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SCORP

STATE COMPREHENSIVE OUTDOOR RECREATION PLAN

DEPARTMENT OF
NATURAL RESOURCES

MINNESOTA SNOWMOBILE REPORT

Report Number 2322

Research and Policy Section, Office of Planning

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MINNESOTA SNOWMOBILE REPORT

Compiled for

The Minnesota Department of Natural Resources
Bureau of Comprehensive Planning and Programming
St. Paul, Minnesota

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Institute of Outdoor Recreation and Tourism
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Report Number 2322

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MINNESOTA SNOWMOBILE REPORT

TABLE 1
SNOWMOBILE SAMPLE SIZEIntroduction

During the winter of 1978, the Bureau of Comprehensive Planning and Programming's Research and Policy Section conducted a study of snowmobilers. The data were collected by a prepaid return post card distributed to known snowmobilers in Minnesota. The sample frame for this study was generated by a random telephone survey of over 10,000 Minnesota households. During the telephone survey, interviewers identified known snowmobilers. Questionnaires were mailed to a sample of snowmobilers which was drawn utilizing a second stage sampling technique described by Leslie Kish. Each of the 13 Minnesota Development Districts were sampled separately and resulted in completed questionnaires as in Table 1.

The questionnaire (see Appendix A) contained 23 questions several of which required multiple responses. General categories covered by the questions include: trail development and location; typical snowmobile outings; activities associated with snowmobile recreation; ideal trail type; facility development; and, certain demographic data. This report presents these data in summary form and on a regional basis. Table 2 shows the number of snowmobilers in each region and the percent of the regional population which snowmobile. Region 11 contributes the largest absolute number of snowmobilers yet has the lowest participation rate among the 13 regions. Region 1, a very rural region, accounts for 48,200 snowmobilers, considerably below the average; however, it has the highest participation rate at 51%.

Demographic Data

Tables 3, 4 and 5 describe the demographic data collected by the snowmobile questionnaire. Table 3 displays the ages of respondents. As expected, the mean

<u>REGION</u>	<u>COMPLETED QUESTIONNAIRES</u>
1	72
2	72
3	86
4	80
5	77
6E	68
6W	78
7E	76
7W	91
8	70
9	72
10	71
11	123
TOTAL	1,036

TABLE 2

SNOWMOBILERS BY REGION

REGION	Number of Snowmobilers	% of Regional Population that Snowmobile
1	48,200	51%
2	21,600	37%
3	115,900	36%
4	60,200	32%
5	38,800	33%
6E	32,900	32%
6W	15,000	25%
7E	30,200	34%
7W	61,000	31%
8	31,000	22%
9	53,000	24%
10	75,000	19%
11	339,000	17%
TOTAL	921,800	Mean 30.2%

TABLE 3

AGES OF RESPONDENTS (% of respondents)

(see question 20)

REGION	Less than 20	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65+	Median	Mean
1	21.5	13.9	15.3	10.8	9.1	6.2	4.5	9.2	4.5	4.6	-	29	33
2	16.2	16.2	13.2	10.3	5.9	10.3	13.2	4.4	3.0	1.5	-	30	27
3	12.3	9.8	7.4	9.9	13.6	6.2	13.5	11.2	4.9	7.4	3.8	39	39
4	18.6	12.8	11.5	15.7	7.1	5.7	10.0	4.3	5.7	4.3	4.3	31	17
5	13.0	7.3	11.6	17.4	11.6	10.1	7.2	7.0	5.6	7.0	2.2	35	37
6E	24.2	8.0	12.9	16.1	8.0	8.0	4.8	11.3	4.8	-	1.2	31	33
6W	20.5	17.9	10.9	13.7	6.9	9.6	8.2	5.5	4.1	2.8	-	30	32
7E	19.4	13.9	19.5	12.5	8.3	5.6	1.4	4.2	-	8.4	6.8	29	33
7W	25.9	10.6	16.4	15.3	15.3	3.6	3.6	8.2	-	-	1.2	28	30
8	26.7	11.6	23.4	11.6	13.4	5.6	3.4	-	1.7	-	1.7	28	29
9	16.4	19.4	16.4	16.5	10.4	6	5.9	4.5	3.0	-	1.5	29	31
10	16.2	13.2	13.7	19.1	13.2	13.2	1.5	-	-	4.5	1.5	31	32
11	17.1	11.1	17.1	13.7	24.4	11.1	3.5	6	2.6	-	0.9	32	32
STATE TOTAL	17.8	11.9	14.8	14.0	13.0	8.8	5.8	6.1	3.0	2.6	2.2	32	33

TABLE 4
EDUCATION OF RESPONDENTS (% of respondents)
(see question 21)

REGION	8 or less	YEARS COMPLETED			Median	Mean/.75 Ci
		9-12	13-16	16+		
1	4.6	60.0	32.3	3.1	12	12.3/ 2.0
2	11.9	55.3	26.8	6.0	12	12.2/ 2.7
3	3.7	48.2	38.2	9.9	12	13.0/ 2.5
4	4.5	62.7	26.8	4.5	12	12.5/ 2.2
5	8.7	58.0	21.7	11.5	12	12.4/ 2.8
6E	3.2	54.9	38.7	3.2	12	12.5/ 2.0
6W	9.7	54.1	33.3	2.8	12	12.1/ 2.2
7E	8.3	61.1	30.6	-	12	11.9/ 2.0
7W	3.6	66.3	24.1	6.0	12	12.1/ 2.5
8	1.7	64.4	32.2	1.7	12	12.4/ 1.9
9	1.5	56.7	35.8	7.5	12	12.9/ 2.2
10	6.0	41.8	44.7	7.5	13	13.2/ 2.4
11	1.7	59.0	33.3	6.0	12	12.8/ 2.1
STATE TOTAL	3.7	56.6	33.8	5.9	12	12.7/ 2.3

TABLE 5
OCCUPATION OF RESPONDENTS (in percent)
(see question 22)

