

**Fishing in the Neighborhood:  
A Study of Recreation and Fishing Participation in the  
Twin Cities Metropolitan Area**



**Final Report**

A cooperative study conducted by:

Minnesota Cooperative Fish and Wildlife Research Unit  
Minnesota Department of Natural Resources

Fishing in the Neighborhood:  
A Study of Recreation and Fishing Participation in the Twin Cities  
Metropolitan Area

Prepared by:

Susan A. Schroeder

Research Fellow

Minnesota Cooperative Fish and Wildlife Research Unit  
Department of Fisheries, Wildlife, and Conservation Biology  
University of Minnesota

David C. Fulton

USGS-Assistant Unit Leader

Minnesota Cooperative Fish and Wildlife Research Unit  
Department of Fisheries, Wildlife, and Conservation Biology  
University of Minnesota

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## Contact Information

- 1) Susan A. Schroeder, Research Fellow  
Minnesota Cooperative Fish and Wildlife Research Unit  
University of Minnesota  
200 Hodson Hall, 1980 Folwell Avenue  
St. Paul, MN 55108  
(612)624-3479 (phone)  
(612)625-5299 (fax)  
[sas@umn.edu](mailto:sas@umn.edu)
  
- 2) David C. Fulton, USGS Assistant Unit Leader  
Minnesota Cooperative Fish and Wildlife Research Unit  
University of Minnesota  
142 Hodson Hall, 1980 Folwell Avenue  
St. Paul, MN 55108  
(612)625-5256 (phone)  
(612)625-5299 (fax)  
[dcfulton@umn.edu](mailto:dcfulton@umn.edu)

# Executive Summary

This study was conducted to examine Twin Cities’ residents’ motivations for, constraints to, and participation in outdoor recreation and fishing. We examined perceptions of, attitudes about, and norms related to fishing. We also inquired about fishing experience and intention to fish in the future.

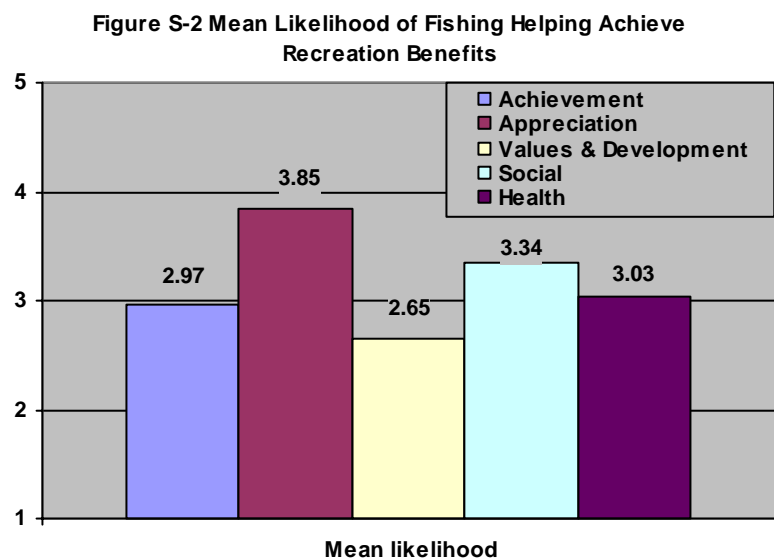
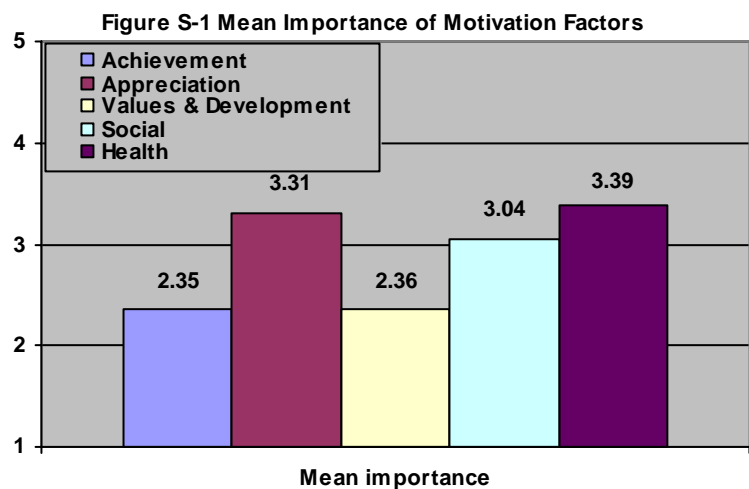
A survey was distributed to 2,100 Twin Cities’ residents, including a list of 800 men and 800 women purchased from Survey Sampling Inc. and 500 women drawn from the Minnesota Department of Natural Resources’ (DNR) electronic licensing systems (ELS). After adjusting for undeliverable surveys and invalid respondents, the response rate was 37.5%.

## Fishing Participation

Respondents were queried about their participation in a 34 different outdoor recreation activities, including fishing. Fishing was a relatively popular activity among the many activities listed. On average 63% of individuals from the general public in the Twin Cities had participated in fishing at some point in their lives, with 37% having participated in the past 12 months. Those who had fished in the past 12 months had gone fishing an average of 18.8 days in the past year. Over one-fourth of respondents indicated that it was a “favorite” activity.

## Recreation Motivations

Respondents were queried about their motivations for participating in outdoor recreation activities. They were asked about 24 possible benefits from recreation. The benefits could be described by five factors: (a) achievement, (b) appreciation, (c) personal values and development, (d) social, and (e) health. Overall, respondents indicated that the appreciation and health benefits of outdoor recreation were the most important to them (Figure S-1). Looking at people’s perceptions of how likely fishing would be to deliver these outcomes, fishing is perceived as a good means of achieving the nature appreciation and social benefits of outdoor recreation.



**Recreation Constraints**

Respondents were queried about their constraints to participation in outdoor recreation. They were asked about 24 possible constraints. The constraints could be described by seven factors: (a) cost, (b) comfort, (c) discrimination, (d) planning required, (e) ability, (f) access, and (g) work and family.

Overall, respondents indicated that work/family commitments and cost were the factors that most limited their participation in outdoor recreation (Figure S-3). Looking at people’s perceptions of how these factors limited their participation in fishing, work/family commitments and costs were again the bigger barriers to fishing participation (Figure S-4).

**Environmental Values**

Survey recipients were asked to respond to 12 items related to their environmental values. These items fell under three factors, utilitarian, anthropocentric, and biocentric. Respondents agreed much more strongly with biocentric values than anthropocentric or utilitarian values (Figure S-5).

**Perceptions of Fishing**

Respondents were asked about emotions that they might hold related to fishing. In general respondents had positive feelings about fishing (Figure S-6).

