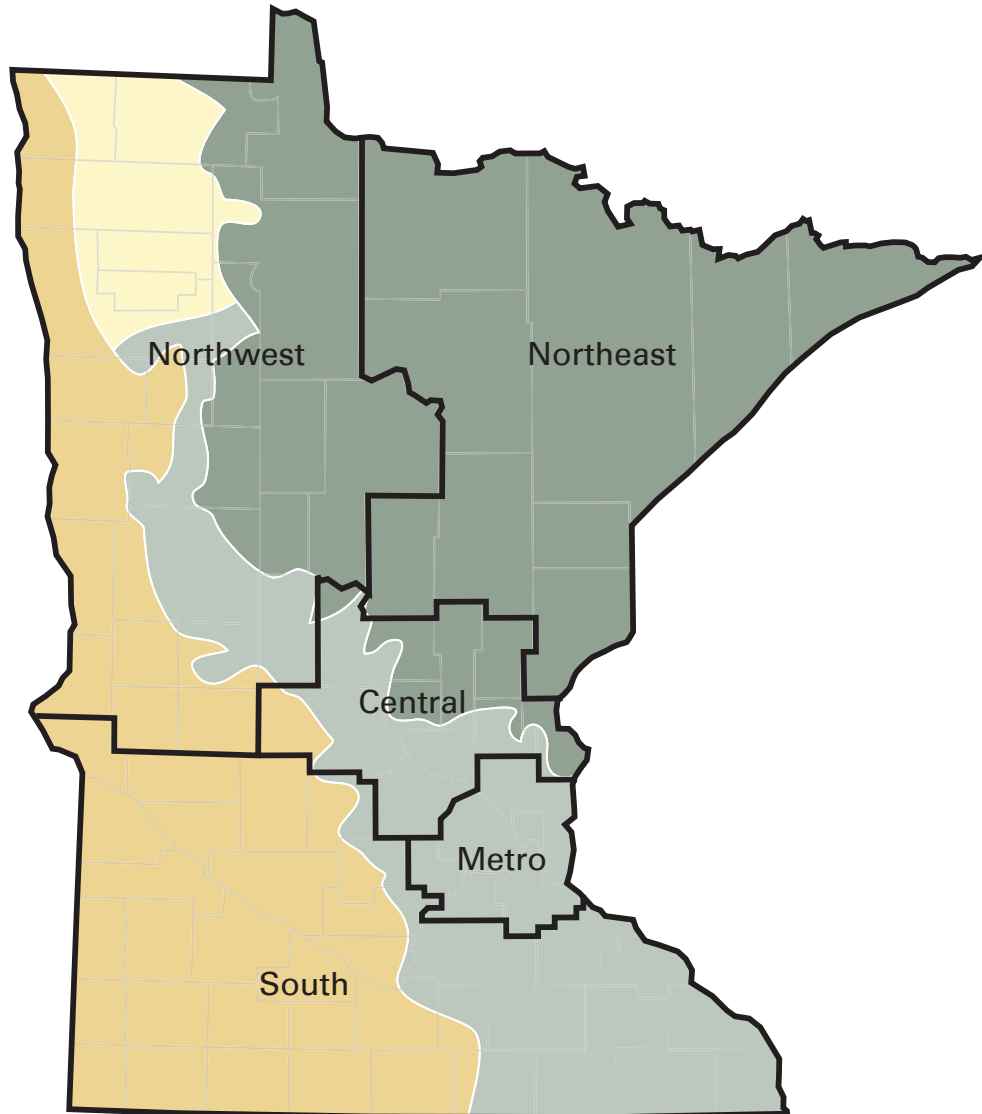


Minnesota's Network of Parks & Trails

An Inventory of Recreation Experience
Opportunities in Minnesota:

Northeast Region Profile



Final Report

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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 Northeast 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.

Northeast Region Profile

The Northeast Region consists of 9 counties (see Appendix 2; Figure 2.1). In the Northeast Region a total of seven recreation experience opportunity studies conducted since 2000 were available for analysis: three region-wide studies, two county-specific, 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 Northeast Region was approximately 415,000 people and accounted for approximately 8 percent of Minnesota's population (Table 1). Population projections, using 2005 population statistics, predict that by 2035 the Northeast Region will grow by 12.7 percent but will only account for about 7 percent of Minnesota's overall population. The counties with the highest projected growth are Carlton, Crow Wing, and Pine. In contrast, Koochiching County is projected to experience a decline in its population by about 8 percent.

The population density of the Northeast Region (19.9 persons per square mile) is considerably less than that of the state overall (61.8 persons per square mile; Table 2). Crow Wing, Carlton and St. Louis Counties have the highest population densities in the region. Cook, Koochiching and Lake Counties have the lowest population densities.

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

| County | 2005 Estimate | 2035 Projection | % Change 2005-2035 |
|-------------|---------------|-----------------|-----------------------|
| Aitkin | 16,319 | 19,630 | 20.3 |
| Carlton | 34,393 | 46,580 | 35.4 |
| Cook | 5,419 | 6,320 | 16.6 |
| Crow Wing | 60,556 | 81,610 | 34.8 |
| Itasca | 44,817 | 48,590 | 8.4 |
| Koochiching | 14,043 | 12,980 | -7.6 |
| Lake | 11,262 | 12,320 | 9.4 |
| Pine | 28,795 | 37,030 | 28.6 |
| St. Louis | 199,103 | 202,240 | 1.6 |
| NE Region | 414,707 | 467,300 | 12.7 |
| Minnesota | 5,192,122 | 6,446,270 | 24.2 |

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

Age and Gender

In general, the population of the Northeast 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. The counties with the greatest proportion of older residents are Aitkin, Lake and Koochiching (Table 2). Similarly, the Northeast Region has a smaller proportion of younger residents (residents under 18 years of age) than Minnesota overall. Cook, Lake, and Aitkin Counties have the lowest percentage of younger residents, while Crow Wing, Carlton and Pine have the highest percentage—slightly higher than the Northeast Region overall. Gender does not vary significantly between the counties and the Northeast Region or the state. Minnesota’s proportion of female residents overall is 50.2 percent.

Median Household Income

The median household income in the Northeast Region is about 22 percent less than the median household income in Minnesota overall. Carlton, Lake and Cook Counties have the highest median incomes in Northeast Region. Aitkin, Koochiching, and Crow Wing Counties have the biggest gap in median incomes when compared to the region and state incomes (Table 2).

Table 2
Differences between Northeast Counties and the Northeast 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 (\$)*** | |
|--------------------------|----------------------------------|-----------|----------------------------------|-----------|-----------------------------------|-----------|-----------------------------------------------|-----------|
| | NE | MN | NE | MN | NE | MN | NE | MN |
| County | NE | MN | NE | MN | NE | MN | NE | MN |
| Aitkin | -11.5 | -53.4 | -1.5 | -5.1 | 8.5 | 13.0 | -4,670 | -17,054 |
| Carlton | 16.9 | -25.0 | 1.9 | -1.7 | -2.0 | 2.5 | 6,336 | -6,048 |
| Cook | -16.3 | -58.2 | -2.9 | -6.5 | 0.4 | 4.9 | 879 | -11,505 |
| Crow Wing | 35.4 | -6.5 | 2.1 | -1.5 | 1.0 | 5.5 | -1,265 | -13,649 |
| Itasca | -3.4 | -45.3 | 0.4 | -3.2 | 1.3 | 5.8 | 342 | -12,042 |
| Koochiching | -15.3 | -57.2 | -0.6 | -4.2 | 3.2 | 7.7 | -1,316 | -13,700 |
| Lake | -14.6 | -56.5 | -1.8 | -5.4 | 3.7 | 8.2 | 3,226 | -9,158 |
| Pine | -1.1 | -43.0 | 0.9 | -2.7 | -1.2 | 3.3 | 529 | -11,855 |
| St. Louis | 12.3 | -29.6 | -0.8 | -4.4 | -1.3 | 3.2 | -582 | -12,966 |
| | NE | MN | NE | MN | NE | MN | NE | MN |
| Region and State Values: | 19.9 | 61.8 | 20.4 | 24.0 | 17.0 | 12.5 | 43,280 | 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 Northeast Region is equal to or exceeds Minnesota percentages overall in 8 of 9 counties. However, 7 counties in the Northeast Region have higher proportions of American Indian or Alaska Native residents than the state. Cook, Carlton and Itasca counties have the highest proportion of American Indian or Alaska Native residents in the region. The Northeast Region overall has a smaller proportion of black, Asian, and Hispanic or Latino residents than the state.

