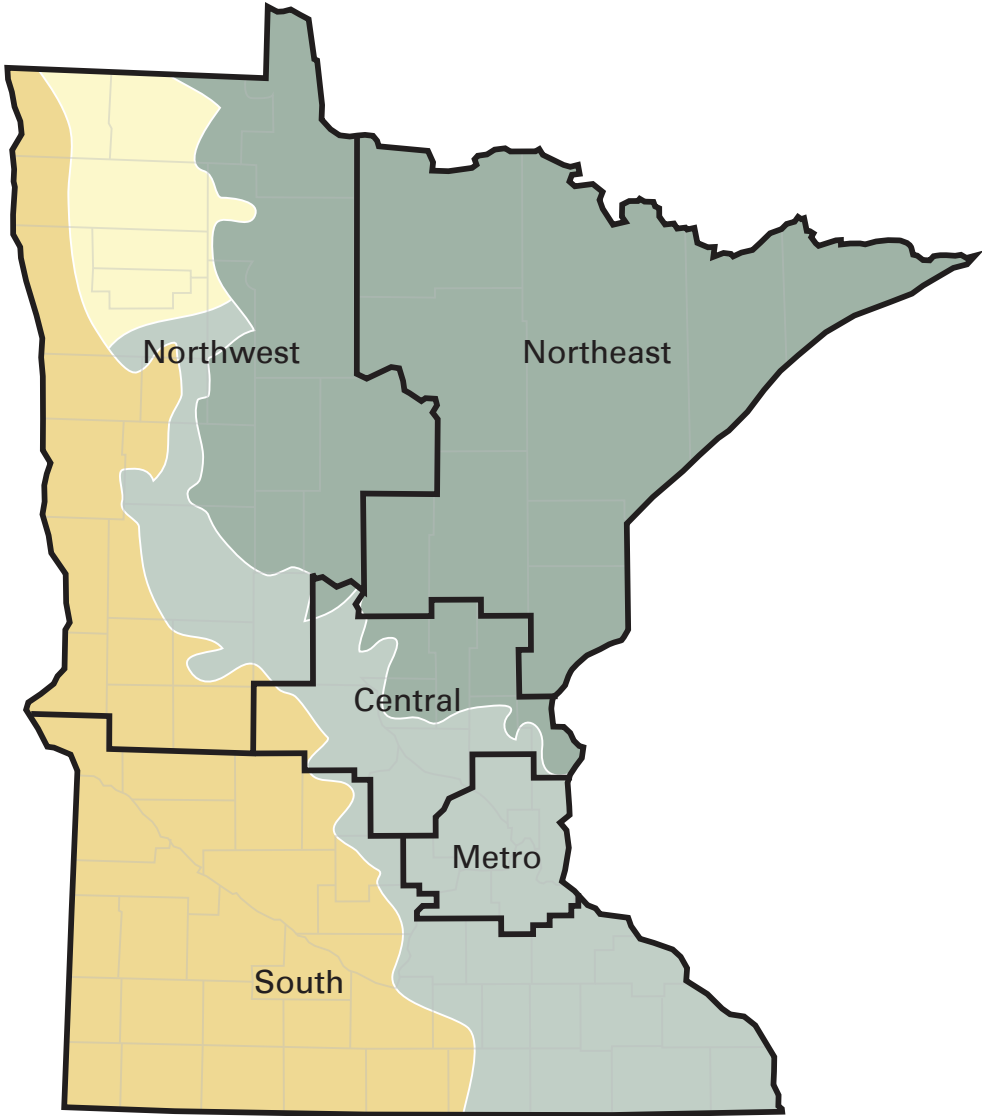


# Minnesota's Network of Parks & Trails

An Inventory of Recreation Experience  
Opportunities in Minnesota:

## Northwest Region Profile



### Draft 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 recreational 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 sociodemographic 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 Northwest 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) to 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
- 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) between 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.

## **Northwest Region Profile**

The Northwest Region consists of 24 counties bordered by Traverse, Stevens and Pope in the south and Lake of the Woods, Beltrami, Cass, Wadena, Otter Tail, Douglas and Todd on the east (see Appendix 2; Figure 2.1). In the Northwest Region a total of seven recreation experience opportunity studies conducted since 2000 were available for analysis: two region-wide studies and five site-specific studies (see Appendix 3 for list of studies and sites).

### **Sociodemographics**

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

In 2009, the population of the Northwest Region was about 448,000 people and accounted for about 9 percent of Minnesota's population (Appendix 4). Population projections, using 2005 population statistics, predict that by 2035 the Northwest region will grow by 17 percent but will account for slightly less than Minnesota's overall population (8%). The counties with the highest projected growth are Beltrami, Douglas, and Becker. In contrast, Kittson and Traverse Counties are projected to experience a decline in their populations by more than 20 percent. The population density of the Northwest Region (17.1 persons per square mile) is considerably less than that of the State overall (61.8 persons per square mile; Table 2). Douglas, Clay and Ottertail Counties have the highest population densities in the Region. Lake of the Woods, Kittson and Marshall Counties have the lowest population densities.

#### ***Age and Gender***

In general, the population of the Northwest Region is older than that of Minnesota as a whole. All of the counties in the region have a greater proportion of older residents (residents 65 years of age or older) than the State overall. The counties with the greatest proportion of older residents are Traverse, Grant and Kittson (Table 2). Similarly, the Northwest Region has a smaller proportion of younger residents (residents under 18 years of age) than Minnesota overall. Stevens, Lake of the Woods and Traverse Counties have the lowest percentage of younger residents, while Mahnomen, Roseau and Beltrami have the highest percentage—slightly higher than the Northwest Region and the State as a whole. Gender does not vary significantly between the counties and the Northwest Region or the State. Minnesota's proportion of female residents overall is 50.2 percent.

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

County	2005 Estimate	2035 Projection	% Change 2005-2035
Becker	32,203	40,790	26.7
Beltrami	43,334	57,900	33.6
Cass	29,196	36,600	25.4
Clay	54,385	68,140	25.3
Clearwater	8,564	9,530	11.3
Douglas	35,500	46,960	32.3
Grant	6,171	6,400	3.7
Hubbard	19,044	21,480	12.8
Kittson	4,836	3,620	-25.1
Lake of the Woods	4,463	4,500	0.8
Mahnomen	5,167	5,020	-2.8
Marshall	10,063	9,960	-1.0
Norman	7,072	7,000	-1.0
Otter Tail	58,232	64,040	10.0
Pennington	13,755	15,350	11.6
Polk	31,451	34,530	9.8
Pope	11,360	12,760	12.3
Red Lake	4,360	4,610	5.7
Roseau	16,689	19,430	16.4
Stevens	9,909	10,250	3.4
Todd	24,859	26,660	7.2
Traverse	3,843	2,920	-24.0
Wadena	13,787	15,440	12.0
Wilkin	6,876	6,460	-6.0
Region	455,119	530,350	16.5
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)

### Median Household Income

The median household income in the Northwest Region is about 23 percent less than the median household income in Minnesota overall. Clay, Roseau and Marshall Counties have higher median incomes than the Northwest Region overall. Clearwater, Mahnommen, and Wadena Counties have the biggest gap in median incomes when compared to the Region and State incomes (Table 2).

