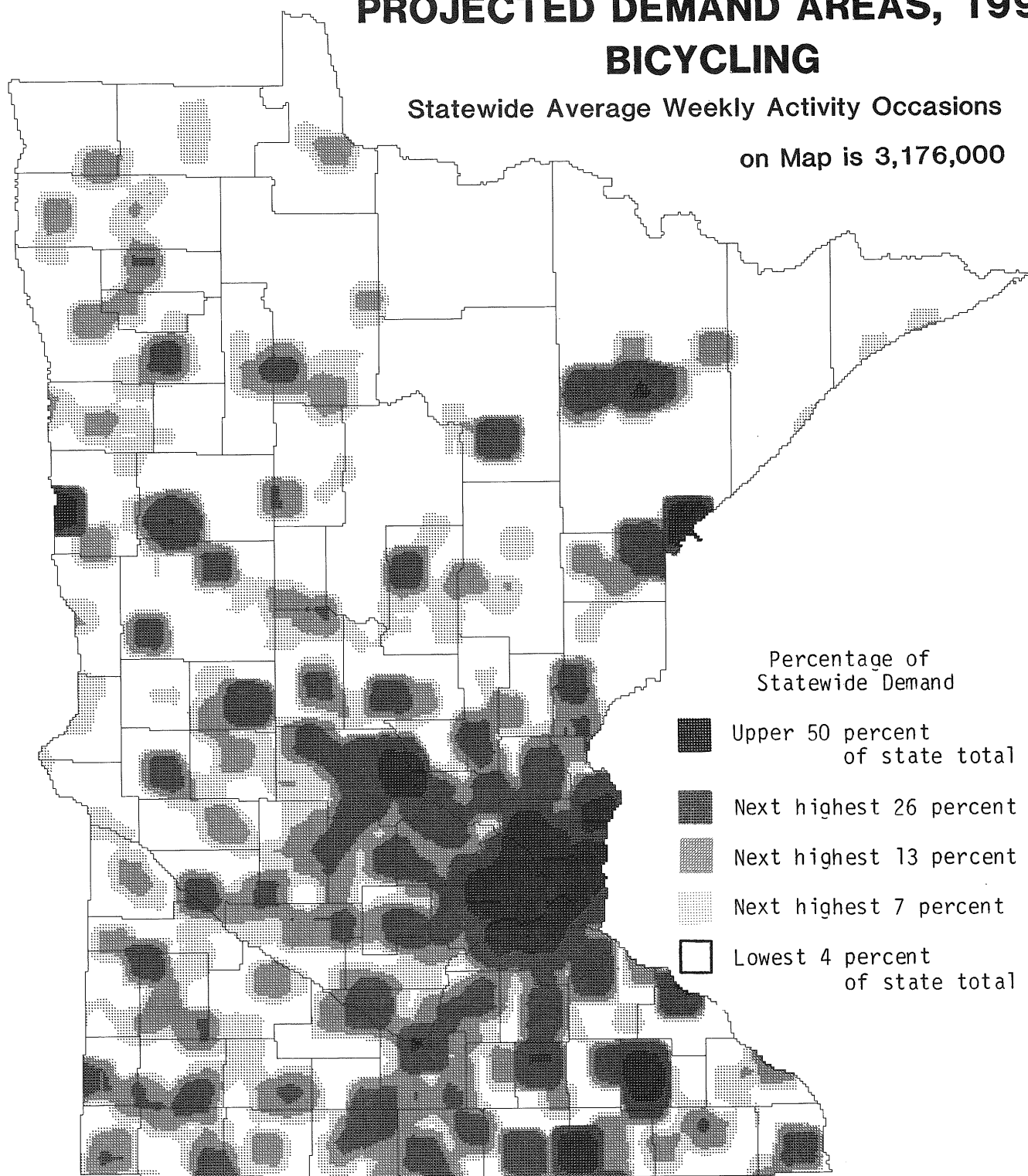
NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.19
**PROJECTED DEMAND AREAS, 1995:
 BICYCLING**

Statewide Average Weekly Activity Occasions

on Map is 3,176,000

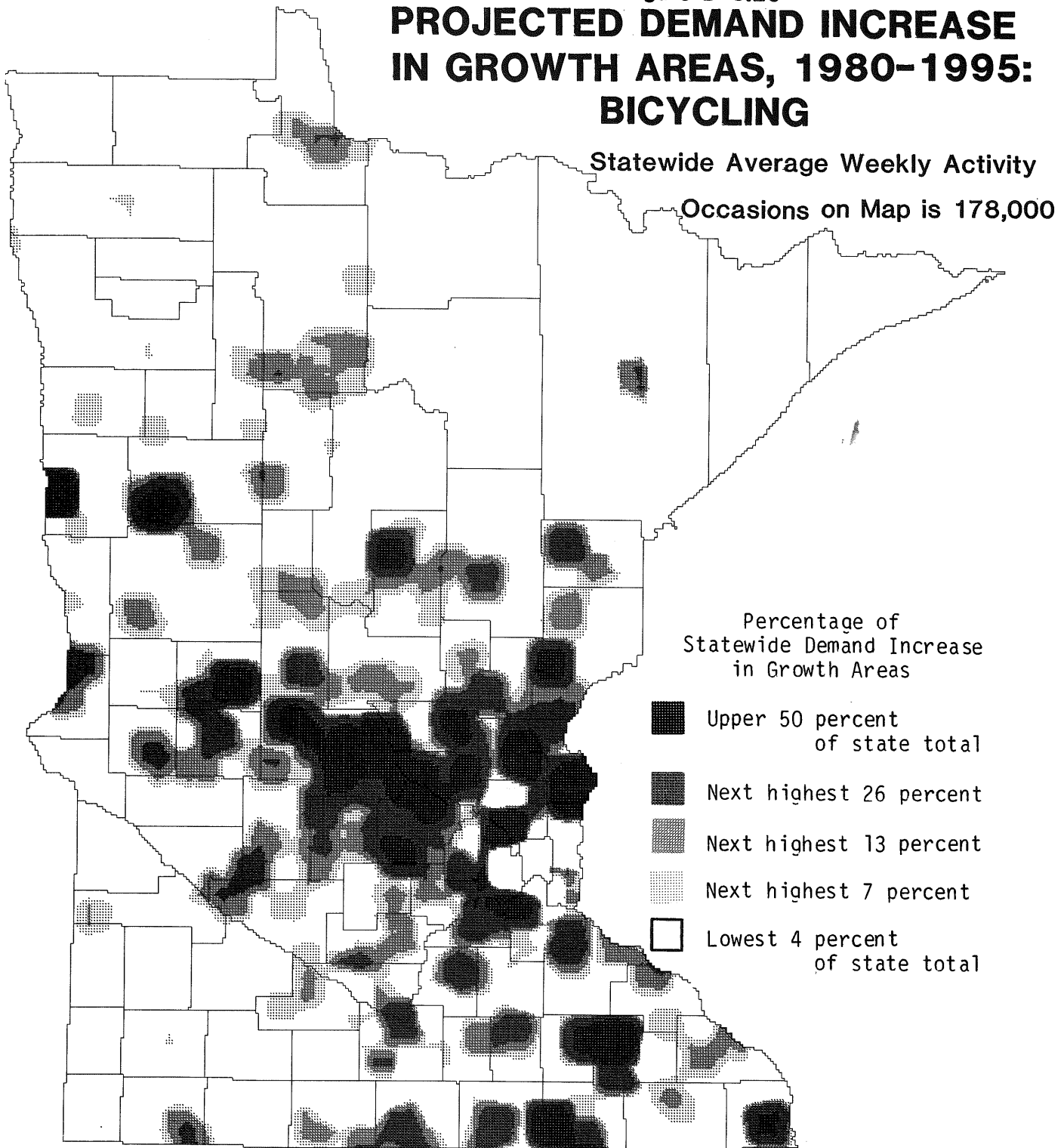


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.20

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995: BICYCLING

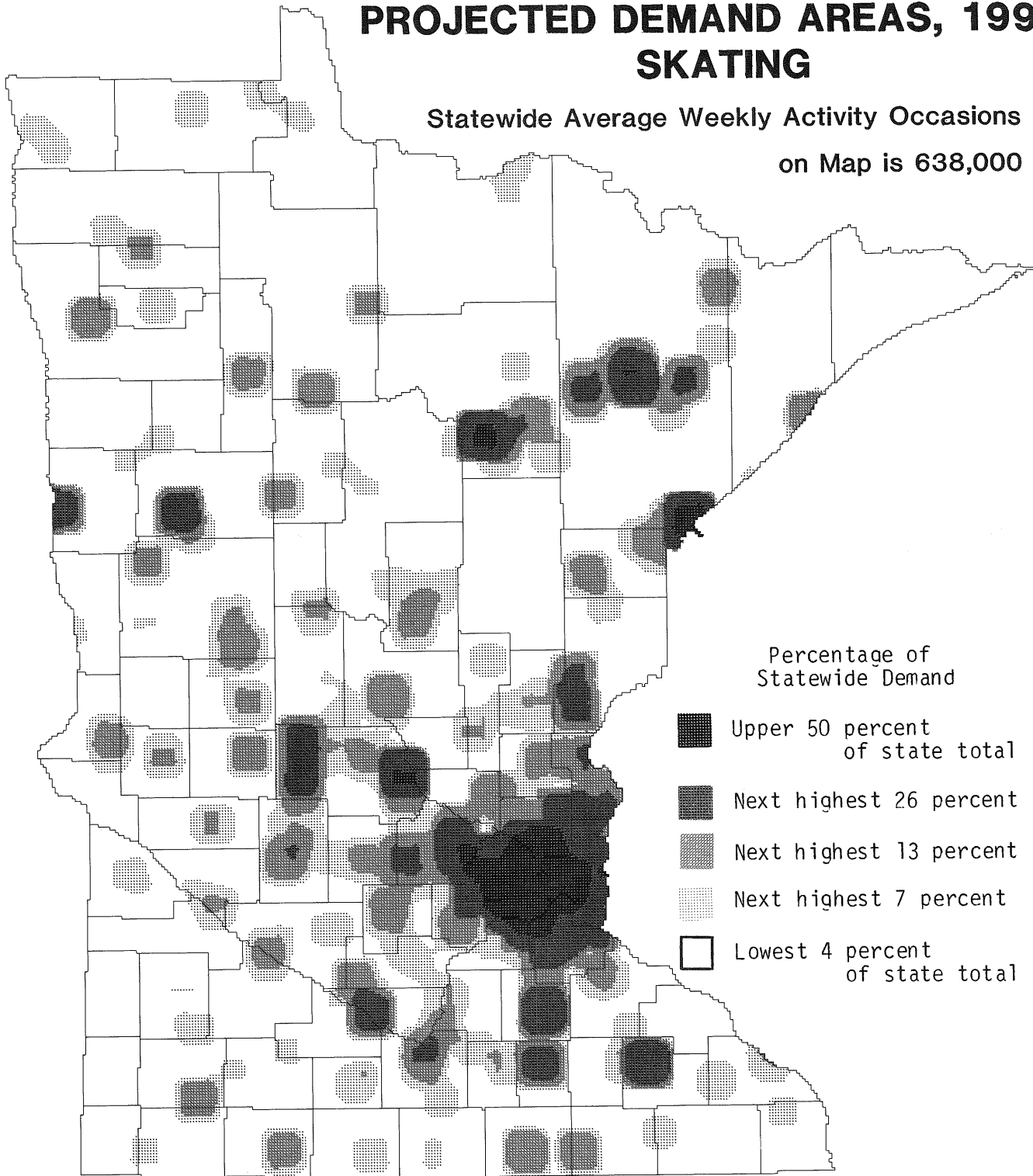


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

PROJECTED DEMAND AREAS, 1995: SKATING

Statewide Average Weekly Activity Occasions
on Map is 638,000



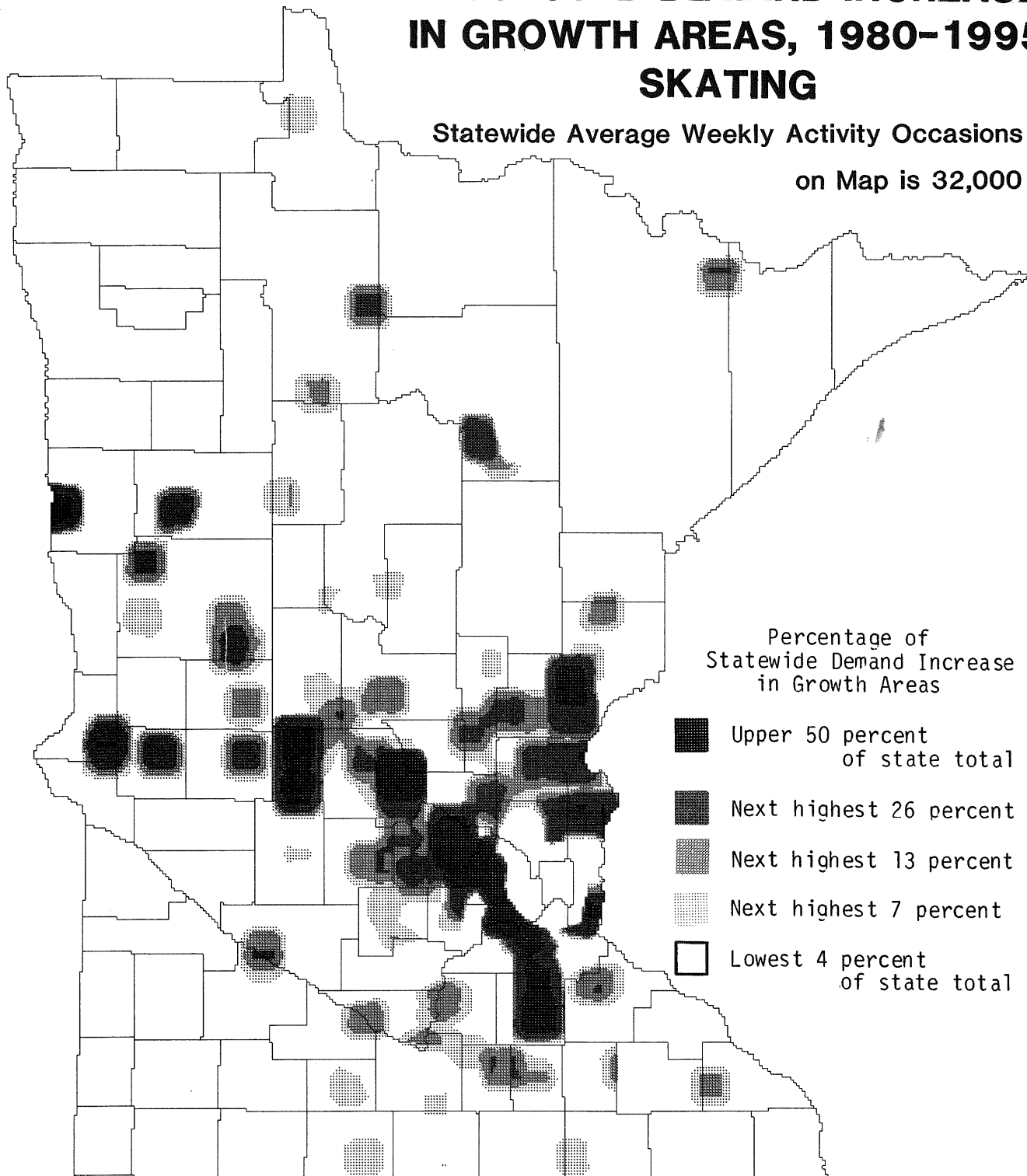
NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.22