Table 3
Differences between Northeast Counties and the Northeast 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 (%) | |
|--------------------------|-------------------------|------|-------------------------|------|---------------------------------------------------|------|-------------------------|------|-------------------------------------|------|
| | NE | MN | NE | MN | NE | MN | NE | MN | NE | MN |
| County | | | | | | | | | | |
| Aitkin | 1.3 | 6.8 | -0.6 | -4.3 | 0.1 | 1.5 | -0.4 | -3.3 | -0.1 | -3.1 |
| Carlton | -3.6 | 1.9 | 0.2 | -3.5 | 3.1 | 4.5 | -0.1 | -3.0 | 0.1 | -2.9 |
| Cook | -6.0 | -0.5 | -0.6 | -4.3 | 5.8 | 7.2 | -0.3 | -3.2 | 0.6 | -2.4 |
| Crow Wing | 2.6 | 8.1 | -0.3 | -4.0 | -1.7 | -0.3 | -0.1 | -3.0 | -0.1 | -3.1 |
| Itasca | -0.4 | 5.1 | -0.6 | -4.3 | 1.1 | 2.5 | -0.3 | -3.2 | -0.2 | -3.2 |
| Koochiching | 0.8 | 6.3 | -0.4 | -4.1 | 0.0 | 1.4 | -0.4 | -3.3 | -0.3 | -3.3 |
| Lake | 3.2 | 8.7 | -0.8 | -4.5 | -1.7 | -0.3 | -0.4 | -3.3 | -0.4 | -3.4 |
| Pine | -0.9 | 4.6 | 0.8 | -2.9 | 0.5 | 1.9 | -0.2 | -3.1 | 1.2 | -1.8 |
| St. Louis | -0.2 | 5.3 | 0.3 | -3.4 | -0.4 | 1.0 | 0.2 | -2.7 | -0.1 | -3.1 |
| | NE | MN | NE | MN | NE | MN | NE | MN | NE | MN |
| Region and State Values: | 94.5 | 89.0 | 0.9 | 4.6 | 2.6 | 1.2 | 0.6 | 3.5 | 1.1 | 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 state-wide recreation participation study (Kelly, 2005), the recreation activities Northeast 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, Northeast Region residents participate to a greater extent than state residents overall in gathering mushrooms, berries or other wild foods, ATV driving, and snowmobiling. Northeast Region residents are less likely to participate than state residents as a whole in biking, golfing, walking/hiking, or running and jogging. A similar study specific to Itasca County residents was conducted in 2002 (Itasca County, 2002). According to this study, Itasca County residents most frequently participate in fishing, hunting and camping (Table 5).

Table 4
Recreation Activity Participation by Region and State

| Activity | Northeast (%) | Statewide (%) | Difference (%) |
|------------------------------------------------------------------|---------------|---------------|----------------|
| Walking/hiking | 49 | 54 | -5 |
| Boating of all types, including fishing from a boat | 42 | 43 | -1 |
| Swimming or wading (all places) | 38 | 41 | -3 |
| Driving for pleasure on scenic roads or in a park | 37 | 37 | 0 |
| Picnicking | 36 | 36 | 0 |
| Fishing of all types | 34 | 30 | 4 |
| Biking (bicycling of all types, including mountain biking) | 20 | 29 | -9 |
| Camping of all types | 32 | 26 | 6 |
| Visiting nature centers | 21 | 25 | -4 |
| Nature observation of all types (e.g., viewing, identifying) | 24 | 24 | 0 |
| Golfing | 17 | 24 | -7 |
| Outdoor field sports (e.g., soccer, softball/baseball, football) | 20 | 21 | -1 |
| Visiting historic or archaeological sites | 19 | 21 | -2 |
| Sledding and snow tubing | 16 | 18 | -2 |
| Outdoor court sports (e.g., volleyball, basketball, tennis) | 13 | 18 | -5 |
| Hunting of all types | 23 | 16 | 7 |
| Running or jogging | 9 | 14 | -5 |
| Ice skating/hockey outdoors | 8 | 12 | -4 |
| Inline skating, rollerblading, roller skating, roller skiing | 5 | 11 | -6 |
| Off-road ATV driving | 19 | 10 | 9 |
| Snowmobiling | 18 | 10 | 8 |
| Downhill skiing/snowboarding | 5 | 9 | -4 |
| Gather mushrooms, berries, or other wild foods | 19 | 9 | 10 |
| Cross country skiing | 6 | 7 | -1 |
| Horseback riding | 4 | 5 | -1 |
| Snowshoeing | 8 | 4 | 4 |

Note: Cell shading indicates the 3 biggest positive (dark) and negative (light) differences (more than three highlighted shades represent ties among differences).

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

Table 5
Outdoor Activity Participation of Itasca County Residents

| Activity | % of Respondents | Frequency (n=195) |
|--------------------------|------------------|-------------------|
| Fishing | 17.9 | 35 |
| Hunting | 9.2 | 18 |
| Camping | 8.7 | 17 |
| Bicycle riding | 8.2 | 16 |
| ATV riding | 7.7 | 15 |
| Snowmobile riding | 6.2 | 12 |
| Motor-boating | 6.2 | 12 |
| Walking | 5.1 | 10 |
| Cross country skiing | 5.1 | 10 |
| Hiking | 5.1 | 10 |
| Outdoor athletics/sports | 5.1 | 10 |
| Golfing | 3.6 | 7 |
| Parks/playgrounds | 3.6 | 7 |
| Picnicking | 2.1 | 4 |
| Canoeing | 1.5 | 3 |
| Horseback riding | 1.0 | 2 |
| Auto touring | 1.0 | 2 |
| Swimming | 1.0 | 2 |
| Kayaking | 0.5 | 1 |
| Jet-skiing | 0.5 | 1 |
| Wildlife viewing | 0.5 | 1 |

Itasca County (2002)

Recreation activities were reported by visitors surveyed at the Lake Superior Water Trail and Finland State Forest (Kelly, 2009; MN DNR, 2001). Camping was a popular activity at both sites while the remaining activities were unique to the individual sites (Table 6).

Table 6
Recreation Activity Participation Documented at Recreation Sites in the Northeast Region

| Activity | Lake Superior Water Trail (& shore) | Finland State Forest |
|--------------------|----------------------------------------|----------------------|
| Camping | x | x |
| Kayaking | x | |
| Nature observation | x | |
| Sight seeing | x | |
| Photography | x | |
| Fishing | | x |
| Hiking/walking | | x |
| OHV riding | | x |
| Hunting | | x |

Note: Five most frequently reported recreation activities respondents participated in at each site. Kelly, T. (2009) & MN DNR (2001)

Nature-Based Tourism in the Northeast Region

A 2008 nature-based tourism study indicates 5.8 million person-visits to the Northeast Region¹ from June 2007-May 2008 (Davidson-Peterson, 2008). The majority of these visitors are Minnesota residents (66%), with the largest segment coming from the Minneapolis/St.Paul area (48%) and the next largest segment coming from the Duluth/Superior area (18%). One of three visitors visited a state or national park and one of ten overnight visitors stayed at campgrounds. Two-thirds (66%) of visitors indicated participating in one or more recreation activities. The most common activities were hiking (34%), pool swimming (16%) and fishing (12%; Table 7).

¹ The designated Northeast Region comprises all of the counties in the DNR Northeast Region except Crow Wing and in addition to Isanti and Kanabec.

Table 7
Recreation Participation amongst travelers to the Northeast Region of Minnesota, 2005-2008

| Activity | % Recreation Participation |
|-----------------------------------|-----------------------------------|
| Hiking | 34 |
| Pool swimming | 16 |
| Fishing | 12 |
| Wildlife viewing or bird watching | 12 |
| Biking | 9 |
| Lake/river swimming | 9 |
| Canoeing | 6 |
| Downhill skiing or snowboarding | 6 |
| Golfing | 5 |
| Snowmobiling | 4 |
| Motor boating/water skiing | 3 |
| Cross-country skiing | 2 |
| Hunting | 2 |
| Ice Fishing | 1 |

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 in the experiences sought were that Northeast trail users report “to experience solitude” as more important and “to view the scenery” or “to get away from the usual demands of life” as less important than statewide trail users.