**Table 2**  
**Differences between Northwest Counties and the Northwest 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 (\$)***	
	NW	MN	NW	MN	NW	MN	NW	MN
Becker	5.8	-38.9	0.7	-1.1	-0.5	4.5	708	-12,245
Beltrami	-1.3	-46.0	<b>3.3</b>	<b>1.5</b>	<b>-4.4</b>	0.6	-1672	-14,625
Cass	-3.6	-48.3	-0.3	-2.1	1.8	6.8	-4004	-16,957
Clay	<b>31.9</b>	-12.8	0.0	-1.8	<b>-5.0</b>	0.0	<b>7795</b>	-5,158
Clearwater	-8.6	-53.3	0.7	-1.1	1.4	6.4	<b>-8208</b>	<b>-21,161</b>
Douglas	<b>34.7</b>	-10.0	-1.7	-3.5	1.7	6.7	1584	-11,369
Grant	-5.6	-50.3	-2.3	-4.1	<b>6.2</b>	<b>11.2</b>	-3426	-16,379
Hubbard	2.8	-41.9	-1.3	-3.1	3.3	8.3	-480	-13,433
Kittson	<b>-12.3</b>	<b>-57.0</b>	-2.5	-4.3	6.1	11.1	-3120	-16,073
Lake of the Woods	<b>-13.6</b>	<b>-58.3</b>	<b>-3.1</b>	<b>-4.9</b>	4.0	9.0	-2275	-15,228
Mahnomen	-7.8	-52.5	<b>5.7</b>	<b>3.9</b>	0.4	5.4	<b>-7607</b>	<b>-20,560</b>
Marshall	<b>-11.4</b>	<b>-56.1</b>	-1.6	-3.4	3.1	8.1	<b>2434</b>	-10,519
Norman	-8.6	-53.3	-0.7	-2.5	3.9	8.9	-4587	-17,540
Otter Tail	<b>11.8</b>	-32.9	-1.6	-3.4	3.0	8.0	-1990	-14,943
Pennington	4.9	-39.8	0.6	-1.2	-2.1	2.9	-926	-13,879
Polk	-1.2	-45.9	0.0	-1.8	-0.3	4.7	477	-12,476
Pope	-0.3	-45.0	-2.3	-4.1	3.8	8.8	379	-12,574
Red Lake	-7.1	-51.8	-1.4	-3.2	-0.5	4.5	-2703	-15,656
Roseau	-7.3	-52.0	<b>3.4</b>	<b>1.6</b>	<b>-5.0</b>	0.0	<b>5665</b>	-7,288
Stevens	0.8	-43.9	<b>-3.6</b>	<b>-5.4</b>	-0.5	4.5	2177	-10,776
Todd	8.8	-35.9	0.9	-0.9	-0.8	4.2	-3056	-16,009
Traverse	-9.9	-54.6	<b>-2.7</b>	<b>-4.5</b>	<b>11.3</b>	<b>16.3</b>	-369	-13,322
Wadena	8.5	-36.2	0.8	-1.0	3.7	8.7	<b>-6983</b>	<b>-19,936</b>
Wilkin	-7.6	-52.3	0.8	-1.0	-1.3	3.7	2319	-10,634
	<b>NW</b>	<b>MN</b>	<b>NW</b>	<b>MN</b>	<b>NW</b>	<b>MN</b>	<b>NW</b>	<b>MN</b>
Region and State Values:	17.1	61.8	22.2	24.0	17.5	12.5	42,711	55,664

Note: Cell shading indicates the 3 biggest positive (dark) and negative (light) differences in each column.

\*U.S. Census Data (2000). \*\*U.S. Census Data (2009). \*\*\*U.S. Census Data (2007)



### *Race and Ethnicity*

Nine of ten (89%) Minnesotans are white. Similarly, the percentage of white residents in the Northwest Region is equal to or exceeds Minnesota percentages overall in 19 of 24 counties. However, 14 counties in the Northwest Region have higher proportions of American Indian or Alaska Native residents than the state. Mahnomen, Beltrami, Cass, and Clearwater Counties have the highest proportion of American Indian or Alaska Native residents in the Region. The Northwest Region overall has a smaller proportion of black, Asian, and Hispanic or Latino residents than the State. The counties that have a greater proportion of Hispanic/Latino residents than the State are Polk, Todd, Norman and Marshall.

**Table 3**  
**Differences between Northwest Counties and the Northwest 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 (%)	
	NW	MN	NW	MN	NW	MN	NW	MN	NW	MN
Becker	-3.8	0.0	0.0	-4.1	3.0	6.5	-0.2	-3.1	-0.8	-2.8
Beltrami	<b>-16.1</b>	<b>-12.3</b>	<b>0.3</b>	-3.8	<b>14.9</b>	<b>18.4</b>	0.2	-2.7	-0.3	-2.3
Cass	<b>-6.1</b>	<b>-2.3</b>	-0.1	-4.2	<b>6.3</b>	<b>9.8</b>	-0.3	-3.2	-0.8	-2.8
Clay	2.5	6.3	0.2	-3.9	-3.2	0.3	<b>0.4</b>	-2.5	1.2	-0.8
Clearwater	-3.9	-0.1	-0.2	-4.3	4.1	7.6	<b>-0.4</b>	<b>-3.3</b>	-1.1	-3.1
Douglas	5.5	9.3	-0.2	-4.3	<b>-4.4</b>	<b>-0.9</b>	-0.1	-3.0	-1.2	-3.2
Grant	<b>5.6</b>	<b>9.4</b>	-0.3	-4.4	<b>-4.4</b>	<b>-0.9</b>	<b>-0.4</b>	<b>-3.3</b>	-0.9	-2.9
Hubbard	3.2	7.0	-0.2	-4.3	-2.4	1.1	-0.3	-3.2	-0.7	-2.7
Kittson	5.5	9.3	<b>-0.4</b>	<b>-4.5</b>	-4.3	-0.8	-0.3	-3.2	-0.5	-2.5
Lake of the Woods	3.1	6.9	-0.1	-4.2	-2.5	1.0	-0.3	-3.2	-1.3	<b>-3.3</b>
Mahnomen	<b>-34.7</b>	<b>-30.9</b>	-0.1	-4.2	<b>27.0</b>	<b>30.5</b>	<b>-0.5</b>	<b>-3.4</b>	0.8	-1.2
Marshall	<b>5.7</b>	<b>9.5</b>	<b>-0.4</b>	<b>-4.5</b>	-4.3	-0.8	-0.3	-3.2	2.1	0.1
Norman	2.9	6.7	-0.3	-4.4	-2.4	1.1	-0.3	-3.2	<b>2.3</b>	<b>0.3</b>
Otter Tail	5.0	8.8	-0.2	-4.3	-4.1	-0.6	-0.2	-3.1	-0.1	-2.1
Pennington	3.0	6.8	<b>0.2</b>	-3.9	-3.2	0.3	0.3	-2.6	0.2	-1.8
Polk	3.3	7.1	0.0	-4.1	-3.0	0.5	-0.2	-3.1	<b>2.9</b>	<b>0.9</b>
Pope	<b>5.9</b>	<b>9.7</b>	-0.2	-4.3	<b>-4.4</b>	<b>-0.9</b>	<b>-0.5</b>	<b>-3.4</b>	-1.3	<b>-3.3</b>
Red Lake	4.0	7.8	-0.3	-4.4	-2.3	1.2	-0.2	-3.1	-0.6	-2.6
Roseau	2.2	6.0	-0.3	-4.4	-2.9	0.6	<b>1.4</b>	-1.5	-1.4	<b>-3.4</b>
Stevens	2.0	5.8	<b>1.2</b>	-2.9	-3.7	-0.2	<b>0.8</b>	-2.1	-0.5	-2.5
Todd	5.1	8.9	<b>-0.4</b>	<b>-4.5</b>	-4.0	-0.5	-0.2	-3.1	<b>2.4</b>	<b>0.4</b>
Traverse	2.7	6.5	<b>-0.4</b>	<b>-4.5</b>	-1.1	2.4	-0.3	-3.2	-0.2	-2.2
Wadena	4.9	8.7	0.1	-4.0	-4.0	-0.5	<b>-0.4</b>	<b>-3.3</b>	-0.9	-2.9
Wilkin	4.8	8.6	-0.3	-4.4	-3.8	-0.3	<b>-0.4</b>	<b>-3.3</b>	0.7	-1.3
	<b>NW</b>	<b>MN</b>	<b>NW</b>	<b>MN</b>	<b>NW</b>	<b>MN</b>	<b>NW</b>	<b>MN</b>	<b>NW</b>	<b>MN</b>
Region and State Values:	92.8	89.0	0.5	4.6	4.7	1.2	0.6	3.5	2.1	4.1