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995: SKATING

Statewide Average Weekly Activity Occasions
on Map is 32,000

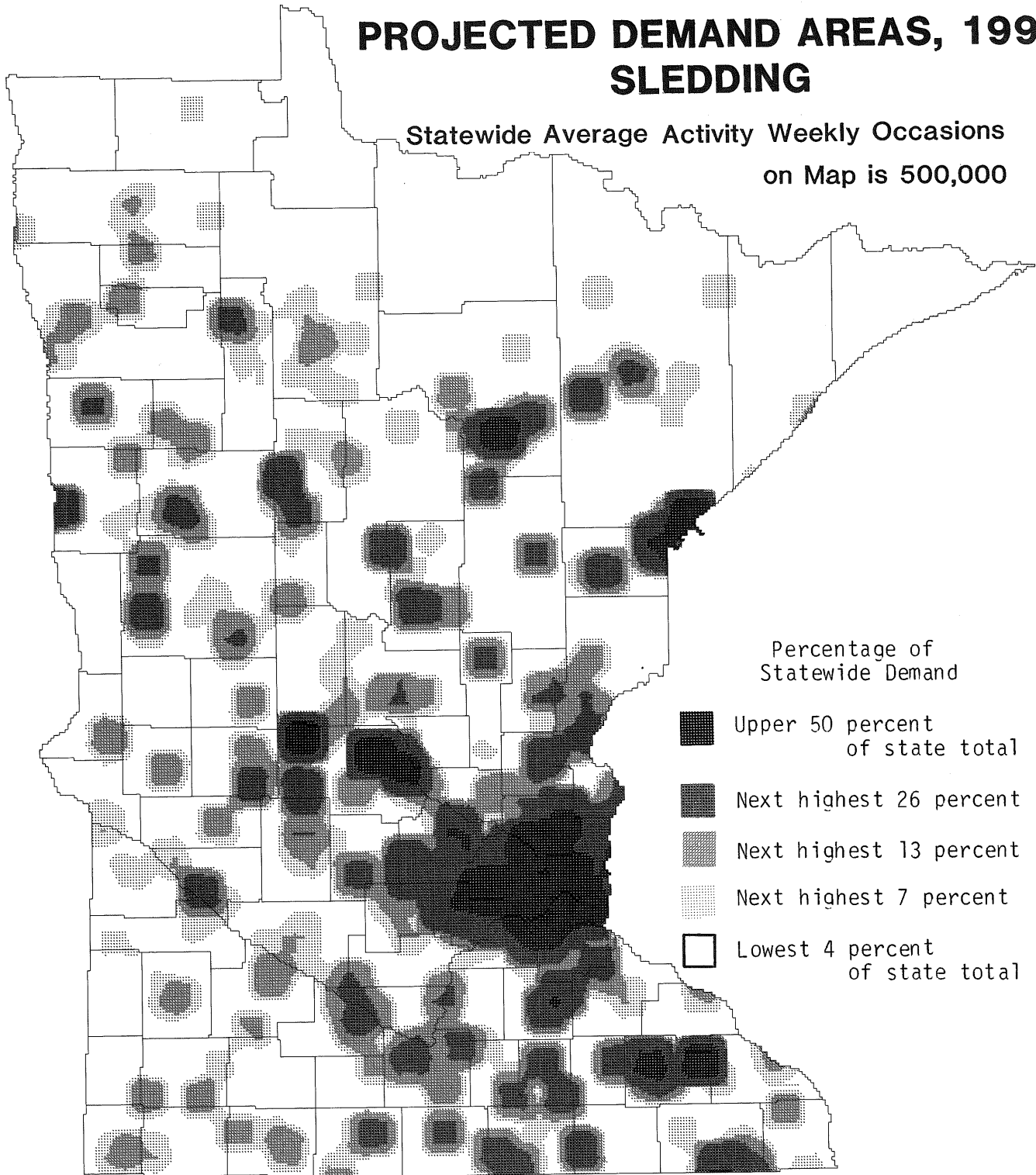


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.23

PROJECTED DEMAND AREAS, 1995: SLEDDING

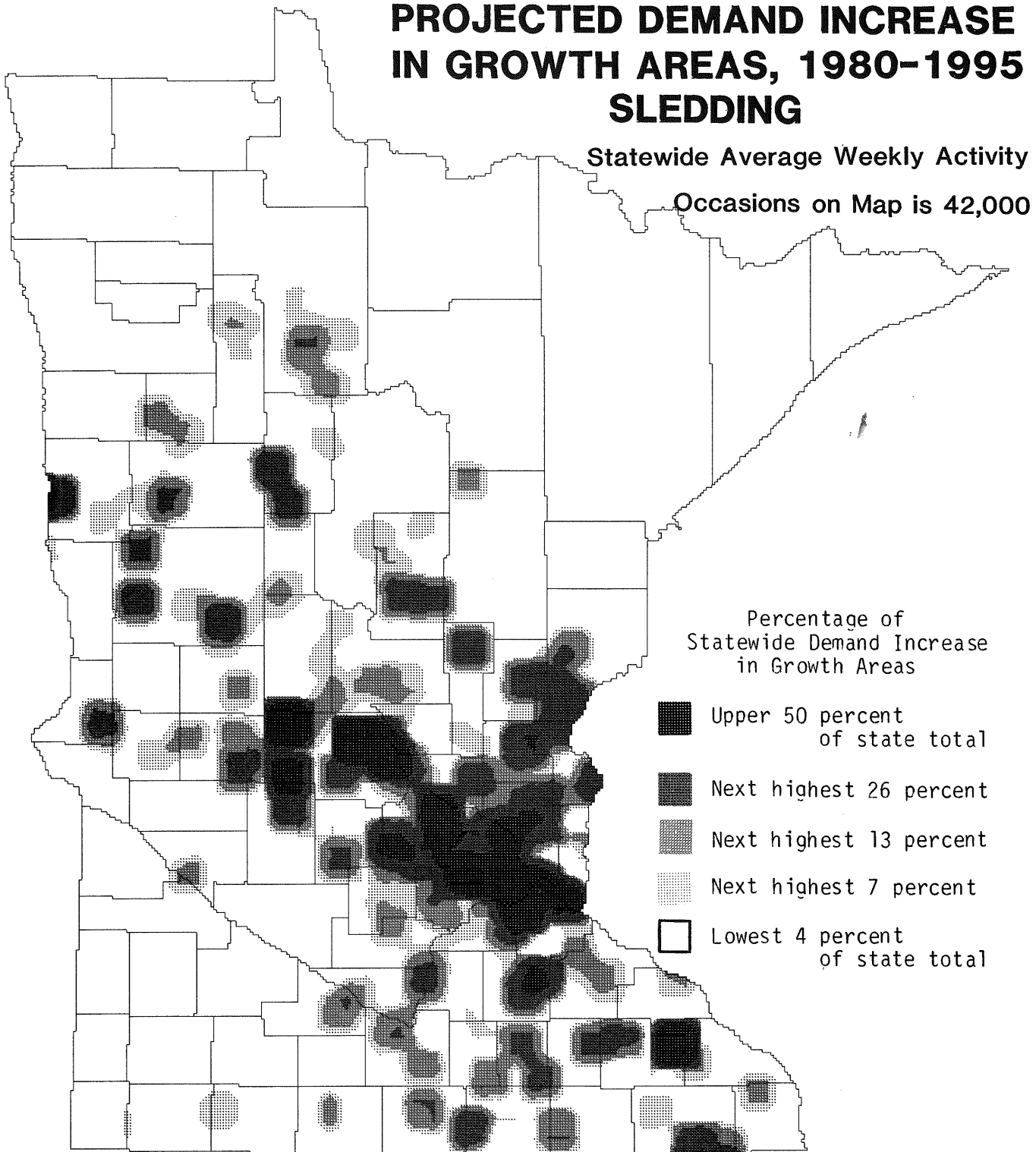


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.24

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995 SLEDDING



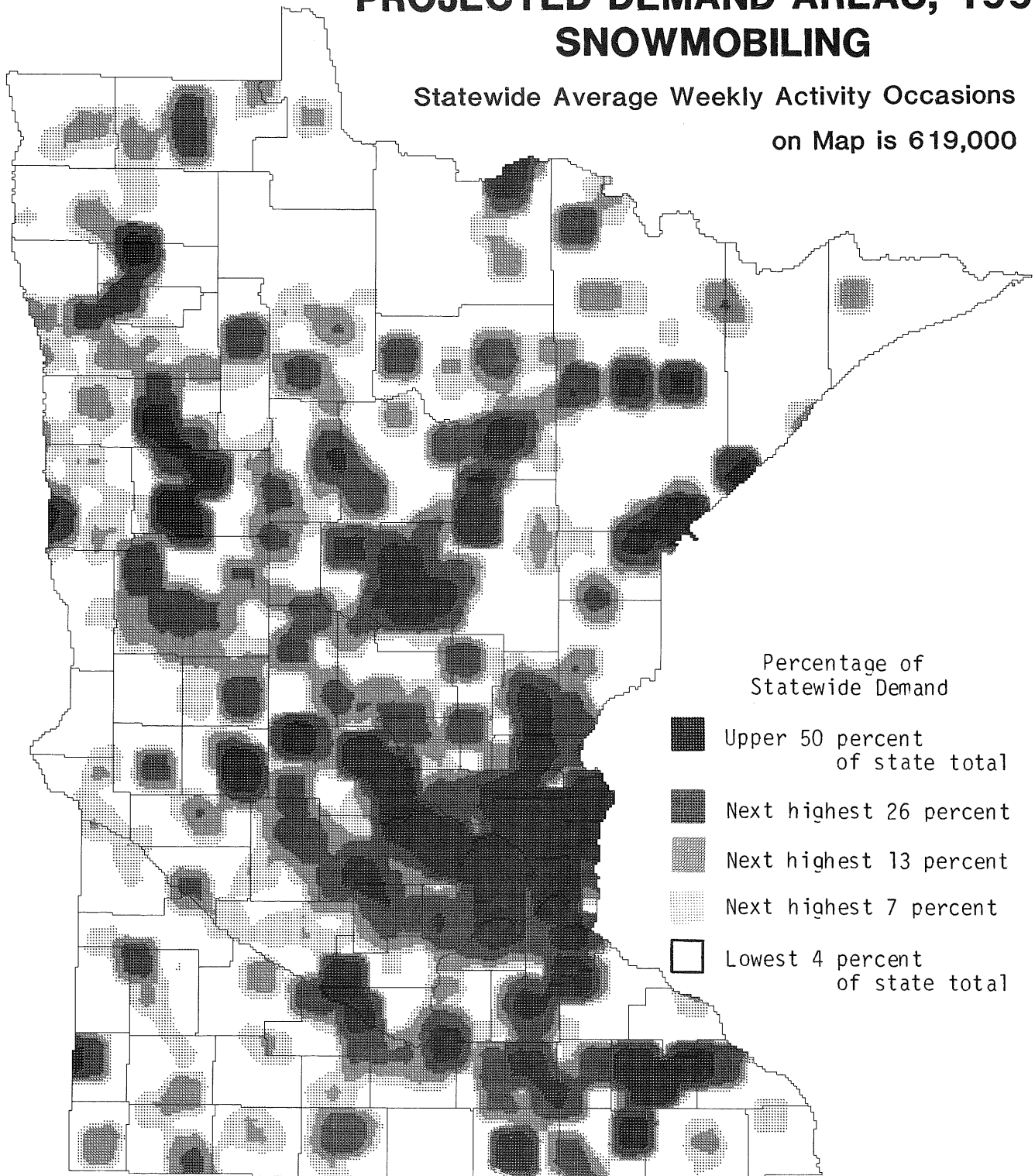
NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Figure B-S.25

PROJECTED DEMAND AREAS, 1995: SNOWMOBILING

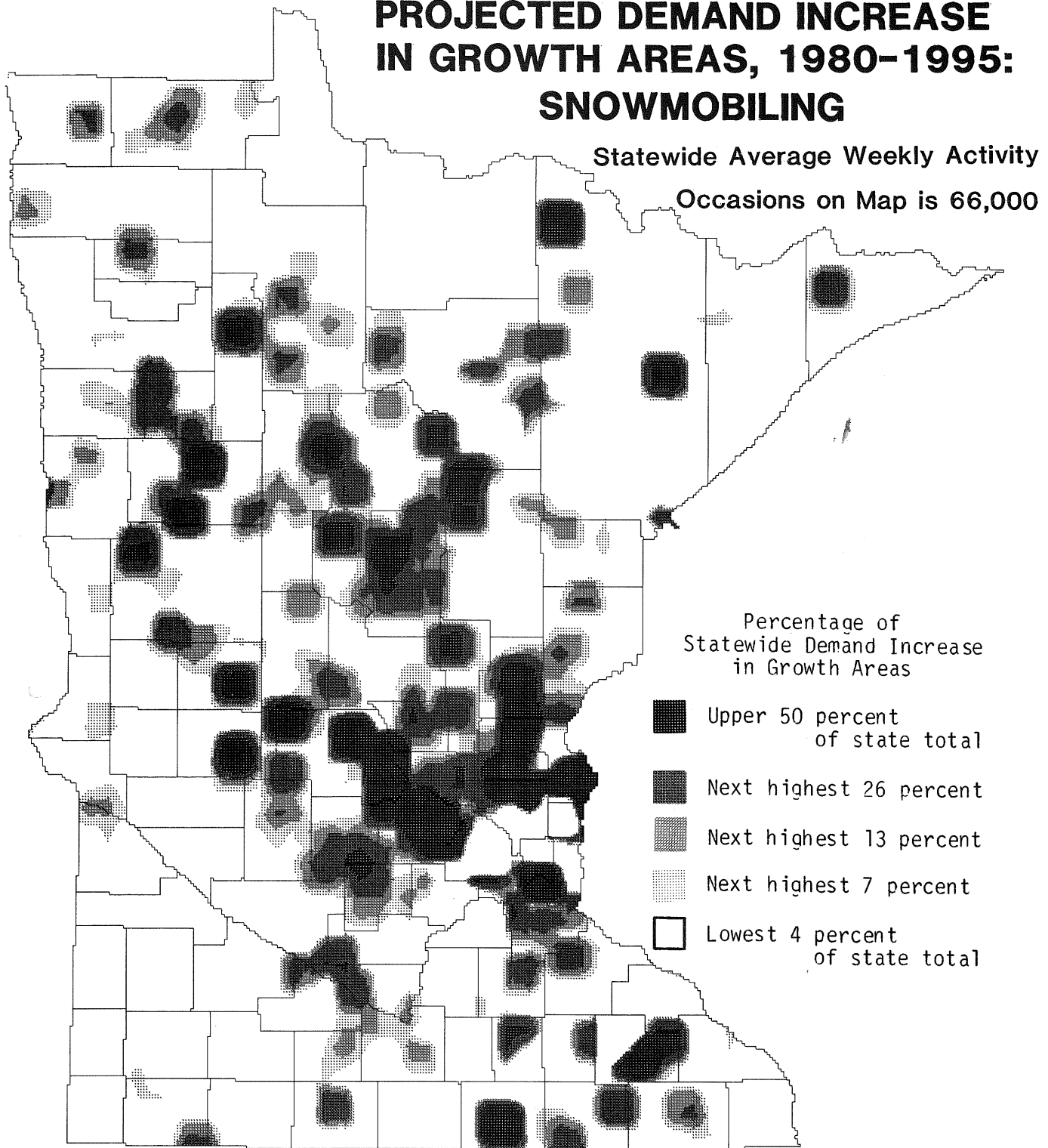
Statewide Average Weekly Activity Occasions
on Map is 619,000



NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

PROJECTED DEMAND INCREASE IN GROWTH AREAS, 1980-1995: SNOWMOBILING

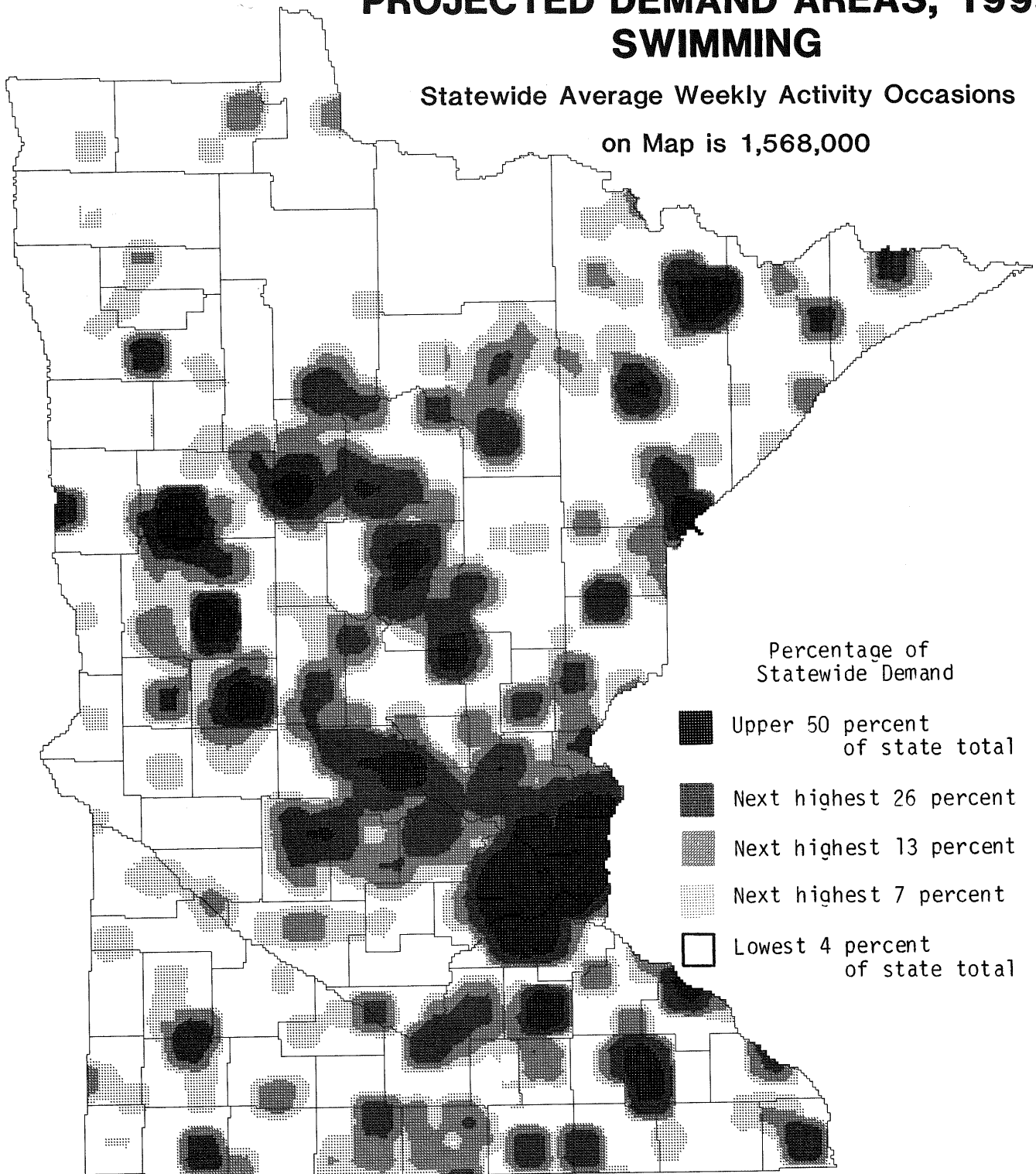


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

PROJECTED DEMAND AREAS, 1995: SWIMMING

Statewide Average Weekly Activity Occasions
on Map is 1,568,000

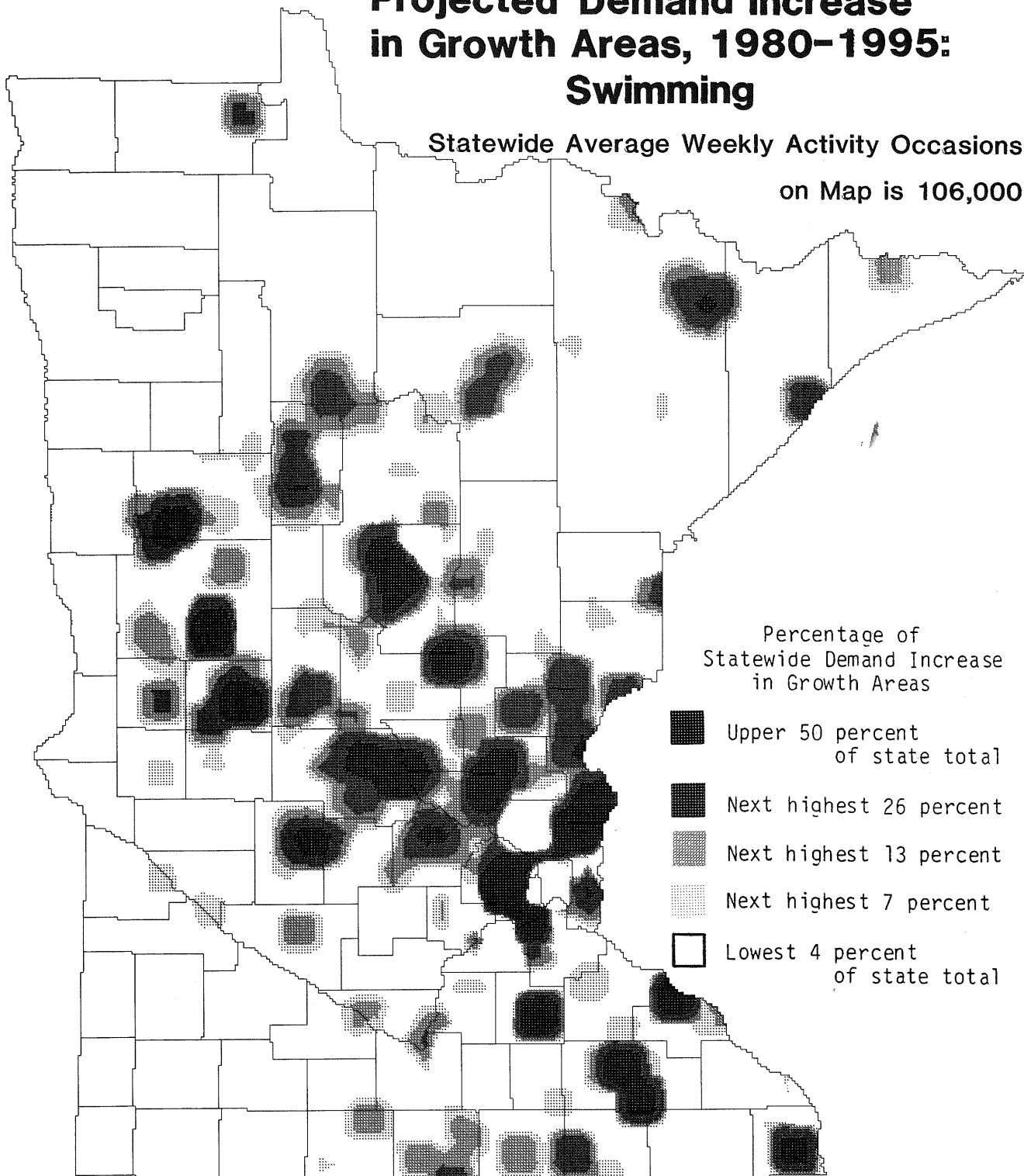


NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

Projected Demand Increase in Growth Areas, 1980-1995: Swimming

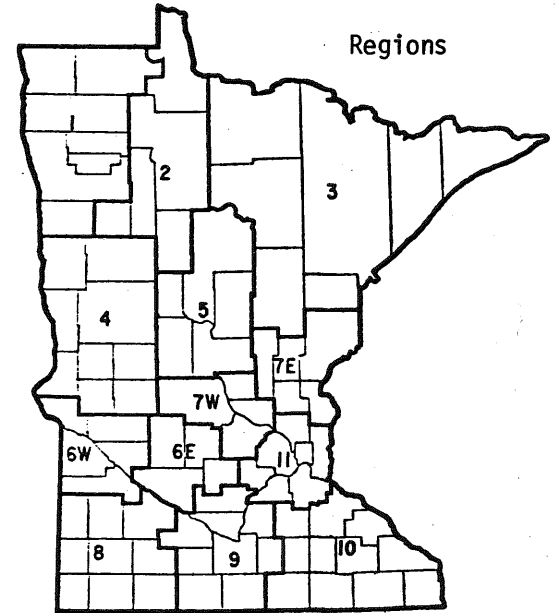
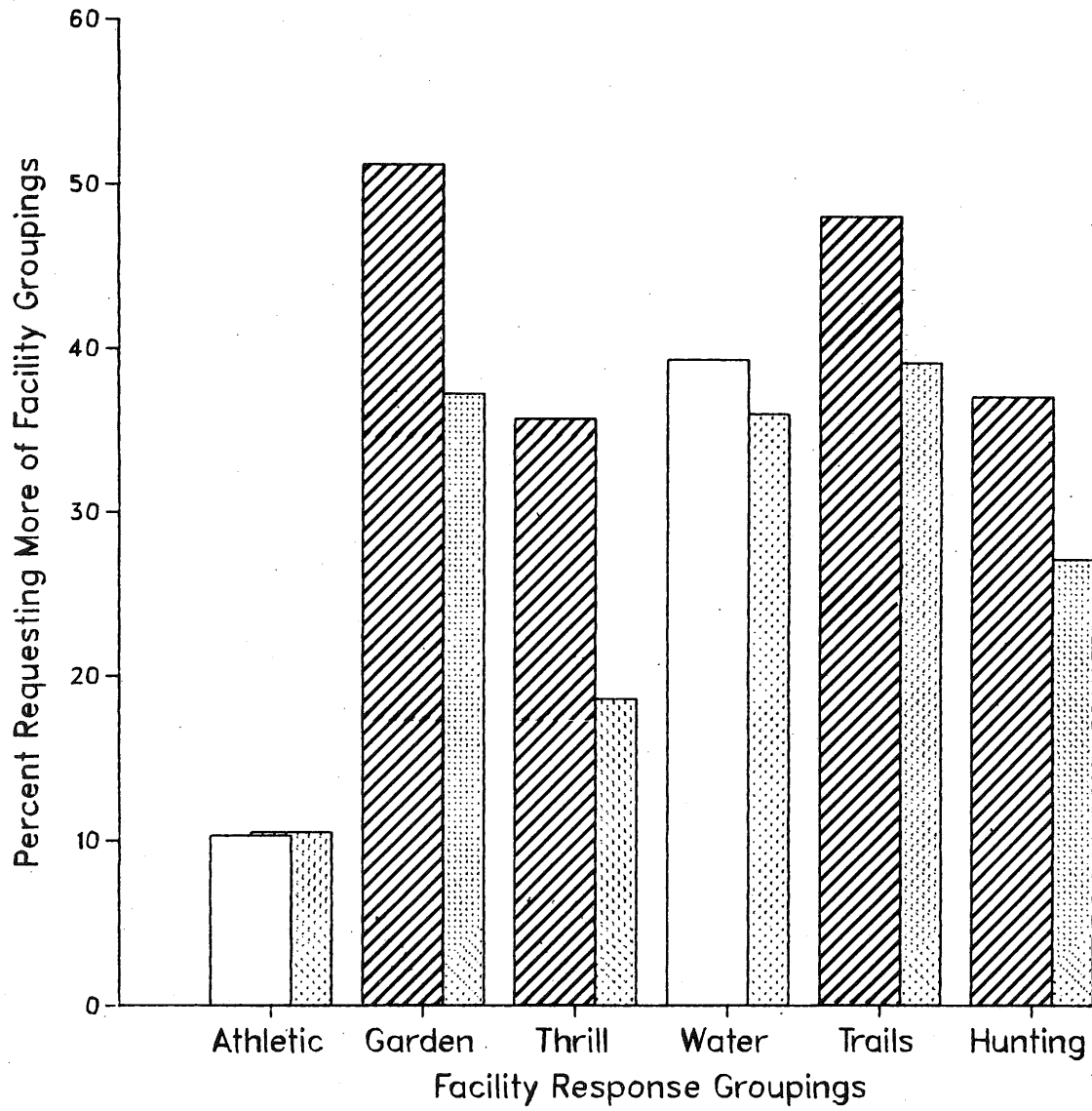
Statewide Average Weekly Activity Occasions
on Map is 106,000



NOTE: Activity figures are based on 1978 SCORP statewide summer samples of residents and non-residents, or a winter sample of residents. The resident samples were expanded by the 1980 Census of Population and the State Demographer's projections of the 1980 census. The sample expansion was based on age, sex, and region of residence. The projection of the non-resident sample was based on a surrogate group of touring residents.

SOURCE: Minnesota Department of Natural Resources, State Comprehensive Outdoor Recreation Plan.

FIGURE B-S.29
 Minnesota Outdoor Recreation Facilities
 Needs Assessment
 Region 1
 Regional Population: 97225



Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

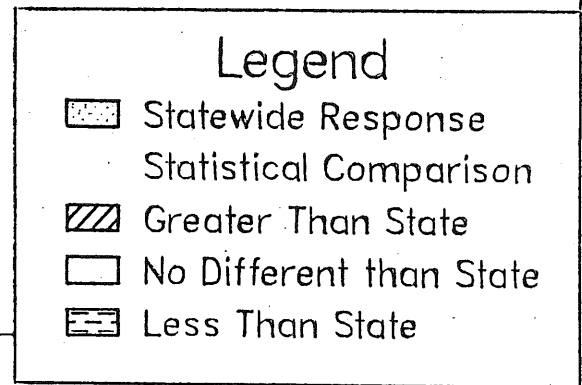
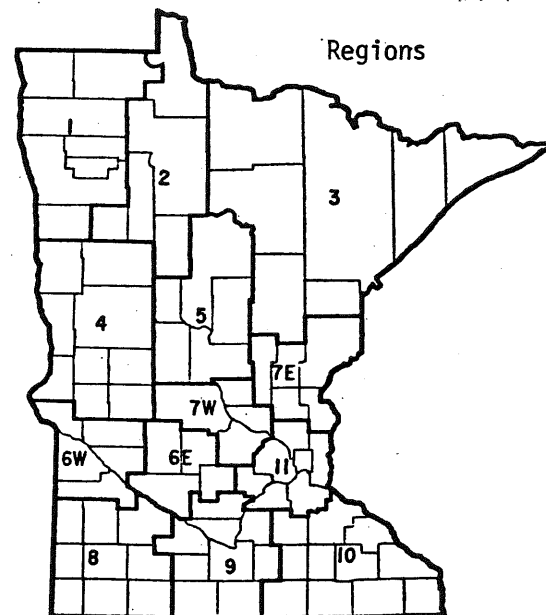
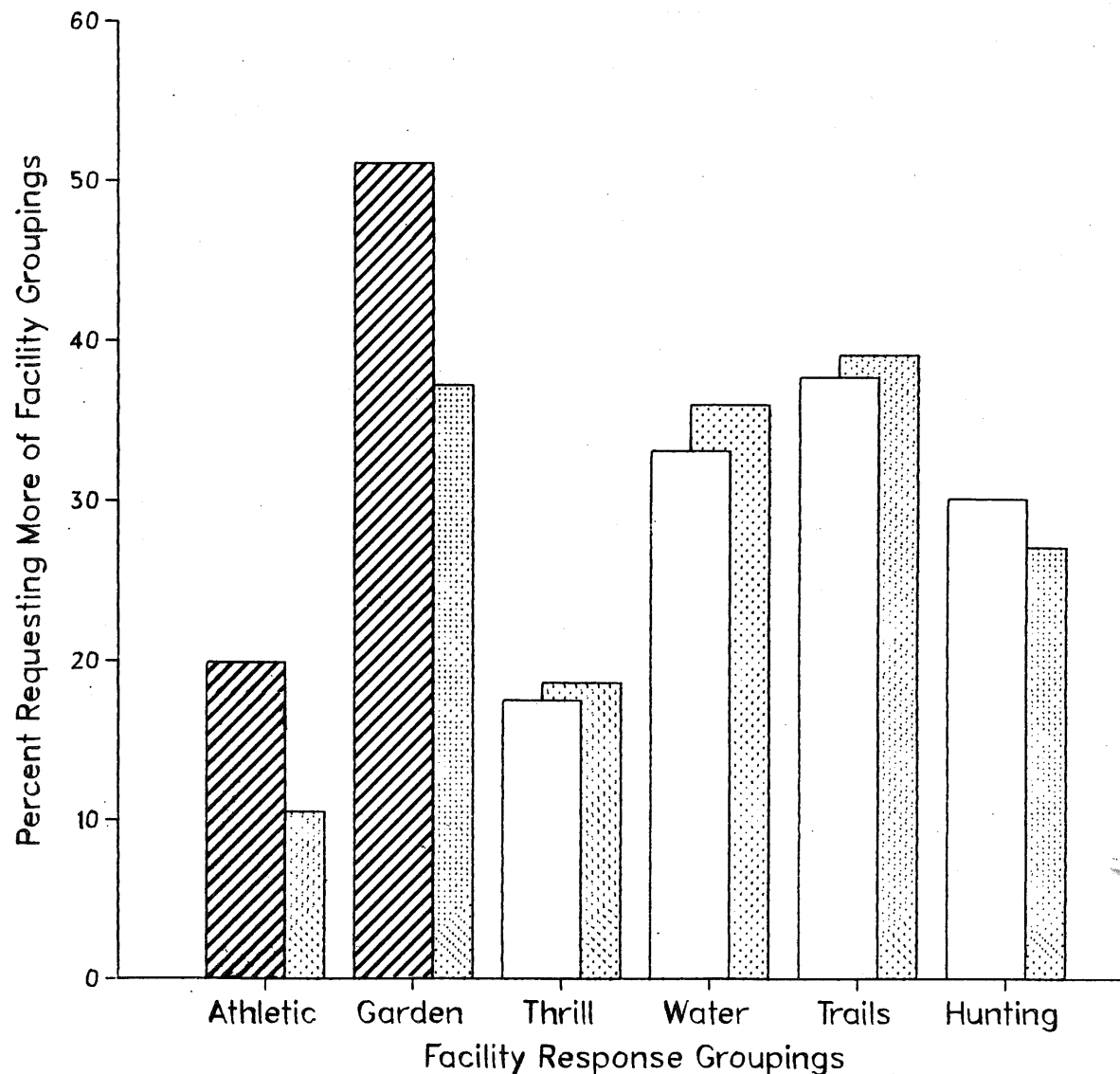


FIGURE B-S.30

Minnesota Outdoor Recreation Facilities Needs Assessment

Region 2

Regional Population: 63140



Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

Legend

- Statewide Response
- Statistical Comparison
- Greater Than State
- No Different than State
- Less Than State