Figure S-3 Means on Recreation Constraint Factors

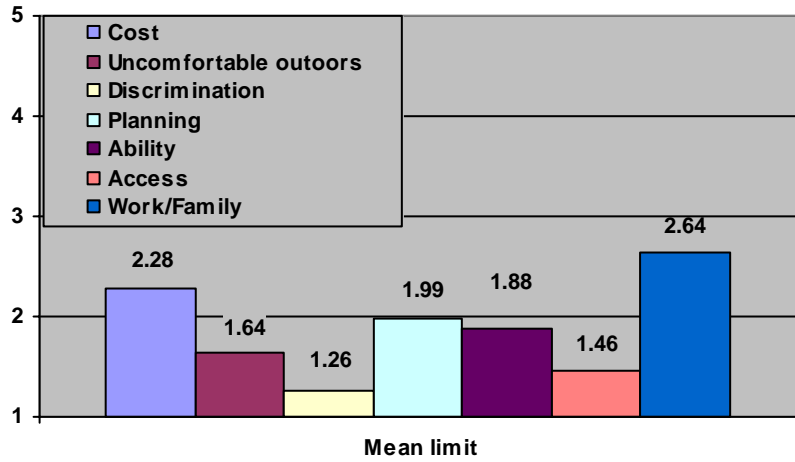


Figure S-4 Means on Fishing Constraint Factors

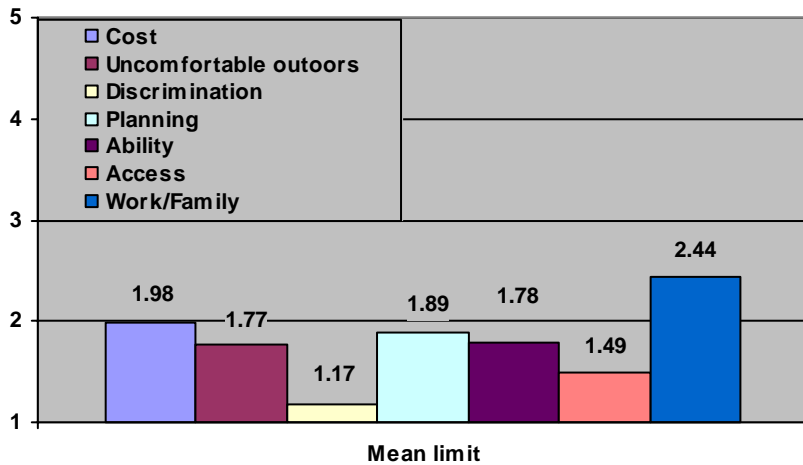
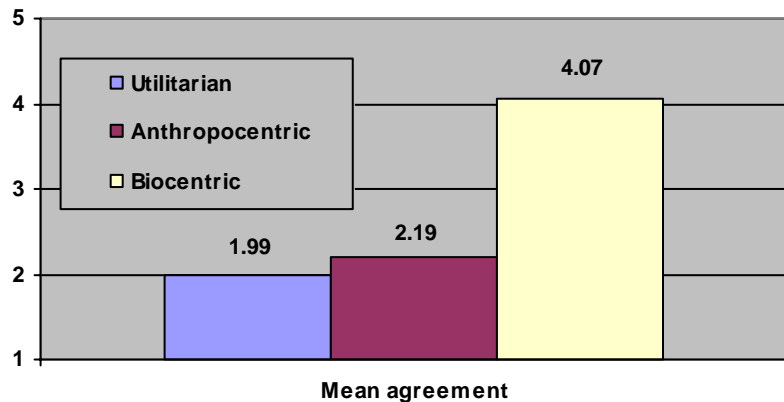
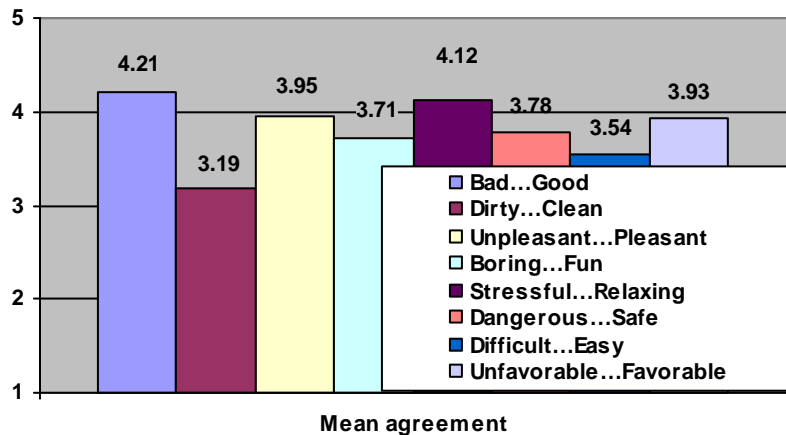


Figure S-5 Mean Agreement with Value Factors



Respondents were asked about the cleanliness of Twin Cities' waterways. Respondents agreed that "there are good places to fish in the Twin Cities." However, they disagreed slightly that they "would eat fish caught from lakes in the Twin Cities," and that they "would eat fish caught from Twin Cities rivers & streams." They disagreed slightly that: "lakes in the Twin Cities are too dirty for fish to live in," and that "lakes in the Twin Cities are dirty/polluted."

Figure S-6 Mean Emotions Related to Fishing



Respondents were also asked if they had heard of several state programs and advisories. Less than one-fifth of respondents had heard of either the Minnesota Department of Natural Resources' *Fishing in the Neighborhood* program (16%), or the Minnesota Department of Natural Resources' *MinnAqua* program (8%). However, nearly half (44%) of respondents had heard of the Minnesota Fish Consumption Advisory from the Department of Health.

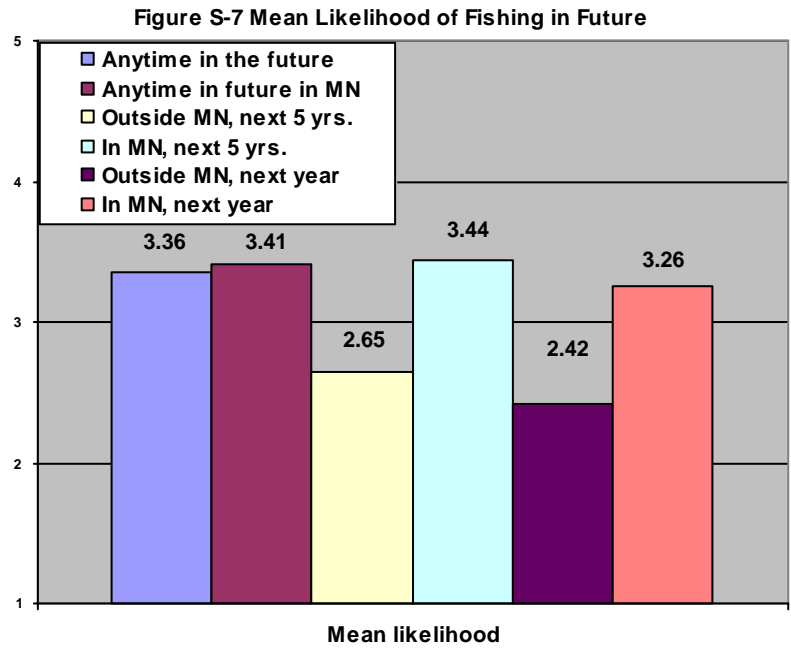
**Past Participation in Fishing**

More than three-fourths of the respondents (82%) had participated in fishing at some point in their life. Of those who had fished, most (73%) had fished for the first time in their life prior to the age of 10 years. Of those who had fished, nearly 9 out of 10 had fished in Minnesota, and nearly two-thirds (64%) had fished within the past 10 years. On average respondents who had fished in the past 10 years had fished in 7 of the previous 10 years.

Respondents had fished in a variety of ways. Nearly two-thirds of respondents (63%) had fished from a public pier; over three-fourths (77%) had fished from the shore of a lake, river, stream. Nearly 9 of 10 (85%) of respondents had fished from motorized boats, and over one-half (57%) had fished from a non-motorized boat. Over half (56%) had ice fished, but less than 25% of respondents had fly fished (20%), spear fished (10%), or bow fished (6%). Most respondents (55%) indicated that when they fished, they fished for "whatever was biting;" about one-fifth of respondents reported that they "targeted a specific type of fish" (23%) or "spent about an equal amount of time doing both" (23%). Walleye and sunfish were the fish that were most commonly targeted.

### ***Future Participation in Fishing***

Respondents were asked about the likelihood of their participating in fishing in the future. Over half of respondents (58%) indicated that they were likely to go fishing sometime in the future, and 57% said it was likely that they would fish in Minnesota in the next year. Overall, respondents were slightly likely to participate in fishing in Minnesota in the near future, and slightly unlikely to participate in fishing outside the state in the near future (Figure S-7).



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## **Introduction**

Minnesota is home to over 1.5 million sportspeople, including 1,345,000 anglers (U.S. Department of the Interior, Fish and Wildlife Service, 2002). Approximately 36% of Minnesota residents fish, with 13% participating in both hunting and fishing (U.S. Department of the Interior, Fish and Wildlife Service, 2002). Minnesota anglers spent nearly \$800 million dollars on angling trip-related expenses, and a combined \$1.24 million on trips and equipment in 2001 (U.S. Department of the Interior, Fish and Wildlife Service, 2002).

Approximately 57% of Minnesota anglers reside in urban areas, with 46% living in the Twin Cities metropolitan statistical area (U.S. Department of the Interior, Fish and Wildlife Service, 2002). About one-third (32%) of urban residents in Minnesota fish compared to nearly half (45%) of rural residents (U.S. Department of the Interior, Fish and Wildlife Service, 2002). Thirty-one percent of residents in the Twin Cities metropolitan statistical area participate in fishing (U.S. Department of the Interior, Fish and Wildlife Service, 2002).

