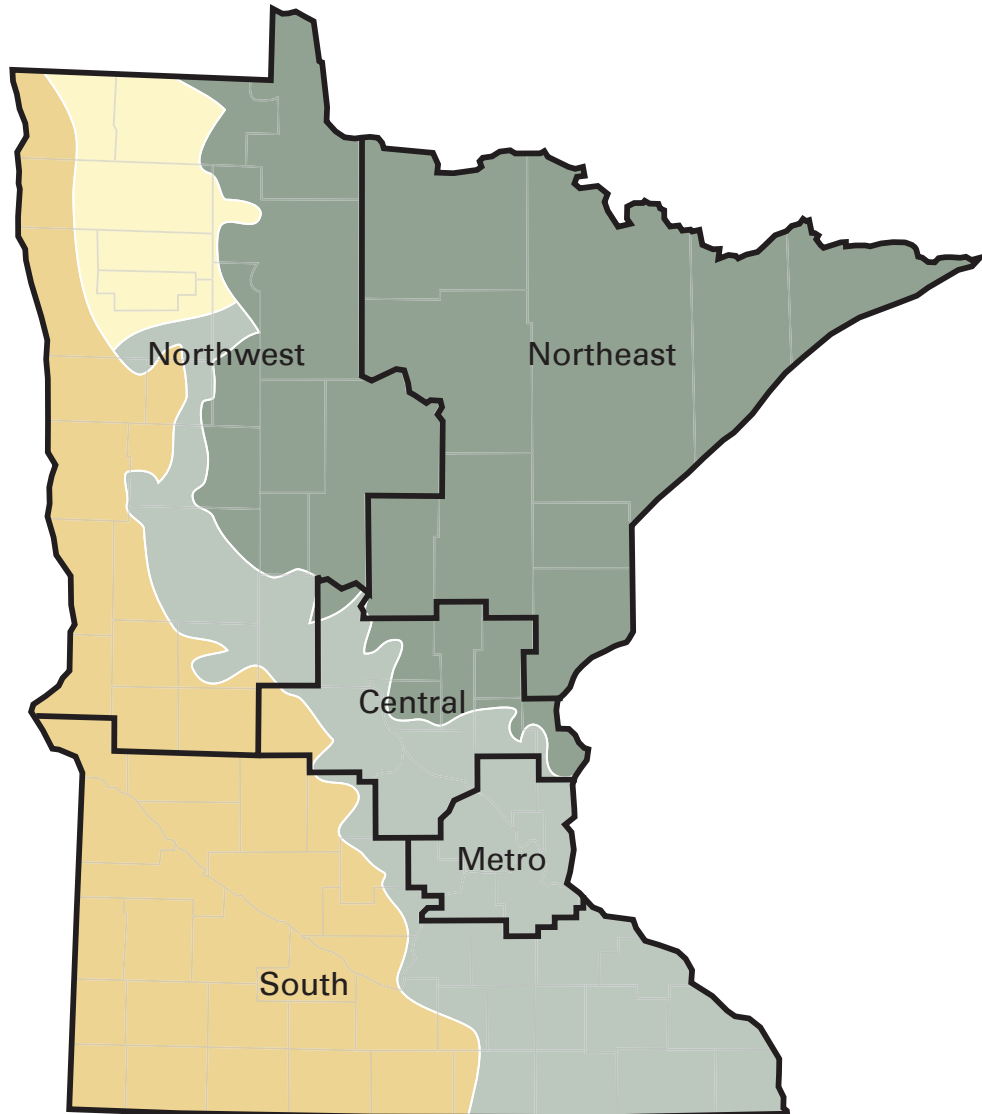


# Minnesota's Network of Parks & Trails

An Inventory of Recreation Experience  
Opportunities in Minnesota:

## Central Region Profile



### Final Report

by

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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 Central 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.

## Central Region Profile

The Central Region consists of 9 counties (see Appendix 2; Figure 2.1). In the Central Region a total of four recreation experience opportunity studies conducted since 2000 were available for analysis: two region-wide studies and two site-specific studies (see Appendix 3 for list of studies and sites).

### Sociodemographics

#### ***Population Size and Density***

In 2005, the population of the Central Region was approximately 542,000 people and accounted for approximately 10 percent of Minnesota’s population (Table 1). Population projections using 2005 population statistics, predict that by 2035 the Central Region will grow by 74.4 percent and will account for approximately 15 percent of Minnesota’s overall population. Every county in the region will experience growth with the highest projected growth in Wright, Stearns, and Isanti Counties.

The population density of the Central Region (94.3 persons per square mile) is considerably more than that of the state overall (61.8 persons per square mile; Table 2). Sherburne, Wright and Stearns Counties have the highest population densities in the region. Morrison, Kanabec and Mille Lacs Counties have the lowest population densities.

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

County	2005 Estimate	2035 Projection	% Change 2005-2035
Benton	38,979	59,150	51.7
Chisago	50,024	96,080	92.1
Isanti	38,116	74,250	<b>94.8</b>
Kanabec	16,394	21,360	30.3
Mille Lacs	25,967	42,390	63.2
Morrison	33,149	40,110	21.0
Sherburne	82,815	175,410	<b>111.8</b>
Stearns	144,204	194,490	34.9
Wright	112,153	241,850	<b>115.6</b>
Central Region	541,801	945,090	74.4
Minnesota	5,192,122	6,446,270	24.2

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

## Age and Gender

In general, the population of the Central Region is younger than that of Minnesota as a whole. Wright, Chisago, Sherburne and Benton Counties have a greater proportion of younger residents (residents under 18 years of age) than the state, resulting in the higher overall percentage of younger residents for the region. Similarly, the Central Region has a smaller proportion of older residents (residents 65 years of age and older) than Minnesota overall. Sherburne, Wright, Benton and Chisago Counties have the lowest percentage of older residents, while Mille Lacs, Morrison and Kanabec Counties have the highest percentage—slightly higher than the state. Gender does not vary significantly between the counties and the Central Region or the state. Minnesota’s proportion of female residents overall is 50.2 percent.

## Median Household Income

The median household income in the Central Region is slightly higher than that of the state as a whole. This can largely be attributed to Sherburne, Wright and Chisago Counties, which have the highest median incomes. Mille Lacs, Kanabec and Morrison Counties have the biggest gap in median incomes when compared to the region and state incomes (Table 2).