Note: Cell shading indicates the 3 biggest positive (dark) and negative (light) differences in each column. U.S. Census Data (2009)

## Participation in Recreation Activities

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

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

Activity	Northwest (%)	Statewide (%)	Difference (%)
Walking/hiking	48	54	-6.0
Boating of all types, including fishing from a boat	43	43	0.0
Swimming or wading (all places)	37	41	-4.0
Driving for pleasure on scenic roads or in a park	40	37	3.0
Picnicking	34	36	-2.0
Fishing of all types	35	30	5.0
Biking (bicycling of all types, including mountain biking)	19	29	-10.0
Camping of all types	30	26	4.0
Visiting nature centers	19	25	-6.0
Nature observation of all types (e.g., viewing, identifying)	20	24	-4.0
Golfing	19	24	-5.0
Outdoor field sports (e.g., soccer, softball/baseball, football)	21	21	0.0
Visiting historic or archaeological sites	17	21	-4.0
Sledding and snow tubing	15	18	-3.0
Outdoor court sports (e.g., volleyball, basketball, tennis)	15	18	-3.0
Hunting of all types	23	16	7.0
Running or jogging	6	14	-8.0
Ice skating/hockey outdoors	5	12	-7.0
Inline skating, rollerblading, roller skating, roller skiing	6	11	-5.0
Off-road ATV driving	17	10	7.0
Snowmobiling	16	10	6.0
Downhill skiing/snowboarding	3	9	-6.0
Gather mushrooms, berries, or other wild foods	11	9	2.0
Cross country skiing	4	7	-3.0
Horseback riding	3	5	-2.0
Snowshoeing	2	4	-2.0

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

Recreation activities such as walking and hiking were reported by visitors surveyed at the Paul Bunyan Trail, Heartland Trail, Soo Line Trail, Foot Hills Forest Area, and Land O'Lakes State Forest. (Kelly, 2009a, 2009b). Fishing was reported at four of the five sites. Respondents reported camping, off-highway vehicle (ATV, OHM and/or ORV) riding, and wildlife viewing at

three of the five sites. Inline skating, road biking, snowmobiling, mountain biking, and hunting were reported at two of the five sites. Finally, cross-country skiing and horseback riding were reported at one site.

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

Activity	Trail			Forest	
	Paul Bunyan Trail	Heartland Trail	Soo Line Trail	Foot Hills Forest Area	Land O'Lakes State Forest
Hiking	x	x	x	x	x
Walking	x	x	x	x	x
Inline skating	x	x			
Road biking	x	x			
Snowmobiling	x	x			
Fishing	x	x		x	x
Camping	x	x		x	
Mountain biking	x	x			
Cross-country skiing		x			
Horseback riding		x			
OHV riding			x	x	x
Wildlife viewing			x	x	x
Hunting				x	x

Note: Five most frequently reported recreation activities respondents participated in at each site (more than five activities presented represent ties among activities).

Kelly, T. (2009a, 2009b)

## Nature-Based Tourism in the Northwest Region

The most recent 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 recreational activity. The most common activities were fishing (28%), pool swimming (23%) and lake/river swimming (20%; Table 6).

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

Activity	% Recreation Participation
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 all-terrain vehicle driving	4
Downhill skiing or snowboarding	2
Hunting	2
Ice Fishing	2
Snowmobiling	2
Cross-country skiing	1

Note: Davidson-Peterson (2008)

<sup>1</sup> The North Central/West Region comprises all of the counties in the Northwest Region except Traverse and in addition to Benton, Crow Wing, Mille Lacs, Morrison, Sherburne and Stearns.

## Recreation Experiences

### *Recreation Experience Motivations*

A recent trail study revealed that statewide, Minnesota’s recreational 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. Northwest trail users identified the attributes, “to be on my own” and “to experience silence and quiet” as more important than Statewide trail users (Table 7). Meanwhile, “to enjoy different experiences from home” and “to challenge myself” were less important to Northwest trail users compared with Statewide trail users.

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

Reasons for participating	Average Importance <sup>a</sup> among Trail Users <sup>b</sup>		
	Northwest (n ≥ 460)	State (n ≥ 3023)	Difference
To view the scenery	4.29	4.26	0.03
To be close to nature	4.22	4.19	0.03
To be physically active	4.22	4.15	0.07
To get away from the usual demands of life	4.18	4.19	-0.01
To experience nature	4.18	4.15	0.03
To explore and discover new things	4.01	4.06	-0.05
To get/keep physically fit	3.99	3.90	0.09
To relax physically	3.97	3.92	0.05
To do something with my family	3.94	3.90	0.04
To rest mentally	3.77	3.71	0.06
To experience solitude	3.75	3.65	<b>0.1</b>
To enjoy different experiences from home	3.73	3.81	<b>-0.08</b>
To be w/people who enjoy the same things I do	3.67	3.70	-0.03
To experience silence & quiet	3.61	3.50	<b>0.11</b>
To be on my own	3.42	3.26	<b>0.16</b>
To challenge myself	3.36	3.43	<b>-0.07</b>
To be with members of my own group	3.29	3.33	-0.04
To have thrills & excitement	3.21	3.26	-0.05
To test my skills & abilities	3.13	3.19	<b>-0.06</b>
To be away from other people	3.11	3.06	0.05

<sup>a</sup>Based on respondents rating experiences on a scale 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 between the region and the state. Schneider et al. (2009)

Site-specific recreation experience data were limited to two sites, both State Forest areas (Kelly, 2009b). The five most frequently sought recreation experiences at the two forest locations included nature viewing, peace and quiet, being with family and friends, getting away, as well as rest and relaxation (Table 8).

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

Recreation experience sought	Forest	
	Foot Hills Forest Area	Land O'Lakes State Forest
Nature viewing	x	x
Peace & quiet	x	x
Family & friends	x	x
Get away	x	x
Rest & relaxation	x	x
Exploration		x

Note: Five most frequently reported experiences respondents sought at each site (more than five activities presented represent ties among activities).

Kelly, T. (2009b)

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

Among Minnesota recreational 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 Northwest rated the frequency of encountering conflicts similarly to statewide trail users. The greatest regional differences are that Northwest trail users less frequently reported “hearing other users on the trail,” “seeing evidence of off trail/road use,” and “others not yielding” (Table 9).

At the four sites with data on recreation problems, a variety of issues emerged (Table 10). Differences in problems encountered varied whether the resource was a trail or a forest area. Notably, where respondents could choose “no problems encountered”, the vast majority of respondents did so (Paul Bunyan Trail: 90% no problem, Heartland Trail: 91% no problem).

**Table 9**  
**Differences between Northwest Region and Statewide Trail Users in Sources of Recreational Conflict**

Source of Conflict	Average Frequency of Conflict <sup>a</sup> among Trail Users <sup>b</sup>		
	Northwest (n ≥ 404)	State (n ≥ 2697)	Difference
Hearing other users on the trail	0.94	1.01	-0.07
Litter on or near the trail	0.87	0.85	0.02
Seeing evidence of off trail / road use	0.80	0.87	-0.07
Seeing off trail / road use	0.74	0.74	0.00
Others going too fast	0.55	0.56	-0.01
Rude or discourteous users	0.45	0.49	-0.04
Accessibility issue	0.43	0.43	0.00
Others passing too closely	0.41	0.46	-0.05
Too many others on the trail	0.40	0.46	-0.06
Others not yielding	0.39	0.46	-0.07
Others out of control	0.35	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 1 positive (dark) and 3 biggest negative (light) differences.