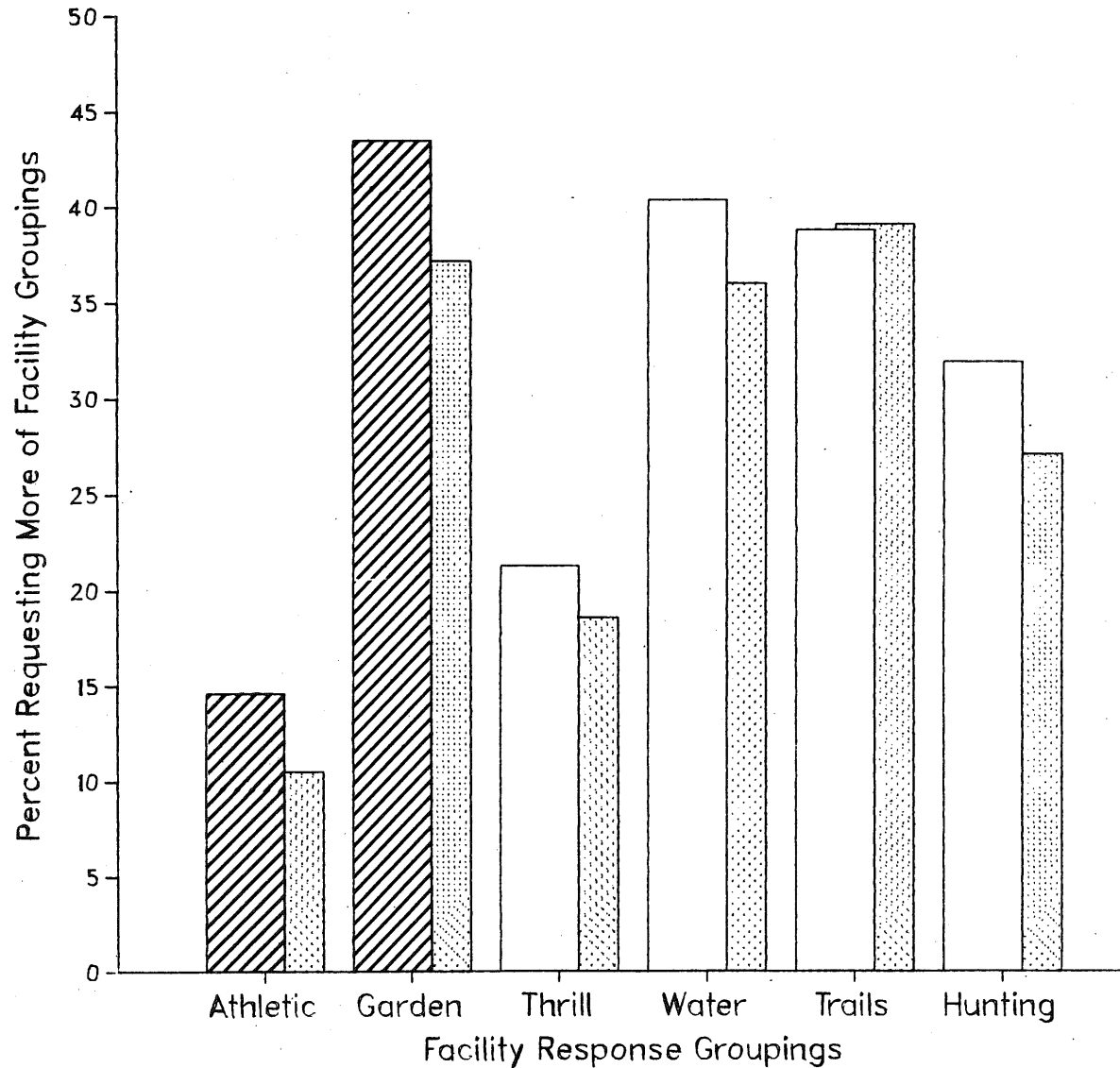
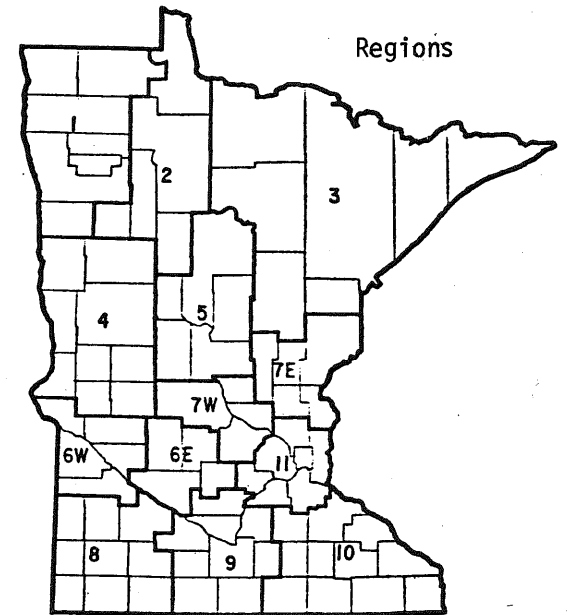
B.037

FIGURE B-S.31

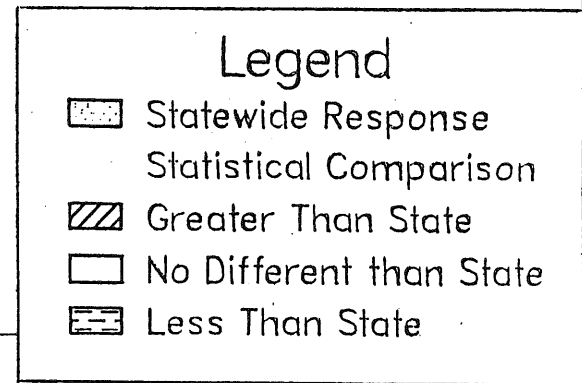
Minnesota Outdoor Recreation Facilities Needs Assessment

Region 3

Regional Population: 343344



Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.



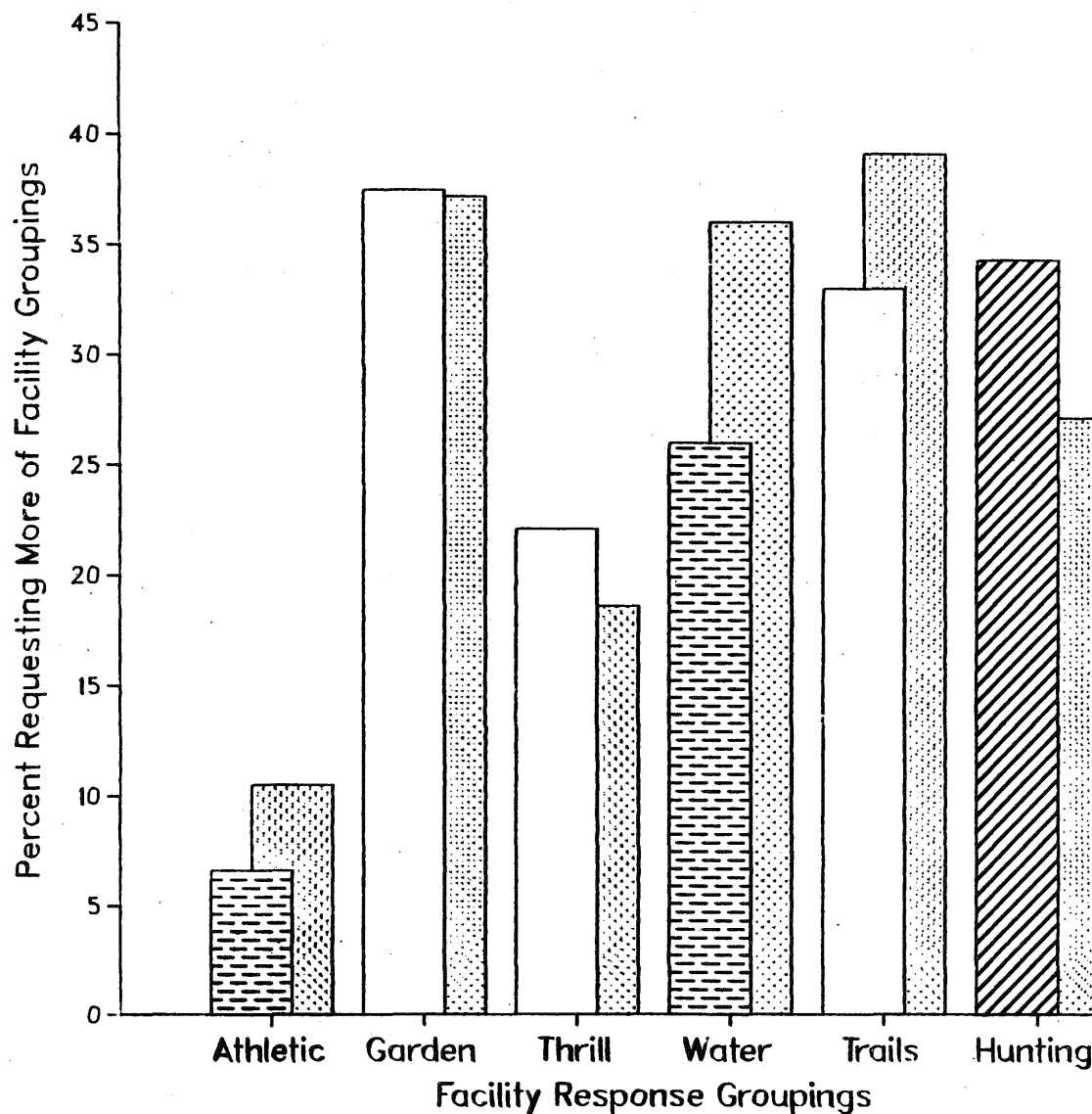
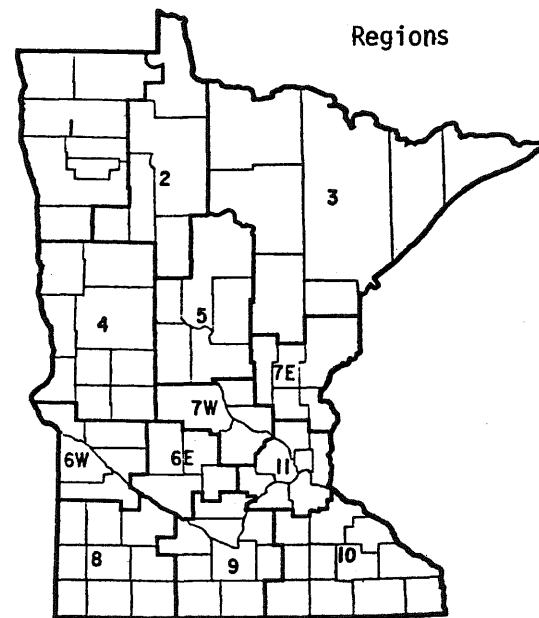
B.038

FIGURE B-S.32

Minnesota Outdoor Recreation Facilities Needs Assessment

Region 4

Regional Population: 202585



Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

Legend

- Statewide Response
- Statistical Comparison
- Greater Than State
- No Different than State
- Less Than State

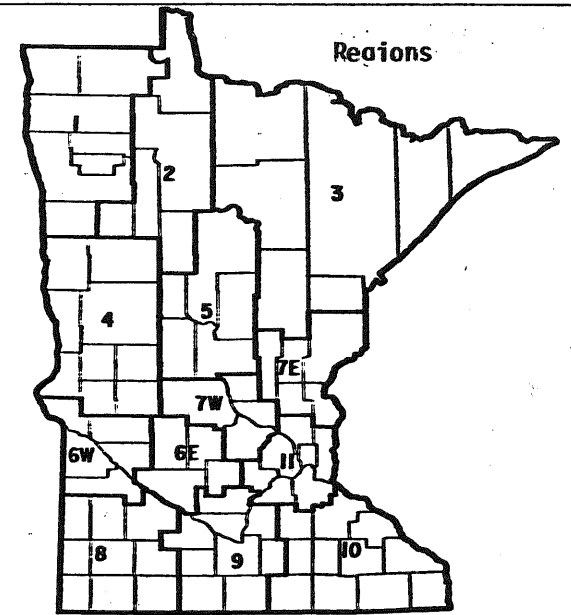
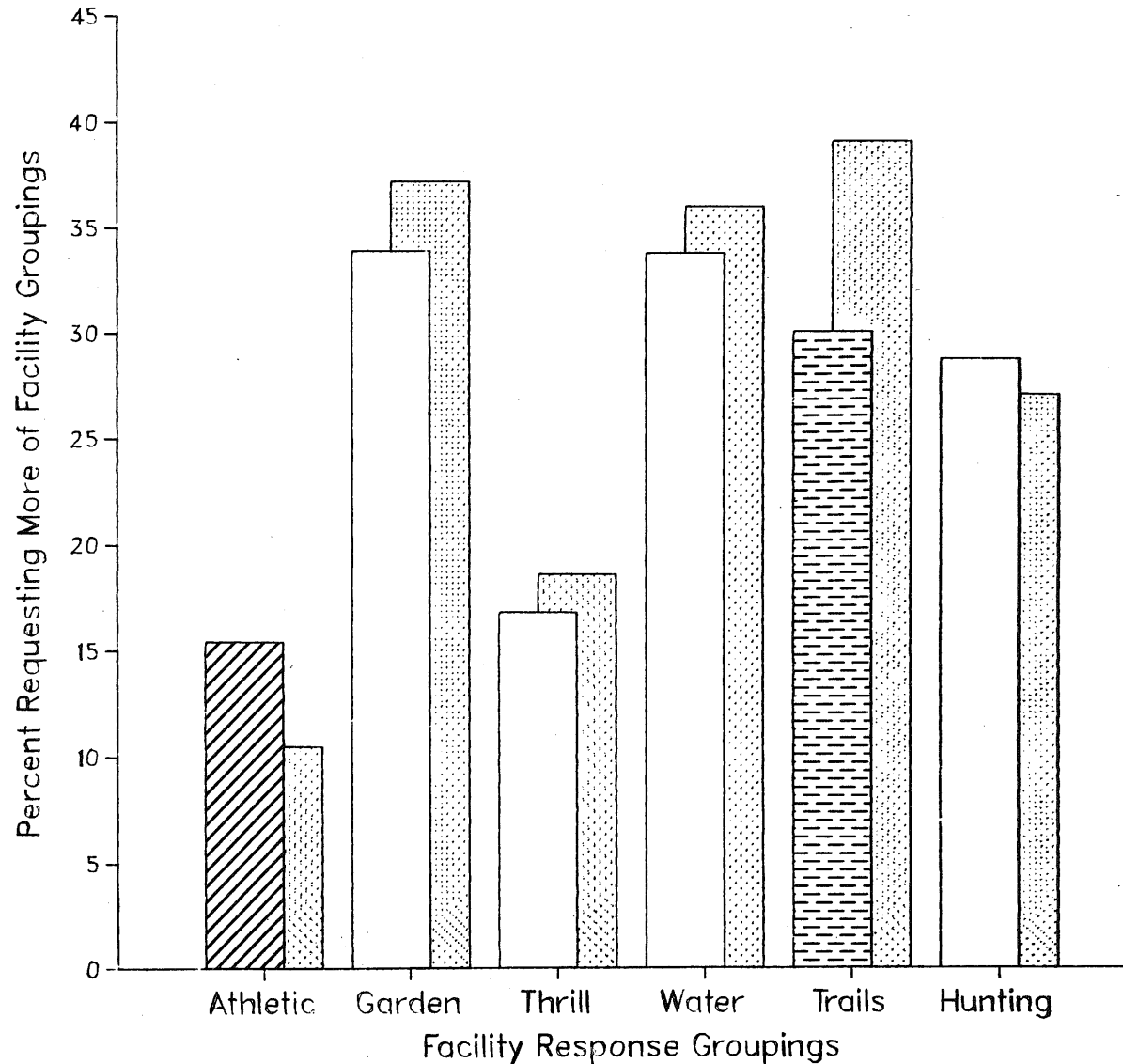
B.039