**Table 2**  
**Differences between Central Counties and the Central 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 (\$)***	
	Central	MN	Central	MN	Central	MN	Central	MN
Benton	-10.4	22.1	-0.4	1.0	<b>-0.5</b>	<b>-2.2</b>	-9,072	-6,725
Chisago	4.0	36.5	<b>0.8</b>	<b>2.2</b>	<b>-0.5</b>	<b>-2.2</b>	<b>8,079</b>	<b>10,426</b>
Isanti	-23.0	9.5	-1.6	-0.2	-0.2	-1.9	-1,581	766
Kanabec	<b>-65.7</b>	<b>33.2</b>	<b>-2.9</b>	<b>-1.5</b>	<b>4.2</b>	<b>2.5</b>	<b>-12,741</b>	<b>-10,394</b>
Mille Lacs	<b>-55.4</b>	<b>22.9</b>	<b>-1.8</b>	<b>-0.4</b>	<b>5.6</b>	<b>3.9</b>	<b>-14,395</b>	<b>-12,048</b>
Morrison	<b>-66.1</b>	<b>33.6</b>	-1.5	-0.1	<b>4.7</b>	<b>3.0</b>	<b>-12,305</b>	<b>-9,958</b>
Sherburne	<b>53.4</b>	<b>85.9</b>	<b>2.3</b>	<b>3.7</b>	<b>-3.2</b>	<b>-4.9</b>	<b>9,623</b>	<b>11,970</b>
Stearns	<b>4.7</b>	<b>37.2</b>	<b>-2.8</b>	<b>-1.4</b>	1.3	-0.4	-6,522	-4,175
Wright	<b>41.8</b>	<b>74.3</b>	<b>3.2</b>	<b>4.6</b>	<b>-2.1</b>	<b>-3.8</b>	<b>9,380</b>	<b>11,727</b>
	<b>Central</b>	<b>MN</b>	<b>Central</b>	<b>MN</b>	<b>Central</b>	<b>MN</b>	<b>Central</b>	<b>MN</b>
Region and State Values:	94.3	61.8	25.4	24.0	10.8	12.5	58,011	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)

## Race and Ethnicity

Nine of ten (89%) Minnesotans are white. Similarly, the percentage of white residents in the Central Region is equal to or exceeds Minnesota percentages overall in all 9 counties (Table 3). However, 2 counties, Mille Lacs and Kanabec, have higher proportions of American Indian or Alaska Native residents than the state.

**Table 3**  
**Differences between Central Counties and the Central Region/State Overall in Race and Ethnicity**

Attribute	Difference in White (%)		Difference in Black (%)		Difference in American Indian / Alaska Native (%)		Difference in Asian (%)		Difference in Hispanic / Latino (%)	
	Central	MN	Central	MN	Central	MN	Central	MN	Central	MN
Benton	-1.0	5.9	0.6	-2.8	-0.1	-0.6	0.3	-2.0	-0.4	-2.7
Chisago	0.1	7.0	0.0	-3.4	-0.1	-0.6	0.1	-2.2	0.2	-2.1
Isanti	1.2	8.1	-0.7	-4.1	-0.1	-0.6	-0.5	-2.8	-0.2	-2.5
Kanabec	0.8	7.7	-1.0	-4.4	0.6	0.1	-0.5	-2.8	-0.7	-3.0
Mille Lacs	-2.7	4.2	-0.7	-4.1	4.1	3.6	-0.9	-3.2	-0.4	-2.7
Morrison	2.3	9.2	-0.9	-4.3	-0.3	-0.8	-0.9	-3.2	-0.9	-3.2
Sherburne	-0.2	6.7	0.4	-3.0	-0.3	-0.8	0.0	-2.3	0.1	-2.2
Stearns	-0.4	6.5	0.3	-3.1	-0.4	-0.9	0.6	-1.7	0.1	-2.2
Wright	0.4	7.3	-0.1	-3.5	-0.3	-0.8	0.0	-2.3	0.3	-2.0
	Central	MN	Central	MN	Central	MN	Central	MN	Central	MN
Region and State Values:	95.9	89.0	1.2	4.6	0.7	1.2	1.2	3.5	1.8	4.1

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

## Participation in Recreation Activities

According to a recent statewide recreation participation study (Kelly, 2005), the recreation activities Central Region residents most frequently participate in are walking or hiking, boating, swimming and driving for pleasure, which parallel statewide participation figures (Table 4). However, Central Region residents participate to a greater extent than state residents overall in hunting, all-terrain vehicle driving, snowmobiling, and fishing. Central Region residents are less likely to participate than state residents as a whole in visiting nature centers, running or jogging, and ice skating or playing hockey outdoors.



**Table 4**  
**Recreation Activity Participation by Central Region and State**

Activity	Central (%)	Statewide (%)	Difference
Walking/hiking	56	54	2
Boating of all types, including fishing from a boat	45	43	2
Swimming or wading (all places)	41	41	0
Driving for pleasure on scenic roads or in a park	38	37	1
Picnicking	33	36	-3
Fishing of all types	36	30	6
Biking (bicycling of all types, including mountain biking)	28	29	-1
Camping of all types	28	26	2
Visiting nature centers	19	25	-6
Nature observation of all types (e.g., viewing, identifying)	26	24	2
Golfing	26	24	2
Outdoor field sports (e.g., soccer, softball/baseball, football)	22	21	1
Visiting historic or archaeological sites	19	21	-2
Sledding and snow tubing	19	18	1
Outdoor court sports (e.g., volleyball, basketball, tennis)	20	18	2
Hunting of all types	26	16	10
Running or jogging	8	14	-6
Ice skating/hockey outdoors	8	12	-4
Inline skating, rollerblading, roller skating, roller skiing	8	11	-3
Off-road ATV driving	18	10	8
Snowmobiling	16	10	6
Downhill skiing/snowboarding	8	9	-1
Gather mushrooms, berries, or other wild foods	7	9	-2
Cross country skiing	4	7	-3
Horseback riding	6	5	1
Snowshoeing	3	4	-1

Note: Cell shading indicates the 3 biggest positive (dark) and negative (light) differences.  
 Kelly, T. (2005a). Data based on population 20 years of age and older

Recreation visitors reported activities such as biking, horseback riding and walking/hiking at Glacial Lakes State Trail and Wild River State Park (MN DNR, 2000; Wilhelm Stanis & Schneider, 2008). Running and skating was also reported at Glacial Lakes State Trail while canoeing and relaxing were additional top activities at Wild River State Park (Table 5).

**Table 5**  
**Recreation Activity Participation Documented at Recreation Sites in the Central Region**

Activity	Glacial Lakes State Trail	Wild River State Park
Biking	x	x
Horseback riding	x	x
Walking/hiking	x	x
Running	x	
Skating	x	
Canoeing		x
Relaxing		x

Note: Five most frequently reported recreation activities respondents participated in at each site. MN DNR (2000), Wilhelm Stanis & Schneider (2008)

## **Nature-Based Tourism in the Central Region**

A 2008 nature-based tourism study indicates 7.8 million person-visits to the North Central/West Region<sup>1</sup> from June 2007-May 2008 (Davidson-Peterson, 2008). Half of these visitors are Minnesota residents (49%), with the largest segments coming from the Fargo-Valley City area (32%) and the Minneapolis/St. Paul area (31%). One of five visitors visited a state or national park and one of ten overnight visitors stayed at campgrounds. Almost three-quarters (71%) of visitors indicated participating in one or more recreation activity. The most common activities were fishing (28%), pool swimming (23%) and lake/river swimming (20%; Table 6).

