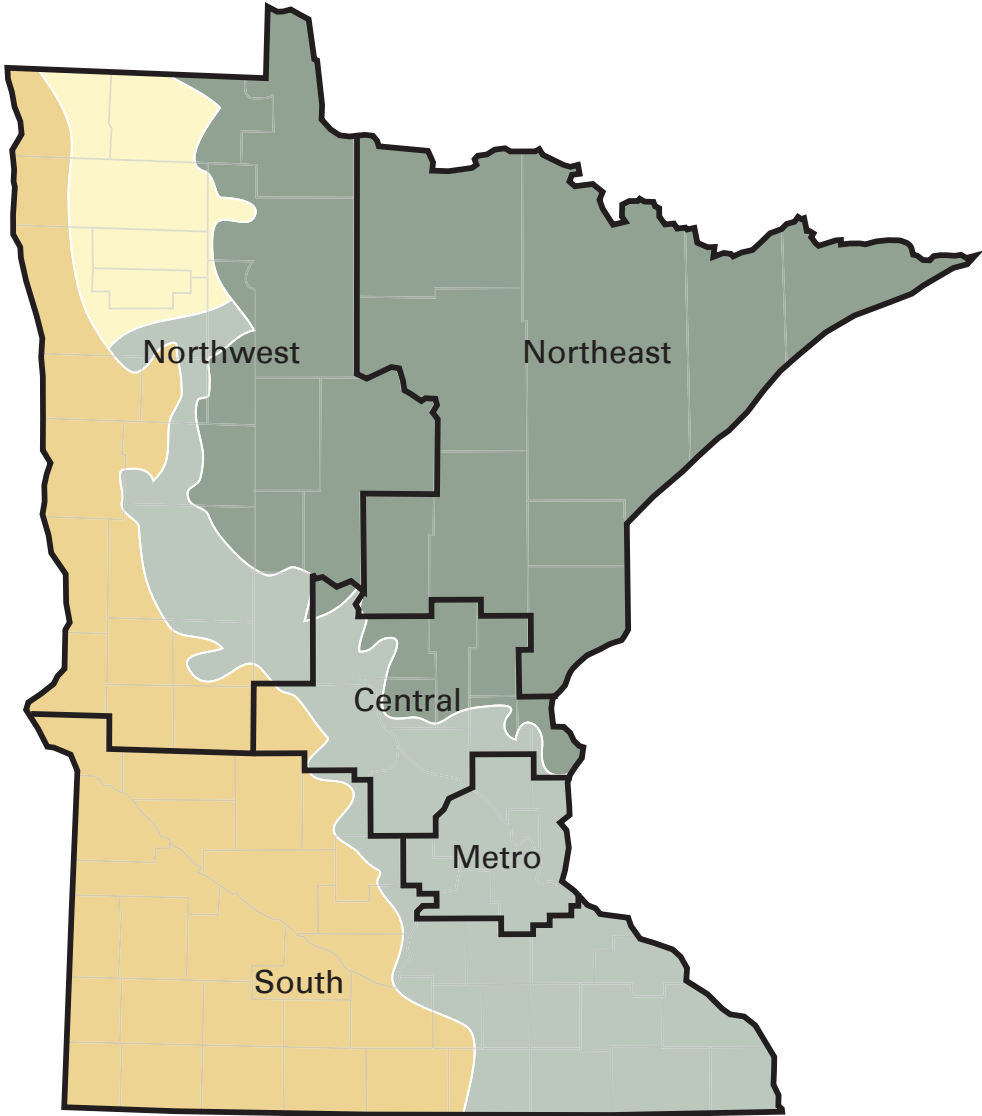


Minnesota's Network of Parks & Trails

An Inventory of Recreation Experience
Opportunities in Minnesota:

South Region Profile



Final Report
by
Mae Davenport, Ph.D.
Ingrid Schneider, Ph.D.
Andrea Date, M.S.
Lisa Filter

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Introduction

The University of Minnesota's Center for Changing Landscapes (CCL) was directed by the Minnesota Legislature to create a long-range framework for an integrated statewide parks and trails system. The framework considers existing science and information available on the natural resource-based recreation opportunities throughout the state and will guide statewide parks and trail planning into the future. Specifically, the framework will respond to recreation trends and demographic changes, examine underserved areas and overused facilities, and will identify gaps in the current parks and trails system. As such, the framework will establish opportunities to enhance existing assets, develop new assets, and link those assets together effectively. To inform the framework, an inventory of recreation experience opportunities was conducted in each of five regions across the state and is presented in a series of five regional profiles. The regional profiles offer a snapshot of existing recreation demand by examining county, regional and state population, sociodemographic characteristics, and recreation experience opportunity data available from past research and monitoring efforts. The profiles serve as the baseline for an in-depth analysis of current demand and existing recreation supply (e.g., parks and trail system) in light of (1) relative geographic distribution of resources and facilities, (2) future recreation demand projections (e.g., population, sociodemographics, and recreation participation), and (3) proposed or planned enhancements to the parks and trails system across the state. This report presents a profile of recreation experience opportunities in the South Region.

This inventory takes into account several key components of an outdoor recreation opportunity including recreation activities, experiences, and potential constraints. Minnesotans engage in a broad spectrum of activities (e.g., boating or picnicking) in Minnesota's parks and trails and these activities afford recreationists a wide range of individual and social experiences (e.g., solitude or being with family). Understanding and managing for the recreation experiences parks and trails visitors seek and attain is important because high quality experiences can bring about positive psychological outcomes both onsite (e.g., reducing tension) and off-site (e.g., higher productivity at work) for individuals (Driver, 2008). For instance, a 1993 study conducted in six Minnesota State Parks revealed that many recreationists visit parks to experience natural scenery, enjoy the smells and sounds of nature, be with members of their own group, and get away from the usual demands of life (Anderson, 2008). However, in some circumstances these experiences were not fully attained because of the constraints visitors encountered. Some State Park visitors reported problems related to noise, crowding, motorized use, litter, and full campsites. As was confirmed by the State Park study, certain setting attributes or conditions can constrain outdoor recreation opportunities and present problems to visitors. Thus, an integrated parks and trails system must consider both the quality of recreation settings and the quality of recreation experiences visitors have in those settings. More recent studies have shown that parks and trails can also benefit local communities and society (Anderson, Davenport, Leahy, & Stein, 2008). For example, communities can benefit from proximate parks and trails through economic revenue from increased tourism, an enhanced community identity, and higher quality of life for residents. Society benefits from the ecosystem services many recreation and conservation areas provide such as flood control, climate regulation, and air and water purification (Millennium Ecosystem Assessment, 2005).

To inventory recreation experience opportunities and recreation demand across the state, multiple attributes associated with the key components of an outdoor recreation opportunity described above, as well as important population sociodemographic characteristics were selected. These attributes were chosen to embody the range and diversity of recreation opportunities available in the state and Minnesota's diverse population (Appendix 1). To remain current, the recreation experience opportunity component was restricted to published data obtained through research and monitoring efforts conducted in nature-based outdoor recreation settings (i.e., forests, parks, and trails) since 2000.

Recreation Experience Opportunity Inventory Protocol

The recreation experience opportunity inventory was conducted systematically, following specific protocol to ensure consistency in data compilation, analysis and reporting. The inventory assesses previously conducted research and monitoring studies; thus no new data were collected for this inventory.

The recreation experience opportunity inventory tasks were to:

- Establish a recreation experience opportunity inventory protocol,
- Select recreation experience opportunity and sociodemographic attributes for analysis,
- Compile recreation, monitoring and sociodemographic reports conducted in the state since 2000,
- Organize data by county and regions, and
- Assess recreation research, monitoring studies, and sociodemographic data to identify county, regional, and state differences.

The recreation experience opportunity inventory protocol is based on a review of relevant recreation literature and planning documents and responds to the framework objectives outlined by the Minnesota Legislature. Multiple attributes were selected to embody Minnesota's population diversity and the range of recreation opportunities available (Appendix 1). U.S. Census, Minnesota Demographic Center, and recreation research and monitoring reports were obtained through an intensive literature review and in collaboration with state and local officials and stakeholders. Data associated with the selected attributes were analyzed to identify reported frequencies or population proportions at the county, regional and state level (where available) and the magnitude of differences (positive or negative) in frequencies or proportions where available (e.g., population densities, median household income, recreation activity participation). Of specific interest were differences between (1) the counties and the region overall, (2) the counties and the state overall, and (3) the region and the state overall. For site-specific recreation studies, data were analyzed to determine reported recreation activity participation, experiences sought and/or attained, and problems encountered by respondents.

South Region Profile

The South Region consists of 38 counties (see Appendix 2; Figure 2.1). In the South Region eight recreation experience opportunity studies conducted since 2000 were available for analysis: two region-wide studies and six site-specific studies (see Appendix 3 for list of studies and sites).

Sociodemographics

Population Size and Density

In 2005, the population of the South Region was approximately one million people and accounted for approximately one-fifth (19.3%) of Minnesota's population (Table 1). Population projections, using 2005 population statistics, predict that by 2035 the South Region will grow by 15 percent but will only account for about 18 percent of Minnesota's overall population. The counties with the highest projected growth are Dodge, Olmsted, and Rice. In contrast, Lac qui Parle, Swift and Watonwan are projected to experience the largest declines in population.