## **Study Purpose and Objectives**

Nationwide and within Minnesota angler license sales have remained stable despite rapid population growth over the last 30 years (Kelly, 2004). In urbanized environments, however, participation in angling and other outdoor recreational activities has been decreasing (Kelly, 2004). A range of factors including aging, immigration, and busy urban lifestyles are reasons cited for decreased angling participation in these urban centers. The Minnesota Department of Natural Resources (DNR) has implemented several programs to cultivate angler opportunities in the state and specifically in the seven-county Twin Cities metropolitan area. (This area includes Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties). In order to improve the effectiveness of such programs, managers wanted to better understand the metro population's attitudes and beliefs about and participation in angling.

Of particular interest were the constraints that limit angling participation, for both traditional and underserved populations. During the last 30 years the Twin Cities metropolitan area has had growing African American, Asian, Hispanic and other ethnic minority populations (U.S. Census, 2000). The metropolitan area contains 78% of the ethnic diversity in Minnesota (U.S. Census, 2000). Understanding the constraints that affect both the traditional and new minority populations is important to facilitating opportunities for all Minnesotans.

The questions used to address the study purpose are provided in the survey instrument (Appendix A) and in the focus group script. This report details responses to a mail survey distributed to a random sample of Twin Cities residents. Separate reports detail responses to focus groups conducted with individuals from four communities of color including the African-American, Hispanic/Latino, Native American, and Southeast Asian communities. Survey recipients were selected based on gender and their residence in the seven-county Twin Cities metropolitan region. Focus group participants were selected by focus group facilitators from within each of the communities of color.

## **Methods**

### ***Sampling***

The population of interest in this study included Minnesota residents from the seven-county Twin Cities metropolitan area. Samples of 800 female residents and a sample of 800 male residents from this region were purchased from Survey Sampling Incorporated. A sample of 500 female anglers was drawn from the Minnesota Department of Natural Resources' (DNR) electronic licensing system (ELS). The target sample size was  $n = 300$  for each sample ( $n = 900$  total).

### ***Data Collection***

Data were collected using a mail-back survey following the process outlined by Dillman (2000) to enhance response rates. We constructed a relatively straightforward questionnaire, created personalized cover letters, and made multiple contacts with the targeted respondents. Potential study respondents were contacted five times between July and December 2005. In the initial contact, a cover letter, survey questionnaire, and business-reply envelope were mailed to all potential study participants. The personalized cover letter explained the purpose of the study and made an appeal for respondents to complete and return the survey. Approximately 7 days later, a postcard was sent to all potential participants reminding them of the survey and encouraging them to reply. Approximately three weeks after the first mailing, a third mailing that included a personalized cover letter and replacement questionnaire with business-reply envelope was sent to all individuals with valid addresses who had not yet replied. Approximately 6 weeks after the first mailing, a fourth mailing that included another cover letter and replacement questionnaire with another business-reply envelope was sent to all individuals with valid addresses who had not yet replied. Finally, about 8 weeks later, a postcard follow-up survey was sent to people who had not responded.

### ***Survey Instrument***

The data collection instrument was a 12-page self-administered survey with 11 pages of questions (Appendix A). The questionnaire included the following sections:

- Part 1: Participation in outdoor activities;
- Part 2: Personal values;
- Part 3: Perceptions of fishing;
- Part 4: Past participation in fishing;
- Part 5: Demographics.

### ***Survey Response Rate***

Of the 2,300 questionnaires mailed, 255 were undeliverable, 17 were sent to deceased people, and 13 were sent to people who had moved out of the region or state. Of the remaining 2,015 surveys, 123 people refused or were unable to complete their survey, and a total of 756 full-length surveys were returned. The overall response rate was 37.5%. Response rates by sampling strata are summarized in Table I-1. In order to examine nonresponse bias, shortened follow-up survey postcards were sent to the 1,136 individuals who did not respond to the first four mailings. We received 106 responses to the postcard for a response rate of 9.3%. Differences between early and late responses are described in Section 11 (pg. 136).



**Table I-1: Response rates for each strata**

	Initial sample size	Number invalid	Valid sample size	Number completed and returned	Response rate %	Number of respondents to follow-up	Response rate to follow-up survey
Male (SSI)	900	97	803	285	35.5%	46	9.8%
Female (SSI)	900	127	773	245	31.7%	44	9.3%
Female (DNR)	500	61	439	222	50.6%	16	8%

**Data Entry and Analysis**

Data were keypunched and analyzed on a personal computer using the Statistical Program for the Social Sciences (SPSS for Windows 12.0). For overall results, we computed basic descriptive statistics and frequencies on data from the general public (SSI) samples. Respondents drawn from the Department of Natural Resources' electronic licensing system are excluded from the overall analysis. For the comparative results by gender and strata, we used one-way analysis of variance and cross-tabulations.

Because a higher proportion of the survey respondents from the general public samples were (a) male compared to census data for Minnesota (Table I-2) and (b) anglers compared to our reluctant respondents (Table I-3), overall results are weighted to reflect gender and fishing participation proportions. Weighting is "an essential component to providing accurate, representative data" (Pino, 2004, ¶ 1). "Simply defined, weighting is the attempt to alter data to reflect truer population proportions than were encountered in the data collection process" (Pino, 2004, ¶ 2).

**Table I-2. Respondent gender.**

Gender	Sample Percent <sup>1</sup>	Population Percent <sup>2</sup>
Male	54%	49%
Female	46%	51%
<b>Total</b>	<b>100%</b>	<b>100%</b>

<sup>1</sup> Source: Mail-back questionnaire, question 34.

<sup>2</sup> Source: 2000 U.S. Census

**Table I-3. Respondent participation in fishing.**

Fishing participation	Survey Percent <sup>1</sup>	Postcard (reluctant responder) Percent
Never fished	6%	19%
Fished	94%	81%
<b>Total</b>	<b>100%</b>	<b>100%</b>

<sup>1</sup> Source: Mail-back questionnaire, question 16.

The report presents basic descriptive statistics, including frequency distributions, measures of central tendency, and "valid" percents. "Valid" percentages were computed after eliminating those who did not answer or were not required to answer a particular question.

Several statistics presented in the report are used to show the association between variables. Pearson product moment correlations are used to show the linear relationship between two measured (interval-level) variables. Pearson correlations range from -1.0 (perfect negative association) to 1.0 (perfect positive association), with 0 indicating no linear association (Norusis, 2002). The chi-square statistic is used to test whether two categorical variables are independent. The chi-square statistic is not a good measure of association (Norusis, 2002), so the Cramer's V statistic is provided to show the strength of the relationship. Values for Cramer's V range from 0.0 (no association) to 1.0 (perfect association) (Norusis, 2002). Analysis of variance (ANOVA) is used to test hypotheses about differences in two or more population means (Norusis, 2002). In this report ANOVA is used to compare: (a) the means of measured (interval-level) variables based on one multiple-category (polytomous) variable, or (b) the means of multiple interval-level variables. ANOVA produces the F ratio. Large values for the F ratio indicate that the sample means vary more than you would expect (Norusis, 2002). The correlation ratio (eta) is calculated for one-way ANOVA calculations in this report, to indicate the strength of the relationship. Like the Cramer's V statistic, eta ( $\eta$ ) ranges from 0.0 (no association) to 1.0 (perfect association) (Norusis, 2002).

Scales of multiple items (i.e. questions) were included in the survey to measure: (a) the importance of recreation outcomes, (b) recreation constraints, and (c) environmental values. It is important to report the reliability of measurement scales. The reliability of items that make up a scale indicates the extent to which the scale yields consistent results over repeated observations (Eagly and Chaiken, 1993). Other ways of thinking about the reliability of a measure are: (a) "the extent to which it is free from random error" (Eagly and Chaiken, 1993, p. 64), or (b) "how well scores on the measuring instrument correlate with themselves" (Eagly and Chaiken, 1993, p. 64). We use Cronbach's alpha to report the reliability of the scales in this report.