Schneider et al. (2009)

**Table 10**  
**Problems Encountered at Recreation Sites in the Northwest Region**

Problems Encountered	Trail		Forest	
	Paul Bunyan Trail	Heartland Trail	Foot Hills Forest Area	Land O'Lakes State Forest
<b>No Problems Encountered (%)</b>	<b>90</b>	<b>91</b>	<b>n/a</b>	<b>n/a</b>
Other trail users blocking traffic/ not keeping right	x	x		
Other trail users passing without warning	x	x		
Irresponsible/unsafe behavior by others	x		x	
Other people's pets	x			
Unfriendly/discourteous behavior		x	x	
Feelings of insecurity or concerns about personal safety		x		
Other trail users going too fast		x		
Environmental effects from recreation			x	x
Lack of access to toilet facilities/ drinking water			x	x
Lack of on-site visitor information			x	x
Litter				x
Negative effects from logging activities				x

Five most frequently reported problems respondents encountered at each site (more than five activities presented represent ties among activities).

Kelly, T. (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 Northwest region, trail participants use a variety of responses when they encounter recreation conflict (Table 11). The largest regional differences in responses to conflict are that Northwest trail users are more likely to “plan to avoid the area on my next visit,” and less likely to “wish the situation would go away or be over with” than statewide trail users.

**Table 11**  
**Differences between Northwest Region and Statewide Trail Users in Response to Recreational Conflict**

Response	Response to Conflict <sup>a</sup> among Trail Users <sup>b</sup>		
	Northwest (n ≥ 216)	State (n ≥ 1491)	Difference
Follow establish rules for trail etiquette	2.31	2.45	-0.14
Talk to other members of my group about the incident	1.76	1.87	-0.11
Don't let it get to me; refuse to think about it too much	1.59	1.72	-0.13
Refuse to get too serious about it	1.59	1.71	-0.12
Try not to burn bridges	1.46	1.49	-0.03
Go on as if nothing had happened	1.41	1.48	-0.07
Think about why the incident occurred	1.40	1.49	-0.09
Try to forget the whole thing	1.34	1.42	-0.08
Wish the situation would go away or be over with	1.31	1.50	-0.19
I try to keep my feelings to myself	1.30	1.35	-0.05
I know what has to be done so I double my efforts to make it work	1.22	1.22	0.00
Make light of the situation	1.21	1.25	-0.04
I make a plan of action and follow it	1.14	1.09	0.05
Come up with a couple of different solutions	1.06	1.02	0.04
Talk to area personnel about the incident	1.02	1.00	0.02
Leave the area and to a different part of the area	1.02	0.98	0.04
Plan to avoid the area on my next visit	1.01	0.89	0.12
Alter my pace to avoid others	0.94	0.98	-0.04
Change the time I will use the trail next time	0.91	0.85	0.06
Keep others from knowing how bad things were	0.86	0.82	0.04
Stand my ground and fight for what I wanted	0.81	0.79	0.02
Try to get the person responsible to change their mind	0.76	0.71	0.05
Leave the area altogether	0.75	0.68	0.07
Express anger to the person who caused the incident	0.58	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. Schneider et al. (2009)

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# 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 Northwest Region

Becker	Norman
Beltrami	Otter Tail
Cass	Pennington
Clay	Polk
Clearwater	Pope
Douglas	Red Lake
Grant	Roseau
Hubbard	Stevens
Kittson	Todd
Lake of the Woods	Traverse
Mahnomen	Wadena
Marshall	Wilkin

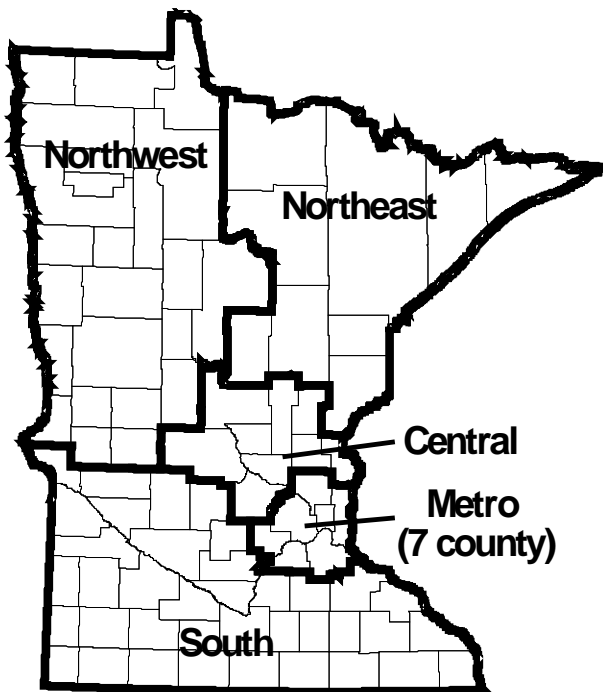


Figure 2.1 Minnesota Regions

## Appendix 3

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

Region-wide studies	
2008 Profile of Recreational Trail Users	
2004 Outdoor Recreation Participation Survey of Minnesotans	
Site-specific studies	Sites included
Results of 2007-08 Paul Bunyan and Heartland State Trail Studies	<ul style="list-style-type: none"> <li>• Heartland Trail</li> <li>• Paul Bunyan State Trail</li> </ul>
Outdoor Recreation Study of the Foot Hills Forest Area, Summer & Fall 2004	<ul style="list-style-type: none"> <li>• Foot Hills Forest Area</li> </ul>
Results for Three Forest Recreation Studies: Foot Hills, 2004; Finland, 2007-08, Land O'Lakes, 2007-09	<ul style="list-style-type: none"> <li>• Land O'Lakes State Forest</li> <li>• Soo Line State Trail</li> </ul>