<sup>1</sup> The North Central/West Tourism Region comprises five of the nine counties in the Central Region. Excluded are Chisago, Isanti, Kanabec and Wright Counties. Additionally, this region includes 23 counties from the Northwest Region: Becker, Beltrami, Cass, Clay, Clearwater, Douglas, Grant, Hubbard, Kittson, Lake of the Woods, Mahnommen, Marshall, Norman, Otter Tail, Pennington, Polk, Pope, Red Lake, Roseau, Stevens, Todd, Wadena, and Wilkin, and one county from the Northeast Region: Crow Wing.

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

<b>Activity</b>	<b>% Recreation Participation</b>
Fishing	28
Pool swimming	23
Lake/river swimming	20
Motor boating/water skiing	16
Golfing	14
Hiking	13
Biking	11
Wildlife viewing or bird watching	11
Canoeing	7
Jet skiing	6
Off-road ATV driving	4
Downhill skiing or snowboarding	2
Hunting	2
Ice Fishing	2
Snowmobiling	2
Cross-country skiing	1

Note: Davidson-Peterson (2008)

## **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 Central trail users identified the attribute, “to test my skills & abilities” as more important and “to be close to nature” as less important than statewide trail users (Table 7).

**Table 7**  
**Differences between Central Region and Statewide Participants in Experiences Sought on Trails**

Reasons for participating	Average Importance <sup>a</sup> among Trail Users <sup>b</sup>		
	Central (n ≥ 460)	State (n ≥ 3023)	Difference
To view the scenery	4.28	4.27	0.02
To get away from the usual demands of life	4.19	4.19	0.00
To be physically active	4.17	4.15	0.02
To experience nature	4.15	4.16	-0.01
To be close to nature	4.14	4.19	<b>-0.05</b>
To explore and discover new things	4.03	4.05	<b>-0.03</b>
To do something with my family	3.95	3.90	<b>0.05</b>
To get/keep physically fit	3.92	3.91	0.02
To relax physically	3.91	3.92	-0.01
To enjoy different experiences from home	3.79	3.81	-0.02
To rest mentally	3.73	3.72	0.02
To be w/people who enjoy the same things I do	3.72	3.70	0.02
To experience solitude	3.64	3.65	-0.02
To experience silence & quiet	3.48	3.51	-0.02
To challenge myself	3.47	3.43	0.04
To be with members of my own group	3.37	3.33	0.04
To have thrills & excitement	3.30	3.26	<b>0.05</b>
To test my skills & abilities	3.28	3.19	<b>0.09</b>
To be on my own	3.23	3.26	<b>-0.03</b>
To be away from other people	3.05	3.07	-0.02

<sup>a</sup>Based on respondents rating experiences on a scale of 0-5 with 1=very unimportant, 2=unimportant, 3=neither, 4=important, 5=very important.

<sup>b</sup>Nine 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. Schneider et al. (2009)

Experience attributes for recreation sites in the Central Region were not available. However, respondents at Glacial Lakes State Trail reported what they liked most about the trail and respondents at Wild River State Park reported why they choose the area for recreation. This information provides a general idea of the types of experiences that attract recreationists to an area. The natural setting and maintenance of the recreation area were important attributes at both sites (MN DNR, 2000; Wilhelm Stanis & Schneider, 2008). A fun experience, peace and quiet, and an absence of motorized vehicles were also important attributes at Glacial Lakes State Trail (MN DNR 2000). Restrooms, a perception of safety and the trails at Wild River State Park were important attributes for recreationists at that site (Wilhelm Stanis & Schneider, 2008).

**Table 8**  
**Experiences Sought at Recreation Sites in the Central Region**

Recreation experience sought	Glacial Lakes State Trail	Wild River State Park
Scenery/wildlife	x	x
Well-maintained/clean	x	x
It's fun	x	
Quiet/peaceful	x	
No cars/motorized vehicles	x	
Restrooms		x
Safety		x
Walking/hiking/biking paths		x

Note: Five most frequently reported experiences respondents sought at each site  
MN DNR (2000) & Wilhelm Stanis & Schneider (2008)

### ***Problems or Constraints Encountered***

Among Minnesota recreation trail users, conflicts happen infrequently, but when they do occur they most often originate with the signs or sounds of other visitors (Schneider et al., 2009). Trail users in the Central Region rated the frequency of encountering conflicts similarly to statewide trail users. The greatest regional differences are that Central trail users more frequently reported “seeing evidence of off trail/road use” than statewide trail users and less frequently reported “hearing other users on the trail,” “others not yielding,” and “accessibility issue” (Table 9).

In the Central Region, problems experienced were assessed at Glacial Lakes State Trail. At Glacial Lakes State Trail, 83 percent of respondents did not experience a problem with other trail users (MN DNR, 2000). Those that did experience a problem noted problems with other people’s pets, other trail users passing without warning, and other trail users blocking traffic.

Constraints to recreation were assessed at Wild River State Park. “Not enough time” was by far the biggest constraint to recreating more often (Wilhelm Stanis & Schneider, 2008). Other common constraints were “family obligations,” “no one to go with,” “not enough money,” and “location distance is too far from home.”

**Table 9**  
**Differences between Central Region and Statewide Participants in Sources of Recreation Conflict on Trails**

Source of Conflict	Average Frequency of Conflict <sup>a</sup> among Trail Users <sup>b</sup>		
	Central (n ≥ 418)	State (n ≥ 2697)	Difference
Hearing other users on the trail	0.99	1.01	-0.03
Seeing evidence of off trail/road use	0.92	0.87	0.05
Litter on or near the trail	0.88	0.85	0.03
Seeing off trail/road use	0.77	0.74	0.03
Others going too fast	0.57	0.56	0.01
Rude or discourteous users	0.48	0.49	-0.01
Others passing too closely	0.48	0.46	0.02
Too many other users on the trail	0.45	0.46	-0.02
Others not yielding	0.44	0.46	-0.03
Accessibility issue	0.39	0.43	-0.03
Others out of control	0.39	0.37	0.02

<sup>a</sup>Based on respondents rating sources on a scale of 0-3 with 0=Never, 1=Sometimes, 2=Many Times, 3=Almost Always. <sup>b</sup>Nine 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)

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 Central Region, trail participants use a variety of responses when they encounter recreation conflict (Table 10). The largest regional differences in responses to conflict are that Central trail users are more likely report “I know what has to be done so double my efforts to make it work,” and less likely to report “don't let it get to me; refuse to think about it too much” than statewide trail users.