Factor analysis was used to explore the relationship between items in scales. Factor analysis "represents relations among observed variables in terms of latent constructs" (Knoke, Bohrnstedt and Mee, 2002, p. 414). Presumably, the latent constructs generate the covariances observed among observed variables (Knoke, Bohrnstedt and Mee, 2002).

## **Population Estimates**

### ***Overall Estimates***

The study sample was drawn using a stratified random sample with gender defining the study cohorts. For this reason the data had to be weighted to reflect the proportion of the population in each gender when making overall estimates. In order to address nonresponse bias, population data is also weighted based on differences between survey and postcard respondents. Because of significant differences in participation in outdoor recreation and fishing, the weighted data excludes the female respondents drawn from the Minnesota Department of Natural Resources Electronic Licensing System.

### ***Estimates by Study Stratum***

For these estimates, the data were not weighted.

# Section 1: Outdoor Recreation Participation

## **Findings:**

### ***Recreation Participation***

#### *Overall*

Respondents were asked to indicate whether they had ever participated in each of 34 outdoor recreation activities (Table 1-1). Most respondents indicated that they had participated in (a) walking for fitness or recreation (83%), (b) picnicking (71%), (c) gardening (66%), (d) sightseeing (66%), (e) fishing (63%), (f) swimming in lakes (61%), (g) bicycling (57%), (h) camping (56%), (i) motor boating (53%), and (j) swimming in pools (52%). Between one-third and one-half of respondents had participated in: (a) golfing (43%), (b) sledding (41%), (c) ice skating (41%), (d) canoeing (40%), (e) bird or wildlife watching (38%), (f) baseball (37%), (g) running (35%), and horseback riding (34%). Less than one-third of the respondents had participated in the other activities.

Walking for fitness or recreation (73%) and sightseeing (51%) were the only activities that a majority of respondents had participated in during the past 12 months (Table 1-5). Slightly fewer than half of the respondents had participated in picnicking (49%) and gardening (47%). During the past 12 months, between 30 and 40 percent of respondents had participated in: (a) swimming in lakes (40%), (b) fishing (37%), (c) bicycling (36%), (d) boating (34%), (e) swimming in pools (31%), and (f) camping (30%). Between 20 and 30 percent had participated in: (a) bird watching (29%) and (b) golfing (26%). Less than 20% of respondents had participated in the other activities in the past 12 months.

On average, respondents went walking for fitness or recreation on over 100 days of the previous year (Table 1-9). Two other activities were done, on average, more than 50 days per year: (a) bird or wildlife watching ( $\bar{x}$  = 85.7 days) and (b) running ( $\bar{x}$  = 63.9 days). Two activities were done between 30 and 45 days per year: (a) gardening ( $\bar{x}$  = 44.6 days) and (b) bicycling ( $\bar{x}$  = 35.7 days). Respondents participated in all other activities, including fishing ( $\bar{x}$  = 18.8 days), less than 20 days per year on average.

Respondents were asked to select which of the listed activities were “favorite” activities (Table 1-13). Walking was selected as a favorite activity by 54% of respondents. Over 25% of respondents said that gardening (35%), sightseeing (33%), and fishing (29%) were favorite activities. All other activities were selected as favorites by 25% or fewer respondents. We also examined the proportion of respondents who had not been able to participate in a favorite activity in the past 12 months (Table 1-17). Of the respondents who indicated that fishing was a favorite activity, 17% indicated that they had not participated in the past 12 months.

#### *Analysis by strata and gender*

In general, a greater proportion of the female respondents selected from the fishing license records had participated in different outdoor activities (Table 1-4). This was particularly true for fishing; 92% of female respondents from the fishing license records had participated in fishing compared to 76% of male respondents from the general public sample and 59% of female respondents from the general public.

Similarly, a greater proportion of the female respondents from the fishing license records had participated in different outdoor activities in the past 12 months (Table 1-8). For fishing, 83% of female respondents

## **Section 1: Outdoor Recreation Participation**

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from the Department of Natural Resources' electronic licensing system (ELS) had fished in the past 12 months, compared to 50% of male and 30% of female respondents from the general public sample.

There were surprisingly few differences between the strata in the number of days of participation in outdoor activities in the past 12 months (Table 1-12). Male respondents from the general public sample had participated significantly more days in ATV driving ( $\bar{x} = 21.3$  days), compared to women from the general public ( $\bar{x} = 8.4$  days) or from the fishing license records ( $\bar{x} = 7.5$  days). Similarly, men from the general public sample had participated significantly more days in ice skating ( $\bar{x} = 8.9$  days), compared to women from the general public ( $\bar{x} = 5.2$  days) or women from the fishing license records ( $\bar{x} = 4.4$  days). Alternatively, women from the fishing license records had participated significantly more days in motor boating ( $\bar{x} = 20.7$  days), compared to men ( $\bar{x} = 15.5$  days) or women ( $\bar{x} = 8.5$  days) from the general public.

Women from the ELS sample were more likely to indicate that outdoor activities were "favorites" (Table 1-16). This was true for a large variety of activities like ATV driving, camping, swimming in lakes, and also for fishing. Nearly two-thirds (63%) of women from the ELS said fishing was a favorite activity, compared to 40% of men and 23% of women from the general public samples. A greater proportion of men from the general public rated golfing and hunting as favorite activities, compared to women from either sample. A greater proportion of women from the general public sample rated (a) picnicking, (b) sightseeing, and (c) walking for fitness or recreation as favorite activities, compared to men from the general public or women from the ELS sample.

## Section 1: Outdoor Recreation Participation

**Table 1-1: Ranking of participation ever.**

Activity <sup>1</sup>	%	Males <sup>2</sup>		Females	
		Activity	%	Activity	%
Walking	83%	Walking	78%	Walking	89%
Picnicking	71%	Fishing	76%	Gardening	79%
Gardening	66%	Picnicking	66%	Picnicking	76%
Siteseeing	66%	Swimming in lake	65%	Sightseeing	75%
Fishing	63%	Sightseeing	62%	Fishing	75%
Swimming in lakes	61%	Motorboating	62%	Swimming in lake	71%
Bicycling	57%	Bicycling	62%	Bicycling	63%
Camping	56%	Gardening	59%	Camping	63%
Boating	53%	Camping	57%	Swimming in pool	60%
Swimming in pools	52%	Golfing	55%	Motorboating	61%
Golfing	43%	Swimming in pool	50%	Sledding	48%
Sledding	41%	Baseball	45%	Birdwatching	46%
Ice skating	41%	Ice skating	43%	Horseback riding	45%
Canoeing	40%	Hunting	49%	Ice skating	46%
Birdwatching	38%	Canoeing	42%	Canoeing	44%
Baseball	37%	Running	40%	Running	38%
Running	35%	Sledding	39%	Golfing	38%
Horseback riding	34%	Birdwatching	38%	Baseball	36%
Tennis	32%	Downhill skiing	35%	Tennis	31%
Downhill skiing	29%	Waterskiing	34%	Downhill skiing	32%
Cross-country skiing	27%	Tennis	34%	Snowmobiling	30%
Hunting	27%	Snowmobiling	32%	Cross-country skiing	29%
Waterskiing	27%	Horseback riding	31%	Outdoor volleyball	28%
Snowmobiling	26%	Outdoor volleyball	30%	Nature photography	27%
Outdoor volleyball	25%	Cross-country skiing	27%	Waterskiing	27%
Photography	21%	Outdoor basketball	27%	ATV driving	21%
Outdoor basketball	21%	ATV driving	26%	Outdoor basketball	20%
ATV driving	18%	Jetskiing	21%	Jetskiing	17%
Backpacking	16%	Nature photography	21%	Backpacking	16%
Jet skiing	14%	Backpacking	21%	Sailing	15%
Sailing	14%	Rock climbing	16%	Hunting	14%
Snowshoeing	13%	Soccer	15%	Snowshoeing	13%
Soccer	12%	Sailing	15%	Soccer	14%
Rock climbing	11%	Snowshoeing	14%	Rock climbing	10%