## Appendix 4

**Table 4.1  
Northwest Region Demographics by County**

County/ attribute	Population	Persons /sq mile, 2000	Persons < 18 (%)	Persons ≥ 65 (%)	Female (%)	White (%)	Black (%)	American Indian / Alaska (%)	Asian (%)	Hispanic / Latino (%)	Median household Income (\$), 2007
Becker	32,000	22.9	22.9	17.0	50.2	89.0	0.5	7.7	0.4	1.3	43,419
Beltrami	43,835	15.8	25.5	13.1	50.9	76.7	0.8	19.6	0.8	1.8	41,039
Cass	28,732	13.5	21.9	19.3	50.1	86.7	0.4	11.0	0.3	1.3	38,707
Clay	55,767	49.0	22.2	12.5	51.4	95.3	0.7	1.5	1.0	3.3	50,506
Clearwater	8,249	8.5	22.9	18.9	50.0	88.9	0.3	8.8	0.2	1.0	34,503
Douglas	36,258	51.8	20.5	19.2	50.2	98.3	0.3	0.3	0.5	0.9	44,295
Grant	6,005	11.5	19.9	23.7	51.1	98.4	0.2	0.3	0.2	1.2	39,285
Hubbard	18,810	19.9	20.9	20.8	50.1	96.0	0.3	2.3	0.3	1.4	42,231
Kittson	4,462	4.8	19.7	23.6	50.5	98.3	0.1	0.4	0.3	1.6	39,591
Lake of the Woods	3,985	3.5	19.1	21.5	50.2	95.9	0.4	2.2	0.3	0.8	40,436
Mahnomen	5,128	9.3	27.9	17.9	49.6	58.1	0.4	31.7	0.1	2.9	35,104
Marshall	9,502	5.7	20.6	20.6	49.3	98.5	0.1	0.4	0.3	4.2	45,145
Norman	6,605	8.5	21.5	21.4	50.2	95.7	0.2	2.3	0.3	4.4	38,124
Otter Tail	56,786	28.9	20.6	20.5	50.0	97.8	0.3	0.6	0.4	2.0	40,721
Pennington	13,747	22.0	22.8	15.4	50.7	95.8	0.7	1.5	0.9	2.3	41,785
Polk	30,694	15.9	22.2	17.2	50.4	96.1	0.5	1.7	0.4	5.0	43,188
Pope	11,030	16.8	19.9	21.3	50.5	98.7	0.3	0.3	0.1	0.8	43,090
Red Lake	4,069	10.0	20.8	17.0	49.4	96.8	0.2	2.4	Z	1.5	40,008
Roseau	15,865	9.8	25.6	12.5	48.8	95.0	0.2	1.8	2.0	0.7	48,376
Stevens	9,661	17.9	18.6	17.0	50.8	94.8	1.7	1.0	1.4	1.6	44,888
Todd	23,917	25.9	23.1	16.7	49.2	97.9	0.1	0.7	0.4	4.5	39,655
Traverse	3,660	7.2	19.5	28.8	50.8	95.5	0.1	3.6	0.3	1.9	42,342
Wadena	13,311	25.6	23.0	21.2	50.8	97.7	0.6	0.7	0.2	1.2	35,728
Wilkin	6,286	9.5	23.0	16.2	49.9	97.6	0.2	0.9	0.2	2.8	45,030
Region	448,364	17.1	22.2	17.5	50.3	93.1	0.5	4.5	0.6	2.2	42,711
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: Z = Value greater than zero but less than half unit of measure shown  
U.S. Census (2009)



## Appendix 5

**Table 5.1**  
**Reasons for all-terrain vehicle riding**

Reasons for participating	Identified as Important or Very Important		
	% Northwest (n ≥ 44)	% Statewide (n ≥ 308)	Difference
To be on my own	54.6	45.8	8.8
To be away from other people	45.5	36.5	9.0
To be close to nature	84.1	81.1	3.0
To get away from the usual demands of life	79.6	77.8	1.8
To relax physically	79.6	64.9	14.7
To view the scenery	86.3	85.9	0.4
To experience silence & quiet	56.8	45.3	11.5
To experience solitude	47.8	51.3	-3.5
To have thrills & excitement	43.2	48.9	-5.7
To rest mentally	59.1	51.8	7.3
To experience nature	88.6	83.0	5.6
To be w/people who enjoy the same things I do	70.5	66.1	4.4
To challenge myself	31.9	30.9	1.0
To test my skills & abilities	9.3	29.1	-19.8
To explore and discover new things	77.3	78.5	-1.2
To do something with my family	75.0	71.6	3.4
To get/keep physically fit	38.6	36.2	2.4
To be physically active	24.3	55.0	-30.7
To be with members of my own group	54.5	49.4	5.1
To enjoy different experiences from home	63.7	65.3	-1.6

Schneider et al. (2009)

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

Reasons for participating	Identified as Important or Very Important		
	% Northwest (n ≥ 71)	% Statewide (n ≥ 310)	% Difference
To be on my own	49.3	40.3	9.0
To be away from other people	31.0	30.1	0.9
To be close to nature	87.5	83.9	3.6
To get away from the usual demands of life	85.9	82.2	3.7
To relax physically	80.5	75.0	5.5
To view the scenery	94.4	88.9	5.5
To experience silence & quiet	60.6	59.0	1.6
To experience solitude	71.9	62.5	9.4
To have thrills & excitement	20.8	28.8	-8.0
To rest mentally	76.0	66.2	9.8
To experience nature	88.8	84.4	4.4
To be w/people who enjoy the same things I do	56.9	55.1	1.8
To challenge myself	48.6	49.7	-1.1
To test my skills & abilities	31.0	27.0	4.0
To explore and discover new things	72.2	76.0	-3.8
To do something with my family	70.4	74.8	-4.4
To get/keep physically fit	94.4	90.8	3.6
To be physically active	97.3	94.0	3.3
To be with members of my own group	31.0	35.0	-4.0
To enjoy different experiences from home	72.2	68.6	3.6

Schneider et al. (2009)

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

Reasons for participating	Identified as Important or Very Important		
	% Northwest (n ≥ 86)	% Statewide (n ≥ 497)	% Difference
To be on my own	45.3	39.0	6.3
To be away from other people	35.2	33.9	1.3
To be close to nature	95.3	94.1	1.2
To get away from the usual demands of life	79.6	81.1	-1.5
To relax physically	85.2	74.7	10.5
To view the scenery	93.2	94.2	-1.0
To experience silence & quiet	80.1	77.0	3.1
To experience solitude	73.3	69.0	4.3
To have thrills & excitement	39.0	34.0	5.0
To rest mentally	71.3	70.4	0.9
To experience nature	94.3	93.9	0.4
To be w/people who enjoy the same things I do	50.0	54.3	-4.3
To challenge myself	56.8	62.6	-5.8
To test my skills & abilities	43.2	42.6	0.6
To explore and discover new things	67.0	74.0	-7.0
To do something with my family	62.5	63.6	-1.1
To get/keep physically fit	95.4	94.4	1.0
To be physically active	96.6	96.1	0.5
To be with members of my own group	32.2	31.5	0.7
To enjoy different experiences from home	60.2	69.5	-9.3

Schneider et al. (2009)

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

Reasons for participating	Identified as Important or Very Important		
	% Northwest (n ≥ 62)	% Statewide (n ≥ 445)	% Difference
To be on my own	59.7	50.3	9.4
To be away from other people	41.4	37.9	3.5
To be close to nature	95.1	94.0	1.1
To get away from the usual demands of life	98.4	93.6	4.8
To relax physically	88.8	89.8	-1.0
To view the scenery	96.8	96.4	0.4
To experience silence & quiet	82.5	74.9	7.6
To experience solitude	79.4	70.2	9.2
To have thrills & excitement	52.4	46.4	6.0
To rest mentally	93.7	81.8	11.9
To experience nature	93.7	93.1	0.6
To be w/people who enjoy the same things I do	85.5	85.7	-0.2
To challenge myself	63.5	60.3	3.2
To test my skills & abilities	55.5	56.4	-0.9
To explore and discover new things	96.8	90.0	6.8
To do something with my family	71.5	70.8	0.7
To get/keep physically fit	76.2	78.3	-2.1
To be physically active	93.6	88.0	5.6
To be with members of my own group	82.5	71.9	10.6
To enjoy different experiences from home	82.5	80.2	2.3

Schneider et al. (2009)

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

Reasons for participating	Identified as Important or Very Important		
	% Northwest (n ≥ 47)	% Statewide (n ≥ 307)	% Difference
To be on my own	46.8	45.9	0.9
To be away from other people	36.1	32.7	3.4
To be close to nature	68.0	72.9	-4.9
To get away from the usual demands of life	84.8	87.3	-2.5
To relax physically	63.9	66.6	-2.7
To view the scenery	76.6	79.5	-2.9
To experience silence & quiet	25.5	30.2	-4.7
To experience solitude	53.2	47.9	5.3
To have thrills & excitement	78.7	81.3	-2.6
To rest mentally	66.0	59.7	6.3
To experience nature	70.2	72.3	-2.1
To be w/people who enjoy the same things I do	68.1	74.7	-6.6
To challenge myself	66.0	71.9	-5.9
To test my skills & abilities	68.1	70.4	-2.3
To explore and discover new things	76.6	86.1	-9.5
To do something with my family	76.6	74.7	1.9
To get/keep physically fit	68.1	68.9	-0.8
To be physically active	85.1	82.8	2.3
To be with members of my own group	59.5	64.1	-4.6
To enjoy different experiences from home	70.3	77.4	-7.1