**Table 10**  
**Differences between Central Region and Statewide Participants in Response to Recreation Conflict on Trails**

Response	Response to Conflict <sup>a</sup> among Trail Users <sup>b</sup>		
	Central (n ≥ 224)	State (n ≥ 1491)	Difference
Follow established rules for trail etiquette	2.51	2.45	0.06
Talk to other members of my group about the incident	1.98	1.87	0.11
Refuse to get too serious about it	1.75	1.71	0.04
Don't let it get to me; refuse to think about it too much	1.69	1.72	<b>-0.03</b>
Go on as if nothing had happened	1.54	1.48	0.06
Wish the situation would go away or be over with	1.51	1.50	0.01
Try not to burn bridges	1.50	1.49	0.00
Try to forget the whole thing	1.48	1.42	0.06
Think about why the incident occurred	1.48	1.49	<b>-0.01</b>
I try to keep my feelings to myself	1.43	1.35	0.08
I know what has to be done so double my efforts to make it work	1.36	1.22	<b>0.14</b>
Make light of the situation	1.23	1.25	<b>-0.02</b>
Come up with a couple of different solutions	1.15	1.02	<b>0.13</b>
Talk to area personnel about the incident	1.13	1.00	<b>0.13</b>
I make a plan of action and follow it	1.13	1.09	0.04
Leave and go to a different part of the area	1.06	0.98	0.08
Alter my pace to avoid others	1.03	0.98	0.04
Plan to avoid the area on my next visit	0.94	0.89	0.06
Keep others from knowing how bad things were	0.86	0.82	0.04
Change the time I will use the trail next time	0.84	0.85	<b>-0.01</b>
Stand my ground and fight for what I wanted	0.83	0.79	0.04
Try to get the person responsible to change their mind	0.80	0.71	0.09
Leave the area altogether	0.73	0.68	0.05
Express anger to the person who caused the incident	0.64	0.61	0.03

<sup>a</sup>Based on respondents rating responses on a scale of 0-3 with 0=Do not use, 1=Use infrequently, 2=Use occasionally, 3=Use frequently

<sup>b</sup>Eight 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)

## References

- Anderson, D.H. (2008). Targeting visitor benefits for Minnesota State Parks. In Driver, B.L. (ed.), *Managing to optimize the beneficial outcomes of recreation*. (pp. 239-252). State College, Pennsylvania: Venture Publishing.
- Anderson, D.H., Davenport, M.A., Leahy, J.E., Stein, T. & Nickerson, R. (2008). Local community benefits. In Driver, B.L. (ed.), *Managing to optimize the beneficial outcomes of recreation*. (pp. 311-334). State College, Pennsylvania: Venture Publishing.
- Davidson-Peterson Associates (2008). *The economic impact of expenditures by travelers on Minnesota's Northcentral/West Region and the profile of travelers June 2007-May 2008*. Kennebunk, Maine: Explore Minnesota Tourism. Retrieved from <http://www.tourism.umn.edu/ResearchReports/VisitorReports/CommunityRegion/index.htm>
- Driver, B.L. (2008). Why outcomes-focused management is needed. In Driver, B.L. (ed.), *Managing to optimize the beneficial outcomes of recreation*. (pp. 1-18). State College, Pennsylvania: Venture Publishing.
- Kelly, T. (2005). *2004 Outdoor recreation participation survey of Minnesotans: Report on findings*. Saint Paul, MN: Minnesota Department of Natural Resources, Office of Management and Budget Services.
- Millennium Ecosystem Assessment. (2005). *Ecosystems and human well-being: Synthesis*. Washington, D.C.: Island Press.
- Minnesota Demographic Center. *Projected Minnesota population by county* [Data file]. retrieved from <http://www.demography.state.mn.us/>.
- Minnesota Department of Natural Resources [MN DNR], Trails and Waterways Division & Office of Management and Budget Services (2000). *State trail use: Summary of summer trail use and user surveys conducted in 1996, 1997 and 1998*. Saint Paul, MN: Minnesota Department of Natural Resources.
- Schneider, I.E., Schuweiler, A. & Bipes, T. (2009). *Profile of 2008 recreation trail users*. Saint Paul, MN: University of Minnesota, Department of Forest Resources.
- U.S. Census Bureau. *2006-2008 American community survey* [Data file]. Retrieved from <http://factfinder.census.gov/home/saff/main.html>.
- Wilhelm Stanis, S.A. & Schneider, I.E. (2008). *Health Study DRAFT Results: Wild River State Park*. Saint Paul, MN: University of Minnesota, Department of Forest Resources.



## **Appendices**

## Appendix 1

**Table 1.1  
Recreation Experience Opportunity Inventory Attributes**

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

## Appendix 2

### Counties in the Central Region

Benton  
Chisago  
Isanti  
Kanabec  
Mille Lacs  
Morrison  
Sherburne  
Stearns  
Wright

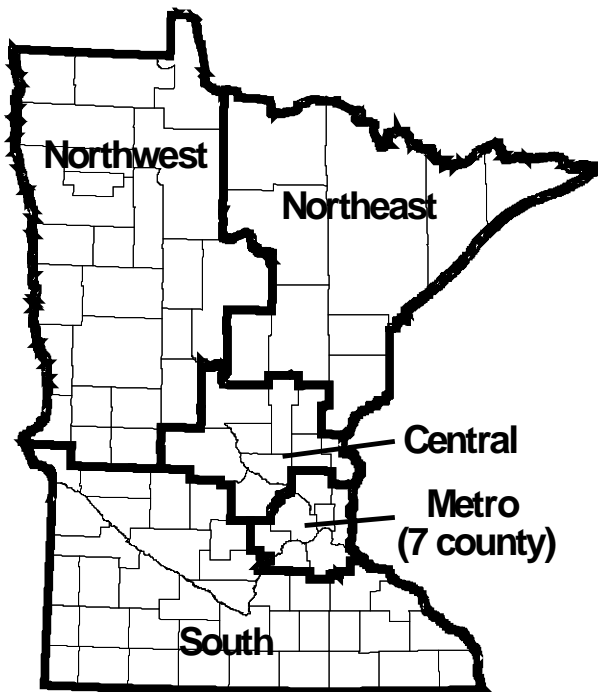


Figure 2.1. Minnesota Regions

## Appendix 3

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

<b>Region-wide studies</b>	
2004 Outdoor Recreation Participation Survey of Minnesotans	
2008 Profile of Recreation Trail Users	
<b>Site-specific studies</b>	<b>Sites included</b>
State Trail Use: Summary of Summer Trail Use and User Surveys Conducted in 1996, 1997 and 1998	<ul style="list-style-type: none"> <li>• Glacial Lakes State Trail</li> </ul>
Health Study DRAFT Results: Wild River State Park	<ul style="list-style-type: none"> <li>• Wild River State Park</li> </ul>