Table 8
Differences between Northeast Region and Statewide Trail Users in Experiences Sought

| Reasons for participating | Average Importance ^a among Trail Users ^b | | |
|-----------------------------------------------|----------------------------------------------------------------|---------------------|------------|
| | Northeast (n ≥ 565) | State (n ≥ 3023) | Difference |
| To view the scenery | 4.17 | 4.27 | -0.10 |
| To be physically active | 4.14 | 4.15 | -0.01 |
| To be close to nature | 4.14 | 4.19 | -0.05 |
| To experience nature | 4.09 | 4.16 | -0.06 |
| To get away from the usual demands of life | 4.09 | 4.19 | -0.10 |
| To explore and discover new things | 3.98 | 4.05 | -0.07 |
| To relax physically | 3.92 | 3.92 | 0.00 |
| To do something with my family | 3.88 | 3.90 | -0.02 |
| To get/keep physically fit | 3.86 | 3.91 | -0.05 |
| To enjoy different experiences from home | 3.74 | 3.81 | -0.07 |
| To experience solitude | 3.71 | 3.65 | 0.06 |
| To be w/people who enjoy the same things I do | 3.69 | 3.70 | -0.01 |
| To rest mentally | 3.67 | 3.72 | -0.05 |
| To experience silence & quiet | 3.54 | 3.51 | 0.03 |
| To challenge myself | 3.34 | 3.43 | -0.09 |
| To be on my own | 3.29 | 3.26 | 0.02 |
| To be with members of my own group | 3.28 | 3.33 | -0.04 |
| To have thrills & excitement | 3.18 | 3.26 | -0.07 |
| To test my skills & abilities | 3.10 | 3.19 | -0.09 |
| To be away from other people | 3.09 | 3.07 | 0.03 |

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

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

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

Site-specific recreation experience data were limited to two sites, Finland State Forest and Lake Superior Water Trail (Kelly, 2009 & MN DNR, 2001). The four recreation experiences shared by both locations included enjoying natural scenery, getting away from crowds, enjoying the smells and sounds of nature, and experiencing silence and quiet (Table 9). In addition to site-specific data, countywide experience information was available for Itasca County. Itasca County residents overwhelmingly agreed or strongly agreed with the four recreation benefits presented: provide opportunities for families to spend time together (98.5%), improve quality of life (96.9%), contribute to the economy of the region (95.4%), and preserve the natural resources of the county (86.2%; Itasca County, 2002).

Table 9
Experiences Sought at Recreation Sites in the Northeast Region

| Recreation experience sought | Lake Superior Water Trail | Finland State Forest | | | | |
|------------------------------------|---------------------------|----------------------|---------|--------|---------|------------|
| | Kayakers | All users | Campers | Hikers | Hunters | OHV riders |
| Enjoy natural scenery | x | x | x | x | x | x |
| Get away from crowds | x | x | x | x | x | x |
| Enjoy smells & sounds of nature | x | x | x | x | x | |
| Get away from life's usual demands | | x | x | x | x | x |
| Experience silence & quiet | x | x | | x | x | |
| Experience fresh air | x | | | | | |
| Rest mentally | | | x | | | |
| Spend leisure time with family | | | | | | x |
| Explore & discover new things | | | | | | x |

Note: Five most frequently reported experiences respondents sought at each site. OHV=Off-highway Vehicle
Kelly, T. (2009b) & MN DNR (2001)

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 Northeast rated the frequency of encountering conflicts similarly to statewide trail users. The greatest regional differences are that Northeast trail users more frequently reported “seeing off trail/road use” and less frequently reported “too many other users on the trail” (Table 10).

At the two sites in the Northeast with data on recreation problems, Boundary Waters Canoe Area Wilderness and Finland State Forest, a variety of issues emerged (Table 11). However, common problems included: number of people encountered, environmental effects due to recreation users, litter, and a shortage of campsites. In addition to these two sites, winter recreation activity problems were assessed for Cook County. Less than three percent of residents found problems with cross country skiers and problems noted were related to conflict with snowmobile use, for example, skiers oppose snowmobile use/trails, ski on snowmobile trails and have more trails than snowmobilers (Greag & McTavish, 2003). Up to one third of Cook County residents did find problems with snowmobile use, including noise, driving on private property, and driving off trails (Table 11).

Table 10
Differences between Northeast Region and Statewide Trail Users in Sources of Recreation Conflict

| Source of Conflict | Average Frequency of Conflict ^a among Trail Users ^b | | |
|---------------------------------------|------------------------------------------------------------------------------|---------------------|------------|
| | Northeast (n ≥ 509) | State (n ≥ 2697) | Difference |
| Hearing other users on the trail | 0.99 | 1.01 | -0.03 |
| Seeing evidence of off trail/road use | 0.93 | 0.87 | 0.06 |
| Litter on or near the trail | 0.92 | 0.85 | 0.07 |
| Seeing off trail/road use | 0.86 | 0.74 | 0.12 |
| Others going too fast | 0.60 | 0.56 | 0.04 |
| Rude or discourteous users | 0.49 | 0.49 | -0.01 |
| Others passing too closely | 0.46 | 0.46 | 0.00 |
| Others not yielding | 0.45 | 0.46 | -0.01 |
| Accessibility issue | 0.42 | 0.43 | 0.00 |
| Too many other users on the trail | 0.40 | 0.46 | -0.07 |
| Others out of control | 0.36 | 0.37 | -0.01 |

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

Note: Cell shading indicates the 2 positive (dark) and 2 biggest negative (light) differences. Schneider et al. (2009)

Table 11
Problems Encountered at Recreation Sites in the Northeast Region

| Problems Encountered | Boundary Waters Canoe Area Wilderness | | Finland State Forest | | | | | Cook County |
|-------------------------------------------------|---------------------------------------------|--------------|----------------------|---------|--------|---------|---------------|---------------------------------------------|
| | Overnight users | Day users | All users | Campers | Hikers | Hunters | ORV riders | Residents (towards snow- mobilers) |
| Number of people encountered | x | x | | | | x | | |
| Congestion at portages | x | x | | | | | | |
| Lack of info on where other users like to be | x | x | | | | | | |
| Fire hazard from downed trees | | x | | | | | | |
| Lack of cellular phone access inside the forest | | | x | x | x | x | x | |
| Environmental effects due to recreation users | x | | x | x | x | x | | |
| Litter | | x | x | x | | x | x | |
| Noise | | | x | x | | x | | x |
| Lack of drinking water in the forest | | | | | x | x | x | |
| Environmental effects on forest from logging | | | x | | x | | x | |
| Visual impact on forest from logging | | | x | | x | | x | |
| Shortage of campsites | x | | x | x | | | | |
| Driving on private property | | | | | | | | x |
| Driving off trails | | | | | | | | x |
| Speeding or reckless driving | | | | | | | | x |
| Air pollution or fuel smell | | | | | | | | x |

Five most frequently reported problems respondents encountered at each site (more than five activities presented represent ties among problems. ORV=Off-road Vehicle.

Kelly, T. (2009), Dvorak et al. (2008), and Kreag & McTavish (2003).

In response to problems or conflicts, Minnesota trail users utilized a variety of responses, but most frequently “follow established rules for trail etiquette” (Schneider et al., 2009). Similarly in the Northeast Region, trail participants use a variety of responses when they encounter recreation conflict (Table 12). The largest regional differences in responses to conflict are that Northeast trail users more likely “don't let it get to me; refuse to think about it too much,” and less likely to “come up with a couple of different solutions” than statewide trail users.

Table 12
Differences between Northeast Region and Statewide Trail Users in Response to Recreation Conflict

| Response | Response to Conflict ^a among Trail Users ^b | | |
|-----------------------------------------------------------------|---------------------------------------------------------------------|---------------------|--------------|
| | Northeast (n ≥ 292) | State (n ≥ 1491) | Difference |
| Follow establish rules for trail etiquette | 2.45 | 2.45 | 0.00 |
| Talk to other members of my group about the incident | 1.91 | 1.87 | 0.04 |
| Don't let it get to me; refuse to think about it too much | 1.85 | 1.72 | 0.13 |
| Refuse to get too serious about it | 1.74 | 1.71 | 0.03 |
| Wish the situation would go away or be over with | 1.57 | 1.50 | 0.07 |
| Think about why the incident occurred | 1.56 | 1.49 | 0.07 |
| Try not to burn bridges | 1.55 | 1.49 | 0.06 |
| Try to forget the whole thing | 1.51 | 1.42 | 0.09 |
| Go on as if nothing had happened | 1.47 | 1.48 | -0.01 |
| I try to keep my feelings to myself | 1.34 | 1.35 | -0.01 |
| Make light of the situation | 1.26 | 1.25 | 0.01 |
| I know what has to be done so double my efforts to make it work | 1.16 | 1.22 | -0.06 |
| I make a plan of action and follow it | 1.02 | 1.09 | -0.07 |
| Talk to area personnel about the incident | 0.98 | 1.00 | -0.02 |
| Alter my pace to avoid others | 0.95 | 0.98 | -0.03 |
| Come up with a couple of different solutions | 0.92 | 1.02 | -0.10 |
| Leave and go to a different part of the area | 0.92 | 0.98 | -0.06 |
| Change the time I will use the trail next time | 0.86 | 0.85 | 0.01 |
| Keep others from knowing how bad things were | 0.82 | 0.82 | 0.00 |
| Stand my ground and fight for what I wanted | 0.82 | 0.79 | 0.03 |
| Plan to avoid the area on my next visit | 0.81 | 0.89 | -0.08 |
| Try to get the person responsible to change their mind | 0.72 | 0.71 | 0.01 |
| Express anger to the person who caused the incident | 0.63 | 0.61 | 0.02 |
| Leave the area altogether | 0.63 | 0.68 | -0.05 |