The population density in the South Region varies considerably. While overall, the population density of the South Region (41.4 persons per square mile) is less than that of the state (61.8 persons per square mile), some counties have considerably denser populations (Table 2). Olmsted, Rice and Winona Counties are the densest. Conversely, Big Stone, Lac qui Parle and Lincoln counties are considerably less dense than the state as a whole.

Table 1
Projected Minnesota South Region Population by County, 2005 to 2035

County	2005 Estimate	2035 Projection	% Change 2005-2035
Big Stone	5,531	5,060	-8.5
Blue Earth	58,613	69,210	18.1
Brown	26,794	27,340	2.0
Chippewa	12,932	13,130	1.5
Cottonwood	11,950	11,740	-1.8
Dodge	19,833	28,800	45.2
Faribault	15,650	14,960	-4.4
Fillmore	21,590	23,830	10.4
Freeborn	32,266	31,940	-1.0
Goodhue	46,080	56,240	22.0
Houston	20,154	22,350	10.9
Jackson	11,294	11,550	2.3
Kandiyohi	41,639	44,180	6.1
Lac qui Parle	7,673	6,520	-15.0
Le Sueur	27,796	38,130	37.2
Lincoln	6,107	5,930	-2.9
Lyon	24,731	24,220	-2.1
McLeod	37,058	45,610	23.1
Martin	21,206	19,420	-8.4
Meecker	23,621	27,510	16.5
Mower	39,210	41,210	5.1
Murray	8,935	8,250	-7.7
Nicollet	31,171	36,940	18.5
Nobles	20,730	20,510	-1.1
Olmsted	136,831	189,110	38.2
Pipestone	9,513	9,210	-3.2
Redwood	16,183	15,200	-6.1
Renville	16,937	17,660	4.3
Rice	61,600	84,620	37.4
Rock	9,616	10,020	4.2
Sibley	15,405	15,850	2.9
Steele	36,165	47,200	30.5
Swift	11,445	9,800	-14.4
Wabasha	22,438	25,330	12.9
Waseca	19,550	20,850	6.7
Watonwan	11,353	10,020	-11.7
Winona	49,742	51,160	2.9
Yellow Medicine	10,554	9,600	-9.0
South Region	999,896	1,150,210	15.0
Minnesota	5,192,122	6,446,270	24.2

Note: Cell shading indicates the 3 biggest positive (dark) and negative (light) differences.
 Minnesota State Demographic Center (2007)

Age and Gender

In general, the population of the South Region is older than that of Minnesota as a whole. Thirty-four of 38 counties in the region have a greater proportion of older residents (65 years of age or older) than the state. The counties with the greatest proportion of older residents are Big Stone, Lincoln and Lac qui Parle (Table 2). Similarly, the South Region has a smaller proportion of younger residents (residents under 18 years of age) than Minnesota overall. Thirty of 38 counties in the region have a smaller proportion of younger residents (less than 18 years of age). Winona, Wabasha and Big Stone Counties have the lowest percentage of younger residents. Dodge, Nobles and Olmsted Counties have the highest percentage—slightly higher than the South Region overall. Gender does not vary significantly between the counties and the South Region or the state. Minnesota’s proportion of female residents overall is 50.2 percent.

Median Household Income

The median household income in the South Region is about \$5,000 less per year than the median household income in Minnesota overall. However, Dodge, Olmsted and Nicollet Counties have higher median household incomes than Minnesota and also have the highest median incomes in the South Region. Pipestone, Lincoln and Big Stone Counties have the biggest gap in median incomes when compared to region and state incomes (Table 2).

Race and Ethnicity

Nine of ten (89%) Minnesotans are white. Similarly, the percentage of white residents in the South Region is equal to or exceeds Minnesota percentages in all 38 counties (Table 3). The largest minority group is Hispanic/Latinos where the proportion of Hispanic/Latinos exceeds that of the state in 16 of 38 counties. Watonwan, Nobles and Kandiyohi Counties have the highest percentage of Hispanic/Latinos. The South Region overall has a smaller proportion of black, Asian, and American Indian residents than the state.

Table 2
Differences between South Counties and the South Region/State Overall in Density, Age, and Household Income

Attribute	Difference in Persons / sq mile*		Difference in Persons < 18 (%)**		Difference in Persons ≥ 65 (%)**		Difference in Median household income (\$)***	
	S	MN	S	MN	S	MN	S	MN
County	S	MN	S	MN	S	MN	S	MN
Big Stone	-29.7	-50.1	-3.5	-4.5	10.6	13.6	-10,702	-15,916
Blue Earth	33.0	12.6	-3.1	-4.1	-4.0	-1.0	-667	-5,881
Brown	2.6	-17.8	-2.0	-3.0	3.1	6.1	-3,953	-9,167
Chippewa	-19.0	-39.4	-0.5	-1.5	3.8	6.8	-7,699	-12,913
Cottonwood	-22.4	-42.8	0.4	-0.6	4.7	7.7	-9,974	-15,188
Dodge	-1.1	-21.5	3.6	2.6	-3.4	-0.4	10,780	5,566
Faribault	-18.7	-39.1	-1.8	-2.8	5.9	8.9	-9,059	-14,273
Fillmore	-16.9	-37.3	0.1	-0.9	2.9	5.9	-6,674	-11,888
Freeborn	4.6	-15.8	-1.7	-2.7	3.9	6.9	-8,506	-13,720
Goodhue	16.8	-3.6	-0.3	-1.3	0.1	3.1	5,312	98
Houston	-6.1	-26.5	-1.0	-2.0	1.3	4.3	-2,490	-7,704
Jackson	-25.3	-45.7	-3.0	-4.0	5.1	8.1	-7,233	-12,447
Kandiyohi	10.4	-10.0	0.9	-0.1	0.1	3.1	-4,314	-9,528
Lac qui Parle	-30.9	-51.3	-3.3	-4.3	7.1	10.1	-10,157	-15,371
Le Sueur	15.2	-5.2	0.6	-0.4	-1.3	1.7	5,534	320
Lincoln	-29.4	-49.8	-2.1	-3.1	9.7	12.7	-12,338	-17,552
Lyon	-5.8	-26.2	0.3	-0.7	-0.6	2.4	-3,206	-8,420
Martin	-10.6	-31.0	-2.0	-3.0	6.0	9.0	-7,453	-12,667
McLeod	29.5	9.1	2.2	1.2	-1.2	1.8	6,905	1,691
Meeker	-4.2	-24.6	0.8	-0.2	0.5	3.5	-1,141	-6,355
Mower	12.8	-7.6	1.3	0.3	3.0	6.0	-5,729	-10,943
Murray	-28.4	-48.8	-2.2	-3.2	6.3	9.3	-6,091	-11,305
Nicollet	24.5	4.1	-1.4	-2.4	-2.8	0.2	8,509	3,295
Nobles	-12.3	-32.7	3.4	2.4	1.3	4.3	-8,378	-13,592
Olmsted	148.9	128.5	2.4	1.4	-3.4	-0.4	10,233	5,019
Pipestone	-20.2	-40.6	0.1	-0.9	5.9	8.9	-14,039	-19,253
Redwood	-22.3	-42.7	0.2	-0.8	3.9	6.9	-4,273	-9,487
Renville	-23.9	-44.3	0.2	-0.8	3.0	6.0	-5,335	-10,549
Rice	72.4	52.0	-0.6	-1.6	-3.6	-0.6	4,981	-233
Rock	-21.3	-41.7	0.7	-0.3	3.8	6.8	-5,068	-10,282
Sibley	-15.3	-35.7	1.8	0.8	0.0	3.0	-532	-5,746
Steele	36.9	16.5	2.3	1.3	-1.8	1.2	2,883	-2,331
Swift	-25.3	-45.7	-3.7	-4.7	3.0	6.0	-9,951	-15,165
Wabasha	-0.2	-20.6	-0.6	-1.6	0.9	3.9	-564	-5,778
Waseca	4.8	-15.6	0.5	-0.5	-1.6	1.4	-1,342	-6,556
Watonwan	-14.1	-34.5	2.1	1.1	4.4	7.4	-6,948	-12,162
Winona	38.4	18.0	-3.8	-4.8	-1.4	1.6	-5,965	-11,179
Yellow Medicine	-26.8	-47.2	-1.3	-2.3	5.8	8.8	-5,848	-11,062
	S	MN	S	MN	S	MN	S	MN
Region and State Values:	41.4	61.8	23.0	24.0	15.5	12.5	50,450	55,664

Note: Cell shading indicates the 3 biggest positive (dark) and negative (light) differences for each attribute

*U.S. Census Data (2000). **U.S. Census Data (2008). ***U.S. Census Data (2007)

Table 3
Differences between South Counties and South Region/State Overall in Race and Ethnicity