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

## Section 1: Outdoor Recreation Participation

**Table 1-2: Participation ever, by gender**

Activity	Males <sup>1</sup>	Females	Chi square	Sig.
ATV driving	26%	21%	2.688	n.s.
Backpacking	21%	16%	2.513	n.s.
Baseball or softball	45%	36%	6.439	*
Bicycling	62%	63%	0.025	n.s.
Bird or wildlife watching	38%	46%	4.936	*
Camping	57%	63%	2.332	n.s.
Canoeing, kayaking or rowing	42%	44%	0.340	n.s.
Cross-country skiing	27%	29%	0.308	n.s.
Downhill skiing or snowboarding	35%	32%	0.363	n.s.
Fishing	76%	75%	0.106	n.s.
Gardening	59%	79%	33.333	***
Golfing	55%	38%	19.665	***
Horseback riding	31%	45%	13.928	***
Hunting	49%	14%	110.935	***
Ice skating	43%	46%	1.821	n.s.
Jet skiing	21%	17%	2.011	n.s.
Motor boating	62%	61%	0.126	n.s.
Nature/wildlife photography	21%	27%	3.593	n.s.
Outdoor basketball	27%	20%	5.011	*
Outdoor volleyball	30%	28%	0.428	n.s.
Picnicking	66%	76%	9.100	**
Rock climbing (outdoors)	16%	10%	7.282	**
Running or jogging	40%	38%	0.362	n.s.
Sailing or windsurfing	15%	15%	0.003	n.s.
Sightseeing	62%	75%	15.415	***
Sledding	39%	48%	5.989	*
Snowmobiling	32%	30%	0.407	n.s.
Snowshoeing	14%	13%	0.140	n.s.
Soccer	15%	14%	0.144	n.s.
Swimming in lakes, rivers, oceans	65%	71%	3.148	n.s.
Swimming in an outdoor pool	50%	60%	7.202	**
Tennis	34%	31%	0.826	n.s.
Walking for fitness or recreation	78%	89%	17.022	***
Water skiing	34%	27%	3.389	n.s.

<sup>1</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 1: Outdoor Recreation Participation

Table 1-3: Ranking of participation ever, by strata.

Males (SSI)		Females (SSI)		Females (DNR)	
Activity	%	Activity	%	Activity	%
Walking	77%	Walking	90%	Fishing	92%
Fishing	76%	Picnicking	80%	Walking	88%
Picnicking	66%	Gardening	76%	Gardening	82%
Swimming in lake	65%	Sightseeing	75%	Swimming in lake	79%
Motorboating	62%	Swimming in lake	63%	Sightseeing	74%
Sightseeing	61%	Fishing	59%	Motorboating	73%
Bicycling	61%	Swimming in pool	58%	Picnicking	72%
Gardening	60%	Bicycling	57%	Camping	68%
Golfing	56%	Camping	57%	Bicycling	67%
Camping	56%	Motorboating	50%	Swimming in pool	61%
Swimming in pool	50%	Sledding	46%	Birdwatching	53%
Hunting	49%	Ice skating	44%	Sledding	51%
Baseball	46%	Canoeing	41%	Ice skating	51%
Ice skating	43%	Birdwatching	40%	Horseback riding	50%
Canoeing	40%	Horseback riding	40%	Running	46%
Running	40%	Golfing	37%	Canoeing	45%
Sledding	39%	Running	31%	Golfing	40%
Birdwatching	37%	Baseball	31%	Baseball	40%
Waterskiing	35%	Tennis	31%	Downhill skiing	38%
Tennis	35%	Cross-country skiing	28%	Snowmobiling	36%
Downhill skiing	34%	Downhill skiing	27%	Outdoor volleyball	34%
Snowmobiling	32%	Snowmobiling	23%	Nature photography	33%
Horseback riding	32%	Waterskiing	23%	Waterskiing	30%
Outdoor volleyball	30%	Outdoor volleyball	22%	ATV driving	30%
Cross-country skiing	27%	Nature photography	20%	Tennis	28%
Outdoor basketball	27%	Outdoor basketball	17%	Cross-country skiing	28%
ATV driving	24%	Backpacking	14%	Jetskiing	25%
Jetskiing	21%	Sailing	14%	Outdoor basketball	24%
Nature photography	20%	ATV driving	13%	Hunting	19%
Backpacking	20%	Snowshoeing	13%	Backpacking	18%
Rock climbing	16%	Soccer	11%	Soccer	17%
Sailing	15%	Jetskiing	9%	Sailing	15%
Soccer	15%	Hunting	9%	Snowshoeing	14%
Snowshoeing	15%	Rock climbing	8%	Rock climbing	11%

## Section 1: Outdoor Recreation Participation

**Table 1-4: Participation ever, by strata**

Activity	Males (SSI)	Females (SSI)	Females (DNR)	Chi square	Sig.
ATV driving	24%	13%	30%	20.937	***
Backpacking	20%	14%	18%	2.441	n.s.
Baseball or softball	46%	31%	41%	11.204	**
Bicycling	61%	57%	37%	2.670	n.s.
Bird or wildlife watching	37%	40%	53%	13.042	***
Camping	56%	57%	68%	8.714	*
Canoeing, kayaking or rowing	40%	41%	45%	0.960	n.s.
Cross-country skiing	27%	28%	28%	0.058	n.s.
Downhill skiing or snowboarding	34%	27%	38%	5.901	n.s.
Fishing	76%	59%	92%	65.135	***
Gardening	60%	76%	82%	32.440	***
Golfing	56%	37%	40%	21.421	***
Horseback riding	32%	40%	50%	16.029	***
Hunting	49%	9%	19%	113.474	***
Ice skating	43%	44%	51%	3.480	n.s.
Jet skiing	22%	9%	25%	21.132	***
Motor boating	62%	50%	73%	24.891	***
Nature/wildlife photography	20%	20%	33%	13.546	***
Outdoor basketball	27%	17%	24%	7.091	*
Outdoor volleyball	30%	22%	34%	8.719	*
Picnicking	66%	80%	72%	12.100	**
Rock climbing (outdoors)	16%	8%	11%	7.480	*
Running or jogging	40%	31%	46%	10.424	**
Sailing or windsurfing	15%	14%	15%	0.170	n.s.
Sightseeing	62%	75%	74%	13.779	***
Sledding	39%	46%	51%	6.444	*
Snowmobiling	32%	24%	36%	8.972	*
Snowshoeing	15%	13%	14%	0.550	n.s.
Soccer	15%	11%	17%	3.201	n.s.
Swimming in lakes, rivers, oceans	65%	63%	79%	16.013	***
Swimming in an outdoor pool	50%	58%	61%	5.903	n.s.
Tennis	35%	31%	28%	2.384	n.s.
Walking for fitness or recreation	77%	90%	88%	17.436	***
Water skiing	35%	23%	30%	8.300	*