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

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

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

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Appendices

Appendix 1

**Table 1.1
Recreation Experience Opportunity Inventory Attributes**

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

Appendix 2

Counties in the Northeast Region

Aitkin
Carlton
Cook
Crow Wing
Itasca
Koochiching
Lake
Pine
St. Louis

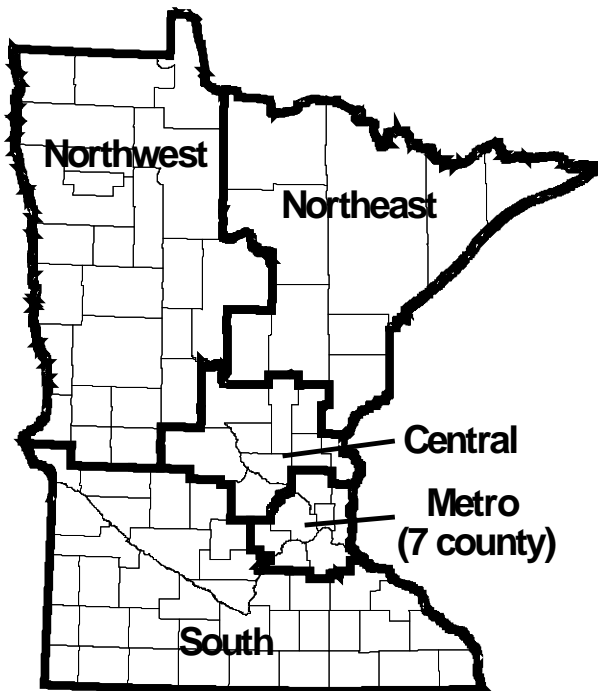


Figure 2.1 Resources Regions

Appendix 3

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

| Region-wide studies | |
|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 2004 Outdoor Recreation Participation Survey of Minnesotans | |
| 2007 Boundary Waters Canoe Area Wilderness Visitor Use Study: Description of Users and Use Characteristics | |
| 2008 Profile of Recreation Trail Users | |
| County-specific studies | County included |
| Cook County Winter Trail-based Visitor Study, 2003 | <ul style="list-style-type: none"> • Cook County (cross-country skiers & snowmobilers) |
| Itasca County Recreation Resources Plan: 2002-2012 update | <ul style="list-style-type: none"> • Itasca County |
| Site-specific studies | Sites included |
| Results for Three Forest Recreation Studies: Foot Hills, 2004; Finland, 2007-08, Land O'Lakes, 2007-09 | <ul style="list-style-type: none"> • Finland Forest Area |
| Survey of Sea Kayak Owners in Minnesota: Kayaking the North Shore of Lake Superior | <ul style="list-style-type: none"> • Lake Superior Water Trail |

Appendix 4

**Table 4.1
Northeast 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 |
|-------------------|------------|----------------------------|------------------|-------------------|------------|-----------|-----------|----------------------------------|-----------|--------------------------|---------------------------------------|
| Aitkin | 15,736 | 8.4 | 18.9 | 25.5 | 49.8 | 95.8 | 0.3 | 2.7 | 0.2 | 1.0 | 38,610 |
| Carlton | 33,933 | 36.8 | 22.3 | 15.0 | 49.4 | 90.9 | 1.1 | 5.7 | 0.5 | 1.2 | 49,616 |
| Cook | 5,437 | 3.6 | 17.5 | 17.4 | 49.6 | 88.5 | 0.3 | 8.4 | 0.3 | 1.7 | 44,159 |
| Crow Wing | 62,172 | 55.3 | 22.5 | 18.0 | 50.8 | 97.1 | 0.6 | 0.9 | 0.5 | 1.0 | 42,015 |
| Itasca | 44,512 | 16.5 | 20.8 | 18.3 | 50.1 | 94.1 | 0.3 | 3.7 | 0.3 | 0.9 | 43,622 |
| Koochiching | 13,251 | 4.6 | 19.8 | 20.2 | 50.6 | 95.3 | 0.5 | 2.6 | 0.2 | 0.8 | 41,964 |
| Lake | 10,609 | 5.3 | 18.6 | 20.7 | 50.5 | 97.7 | 0.1 | 0.9 | 0.2 | 0.7 | 46,506 |
| Pine | 28,297 | 18.8 | 21.3 | 15.8 | 47.7 | 93.6 | 1.7 | 3.1 | 0.4 | 2.3 | 43,809 |
| St. Louis | 196,864 | 32.2 | 19.6 | 15.7 | 50.5 | 94.3 | 1.2 | 2.2 | 0.8 | 1.0 | 42,698 |
| Region | 410,811 | 19.9 | 20.4 | 17.0 | 50.2 | 94.5 | 0.9 | 2.6 | 0.6 | 1.1 | 43,280 |
| 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 | | |
|-----------------------------------------------|----------------------------------------------|--------------------------|------------|
| | % Northeast (n ≥ 57) | % Statewide (n ≥ 308) | Difference |
| To be on my own | 55.2 | 45.8 | 9.4 |
| To be away from other people | 44.8 | 36.5 | 8.3 |
| To be close to nature | 84.4 | 81.1 | 3.3 |
| To get away from the usual demands of life | 75.9 | 77.8 | -1.9 |
| To relax physically | 72.9 | 64.9 | 8.0 |
| To view the scenery | 86.5 | 85.9 | 0.6 |
| To experience silence & quiet | 43.1 | 45.3 | -2.2 |
| To experience solitude | 56.2 | 51.3 | 4.9 |
| To have thrills & excitement | 46.6 | 48.9 | -2.3 |
| To rest mentally | 55.2 | 51.8 | 3.4 |
| To experience nature | 81.0 | 83.0 | -2.0 |
| To be w/people who enjoy the same things I do | 62.1 | 66.1 | -4.0 |
| To challenge myself | 34.4 | 30.9 | 3.5 |
| To test my skills & abilities | 32.7 | 29.1 | 3.6 |
| To explore and discover new things | 76.3 | 78.5 | -2.2 |
| To do something with my family | 67.8 | 71.6 | -3.8 |
| To get/keep physically fit | 44.1 | 36.2 | 7.9 |
| To be physically active | 67.8 | 55.0 | 12.8 |
| To be with members of my own group | 52.7 | 49.4 | 3.3 |
| To enjoy different experiences from home | 67.3 | 65.3 | 2.0 |

Schneider et al. (2009)

Table 5.2
Reasons for bike riding

| Reasons for participating | Identified as Important or Very Important | | |
|-----------------------------------------------|----------------------------------------------|--------------------------|------------|
| | % Northeast (n ≥ 85) | % Statewide (n ≥ 310) | Difference |
| To be on my own | 36.4 | 40.3 | -3.9 |
| To be away from other people | 31.0 | 30.1 | 0.9 |
| To be close to nature | 79.5 | 83.9 | -4.4 |
| To get away from the usual demands of life | 76.2 | 82.2 | -6.0 |
| To relax physically | 72.8 | 75.0 | -2.2 |
| To view the scenery | 81.6 | 88.9 | -7.3 |
| To experience silence & quiet | 61.4 | 59.0 | 2.4 |
| To experience solitude | 62.8 | 62.5 | 0.3 |
| To have thrills & excitement | 35.6 | 28.8 | 6.8 |
| To rest mentally | 60.9 | 66.2 | -5.3 |
| To experience nature | 79.6 | 84.4 | -4.8 |
| To be w/people who enjoy the same things I do | 49.4 | 55.1 | -5.7 |
| To challenge myself | 49.4 | 49.7 | -0.3 |
| To test my skills & abilities | 25.9 | 27.0 | -1.1 |
| To explore and discover new things | 77.3 | 76.0 | 1.3 |
| To do something with my family | 74.1 | 74.8 | -0.7 |
| To get/keep physically fit | 89.7 | 90.8 | -1.1 |
| To be physically active | 89.8 | 94.0 | -4.2 |
| To be with members of my own group | 26.7 | 35.0 | -8.3 |
| To enjoy different experiences from home | 62.0 | 68.6 | -6.6 |