Attribute	Differences in White (%)		Differences in Black (%)		Differences in American Indian / Alaska Native (%)		Differences in Asian (%)		Differences in Hispanic / Latino (%)	
	S	MN	S	MN	S	MN	S	MN	S	MN
Big Stone	2.8	9.2	-1.1	-4.2	0.1	-0.6	-1.3	-3.1	-4.0	-3.6
Blue Earth	-1.2	5.2	0.7	-2.4	-0.2	-0.9	0.6	-1.2	-2.4	-2.0
Brown	3.1	9.5	-1.3	-4.4	-0.3	-1.0	-1.2	-3.0	-1.3	-0.9
Chippewa	1.6	8.0	-1.2	-4.3	0.9	0.2	-1.3	-3.1	-0.2	0.2
Cottonwood	-0.5	5.9	-0.1	-3.2	-0.2	-0.9	0.9	-0.9	0.1	0.5
Dodge	2.7	9.1	-1.2	-4.3	-0.3	-1.0	-1.1	-2.9	-0.2	0.2
Faribault	2.7	9.1	-1.2	-4.3	-0.1	-0.8	-1.3	-3.1	0.1	0.5
Fillmore	3.3	9.7	-1.2	-4.3	-0.4	-1.1	-1.5	-3.3	-3.8	-3.4
Freeborn	2.4	8.8	-0.9	-4.0	-0.3	-1.0	-1.1	-2.9	2.9	3.3
Goodhue	0.9	7.3	-0.5	-3.6	0.6	-0.1	-1.0	-2.8	-2.6	-2.2
Houston	2.6	9.0	-0.9	-4.0	-0.3	-1.0	-1.2	-3.0	-3.7	-3.3
Jackson	2.2	8.6	-1.4	-4.5	-0.4	-1.1	0.0	-1.8	-1.9	-1.5
Kandiyohi	2.0	8.4	-0.5	-3.6	0.0	-0.7	-1.3	-3.1	5.2	5.6
Lac qui Parle	3.3	9.7	-1.3	-4.4	-0.2	-0.9	-1.3	-3.1	-3.2	-2.8
Le Sueur	2.7	9.1	-1.1	-4.2	-0.1	-0.8	-1.3	-3.1	0.2	0.6
Lincoln	3.8	10.2	-1.4	-4.5	-0.2	-0.9	-1.5	-3.3	-3.4	-3.0
Lyon	0.1	6.5	0.0	-3.1	-0.1	-0.8	0.1	-1.7	0.9	1.3
Martin	2.9	9.3	-1.1	-4.2	-0.3	-1.0	-1.2	-3.0	-1.3	-0.9
McLeod	2.3	8.7	-0.9	-4.0	-0.3	-1.0	-0.9	-2.7	0.3	0.7
Meeker	3.0	9.4	-1.2	-4.3	-0.2	-0.9	-1.2	-3.0	-1.3	-0.9
Mower	0.3	6.7	0.0	-3.1	-0.2	-0.9	0.0	-1.8	3.9	4.3
Murray	2.9	9.3	-1.3	-4.4	-0.2	-0.9	-1.4	-3.2	-2.3	-1.9
Nicollet	0.7	7.1	0.0	-3.1	-0.2	-0.9	-0.4	-2.2	-1.8	-1.4
Nobles	-4.3	2.1	1.0	-2.1	0.3	-0.4	2.7	0.9	13.7	14.1
Olmsted	-6.0	0.4	2.4	-0.7	-0.2	-0.9	3.5	1.7	-1.5	-1.1
Pipestone	0.8	7.2	-1.3	-4.4	1.4	0.7	-1.2	-3.0	-2.5	-2.1
Redwood	-3.3	3.1	-1.2	-4.3	3.8	3.1	0.3	-1.5	-2.7	-2.3
Renville	2.3	8.7	-1.4	-4.5	0.6	-0.1	-1.4	-3.2	1.9	2.3
Rice	-0.3	6.1	0.2	-2.9	0.0	-0.7	0.0	-1.8	2.9	3.3
Rock	2.0	8.4	-0.8	-3.9	0.1	-0.6	-0.9	-2.7	-2.4	-2.0
Sibley	2.8	9.2	-1.2	-4.3	-0.1	-0.8	-1.3	-3.1	3.2	3.6
Steele	-0.2	6.2	1.4	-1.7	-0.3	-1.0	-0.8	-2.6	0.6	1.0
Swift	-6.0	0.4	2.2	-0.9	0.2	-0.5	0.1	-1.7	-0.6	-0.2
Wabasha	2.7	9.1	-0.9	-4.0	-0.2	-0.9	-1.1	-2.9	-2.0	-1.6
Waseca	-0.4	6.0	1.3	-1.8	0.2	-0.5	-1.0	-2.8	-0.7	-0.3
Watonwan	1.7	8.1	-0.9	-4.0	0.0	-0.7	-0.7	-2.5	14.1	14.5
Winona	0.3	6.7	-0.4	-3.5	-0.3	-1.0	0.5	-1.3	-3.0	-2.6
Yellow Medicine	0.7	7.1	-1.3	-4.4	2.2	1.5	-1.5	-3.3	-1.7	-1.3
	S	MN	S	MN	S	MN	S	MN	S	MN
Region and State Values:	95.4	89.0	1.5	4.6	0.5	1.2	0.5	3.5	1.7	4.1

Note: Cell shading indicates the 3 biggest positive (dark) and negative (light) differences in each attribute. U.S. Census Data (2008)

Participation in Recreation Activities

According to a recent statewide recreation participation study (Kelly, 2005), the recreation activities South Region residents most frequently participate in are walking or hiking, boating, and swimming, which parallel statewide participation figures (Table 4). South Region residents are less likely to participate than state residents as a whole in ice skating/hockey outdoors, inline skating/rollerblading and camping.

Table 4
Recreation Activity Participation by South Region and State

Activity	South (%)	Statewide (%)	Difference (%)
Walking/hiking	51	54	-3
Boating of all types, including fishing from a boat	40	43	-3
Swimming or wading (all places)	38	41	-3
Driving for pleasure on scenic roads or in a park	35	37	-2
Picnicking	35	36	-1
Fishing of all types	30	30	0
Biking (bicycling of all types, including mountain biking)	26	29	-3
Camping of all types	22	26	-4
Visiting nature centers	25	25	0
Nature observation of all types (e.g., viewing, identifying)	23	24	-1
Golfing	21	24	-3
Outdoor field sports (e.g., soccer, softball/baseball, football)	19	21	-2
Visiting historic or archaeological sites	18	21	-3
Sledding and snow tubing	16	18	-2
Outdoor court sports (e.g., volleyball, basketball, tennis)	16	18	-2
Hunting of all types	14	16	-2
Running or jogging	13	14	-1
Ice skating/hockey outdoors	4	12	-8
Inline skating, rollerblading, roller skating, roller skiing	6	11	-5
Off-road ATV driving	9	10	-1
Snowmobiling	10	10	0
Downhill skiing/snowboarding	9	9	0
Gather mushrooms, berries, or other wild foods	7	9	-2
Cross country skiing	4	7	-3
Horseback riding	5	5	0
Snowshoeing	3	4	-1

Note: Cell shading indicates the 3 biggest negative differences.

Kelly, T. (2005). Data based on population 20 years of age and older

Recreation activities such as biking, walking/hiking and jogging/running were reported at all six sites where recreation experience opportunity studies were conducted and data were available (Table 5). Cross-country skiing and horseback riding were available at five of the six sites. Skating and snowmobiling were reported at four and three, respectively, of the state trail sites. A variety of additional recreation activities were reported at the Minnesota River Valley Area.

Table 5
Recreation Activity Participation Documented at Recreation Sites in the South Region

Activity	Recreation Area	State Trail				
	MN River Valley Area	Douglas	Glacial Lakes	Luce Line	Root River	Sakatah Singing Hills
Biking	x	x	x	x	x	x
Hiking/walking	x	x	x	x	x	x
Jogging/running	x	x	x	x	x	x
Cross-country skiing	x	x	x		x	x
Horseback riding	x	x	x	x		x
Skating		x	x		x	x
Snowmobiling		x	x			x
Swimming	x					x
ATV riding	x					
Boating/canoeing	x					
Camping	x					
Dog sledding	x					
Fishing	x					
Hunting	x					
Looking at kiosks/visitor center exhibits	x					
Naturalist-led program	x					
Nature/wildlife observation and/or photography	x					
Picnicking	x					
Sightseeing	x					
Snowshoeing	x					
Visiting historic/cultural sites	x					

Note: Five most frequently reported recreation activities respondents participated in at each site (more than five activities represents ties among activities). MN DNR (2002, 2000)

Nature-Based Tourism in the South Region

A 2008 nature-based tourism study indicates 7.6 million person-visits to the South Region¹ from June 2007-May 2008 (Davidson-Peterson, 2008). Two in five (42%) of these visitors are Minnesota residents. The most common out-of-state visitors were from Iowa (12%) and Wisconsin (9%). One of ten (10%) travelers visited a state or national park and one of ten (11%) overnight visitors stayed at campgrounds. Nearly half (45%) of travelers indicated participating in one or more recreation activity. The most common activities were pool swimming (14%), hiking (8%), and fishing (7%; Table 7).

Table 6
Recreation Participation amongst travelers to the South Region of Minnesota, 2005-2008

Activity	% Recreation Participation
Pool swimming	14
Hiking	8
Fishing	7
Biking	5
Wildlife viewing or bird watching	5
Golfing	4
Lake/river swimming	4
Canoeing	2
Hunting	2
Off-road ATV driving	2
Downhill skiing or snowboarding	1
Ice fishing	1
Motor boating/water skiing	1

Note: Davidson-Peterson (2008)

¹ The designated South Region comprises all of the counties in the DNR South Region in Traverse County.

Recreation Experiences

Recreation Experience Motivations

A 2008 trail study revealed that statewide, Minnesota’s recreation trail users are primarily motivated by aesthetics, physical exercise and escape (Schneider, Schuweiler, & Bipes, 2009). While motivations across the state were similar, some regional differences were noted. The largest regional differences are that South trail users identified the attributes, “to be on my own” as more important and “to get/keep physically fit” as less important than statewide trail users (Table 7).