Schneider et al. (2009)

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

Reasons for participating	Identified as Important or Very Important		
	% Northwest (n ≥ 49)	% Statewide (n ≥ 369)	% Difference
To be on my own	55.1	41.5	13.6
To be away from other people	22.0	30.9	-8.9
To be close to nature	78.0	78.7	-0.7
To get away from the usual demands of life	68.0	82.7	-14.7
To relax physically	62.0	66.7	-4.7
To view the scenery	80.0	85.9	-5.9
To experience silence & quiet	44.0	37.7	6.3
To experience solitude	48.0	50.8	-2.8
To have thrills & excitement	38.8	61.6	-22.8
To rest mentally	60.0	55.4	4.6
To experience nature	80.0	79.7	0.3
To be w/people who enjoy the same things I do	64.0	71.6	-7.6
To challenge myself	26.0	53.1	-27.1
To test my skills & abilities	22.0	51.7	-29.7
To explore and discover new things	80.0	81.6	-1.6
To do something with my family	82.0	79.0	3.0
To get/keep physically fit	46.0	35.9	10.1
To be physically active	60.0	54.7	5.3
To be with members of my own group	48.0	60.7	-12.7
To enjoy different experiences from home	66.0	73.8	-7.8

Schneider et al. (2009)

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

Reasons for participating	Identified as Important or Very Important		
	% Northwest (n ≥ 43)	% Statewide (n ≥ 261)	% Difference
To be on my own	48.8	37.5	11.3
To be away from other people	32.6	28.5	4.1
To be close to nature	76.7	82.1	-5.4
To get away from the usual demands of life	86.0	83.2	2.8
To relax physically	62.8	61.7	1.1
To view the scenery	83.7	91.2	-7.5
To experience silence & quiet	39.5	35.7	3.8
To experience solitude	51.2	53.3	-2.1
To have thrills & excitement	65.1	62.4	2.7
To rest mentally	55.8	54.6	1.2
To experience nature	73.8	84.7	-10.9
To be w/people who enjoy the same things I do	76.7	75.3	1.4
To challenge myself	46.5	39.7	6.8
To test my skills & abilities	39.5	32.7	6.8
To explore and discover new things	74.4	79.8	-5.4
To do something with my family	86.0	79.5	6.5
To get/keep physically fit	58.1	50.2	7.9
To be physically active	72.1	67.3	4.8
To be with members of my own group	65.1	68.1	-3.0
To enjoy different experiences from home	72.1	73.0	-0.9

Schneider et al. (2009)

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

Reasons for participating	Identified as Important or Very Important		
	% Northwest (n ≥ 55)	% Statewide (n ≥ 431)	% Difference
To be on my own	54.5	43.2	11.3
To be away from other people	45.5	34.4	11.1
To be close to nature	98.2	89.9	8.3
To get away from the usual demands of life	87.3	79.8	7.5
To relax physically	85.5	80.6	4.9
To view the scenery	96.4	91.7	4.7
To experience silence & quiet	70.9	66.7	4.2
To experience solitude	67.3	64.1	3.2
To have thrills & excitement	21.8	18.8	3.0
To rest mentally	74.5	71.8	2.7
To experience nature	89.1	88.3	0.8
To be w/people who enjoy the same things I do	49.1	48.3	0.8
To challenge myself	34.5	34.2	0.3
To test my skills & abilities	23.6	23.9	-0.3
To explore and discover new things	72.7	73.2	-0.5
To do something with my family	69.1	70.1	-1.0
To get/keep physically fit	85.5	87.2	-1.7
To be physically active	90.9	94.0	-3.1
To be with members of my own group	25.5	28.8	-3.3
To enjoy different experiences from home	56.4	65.4	-9.0

Schneider et al. (2009)



## Appendix 6

**Table 6.1**  
**Sources of conflict among all-terrain vehicle riders**

Source of conflict	Observed		
	% Northwest (n ≥ 49)	% Statewide (n ≥ 275)	% Difference
Others going too fast	49.0	55.6	-6.6
Too many others on the trail	42.9	33.7	9.2
Seeing off trail/road use	51.0	62.9	-11.9
Accessibility issue	20.4	40.7	-20.3
Others out of control	20.4	35.3	-14.9
Litter on or near the trail	73.5	63.3	10.2
Seeing evidence of off trail/road use (erosion, marks, etc.)	57.1	68.1	-11.0
Rude or discourteous users	38.8	41.6	-2.8
Others passing too closely	38.8	32.1	6.7
Hearing other users on the trail	65.3	61.6	3.7
Others not yielding	32.7	37.8	-5.1

Note: Based on observations of potential conflict among respondents to a mail questionnaire, 2008  
Schneider et al. (2009)

**Table 6.2**  
**Sources of conflict among bicycle riders**

Source of conflict	Observed		
	% Northwest (n ≥ 67)	% Statewide (n ≥ 304)	% Difference
Others going too fast	37.2	36.5	0.7
Too many others on the trail	22.5	31.2	-8.7
Seeing off trail/road use	47.8	50.6	-2.8
Accessibility issue	18.5	21.9	-3.4
Others out of control	14.3	22.8	-8.5
Litter on or near the trail	72.8	74.2	-1.4
Seeing evidence of off trail/road use (erosion, marks, etc.)	49.3	57.4	-8.1
Rude or discourteous users	25.7	43.1	-17.4
Others passing too closely	38.6	45.4	-6.8
Hearing other users on the trail	74.3	71.8	2.5
Others not yielding	41.4	52.3	-10.9

Note: Based on observations of potential conflict among respondents to a mail questionnaire, 2008  
Schneider et al. (2009)

**Table 6.3**  
**Sources of conflict among cross-country skiers**

Source of conflict	Observed		
	% Northwest (n ≥ 85)	% Statewide (n ≥ 499)	% Difference
Others going too fast	17.0	17.4	-0.4
Too many others on the trail	15.8	29.0	-13.2
Seeing off trail/road use	44.8	45.7	-0.9
Accessibility issue	9.0	11.4	-2.4
Others out of control	15.8	22.4	-6.6
Litter on or near the trail	39.5	41.8	-2.3
Seeing evidence of off trail/road use (erosion, marks, etc.)	52.8	50.8	2.0
Rude or discourteous users	19.5	21.6	-2.1
Others passing too closely	12.5	21.1	-8.6
Hearing other users on the trail	69.4	73.1	-3.7
Others not yielding	17.0	23.8	-6.8

Note: Based on observations of potential conflict among respondents to a mail questionnaire, 2008  
 Schneider et al. (2009)

**Table 6.4**  
**Sources of conflict among horseback riders**

Source of conflict	Observed		
	% Northwest (n ≥ 61)	% Statewide (n ≥ 439)	% Difference
Others going too fast	45.2	41.4	3.8
Too many others on the trail	35.5	31.6	3.9
Seeing off trail/road use	54.1	55.3	-1.2
Accessibility issue	36.1	35.1	1.0
Others out of control	46.0	40.0	6.0
Litter on or near the trail	70.5	70.3	0.2
Seeing evidence of off trail/road use (erosion, marks, etc.)	52.4	61.7	-9.3
Rude or discourteous users	52.4	48.0	4.4
Others passing too closely	46.8	41.4	5.4
Hearing other users on the trail	73.0	75.6	-2.6
Others not yielding	35.5	33.3	2.2