FIGURE B-S.33

Minnesota Outdoor Recreation Facilities Needs Assessment

Region 5

Regional Population: 131266



Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

Legend

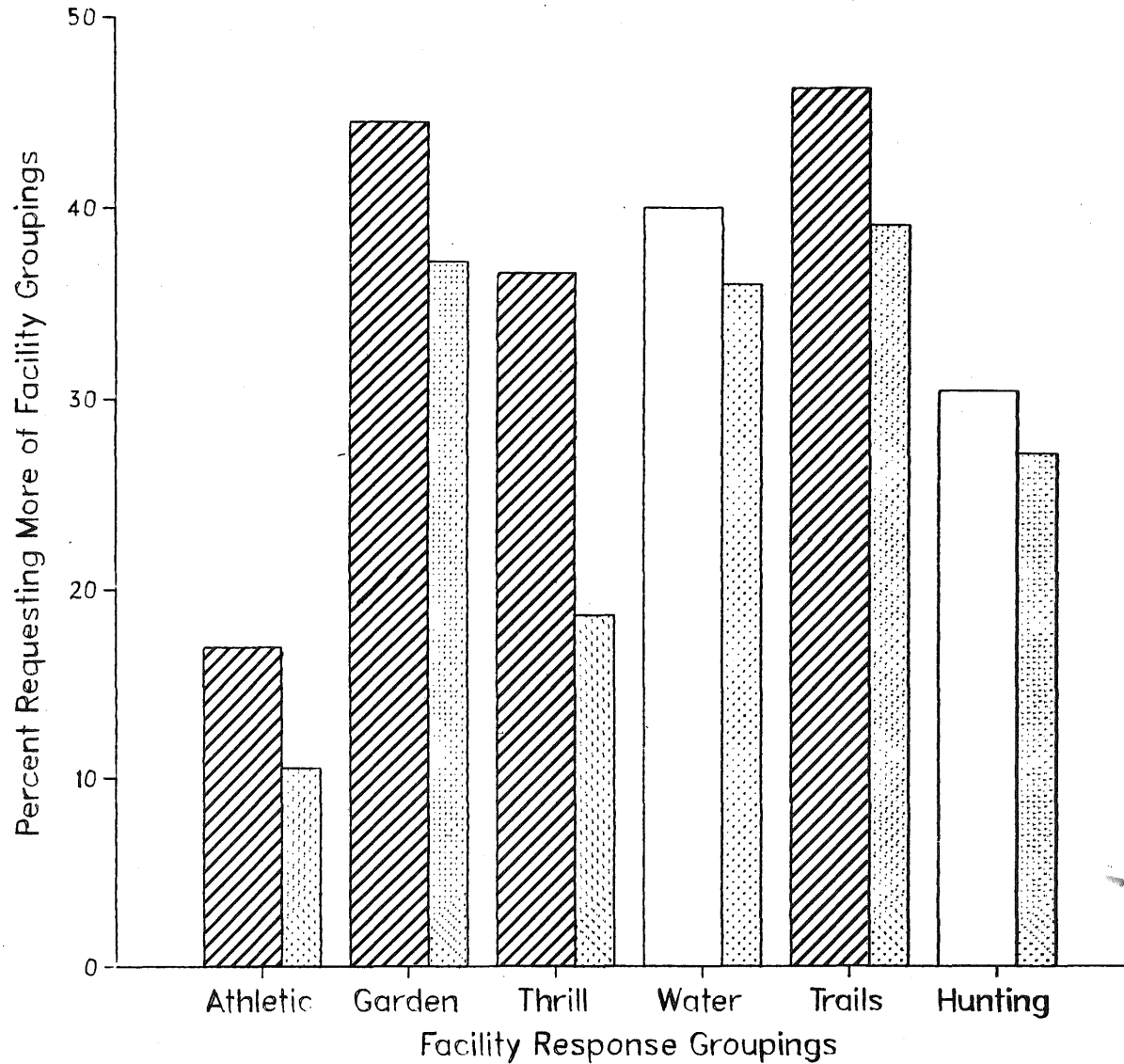
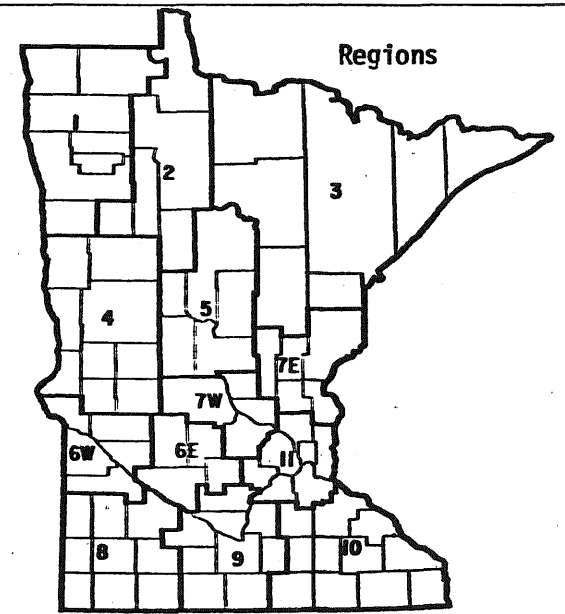
- Statewide Response
- Statistical Comparison
- Greater Than State
- No Different than State
- Less Than State

B.040

FIGURE B-S.34

Minnesota Outdoor Recreation Facilities Needs Assessment

Region 6E
Regional Population: 107415



Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

Legend

- Statewide Response
- Statistical Comparison
- Greater Than State
- No Different than State
- Less Than State

B.041

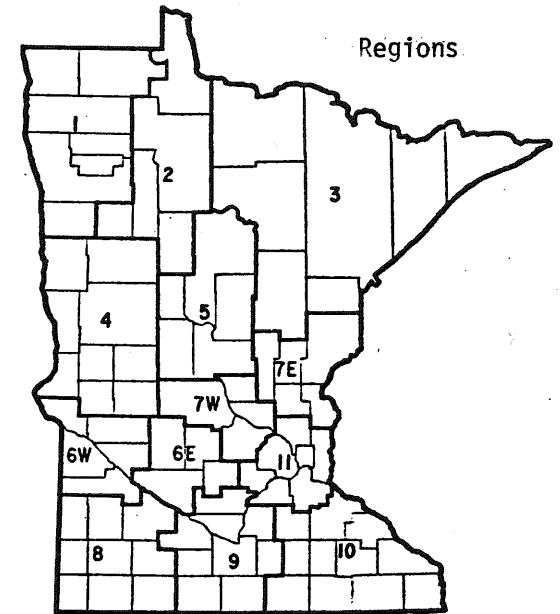
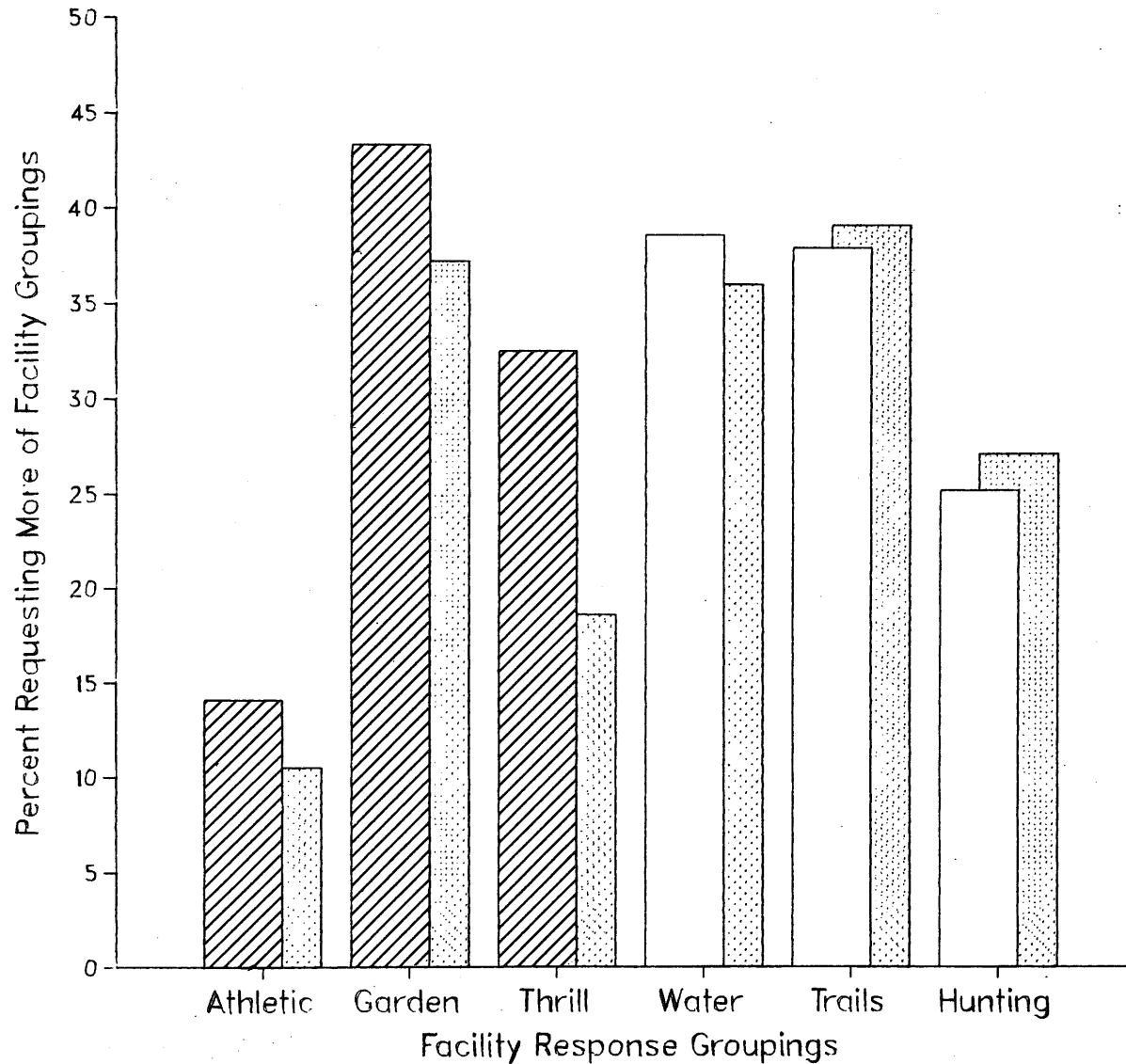
B.042

FIGURE B-S.35

Minnesota Outdoor Recreation Facilities Needs Assessment

Region 6W

Regional Population: 59822



Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

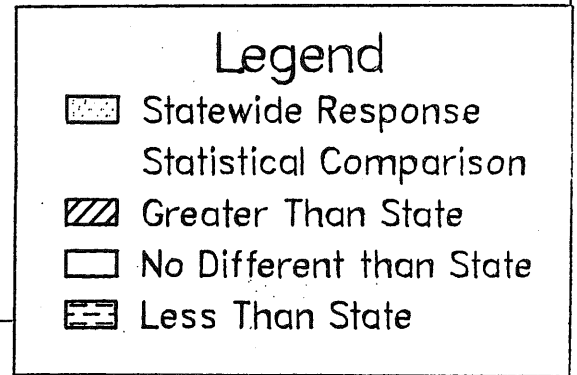
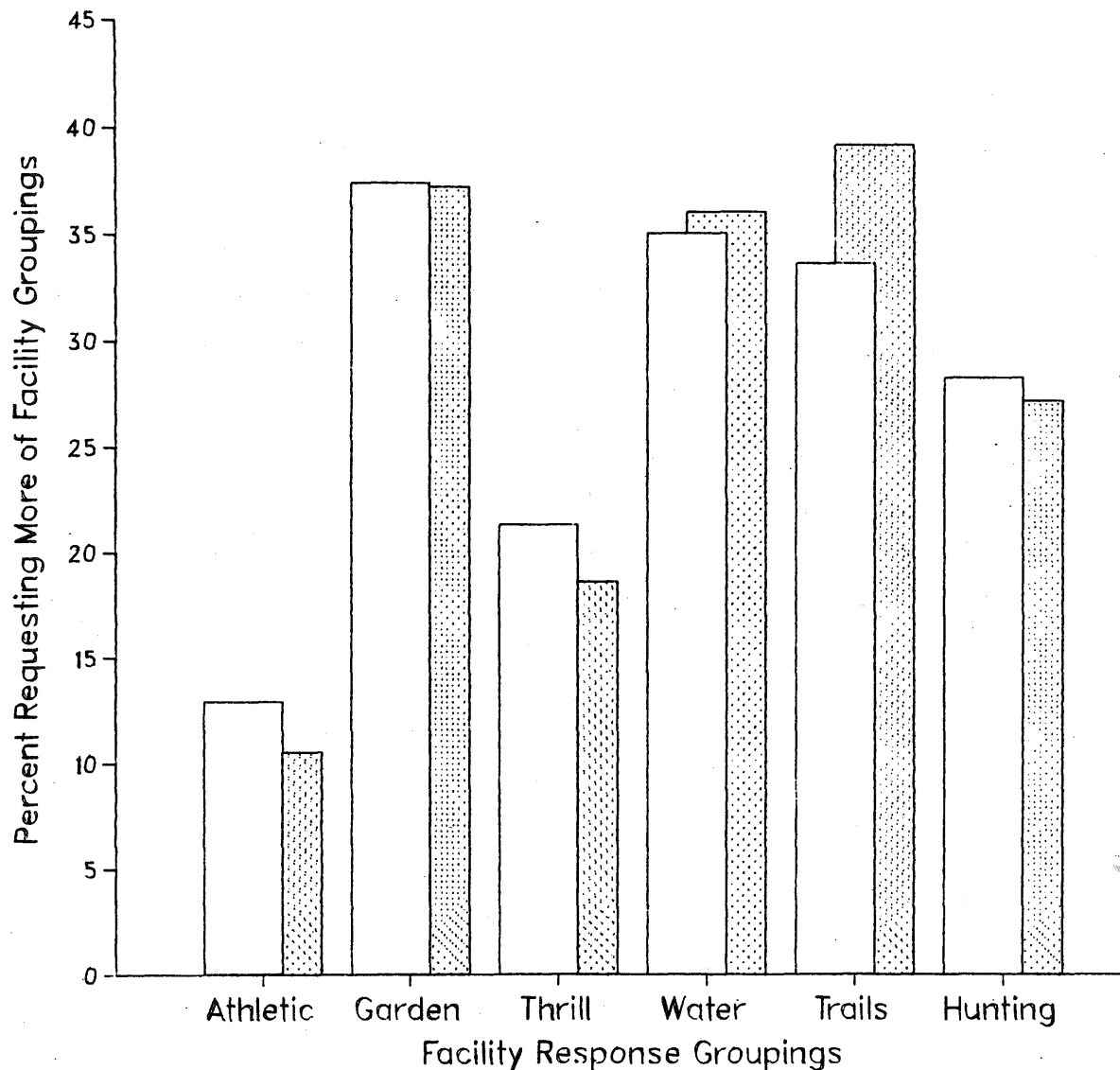
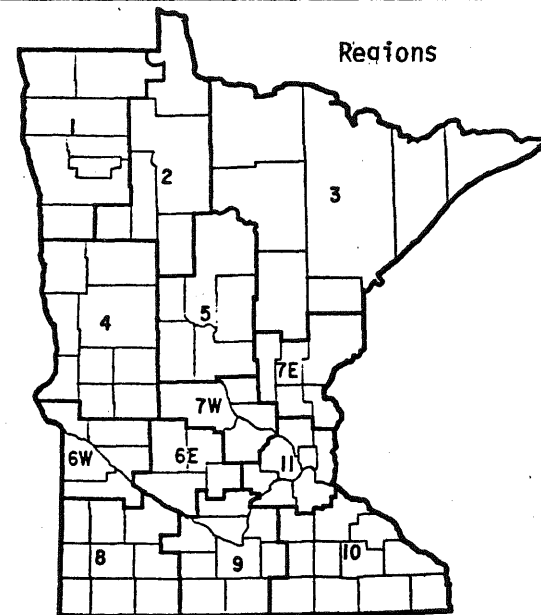


FIGURE B-S.36

Minnesota Outdoor Recreation Facilities
Needs Assessment
Region 7E

Regional Population: 99779



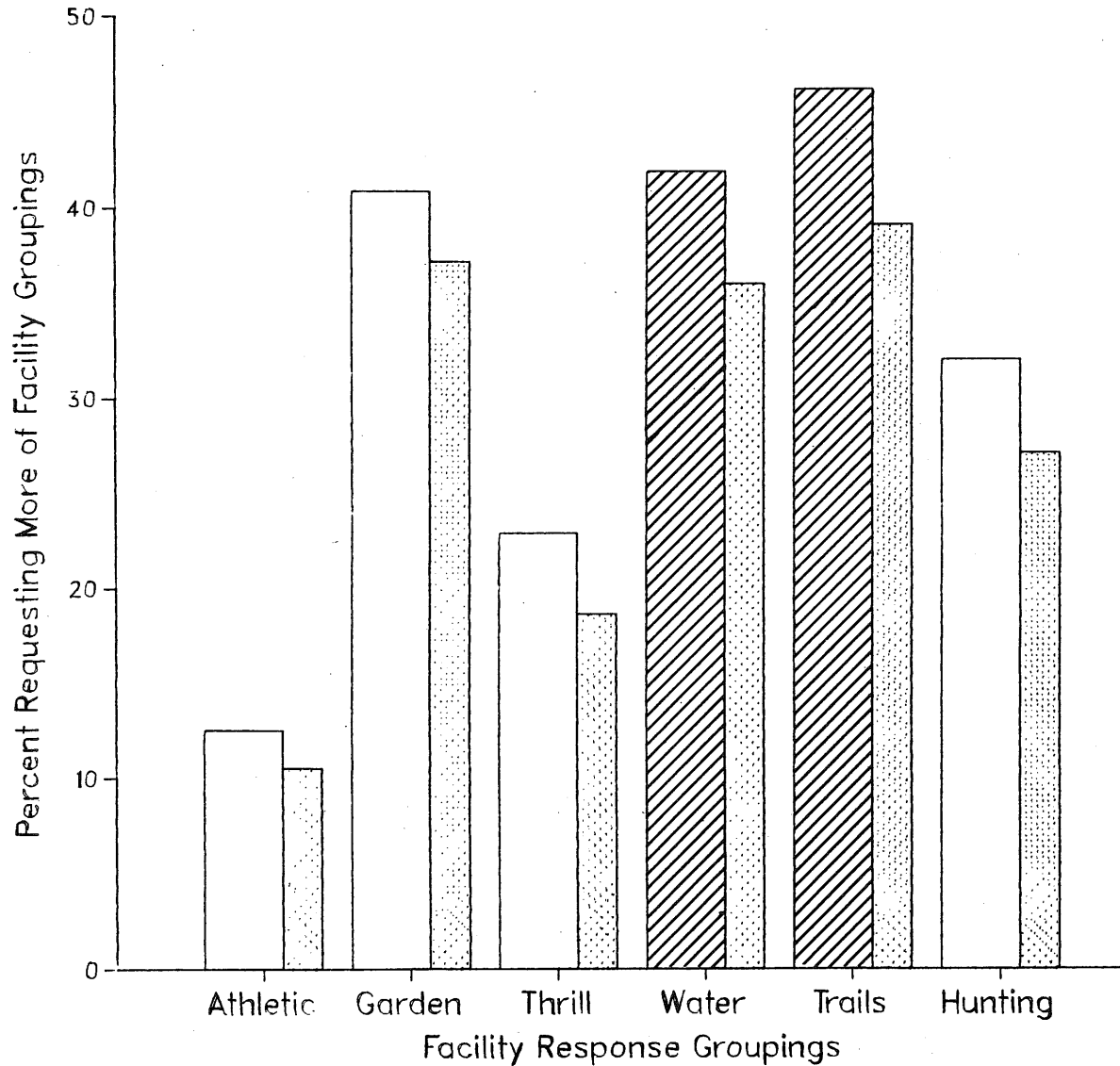
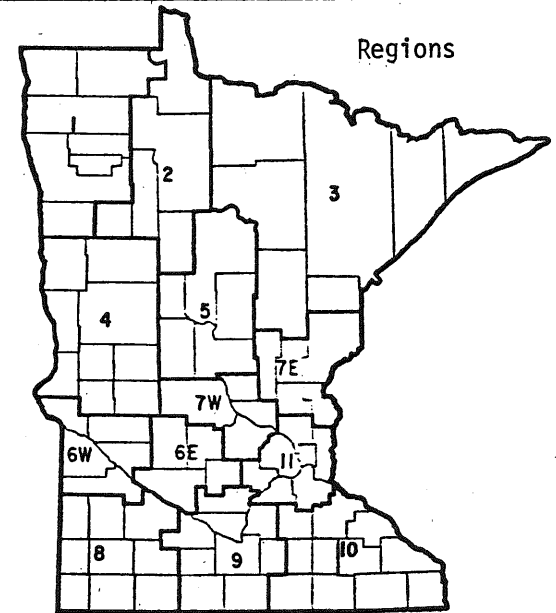
Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