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



## Section 1: Outdoor Recreation Participation

**Table 1-5: Ranking of participation in the past 12 months, overall and by gender.**

Activity <sup>1</sup>	n	%	Males <sup>2</sup>		Females	
			Activity	%	Activity	%
Walking	494	72.6%	Walking	68.2%	Walking	81.0%
Siteseeing	494	50.5%	Fishing	51.7%	Gardening	63.0%
Picnicking	494	49.3%	Sightseeing	45.6%	Picnicking	60.4%
Gardening	494	47.2%	Swimming in lake*	44.9%	Sightseeing	59.5%
Swimming in lakes	494	40.4%	Bicycling	41.4%	Fishing	55.4%
Fishing	494	36.9%	Motorboating	39.7%	Motorboating	47.0%
Bicycling	494	35.7%	Picnicking	41.4%	Swimming in lake	53.9%
Boating	494	33.9%	Gardening	39.4%	Bicycling	40.5%
Swimming in pools	494	30.6%	Camping	33.2%	Camping	37.0%
Camping	494	30.2%	Golfing	36.3%	Swimming in pool	38.7%
Birdwatching	494	29.0%	Swimming in pool	29.5%	Birdwatching	35.9%
Golfing	494	25.7%	Hunting	28.1%	Canoeing	24.0%
Canoeing	494	18.8%	Birdwatching*	27.1%	Running	22.5%
Running	494	16.9%	Canoeing	22.3%	Sledding	21.2%
Sledding	494	14.8%	Running	21.2%	Golfing	20.6%
Hunting	494	13.9%	ATV driving	16.4%	Nature photography	18.6%
Ice skating	494	12.9%	Downhill skiing	14.7%	ATV driving	13.2%
Photography	494	12.3%	Baseball	16.4%	Ice skating	17.1%
Baseball	494	11.7%	Ice skating	14.4%	Baseball	13.0%
ATV driving	494	10.8%	Snowmobiling	13.4%	Snowmobiling	10.6%
Tennis	494	10.5%	Sledding	14.4%	Downhill skiing	12.3%
Downhill skiing	494	10.0%	Outdoor basketball	13.0%	Waterskiing	10.2%
Basketball	494	9.6%	Waterskiing	12.7%	Horseback riding	10.0%
Cross-country ski	494	9.1%	Tennis	11.6%	Jetskiing	9.7%
Snowmobiling	494	8.6%	Jetskiing	11.6%	Tennis	9.5%
Waterskiing	494	8.6%	Nature photography	11.0%	Cross-country skiing	9.5%
Jet skiing	494	7.6%	Cross-country skiing	9.6%	Outdoor basketball	8.9%
Volleyball	494	6.0%	Outdoor volleyball	8.9%	Outdoor volleyball	8.7%
Backpacking	494	5.6%	Backpacking	8.2%	Hunting	8.7%
Horseback riding	494	5.5%	Horseback riding	6.9%	Backpacking	5.6%
Snowshoeing	494	4.3%	Soccer	5.5%	Snowshoeing	5.4%
Soccer	494	4.1%	Sailing	5.1%	Soccer	3.3%
Sailing	494	3.8%	Snowshoeing	4.8%	Sailing	2.8%
Rock climbing	494	2.7%	Rock climbing	4.8%	Rock climbing	2.8%

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

## Section 1: Outdoor Recreation Participation

**Table 1-6: Participation in the past 12 months, by gender**

Activity	Males <sup>1</sup>	Females	Chi square	Sig.
ATV driving	16%	13%	1.514	n.s.
Backpacking	8%	6%	1.941	n.s.
Baseball or softball	16%	13%	1.737	n.s.
Bicycling	41%	41%	0.069	n.s.
Bird or wildlife watching	27%	36%	6.426	*
Camping	33%	37%	1.124	n.s.
Canoeing, kayaking or rowing	22%	24%	0.312	n.s.
Cross-country skiing	10%	10%	0.001	n.s.
Downhill skiing or snowboarding	15%	12%	0.887	n.s.
Fishing	52%	55%	0.985	n.s.
Gardening	39%	63%	40.109	***
Golfing	36%	21%	22.668	***
Horseback riding	7%	10%	2.163	n.s.
Hunting	28%	9%	49.774	***
Ice skating	14%	17%	0.980	n.s.
Jet skiing	12%	10%	0.691	n.s.
Motor boating	40%	47%	3.807	n.s.
Nature/wildlife photography	11%	19%	7.944	**
Outdoor basketball	13%	9%	3.268	n.s.
Outdoor volleyball	9%	9%	0.014	n.s.
Picnicking	41%	60%	25.799	***
Rock climbing (outdoors)	5%	3%	2.033	n.s.
Running or jogging	21%	23%	0.170	n.s.
Sailing or windsurfing	5%	3%	2.701	n.s.
Sightseeing	46%	60%	14.074	***
Sledding	14%	21%	5.518	*
Snowmobiling	13%	11%	1.313	n.s.
Snowshoeing	5%	5%	0.139	n.s.
Soccer	6%	3%	2.262	n.s.
Swimming in lakes, rivers, oceans	45%	54%	5.840	*
Swimming in an outdoor pool	30%	39%	6.778	**
Tennis	12%	10%	0.867	n.s.
Walking for fitness or recreation	81%	68%	16.073	***
Water skiing	13%	10%	1.128	n.s.

<sup>1</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 1: Outdoor Recreation Participation

Table 1-7: Ranking of participation in the past 12 months, by strata.

Males (SSI)		Females (SSI)		Females (DNR)	
Activity	%	Activity	%	Activity	%
Walking ...	66%	Walking ...	81%	Fishing	83%
Fishing	50%	Picnicking	62%	Walking ...	81%
Sightseeing	45%	Gardening	60%	Gardening	67%
Swimming in lakes...	44%	Sightseeing	59%	Swimming in lakes...	67%
Bicycling	40%	Swimming in lakes...	41%	Motor boating	63%
Picnicking	40%	Bicycling	34%	Sightseeing	61%
Motor boating	39%	Swimming in outdoor pool	34%	Picnicking	58%
Gardening	38%	Motor boating	33%	Bicycling	47%
Golfing	36%	Bird or wildlife watching	32%	Camping	47%
Camping	32%	Fishing	30%	Swimming in outdoor pool	43%
Swimming in outdoor pool	30%	Camping	29%	Bird or wildlife watching	42%
Hunting	27%	Canoeing, kayaking ...	18%	Running or jogging	31%
Bird or wildlife watching	26%	Golfing	18%	Canoeing, kayaking ...	29%
Canoeing, kayaking...	20%	Sledding	18%	Nature photography	25%
Running or jogging	20%	Running or jogging	14%	Sledding	25%
ATV driving	16%	Ice skating	13%	Golfing	23%
Baseball or softball	16%	Nature/wildlife photography	13%	Ice skating	21%
Jet skiing	15%	Tennis	10%	ATV driving	20%
Ice skating	14%	Baseball or softball	9%	Baseball or softball	18%
Downhill skiing ...	13%	Cross-country skiing	9%	Downhill skiing...	17%
Sledding	13%	Downhill skiing...	8%	Snowmobiling	15%
Water skiing	13%	ATV driving	7%	Horseback riding	14%
Outdoor basketball	12%	Outdoor basketball	7%	Hunting	14%
Snowmobiling	12%	Snowmobiling	6%	Water skiing	14%
Tennis	12%	Water skiing	6%	Outdoor volleyball	13%
Nature/wildlife photography	11%	Horseback riding	5%	Jet skiing	12%
Cross-country skiing	9%	Outdoor volleyball	5%	Cross-country skiing	10%
Backpacking	8%	Backpacking	4%	Outdoor basketball	10%
Outdoor volleyball	8%	Jet skiing	4%	Tennis	9%
Horseback riding	7%	Snowshoeing	4%	Backpacking	7%
Sailing or windsurfing	5%	Soccer	4%	Snowshoeing	7%
Snowshoeing	5%	Hunting	3%	Rock climbing (outdoors)	4%
Soccer	5%	Sailing or windsurfing	3%	Sailing or windsurfing	2%
Rock climbing (outdoors)	4%	Rock climbing (outdoors)	2%	Soccer	2%

## Section 1: Outdoor Recreation Participation

**Table 1-8: Participation in activities in the past 12 months, by strata.**

Activity	Males (SSI)	Females (SSI)	Females (DNR)	Chi Square	Sig.
ATV driving	16%	7%	20%	15.034	***
Backpacking	8%	4%	7%	4.005	n.s.
Baseball or softball	16%	9%	18%	8.335	*
Bicycling	40%	34%	47%	8.512	*
Bird or wildlife watching	26%	32%	42%	14.595	***
Camping	32%	29%	47%	17.643	***
Canoeing, kayaking or rowing	20%	18%	29%	8.833	*
Cross-country skiing	9%	9%	10%	0.059	n.s.
Downhill skiing or snowboarding	13%	8%	17%	8.952	*
Fishing	50%	30%	83%	130.570	***
Gardening	38%	60%	67%	43.618	***
Golfing	36%	18%	23%	23.385	***
Horseback riding	7%	5%	14%	13.989	***
Hunting	27%	3%	14%	57.484	***
Ice skating	14%	13%	21%	6.916	*
Jet skiing	15%	4%	12%	15.181	***
Motor boating	39%	33%	63%	46.231	***
Nature/wildlife photography	11%	13%	25%	18.433	***
Outdoor basketball	12%	7%	10%	3.210	n.s.
Outdoor volleyball	8%	5%	13%	9.752	**
Picnicking	40%	62%	58%	29.304	***
Rock climbing (outdoors)	4%	2%	4%	2.739	n.s.
Running or jogging	20%	14%	31%	19.200	***
Sailing or windsurfing	5%	3%	2%	2.404	n.s.
Sightseeing	45%	59%	61%	15.227	***
Sledding	13%	18%	25%	11.160	**
Snowmobiling	12%	6%	15%	10.059	**
Snowshoeing	5%	4%	7%	1.742	n.s.
Soccer	5%	4%	2%	2.059	n.s.
Swimming in lakes, rivers, oceans	44%	41%	67%	36.023	***
Swimming in an outdoor pool	30%	34%	43%	9.966	**
Tennis	12%	10%	9%	0.774	n.s.
Walking for fitness or recreation	66%	81%	81%	18.659	***
Water skiing	13%	6%	14%	10.306	**