Note: Based on observations of potential conflict among respondents to a mail questionnaire, 2008  
 Schneider et al. (2009)

**Table 6.6**  
**Sources of conflict among off-highway motorcycle riders**

Source of conflict	Observed		
	% Northwest (n ≥ 45)	% Statewide (n ≥ 286)	% Difference
Others going too fast	46.7	53.1	-6.4
Too many others on the trail	30.4	38.3	-7.9
Seeing off trail/road use	46.5	51.4	-4.9
Accessibility issue	45.7	45.0	0.7
Others out of control	35.6	37.8	-2.2
Litter on or near the trail	60.9	53.7	7.2
Seeing evidence of off trail/road use (erosion, marks, etc.)	67.4	67.5	-0.1
Rude or discourteous users	37.0	42.0	-5.0
Others passing too closely	35.6	34.6	1.0
Hearing other users on the trail	65.2	68.8	-3.6
Others not yielding	32.6	38.8	-6.2

Note: Based on observations of potential conflict among respondents to a mail questionnaire, 2008  
 Schneider et al. (2009)

**Table 6.7**  
**Sources of conflict among off-road vehicle riders**

Source of conflict	Observed		
	% Northwest (n ≥ 41)	% Statewide (n ≥ 324)	% Difference
Others going too fast	39.5	46.4	-6.9
Too many others on the trail	27.9	36.9	-9
Seeing off trail/road use	43.9	50.2	-6.3
Accessibility issue	38.1	35.8	2.3
Others out of control	27.9	34.5	-6.6
Litter on or near the trail	48.8	61.3	-12.5
Seeing evidence of off trail/road use (erosion, marks, etc.)	45.2	63.4	-18.2
Rude or discourteous users	33.3	39.0	-5.7
Others passing too closely	26.2	31.5	-5.3
Hearing other users on the trail	55.8	68.0	-12.2
Others not yielding	28.6	35.4	-6.8

Note: Based on observations of potential conflict among respondents to a mail questionnaire, 2008  
 Schneider et al. (2009)

**Table 6.8**  
Sources of conflict among snowmobilers

Source of conflict	Observed		
	% Northwest (n ≥ 35)	% Statewide (n ≥ 95)	% Difference
Others going too fast	71.1	81.1	-10.0
Too many others on the trail	52.8	59.8	-7.0
Seeing off trail/road use	77.1	80.7	-3.6
Accessibility issue	37.1	38.6	-1.5
Others out of control	30.6	53.4	-22.8
Litter on or near the trail	62.9	58.3	4.6
Seeing evidence of off trail/road use (erosion, marks, etc.)	77.8	71.7	6.1
Rude or discourteous users	69.4	71.9	-2.5
Others passing too closely	63.9	62.7	1.2
Hearing other users on the trail	77.1	77.0	0.1
Others not yielding	63.9	65.9	-2.0

Note: Based on observations of potential conflict among respondents to a mail questionnaire, 2008  
Schneider et al. (2009)

**Table 6.9**  
Sources of conflict among walkers

Source of conflict	Observed		
	% Northwest (n ≥ 54)	% Statewide (n ≥ 438)	% Difference
Others going too fast	48.1	42.3	5.8
Too many others on the trail	42.6	38.2	4.4
Seeing off trail/road use	51.9	49.9	2.0
Accessibility issue	22.2	22.7	-0.5
Others out of control	20.4	21.0	-0.6
Litter on or near the trail	74.1	79.0	-4.9
Seeing evidence of off trail/road use (erosion, marks, etc.)	57.4	63.1	-5.7
Rude or discourteous users	38.9	44.9	-6.0
Others passing too closely	37.0	43.3	-6.3
Hearing other users on the trail	66.7	74.0	-7.3
Others not yielding	31.5	41.3	-9.8

Note: Based on observations of potential conflict among respondents to a mail questionnaire, 2008  
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		
	% Northwest (n ≥ 6)	% Statewide (n ≥ 58)	% Difference
Change the time I will walk next time	13.3	18.2	-4.9
Alter my pace to avoid others	13.3	22.3	-9.0
Plan to avoid the area on my next visit	31.1	20.1	11.0
Talk to area personnel about the incident	26.7	26.1	0.6
Try not to burn bridges	33.3	32.4	0.9
Stand my ground and fight for what I wanted	28.9	24.5	4.4
Think about why the incident occurred	31.1	31.1	0.0
I make a plan of action and follow it	31.1	29.6	1.5
I know what has to be done so I double my efforts to make it work	28.9	30.8	-1.9
Make light of the situation	24.4	29.2	-4.8
Keep others from knowing how bad things were	17.8	23.9	-6.1
Try to get the person responsible to change their mind	28.9	25.5	3.4
Don't let it get to me; refuse to think about it too much	26.7	31.8	-5.1
Come up with a couple of different solutions	28.9	28.6	0.3
Leave the area altogether	24.4	20.1	4.3
I try to keep my feelings to myself	20.0	29.2	-9.2
Leave the area and go to a different part of the area	33.3	25.5	7.8
Express anger to the person who caused the incident	15.6	19.5	-3.9
Wish the situation would go away or be over with	31.1	30.8	0.3
Talk to other members of my group about the incident	33.3	36.5	-3.2
Try to forget the whole thing	24.4	27.4	-3.0
Refuse to get too serious about it	26.7	32.1	-5.4
Follow established rules for trail etiquette	40.0	43.4	-3.4
Go on as if nothing had happened	17.8	27.4	-9.6

Schneider et al. (2009)

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

Coping Strategy	Used Strategy		
	% Northwest (n ≥ 8)	% Statewide (n ≥ 63)	% Difference
Change the time I will bike next time	19.4	26.9	-7.5
Alter my pace to avoid others	19.4	28.8	-9.4
Plan to avoid the area on my next visit	19.4	25.1	-5.7
Talk to area personnel about the incident	20.8	26.0	-5.2
Try not to burn bridges	26.4	35.6	-9.2
Stand my ground and fight for what I wanted	20.8	25.4	-4.6
Think about why the incident occurred	27.8	36.8	-9.0
I make a plan of action and follow it	20.8	28.8	-8.0
I know what has to be done so I double my efforts to make it work	23.6	32.2	-8.6
Make light of the situation	26.4	36.8	-10.4
Keep others from knowing how bad things were	20.8	27.6	-6.8
Try to get the person responsible to change their mind	11.1	19.5	-8.4
Don't let it get to me; refuse to think about it too much	36.1	44.6	-8.5
Come up with a couple of different solutions	23.6	27.6	-4.0
Leave the area altogether	16.7	24.1	-7.4
I try to keep my feelings to myself	29.2	25.4	3.8
Leave the area and go to a different part of the area	19.4	28.8	-9.4
Express anger to the person who caused the incident	11.1	21.4	-10.3
Wish the situation would go away or be over with	26.4	36.2	-9.8
Talk to other members of my group about the incident	31.9	40.6	-8.7
Try to forget the whole thing	27.8	38.7	-10.9
Refuse to get too serious about it	29.2	40.6	-11.4
Follow established rules for trail etiquette	36.1	44.3	-8.2
Go on as if nothing had happened	31.9	41.8	-9.9

Schneider et al. (2009)