REGION	MANAGER	SALES	CLERICAL	CRAFTS- MEN	FARMERS	SERVICE	HOUSE- WIFE	STUDENT	RETIRED
	PROFESSIONAL TECHNICAL								
1	23.8	1.6	6.3	23.9	11.1	4.8	17.5	7.9	1.6
2	28.1	-	4.7	21.9	7.8	7.8	18.8	10.9	-
3	19.5	2.6	3.9	33.7	-	6.5	14.3	15.6	3.9
4	16.2	1.5	8.9	16.1	23.6	7.3	8.8	14.7	2.9
5	31.8	1.5	4.6	19.7	12.1	4.5	6.1	13.6	6.1
6E	15.5	5.2	6.9	25.8	13.8	3.5	8.6	19.0	1.7
6W	13.9	4.2	2.7	22.3	19.4	5.6	16.7	15.3	-
7E	18.8	4.4	1.4	27.6	13.0	7.3	8.7	14.5	4.3
7W	14.6	3.7	3.7	34.1	7.3	4.9	11.0	20.7	-
8	20.0	5.3	0	18.4	15.0	5.0	10.0	25.0	1.7
9	20.6	1.6	7.5	20.7	17.4	6.4	12.7	9.5	1.6
10	24.6	3.1	4.6	24.6	16.9	1.6	9.2	13.8	1.5
11	30.2	1.9	4.7	31.1	0.9	8.5	8.5	13.2	1.9
STATE TOTAL	24.0	2.5	5.0	27.5	7.8	6.1	10.5	14.3	2.2

and median ages are in the early thirties. The only slight exceptions are found in regions three and five where the mean and median ages are in the late and mid-thirties. The tables also provide a breakdown of the respondents by various age categories for each region. In Table 3, as in other tables where state totals are presented, it is important to note that state totals and state averages are calculated on a weighted average basis. Hence, the influence of sampling frequency and region size do not affect state totals.

Table 4 lists the education of respondents. Again, there are no surprising results. However, a comparison of the findings from this Report and SCORP Report No. 2321 shows that there are some significant differences between the demographic characteristics of cross-country skiers and snowmobilers. Nearly 28 percent of the cross-country skiers completed college and had some graduate education compared to 5.9% of the snowmobilers. A comparison of those reports shows that the occupation profiles of cross-country skiers and snowmobilers also differ. The cross-country skier is predominantly (45.2%) managerial-professional while 24% of the snowmobiler population is drawn from this occupational group. 27.5% of the respondents who are snowmobilers are craftsmen as opposed to 4.8% of the cross-country skiers who are craftsmen. Certainly, formal education is related to occupation; hence, if one varies, it isn't unusual to find the other varying. What is clear is that snowmobilers and cross-country skiers are drawn from different segments of the Minnesota population.

Attitudes Toward Trail Development

Several questions were designed to measure the attitudes of snowmobilers concerning the general issue of trail development. The responses are tabulated for each region as well as a weighted average state total for each question. While they are overwhelmingly in favor of development, there exist some notable differences between and among the regions, e.g. in Table 6,

85.5% favor development of more trails in region 6E, while 62.5% favor development in region 4.

The responses are in the form of percentages, e.g., 60% favor some issue while 40% oppose, and absolute numbers such as 50 miles. Where absolute numbers are expressed as means, the mean is not shown along, e.g., 20.6/14.7. The first (20.6) number is the mean, and the second (14.7) number is the standard deviation. This particular number pair (20.6/14.7) drawn from Table 6, should be interpreted as follows: the sampled snowmobilers average preferred distance from home for new trail development is 20.6 miles and 66 2/3 percent of their preferred distance responses fell in the range of 5.9 miles to 35.3 miles (20.6 ± 14.7).

Where responses are expressed as percentages, the reader should consult Appendix B. Appendix B presents a table of confidence intervals for various sample sizes and response percentages. The Appendix can be used in conjunction with tabulated values by: (1) determining the percentage of interest from any given table, (2) then finding the sample size (completed questionnaires) for the specific region (see Table 1), (3) then by interpolating between percentages as necessary, add and subtract the Appendix B value to/from the percentage of interest. For example, $70\% \pm 10\%$ means that there is a 75% likelihood that the region's true mean response lies between 60% and 80% or within 10% of the estimated mean, 70%.

While respondents strongly support trail development (see Table 6), they are less enthusiastic about contributing a day's labor to develop such trails (see Table 7).

Statewide the most desired trail type is one accommodating a full day experience. (see Table 8). However, there is substantial difference of opinion from region to region. Region 6W snowmobilers prefer short outings over full day outings 50% to 37%, while region 7E snowmobilers

TABLE 6
TRAIL DEVELOPMENT
(see questions 1a, c)

<u>Region</u>	<u>Favor (%)</u>	<u>Oppose (%)</u>	<u>Mean Distance (miles)</u>
1	82.1	17.9	36.9/39.0
2	75.4	24.6	20.6/14.7
3	79.7	20.3	20.7/20.3
4	62.5	37.5	32.2/32.4
5	71.2	28.8	31.6/38.4
6E	85.5	14.5	45.4/61.7
6W	72.6	27.4	35.7/37.4
7E	70.6	29.4	40.6/54.6
7W	81.9	18.1	34.6/45.4
8	79.4	20.6	43.3/50.3
9	75.8	24.2	25.3/25.7
10	72.1	27.9	40.0/55.5
11	85.1	14.9	49.9/53.2
STATE TOTAL	79.5	20.5	39.4/47.0

TABLE 7
WILLINGNESS TO WORK ONE SATURDAY

	<u>Region</u>						
	1	2	3	4	5	6E	6W
Yes	37.3	41.8	50.0	25.0	44.8	45.2	38.9
No	17.9	22.4	24.4	29.4	22.4	21.0	19.4
Don't Know	44.8	35.8	25.6	45.6	32.8	33.9	41.7

	<u>Region</u>						
	7E	7W	8	9	10	11	STATE TOTAL
Yes	51.4	43.5	40.0	35.8	38.8	47.0	43.5
No	20.0	28.2	18.3	26.9	22.4	20.9	22.6
Don't Know	28.6	28.2	41.7	37.3	38.8	32.2	33.9

TABLE 8
TRAIL TYPE
(see question 1b)

REGION	SHORT OUTINGS (%)	FULL DAY USE (%)	TWO OR THREE DAYS (%)
1	47.3	38.2	10.9
2	41.2	49.0	3.9
3	36.9	56.9	1.5
4	30.2	60.5	9.3
5	35.4	50.0	10.4
6E	44.4	37.0	13.0
6W	50.0	37.0	11.1
7E	24.0	64.0	12.0
7W	42.9	42.9	10.0
8	34.6	59.6	1.9
9	49.1	47.2	1.9
10	32.7	40.8	20.4
11	28.6	59.2	11.2
STATE TOTAL	34.7	53.0	9.5

NOTE: Percentages may not sum to 100% due to multiple responses which were not counted.

prefer full-day to short outings, 64% to 24%, and in Region 10, 20.4% of its snowmobilers are interested in multiple-day use designed trails, a percentage which is twice as large as the statewide value.

A final question concerning the general issue of trail development pertains to rest shelters (see Table 9). While the construction of rest shelters is favored in all regions, the margin by which rest shelter development is favored is not as great as that for trail development, in general. On the average, respondents feel shelters should be 15.2 miles apart. But, this is one case where planning for the average could be a considerable discomfort for nearly 50% of the respondents.