Schneider, et al. (2009)

Table 5.3
Reasons for cross-country skiing

| Reasons for participating | Identified as Important or Very Important | | |
|-----------------------------------------------|-------------------------------------------|--------------------------|------------|
| | % Northeast (n ≥ 86) | % Statewide (n ≥ 497) | Difference |
| To be on my own | 45.0 | 39.0 | 6.0 |
| To be away from other people | 34.5 | 33.9 | 0.6 |
| To be close to nature | 95.6 | 94.1 | 1.5 |
| To get away from the usual demands of life | 82.3 | 81.1 | 1.2 |
| To relax physically | 72.2 | 74.7 | -2.5 |
| To view the scenery | 95.6 | 94.2 | 1.4 |
| To experience silence & quiet | 83.7 | 77.0 | 6.7 |
| To experience solitude | 76.7 | 69.0 | 7.7 |
| To have thrills & excitement | 35.2 | 34.0 | 1.2 |
| To rest mentally | 72.8 | 70.4 | 2.4 |
| To experience nature | 92.1 | 93.9 | -1.8 |
| To be w/people who enjoy the same things I do | 20.0 | 54.3 | -34.3 |
| To challenge myself | 67.3 | 62.6 | 4.7 |
| To test my skills & abilities | 44.4 | 42.6 | 1.8 |
| To explore and discover new things | 69.5 | 74.0 | -4.5 |
| To do something with my family | 70.9 | 63.6 | 7.3 |
| To get/keep physically fit | 97.8 | 94.4 | 3.4 |
| To be physically active | 98.9 | 96.1 | 2.8 |
| To be with members of my own group | 26.2 | 31.5 | -5.3 |
| To enjoy different experiences from home | 72.2 | 69.5 | 2.7 |

Schneider et al. (2009)

Table 5.4
Reasons for horseback riding

| Reasons for participating | Identified as Important or Very Important | | |
|-----------------------------------------------|-------------------------------------------|--------------------------|------------|
| | % Northeast (n ≥ 81) | % Statewide (n ≥ 445) | Difference |
| To be on my own | 51.8 | 50.3 | 1.5 |
| To be away from other people | 38.6 | 37.9 | 0.7 |
| To be close to nature | 90.3 | 94.0 | -3.7 |
| To get away from the usual demands of life | 91.6 | 93.6 | -2.0 |
| To relax physically | 87.9 | 89.8 | -1.9 |
| To view the scenery | 91.5 | 96.4 | -4.9 |
| To experience silence & quiet | 75.9 | 74.9 | 1.0 |
| To experience solitude | 69.5 | 70.2 | -0.7 |
| To have thrills & excitement | 47.0 | 46.4 | 0.6 |
| To rest mentally | 77.1 | 81.8 | -4.7 |
| To experience nature | 87.8 | 93.1 | -5.3 |
| To be w/people who enjoy the same things I do | 89.2 | 85.7 | 3.5 |
| To challenge myself | 62.2 | 60.3 | 1.9 |
| To test my skills & abilities | 57.8 | 56.4 | 1.4 |
| To explore and discover new things | 89.1 | 90.0 | -0.9 |
| To do something with my family | 72.9 | 70.8 | 2.1 |
| To get/keep physically fit | 74.7 | 78.3 | -3.6 |
| To be physically active | 89.0 | 88.0 | 1.0 |
| To be with members of my own group | 68.7 | 71.9 | -3.2 |
| To enjoy different experiences from home | 81.9 | 80.2 | 1.7 |

Schneider, et al. (2009)

Table 5.5
Reasons for off-highway motorcycle riding

| Reasons for participating | Identified as Important or Very Important | | |
|-----------------------------------------------|-------------------------------------------|--------------------------|------------|
| | % Northeast (n ≥ 44) | % Statewide (n ≥ 307) | Difference |
| To be on my own | 53.3 | 45.9 | 7.4 |
| To be away from other people | 34.8 | 32.7 | 2.1 |
| To be close to nature | 77.3 | 72.9 | 4.4 |
| To get away from the usual demands of life | 89.2 | 87.3 | 1.9 |
| To relax physically | 69.5 | 66.6 | 2.9 |
| To view the scenery | 82.2 | 79.5 | 2.7 |
| To experience silence & quiet | 32.6 | 30.2 | 2.4 |
| To experience solitude | 56.8 | 47.9 | 8.9 |
| To have thrills & excitement | 74.0 | 81.3 | -7.3 |
| To rest mentally | 58.7 | 59.7 | -1.0 |
| To experience nature | 74.0 | 72.3 | 1.7 |
| To be w/people who enjoy the same things I do | 82.6 | 74.7 | 7.9 |
| To challenge myself | 60.9 | 71.9 | -11.0 |
| To test my skills & abilities | 62.3 | 70.4 | -8.1 |
| To explore and discover new things | 89.1 | 86.1 | 3.0 |
| To do something with my family | 73.9 | 74.7 | -0.8 |
| To get/keep physically fit | 63.0 | 68.9 | -5.9 |
| To be physically active | 78.2 | 82.8 | -4.6 |
| To be with members of my own group | 63.0 | 64.1 | -1.1 |
| To enjoy different experiences from home | 69.6 | 77.4 | -7.8 |

Schneider et al. (2009)

Table 5.6
Reasons for off-road vehicle riding

| Reasons for participating | Identified as Important or Very Important | | |
|-----------------------------------------------|-------------------------------------------|--------------------------|------------|
| | % Northeast (n ≥ 77) | % Statewide (n ≥ 369) | Difference |
| To be on my own | 41.8 | 41.5 | 0.3 |
| To be away from other people | 36.7 | 30.9 | 5.8 |
| To be close to nature | 74.7 | 78.7 | -4.0 |
| To get away from the usual demands of life | 85.0 | 82.7 | 2.3 |
| To relax physically | 75.1 | 66.7 | 8.4 |
| To view the scenery | 80.0 | 85.9 | -5.9 |
| To experience silence & quiet | 43.6 | 37.7 | 5.9 |
| To experience solitude | 57.7 | 50.8 | 6.9 |
| To have thrills & excitement | 59.5 | 61.6 | -2.1 |
| To rest mentally | 59.5 | 55.4 | 4.1 |
| To experience nature | 78.0 | 79.7 | -1.7 |
| To be w/people who enjoy the same things I do | 69.6 | 71.6 | -2.0 |
| To challenge myself | 45.6 | 53.1 | -7.5 |
| To test my skills & abilities | 42.3 | 51.7 | -9.4 |
| To explore and discover new things | 78.8 | 81.6 | -2.8 |
| To do something with my family | 80.8 | 79.0 | 1.8 |
| To get/keep physically fit | 38.0 | 35.9 | 2.1 |
| To be physically active | 63.3 | 54.7 | 8.6 |
| To be with members of my own group | 54.5 | 60.7 | -6.2 |
| To enjoy different experiences from home | 72.5 | 73.8 | -1.3 |

Schneider, et al. (2009)

Table 5.7
Reasons for snowmobiling

| Reasons for participating | Identified as Important or Very Important | | |
|-----------------------------------------------|-------------------------------------------|--------------------------|------------|
| | % Northeast (n ≥ 45) | % Statewide (n ≥ 261) | Difference |
| To be on my own | 26.0 | 37.5 | -11.5 |
| To be away from other people | 28.3 | 28.5 | -0.2 |
| To be close to nature | 73.9 | 82.1 | -8.2 |
| To get away from the usual demands of life | 76.1 | 83.2 | -7.1 |
| To relax physically | 67.4 | 61.7 | 5.7 |
| To view the scenery | 89.1 | 91.2 | -2.1 |
| To experience silence & quiet | 39.1 | 35.7 | 3.4 |
| To experience solitude | 44.4 | 53.3 | -8.9 |
| To have thrills & excitement | 41.3 | 62.4 | -21.1 |
| To rest mentally | 46.7 | 54.6 | -7.9 |
| To experience nature | 82.6 | 84.7 | -2.1 |
| To be w/people who enjoy the same things I do | 76.1 | 75.3 | 0.8 |
| To challenge myself | 28.2 | 39.7 | -11.5 |
| To test my skills & abilities | 21.8 | 32.7 | -10.9 |
| To explore and discover new things | 71.8 | 79.8 | -8.0 |
| To do something with my family | 80.4 | 79.5 | 0.9 |
| To get/keep physically fit | 50.0 | 50.2 | -0.2 |
| To be physically active | 60.9 | 67.3 | -6.4 |
| To be with members of my own group | 73.9 | 68.1 | 5.8 |
| To enjoy different experiences from home | 78.3 | 73.0 | 5.3 |