Table 7
Differences between South Region and Statewide Trail Users in Experiences Sought

Reasons for participating	Average Importance ^a among Trail Users ^b		
	South (n ≥ 488)	State (n ≥ 3023)	Difference
To view the scenery	4.26	4.27	-0.01
To get away from the usual demands of life	4.24	4.19	0.05
To be close to nature	4.17	4.19	-0.02
To experience nature	4.14	4.16	-0.02
To be physically active	4.10	4.15	-0.05
To explore and discover new things	4.04	4.05	-0.01
To do something with my family	3.95	3.90	0.06
To relax physically	3.95	3.92	0.03
To get/keep physically fit	3.83	3.91	-0.07
To enjoy different experiences from home	3.82	3.81	0.01
To be w/people who enjoy the same things I do	3.75	3.70	0.05
To rest mentally	3.71	3.72	-0.01
To experience solitude	3.64	3.65	-0.01
To experience silence & quiet	3.51	3.51	0.00
To challenge myself	3.43	3.43	0.00
To be with members of my own group	3.36	3.33	0.03
To be on my own	3.35	3.26	0.09
To have thrills & excitement	3.29	3.26	0.03
To test my skills & abilities	3.18	3.19	-0.01
To be away from other people	3.10	3.07	0.03

^aBased on respondents rating experiences on a scale of 0-5 with 1=very unimportant, 2=unimportant, 3=neither, 4=important, 5=very important.

^bNine types of trail users surveyed include: All-terrain vehicle riders, bikers, cross-country skiers, horseback riders, off-highway vehicle riders, off-road vehicle riders, snowmobilers, runners, and walkers/hikers.

Note: Cell shading indicates the 3 biggest positive (dark) and negative (light) differences in each column (more than 3 indicate a tie). Schneider et al. (2009)

Site-specific recreation experience is not available for the South Region; however, qualities liked by state trail users are available (Table 8). While not exactly the same as experiences sought, this information provides an idea of the types of experiences recreation users may be seeking. No cars or motorized vehicles, peace and quiet, and scenery and wildlife were qualities that recreation trail users at all five surveyed state trails liked (DNR, 2000). A good place for exercise was a quality liked by recreationists at three sites and the site is fun and well maintained/clean were qualities liked by recreationists at two sites. Finally, trail qualities such as easy/flat terrain, trail surface, and little development were qualities liked by recreationists at individual sites.

Table 8
Qualities Liked Most at State Trails in the South Region

Qualities Liked	State Trail				
	Douglas	Glacial Lakes	Luce Line	Root River	Sakatah Singing Hills
No cars/motorized vehicles	x	x	x	x	x
Quiet/peaceful	x	x	x	x	x
Scenery/wildlife	x	x	x	x	x
Good place for exercise	x		x		x
It's fun	x	x			
Well-maintained/clean		x		x	
Easy/flat terrain					x
Trail surface				x	
Little development			x		

Note: Five most frequently reported qualities liked by respondents at each site.
MN DNR (2000)

Problems or Constraints Encountered

Among Minnesota recreation trail users, conflicts happen infrequently, but when they do occur they most often originate with signs or sounds of other visitors (Schneider et al., 2009). Trail users in the South Region reported encountering conflicts less frequently than statewide trail users. The greatest regional differences are that South Region trail users less frequently reported “litter on or near the trail” than statewide trail users (Table 9).

The majority (79% or more) of trail users at state trails in the South Region reported no problems or constraints (Table 10). Amongst trail users who did experience a problem, “other trail users blocking traffic,” “other trail users passing without warning,” and “problems with other people’s pets” were reported at all five state trails in the South Region.

Problems experienced in the Minnesota River Valley Area are not available. However, Minnesota River Valley Area recreation users do experience a variety of constraints that limit their recreation participation. Constraints to the area revolved around lack of time, lack of knowledge, and preferences for other locations (Table 11).

Table 9
Differences between South Region and Statewide Trail Users in Sources of Recreation Conflict

Source of Conflict	Average Frequency of Conflict ^a among Trail Users ^b		
	South (n ≥ 427)	State (n ≥ 2697)	Difference
Hearing other users on the trail	0.94	1.01	-0.07
Seeing evidence of off trail/road use	0.80	0.87	-0.07
Litter on or near the trail	0.77	0.85	-0.08
Seeing off trail/road use	0.67	0.74	-0.07
Others going too fast	0.48	0.56	-0.07
Rude or discourteous users	0.43	0.49	-0.07
Too many other users on the trail	0.42	0.46	-0.05
Others not yielding	0.40	0.46	-0.06
Others passing too closely	0.39	0.46	-0.07
Accessibility issue	0.37	0.43	-0.05
Others out of control	0.31	0.37	-0.06

^aBased on respondents rating sources on a scale of 0-3 with 0=Never, 1=Sometimes, 2=Many Times, 3=Almost Always. ^bNine types of trail users: All-terrain vehicle riders, bikers, cross-country skiers, horseback riders, off-highway vehicle riders, off-road vehicle riders, snowmobilers, and walkers/hikers.

Note: Cell shading indicates the 2 biggest negative (light) differences (more than 2 indicate a tie).
 Schneider et al. (2009)

Table 10
Problems Encountered at Recreation Sites in the South Region

Problems Encountered	State Trail				
	Douglas	Glacial Lakes	Luce Line	Root River	Sakatah Singing Hills
Other trail users blocking traffic	x	x	x	x	x
Other trail users passing without warning	x	x	x	x	x
Problems with other people's pets	x	x	x	x	x
No Problem	79%	83%	82%	82%	86%

Five most frequently reported problems respondents encountered at each site.
 MN DNR (2000)

Table 11
Constraints to the Use of the Minnesota River Valley Area

Constraints	Respondents (%)
I don't have enough time to use the area as much as I would like	57
I don't know enough about the area	55
There are other good places to do things closer to home	33
I don't know how to get into the area	25
The area is too developed	17
Signs that tell me about history/culture are lacking	16
I'm not interested in doing the activities that are available in the area	14
Signs that tell about nature/wildlife are lacking	13
The area is too noisy	12
The fishing is poor	10

MN DNR (2002)

In response to problems or conflicts, statewide trail users utilize a variety of responses, but most frequently “follow rules for trail etiquette” (Schneider et al., 2009). Similarly, in the South Region, trail participants use a variety of responses when they encounter recreation conflict (Table 12). The largest regional differences in responses to conflict are that South trail users are more likely to “make light of the situation” and “leave and go to a different part of the area” than statewide trail users. Meanwhile they were less likely to “follow established rules for trail etiquette” and “try to get the person responsible to change their mind” than statewide trail users.

Table 12
Differences between South Region and Statewide Participants in Response to Recreation Conflict on Trails

Response	Response to Conflict ^a among Trail Users ^b		
	South (n ≥ 225)	State (n ≥ 1491)	Difference
Follow established rules for trail etiquette	2.37	2.45	-0.08
Talk to other members of my group about the incident	1.81	1.87	-0.06
Don't let it get to me; refuse to think about it too much	1.74	1.72	0.02
Refuse to get too serious about it	1.72	1.71	0.01
Wish the situation would go away or be over with	1.54	1.50	0.05
Try not to burn bridges	1.51	1.49	0.02
Go on as if nothing had happened	1.50	1.48	0.02
Think about why the incident occurred	1.46	1.49	-0.02
Try to forget the whole thing	1.44	1.42	0.02
I try to keep my feelings to myself	1.41	1.35	0.06
Make light of the situation	1.35	1.25	0.10
I know what has to be done so double my efforts to make it work	1.24	1.22	0.02
I make a plan of action and follow it	1.13	1.09	0.04
Talk to area personnel about the incident	1.06	1.00	0.06
Come up with a couple of different solutions	1.05	1.02	0.02
Alter my pace to avoid others	1.02	0.98	0.03
Leave and go to a different part of the area	0.95	0.98	-0.03
Keep others from knowing how bad things were	0.92	0.82	0.10
Plan to avoid the area on my next visit	0.86	0.89	-0.02
Change the time I will use the trail next time	0.85	0.85	0.00
Stand my ground and fight for what I wanted	0.80	0.79	0.01
Leave the area altogether	0.64	0.68	-0.04
Try to get the person responsible to change their mind	0.63	0.71	-0.08
Express anger to the person who caused the incident	0.58	0.61	-0.03

^aBased on respondents rating responses on a scale of 0-3 with 0=Do not use, 1=Use infrequently, 2=Use occasionally, 3=Use frequently

^bEight types of trail users: All-terrain vehicle riders, bikers, cross-country skiers, horseback riders, off-highway vehicle riders, snowmobilers, and walkers/hikers.