Legend

- Statewide Response
- Statistical Comparison
- Greater Than State
- No Different than State
- Less Than State

B.043

FIGURE B-S.37
Minnesota Outdoor Recreation Facilities
Needs Assessment
Region 7W
Regional Population: 221937



Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

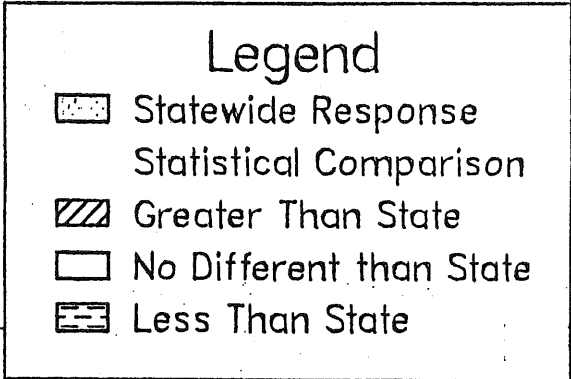
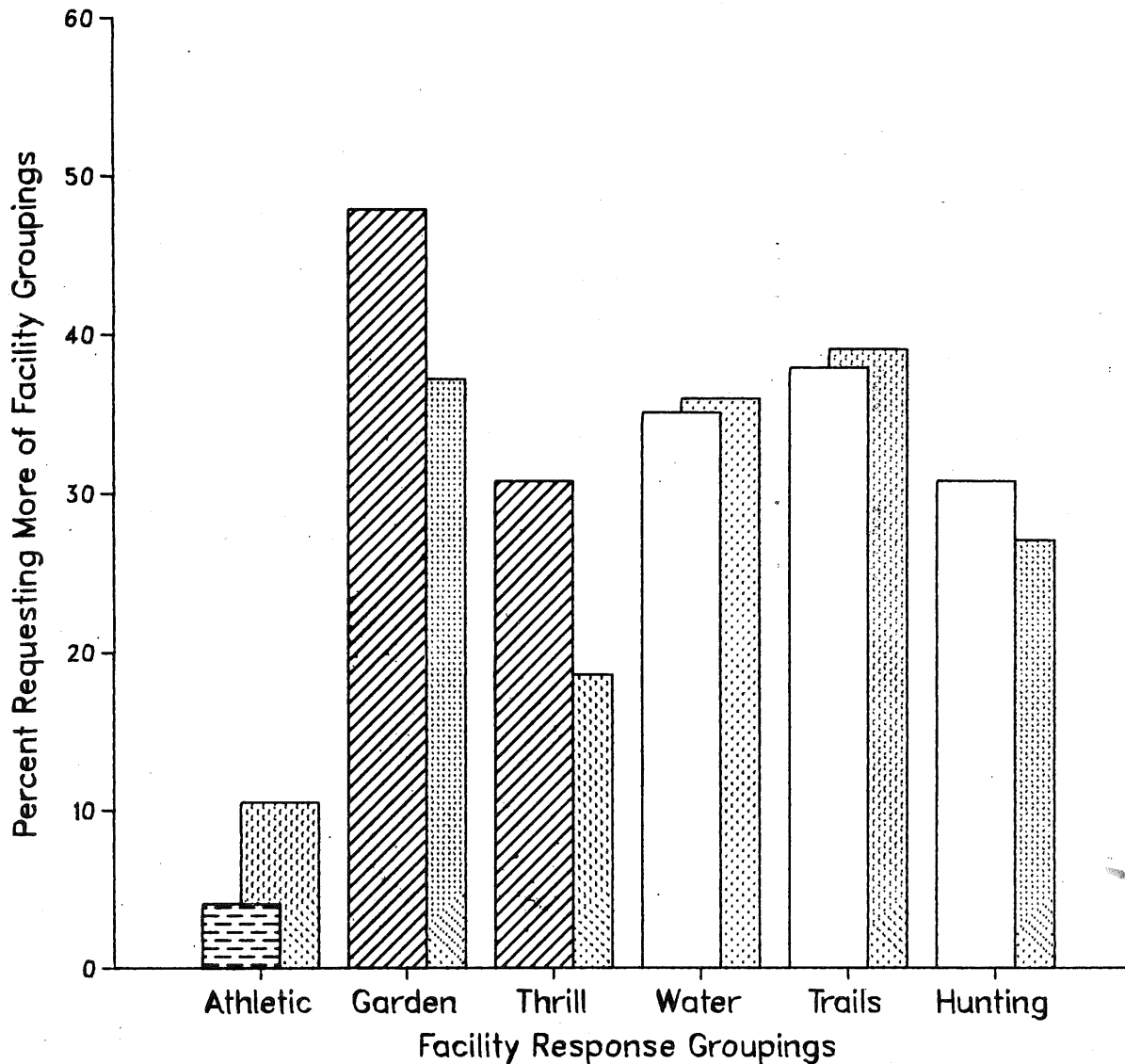
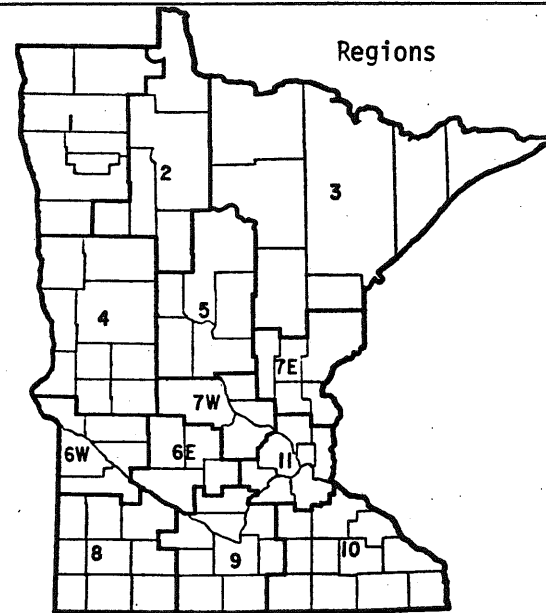


FIGURE B-S.38

Minnesota Outdoor Recreation Facilities Needs Assessment

Region 8

Regional Population: 137039



Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

Legend

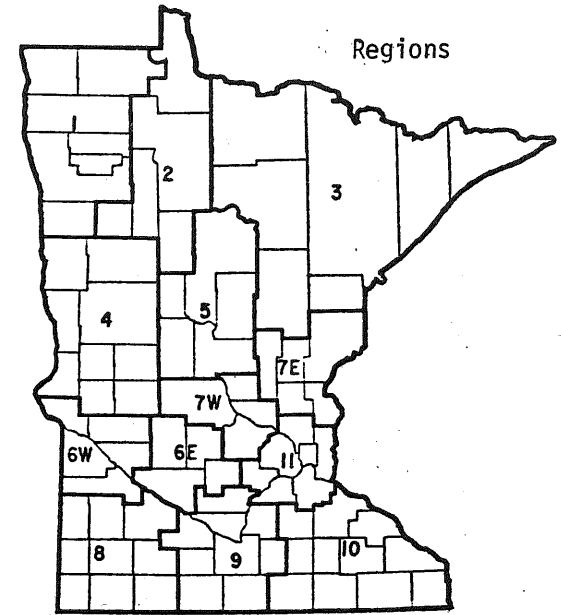
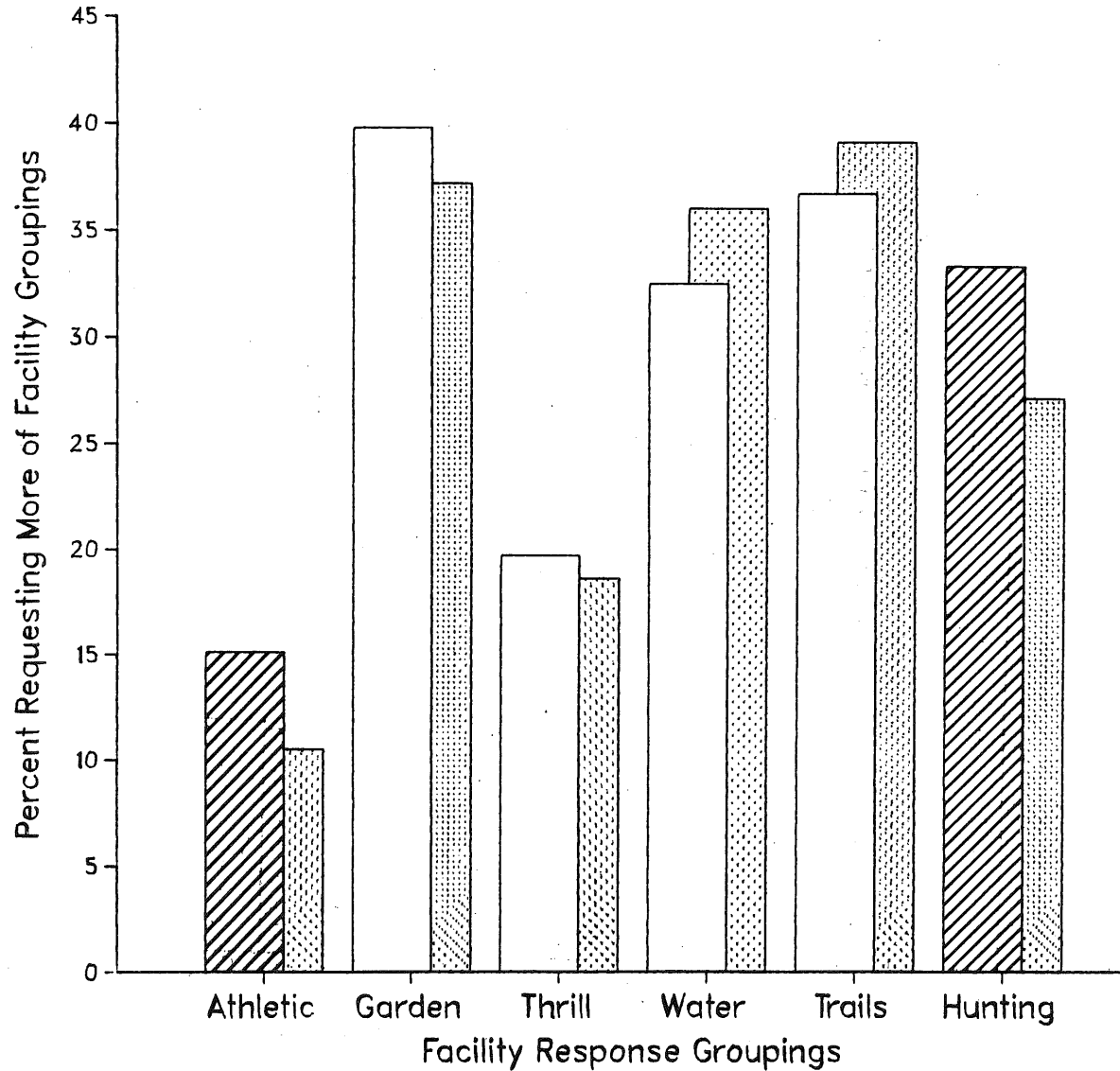
- Statewide Response
- Statistical Comparison
- Greater Than State
- No Different than State
- Less Than State

B.045

FIGURE B-S.39

Minnesota Outdoor Recreation Facilities Needs Assessment

Region 9
Regional Population: 221980



Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

Legend

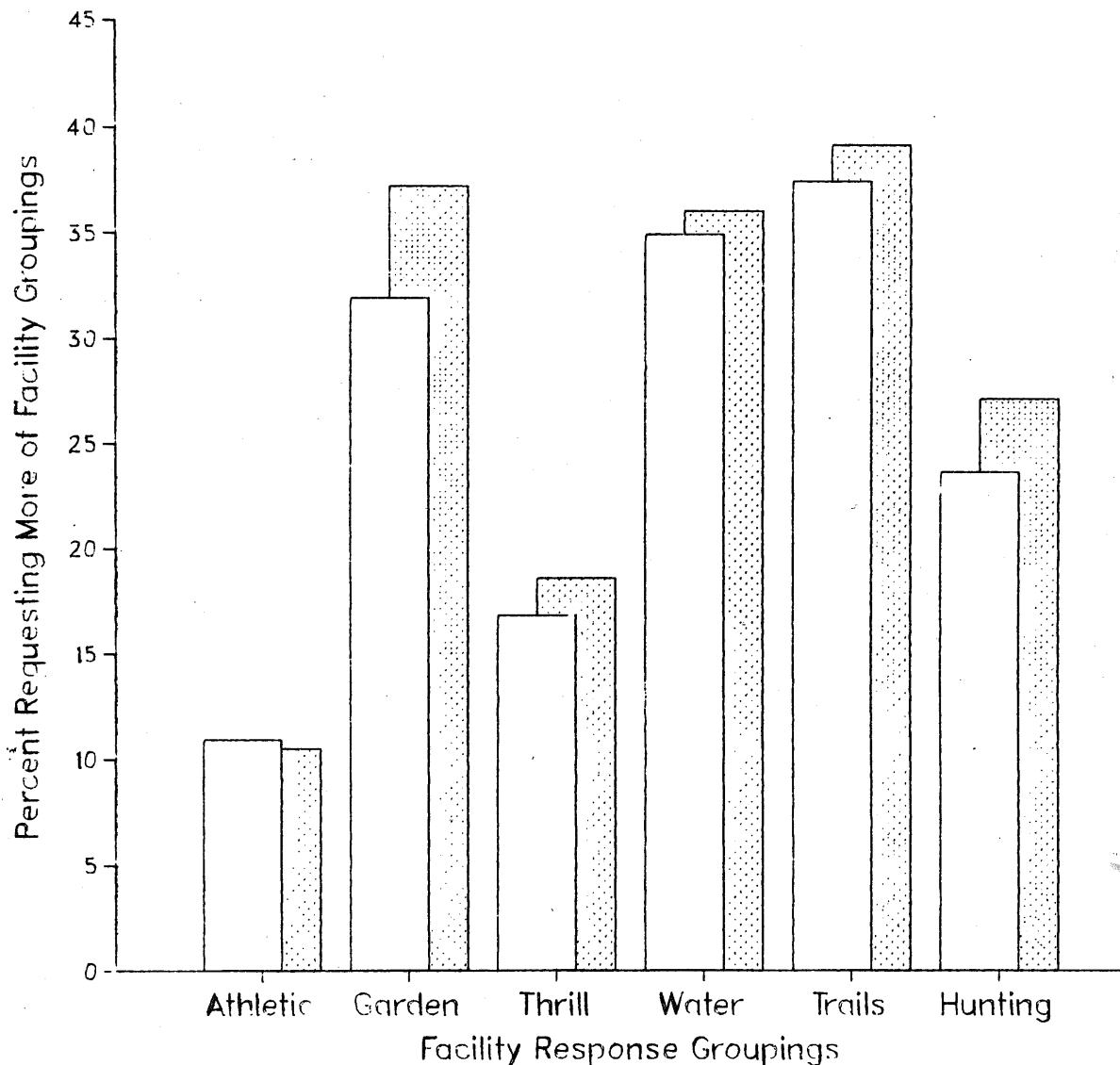
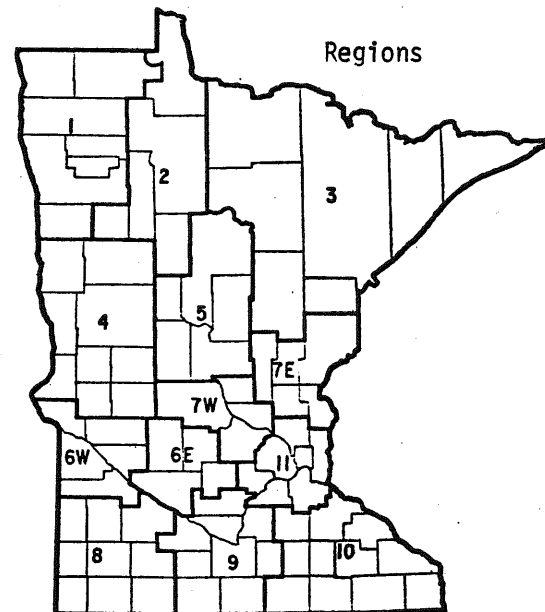
- Statewide Response
- Statistical Comparison
- Greater Than State
- No Different than State
- Less Than State