Characteristics of Snowmobile Trips

Tables 10, 11, and 12 describe the characteristics, activities and influence of other types of recreation on snowmobile trips. The average duration of a snowmobile trip is 4.7 hours. If one considers transportation to and from the site (an average of 39.2 miles), preparation time and putting equipment away, the average trip is an all-day event. The tables are constructed to present means (the upper number) and standard deviations (the lower number of the pair). Where the standard deviation is considerably larger than the mean, the median and mode are also reported. For example, in Region 5, respondents reported an average number of outings of 58.0 with a standard deviation of 207.2 (Table 10). It is obvious that the mean is influenced (raised) by a few abnormally large number of outings. Note "f" on Table 10 shows the median and mode to be 10 outings per season. It is appropriate to suggest, with the exception of a few fanatics, the average snowmobiler undertakes the activity approximately 10 times per season.

TABLE 9
REST SHELTERS

(see questions 3a, b)

REGION	FAVOR DEVELOPMENT	OPPOSE	DON'T KNOW	MILES APART (MEAN)
1	67.7	16.9	15.4	14.9/ 9.5
2	56.1	22.7	21.2	12.9/ 8.9
3	55.7	31.6	12.7	14.3/12.0
4	48.5	38.2	13.2	17.4/13.0
5	53.0	31.8	15.2	15.5/ 9.0
6E	58.1	22.6	19.4	12.7/10.0
6W	56.2	35.6	8.2	13.8/10.2
7E	58.6	22.9	18.6	14.2/13.1
7W	54.8	29.8	15.5	17.2/16.8
8	55.9	32.2	11.9	15.8/12.2
9	52.4	40.3	7.5	14.4/10.2
10	57.4	32.4	10.3	13.7/ 9.8
11	59.3	22.1	18.6	15.5/ 9.4
STATE TOTAL	57.2	27.5	15.3	15.2/10.8

TABLE 10
CHARACTERISTICS OF SNOWMOBILE OUTINGS

(see questions 5, 6, 7, 8, 9, 10)

REGION	DURATION IN HOURS	MILES TRAVELED	NUMBER OF OUTINGS	OUTINGS ON MARKED TRAIL	YEARS IN ACTIVITY	% OF TIME SNOWMOBILE			
						ALONE	FAMILY	FRIENDS	FAMILY & FRIENDS
1	4.1 4.8	39.6 41.6	11.8 18.3	2.5 7.6	6.6 3.4	9.1	16.7	37.9	33.3
2	4.1 2.0	32.3 20.1	44.8a 177.2	19.8b 124.2	6.7 3.6	7.4	22.1	38.2	26.5
3	6.2 13.6	29.9 25.7	39.7c 160.6	4.4 7.2	7.9 4.1	4.9	35.8	33.3	21.0
4	4.0 2.6	34.8 26.0	14.6d 17.7	4.5e 12.8	5.7 2.8	9.1	25.8	39.4	22.7
5	4.9 6.3	35.0 21.4	58.0f 207.2	65.4g 242.7	6.6 2.8	5.9	35.3	41.2	14.7
6E	4.2 3.0	35.3 33.6	24.9h 127.9	18.6i 128.5	6.7 3.4	4.8	21.0	40.3	25.8
6W	3.7 1.9	34.6 26.2	45.2j 179.0	18.0k 122.6	6.0 2.7	12.7	19.7	38.0	22.5
7E	5.3 5.9	46.8 50.1	55.1l 198.9	35.3m 171.6	7.6 3.5	8.3	25.0	40.3	22.2
7W	3.6 1.8	36.9 27.5	51.8n 192.3	41.2o 190.2	5.8 2.6	8.4	18.1	53.0	18.1
8	4.2 2.2	37.8 26.0	10.2 10.0	2.2 4.2	5.5 3.2	5.0	16.7	58.3	18.3
9	3.8 2.0	40.0 31.2	41.2p 174.8	18.1q 126.5	5.4 2.8	6.2	20.0	44.6	29.2
10	4.9 6.1	42.2 62.3	13.7 11.9	9.2 30.8	5.8 2.7	5.9	22.1	54.4	10.3
11	4.8 4.5	43.8 37.2	26.5r 130.6	13.8s 93.7	5.9 3.0	5.2	23.3	44.0	25.0
STATE TOTAL	4.7 6.3	39.2 36.9	30.4t 136.5	15.8u 105.6	6.3 3.2	6.2	24.2	43.4	22.6

*a. median and mode = 10,10
b. median and mode = 6, 5
c. median and mode = 9, 4
d. median and mode = 10,4
e. median and mode = 1, 0
f. median and mode = 10,10
g. median and mode = 2, 0
h. median and mode = 6, 10
i. median and mode = 1, 0
j. median and mode = 8, 2
k. median and mode = 1, 0
l. median and mode = 9, 2

M. median and mode = 3, 0
N. median and mode = 8, 5
O. median and mode = 1, 0
P. median and mode = 6, 10
Q. median and mode = 4, 0
R. median and mode = 6, 2
S. median and mode = 2, 0
T. median and mode = 8, 10
U. median and mode = 2, 0

NOTE: Upper number is the mean; lower number is the standard deviation.

TABLE 11
ACTIVITIES WHILE SNOWMOBILING
(see questions 12, 13)

REGION	USE SAME TRAIL WITH SAME ENJOYMENT	PICNIC	CAMP	NATURE OBSERVATION	HUNT	FISH	VISIT FRIENDS	MEET PEOPLE	RACE	BAR HOP
1	5.7 3.1	22.2	6.9	43.1	2.8	2.8	8.3	2.8	8.3	1.4
2	6.2 3.0	34.8	1.5	40.9	1.5	9.1	10.6	1.5	-	-
3	5.8 3.1	40.7	3.5	36.0	-	8.1	2.3	2.3	1.2	5.8
4	6.2 3.2	22.7	3.0	47.0	6.1	7.6	12.1	-	-	1.5
5	6.3 3.0	25.4	7.5	44.8	-	11.9	9.0	1.5	-	-
6E	5.5 2.7	24.2	3.2	53.2	-	3.2	16.1	-	-	-
6W	6.6 3.0	32.9	1.4	55.7	1.4	1.4	4.3	1.4	1.4	-
7E	5.9 3.1	27.4	5.5	46.6	4.1	6.8	5.5	-	4.1	-
7W	6.1 3.1	21.2	1.2	52.9	1.2	7.1	11.8	-	3.5	1.2
8	5.5 2.8	19.0	5.2	51.7	3.4	1.7	12.1	5.2	-	1.7
9	6.4 2.8	27.3	3.0	42.4	1.5	6.1	9.1	4.5	4.5	4.5
10	6.8 2.9	20.9	3.0	47.8	1.5	3.0	17.9	3.0	3.0	-
11	6.4 2.7	27.0	2.6	42.6	3.5	9.6	9.6	3.5	0.9	0.9
STATE TOTAL	6.2 2.9	27.7	3.3	44.7	2.4	7.5	9.7	2.6	1.4	0.7