Schneider et al. (2009)

Table 5.8
Reasons for walking/hiking

| Reasons for participating | Identified as Important or Very Important | | |
|-----------------------------------------------|-------------------------------------------|--------------------------|------------|
| | % Northeast (n ≥ 75) | % Statewide (n ≥ 431) | Difference |
| To be on my own | 48.7 | 43.2 | 5.5 |
| To be away from other people | 36.4 | 34.4 | 2.0 |
| To be close to nature | 84.2 | 89.9 | -5.7 |
| To get away from the usual demands of life | 73.7 | 79.8 | -6.1 |
| To relax physically | 72.2 | 80.6 | -8.4 |
| To view the scenery | 89.8 | 91.7 | -1.9 |
| To experience silence & quiet | 61.8 | 66.7 | -4.9 |
| To experience solitude | 64.1 | 64.1 | 0.0 |
| To have thrills & excitement | 11.7 | 18.8 | -7.1 |
| To rest mentally | 62.9 | 71.8 | -8.9 |
| To experience nature | 89.7 | 88.3 | 1.4 |
| To be w/people who enjoy the same things I do | 50.7 | 48.3 | 2.4 |
| To challenge myself | 27.3 | 34.2 | -6.9 |
| To test my skills & abilities | 22.6 | 23.9 | -1.3 |
| To explore and discover new things | 66.3 | 73.2 | -6.9 |
| To do something with my family | 65.3 | 70.1 | -4.8 |
| To get/keep physically fit | 84.2 | 87.2 | -3.0 |
| To be physically active | 91.9 | 94.0 | -2.1 |
| To be with members of my own group | 31.6 | 28.8 | 2.8 |
| To enjoy different experiences from home | 50.7 | 65.4 | -14.7 |

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 | | |
|--------------------------------------------------------------|-------------------------|--------------------------|------------|
| | % Northeast (n ≥ 54) | % Statewide (n ≥ 275) | Difference |
| Others going too fast | 60.0 | 55.6 | 4.4 |
| Too many others on the trail | 34.5 | 33.7 | 0.8 |
| Seeing off trail/road use | 76.4 | 62.9 | 13.5 |
| Accessibility issue | 44.4 | 40.7 | 3.7 |
| Others out of control | 43.6 | 35.3 | 8.3 |
| Litter on or near the trail | 69.1 | 63.3 | 5.8 |
| Seeing evidence of off trail/road use (erosion, marks, etc.) | 76.4 | 68.1 | 8.3 |
| Rude or discourteous users | 41.8 | 41.6 | 0.2 |
| Others passing too closely | 34.5 | 32.1 | 2.4 |
| Hearing other users on the trail | 72.2 | 61.6 | 10.6 |
| Others not yielding | 38.2 | 37.8 | 0.4 |

Schneider et al. (2009)

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

| Source of conflict | Observed | | |
|--------------------------------------------------------------|-------------------------|--------------------------|------------|
| | % Northeast (n ≥ 83) | % Statewide (n ≥ 304) | Difference |
| Others going too fast | 40.0 | 36.5 | 3.5 |
| Too many others on the trail | 29.4 | 31.2 | -1.8 |
| Seeing off trail/road use | 58.8 | 50.6 | 8.2 |
| Accessibility issue | 22.4 | 21.9 | 0.5 |
| Others out of control | 16.5 | 22.8 | -6.3 |
| Litter on or near the trail | 79.8 | 74.2 | 5.6 |
| Seeing evidence of off trail/road use (erosion, marks, etc.) | 63.5 | 57.4 | 6.1 |
| Rude or discourteous users | 41.0 | 43.1 | -2.1 |
| Others passing too closely | 48.2 | 45.4 | 2.8 |
| Hearing other users on the trail | 70.6 | 71.8 | -1.2 |
| Others not yielding | 47.1 | 52.3 | -5.2 |

Schneider, et al. (2009)

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

| Source of conflict | Observed | | |
|--------------------------------------------------------------|-------------------------|--------------------------|------------|
| | % Northeast (n ≥ 89) | % Statewide (n ≥ 499) | Difference |
| Others going too fast | 19.8 | 17.4 | 2.4 |
| Too many others on the trail | 29.7 | 29.0 | 0.7 |
| Seeing off trail/road use | 42.2 | 45.7 | -3.5 |
| Accessibility issue | 11.2 | 11.4 | -0.2 |
| Others out of control | 22.0 | 22.4 | -0.4 |
| Litter on or near the trail | 41.8 | 41.8 | 0.0 |
| Seeing evidence of off trail/road use (erosion, marks, etc.) | 43.8 | 50.8 | -7.0 |
| Rude or discourteous users | 18.5 | 21.6 | -3.1 |
| Others passing too closely | 20.9 | 21.1 | -0.2 |
| Hearing other users on the trail | 77.5 | 73.1 | 4.4 |
| Others not yielding | 23.9 | 23.8 | 0.1 |

Schneider et al. (2009)

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

| Source of conflict | Observed | | |
|--------------------------------------------------------------|-------------------------|--------------------------|------------|
| | % Northeast (n ≥ 80) | % Statewide (n ≥ 439) | Difference |
| Others going too fast | 44.0 | 41.4 | 2.6 |
| Too many others on the trail | 26.2 | 31.6 | -5.4 |
| Seeing off trail/road use | 65.1 | 55.3 | 9.8 |
| Accessibility issue | 32.5 | 35.1 | -2.6 |
| Others out of control | 29.8 | 40.0 | -10.2 |
| Litter on or near the trail | 72.6 | 70.3 | 2.3 |
| Seeing evidence of off trail/road use (erosion, marks, etc.) | 71.6 | 61.7 | 9.9 |
| Rude or discourteous users | 49.4 | 48.0 | 1.4 |
| Others passing too closely | 47.1 | 41.4 | 5.7 |
| Hearing other users on the trail | 78.3 | 75.6 | 2.7 |
| Others not yielding | 28.6 | 33.3 | -4.7 |

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 | | |
|--------------------------------------------------------------|-------------------------|--------------------------|------------|
| | % Northeast (n ≥ 39) | % Statewide (n ≥ 286) | Difference |
| Others going too fast | 50.0 | 53.1 | -3.1 |
| Too many others on the trail | 26.8 | 38.3 | -11.5 |
| Seeing off trail/road use | 57.5 | 51.4 | 6.1 |
| Accessibility issue | 40.0 | 45.0 | -5.0 |
| Others out of control | 26.8 | 37.8 | -11.0 |
| Litter on or near the trail | 58.5 | 53.7 | 4.8 |
| Seeing evidence of off trail/road use (erosion, marks, etc.) | 64.1 | 67.5 | -3.4 |
| Rude or discourteous users | 29.3 | 42.0 | -12.7 |
| Others passing too closely | 26.8 | 34.6 | -7.8 |
| Hearing other users on the trail | 56.1 | 68.8 | -12.7 |
| Others not yielding | 29.3 | 38.8 | -9.5 |

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 | | |
|--------------------------------------------------------------|-------------------------|--------------------------|------------|
| | % Northeast (n ≥ 71) | % Statewide (n ≥ 324) | Difference |
| Others going too fast | 52.1 | 46.4 | 5.7 |
| Too many others on the trail | 31.5 | 36.9 | -5.4 |
| Seeing off trail/road use | 59.2 | 50.2 | 9.0 |
| Accessibility issue | 32.9 | 35.8 | -2.9 |
| Others out of control | 38.4 | 34.5 | 3.9 |
| Litter on or near the trail | 65.3 | 61.3 | 4.0 |
| Seeing evidence of off trail/road use (erosion, marks, etc.) | 63.0 | 63.4 | -0.4 |
| Rude or discourteous users | 43.8 | 39.0 | 4.8 |
| Others passing too closely | 35.6 | 31.5 | 4.1 |
| Hearing other users on the trail | 67.1 | 68.0 | -0.9 |
| Others not yielding | 42.5 | 35.4 | 7.1 |

Schneider et al. (2009)