## Appendix 4

**Table 4.1**  
**The Central 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
Benton	39,878	83.9	25.0	10.3	50.1	94.9	1.8	0.6	1.5	1.4	48,939
Chisago	50,257	98.3	26.2	10.3	48.7	96.0	1.2	0.6	1.3	2.0	66,090
Isanti	39,105	71.3	23.8	10.6	49.9	97.1	0.5	0.6	0.7	1.6	56,430
Kanabec	16,091	28.6	22.5	15.0	49.6	96.7	0.2	1.3	0.7	1.1	45,270
Mille Lacs	26,377	38.9	23.6	16.4	50.7	93.2	0.5	4.8	0.3	1.4	43,616
Morrison	32,893	28.2	23.9	15.5	49.7	98.2	0.3	0.4	0.3	0.9	45,706
Sherburne	87,660	147.7	27.7	7.6	49.1	95.7	1.6	0.4	1.2	1.9	67,634
Stearns	147,076	99.0	22.6	12.1	49.6	95.5	1.5	0.3	1.8	1.9	51,489
Wright	119,701	136.1	28.6	8.7	49.6	96.3	1.1	0.4	1.2	2.1	67,391
Region	559,038	94.3	25.4	10.8	49.6	95.9	1.2	0.7	1.2	1.8	58,011
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		
	% Central (n ≥ 43)	% Statewide (n ≥ 308)	Difference
To be on my own	41.8	45.8	-4.0
To be away from other people	29.6	36.5	-6.9
To be close to nature	72.7	81.1	-8.4
To get away from the usual demands of life	72.7	77.8	-5.1
To relax physically	63.7	64.9	-1.2
To view the scenery	90.7	85.9	4.8
To experience silence & quiet	36.3	45.3	-9.0
To experience solitude	38.6	51.3	-12.7
To have thrills & excitement	45.4	48.9	-3.5
To rest mentally	41.8	51.8	-10.0
To experience nature	79.6	83.0	-3.4
To be w/people who enjoy the same things I do	61.4	66.1	-4.7
To challenge myself	25.0	30.9	-5.9
To test my skills & abilities	27.2	29.1	-1.9
To explore and discover new things	68.2	78.5	-10.3
To do something with my family	72.7	71.6	1.1
To get/keep physically fit	38.6	36.2	2.4
To be physically active	59.1	55.0	4.1
To be with members of my own group	43.2	49.4	-6.2
To enjoy different experiences from home	52.3	65.3	-13.0

Schneider et al. (2009)

**Table 5.2**  
**Reasons for bike riding**

Reasons for participating	Identified as Important or Very Important		
	% Central (n ≥ 48)	% Statewide (n ≥ 310)	Difference
To be on my own	45.9	40.3	5.6
To be away from other people	30.0	30.1	-0.1
To be close to nature	90.0	83.9	6.1
To get away from the usual demands of life	88.0	82.2	5.8
To relax physically	78.0	75.0	3.0
To view the scenery	94.0	88.9	5.1
To experience silence & quiet	59.1	59.0	0.1
To experience solitude	60.0	62.5	-2.5
To have thrills & excitement	26.0	28.8	-2.8
To rest mentally	66.0	66.2	-0.2
To experience nature	88.0	84.4	3.6
To be w/people who enjoy the same things I do	62.0	55.1	6.9
To challenge myself	44.0	49.7	-5.7
To test my skills & abilities	26.5	27.0	-0.5
To explore and discover new things	78.0	76.0	2.0
To do something with my family	78.0	74.8	3.2
To get/keep physically fit	86.0	90.8	-4.8
To be physically active	96.0	94.0	2.0
To be with members of my own group	38.0	35.0	3.0
To enjoy different experiences from home	76.0	68.6	7.4

Schneider et al. (2009)

**Table 5.3**  
**Reasons for cross-country skiing**

Reasons for participating	Identified as Important or Very Important		
	% Central (n ≥ 78)	% Statewide (n ≥ 497)	Difference
To be on my own	37.2	39.0	-1.8
To be away from other people	25.9	33.9	-8.0
To be close to nature	90.0	94.1	-4.1
To get away from the usual demands of life	75.3	81.1	-5.8
To relax physically	70.4	74.7	-4.3
To view the scenery	92.6	94.2	-1.6
To experience silence & quiet	69.1	77.0	-7.9
To experience solitude	61.3	69.0	-7.7
To have thrills & excitement	29.6	34.0	-4.4
To rest mentally	73.4	70.4	3.0
To experience nature	92.5	93.9	-1.4
To be w/people who enjoy the same things I do	50.6	54.3	-3.7
To challenge myself	60.5	62.6	-2.1
To test my skills & abilities	41.3	42.6	-1.3
To explore and discover new things	73.8	74.0	-0.2
To do something with my family	57.5	63.6	-6.1
To get/keep physically fit	93.8	94.4	-0.6
To be physically active	93.8	96.1	-2.3
To be with members of my own group	28.4	31.5	-3.1
To enjoy different experiences from home	69.1	69.5	-0.4

Schneider et al. (2009)



**Table 5.4**  
**Reasons for horseback riding**

Reasons for participating	Identified as Important or Very Important		
	% Central (n ≥ 72)	% Statewide (n ≥ 445)	Difference
To be on my own	41.1	50.3	-9.2
To be away from other people	32.9	37.9	-5.0
To be close to nature	90.4	94.0	-3.6
To get away from the usual demands of life	87.5	93.6	-6.1
To relax physically	83.6	89.8	-6.2
To view the scenery	95.9	96.4	-0.5
To experience silence & quiet	71.2	74.9	-3.7
To experience solitude	64.4	70.2	-5.8
To have thrills & excitement	46.6	46.4	0.2
To rest mentally	76.4	81.8	-5.4
To experience nature	91.7	93.1	-1.4
To be w/people who enjoy the same things I do	83.6	85.7	-2.1
To challenge myself	63.0	60.3	2.7
To test my skills & abilities	57.5	56.4	1.1
To explore and discover new things	83.6	90.0	-6.4
To do something with my family	65.8	70.8	-5.0
To get/keep physically fit	82.1	78.3	3.8
To be physically active	90.4	88.0	2.4
To be with members of my own group	68.5	71.9	-3.4
To enjoy different experiences from home	78.1	80.2	-2.1

Schneider et al. (2009)

**Table 5.5**  
**Reasons for off-highway motorcycle riding**

Reasons for participating	Identified as Important or Very Important		
	% Central (n ≥ 47)	% Statewide (n ≥ 307)	Difference
To be on my own	41.7	45.9	-4.2
To be away from other people	31.3	32.7	-1.4
To be close to nature	70.8	72.9	-2.1
To get away from the usual demands of life	91.7	87.3	4.4
To relax physically	70.9	66.6	4.3
To view the scenery	77.1	79.5	-2.4
To experience silence & quiet	29.2	30.2	-1.0
To experience solitude	45.9	47.9	-2.0
To have thrills & excitement	79.2	81.3	-2.1
To rest mentally	66.7	59.7	7.0
To experience nature	70.9	72.3	-1.4
To be w/people who enjoy the same things I do	78.7	74.7	4.0
To challenge myself	66.6	71.9	-5.3
To test my skills & abilities	64.6	70.4	-5.8
To explore and discover new things	83.3	86.1	-2.8
To do something with my family	89.6	74.7	14.9
To get/keep physically fit	68.8	68.9	-0.1
To be physically active	85.4	82.8	2.6
To be with members of my own group	70.8	64.1	6.7
To enjoy different experiences from home	83.3	77.4	5.9

Schneider et al. (2009)