TABLE 12
INFLUENCE OF OTHER TYPES OF USERS ON RETURN
(see question 11)

REGION	CROSS COUNTRY	SNOWSHOE	DOG SLED	OFF ROAD VEHICLE	SNOWMOBILES
1	3.4 1.5	3.5 1.4	4.6 0.9	2.9 1.6	1.9 1.4
2	3.1 1.5	3.1 1.5	4.6 0.8	2.8 1.5	2.0 1.5
3	3.3 1.6	3.4 1.6	4.6 1.0	3.0 1.7	1.6 1.3
4	3.0 1.5	3.1 1.4	4.8 0.6	2.7 1.5	1.5 1.0
5	3.1 1.6	3.2 1.5	4.8 0.5	3.0 1.6	1.8 1.3
6E	3.6 1.3	3.6 1.3	4.7 0.6	3.2 1.5	1.7 1.2
6W	3.5 1.5	3.6 1.4	4.5 1.1	3.1 1.6	2.2 1.6
7E	3.4 1.5	3.4 1.4	4.7 0.9	3.0 1.5	2.0 1.4
7W	3.1 1.5	3.1 1.4	4.8 0.7	3.0 1.4	2.1 1.4
8	3.3 1.4	3.4 1.4	4.7 0.8	3.2 1.4	2.0 1.2
9	3.0 1.5	3.0 1.5	4.6 1.0	3.1 1.5	1.9 1.3
10	3.1 1.7	3.0 1.6	4.8 0.6	2.9 1.6	1.6 1.2
11	3.2 1.6	3.2 1.5	4.7 0.8	3.0 1.5	2.2 1.5
STATE TOTAL	3.2 1.5	3.2 1.5	4.7 0.8	3.0 1.5	2.0 1.4

NOTE: Responses were measured on a 1 to 5 scale; 1 = would return, 5 = would not return. Upper number is the mean response; lower number is the standard deviation.

The Table 10 state totals show that 43.4 percent of the respondents' snowmobiling occasions involved friends. The two categories family alone and family and friends account for 24.2 and 22.6 percent of the snowmobile occasions, respectively. Clearly snowmobiling is a group centered activity. In this respect, snowmobiling is similar to cross-country skiing. However, while individuals snowmobiled alone only 6.2% of the time over 16% of the time cross-country skiers skied alone (SCORP Report 2321).

Although nature observation (see Table 11) was easily the activity most frequently reported in conjunction with snowmobiling, the state proportion of snowmobilers who get involved with nature observation 44.7% is considerably below the 86.7% reported by cross-country skiers. Bar hopping, an activity claimed by 4.7 percent of the cross-country skiers, was reported by only 0.7 percent of the snowmobilers.

Table 12 lists responses on a 1 to 5 scale regarding whether a snowmobiler's decision to return to a given trail is affected by other use of the trail. A response of 3 on the scale is neutral, while a response of 5 indicates strongly that the respondent would return. A 1 indicates the respondent would not return. Snowmobilers are generally neutral towards cross-country, snowshoe and off-road vehicles, they do not favor other snowmobilers but not strongly, and they are really in favor of dog sledgers (the activity most tolerated by cross-country skiers). The low standard deviations for the dog sled response indicate a high degree of agreement on this issue.

Most Needed Snowmobile Trail

Tables 13-17 present responses on a 1 to 5 (strongly agree to strongly disagree) scale concerning characteristics of the respondents' "most needed" snowmobile trail. Generally, there is a favorable bias among the responses. Standard deviations are generally quite low: again indicating substantial agreement among the respondents. Also, the data are presented in number pairs. The upper number is the mean; the lower number is the standard deviation. The

TABLE 13
MOST NEEDED SNOWMOBILE TRAIL
(see question 14)

REGION	PASS THROUGH HILLY TERRAIN	PASS THROUGH OPEN AREAS	ALONG A RIVER OR STREAM	PASS THROUGH STATE FOREST RECREATION CENTER	RETURN TO STARTING POINT
1	2.1 0.9	2.1 0.9	2.0 0.9	2.1 0.9	1.7 0.8
2	2.2 1.0	2.0 0.7	2.3 1.0	2.1 0.9	1.9 0.8
3	2.1 0.9	2.2 1.1	2.1 1.0	2.2 1.0	1.7 0.8
4	1.9 0.9	2.4 1.0	2.3 1.0	2.3 1.0	1.8 0.9
5	1.9 0.8	2.5 1.0	2.0 0.8	2.1 0.9	1.9 1.0
6E	1.9 0.8	2.1 0.8	2.0 0.8	2.1 1.0	1.8 0.8
6W	2.0 0.9	2.2 1.0	1.8 0.8	2.0 0.9	1.6 0.7
7E	1.8 0.8	2.1 1.0	1.8 0.9	2.2 0.8	1.8 0.9
7W	2.0 0.9	1.9 0.8	2.0 1.0	2.2 0.9	1.7 1.0
8	1.9 0.9	2.0 0.7	2.0 1.0	2.2 1.0	1.7 0.7
9	2.0 0.8	2.1 0.8	1.8 0.8	2.5 1.0	2.0 0.9
10	2.0 1.0	2.3 1.0	2.0 1.2	2.1 0.9	1.7 0.9
11	1.9 0.9	2.1 0.9	2.0 0.9	2.2 1.1	1.8 1.0
STATE TOTAL	2.0 0.9	2.1 0.9	2.0 0.9	2.2 1.0	1.8 0.9

NOTE: Responses are on a 1 to 5 scale: 1 being strongly agree and 5 being strongly disagree. The above number pairs represent the mean (upper number) response and the standard deviation (lower number).