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

| Source of conflict | Observed | | |
|--------------------------------------------------------------|-------------------------|-------------------------|------------|
| | % Northeast (n ≥ 44) | % Statewide (n ≥ 95) | Difference |
| Others going too fast | 82.2 | 81.1 | 1.1 |
| Too many others on the trail | 44.4 | 59.8 | -15.4 |
| Seeing off trail/road use | 77.8 | 80.7 | -2.9 |
| Accessibility issue | 36.4 | 38.6 | -2.2 |
| Others out of control | 55.6 | 53.4 | 2.2 |
| Litter on or near the trail | 60.0 | 58.3 | 1.7 |
| Seeing evidence of off trail/road use (erosion, marks, etc.) | 68.2 | 71.7 | -3.5 |
| Rude or discourteous users | 75.6 | 71.9 | 3.7 |
| Others passing too closely | 64.4 | 62.7 | 1.7 |
| Hearing other users on the trail | 80.0 | 77.0 | 3.0 |
| Others not yielding | 71.1 | 65.9 | 5.2 |

Schneider et al. (2009)

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

| Source of conflict | Observed | | |
|--------------------------------------------------------------|-------------------------|--------------------------|------------|
| | % Northeast (n ≥ 74) | % Statewide (n ≥ 438) | Difference |
| Others going too fast | 36.5 | 42.3 | -5.8 |
| Too many others on the trail | 34.7 | 38.2 | -3.5 |
| Seeing off trail/road use | 54.5 | 49.9 | 4.6 |
| Accessibility issue | 24.3 | 22.7 | 1.6 |
| Others out of control | 21.3 | 21.0 | 0.3 |
| Litter on or near the trail | 85.5 | 79.0 | 6.5 |
| Seeing evidence of off trail/road use (erosion, marks, etc.) | 68.0 | 63.1 | 4.9 |
| Rude or discourteous users | 45.3 | 44.9 | 0.4 |
| Others passing too closely | 36.8 | 43.3 | -6.5 |
| Hearing other users on the trail | 72.4 | 74.0 | -1.6 |
| Others not yielding | 36.0 | 41.3 | -5.3 |

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 | | |
|-------------------------------------------------------------------|-------------------------|-------------------------|------------|
| | % Northeast (n ≥ 11) | % Statewide (n ≥ 58) | Difference |
| Change the time I will walk next time | 20.0 | 18.2 | 1.8 |
| Alter my pace to avoid others | 28.3 | 22.3 | 6.0 |
| Plan to avoid the area on my next visit | 23.3 | 20.1 | 3.2 |
| 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 | 21.7 | 24.5 | -2.8 |
| Think about why the incident occurred | 31.7 | 31.1 | 0.6 |
| I make a plan of action and follow it | 25.0 | 29.6 | -4.6 |
| I know what has to be done so I double my efforts to make it work | 30.0 | 30.8 | -0.8 |
| Make light of the situation | 30.0 | 29.2 | 0.8 |
| Keep others from knowing how bad things were | 30.0 | 23.9 | 6.1 |
| Try to get the person responsible to change their mind | 20.0 | 25.5 | -5.5 |
| Don't let it get to me; refuse to think about it too much | 33.3 | 31.8 | 1.5 |
| Come up with a couple of different solutions | 30.0 | 28.6 | 1.4 |
| Leave the area altogether | 18.3 | 20.1 | -1.8 |
| I try to keep my feelings to myself | 28.3 | 29.2 | -0.9 |
| Leave the area and go to a different part of the area | 25.0 | 25.5 | -0.5 |
| Express anger to the person who caused the incident | 20.0 | 19.5 | 0.5 |
| Wish the situation would go away or be over with | 33.3 | 30.8 | 2.5 |
| Talk to other members of my group about the incident | 35.0 | 36.5 | -1.5 |
| Try to forget the whole thing | 25.0 | 27.4 | -2.4 |
| Refuse to get too serious about it | 33.3 | 32.1 | 1.2 |
| Follow established rules for trail etiquette | 45.0 | 43.4 | 1.6 |
| Go on as if nothing had happened | 28.3 | 27.4 | 0.9 |

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

| Coping Strategy | Used Strategy | | |
|-------------------------------------------------------------------|-------------------------|-------------------------|------------|
| | % Northeast (n ≥ 22) | % Statewide (n ≥ 63) | Difference |
| Change the time I will bike next time | 32.6 | 26.9 | 5.7 |
| Alter my pace to avoid others | 33.7 | 28.8 | 4.9 |
| Plan to avoid the area on my next visit | 28.1 | 25.1 | 3.0 |
| Talk to area personnel about the incident | 29.2 | 26.0 | 3.2 |
| Try not to burn bridges | 42.7 | 35.6 | 7.1 |
| Stand my ground and fight for what I wanted | 30.3 | 25.4 | 4.9 |
| Think about why the incident occurred | 40.4 | 36.8 | 3.6 |
| I make a plan of action and follow it | 34.8 | 28.8 | 6.0 |
| I know what has to be done so I double my efforts to make it work | 36.0 | 32.2 | 3.8 |
| Make light of the situation | 43.8 | 36.8 | 7.0 |
| Keep others from knowing how bad things were | 33.7 | 27.6 | 6.1 |
| Try to get the person responsible to change their mind | 25.8 | 19.5 | 6.3 |
| Don't let it get to me; refuse to think about it too much | 50.6 | 44.6 | 6.0 |
| Come up with a couple of different solutions | 28.1 | 27.6 | 0.5 |
| Leave the area altogether | 27.0 | 24.1 | 2.9 |
| I try to keep my feelings to myself | 42.7 | 25.4 | 17.3 |
| Leave the area and go to a different part of the area | 36.0 | 28.8 | 7.2 |
| Express anger to the person who caused the incident | 24.7 | 21.4 | 3.3 |
| Wish the situation would go away or be over with | 37.1 | 36.2 | 0.9 |
| Talk to other members of my group about the incident | 44.9 | 40.6 | 4.3 |
| Try to forget the whole thing | 43.8 | 38.7 | 5.1 |
| Refuse to get too serious about it | 49.4 | 40.6 | 8.8 |
| Follow established rules for trail etiquette | 49.4 | 44.3 | 5.1 |
| Go on as if nothing had happened | 47.2 | 41.8 | 5.4 |

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

| Coping Strategy | Used Strategy | | |
|-------------------------------------------------------------------|-------------------------|-------------------------|------------|
| | % Northeast (n ≥ 14) | % Statewide (n ≥ 91) | Difference |
| Change the time I will ski next time | 49.1 | 45.5 | 3.6 |
| Alter my pace to avoid others | 54.7 | 52.3 | 2.4 |
| Plan to avoid the area on my next visit | 40.7 | 49.8 | -9.1 |
| Talk to area personnel about the incident | 45.3 | 52.4 | -7.1 |
| Try not to burn bridges | 69.2 | 63.5 | 5.7 |
| Stand my ground and fight for what I wanted | 30.8 | 35.8 | -5.0 |
| Think about why the incident occurred | 64.2 | 69.0 | -4.8 |
| I make a plan of action and follow it | 48.1 | 50.2 | -2.1 |
| I know what has to be done so I double my efforts to make it work | 51.9 | 57.0 | -5.1 |
| Make light of the situation | 68.6 | 68.9 | -0.3 |
| Keep others from knowing how bad things were | 46.0 | 49.2 | -3.2 |
| Try to get the person responsible to change their mind | 30.8 | 32.0 | -1.2 |
| Don't let it get to me; refuse to think about it too much | 83.9 | 80.8 | 3.1 |
| Come up with a couple of different solutions | 48.0 | 48.6 | -0.6 |
| Leave the area altogether | 28.8 | 36.9 | -8.1 |
| I try to keep my feelings to myself | 72.5 | 70.6 | 1.9 |
| Leave the area and go to a different part of the area | 43.4 | 50.2 | -6.8 |
| Express anger to the person who caused the incident | 25.9 | 30.5 | -4.6 |
| Wish the situation would go away or be over with | 68.5 | 63.1 | 5.4 |
| Talk to other members of my group about the incident | 66.7 | 71.4 | -4.7 |
| Try to forget the whole thing | 67.9 | 68.8 | -0.9 |
| Refuse to get too serious about it | 78.4 | 81.3 | -2.9 |
| Follow established rules for trail etiquette | 84.5 | 87.0 | -2.5 |
| Go on as if nothing had happened | 69.8 | 74.6 | -4.8 |

Schneider et al. (2009)