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 1: Outdoor Recreation Participation

**Table 1-9: Ranking of number of days participating in activities in the past 12 months, overall and by gender for those who had done the activity in the past 12 months.**

Activity <sup>1</sup>	n	$\bar{x}$	Males <sup>2</sup>			Females		
			Activity	n	$\bar{x}$	Activity	n	$\bar{x}$
Walking	359	109.27	Birdwatching	79	102.44	Walking	374	104.16
Birdwatching	143	85.74	Walking	199	101.69	Birdwatching	166	87.24
Running	84	63.94	Running	62	62.55	Running	104	60.10
Gardening	233	44.61	Gardening	115	47.60	Gardening	291	43.66
Bicycling	176	35.71	Bicycling	121	34.26	Bicycling	187	28.75
Siteseeing	249	19.61	Soccer	16	29.06	Nature photography	86	21.08
Fishing	182	18.75	Nature photography	32	27.69	Baseball	60	20.48
Photography	61	18.32	Fishing	151	27.34	Sightseeing	275	18.92
Swimming in pools	151	16.78	ATV driving	48	23.40	Fishing	256	17.23
ATV driving	53	16.76	Sightseeing	133	20.43	Swimming in pool	179	16.80
Golfing	127	16.14	Baseball	48	20.17	Soccer	15	16.33
Hunting	68	15.45	Motorboating	116	19.08	Motorboating	217	16.30
Baseball	58	14.68	Golfing	106	18.22	Swimming in lake	249	15.61
Swimming in lakes	199	13.59	Hunting	82	16.50	Outdoor volleyball	40	15.00
Volleyball	30	12.92	Swimming in lake	131	16.32	Horseback riding	46	12.83
Soccer	20	12.19	Snowmobiling	39	12.62	Tennis	44	12.68
Boating	167	12.03	Outdoor basketball	38	11.74	Golfing	95	12.65
Tennis	52	10.76	Swimming in pool	86	10.20	Hunting	40	10.65
Basketball	47	8.96	Outdoor volleyball	26	9.23	Canoeing	111	7.66
Horseback riding	27	8.86	Sailing	15	9.33	Outdoor basketball	41	8.02
Water skiing	42	8.18	Waterskiing	37	8.78	ATV driving	61	7.64
Snowmobiling	43	8.12	Tennis	34	8.68	Jetskiing	45	7.16
Canoeing	93	7.98	Ice skating	42	9.52	Camping	171	8.07
Jet skiing	38	7.94	Camping	97	8.49	Cross-country skiing	44	6.36
Camping	149	7.34	Jetskiing	34	7.76	Picnicking	279	6.35
Sailing	19	7.05	Downhill skiing	43	7.16	Snowmobiling	49	5.18
Ice skating	63	7.03	Cross-country skiing	28	7.64	Waterskiing	47	5.23
Picnicking	243	6.80	Picnicking	121	6.94	Sailing	13	5.00
Cross-country ski	45	6.47	Sledding	42	6.43	Backpacking	26	4.77
Downhill skiing	49	6.00	Backpacking	24	5.92	Ice skating	79	4.63
Backpacking	28	5.79	Canoeing	65	5.57	Downhill skiing	57	4.56
Sledding	73	5.13	Horseback riding	10	4.45	Sledding	98	4.05
Snowshoeing	21	3.74	Snowshoeing	14	3.50	Rock climbing	13	3.46
Rock climbing	13	3.08	Rock climbing	14	2.29	Snowshoeing	25	3.44

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

## Section 1: Outdoor Recreation Participation

**Table 1-10: Number of days participating in activities in the past 12 months, by gender**

Activity	Males <sup>1</sup>	Females	F	Sig.
ATV driving	23.4	7.6	8.301	**
Backpacking	5.9	4.8	0.811	n.s.
Baseball or softball	20.2	20.5	0.004	n.s.
Bicycling	34.3	28.8	0.758	n.s.
Bird or wildlife watching	102.4	87.2	0.744	n.s.
Camping	8.5	8.1	0.091	n.s.
Canoeing, kayaking or rowing	5.6	7.7	0.845	n.s.
Cross-country skiing	7.6	6.4	0.324	n.s.
Downhill skiing or snowboarding	7.2	4.6	2.946	n.s.
Fishing	27.3	17.2	7.950	**
Gardening	47.6	43.7	0.433	n.s.
Golfing	18.2	12.7	2.377	n.s.
Horseback riding	4.5	12.8	1.695	n.s.
Hunting	16.5	10.7	2.816	n.s.
Ice skating	9.5	4.6	8.369	**
Jet skiing	7.8	7.2	0.058	n.s.
Motor boating	19.1	16.3	0.536	n.s.
Nature/wildlife photography	27.7	21.1	0.332	n.s.
Outdoor basketball	11.7	8.0	2.231	n.s.
Outdoor volleyball	9.2	15.0	1.249	n.s.
Picnicking	6.9	6.4	0.243	n.s.
Rock climbing (outdoors)	2.3	3.5	1.354	n.s.
Running or jogging	62.5	60.1	0.033	n.s.
Sailing or windsurfing	9.3	5.0	0.416	n.s.
Sightseeing	20.4	18.9	0.124	n.s.
Sledding	6.4	4.1	4.006	*
Snowmobiling	12.6	5.2	5.050	*
Snowshoeing	3.5	3.4	0.005	n.s.
Soccer	29.1	16.3	0.291	n.s.
Swimming in lakes, rivers, oceans	16.3	15.6	0.053	n.s.
Swimming in an outdoor pool	10.2	16.8	2.557	n.s.
Tennis	8.7	12.7	0.792	n.s.
Walking for fitness or recreation	101.7	104.2	0.074	n.s.
Water skiing	8.8	5.2	0.987	n.s.

<sup>1</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 1: Outdoor Recreation Participation

Table 1-11: Ranking of number of days participating in activities in the past 12 months, by strata.

Males (SSI)		Females (SSI)		Females (DNR)	
Activity	Days	Activity	Days	Activity	Days
Walking ...	99.0	Walking ...	112.6	Walking ...	94.2
Bird or wildlife watching	90.2	Bird or wildlife watching	88.2	Bird or wildlife watching	89.2
Running or jogging	65.6	Running or jogging	61.6	Running or jogging	52.9
Gardening	44.8	Gardening	42.5	Gardening	45.8
Bicycling	34.2	Bicycling	34.9	Nature photography	27.2
Nature/wildlife photography	28.5	Swimming outdoor pool	21.9	Baseball or softball	25.5
Sightseeing	21.4	Sightseeing	19.1	Bicycling	21.2
ATV driving	21.3	Soccer	17.9	Motor boating	20.7
Fishing	21.0	Outdoor volleyball	17.5	Fishing	18.6
Golfing	17.6	Fishing	14.9	Sightseeing	18.5
Baseball or softball	17.4	Golfing	14.2	Swimming in lakes, ...	17.4
Hunting	16.5	Horseback riding	13.7	Tennis	15.1
Motor boating	15.5	Swimming in lakes, ...	12.5	Outdoor volleyball	14.5
Swimming in lake	14.6	Nature/wildlife photography	12.1	Horseback riding	13.6
Sailing or windsurfing	10.6	Baseball or softball	11.7	Swimming outdoor pool	13.5
Snowmobiling	10.6	Tennis	10.5	Hunting	12.0
Swimming outdoor pool	10.6	Motor boating	8.5	Soccer	12.0
Outdoor basketball	10.3	ATV driving	8.4	Sailing or windsurfing	9.4
Outdoor volleyball	10.0	Outdoor basketball	7.9	Golfing	9.3
Tennis	9.4	Jet skiing	7.8	Camping	9.1
Water skiing	9.1	Hunting	7	Canoeing, ...	9.0
Ice skating	8.9	Camping	6.6	Outdoor basketball	8.3
Camping	8.4	Picnicking	6.6	ATV driving	7.5
Jet skiing	8.2	Canoeing, ...	6.3	Cross-country skiing	7.4
Cross-country skiing	7.6	Water skiing	6.2	Jet skiing	7.3
Downhill skiing ...	7.3	Cross-country skiing	5.6	Picnicking	6.0
Picnicking	7.3	Ice skating	5.2	Snowmobiling	5.9
Soccer	7.2	Backpacking	4.8	Downhill skiing ...	5.0
Backpacking	6.3	Sledding	4.4	Backpacking	4.8
Sledding	6.2	Rock climbing (outdoors)	4.3	Ice skating	4.4
Canoeing ...	5.2	Snowshoeing	4.1	Sledding	3.9
Horseback riding	4.8	Downhill skiing ...	4.0	Water skiing	3.9
Snowshoeing	3.4	Snowmobiling	3.8	Rock climbing (outdoors)	3.1
Rock climbing (outdoors)	2.5	Sailing or windsurfing	2.4	Snowshoeing	3.0