TABLE 14
MOST NEEDED SNOWMOBILE TRAIL
(see question 14)

REGION	REQUIRE ME TO BREAK TRAIL	TENT CAMPSITES ALONG TRAIL	WARMING HUTS AND TOILETS ALONG TRAIL	CABINS FOR OVERNIGHT STAY	ALL TYPES OF USES ON TRAIL
1	3.2 1.1	3.0 1.1	2.1 1.1	2.7 1.2	3.3 1.2
2	3.2 0.8	3.4 0.9	2.4 1.3	3.2 1.2	3.2 1.2
3	3.3 1.0	3.4 1.0	2.4 1.1	3.4 1.6	3.3 1.3
4	3.4 1.0	3.4 0.9	2.6 1.2	3.3 1.2	3.7 1.0
5	3.3 1.1	3.3 1.1	2.6 1.3	3.4 1.3	3.6 1.1
6E	3.2 0.9	3.1 0.8	2.3 1.0	2.6 1.1	3.3 1.1
6W	3.4 1.0	3.3 1.0	2.2 1.2	3.2 1.2	3.3 1.0
7E	3.1 1.0	3.0 1.0	2.1 1.1	2.9 1.1	3.2 1.2
7W	3.1 0.8	3.2 1.0	2.2 1.1	2.8 1.2	3.1 1.1
8	3.1 1.0	3.3 0.8	2.6 1.2	3.0 1.1	3.3 1.0
9	3.1 1.0	3.3 0.9	2.3 1.2	3.1 1.2	3.5 1.1
10	3.2 1.0	3.1 1.0	2.5 1.1	3.0 1.3	3.6 1.1
11	3.1 0.9	3.3 1.1	2.4 1.2	2.9 1.1	3.5 1.2
STATE TOTAL	3.2 1.0	3.2 1.0	2.4 1.2	3.0 1.2	3.4 1.2

NOTE: Responses are on a 1 to 5 scale: 1 being strongly agree and 5 being strongly disagree. The above number pairs represent the mean (upper number) response and the standard deviation (lower number).

TABLE 15
MOST NEEDED SNOWMOBILE TRAIL
(see question 14)

REGION	PATHS FOR DIFFERENT USES	PASS THROUGH OPEN FIELDS AND MEADOWS	MARKED BY FREQUENT SIGNS	SELF GUIDING MAP	EDUCATIONAL INFORMATIONAL DISPLAYS
1	2.2 0.9	3.1 0.8	1.8 0.9	3.5 1.0	2.7 1.1
2	2.4 1.1	3.2 0.9	1.8 0.9	3.6 1.0	2.9 0.9
3	2.4 1.2	3.3 1.0	1.9 0.9	3.6 1.0	2.9 0.9
4	2.2 0.9	3.5 0.9	2.0 1.0	3.6 1.1	3.0 1.0
5	2.3 0.8	3.6 1.0	1.9 0.9	3.6 1.1	2.7 1.0
6E	2.2 1.1	3.2 0.8	1.8 0.8	3.5 1.0	2.4 0.8
6W	2.2 0.9	3.1 1.0	1.9 0.8	3.4 0.9	2.8 0.8
7E	2.2 0.9	3.1 1.0	1.7 0.7	3.7 1.0	2.6 1.0
7W	2.2 1.0	3.0 1.0	1.9 0.7	3.5 1.0	2.8 0.9
8	2.2 0.8	3.0 0.9	2.1 0.8	3.3 1.0	2.8 0.9
9	2.4 1.0	3.0 1.0	2.1 1.0	3.4 1.1	2.9 1.0
10	2.3 1.0	3.0 1.0	1.7 0.8	3.8 0.9	2.8 1.1
11	2.2 1.0	3.2 0.9	1.9 0.9	3.6 1.0	2.8 1.0
STATE TOTAL	2.3 1.0	3.2 0.9	1.9 0.9	3.6 1.0	2.8 1.0

NOTE: Responses are on a 1 to 5 scale: 1 being strongly agree and 5 being strongly disagree. The above number pairs represent the mean (upper number) response and the standard deviation (lower number).

TABLE 16
MOST NEEDED SNOWMOBILE TRAIL

(see question 14)

REGION	ALONG LAKE SHORE	PASS BY TAVERNS	CONNECT RECREATION AREAS	BE A GROOMED TRAIL	CONNECT URBAN AREAS
1	2.3 0.8	3.3 1.1	2.2 0.7	2.1 0.8	3.0 0.9
2	2.4 0.9	3.3 1.1	2.3 0.9	2.2 0.9	3.1 0.9
3	2.1 0.9	3.5 1.2	2.1 0.9	2.0 1.0	3.0 1.1
4	2.4 0.8	3.1 1.2	2.1 0.9	2.1 1.0	3.0 0.9
5	2.1 0.7	3.3 1.3	2.2 0.9	2.2 1.0	3.0 1.1
6E	2.3 0.8	3.0 1.3	2.0 0.8	2.1 0.8	3.2 1.0
6W	2.2 0.7	3.4 1.2	2.1 0.8	2.4 0.9	3.1 1.0
7E	2.1 0.7	2.8 1.2	1.9 0.7	1.8 0.8	2.7 1.1
7W	2.3 0.8	2.7 1.2	2.2 0.9	2.4 0.9	3.0 0.9
8	2.2 0.9	3.2 1.2	2.1 0.8	2.3 1.0	3.1 1.0
9	2.3 0.8	3.3 1.1	2.3 0.7	2.3 0.8	3.0 0.9
10	2.5 1.0	3.0 1.1	2.3 0.9	2.0 1.0	2.7 1.1
11	2.2 0.9	2.9 1.2	2.1 1.0	2.1 0.8	2.7 1.1
STATE TOTAL	2.2 0.9	3.1 1.2	2.1 0.9	2.1 0.9	2.9 1.0

NOTE: Responses are on a 1 to 5 scale: 1 being strongly agree and 5 being strongly disagree. The above number pairs represent the mean (upper number) responses and the standard deviation (lower number).

TABLE 17
MOST NEEDED SNOWMOBILE TRAIL

(see question 14)

REGION	PASS THROUGH FORESTS OR WOODS	GOOD CHANCE TO VIEW WILDLIFE	IN A CITY PARK	IN A RESORT AREA	IN A WILDERNESS LIKE AREA
1	2.1 0.8	1.7 0.8	3.8 0.8	2.7 0.8	2.0 0.8
2	1.9 0.7	1.8 0.7	3.9 0.8	2.6 0.9	2.0 0.9
3	1.8 0.8	1.7 0.8	3.6 1.1	2.6 0.9	1.8 0.8
4	2.2 0.9	1.9 0.9	3.9 0.9	2.6 1.1	2.0 0.9
5	1.7 0.8	1.7 0.8	3.8 1.0	2.6 1.1	1.7 0.7
6E	1.9 0.7	1.7 0.6	3.9 0.8	2.7 0.8	2.0 0.7
6W	2.1 0.8	1.8 0.8	3.8 0.9	2.6 0.8	2.0 0.9
7E	1.7 0.6	1.7 0.9	3.9 0.9	2.7 0.9	1.8 0.8
7W	1.9 0.8	1.8 0.9	3.9 0.8	2.8 0.9	2.0 0.9
8	2.2 0.9	1.7 0.7	3.8 1.0	2.7 1.0	1.9 0.7
9	2.1 0.8	1.7 0.7	3.9 0.8	2.7 0.8	2.0 0.8
10	2.1 0.9	1.8 1.1	3.6 0.7	2.8 0.9	2.1 0.9
11	2.0 0.9	1.6 0.7	3.6 1.0	2.5 0.9	2.0 0.9
STATE TOTAL	2.0 0.8	1.7 0.8	3.7 1.0	2.6 0.9	2.0 0.9