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

Coping Strategy	Used Strategy		
	% Northwest (n ≥ 49)	% Statewide (n ≥ 91)	% Difference
Change the time I will ski next time	46.1	45.5	0.6
Alter my pace to avoid others	52.9	52.3	0.6
Plan to avoid the area on my next visit	48.1	49.8	-1.7
Talk to area personnel about the incident	51.9	52.4	-0.5
Try not to burn bridges	57.2	63.5	-6.3
Stand my ground and fight for what I wanted	44.5	35.8	8.7
Think about why the incident occurred	66.7	69.0	-2.3
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	63.5	57.0	6.5
Make light of the situation	55.1	68.9	-13.8
Keep others from knowing how bad things were	46.9	49.2	-2.3
Try to get the person responsible to change their mind	30.6	32.0	-1.4
Don't let it get to me; refuse to think about it too much	71.4	80.8	-9.4
Come up with a couple of different solutions	46.9	48.6	-1.7
Leave the area altogether	33.3	36.9	-3.6
I try to keep my feelings to myself	64.2	70.6	-6.4
Leave the area and go to a different part of the area	46.2	50.2	-4.0
Express anger to the person who caused the incident	34.0	30.5	3.5
Wish the situation would go away or be over with	55.6	63.1	-7.5
Talk to other members of my group about the incident	71.7	71.4	0.3
Try to forget the whole thing	65.5	68.8	-3.3
Refuse to get too serious about it	77.3	81.3	-4.0
Follow established rules for trail etiquette	86.6	87.0	-0.4
Go on as if nothing had happened	75.0	74.6	0.4

Schneider et al. (2009)

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

Coping Strategy	Used Strategy		
	% Northwest (n ≥ 14)	% Statewide (n ≥ 100)	% Difference
Change the time I will horseback ride next time	27.7	30.7	-3.0
Alter my pace to avoid others	30.8	20.1	10.7
Plan to avoid the area on my next visit	35.4	25.3	10.1
Talk to area personnel about the incident	33.8	30.1	3.7
Try not to burn bridges	38.5	35.5	3.0
Stand my ground and fight for what I wanted	29.2	27.3	1.9
Think about why the incident occurred	41.5	39.6	1.9
I make a plan of action and follow it	41.5	30.1	11.4
I know what has to be done so I double my efforts to make it work	40.0	25.3	14.7
Make light of the situation	38.5	23.3	15.2
Keep others from knowing how bad things were	33.8	24.9	8.9
Try to get the person responsible to change their mind	26.2	23.3	2.9
Don't let it get to me; refuse to think about it too much	36.9	41.4	-4.5
Come up with a couple of different solutions	33.8	30.9	2.9
Leave the area altogether	26.2	17.1	9.1
I try to keep my feelings to myself	41.5	33.1	8.4
Leave the area and go to a different part of the area	33.8	25.3	8.5
Express anger to the person who caused the incident	21.5	21.5	0.0
Wish the situation would go away or be over with	38.5	37.0	1.5
Talk to other members of my group about the incident	49.2	47.0	2.2
Try to forget the whole thing	36.9	35.1	1.8
Refuse to get too serious about it	43.1	41.0	2.1
Follow established rules for trail etiquette	44.6	46.6	-2.0
Go on as if nothing had happened	41.5	38.6	2.9

Schneider et al. (2009)



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

Coping Strategy	Used Strategy		
	% Northwest (n ≥ 12)	% Statewide (n ≥ 65)	% Difference
Change the time I will off-highway motorcycle ride next time	25.0	20.7	4.3
Alter my pace to avoid others	27.1	27.1	0.0
Plan to avoid the area on my next visit	35.4	25.2	10.2
Talk to area personnel about the incident	29.2	32.8	-3.6
Try not to burn bridges	37.5	35.0	2.5
Stand my ground and fight for what I wanted	35.4	24.5	10.9
Think about why the incident occurred	39.6	37.3	2.3
I make a plan of action and follow it	37.5	33.8	3.7
I know what has to be done so I double my efforts to make it work	33.3	36.6	-3.3
Make light of the situation	35.4	34.7	0.7
Keep others from knowing how bad things were	29.2	27.4	1.8
Try to get the person responsible to change their mind	29.2	24.9	4.3
Don't let it get to me; refuse to think about it too much	33.3	36.3	-3.0
Come up with a couple of different solutions	35.4	34.1	1.3
Leave the area altogether	29.2	24.5	4.7
I try to keep my feelings to myself	35.4	34.7	0.7
Leave the area and go to a different part of the area	41.7	31.8	9.9
Express anger to the person who caused the incident	33.3	23.9	9.4
Wish the situation would go away or be over with	39.6	34.7	4.9
Talk to other members of my group about the incident	45.8	45.9	-0.1
Try to forget the whole thing	33.3	32.8	0.5
Refuse to get too serious about it	35.4	36.9	-1.5
Follow established rules for trail etiquette	47.9	46.8	1.1
Go on as if nothing had happened	35.4	33.1	2.3

Schneider et al. (2009)

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

Coping Strategy	Used Strategy		
	% Northwest (n ≥ 13)	% Statewide (n ≥ 104)	% Difference
Change the time I will snowmobile next time	48.1	52.5	-4.4
Alter my pace to avoid others	57.1	62.1	-5.0
Plan to avoid the area on my next visit	50.0	52.3	-2.3
Talk to area personnel about the incident	69.2	66.5	2.7
Try not to burn bridges	78.6	75.0	3.6
Stand my ground and fight for what I wanted	57.1	60.1	-3.0
Think about why the incident occurred	75.9	77.4	-1.5
I make a plan of action and follow it	66.7	62.4	4.3
I know what has to be done so I double my efforts to make it work	73.1	70.1	3.0
Make light of the situation	76.9	76.1	0.8
Keep others from knowing how bad things were	67.9	58.7	9.2
Try to get the person responsible to change their mind	66.7	54.4	12.3
Don't let it get to me; refuse to think about it too much	82.8	84.0	-1.2
Come up with a couple of different solutions	70.4	67.0	3.4
Leave the area altogether	50.0	46.2	3.8
I try to keep my feelings to myself	78.6	78.9	-0.3
Leave the area and go to a different part of the area	50.0	55.7	-5.7
Express anger to the person who caused the incident	50.0	51.0	-1.0
Wish the situation would go away or be over with	69.0	71.9	-2.9
Talk to other members of my group about the incident	86.7	89.4	-2.7
Try to forget the whole thing	69.0	77.6	-8.6
Refuse to get too serious about it	89.7	85.2	4.5
Follow established rules for trail etiquette	100.0	95.8	4.2
Go on as if nothing had happened	79.3	78.6	0.7

Schneider et al. (2009)

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

Coping Strategy	Used Strategy		
	% Northwest (n ≥ 11)	% Statewide (n ≥ 88)	% Difference
Change the time I will walk next time	38.2	30.4	7.8
Alter my pace to avoid others	36.4	28.8	7.6
Plan to avoid the area on my next visit	32.7	27.3	5.4
Talk to area personnel about the incident	34.5	29.3	5.2
Try not to burn bridges	36.4	34.1	2.3
Stand my ground and fight for what I wanted	27.3	25.7	1.6
Think about why the incident occurred	41.8	40.8	1.0
I make a plan of action and follow it	30.9	30.2	0.7
I know what has to be done so I double my efforts to make it work	34.5	33.9	0.6
Make light of the situation	36.4	35.9	0.5
Keep others from knowing how bad things were	29.1	28.6	0.5
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	49.1	48.8	0.3
Come up with a couple of different solutions	27.3	27.3	0.0
Leave the area altogether	21.8	22.6	-0.8
I try to keep my feelings to myself	38.2	39.9	-1.7
Leave the area and go to a different part of the area	27.3	29.0	-1.7
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	38.2	40.1	-1.9
Talk to other members of my group about the incident	41.8	44.3	-2.5
Try to forget the whole thing	41.8	44.3	-2.5
Refuse to get too serious about it	45.5	48.1	-2.6
Follow established rules for trail etiquette	41.8	49.9	-8.1
Go on as if nothing had happened	34.5	42.6	-8.1

Schneider et al. (2009)