**Table 5.6**  
**Reasons for off-road vehicle riding**

Reasons for participating	Identified as Important or Very Important		
	% Central (n ≥ 54)	% Statewide (n ≥ 369)	Difference
To be on my own	49.1	41.5	7.6
To be away from other people	35.7	30.9	4.8
To be close to nature	84.2	78.7	5.5
To get away from the usual demands of life	87.7	82.7	5.0
To relax physically	67.9	66.7	1.2
To view the scenery	91.2	85.9	5.3
To experience silence & quiet	33.9	37.7	-3.8
To experience solitude	53.6	50.8	2.8
To have thrills & excitement	65.4	61.6	3.8
To rest mentally	59.2	55.4	3.8
To experience nature	89.5	79.7	9.8
To be w/people who enjoy the same things I do	72.7	71.6	1.1
To challenge myself	60.7	53.1	7.6
To test my skills & abilities	67.9	51.7	16.2
To explore and discover new things	84.3	81.6	2.7
To do something with my family	78.2	79.0	-0.8
To get/keep physically fit	23.6	35.9	-12.3
To be physically active	57.9	54.7	3.2
To be with members of my own group	62.5	60.7	1.8
To enjoy different experiences from home	76.7	73.8	2.9

Schneider et al. (2009)

**Table 5.7**  
**Reasons for snowmobiling**

Reasons for participating	Identified as Important or Very Important		
	% Central (n ≥ 41)	% Statewide (n ≥ 261)	Difference
To be on my own	30.9	37.5	-6.6
To be away from other people	26.2	28.5	-2.3
To be close to nature	78.1	82.1	-4.0
To get away from the usual demands of life	88.1	83.2	4.9
To relax physically	62.0	61.7	0.3
To view the scenery	88.1	91.2	-3.1
To experience silence & quiet	35.7	35.7	0.0
To experience solitude	54.8	53.3	1.5
To have thrills & excitement	66.6	62.4	4.2
To rest mentally	59.5	54.6	4.9
To experience nature	85.7	84.7	1.0
To be w/people who enjoy the same things I do	78.5	75.3	3.2
To challenge myself	40.5	39.7	0.8
To test my skills & abilities	41.4	32.7	8.7
To explore and discover new things	88.1	79.8	8.3
To do something with my family	85.7	79.5	6.2
To get/keep physically fit	61.9	50.2	11.7
To be physically active	78.5	67.3	11.2
To be with members of my own group	57.1	68.1	-11.0
To enjoy different experiences from home	61.6	73.0	-11.4

Schneider et al. (2009)

**Table 5.8**  
**Reasons for walking/hiking**

Reasons for participating	Identified as Important or Very Important		
	% Central (n ≥ 57)	% Statewide (n ≥ 431)	Difference
To be on my own	50.8	43.2	7.6
To be away from other people	41.4	34.4	7.0
To be close to nature	87.9	89.9	-2.0
To get away from the usual demands of life	77.6	79.8	-2.2
To relax physically	74.6	80.6	-6.0
To view the scenery	89.9	91.7	-1.8
To experience silence & quiet	69.5	66.7	2.8
To experience solitude	71.2	64.1	7.1
To have thrills & excitement	33.9	18.8	15.1
To rest mentally	66.1	71.8	-5.7
To experience nature	89.9	88.3	1.6
To be w/people who enjoy the same things I do	53.5	48.3	5.2
To challenge myself	47.4	34.2	13.2
To test my skills & abilities	39.0	23.9	15.1
To explore and discover new things	72.9	73.2	-0.3
To do something with my family	84.2	70.1	14.1
To get/keep physically fit	88.1	87.2	0.9
To be physically active	96.6	94.0	2.6
To be with members of my own group	40.3	28.8	11.5
To enjoy different experiences from home	70.1	65.4	4.7

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		
	% Central (n ≥ 39)	% Statewide (n ≥ 275)	Difference
Others going too fast	60.0	55.6	4.4
Too many others on the trail	32.5	33.7	-1.2
Seeing off trail/road use	66.7	62.9	3.8
Accessibility issue	35.0	40.7	-5.7
Others out of control	42.5	35.3	7.2
Litter on or near the trail	70.0	63.3	6.7
Seeing evidence of off trail/road use (erosion, marks, etc.)	75.0	68.1	6.9
Rude or discourteous users	50.0	41.6	8.4
Others passing too closely	45.0	32.1	12.9
Hearing other users on the trail	57.5	61.6	-4.1
Others not yielding	45.0	37.8	7.2

Schneider et al. (2009)

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

Source of conflict	Observed		
	% Central (n ≥ 48)	% Statewide (n ≥ 304)	Difference
Others going too fast	28.0	36.5	-8.5
Too many others on the trail	30.0	31.2	-1.2
Seeing off trail/road use	52.1	50.6	1.5
Accessibility issue	24.5	21.9	2.6
Others out of control	14.0	22.8	-8.8
Litter on or near the trail	84.0	74.2	9.8
Seeing evidence of off trail/road use (erosion, marks, etc.)	60.0	57.4	2.6
Rude or discourteous users	60.0	43.1	16.9
Others passing too closely	46.9	45.4	1.5
Hearing other users on the trail	68.8	71.8	-3.0
Others not yielding	64.0	52.3	11.7

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		
	% Central (n ≥ 78)	% Statewide (n ≥ 499)	Difference
Others going too fast	15.0	17.4	-2.4
Too many others on the trail	17.9	29.0	-11.1
Seeing off trail/road use	36.7	45.7	-9.0
Accessibility issue	7.6	11.4	-3.8
Others out of control	18.8	22.4	-3.6
Litter on or near the trail	31.3	41.8	-10.5
Seeing evidence of off trail/road use (erosion, marks, etc.)	50.0	50.8	-0.8
Rude or discourteous users	13.8	21.6	-7.8
Others passing too closely	17.5	21.1	-3.6
Hearing other users on the trail	68.4	73.1	-4.7
Others not yielding	15.0	23.8	-8.8

Schneider et al. (2009)

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

Source of conflict	Observed		
	% Central (n ≥ 70)	% Statewide (n ≥ 439)	Difference
Others going too fast	41.1	41.4	-0.3
Too many others on the trail	26.0	31.6	-5.6
Seeing off trail/road use	54.1	55.3	-1.2
Accessibility issue	28.6	35.1	-6.5
Others out of control	45.2	40.0	5.2
Litter on or near the trail	63.5	70.3	-6.8
Seeing evidence of off trail/road use (erosion, marks, etc.)	58.3	61.7	-3.4
Rude or discourteous users	33.8	48.0	-14.2
Others passing too closely	41.1	41.4	-0.3
Hearing other users on the trail	75.3	75.6	-0.3
Others not yielding	27.4	33.3	-5.9

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		
	% Central (n ≥ 43)	% Statewide (n ≥ 286)	Difference
Others going too fast	56.5	53.1	3.4
Too many others on the trail	37.0	38.3	-1.3
Seeing off trail/road use	57.8	51.4	6.4
Accessibility issue	44.2	45.0	-0.8
Others out of control	45.7	37.8	7.9
Litter on or near the trail	53.3	53.7	-0.4
Seeing evidence of off trail/road use (erosion, marks, etc.)	62.2	67.5	-5.3
Rude or discourteous users	52.2	42.0	10.2
Others passing too closely	44.4	34.6	9.8
Hearing other users on the trail	67.4	68.8	-1.4
Others not yielding	45.7	38.8	6.9