NOTE: Responses are on a 1 to 5 scale: 1 being strongly agree and 5 being strongly disagree. The above number pairs represent the mean (upper number) responses and the standard deviation (lower number).

most important characteristics include a chance to view wildlife, a return to the starting point and a trail marked by frequent signs. In fact, one interesting aspect of the most needed trail response is the similarity of responses between regions. A regression was run comparing responses from two dissimilar regions, 4 and 11. The R^2 was .98, indicating an almost perfect correlation between most needed trail types in region 4 and 11. A quick review of other regional responses leads to a similar conclusion.

While the responses between regions are highly correlated, the responses between most needed trail types may not be highly correlated. For example, we assumed that a good chance to view wildlife would be highly correlated with a favorable response to trails along a river or stream, however, the regression produced an R^2 of only .45. It would be interesting to factor analyze the 25 trail types to see which of the desired types grouped together.

The results presented in Table 18 could have been easily predicted from information previously presented. The state average length of the most desired trail is 32.4 miles...slightly less than the 39 miles respondents reported that they traveled. 94.2% of the respondents favored the loop or network type trail. This response was very similar to the response which showed respondents favoring and needing a trail which brought them back to a starting point.

Financing Snowmobile Areas

Table 19 shows the responses to question number 4. The responses are quite diverse when one considers the six alternatives for each region against the state totals. For example, the favored response state wide is the license approach to raising revenue, 33.2%. But, this is influenced substantially by 41.6% preference by respondents from region 11. Four regions prefer the use fee to the license fee as a means of financing snowmobile areas even though statewide only 20.3% of the responses favored that approach. And, while general taxes were favored as a means of financing snowmobile

TABLE 18
LENGTH AND TYPE OF MOST NEEDED TRAIL

(see questions 15 and 16)

Region	LENGTH IN MILES	TRAIL TYPE (in %)		
		A (point to point)	B (loop)	C (network)
1	33.6 23.0	5.2	19.0	75.9
2	33.0 22.5	1.6	20.6	77.8
3	26.6 18.4	8.0	26.7	65.3
4	32.5 24.9	4.6	20.0	75.4
5	36.7 23.1	4.7	23.4	71.9
6E	33.3 24.9	1.6	13.1	85.2
6W	30.6 24.1	3.1	23.1	73.8
7E	36.1 25.8	3.1	18.5	78.5
7W	32.8 25.4	8.6	12.3	77.8
8	26.4 18.4	1.7	12.1	86.2
9	27.1 22.3	4.6	18.5	75.4
10	30.3 20.7	4.6	21.5	73.8
11	34.9 23.4	4.4	14.9	78.1
STATE TOTAL	32.4 22.9	4.9	18.0	76.2

NOTE: Length in miles is presented in a number pair; the upper number is the mean and the lower number the standard deviation.

TABLE 19
FINANCING SNOWMOBILE AREAS
(see question 4)

REGION	GENERAL TAXES	GAS TAX	LICENSE	EQUIPMENT TAX	USE FEE	REGISTRATION
1	19.0	12.7	27.0	9.5	25.4	3.2
2	17.7	11.3	24.2	19.4	14.5	11.3
3	20.3	11.4	27.8	12.7	11.4	11.4
4	16.4	16.4	22.4	16.4	23.9	3.0
5	23.9	6.0	25.4	20.9	18.4	3.0
6E	18.0	8.2	23.0	8.2	34.4	6.6
6W	13.0	10.1	21.7	11.6	34.8	5.8
7E	18.6	10.0	32.9	8.6	24.3	2.9
7W	27.1	4.7	29.4	7.1	30.6	1.2
8	18.6	3.4	33.9	11.9	28.8	3.4
9	12.3	6.2	35.4	20.0	20.0	1.5
10	23.1	9.2	29.2	7.7	20.0	9.2
11	22.1	3.5	41.6	11.5	17.7	0.9
STATE TOTAL	20.7	7.2	33.2	12.1	20.3	3.9

NOTE: Percentages may not sum to 100% due to multiple response and a minor % other responses.

areas by 20.7% state wide, no region favored general taxes over license fees. Finally, the responses favoring general taxes, license and use fees paralleled the responses offered by cross-country skiers for funding cross-country trails although license fees were not quite as popular an approach among the skiers.

Snowmobile Patrol

Snowmobilers, 65.2%, do not want trails to be patrolled by law enforcement officers (see Table 20). However, snowmobilers strongly favor, 73.3%, that a civilian patrol offer assistance and first aid. This percent varies markedly from the 57.1% among skiers who favor a civilian ski patrol. Directionally each region concurs with the state total yes/no response. However, some regions have more intense opinions.

Complaints and Comments

The questionnaire provided an opportunity for Minnesota residents to write complaints or comments in addition to responding to specific questions. It required more effort to respond to these open ended questions; hence, it is not surprising that the response rate was lower than for other questions (35.5% listed no complaint, 73% made no comment). This may also mean that the opinions when expressed by these respondents are more intense than those attitudes previously measured. Tables 21 and 22 list these complaints and comments. A key is provided with each table as 125 different comments and complaints were received. Where a particular comment or complaint amounted to only 1% of the response for a given region, it is not listed in the table. The three most frequently found complaints were: more trails are needed, snow cover is inadequate, frequency of groomed trails is inadequate. The percentages of all responses

TABLE 20
SNOWMOBILE PATROL
(see questions 17 and 18)

REGION	BY LAW ENFORCEMENT OFFICERS		INDIVIDUALS OFFERING ASSISTANCE AND FIRST AID	
	YES	NO	YES	NO
1	40.7	59.3	73.3	26.7
2	14.1	85.9	58.1	41.9
3	28.6	71.4	67.9	32.1
4	38.8	61.2	69.8	30.2
5	29.9	70.1	65.7	34.3
6E	37.3	62.7	64.4	35.6
6W	31.8	68.2	71.6	28.4
7E	32.4	67.6	67.6	32.4
7W	25.0	75.0	75.6	24.4
8	45.6	54.4	81.0	19.0
9	36.9	63.1	69.7	30.3
10	23.1	76.9	65.2	34.8
11	40.7	59.3	80.4	19.6
STATE TOTAL	34.8	65.2	73.4	26.6