Note: Cell shading indicates the 3 biggest positive (dark) and negative (light) differences (more than 3 indicates a tie). Schneider et al. (2009)

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Appendices

Appendix 1

**Table 1.1
Recreation Experience Opportunity Inventory Attributes**

Recreation activity participation	
Recreation activity participation	Region or state-wide: <ul style="list-style-type: none"> • Percent participation Site-specific: <ul style="list-style-type: none"> • Five most frequently reported activities
Recreation experiences	
Experiences (sought or attained)	Region or state-wide: <ul style="list-style-type: none"> • Percent respondents rating experiences as important or very important Site specific: <ul style="list-style-type: none"> • Five most frequently reported important experiences
Problems encountered or sources of conflict	Region or state-wide: <ul style="list-style-type: none"> • Percent respondents reporting conflict source Site-specific: <ul style="list-style-type: none"> • Five most frequently reported problems or sources of conflict
Responses to conflict	Region or state-wide: <ul style="list-style-type: none"> • Percent respondents reporting response Site-specific: <ul style="list-style-type: none"> • Five most frequently reported responses to conflict
Sociodemographics	
Population size	County, Region, and State
Population density	County, Region, and State: <ul style="list-style-type: none"> • Persons per square mile
Age	County, Region, and State: <ul style="list-style-type: none"> • Persons < 18 years of age • Persons ≥ 65 years of age
Gender	County, Region, and State: <ul style="list-style-type: none"> • Percent female
Race and ethnicity	County, Region, and State (percent): <ul style="list-style-type: none"> • White • Black • American Indian/Alaska Native • Asian • Hispanic/Latino

Appendix 2

Counties in the South Region

Big Stone	Lac qui Parle	Redwood
Blue Earth	Le Sueur	Renville
Brown	Lincoln	Rice
Chippewa	Lyon	Rock
Cottonwood	McLeod	Sibley
Dodge	Martin	Steele
Faribault	Meeker	Swift
Fillmore	Mower	Wabasha
Freeborn	Murray	Waseca
Goodhue	Nicollet	Watonwan
Houston	Nobles	Winona
Jackson	Olmsted	Yellow Medicine
Kandiyohi	Pipestone	

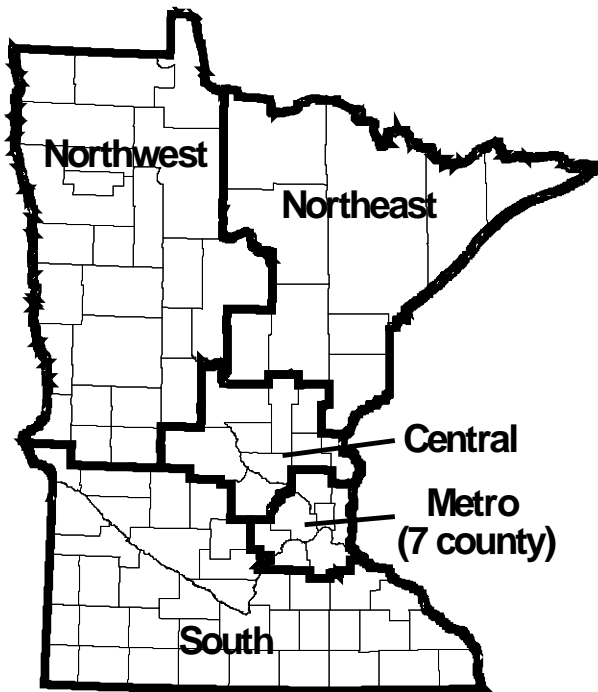


Figure 2.1. Minnesota Department of Natural Resources Regions

Appendix 3

**Table 3.1
Recreation Experience Opportunity Studies in the South Region**

Region-wide studies	
2004 Outdoor Recreation Participation Survey of Minnesotans	
2008 Profile of Recreation Trail Users	
Site-specific studies	Sites included
Minnesota River Valley Area Survey: Summary Report	<ul style="list-style-type: none"> • Minnesota River Valley Area
State Trail Use: Summary of Summer Trail Use and User Surveys Conducted in 1996, 1997 and 1998	<ul style="list-style-type: none"> • Douglas State Trail • Glacial Lakes State Trail • Luce Line State Trail • Root River State Trail • Sakatah Singing Hills State Trail

Appendix 4

Table 4.1
The South Region Demographics by County

County/ attribute	Population	Persons / sq mile, 2000	Persons < 18 (%)	Persons ≥ 65 (%)	Female (%)	White (%)	Black (%)	American Indian / Alaskan (%)	Asian (%)	Hispanic / Latino (%)	Median household income (\$), 2007
Big Stone	5,365	11.7	19.5	26.1	51.5	98.2	0.4	0.6	0.4	0.5	39,748
Blue Earth	60,401	74.4	19.9	11.5	49.4	94.2	2.2	0.3	2.3	2.1	49,783
Brown	25,862	44.0	21.0	18.6	50.1	98.5	0.2	0.2	0.5	3.2	46,497
Chippewa	12,414	22.4	22.5	19.3	50.7	97.0	0.3	1.4	0.4	4.3	42,751
Cottonwood	11,283	19.0	23.4	20.2	50.7	94.9	1.4	0.3	2.6	4.6	40,476
Dodge	19,751	40.3	26.6	12.1	50.2	98.1	0.3	0.2	0.6	4.3	61,230
Faribault	14,624	22.7	21.2	21.4	50.1	98.1	0.3	0.4	0.4	4.6	41,391
Fillmore	20,850	24.5	23.1	18.4	50.3	98.7	0.3	0.1	0.2	0.7	43,776
Freeborn	30,927	46.0	21.3	19.4	50.6	97.8	0.6	0.2	0.6	7.4	41,944
Goodhue	45,897	58.2	22.7	15.6	50.3	96.3	1.0	1.1	0.7	1.9	55,762
Houston	19,245	35.3	22.0	16.8	50.5	98.0	0.6	0.2	0.5	0.8	47,960
Jackson	10,734	16.1	20.0	20.6	49.3	97.6	0.1	0.1	1.7	2.6	43,217
Kandiyohi	40,679	51.8	23.9	15.6	50.4	97.4	1.0	0.5	0.4	9.7	46,136
Lac qui Parle	7,165	10.5	19.7	22.6	50.1	98.7	0.2	0.3	0.4	1.3	40,293
Le Sueur	28,042	56.6	23.6	14.2	49.8	98.1	0.4	0.4	0.4	4.7	55,984
Lincoln	5,837	12.0	20.9	25.2	50.9	99.2	0.1	0.3	0.2	1.1	38,112
Lyon	24,844	35.6	23.3	14.9	50.6	95.5	1.5	0.4	1.8	5.4	47,244
Martin	20,435	30.8	21.0	21.5	51.1	98.3	0.4	0.2	0.5	3.2	42,997
McLeod	37,165	70.9	25.2	14.3	50.3	97.7	0.6	0.2	0.8	4.8	57,355
Meeker	23,143	37.2	23.8	16.0	49.5	98.4	0.3	0.3	0.5	3.2	49,309
Mower	37,859	54.2	24.3	18.5	50.3	95.7	1.5	0.3	1.7	8.4	44,721
Murray	8,389	13.0	20.8	21.8	50.4	98.3	0.2	0.3	0.3	2.2	44,359
Nicollet	32,027	65.9	21.6	12.7	49.7	96.1	1.5	0.3	1.3	2.7	58,959
Nobles	20,365	29.1	26.4	16.8	49.4	91.1	2.5	0.8	4.4	18.2	42,072
Olmsted	141,360	190.3	25.4	12.1	50.4	89.4	3.9	0.3	5.2	3.0	60,683
Pipestone	9,395	21.2	23.1	21.4	51.9	96.2	0.2	1.9	0.5	2.0	36,411
Redwood	15,493	19.1	23.2	19.4	49.8	92.1	0.3	4.3	2.0	1.8	46,177
Renville	15,861	17.5	23.2	18.5	49.5	97.7	0.1	1.1	0.3	6.4	45,115
Rice	62,390	113.8	22.4	11.9	49.5	95.1	1.7	0.5	1.7	7.4	55,431
Rock	9,476	20.1	23.7	19.3	50.9	97.4	0.7	0.6	0.8	2.1	45,382
Sibley	14,954	26.1	24.8	15.5	49.5	98.2	0.3	0.4	0.4	7.7	49,918
Steele	36,546	78.3	25.3	13.7	50.4	95.2	2.9	0.2	0.9	5.1	53,333
Swift	11,035	16.1	19.3	18.5	43.1	89.4	3.7	0.7	1.8	3.9	40,499
Wabasha	21,813	41.2	22.4	16.4	50.0	98.1	0.6	0.3	0.6	2.5	49,886
Waseca	19,443	46.2	23.5	13.9	47.6	95.0	2.8	0.7	0.7	3.8	49,108
Watonwan	10,860	27.3	25.1	19.9	51.3	97.1	0.6	0.5	1.0	18.6	43,502
Winona	49,879	79.8	19.2	14.1	51.1	95.7	1.1	0.2	2.2	1.5	44,485
Yellow Medicine	9,958	14.6	21.7	21.3	49.9	96.1	0.2	2.7	0.2	2.8	44,602
Region	991,766	41.4	23.0	15.5	50.1	95.4	1.5	0.5	1.7	4.5	50,450
MN	5,220,393	61.8	24.0	12.5	50.2	89.0	4.6	1.2	3.5	4.1	55,664

Note: U.S. Census (2008)

Appendix 5

Table 5.1
Reasons for all-terrain vehicle riding

Reasons for participating	Identified as Important or Very Important		
	% South (n ≥ 51)	% Statewide (n ≥ 308)	Difference
To be on my own	50.9	45.8	5.1
To be away from other people	36.5	36.5	0.0
To be close to nature	83.0	81.1	1.9
To get away from the usual demands of life	81.1	77.8	3.3
To relax physically	67.9	64.9	3.0
To view the scenery	84.9	85.9	-1.0
To experience silence & quiet	50.9	45.3	5.6
To experience solitude	61.5	51.3	10.2
To have thrills & excitement	47.2	48.9	-1.7
To rest mentally	54.9	51.8	3.1
To experience nature	83.0	83.0	0.0
To be w/people who enjoy the same things I do	71.7	66.1	5.6
To challenge myself	24.6	30.9	-6.3
To test my skills & abilities	17.6	29.1	-11.5
To explore and discover new things	83.0	78.5	4.5
To do something with my family	73.6	71.6	2.0
To get/keep physically fit	32.1	36.2	-4.1
To be physically active	54.7	55.0	-0.3
To be with members of my own group	45.3	49.4	-4.1
To enjoy different experiences from home	58.5	65.3	-6.8