B.046

FIGURE B-S.40

Minnesota Outdoor Recreation Facilities Needs Assessment

Region 10
Regional Population: 404565



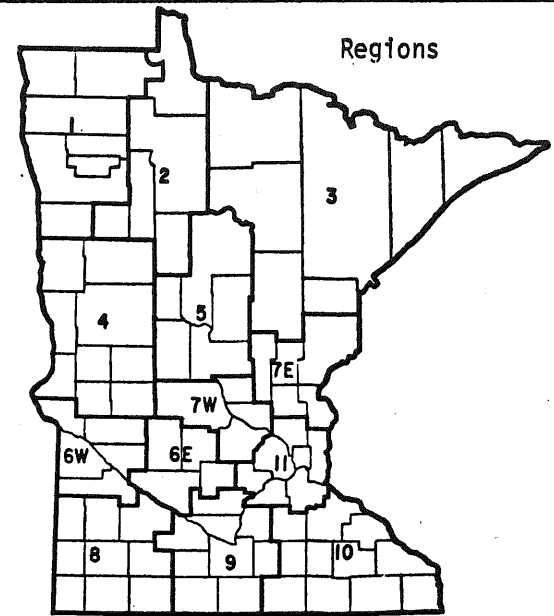
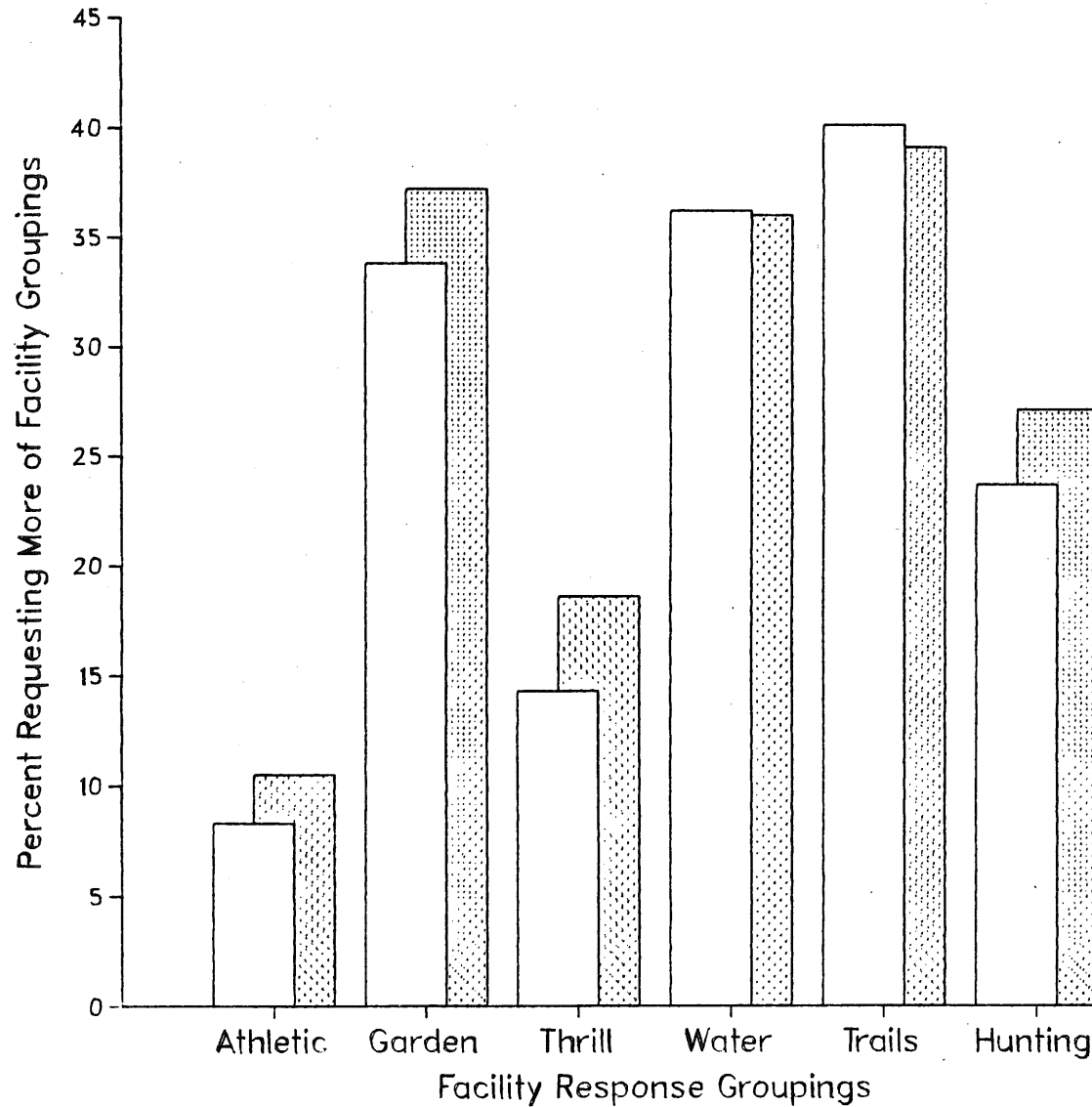
Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

Legend

- Statewide Response
- Statistical Comparison
- Greater Than State
- No Different than State
- Less Than State

B.047

FIGURE B-S.41
Minnesota Outdoor Recreation Facilities
Needs Assessment
Region 11
Regional Population: 1,985,873



Statistical difference from statewide response is based on a one tailed test using a binomial distribution and a 10% type I error rate.

Legend

- Stippled box: Statewide Response
- Solid box: Statistical Comparison
- Diagonal lines box: Greater Than State
- White box: No Different than State
- Horizontal lines box: Less Than State

Table B-S.01: Trail Group: Percent of HOUSEHOLDS and LOCAL GOVERNMENT LEADERS desiring more of each facility. ^a

	-----HOUSEHOLDS-----													LEADERS	
	Reg1	Reg2	Reg3	Reg4	Reg5	Reg6E	Reg6W	Reg7E	Reg7W	Reg8	Reg9	Reg10	Reg11	State	State
Bicycle Paths	59.8%	56.6%	73.3%	61.1%	53.0%	64.7%	59.1%	58.3%	70.5%	58.2%	59.4%	60.7%	55.9%	59.5%	77.3%
Walking Paths	49.6	50.7	59.1	53.6	50.8	60.2	42.8	50.0	62.3	49.4	54.9	58.5	55.9	55.7	66.1
Hiking Trails	51.5	46.4	54.1	48.2	47.7	57.1	48.1	50.4	62.3	47.4	56.0	60.4	55.2	54.6	71.2
Canoe Routes	51.1	53.0	31.7	45.1	31.8	50.4	48.5	37.0	52.7	52.6	54.1	47.4	50.4	47.3	60.4
Cross Country Ski Trails	54.3	32.3	49.0	40.0	36.1	54.8	40.6	35.7	48.5	45.2	42.0	46.3	41.3	43.0	70.1
*Natural Park-Like Areas	51.1	49.7	52.7	46.4	47.0	54.5	45.5	44.1	61.7	43.0	49.3	50.4	58.6	54.3	54.7
*Horseback Trails	47.7	46.4	52.4	38.5	39.7	51.9	39.4	45.3	50.4	48.1	50.0	43.8	47.5	47.0	65.6

^a Source:

Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan. Data are from a 1984 survey of resident households and local government leaders.

Table B-S.02: Garden Group: Percent of HOUSEHOLDS and LOCAL GOVERNMENT LEADERS desiring more of each facility. ^a

	-----HOUSEHOLDS-----														LEADERS
	Reg1	Reg2	Reg3	Reg4	Reg5	Reg6E	Reg6W	Reg7E	Reg7W	Reg8	Reg9	Reg10	Reg11	State	State
Fountains & Gardens	60.6%	57.3%	49.7%	56.5%	45.5%	57.7%	57.1%	51.6%	49.2%	53.3%	52.3%	48.9%	54.5%	53.1%	68.6%
Nature Study Centers	59.7	57.0	59.6	54.5	50.0	57.0	55.2	45.2	66.7	51.6	58.3	47.4	50.7	53.0	66.7
Botanical Gardens	62.8	60.8	63.7	51.4	37.8	63.6	53.1	47.5	56.5	60.5	53.5	52.6	43.4	49.6	69.0
Zoological Gardens	66.4	60.1	58.9	52.7	50.8	52.6	57.4	51.6	57.9	57.4	48.1	39.1	33.8	43.6	64.4
Historical Interpretive Facilities	53.0	45.0	38.5	32.8	37.6	39.7	39.1	44.9	43.1	34.2	47.0	45.3	39.4	40.4	63.4
*Natural Park-Like Areas	51.1	49.7	52.7	46.4	47.0	54.5	45.5	44.1	61.7	43.0	49.3	50.4	58.6	54.3	54.7
*Archery Ranges	42.9	45.0	52.1	43.6	39.8	45.9	42.7	44.9	44.4	40.6	47.3	41.4	38.1	41.7	65.2

^a Source:

Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan.
Data are from a 1984 survey of resident households and local government leaders.

Table B-S.03: Water Group: Percent of HOUSEHOLDS and LOCAL GOVERNMENT LEADERS desiring more of each facility. ^a

	-----HOUSEHOLDS-----														LEADERS
	Reg1	Reg2	Reg3	Reg4	Reg5	Reg6E	Reg6W	Reg7E	Reg7W	Reg8	Reg9	Reg10	Reg11	State	State
Fishing Piers	56.5%	56.6%	57.2%	46.8%	53.3%	58.8%	55.6%	55.1%	56.9%	53.8%	55.2%	57.4%	57.7%	56.5%	68.9%
Swimming Beaches	52.6	42.8	53.7	46.7	44.0	49.3	52.5	54.8	61.2	41.9	50.7	58.6	51.4	51.7	58.4
River Accesses	51.1	46.7	49.3	53.6	47.7	51.9	50.7	43.3	54.6	48.7	52.2	48.6	52.1	51.0	56.6
Campgrounds	45.9	42.2	47.6	37.8	41.4	48.2	43.5	42.1	59.4	38.4	48.1	41.7	54.9	49.6	54.4
Boatlaunches	50.0	48.0	50.3	45.0	51.5	49.3	51.9	45.8	53.7	46.5	45.9	51.8	49.3	49.4	56.1
Picnic Areas	37.1	48.7	49.7	35.8	45.6	37.7	40.3	41.9	53.0	34.0	41.9	42.3	44.1	43.7	39.0
*Natural Park-Like Areas	51.1	49.7	52.7	46.4	47.0	54.5	45.5	44.1	61.7	43.0	49.3	50.4	58.6	54.3	54.7

^a Source:

Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan.
Data are from a 1984 survey of resident households and local government leaders.

Table B-S.04: Hunting Group: Percent of HOUSEHOLDS and LOCAL GOVERNMENT LEADERS desiring more of each facility. ^a

	-----HOUSEHOLDS-----														LEADERS
	Reg1	Reg2	Reg3	Reg4	Reg5	Reg6E	Reg6W	Reg7E	Reg7W	Reg8	Reg9	Reg10	Reg11	State	State
Upland Game Hunting Areas	48.9%	36.4%	39.0%	48.7%	45.0%	45.1%	37.9%	40.9%	48.8%	40.8%	49.6%	46.4%	36.0%	40.6%	55.8%
Waterfowl Hunting Areas	42.0	35.9	41.8	37.6	40.9	35.8	34.6	34.6	48.5	35.1	43.4	44.0	36.9	39.0	47.2
Rifle Ranges	43.4	42.0	40.8	44.4	36.9	47.7	44.8	42.6	43.4	35.7	43.2	34.8	36.6	38.8	58.5
Skeet/Trap Ranges	37.1	32.9	42.2	30.4	35.9	36.8	30.3	38.9	32.8	34.4	28.8	32.1	26.6	31.0	55.7
*Archery Ranges	42.9	45.0	52.1	43.6	39.8	45.9	42.7	44.9	44.4	40.6	47.3	41.4	38.1	41.7	65.2

^a Source:
Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan.
Data are from a 1984 survey of resident households and local government leaders.

Table B-S.05: Thrill Group: Percent of HOUSEHOLDS and LOCAL GOVERNMENT LEADERS desiring more of each facility. ^a

	-----HOUSEHOLDS-----														LEADERS
	Reg1	Reg2	Reg3	Reg4	Reg5	Reg6E	Reg6W	Reg7E	Reg7W	Reg8	Reg9	Reg10	Reg11	State	State
Downhill Ski Areas	50.4%	23.8%	29.1%	40.2%	35.1%	50.0%	50.7%	38.1%	41.7%	47.3%	39.1%	29.9%	36.4%	36.7%	60.2%
3-Wheel Drive Areas	45.0	39.6	38.6	39.3	33.3	45.5	41.2	30.4	36.2	38.9	31.1	35.5	29.8	33.7	61.2
Dirt Bike Areas	42.1	28.9	39.7	31.0	31.5	40.5	38.6	27.0	30.8	43.1	30.3	32.1	29.1	31.9	59.6
4-Wheel Drive Areas	33.3	30.0	32.7	33.0	26.4	42.0	37.9	24.8	33.1	34.7	33.6	29.5	21.4	27.0	51.9
Snowmobile Trails	37.5	11.8	25.0	22.9	18.9	23.3	29.4	19.0	23.1	33.5	25.0	17.9	24.3	23.7	41.3
*Horseback Trails	47.7	46.4	52.4	38.5	39.7	51.9	39.4	45.3	50.4	48.1	50.0	43.8	47.5	47.0	65.6
*Archery Ranges	42.9	45.0	52.1	43.6	39.8	45.9	42.7	44.9	44.4	40.6	47.3	41.4	38.1	41.7	65.2

^a Source:

Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan.
Data are from a 1984 survey of resident households and local government leaders.

Table B-S.06: Athletic Group: Percent of HOUSEHOLDS and LOCAL GOVERNMENT LEADERS desiring more of each facility. ^a

	-----HOUSEHOLDS-----														LEADERS
	Reg1	Reg2	Reg3	Reg4	Reg5	Reg6E	Reg6W	Reg7E	Reg7W	Reg8	Reg9	Reg10	Reg11	State	State
Swimming Pools	46.7%	53.3%	59.5%	39.8%	49.2%	52.3%	28.1%	50.8%	52.7%	29.9%	45.1%	35.8%	46.1%	46.1%	55.3%
Skating Rinks	25.0	42.5	36.7	30.7	36.6	36.3	36.5	33.9	41.4	39.6	42.1	26.7	33.1	34.1	45.1
Tennis Courts	23.5	41.7	36.1	17.8	27.1	22.8	17.6	35.4	36.6	18.5	29.3	33.3	32.6	31.1	41.9
Basketball Courts	30.6	38.1	48.3	28.9	32.3	30.3	33.6	28.8	35.4	28.3	33.8	31.6	25.2	30.3	50.1
Playgrounds	31.2	39.6	38.8	27.4	25.9	33.3	32.8	38.1	40.3	31.2	26.5	23.2	19.6	25.9	39.2
Hockey Rinks	23.9	31.8	25.5	29.1	29.8	25.6	30.4	29.4	39.5	36.2	29.1	30.0	20.8	25.5	51.2
Golf Courses	11.9	11.0	19.7	12.4	16.5	20.5	15.1	11.8	14.2	12.7	23.1	23.5	28.7	22.8	34.3
Baseball/Softball Fields	19.6	25.3	27.0	14.4	22.1	18.5	25.4	29.1	22.0	13.8	17.9	23.2	19.6	20.7	38.8
Football/Soccer Fields	16.1	17.2	27.1	15.5	20.2	20.1	15.3	22.2	23.3	11.6	18.5	19.0	19.4	19.7	37.6

^a Source:

Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan.
Data are from a 1984 survey of resident households and local government leaders.