TABLE 21
COMPLAINTS
(% of respondents)
(see question 19)

REGION	NO COMPLAINT	COMPLAINT TYPE/ % OF TOTAL REPLYS		
1	38.2	93/ 8.8	10/ 4.4	92/ 4.4
2	49.3	93/ 4.5	10/ 4.5	3/ 4.5
3	25.6	44/ 9.8	92/ 7.3	85/ 4.9
4	50.1	93/ 7.5	5/ 6.3	22/ 3.7
5	37.7	5,66/ 6.5	88,92/ 3.9	
6E	42.7	66/13.2	93/10.3	
6W	30.8	93/16.7	1/ 6.4	
7E	36.5	93/ 9.5	1,66/ 6.8	92/ 5.4
7W	27.9	66/ 7.7	5/ 6.6	3/ 5.5
8	35.0	13/21.7	7/11.7	
9	39.1	93/11.6	66/ 8.7	1,3/ 5.8
10	34.8	85/ 5.8	6,66,89,92/ 4.3	
11	37.2	93/ 9.1	85,66/ 5.0	3/ 4.1
STATE TOTALS	35.5	93/ 8.6	66/ 5.2	85/ 4.0

KEY: Complaint Types

- 1 Disapprove of drinking while snowmobiling
- 3 Some snowmobilers are inconsiderate
- 5 Snowmobilers use private property without permission
- 7 Reckless operation of snow machines
- 10 Disapprove high speed snowmobiling
- 13 Snowmobilers chase wildlife
- 22 Littering
- 44 Snowmobiling should be allowed in BWCA
- 66 Snow cover inadequate
- 85 Frequency of groomed trails inadequate
- 88 Marked trails poorly marked
- 89 Need more marked trails
- 92 More groomed trails needed
- 93 More trails needed

TABLE 22
 COMMENTS (% of respondents)
 (see question 23)

REGION	NO COMMENTS	COMMENT TYPE/% OF TOTAL REPLY		
1	74.6	28/ 7.0	2/ 2.8	
2	78.9	No other comment equaled more than 1%.		
3	65.1	28/ 3.5	43/ 3.5	
4	70.0	27,67/ 5.0	29,93/ 2.5	
5	68.8	29/ 5.2	28,43/ 3.9	
6E	80.9	67,27/ 2.9		
6W	71.8	28/ 3.8		
7E	77.6	No other comment equaled more than 1%.		
7W	67.0	28,67,93/ 4.4		
8	75.4	93/ 5.8	67,98/ 2.9	
9	70.4	27,28/ 5.6		
10	70.4	67/ 4.2	24/ 2.8	
11	77.2	67/ 4.9		
STATE TOTALS	73.0	67/ 3.7	28/ 2.4	27,93/ 1.3

KEY: Comment Types

2	Snowmobilers bother ice fishermen
24	Disapprove of multiple use trails
27	Don't snowmobile any more.
28	Don't snowmobile very often
29	Don't snowmobile on trails
43	Snowmobile is transportation to fishing sites
67	Approve of your survey
93	More trails needed
98	More rest stops needed

were 8.6, 5.2 and 4.0, respectively. The three most frequently made comments were: we approve of your survey, we don't snowmobile very often, we don't snowmobile any more, and more trails are needed. The percentage of all responses were 3.7, 2.4, 1.3 and 1.3, respectively. As these percentages are quite small and the complaints and comments covered 125 different topics, perhaps the most significant results of questions 19 and 23 was the sizeable no comment response.

Staff Recommendations

- . Non loop trails should be given low priority by state and federal agencies operating and/or financing snowmobile trails.
- . State and federal agencies should make investments in non-loop trails only when objective information clearly shows that the non-loop trail is justified by a lack of loop alternatives, scarce resources or superior resource quality.
- . State and federal agencies should give priority to groomed trails (over non-groomed trails). This priority applies to state or federal agency administered trails as well as state or federal administered grants programs which enable local governments to provide trails.
- . Trails which provide visual variety (changes in landform, vegetation, water as well as opportunities to view wildlife in a non-disruptive way) should receive priority over alternative trails if location to populations centers and other considerations are equal.
- . State and federal agencies administering grants programs, should ensure that existing mileage is well signed and information on trail location is well distributed.
- . Warming huts and toilets should be provided at reasonable intervals along the trails.
- . Region or site specific trail development plans should take into consideration large regional differences in snowmobiler opinion such as length of desired trip and support facility development.

APPENDIX A

SNOWMOBILE QUESTIONNAIRE



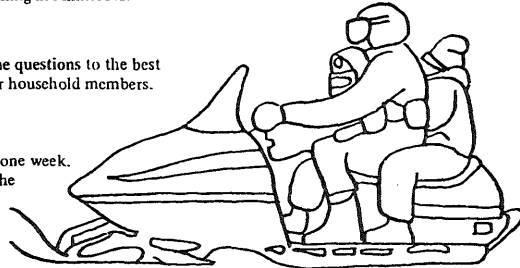
Recreation Research
Department of Natural Resources
St. Paul, Minnesota 55155

Dear Snowmobiler:

The Minnesota Department of Natural Resources and your legislature are sponsoring a large-scale outdoor recreation study. The purpose of the study is to help outdoor recreation planners and legislators better understand the needs and wants of Minnesota residents. You may recall that a member of your household was recently interviewed by phone. During the interview, we noted you are a snowmobiler. This activity is a vital portion of the study. By answering the questions below you can influence the people who make decisions on facilities and opportunities for snowmobiling in Minnesota.

In completing this questionnaire, it is important that:

1. The person to whom this letter is addressed answer the questions to the best of his or her ability without help or advice from other household members.
2. All of the questions be answered.
3. The questionnaire be completed and returned within one week. Just drop it in any mail box. It is self-addressed and the postage is paid.



Thank you in advance for your opinions.

- 1a. Do you feel additional snowmobiling trail areas should be developed? Yes No
- 1b. If yes, which one statement best describes the one type of additional trail area that would best meet your needs?
 - a trail area designed for short snowmobile outings.
 - a trail area designed for full day snowmobile outings.
 - a trail area designed for snowmobilers spending two or three days at the area.
- 1c. How far from your home could the area you checked above be, and still meet your needs? _____ mile(s)
2. Would you be willing to spend one Saturday a year working to construct or maintain a snowmobile trail that you use? Yes No Don't know
- 3a. Should rest shelters be developed along snowmobiling trails? Yes No Don't know
- 3b. If yes, how many miles should there be between shelters? _____ mile(s)
4. How do you feel snowmobiling areas should be paid for?
 - general taxes yearly use permits special use fee paid at trail head
 - gasoline tax snowmobile equipment taxes
 - other _____
5. How many hours would you say your average snowmobiling outing lasts? _____ hour(s)
6. How many miles do you usually cover in that time period? _____ mile(s)
7. In the average year, how many snowmobiling outings do you take? _____ snowmobiling outing(s)
8. How many of these outings would normally be on a groomed, marked trail? _____ snowmobiling outing(s)
9. How many years have you been snowmobiling? _____ year(s) snowmobiling
10. When you go snowmobiling, which type of group do you usually go with? alone family friends
11. If you were using a trail area that was also being used by the types of users below, how would each type of user affect your decision to return to that trail at a later date?