Schneider et al. (2009)

Table 5.2
Reasons for bike riding

Reasons for participating	Identified as Important or Very Important		
	% South (n ≥ 69)	% Statewide (n ≥ 310)	Difference
To be on my own	38.6	40.3	-1.7
To be away from other people	29.0	30.1	-1.1
To be close to nature	78.6	83.9	-5.3
To get away from the usual demands of life	82.6	82.2	0.4
To relax physically	75.7	75.0	0.7
To view the scenery	91.6	88.9	2.7
To experience silence & quiet	59.2	59.0	0.2
To experience solitude	56.5	62.5	-6.0
To have thrills & excitement	28.2	28.8	-0.6
To rest mentally	67.2	66.2	1.0
To experience nature	81.2	84.4	-3.2
To be w/people who enjoy the same things I do	56.4	55.1	1.3
To challenge myself	49.3	49.7	-0.4
To test my skills & abilities	20.0	27.0	-7.0
To explore and discover new things	71.8	76.0	-4.2
To do something with my family	78.3	74.8	3.5
To get/keep physically fit	91.6	90.8	0.8
To be physically active	95.8	94.0	1.8
To be with members of my own group	45.7	35.0	10.7
To enjoy different experiences from home	71.4	68.6	2.8

Schneider et al. (2009)

Table 5.3
Reasons for cross-country skiing

Reasons for participating	Identified as Important or Very Important		
	% South (n ≥ 86)	% Statewide (n ≥ 497)	Difference
To be on my own	40.7	39.0	1.7
To be away from other people	34.8	33.9	0.9
To be close to nature	94.4	94.1	0.3
To get away from the usual demands of life	85.6	81.1	4.5
To relax physically	76.7	74.7	2.0
To view the scenery	95.5	94.2	1.3
To experience silence & quiet	74.2	77.0	-2.8
To experience solitude	68.5	69.0	-0.5
To have thrills & excitement	23.9	34.0	-10.1
To rest mentally	66.7	70.4	-3.7
To experience nature	94.4	93.9	0.5
To be w/people who enjoy the same things I do	58.0	54.3	3.7
To challenge myself	63.6	62.6	1.0
To test my skills & abilities	40.9	42.6	-1.7
To explore and discover new things	75.3	74.0	1.3
To do something with my family	66.3	63.6	2.7
To get/keep physically fit	92.2	94.4	-2.2
To be physically active	95.6	96.1	-0.5
To be with members of my own group	29.9	31.5	-1.6
To enjoy different experiences from home	67.8	69.5	-1.7

Schneider et al. (2009)

Table 5.4
Reasons for horseback riding

Reasons for participating	Identified as Important or Very Important		
	% South (n ≥ 77)	% Statewide (n ≥ 445)	Difference
To be on my own	55.1	50.3	4.8
To be away from other people	34.6	37.9	-3.3
To be close to nature	94.9	94.0	0.9
To get away from the usual demands of life	94.9	93.6	1.3
To relax physically	93.6	89.8	3.8
To view the scenery	98.7	96.4	2.3
To experience silence & quiet	71.8	74.9	-3.1
To experience solitude	62.8	70.2	-7.4
To have thrills & excitement	51.3	46.4	4.9
To rest mentally	77.0	81.8	-4.8
To experience nature	96.2	93.1	3.1
To be w/people who enjoy the same things I do	85.8	85.7	0.1
To challenge myself	48.7	60.3	-11.6
To test my skills & abilities	48.7	56.4	-7.7
To explore and discover new things	85.9	90.0	-4.1
To do something with my family	87.2	70.8	16.4
To get/keep physically fit	69.3	78.3	-9.0
To be physically active	80.8	88.0	-7.2
To be with members of my own group	75.6	71.9	3.7
To enjoy different experiences from home	76.9	80.2	-3.3

Schneider et al. (2009)

Table 5.5
Reasons for off-highway motorcycle riding

Reasons for participating	Identified as Important or Very Important		
	% South (n ≥ 50)	% Statewide (n ≥ 307)	Difference
To be on my own	49.0	45.9	3.1
To be away from other people	35.2	32.7	2.5
To be close to nature	64.7	72.9	-8.2
To get away from the usual demands of life	88.2	87.3	0.9
To relax physically	74.0	66.6	7.4
To view the scenery	72.5	79.5	-7.0
To experience silence & quiet	33.3	30.2	3.1
To experience solitude	47.1	47.9	-0.8
To have thrills & excitement	86.3	81.3	5.0
To rest mentally	66.0	59.7	6.3
To experience nature	66.7	72.3	-5.6
To be w/people who enjoy the same things I do	66.7	74.7	-8.0
To challenge myself	76.5	71.9	4.6
To test my skills & abilities	74.6	70.4	4.2
To explore and discover new things	84.3	86.1	-1.8
To do something with my family	66.7	74.7	-8.0
To get/keep physically fit	72.6	68.9	3.7
To be physically active	84.0	82.8	1.2
To be with members of my own group	60.8	64.1	-3.3
To enjoy different experiences from home	82.3	77.4	4.9

Schneider et al. (2009)

Table 5.6
Reasons for off-road vehicle riding

Reasons for participating	Identified as Important or Very Important		
	% South (n ≥ 61)	% Statewide (n ≥ 369)	Difference
To be on my own	36.5	41.5	-5.0
To be away from other people	34.4	30.9	3.5
To be close to nature	84.1	78.7	5.4
To get away from the usual demands of life	81.0	82.7	-1.7
To relax physically	69.8	66.7	3.1
To view the scenery	90.5	85.9	4.6
To experience silence & quiet	32.8	37.7	-4.9
To experience solitude	51.6	50.8	0.8
To have thrills & excitement	68.2	61.6	6.6
To rest mentally	52.5	55.4	-2.9
To experience nature	82.2	79.7	2.5
To be w/people who enjoy the same things I do	74.6	71.6	3.0
To challenge myself	57.2	53.1	4.1
To test my skills & abilities	57.1	51.7	5.4
To explore and discover new things	76.2	81.6	-5.4
To do something with my family	77.8	79.0	-1.2
To get/keep physically fit	38.1	35.9	2.2
To be physically active	44.4	54.7	-10.3
To be with members of my own group	65.1	60.7	4.4
To enjoy different experiences from home	72.5	73.8	-1.3

Schneider et al. (2009)

Table 5.7
Reasons for snowmobiling

Reasons for participating	Identified as Important or Very Important		
	% South (n ≥ 31)	% Statewide (n ≥ 261)	Difference
To be on my own	48.5	37.5	11.0
To be away from other people	33.3	28.5	4.8
To be close to nature	81.8	82.1	-0.3
To get away from the usual demands of life	78.8	83.2	-4.4
To relax physically	57.6	61.7	-4.1
To view the scenery	94.0	91.2	2.8
To experience silence & quiet	42.4	35.7	6.7
To experience solitude	51.5	53.3	-1.8
To have thrills & excitement	72.7	62.4	10.3
To rest mentally	66.7	54.6	12.1
To experience nature	84.9	84.7	0.2
To be w/people who enjoy the same things I do	69.7	75.3	-5.6
To challenge myself	36.4	39.7	-3.3
To test my skills & abilities	29.0	32.7	-3.7
To explore and discover new things	66.7	79.8	-13.1
To do something with my family	63.6	79.5	-15.9
To get/keep physically fit	30.3	50.2	-19.9
To be physically active	57.6	67.3	-9.7
To be with members of my own group	72.7	68.1	4.6
To enjoy different experiences from home	66.7	73.0	-6.3

Schneider et al. (2009)

Table 5.8
Reasons for walking/hiking

Reasons for participating	Identified as Important or Very Important		
	% South (n ≥ 51)	% Statewide (n ≥ 431)	Difference
To be on my own	55.8	43.2	12.6
To be away from other people	32.0	34.4	-2.4
To be close to nature	87.2	89.9	-2.7
To get away from the usual demands of life	84.9	79.8	5.1
To relax physically	77.8	80.6	-2.8
To view the scenery	87.0	91.7	-4.7
To experience silence & quiet	69.8	66.7	3.1
To experience solitude	60.4	64.1	-3.7
To have thrills & excitement	23.5	18.8	4.7
To rest mentally	67.3	71.8	-4.5
To experience nature	81.5	88.3	-6.8
To be w/people who enjoy the same things I do	37.7	48.3	-10.6
To challenge myself	34.6	34.2	0.4
To test my skills & abilities	21.5	23.9	-2.4
To explore and discover new things	75.0	73.2	1.8
To do something with my family	59.2	70.1	-10.9
To get/keep physically fit	85.1	87.2	-2.1
To be physically active	94.4	94.0	0.4
To be with members of my own group	63.2	28.8	34.4
To enjoy different experiences from home	66.6	65.4	1.2

Schneider et al. (2009)

Appendix 6

Table 6.1
Observations of potential conflict among all-terrain vehicle riding respondents to a mail questionnaire, 2008