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		
	% Central (n ≥ 49)	% Statewide (n ≥ 324)	Difference
Others going too fast	54.0	46.4	7.6
Too many others on the trail	43.1	36.9	6.2
Seeing off trail/road use	60.0	50.2	9.8
Accessibility issue	38.8	35.8	3.0
Others out of control	40.8	34.5	6.3
Litter on or near the trail	75.5	61.3	14.2
Seeing evidence of off trail/road use (erosion, marks, etc.)	81.6	63.4	18.2
Rude or discourteous users	46.0	39.0	7.0
Others passing too closely	42.0	31.5	10.5
Hearing other users on the trail	82.4	68.0	14.4
Others not yielding	40.0	35.4	4.6

Schneider et al. (2009)



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

Source of conflict	Observed		
	% Central (n ≥ 40)	% Statewide (n >=95)	Difference
Others going too fast	87.8	81.1	6.7
Too many others on the trail	61.9	59.8	2.1
Seeing off trail/road use	77.5	80.7	-3.2
Accessibility issue	36.6	38.6	-2.0
Others out of control	52.4	53.4	-1.0
Litter on or near the trail	66.7	58.3	8.4
Seeing evidence of off trail/road use (erosion, marks, etc.)	64.3	71.7	-7.4
Rude or discourteous users	71.4	71.9	-0.5
Others passing too closely	59.5	62.7	-3.2
Hearing other users on the trail	77.5	77.0	0.5
Others not yielding	57.1	65.9	-8.8

Schneider et al. (2009)

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

Source of conflict	Observed		
	% Central (n ≥ 56)	% Statewide (n ≥ 438)	Difference
Others going too fast	41.4	42.3	-0.9
Too many others on the trail	44.8	38.2	6.6
Seeing off trail/road use	50.0	49.9	0.1
Accessibility issue	17.2	22.7	-5.5
Others out of control	21.1	21.0	0.1
Litter on or near the trail	73.2	79.0	-5.8
Seeing evidence of off trail/road use (erosion, marks, etc.)	65.5	63.1	2.4
Rude or discourteous users	39.7	44.9	-5.2
Others passing too closely	37.9	43.3	-5.4
Hearing other users on the trail	70.7	74.0	-3.3
Others not yielding	34.5	41.3	-6.8

Schneider et al. (2009)

## Appendix 7

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

Coping Strategy	Used Strategy		
	% Central (n ≥ 8)	% Statewide (n ≥ 58)	Difference
Change the time I will ATV next time	18.2	18.2	0.0
Alter my pace to avoid others	29.5	22.3	7.2
Plan to avoid the area on my next visit	27.3	20.1	7.2
Talk to area personnel about the incident	29.5	26.1	3.4
Try not to burn bridges	31.8	32.4	-0.6
Stand my ground and fight for what I wanted	20.5	24.5	-4.0
Think about why the incident occurred	29.5	31.1	-1.6
I make a plan of action and follow it	34.1	29.6	4.5
I know what has to be done so I double my efforts to make it work	36.4	30.8	5.6
Make light of the situation	34.1	29.2	4.9
Keep others from knowing how bad things were	25.0	23.9	1.1
Try to get the person responsible to change their mind	31.8	25.5	6.3
Don't let it get to me; refuse to think about it too much	36.4	31.8	4.6
Come up with a couple of different solutions	31.8	28.6	3.2
Leave the area altogether	25.0	20.1	4.9
I try to keep my feelings to myself	34.1	29.2	4.9
Leave the area and go to a different part of the area	27.3	25.5	1.8
Express anger to the person who caused the incident	27.3	19.5	7.8
Wish the situation would go away or be over with	36.4	30.8	5.6
Talk to other members of my group about the incident	45.5	36.5	9.0
Try to forget the whole thing	31.8	27.4	4.4
Refuse to get too serious about it	31.8	32.1	-0.3
Follow established rules for trail etiquette	54.5	43.4	11.1
Go on as if nothing had happened	29.5	27.4	2.1

Schneider et al. (2009)

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

Coping Strategy	Used Strategy		
	% Central (n ≥ 8)	% Statewide (n ≥ 63)	Difference
Change the time I will bike next time	16.0	26.9	-10.9
Alter my pace to avoid others	22.0	28.8	-6.8
Plan to avoid the area on my next visit	20.0	25.1	-5.1
Talk to area personnel about the incident	26.0	26.0	0.0
Try not to burn bridges	32.0	35.6	-3.6
Stand my ground and fight for what I wanted	22.0	25.4	-3.4
Think about why the incident occurred	40.0	36.8	3.2
I make a plan of action and follow it	30.0	28.8	1.2
I know what has to be done so I double my efforts to make it work	34.0	32.2	1.8
Make light of the situation	30.0	36.8	-6.8
Keep others from knowing how bad things were	26.0	27.6	-1.6
Try to get the person responsible to change their mind	16.0	19.5	-3.5
Don't let it get to me; refuse to think about it too much	46.0	44.6	1.4
Come up with a couple of different solutions	24.0	27.6	-3.6
Leave the area altogether	18.0	24.1	-6.1
I try to keep my feelings to myself	40.0	25.4	14.6
Leave the area and go to a different part of the area	22.0	28.8	-6.8
Express anger to the person who caused the incident	18.0	21.4	-3.4
Wish the situation would go away or be over with	36.0	36.2	-0.2
Talk to other members of my group about the incident	44.0	40.6	3.4
Try to forget the whole thing	40.0	38.7	1.3
Refuse to get too serious about it	42.0	40.6	1.4
Follow established rules for trail etiquette	50.0	44.3	5.7
Go on as if nothing had happened	44.0	41.8	2.2

Schneider et al. (2009)

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

Coping Strategy	Used Strategy		
	% Central (n ≥ 17)	% Statewide (n ≥ 91)	Difference
Change the time I will ski next time	42.2	45.5	-3.3
Alter my pace to avoid others	50.0	52.3	-2.3
Plan to avoid the area on my next visit	48.9	49.8	-0.9
Talk to area personnel about the incident	59.1	52.4	6.7
Try not to burn bridges	70.5	63.5	7.0
Stand my ground and fight for what I wanted	46.7	35.8	10.9
Think about why the incident occurred	80.9	69.0	11.9
I make a plan of action and follow it	53.5	50.2	3.3
I know what has to be done so I double my efforts to make it work	68.9	57.0	11.9
Make light of the situation	75.6	68.9	6.7
Keep others from knowing how bad things were	56.8	49.2	7.6
Try to get the person responsible to change their mind	43.2	32.0	11.2
Don't let it get to me; refuse to think about it too much	86.7	80.8	5.9
Come up with a couple of different solutions	51.2	48.6	2.6
Leave the area altogether	45.5	36.9	8.6
I try to keep my feelings to myself	79.1	70.6	8.5
Leave the area and go to a different part of the area	45.5	50.2	-4.7
Express anger to the person who caused the incident	37.8	30.5	7.3
Wish the situation would go away or be over with	68.1	63.1	5.0
Talk to other members of my group about the incident	81.6	71.4	10.2
Try to forget the whole thing	76.1	68.8	7.3
Refuse to get too serious about it	86.7	81.3	5.4
Follow established rules for trail etiquette	92.0	87.0	5.0
Go on as if nothing had happened	84.4	74.6	9.8