	1 Definitely Would Not Return	2	3	4	5 Definitely Would Return		1 Definitely Would Not Return	2	3	4	5 Definitely Would Return
cross-country skiers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	off-road vehicle users (4-wheel drives)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
snowshoers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	snowmobilers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
dog sledders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						

12. How many times do you think you could snowmobile the same trail during one season and not have your enjoyment decrease? (circle the number) 1 2 3 4 5 6 7 8 9 10+
13. What other activities do you usually do while you are on a snowmobiling outing?
 - picnicking hunting meeting new friends
 - camping fishing racing
 - nature observation visiting friends bar hopping
14. We have asked you about your need for additional snowmobiling areas and your general snowmobiling experiences. Now we would like you to closely describe your most needed snowmobiling trail. For each statement listed below, check the box to the right which best expresses your feelings about the statement.

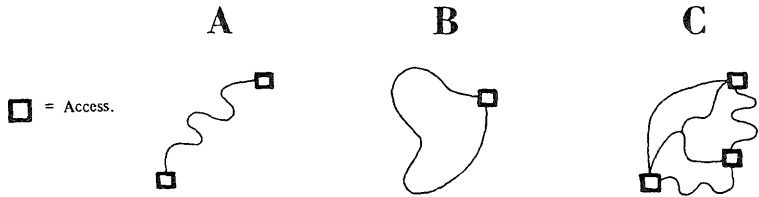
My most needed snowmobiling trail would:

My most needed snowmobiling trail would:

	1 Strongly Agree	2 Agree	3 Neutral	4 Disagree	5 Strongly Disagree		1 Strongly Agree	2 Agree	3 Neutral	4 Disagree	5 Strongly Disagree
Pass through hilly terrain.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Be marked by frequent signs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pass through open areas where I can leave the trail awhile.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have no signs marking the trail, but a self-guiding map available.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Take me along a river or stream.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have educational and informational displays along the trail.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pass through a state forest recreation area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Take me along a lake shore.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bring me back to my starting point.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pass by taverns.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Require me to break the trail.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Connect major recreation areas such as county parks, state parks and state forests.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have tent campsites located along the trail.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Be a groomed trail.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have warming huts and toilets along the trail.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Connect urban areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have small cabins available for overnight stays.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pass mostly through forests or woods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Allow all types of uses along the same trail.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Offer a good chance to view wildlife.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide separate paths for different uses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Be located in a city park.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pass primarily through open fields--meadows.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Be in a resort area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						Be in a wilderness-like area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CONTINUED ON OTHER SIDE

15. Approximately how many miles long would your most needed snowmobiling trail be? _____ mile(s)
16. Circle the letter above the map which looks like your most needed snowmobiling trail. (Consider the trail length between accesses as that distance you listed in question 15.)



17. Would you like to have your most needed snowmobiling area patrolled by law enforcement officers?
 Yes No
18. Would you like to have your most needed snowmobiling area patrolled by people offering assistance and first aid?
 Yes No
19. What is the biggest gripe you have about your Minnesota snowmobiling? _____

20. How old are you? _____ years
21. How many total years of grade school, high school, and college have you completed? _____ year(s)
22. What is your occupation? _____
23. Do you have any comments? _____

Thank you for your assistance.

The Minnesota Department of Natural Resources.

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 CENTENNIAL BUILDING
 ST. PAUL, MINNESOTA 55155

APPENDIX B

CONFIDENCE INTERVAL ESTIMATES AT THE 75% LEVEL
FOR QUESTIONS WITH A RESPONSE EXPRESSED AS A PERCENTAGE

CONFIDENCE INTERVALS AT 75% LEVEL OF CONFIDENCE

	Sample Size											
	68	70	71	72	76	77	78	80	86	91	123	1036
5	3.1	3.0	3.0	3.0	2.9	2.9	2.9	2.8	2.7	2.6	2.3	0.8
10	4.2	4.2	4.1	4.1	4.0	4.0	3.9	3.9	3.7	3.6	3.1	1.1
15	5.0	4.9	4.9	4.9	4.7	4.7	4.7	4.6	4.5	4.3	3.7	1.3
20	5.6	5.5	5.5	5.5	5.3	5.3	5.2	5.2	5.0	4.8	4.2	1.4
25	6.1	6.0	6.0	5.9	5.7	5.7	5.7	5.6	5.4	5.2	4.5	1.5
30	6.4	6.3	6.3	6.3	6.1	6.0	6.0	5.9	5.7	5.6	4.8	1.6
35	6.7	6.6	6.6	6.5	6.3	6.3	6.3	6.2	5.9	5.8	5.0	1.7
40	6.9	6.8	6.7	6.7	6.5	6.5	6.4	6.3	6.1	5.9	5.1	1.8
45	7.0	6.9	6.8	6.8	6.6	6.6	6.5	6.4	6.2	6.0	5.2	1.8
50	7.0	6.9	6.9	6.8	6.6	6.6	6.6	6.5	6.2	6.1	5.2	1.8
55	7.0	6.9	6.8	6.8	6.6	6.6	6.5	6.4	6.2	6.0	6.2	1.8
60	6.9	6.8	6.7	6.7	6.5	6.5	6.4	6.3	6.1	5.9	5.1	1.8
65	6.7	6.6	6.6	6.5	6.3	6.3	6.3	6.2	5.9	5.8	5.0	1.7
70	6.4	6.3	6.3	6.3	6.1	6.0	6.0	5.9	5.7	5.6	4.8	1.6
75	6.1	6.0	6.0	5.9	5.7	5.7	5.7	5.6	5.4	5.2	4.5	1.5
80	5.6	5.5	5.5	5.5	5.3	5.3	5.2	5.2	5.0	4.8	4.2	1.4
85	5.0	4.9	4.9	4.9	4.7	4.7	4.7	4.6	4.5	4.3	3.7	1.3
90	4.2	4.2	4.1	4.1	4.0	4.0	3.9	3.9	3.7	3.6	3.1	1.1
95	3.1	3.0	3.0	3.0	2.9	2.9	2.9	2.8	2.7	2.6	2.3	0.8