Source of conflict	Observed		
	% South (n ≥ 38)	% Statewide (n ≥ 275)	Difference
Others going too fast	51.3	55.6	-4.3
Too many others on the trail	20.5	33.7	-13.2
Seeing off trail/road use	53.8	62.9	-9.1
Accessibility issue	41.0	40.7	0.3
Others out of control	15.8	35.3	-19.5
Litter on or near the trail	59.0	63.3	-4.3
Seeing evidence of off trail/road use (erosion, marks, etc.)	53.8	68.1	-14.3
Rude or discourteous users	34.2	41.6	-7.4
Others passing too closely	10.3	32.1	-21.8
Hearing other users on the trail	51.3	61.6	-10.3
Others not yielding	20.5	37.8	-17.3

Schneider et al. (2009)

Table 6.2
Observations of potential conflict among biking respondents to a mail questionnaire, 2008

Source of conflict	Observed		
	% South (n ≥ 68)	% Statewide (n ≥ 304)	Difference
Others going too fast	35.2	36.5	-1.3
Too many others on the trail	34.7	31.2	3.5
Seeing off trail/road use	41.2	50.6	-9.4
Accessibility issue	19.7	21.9	-2.2
Others out of control	19.7	22.8	-3.1
Litter on or near the trail	63.4	74.2	-10.8
Seeing evidence of off trail/road use (erosion, marks, etc.)	55.7	57.4	-1.7
Rude or discourteous users	48.6	43.1	5.5
Others passing too closely	43.1	45.4	-2.3
Hearing other users on the trail	66.2	71.8	-5.6
Others not yielding	53.5	52.3	1.2

Schneider et al. (2009)

Table 6.3**Observations of potential conflict among cross-country skiing respondents to a mail questionnaire, 2008**

Source of conflict	Observed		
	% South (n ≥ 88)	% Statewide (n ≥ 499)	Difference
Others going too fast	11.2	17.4	-6.2
Too many others on the trail	28.6	29.0	-0.4
Seeing off trail/road use	49.5	45.7	3.8
Accessibility issue	11.4	11.4	0.0
Others out of control	17.6	22.4	-4.8
Litter on or near the trail	40.0	41.8	-1.8
Seeing evidence of off trail/road use (erosion, marks, etc.)	45.6	50.8	-5.2
Rude or discourteous users	14.3	21.6	-7.3
Others passing too closely	15.4	21.1	-5.7
Hearing other users on the trail	67.0	73.1	-6.1
Others not yielding	19.8	23.8	-4.0

Schneider et al. (2009)

Table 6.4**Observations of potential conflict among horseback riding respondents to a mail questionnaire, 2008**

Source of conflict	Observed		
	% South (n ≥ 76)	% Statewide (n ≥ 439)	Difference
Others going too fast	43.6	41.4	2.2
Too many others on the trail	38.5	31.6	6.9
Seeing off trail/road use	49.4	55.3	-5.9
Accessibility issue	36.8	35.1	1.7
Others out of control	35.9	40.0	-4.1
Litter on or near the trail	76.6	70.3	6.3
Seeing evidence of off trail/road use (erosion, marks, etc.)	64.5	61.7	2.8
Rude or discourteous users	46.2	48.0	-1.8
Others passing too closely	35.9	41.4	-5.5
Hearing other users on the trail	77.9	75.6	2.3
Others not yielding	31.2	33.3	-2.1

Schneider et al. (2009)

Table 6.6
Observations of potential conflict among off-highway motorcycle respondents to a mail questionnaire, 2008

Source of conflict	Observed		
	% South (n ≥ 47)	% Statewide (n ≥ 286)	Difference
Others going too fast	41.7	53.1	-11.4
Too many others on the trail	37.5	38.3	-0.8
Seeing off trail/road use	46.8	51.4	-4.6
Accessibility issue	39.6	45.0	-5.4
Others out of control	31.3	37.8	-6.5
Litter on or near the trail	50.0	53.7	-3.7
Seeing evidence of off trail/road use (erosion, marks, etc.)	68.8	67.5	1.3
Rude or discourteous users	29.2	42.0	-12.8
Others passing too closely	29.2	34.6	-5.4
Hearing other users on the trail	62.5	68.8	-6.3
Others not yielding	29.2	38.8	-9.6

Schneider et al. (2009)

Table 6.7
Observations of potential conflict among off-road vehicle respondents to a mail questionnaire, 2008

Source of conflict	Observed		
	% South (n ≥ 53)	% Statewide (n ≥ 324)	Difference
Others going too fast	46.3	46.4	-0.1
Too many others on the trail	41.5	36.9	4.6
Seeing off trail/road use	43.4	50.2	-6.8
Accessibility issue	32.1	35.8	-3.7
Others out of control	28.3	34.5	-6.2
Litter on or near the trail	58.5	61.3	-2.8
Seeing evidence of off trail/road use (erosion, marks, etc.)	52.8	63.4	-10.6
Rude or discourteous users	34.0	39.0	-5.0
Others passing too closely	34.0	31.5	2.5
Hearing other users on the trail	64.2	68.0	-3.8
Others not yielding	37.7	35.4	2.3

Schneider et al. (2009)

Table 6.8
Observations of potential conflict among snowmobile respondents to a mail questionnaire, 2008

Source of conflict	Observed		
	% South (n ≥ 32)	% Statewide (n ≥ 95)	Difference
Others going too fast	68.8	81.1	-12.3
Too many others on the trail	46.9	59.8	-12.9
Seeing off trail/road use	81.3	80.7	0.6
Accessibility issue	31.3	38.6	-7.3
Others out of control	46.9	53.4	-6.5
Litter on or near the trail	40.6	58.3	-17.7
Seeing evidence of off trail/road use (erosion, marks, etc.)	78.1	71.7	6.4
Rude or discourteous users	62.5	71.9	-9.4
Others passing too closely	56.3	62.7	-6.4
Hearing other users on the trail	59.4	77.0	-17.6
Others not yielding	65.6	65.9	-0.3

Schneider et al. (2009)

Table 6.9
Observations of potential conflict among walking respondents to a mail questionnaire, 2008

Source of conflict	Observed		
	% South (n ≥ 50)	% Statewide (n ≥ 438)	Difference
Others going too fast	42.6	42.3	0.3
Too many others on the trail	25.9	38.2	-12.3
Seeing off trail/road use	52.0	49.9	2.1
Accessibility issue	20.4	22.7	-2.3
Others out of control	24.5	21.0	3.5
Litter on or near the trail	73.1	79.0	-5.9
Seeing evidence of off trail/road use (erosion, marks, etc.)	63.0	63.1	-0.1
Rude or discourteous users	44.4	44.9	-0.5
Others passing too closely	38.9	43.3	-4.4
Hearing other users on the trail	63.0	74.0	-11.0
Others not yielding	40.4	41.3	-0.9

Schneider et al. (2009)

Appendix 7

Table 7.1
Use of coping strategies among all-terrain vehicle riders who experience interference

Coping Strategy	Used Strategy		
	% South (n ≥ 8)	% Statewide (n ≥ 58)	Difference
Change the time I will walk next time	15.1	18.2	-3.1
Alter my pace to avoid others	15.1	22.3	-7.2
Plan to avoid the area on my next visit	15.1	20.1	-5.0
Talk to area personnel about the incident	22.6	26.1	-3.5
Try not to burn bridges	26.4	32.4	-6.0
Stand my ground and fight for what I wanted	18.9	24.5	-5.6
Think about why the incident occurred	26.4	31.1	-4.7
I make a plan of action and follow it	22.6	29.6	-7.0
I know what has to be done so I double my efforts to make it work	22.6	30.8	-8.2
Make light of the situation	24.5	29.2	-4.7
Keep others from knowing how bad things were	20.8	23.9	-3.1
Try to get the person responsible to change their mind	18.9	25.5	-6.6
Don't let it get to me; refuse to think about it too much	28.0	31.8	-3.8
Come up with a couple of different solutions	20.8	28.6	-7.8
Leave the area altogether	13.2	20.1	-6.9
I try to keep my feelings to myself	26.4	29.2	-2.8
Leave the area and go to a different part of the area	15.1	25.5	-10.4
Express anger to the person who caused the incident	15.1	19.5	-4.4
Wish the situation would go away or be over with	24.5	30.8	-6.3
Talk to other members of my group about the incident	22.6	36.5	-13.9
Try to forget the whole thing	24.5	27.4	-2.9
Refuse to get too serious about it	24.5	32.1	-7.6
Follow established rules for trail etiquette	32.1	43.4	-11.3
Go on as if nothing had happened	24.5	27.4	-2.9

Schneider et al. (2009)

Table 7.2
Use of coping strategies among bike riders who experience interference

Coping Strategy	Used Strategy		
	% South (n ≥ 18)	% Statewide (n ≥ 63)	Difference
Change the time I will bike next time	33.3	26.9	6.4
Alter my pace to avoid others	36.0	28.8	7.2
Plan to avoid the area on my next visit	30.7	25.1	5.6
Talk to area personnel about the incident	29.3	26.0	3.3
Try not to burn bridges	41.3	35.6	5.7
Stand my ground and fight for what I wanted	28.0	25.4	2.6
Think about why the incident occurred	40.0	36.8	3.2
I make a plan of action and follow it	32.0	28.8	3.2
I know what has to be done so I double my efforts to make it work	36.0	32.2	3.8
Make light of the situation	42.7	36.8	5.9
Keep others from knowing how bad things were	32.0	27.6	4.4
Try to get the person responsible to change their mind	24.0	19.5	4.5
Don't let it get to me; refuse to think about it too much	48.0	44.6	3.4
Come up with a couple of different solutions	33.3	27.6	5.7
Leave the area altogether	30.7	24.1	6.6
I try to keep my feelings to myself	45.3	25.4	19.9
Leave the area and go to a different part of the area	34.7	28.8	5.9
Express anger to the person who caused the incident	25.3	21.4	3.9
Wish the situation would go away or be over with	44.0	36.2	7.8
Talk to other members of my group about the incident	42.7	40.6	2.1
Try to forget the whole thing	46.7	38.7	8.0
Refuse to get too serious about it	46.7	40.6	6.1
Follow established rules for trail etiquette	42.7	44.3	-1.6
Go on as if nothing had happened	46.7	41.8	4.9