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

| Coping Strategy | Used Strategy | | |
|-------------------------------------------------------------------|-------------------------|--------------------------|------------|
| | % Northeast (n ≥ 15) | % Statewide (n ≥ 100) | Difference |
| Change the time I will horseback ride next time | 24.4 | 30.7 | -6.3 |
| Alter my pace to avoid others | 24.4 | 20.1 | 4.3 |
| Plan to avoid the area on my next visit | 30.2 | 25.3 | 4.9 |
| Talk to area personnel about the incident | 37.2 | 30.1 | 7.1 |
| Try not to burn bridges | 45.3 | 35.5 | 9.8 |
| Stand my ground and fight for what I wanted | 31.4 | 27.3 | 4.1 |
| Think about why the incident occurred | 45.3 | 39.6 | 5.7 |
| I make a plan of action and follow it | 32.6 | 30.1 | 2.5 |
| I know what has to be done so I double my efforts to make it work | 41.9 | 25.3 | 16.6 |
| Make light of the situation | 40.7 | 23.3 | 17.4 |
| Keep others from knowing how bad things were | 26.7 | 24.9 | 1.8 |
| Try to get the person responsible to change their mind | 29.1 | 23.3 | 5.8 |
| Don't let it get to me; refuse to think about it too much | 59.3 | 41.4 | 17.9 |
| Come up with a couple of different solutions | 33.7 | 30.9 | 2.8 |
| Leave the area altogether | 17.4 | 17.1 | 0.3 |
| I try to keep my feelings to myself | 45.3 | 33.1 | 12.2 |
| Leave the area and go to a different part of the area | 29.1 | 25.3 | 3.8 |
| Express anger to the person who caused the incident | 29.1 | 21.5 | 7.6 |
| Wish the situation would go away or be over with | 43.0 | 37.0 | 6.0 |
| Talk to other members of my group about the incident | 43.0 | 47.0 | -4.0 |
| Try to forget the whole thing | 47.7 | 35.1 | 12.6 |
| Refuse to get too serious about it | 51.2 | 41.0 | 10.2 |
| Follow established rules for trail etiquette | 44.2 | 46.6 | -2.4 |
| Go on as if nothing had happened | 46.5 | 38.6 | 7.9 |

Schneider et al. (2009)

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

| Coping Strategy | Used Strategy | | |
|-------------------------------------------------------------------|------------------------|-------------------------|------------|
| | % Northeast (n ≥ 8) | % Statewide (n ≥ 65) | Difference |
| Change the time I will OHM ride next time | 17.0 | 20.7 | -3.7 |
| Alter my pace to avoid others | 21.3 | 27.1 | -5.8 |
| Plan to avoid the area on my next visit | 21.3 | 25.2 | -3.9 |
| Talk to area personnel about the incident | 29.8 | 32.8 | -3.0 |
| Try not to burn bridges | 34.0 | 35.0 | -1.0 |
| Stand my ground and fight for what I wanted | 31.9 | 24.5 | 7.4 |
| Think about why the incident occurred | 38.3 | 37.3 | 1.0 |
| I make a plan of action and follow it | 29.8 | 33.8 | -4.0 |
| I know what has to be done so I double my efforts to make it work | 29.8 | 36.6 | -6.8 |
| Make light of the situation | 25.5 | 34.7 | -9.2 |
| Keep others from knowing how bad things were | 25.5 | 27.4 | -1.9 |
| Try to get the person responsible to change their mind | 29.8 | 24.9 | 4.9 |
| Don't let it get to me; refuse to think about it too much | 29.8 | 36.3 | -6.5 |
| Come up with a couple of different solutions | 27.7 | 34.1 | -6.4 |
| Leave the area altogether | 25.5 | 24.5 | 1.0 |
| I try to keep my feelings to myself | 31.9 | 34.7 | -2.8 |
| Leave the area and go to a different part of the area | 27.7 | 31.8 | -4.1 |
| Express anger to the person who caused the incident | 17.0 | 23.9 | -6.9 |
| Wish the situation would go away or be over with | 38.3 | 34.7 | 3.6 |
| Talk to other members of my group about the incident | 44.7 | 45.9 | -1.2 |
| Try to forget the whole thing | 29.8 | 32.8 | -3.0 |
| Refuse to get too serious about it | 29.8 | 36.9 | -7.1 |
| Follow established rules for trail etiquette | 44.7 | 46.8 | -2.1 |
| Go on as if nothing had happened | 27.7 | 33.1 | -5.4 |

Schneider et al. (2009)

Table 7.6
Use of coping strategies among snowmobilers who experience interference

| Coping Strategy | Used Strategy | | |
|-------------------------------------------------------------------|-------------------------|--------------------------|------------|
| | % Northeast (n ≥ 15) | % Statewide (n ≥ 104) | Difference |
| Change the time I will snowmobile next time | 50.0 | 52.5 | -2.5 |
| Alter my pace to avoid others | 57.9 | 62.1 | -4.2 |
| Plan to avoid the area on my next visit | 40.5 | 52.3 | -11.8 |
| Talk to area personnel about the incident | 65.8 | 66.5 | -0.7 |
| Try not to burn bridges | 65.8 | 75.0 | -9.2 |
| Stand my ground and fight for what I wanted | 45.9 | 60.1 | -14.2 |
| Think about why the incident occurred | 78.9 | 77.4 | 1.5 |
| I make a plan of action and follow it | 52.7 | 62.4 | -9.7 |
| I know what has to be done so I double my efforts to make it work | 60.5 | 70.1 | -9.6 |
| Make light of the situation | 67.5 | 76.1 | -8.6 |
| Keep others from knowing how bad things were | 60.5 | 58.7 | 1.8 |
| Try to get the person responsible to change their mind | 42.1 | 54.4 | -12.3 |
| Don't let it get to me; refuse to think about it too much | 81.6 | 84.0 | -2.4 |
| Come up with a couple of different solutions | 58.0 | 67.0 | -9.0 |
| Leave the area altogether | 39.5 | 46.2 | -6.7 |
| I try to keep my feelings to myself | 81.0 | 78.9 | 2.1 |
| Leave the area and go to a different part of the area | 42.1 | 55.7 | -13.6 |
| 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 | 77.7 | 71.9 | 5.8 |
| Talk to other members of my group about the incident | 90.3 | 89.4 | 0.9 |
| Try to forget the whole thing | 73.7 | 77.6 | -3.9 |
| Refuse to get too serious about it | 76.4 | 85.2 | -8.8 |
| Follow established rules for trail etiquette | 92.5 | 95.8 | -3.3 |
| Go on as if nothing had happened | 71.7 | 78.6 | -6.9 |

Schneider et al. (2009)

Table 7.7
Use of coping strategies among walkers who experience interference

| Coping Strategy | Used Strategy | | |
|-------------------------------------------------------------------|-------------------------|-------------------------|------------|
| | % Northeast (n ≥ 18) | % Statewide (n ≥ 88) | Difference |
| Change the time I will walk next time | 31.6 | 30.4 | 1.2 |
| Alter my pace to avoid others | 27.8 | 28.8 | -1.0 |
| Plan to avoid the area on my next visit | 32.9 | 27.3 | 5.6 |
| Talk to area personnel about the incident | 30.4 | 29.3 | 1.1 |
| Try not to burn bridges | 39.2 | 34.1 | 5.1 |
| Stand my ground and fight for what I wanted | 31.6 | 25.7 | 5.9 |
| Think about why the incident occurred | 45.6 | 40.8 | 4.8 |
| I make a plan of action and follow it | 35.4 | 30.2 | 5.2 |
| I know what has to be done so I double my efforts to make it work | 36.7 | 33.9 | 2.8 |
| Make light of the situation | 36.7 | 35.9 | 0.8 |
| Keep others from knowing how bad things were | 25.3 | 28.6 | -3.3 |
| Try to get the person responsible to change their mind | 22.8 | 19.5 | 3.3 |
| Don't let it get to me; refuse to think about it too much | 48.1 | 48.8 | -0.7 |
| Come up with a couple of different solutions | 27.8 | 27.3 | 0.5 |
| Leave the area altogether | 29.1 | 22.6 | 6.5 |
| I try to keep my feelings to myself | 39.2 | 39.9 | -0.7 |
| Leave the area and go to a different part of the area | 35.4 | 29.0 | 6.4 |
| Express anger to the person who caused the incident | 26.6 | 21.7 | 4.9 |
| Wish the situation would go away or be over with | 43.0 | 40.1 | 2.9 |
| Talk to other members of my group about the incident | 45.6 | 44.3 | 1.3 |
| Try to forget the whole thing | 50.6 | 44.3 | 6.3 |
| Refuse to get too serious about it | 48.1 | 48.1 | 0.0 |
| Follow established rules for trail etiquette | 53.2 | 49.9 | 3.3 |
| Go on as if nothing had happened | 45.6 | 42.6 | 3.0 |

Schneider et al. (2009)