Table B-S.07

**Percentage of Households and Local Government Leaders
Desiring More of Each Facility^a**

Ordered by Percentage Difference

Facility	Households	Leaders	Difference	Percentage Difference
Hockey Rinks	25.5%	51.2%	25.7	101%
4-Wheel Drive Areas	27.0	51.9	24.9	92
Football/Soccer Fields	19.7	37.6	17.9	91
Baseball/Softball Fields	20.7	38.8	18.1	87
Dirt Bike Areas	31.9	59.6	27.7	87
3-Wheel Drive Areas	33.7	61.2	27.5	82
Skeet/Trap Ranges	31.0	55.7	24.7	80
Snowmobile Trails	23.7	41.3	17.6	74
Basketball Courts	30.3	50.1	19.8	65
Downhill Ski Areas	36.7	60.2	23.5	64
Cross-Country Ski Trails	43.0	70.1	27.1	63
Historical Interpretation	40.4	63.4	23.0	57
Archery Ranges	41.7	65.2	23.5	56
Playgrounds	25.9	39.2	13.3	51
Rifle Ranges	38.8	58.5	19.7	51
Golf Courses	22.8	34.3	11.5	50
Zoological Gardens	43.6	64.4	20.8	48
Horseback Trails	47.0	65.6	18.6	39
Botanical Gardens	49.6	69.0	19.4	39
Upland Game Hunting Areas	40.6	55.8	15.2	37
Tennis Courts	31.1	41.9	10.8	35
Skating Rinks	34.1	45.1	11.0	32
Hiking Trails	54.6	71.2	16.6	30
Bicycle Paths	59.5	77.3	17.8	30
Fountains and Gardens	53.1	68.6	15.5	29
Canoe Routes	47.3	60.4	13.1	28
Nature Study Centers	53.0	66.7	13.7	26
Fishing Piers	56.5	68.9	12.4	22
Waterfowl Hunting Areas	39.0	47.2	8.2	21
Swimming Pools	46.1	55.3	9.2	20
Walking paths	55.7	66.1	10.4	19
Boat launches	49.4	56.1	6.7	14
Swimming Beaches	51.7	58.4	6.7	13
River Accesses	51.0	56.6	5.6	11
Campgrounds	49.6	54.4	4.8	10
Natural Park-Like Areas	54.3	54.7	0.4	0
Picnic Areas	43.7	39.0	-4.7	-11

^aSource: Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan. Data are from a 1984 survey of resident households and local government leaders.

Table B-S.08

**Amount of Responsibility To Be Assumed by Different Suppliers.
(1 = Not Responsible, 5 = Very Responsible)**

Ordered by **FEDERAL** Responsibility

	FEDERAL	STATE	COUNTY/ REGION	CITY/ TOWN	PRIVATE SECTOR
Waterfowl Hunting Areas	4.1	4.4	3.1	1.6	2.4
Public River Accesses	3.9	4.4	3.8	2.8	2.4
Upland Game Hunting Areas	3.9	4.3	3.0	1.6	2.5
Historical Interpretation	3.8	4.2	3.8	3.2	2.5
Natural Park-Like Areas	3.6	4.1	3.9	3.4	2.1
Campgrounds	3.6	4.2	3.9	3.1	3.9
Designated Canoe Routes	3.6	4.3	3.5	2.1	1.9
Boat Launching Sites	3.3	4.2	4.0	3.1	3.2
Hiking Trails	3.1	4.0	4.0	3.3	1.9
Nature Study Centers	3.1	3.9	3.6	2.6	2.0
Picnic Grounds	2.8	3.8	4.1	4.4	2.1
Walking Paths	2.8	3.6	3.8	4.0	2.2
Fishing Piers	2.8	3.7	3.5	3.0	2.7
Zoological Gardens	2.8	3.9	2.7	2.1	2.0
Snowmobile Trails	2.7	4.1	3.8	2.3	2.5
Botanical Gardens	2.7	3.6	2.8	2.3	2.1
Bicycle Paths	2.6	3.8	3.9	3.7	1.9
Swimming Beaches	2.4	3.5	3.9	3.7	2.5
Cross-Country Ski Trails	2.4	3.8	3.6	2.4	2.3
Horseback Trails	2.3	3.1	3.3	2.1	3.7
Playgrounds	2.2	2.8	3.6	4.5	2.5
Fountains and Gardens	2.2	2.6	2.9	3.5	2.8
4-Wheel Drive Vehicle Areas	2.1	2.7	2.5	1.8	3.2
3-Wheel Drive Vehicle Areas	2.0	2.6	2.6	2.0	3.4
Rifle Ranges	1.9	2.3	2.7	2.5	3.9
Dirt Bikes Areas	1.9	2.4	2.8	2.4	3.5
Downhill Ski Areas	1.9	2.4	2.6	2.0	4.2
Baseball/Softball Fields	1.8	2.2	3.1	4.4	2.6
Tennis Courts	1.8	2.2	3.0	4.4	3.3
Archery Ranges	1.8	2.3	3.1	3.1	3.6
Skeet/Trap Ranges	1.7	2.0	2.4	2.3	4.1
Basketball Courts	1.6	2.0	2.5	4.3	2.5
Skating Rinks	1.6	1.9	2.7	4.3	3.1
Hockey Rinks	1.6	1.9	2.6	4.2	3.0
Swimming Pools	1.6	1.9	2.5	4.1	2.6
Football/Soccer Fields	1.6	1.9	2.5	4.1	2.2
Golf Courses	1.5	1.7	2.7	3.3	4.4

^aSource: Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan.
Data are from a 1984 survey of local government leaders.

Table B-S.09

**Amount of Responsibility To Be Assumed by Different Suppliers.
(1 = Not Responsible, 5 = Very Responsible)**

Ordered by STATE Responsibility

	STATE	FEDERAL	COUNTY/ REGION	CITY/ TOWN	PRIVATE SECTOR
Public River Accesses	4.4	3.9	3.8	2.8	2.4
Waterfowl Hunting Areas	4.4	4.1	3.1	1.6	2.4
Designated Canoe Routes	4.3	3.6	3.5	2.1	1.9
Upland Game Hunting Areas	4.3	3.9	3.0	1.6	2.5
Historical Interpretation	4.2	3.8	3.8	3.2	2.4
Campgrounds	4.2	3.6	3.9	3.1	3.9
Boat Launching Sites	4.2	3.3	4.0	3.1	3.2
Natural Park-Like Areas	4.1	3.6	3.9	3.4	2.1
Snowmobile Trails	4.1	2.7	3.8	2.3	2.5
Hiking Trails	4.0	3.1	4.0	3.3	1.9
Nature Study Centers	3.9	3.1	3.6	2.6	2.0
Zoological Gardens	3.9	2.8	2.7	2.1	2.0
Picnic Grounds	3.8	2.8	4.1	4.4	2.1
Bicycle Paths	3.8	2.6	3.9	3.7	1.9
Cross-Country Ski Trails	3.8	2.4	3.6	2.4	2.3
Fishing Piers	3.7	2.8	3.5	3.0	2.7
Walking Paths	3.6	2.8	3.8	4.0	2.2
Botanical Gardens	3.6	2.7	2.8	2.3	2.1
Swimming Beaches	3.5	2.4	3.9	3.7	2.5
Horseback Trails	3.1	2.3	3.3	2.1	3.7
Playgrounds	2.8	2.2	3.6	4.5	2.5
4-Wheel Drive Vehicle Areas	2.7	2.1	2.5	1.8	3.2
Fountains and Gardens	2.6	2.2	2.9	3.5	2.8
3-Wheel Drive Vehicle Areas	2.6	2.0	2.6	2.0	3.4
Dirt Bike Areas	2.4	1.9	2.8	2.4	3.5
Downhill Ski Areas	2.4	1.9	2.6	2.0	4.2
Archery Ranges	2.3	1.8	3.1	3.1	3.6
Rifle Ranges	2.3	1.9	2.7	2.5	3.9
Baseball/Softball Fields	2.2	1.8	3.1	4.4	2.6
Tennis Courts	2.2	1.8	3.0	4.4	3.3
Basketball Courts	2.0	1.6	2.5	4.3	2.5
Skeet/Trap Ranges	2.0	1.7	2.4	2.3	4.1
Skating Rinks	1.9	1.6	2.7	4.3	3.1
Hockey Rinks	1.9	1.6	2.6	4.2	3.0
Swimming Pools	1.9	1.6	2.5	4.1	2.6
Football/Soccer Fields	1.9	1.6	2.5	4.1	2.2
Golf Courses	1.7	1.5	2.7	3.3	4.4

*Source: Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan.
Data are from a 1984 survey of local government leaders.

Table B-S.10

**Amount of Responsibility To Be Assumed by Different Suppliers.
(1 = Not Responsible, 5 = Very Responsible)**

Ordered by COUNTY/REGION Responsibility

	COUNTY/ REGION	FEDERAL	STATE	CITY/ TOWN	PRIVATE SECTOR
Picnic Grounds	4.1	2.8	3.8	4.4	2.1
Hiking Trails	4.0	3.1	4.0	3.3	1.9
Boat Launching Sites	4.0	3.3	4.2	3.1	3.2
Bicycle Paths	3.9	2.6	3.8	3.7	1.9
Swimming Beaches	3.9	2.4	3.5	3.7	2.5
Natural Park-Like Areas	3.9	3.6	4.1	3.4	2.1
Campgrounds	3.9	3.6	4.2	3.1	3.9
Walking Paths	3.8	2.8	3.6	4.0	2.2
Historical Interpretation	3.8	3.8	4.2	3.2	2.4
Public River Accesses	3.8	3.9	4.4	2.8	2.4
Snowmobile Trails	3.8	2.7	4.1	2.3	2.5
Playgrounds	3.6	2.2	2.8	4.5	2.5
Nature Study Centers	3.6	3.1	3.9	2.6	2.0
Cross-Country Ski Trails	3.6	2.4	3.8	2.4	2.3
Fishing Piers	3.5	2.8	3.7	3.0	2.7
Designated Canoe Routes	3.5	3.6	4.3	2.1	1.9
Horseback Trails	3.3	2.3	3.1	2.1	3.7
Baseball/Softball Fields	3.1	1.8	2.2	4.4	2.6
Archery Ranges	3.1	1.8	2.3	3.1	3.6
Waterfowl Hunting Areas	3.1	4.1	4.4	1.6	2.4
Tennis Courts	3.0	1.8	2.2	4.4	3.3
Upland Game Hunting Areas	3.0	3.9	4.3	1.6	2.5
Fountains and Gardens	2.9	2.2	2.6	3.5	2.8
Dirt Bike Areas	2.8	1.9	2.4	2.4	3.5
Botanical Gardens	2.8	2.7	3.6	2.3	2.1
Skating Rinks	2.7	1.6	1.9	4.3	3.1
Golf Courses	2.7	1.5	1.7	3.3	4.4
Rifle Ranges	2.7	1.9	2.3	2.5	3.9
Zoological Gardens	2.7	2.8	3.9	2.1	2.0
Hockey Rinks	2.6	1.6	1.9	4.2	3.0
3-Wheel Drive Vehicle Areas	2.6	2.0	2.5	2.0	3.4
Downhill Ski Areas	2.6	1.9	2.4	2.0	4.2
Basketball Courts	2.5	1.6	2.0	4.3	2.5
Swimming Pools	2.5	1.6	1.9	4.1	2.6
Football/Soccer Fields	2.5	1.6	1.9	4.1	2.2
4-Wheel Drive Vehicle Areas	2.5	2.1	2.7	1.8	3.2
Skeet/Trap Ranges	2.4	1.7	2.0	2.3	4.1

^aSource: Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan.
Data are from a 1984 survey of local government leaders.

Table B-S.11

**Amount of Responsibility To Be Assumed by Different Suppliers.
(1 = Not Responsible, 5 = Very Responsible)**

Ordered by CITY/TOWN Responsibility

	CITY/ TOWN	FEDERAL	STATE	COUNTY/ REGION	PRIVATE SECTOR
Playgrounds	4.5	2.2	2.8	3.6	2.5
Picnic Grounds	4.4	2.8	3.8	4.1	2.1
Baseball/Softball Fields	4.4	1.8	2.2	3.1	2.6
Tennis Courts	4.4	1.8	2.2	3.0	3.3
Basketball Courts	4.3	1.6	2.0	2.5	2.5
Skating Rinks	4.3	1.6	1.9	2.7	3.1
Hockey Rinks	4.2	1.6	1.9	2.6	3.0
Swimming Pools	4.1	1.6	1.9	2.5	2.6
Football/Soccer Fields	4.1	1.6	1.9	2.5	2.2
Walking Paths	4.0	2.8	3.6	3.8	2.2
Bicycle Paths	3.7	2.6	3.8	3.9	1.9
Swimming Beaches	3.7	2.4	3.5	3.9	2.5
Fountains and Gardens	3.5	2.2	2.6	2.9	2.8
Natural Park-Like Areas	3.4	3.6	4.1	3.9	2.1
Hiking Trails	3.3	3.1	4.0	4.0	1.9
Golf Courses	3.3	1.5	1.7	2.7	4.4
Historical Interpretation	3.2	3.8	4.2	3.8	2.4
Campgrounds	3.1	3.6	4.2	3.9	3.9
Boat Launching Sites	3.1	3.3	4.2	4.0	3.2
Archery Ranges	3.1	1.8	2.3	3.1	3.6
Fishing Piers	3.0	2.8	3.7	3.5	2.7
Public River Accesses	2.8	3.9	4.4	3.8	2.4
Nature Study Centers	2.6	3.1	3.9	3.6	2.0
Rifle Ranges	2.5	1.9	2.3	2.7	3.9
Cross-Country Ski Trails	2.4	2.4	3.8	3.6	2.3
Dirt Bike Areas	2.4	1.9	2.4	2.8	3.5
Snowmobile Trails	2.3	2.7	4.1	3.8	2.5
Botanical Gardens	2.3	2.7	3.6	2.8	2.1
Skeet/Trap Ranges	2.3	1.7	2.0	2.4	4.1
Designated Canoe Routes	2.1	3.6	4.3	3.5	1.9
Zoological Gardens	2.1	2.8	3.9	2.7	2.0
Horseback Trails	2.1	2.3	3.1	3.3	3.7
3-Wheel Drive Vehicle Areas	2.0	2.0	2.6	2.6	3.4
Downhill Ski Areas	2.0	1.9	2.4	2.6	4.2
4-Wheel Drive Vehicle Areas	1.8	2.1	2.7	2.5	3.2
Waterfowl Hunting Areas	1.6	4.1	4.4	3.1	2.4
Upland Game Hunting Areas	1.6	3.9	4.3	3.0	2.5

^aSource: Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan.
Data are from a 1984 survey of local government leaders.

Table B-S.12

Amount of Responsibility To Be Assumed by Different Suppliers.
(1 = Not Responsible, 5 = Very Responsible)

Ordered by PRIVATE SECTOR Responsibility

	PRIVATE SECTOR	FEDERAL	STATE	COUNTY/ REGION	CITY/ TOWN
Golf Courses	4.4	1.5	1.7	2.7	3.3
Downhill Ski Areas	4.2	1.9	2.4	2.6	2.0
Skeet/Trap Ranges	4.1	1.7	2.0	2.4	2.3
Campgrounds	3.9	3.6	4.2	3.9	3.1
Rifle Ranges	3.9	1.9	2.3	2.7	2.5
Horseback Trails	3.7	2.3	3.1	3.3	2.1
Archery Ranges	3.6	1.8	2.3	3.1	3.1
Dirt Bike Areas	3.5	1.9	2.4	2.8	2.4
3-Wheel Drive Vehicle Areas	3.4	2.0	2.6	2.6	2.0
Tennis Courts	3.3	1.8	2.2	3.0	4.4
Boat Launching Sites	3.2	3.3	4.2	4.0	3.1
4-Wheel Drive Vehicle Areas	3.2	2.1	2.7	2.5	1.8
Skating Rinks	3.1	1.6	1.9	2.7	4.3
Hockey Rinks	3.0	1.6	1.9	2.6	4.2
Fountains and Gardens	2.8	2.2	2.6	2.9	3.5
Fishing Piers	2.7	2.8	3.7	3.5	3.0
Baseball/Softball Fields	2.6	1.8	2.2	3.1	4.4
Swimming Pools	2.6	1.6	1.9	2.5	4.1
Playgrounds	2.5	2.2	2.8	3.6	4.5
Basketball Courts	2.5	1.6	2.0	2.5	4.3
Swimming Beaches	2.5	2.4	3.5	3.9	3.7
Snowmobile Trails	2.5	2.7	4.1	3.8	2.3
Upland Game Hunting Areas	2.5	3.9	4.3	3.0	1.6
Historical Interpretation	2.4	3.8	4.2	3.8	3.2
Public River Accesses	2.4	3.9	4.4	3.8	2.8
Waterfowl Hunting Areas	2.4	4.1	4.4	3.1	1.6
Cross-Country Ski Trails	2.3	2.4	3.8	3.6	2.4
Football/Soccer Fields	2.2	1.6	1.9	2.5	4.1
Walking Paths	2.2	2.8	3.6	3.8	4.0
Picnic Grounds	2.1	2.8	3.8	4.1	4.4
Natural Park-Like Areas	2.1	3.6	4.1	3.9	3.4
Botanical Gardens	2.1	2.7	3.6	2.8	2.3
Nature Study Centers	2.0	3.1	3.9	3.6	2.6
Zoological Gardens	2.0	2.8	3.9	2.7	2.1
Bicycle Paths	1.9	2.6	3.8	3.9	3.7
Hiking Trails	1.9	3.1	4.0	4.0	3.3
Designated Canoe Routes	1.9	3.6	4.3	3.5	2.1

^aSource: Minnesota Department of Natural Resources, Office of Planning, Statewide Comprehensive Outdoor Recreation Plan.
Data are from a 1984 survey of local government leaders.

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07-28 '92	[REDACTED]
NOV 20	[REDACTED]
<u>12-23</u>	[REDACTED]
	[REDACTED]

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