Schneider et al. (2009)

Table 7.3
Use of coping strategies among cross-country skiers who experience interference

Coping Strategy	Used Strategy		
	% South (n ≥ 15)	% Statewide (n ≥ 91)	Difference
Change the time I will ski next time	42.6	45.5	-2.9
Alter my pace to avoid others	50.0	52.3	-2.3
Plan to avoid the area on my next visit	45.5	49.8	-4.3
Talk to area personnel about the incident	55.6	52.4	3.2
Try not to burn bridges	62.7	63.5	-0.8
Stand my ground and fight for what I wanted	35.2	35.8	-0.6
Think about why the incident occurred	63.6	69.0	-5.4
I make a plan of action and follow it	51.9	50.2	1.7
I know what has to be done so I double my efforts to make it work	57.7	57.0	0.7
Make light of the situation	60.0	68.9	-8.9
Keep others from knowing how bad things were	41.5	49.2	-7.7
Try to get the person responsible to change their mind	27.8	32.0	-4.2
Don't let it get to me; refuse to think about it too much	75.9	80.8	-4.9
Come up with a couple of different solutions	46.3	48.6	-2.3
Leave the area altogether	37.0	36.9	0.1
I try to keep my feelings to myself	70.4	70.6	-0.2
Leave the area and go to a different part of the area	46.3	50.2	-3.9
Express anger to the person who caused the incident	29.6	30.5	-0.9
Wish the situation would go away or be over with	59.6	63.1	-3.5
Talk to other members of my group about the incident	68.4	71.4	-3.0
Try to forget the whole thing	61.8	68.8	-7.0
Refuse to get too serious about it	78.9	81.3	-2.4
Follow established rules for trail etiquette	81.0	87.0	-6.0
Go on as if nothing had happened	67.3	74.6	-7.3

Schneider et al. (2009)

Table 7.4
Use of coping strategies among horseback riders who experience interference

Coping Strategy	Used Strategy		
	% South (n ≥ 11)	% Statewide (n ≥ 100)	Difference
Change the time I will horseback ride next time	20.5	30.7	-10.2
Alter my pace to avoid others	29.5	20.1	9.4
Plan to avoid the area on my next visit	23.1	25.3	-2.2
Talk to area personnel about the incident	35.9	30.1	5.8
Try not to burn bridges	38.5	35.5	3.0
Stand my ground and fight for what I wanted	26.9	27.3	-0.4
Think about why the incident occurred	44.9	39.6	5.3
I make a plan of action and follow it	34.6	30.1	4.5
I know what has to be done so I double my efforts to make it work	30.8	25.3	5.5
Make light of the situation	32.1	23.3	8.8
Keep others from knowing how bad things were	29.5	24.9	4.6
Try to get the person responsible to change their mind	20.5	23.3	-2.8
Don't let it get to me; refuse to think about it too much	38.5	41.4	-2.9
Come up with a couple of different solutions	34.6	30.9	3.7
Leave the area altogether	14.1	17.1	-3.0
I try to keep my feelings to myself	41.0	33.1	7.9
Leave the area and go to a different part of the area	24.4	25.3	-0.9
Express anger to the person who caused the incident	23.1	21.5	1.6
Wish the situation would go away or be over with	37.2	37.0	0.2
Talk to other members of my group about the incident	51.3	47.0	4.3
Try to forget the whole thing	35.9	35.1	0.8
Refuse to get too serious about it	39.7	41.0	-1.3
Follow established rules for trail etiquette	52.6	46.6	6.0
Go on as if nothing had happened	42.3	38.6	3.7

Schneider et al. (2009)

Table 7.5
Use of coping strategies among off-highway motorcycle users who experience interference

Coping Strategy	Used Strategy		
	% South (n ≥ 6)	% Statewide (n ≥ 65)	Difference
Change the time I will off-highway motorcycle ride next time	19.2	20.7	-1.5
Alter my pace to avoid others	21.2	27.1	-5.9
Plan to avoid the area on my next visit	21.2	25.2	-4.0
Talk to area personnel about the incident	28.8	32.8	-4.0
Try not to burn bridges	30.8	35.0	-4.2
Stand my ground and fight for what I wanted	23.1	24.5	-1.4
Think about why the incident occurred	30.8	37.3	-6.5
I make a plan of action and follow it	25.0	33.8	-8.8
I know what has to be done so I double my efforts to make it work	28.8	36.6	-7.8
Make light of the situation	28.8	34.7	-5.9
Keep others from knowing how bad things were	23.1	27.4	-4.3
Try to get the person responsible to change their mind	23.1	24.9	-1.8
Don't let it get to me; refuse to think about it too much	32.7	36.3	-3.6
Come up with a couple of different solutions	30.8	34.1	-3.3
Leave the area altogether	17.3	24.5	-7.2
I try to keep my feelings to myself	30.8	34.7	-3.9
Leave the area and go to a different part of the area	23.1	31.8	-8.7
Express anger to the person who caused the incident	11.5	23.9	-12.4
Wish the situation would go away or be over with	28.8	34.7	-5.9
Talk to other members of my group about the incident	34.6	45.9	-11.3
Try to forget the whole thing	26.9	32.8	-5.9
Refuse to get too serious about it	30.8	36.9	-6.1
Follow established rules for trail etiquette	34.6	46.8	-12.2
Go on as if nothing had happened	25.0	33.1	-8.1

Schneider et al. (2009)

Table 7.6
Use of coping strategies among snowmobilers who experience an interference

Coping Strategy	Used Strategy		
	% South (n ≥ 11)	% Statewide (n ≥ 104)	Difference
Change the time I will snowmobile next time	59.1	52.5	6.6
Alter my pace to avoid others	68.2	62.1	6.1
Plan to avoid the area on my next visit	59.1	52.3	6.8
Talk to area personnel about the incident	59.1	66.5	-7.4
Try not to burn bridges	72.7	75.0	-2.3
Stand my ground and fight for what I wanted	81.8	60.1	21.7
Think about why the incident occurred	83.3	77.4	5.9
I make a plan of action and follow it	72.7	62.4	10.3
I know what has to be done so I double my efforts to make it work	71.4	70.1	1.3
Make light of the situation	81.8	76.1	5.7
Keep others from knowing how bad things were	54.5	58.7	-4.2
Try to get the person responsible to change their mind	59.1	54.4	4.7
Don't let it get to me; refuse to think about it too much	87.5	84.0	3.5
Come up with a couple of different solutions	72.7	67.0	5.7
Leave the area altogether	50.0	46.2	3.8
I try to keep my feelings to myself	72.7	78.9	-6.2
Leave the area and go to a different part of the area	63.6	55.7	7.9
Express anger to the person who caused the incident	63.6	51.0	12.6
Wish the situation would go away or be over with	64.0	71.9	-7.9
Talk to other members of my group about the incident	84.0	89.4	-5.4
Try to forget the whole thing	82.6	77.6	5.0
Refuse to get too serious about it	90.9	85.2	5.7
Follow established rules for trail etiquette	92.3	95.8	-3.5
Go on as if nothing had happened	87.0	78.6	8.4

Schneider et al. (2009)

Table 7.7
Use of coping strategies among walkers who experience interference

Coping Strategy	Used Strategy		
	% South (n ≥ 11)	% Statewide (n ≥ 88)	Difference
Change the time I will walk next time	20.0	30.4	-10.4
Alter my pace to avoid others	23.6	28.8	-5.2
Plan to avoid the area on my next visit	20.0	27.3	-7.3
Talk to area personnel about the incident	32.7	29.3	3.4
Try not to burn bridges	30.9	34.1	-3.2
Stand my ground and fight for what I wanted	23.6	25.7	-2.1
Think about why the incident occurred	38.2	40.8	-2.6
I make a plan of action and follow it	27.3	30.2	-2.9
I know what has to be done so I double my efforts to make it work	40.0	33.9	6.1
Make light of the situation	38.2	35.9	2.3
Keep others from knowing how bad things were	30.9	28.6	2.3
Try to get the person responsible to change their mind	20.0	19.5	0.5
Don't let it get to me; refuse to think about it too much	47.3	48.8	-1.5
Come up with a couple of different solutions	25.5	27.3	-1.8
Leave the area altogether	16.4	22.6	-6.2
I try to keep my feelings to myself	40.0	39.9	0.1
Leave the area and go to a different part of the area	23.6	29.0	-5.4
Express anger to the person who caused the incident	20.0	21.7	-1.7
Wish the situation would go away or be over with	47.3	40.1	7.2
Talk to other members of my group about the incident	41.8	44.3	-2.5
Try to forget the whole thing	34.5	44.3	-9.8
Refuse to get too serious about it	43.6	48.1	-4.5
Follow established rules for trail etiquette	49.1	49.9	-0.8
Go on as if nothing had happened	36.4	42.6	-6.2

Schneider et al. (2009)