Schneider et al. (2009)

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

Coping Strategy	Used Strategy		
	% Central (n ≥ 14)	% Statewide (n ≥ 100)	Difference
Change the time I will horseback ride next time	21.6	30.7	-9.1
Alter my pace to avoid others	25.7	20.1	5.6
Plan to avoid the area on my next visit	29.7	25.3	4.4
Talk to area personnel about the incident	31.1	30.1	1.0
Try not to burn bridges	37.8	35.5	2.3
Stand my ground and fight for what I wanted	27.0	27.3	-0.3
Think about why the incident occurred	43.2	39.6	3.6
I make a plan of action and follow it	29.7	30.1	-0.4
I know what has to be done so I double my efforts to make it work	35.1	25.3	9.8
Make light of the situation	33.8	23.3	10.5
Keep others from knowing how bad things were	27.0	24.9	2.1
Try to get the person responsible to change their mind	23.0	23.3	-0.3
Don't let it get to me; refuse to think about it too much	41.9	41.4	0.5
Come up with a couple of different solutions	36.5	30.9	5.6
Leave the area altogether	18.9	17.1	1.8
I try to keep my feelings to myself	39.2	33.1	6.1
Leave the area and go to a different part of the area	29.7	25.3	4.4
Express anger to the person who caused the incident	23.0	21.5	1.5
Wish the situation would go away or be over with	40.5	37.0	3.5
Talk to other members of my group about the incident	45.9	47.0	-1.1
Try to forget the whole thing	36.5	35.1	1.4
Refuse to get too serious about it	44.6	41.0	3.6
Follow established rules for trail etiquette	50.0	46.6	3.4
Go on as if nothing had happened	43.2	38.6	4.6

Schneider et al. (2009)

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

Coping Strategy	Used Strategy		
	% Central (n ≥ 13)	% Statewide (n ≥ 65)	Difference
Change the time I will off-highway motorcycle ride next time	26.5	20.7	5.8
Alter my pace to avoid others	36.7	27.1	9.6
Plan to avoid the area on my next visit	26.5	25.2	1.3
Talk to area personnel about the incident	36.7	32.8	3.9
Try not to burn bridges	36.7	35.0	1.7
Stand my ground and fight for what I wanted	24.5	24.5	0.0
Think about why the incident occurred	40.8	37.3	3.5
I make a plan of action and follow it	38.8	33.8	5.0
I know what has to be done so I double my efforts to make it work	40.8	36.6	4.2
Make light of the situation	44.9	34.7	10.2
Keep others from knowing how bad things were	34.7	27.4	7.3
Try to get the person responsible to change their mind	38.8	24.9	13.9
Don't let it get to me; refuse to think about it too much	40.8	36.3	4.5
Come up with a couple of different solutions	44.9	34.1	10.8
Leave the area altogether	30.6	24.5	6.1
I try to keep my feelings to myself	42.9	34.7	8.2
Leave the area and go to a different part of the area	38.8	31.8	7.0
Express anger to the person who caused the incident	30.6	23.9	6.7
Wish the situation would go away or be over with	40.8	34.7	6.1
Talk to other members of my group about the incident	46.9	45.9	1.0
Try to forget the whole thing	38.8	32.8	6.0
Refuse to get too serious about it	40.8	36.9	3.9
Follow established rules for trail etiquette	46.9	46.8	0.1
Go on as if nothing had happened	38.8	33.1	5.7

Schneider et al. (2009)

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

Coping Strategy	Used Strategy		
	% Central (n ≥ 13)	% Statewide (n ≥ 104)	Difference
Change the time I will snowmobile next time	59.4	52.5	6.9
Alter my pace to avoid others	61.3	62.1	-0.8
Plan to avoid the area on my next visit	56.3	52.3	4.0
Talk to area personnel about the incident	66.7	66.5	0.2
Try not to burn bridges	72.7	75.0	-2.3
Stand my ground and fight for what I wanted	63.6	60.1	3.5
Think about why the incident occurred	74.3	77.4	-3.1
I make a plan of action and follow it	68.8	62.4	6.4
I know what has to be done so I double my efforts to make it work	75.0	70.1	4.9
Make light of the situation	78.8	76.1	2.7
Keep others from knowing how bad things were	62.5	58.7	3.8
Try to get the person responsible to change their mind	60.0	54.4	5.6
Don't let it get to me; refuse to think about it too much	91.7	84.0	7.7
Come up with a couple of different solutions	62.5	67.0	-4.5
Leave the area altogether	41.9	46.2	-4.3
I try to keep my feelings to myself	82.4	78.9	3.5
Leave the area and go to a different part of the area	59.4	55.7	3.7
Express anger to the person who caused the incident	48.5	51.0	-2.5
Wish the situation would go away or be over with	69.4	71.9	-2.5
Talk to other members of my group about the incident	97.2	89.4	7.8
Try to forget the whole thing	86.1	77.6	8.5
Refuse to get too serious about it	86.1	85.2	0.9
Follow established rules for trail etiquette	100.0	95.8	4.2
Go on as if nothing had happened	80.0	78.6	1.4

Schneider et al. (2009)

**Table 7.7**  
**Use of coping strategies among walkers who experience interference**

Coping Strategy	Used Strategy		
	% Central (n ≥ 14)	% Statewide (n ≥ 88)	Difference
Change the time I will walk next time	30.5	30.4	0.1
Alter my pace to avoid others	27.1	28.8	-1.7
Plan to avoid the area on my next visit	27.1	27.3	-0.2
Talk to area personnel about the incident	35.6	29.3	6.3
Try not to burn bridges	32.2	34.1	-1.9
Stand my ground and fight for what I wanted	30.5	25.7	4.8
Think about why the incident occurred	37.3	40.8	-3.5
I make a plan of action and follow it	27.1	30.2	-3.1
I know what has to be done so I double my efforts to make it work	39.0	33.9	5.1
Make light of the situation	30.5	35.9	-5.4
Keep others from knowing how bad things were	27.1	28.6	-1.5
Try to get the person responsible to change their mind	20.3	19.5	0.8
Don't let it get to me; refuse to think about it too much	39.0	48.8	-9.8
Come up with a couple of different solutions	28.8	27.3	1.5
Leave the area altogether	23.7	22.6	1.1
I try to keep my feelings to myself	39.0	39.9	-0.9
Leave the area and go to a different part of the area	27.1	29.0	-1.9
Express anger to the person who caused the incident	23.7	21.7	2.0
Wish the situation would go away or be over with	33.9	40.1	-6.2
Talk to other members of my group about the incident	42.4	44.3	-1.9
Try to forget the whole thing	40.7	44.3	-3.6
Refuse to get too serious about it	47.5	48.1	-0.6
Follow established rules for trail etiquette	49.2	49.9	-0.7
Go on as if nothing had happened	45.8	42.6	3.2

Schneider et al. (2009)