## Section 1: Outdoor Recreation Participation

**Table 1-12: Days of participation in activities in the past 12 months, by strata.**

Activity	Males (SSI)	Females (SSI)	Females (DNR)	F	Sig.
ATV driving	21.3	8.4	7.5	4.290	*
Backpacking	6.3	4.8	4.8	0.673	n.s.
Baseball or softball	17.4	11.7	25.5	2.498	n.s.
Bicycling	34.2	34.9	21.2	2.218	n.s.
Bird or wildlife watching	90.2	88.2	89.2	0.005	n.s.
Camping	8.4	6.6	9.1	1.012	n.s.
Canoeing, kayaking or rowing	5.2	6.3	9.0	0.944	n.s.
Cross-country skiing	7.6	5.6	7.4	0.284	n.s.
Downhill skiing or snowboarding	7.3	4.0	5.0	1.306	n.s.
Fishing	21.0	14.9	18.6	1.275	n.s.
Gardening	44.8	42.5	45.8	0.140	n.s.
Golfing	17.6	14.2	9.3	2.136	n.s.
Horseback riding	4.8	13.7	13.6	0.780	n.s.
Hunting	16.5	7	12.0	1.234	n.s.
Ice skating	8.9	5.2	4.4	3.386	*
Jet skiing	8.2	7.8	7.3	0.052	n.s.
Motor boating	15.5	8.5	20.7	3.986	*
Nature/wildlife photography	28.5	12.1	27.2	0.848	n.s.
Outdoor basketball	10.3	7.9	8.3	0.379	n.s.
Outdoor volleyball	10.0	17.5	14.5	0.523	n.s.
Picnicking	7.3	6.6	6.0	0.380	n.s.
Rock climbing (outdoors)	2.5	4.3	3.1	0.549	n.s.
Running or jogging	65.6	61.6	52.9	0.389	n.s.
Sailing or windsurfing	10.6	2.4	9.4	0.443	n.s.
Sightseeing	21.4	19.1	18.5	0.172	n.s.
Sledding	6.2	4.4	3.9	1.487	n.s.
Snowmobiling	10.6	3.8	5.9	1.865	n.s.
Snowshoeing	3.4	4.1	3.0	0.510	n.s.
Soccer	7.2	17.9	12.0	1.617	n.s.
Swimming in lakes, rivers, oceans	14.6	12.5	17.4	0.920	n.s.
Swimming in an outdoor pool	10.6	21.9	13.5	2.660	n.s.
Tennis	9.4	10.5	15.1	0.489	n.s.
Walking for fitness or recreation	99.0	112.6	94.2	1.595	n.s.
Water skiing	9.1	6.2	3.9	0.820	n.s.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



## Section 1: Outdoor Recreation Participation

**Table 1-13: Ranking of percentage of respondents who said activity was a favorite, by gender.**

Activity <sup>1</sup>	n	%	Males <sup>2</sup>		Females	
			Activity	%	Activity	%
Walking	494	54%	Fishing	41%	Walking	60%
Gardening	494	35%	Walking	39%	Gardening	48%
Siteseeing	494	33%	Gardening	25%	Fishing	42%
Fishing	494	29%	Sightseeing	23%	Sightseeing	41%
Picnicking	494	25%	Hunting	23%	Picnicking	32%
Bicycling	494	22%	Golfing	22%	Swimming in lake	30%
Camping	494	22%	Camping	22%	Camping	28%
Birdwatching	494	19%	Bicycling	21%	Bicycling	25%
Swimming in lakes	494	18%	Motorboating	21%	Motorboating	24%
Golfing	494	15%	Swimming in lake	17%	Birdwatching	23%
Boating	494	15%	Birdwatching	17%	Swimming in pool	21%
Swimming in pools	494	14%	Picnicking	15%	Canoeing	14%
Hunting	494	12%	Running	11%	Golfing	11%
Canoeing	494	10%	Canoeing	10%	Horseback riding	11%
Running	494	8%	Baseball	9%	Nature photography	10%
Ice skating	494	7%	Swimming in pool	8%	Running	9%
Nature photography	494	6%	ATV driving	7%	Sledding	9%
Tennis	494	6%	Downhill skiing	7%	Ice skating	8%
Baseball	494	6%	Ice skating	7%	Baseball	7%
Cross-country skiing	494	5%	Snowmobiling	6%	Cross-country skiing	7%
Downhill skiing	494	5%	Waterskiing	5%	Downhill skiing	7%
Sledding	494	5%	Jetskiing	5%	ATV driving	6%
Horseback riding	494	5%	Nature photography	5%	Snowmobiling	6%
Backpackin	494	4%	Sledding	4%	Outdoor volleyball	6%
Waterskiing	494	4%	Tennis	4%	Tennis	5%
ATV driving	494	4%	Cross-country skiing	4%	Jetskiing	5%
Snowmobiling	494	4%	Outdoor volleyball	4%	Hunting	5%
Outdoor volleyball	494	4%	Horseback riding	4%	Backpacking	4%
Jetskiing	494	3%	Backpacking	4%	Waterskiing	5%
Sailing	494	2%	Outdoor basketball	3%	Snowshoeing	3%
Outdoor basketball	494	2%	Sailing	3%	Outdoor basketball	2%
Snowshoeing	494	2%	Snowshoeing	2%	Soccer	2%
Soccer	494	1%	Soccer	1%	Sailing	1%
Rock climbing	494	0%	Rock climbing	0%	Rock climbing	1%

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

## Section 1: Outdoor Recreation Participation

**Table 1-14: Percentage who said activity was a favorite, by gender.**

Activity	Males <sup>1</sup>	Females	Chi square	Sig.
ATV driving	6.5%	5.8%	0.137	n.s.
Backpacking	4.5%	4.3%	0.006	n.s.
Baseball or softball	8.9%	7.4%	0.583	n.s.
Bicycling	21.2%	24.7%	1.185	n.s.
Bird or wildlife watching	16.8%	22.5%	3.632	n.s.
Camping	21.6%	27.9%	3.797	n.s.
Canoeing, kayaking or rowing	9.6%	14.3%	3.617	n.s.
Cross-country skiing	4.1%	7.4%	3.298	n.s.
Downhill skiing or snowboarding	7.2%	7.1%	0.001	n.s.
Fishing	41.4%	41.6%	0.001	n.s.
Gardening	25.3%	48.1%	38.695	***
Golfing	22.3%	10.8%	18.108	***
Horseback riding	4.1%	10.6%	10.155	***
Hunting	23.3%	5.2%	54.672	***
Ice skating	7.2%	8.2%	0.265	n.s.
Jet skiing	5.1%	4.8%	0.054	n.s.
Motor boating	20.9%	23.6%	0.749	n.s.
Nature/wildlife photography	5.1%	10.0%	5.590	*
Outdoor basketball	3.4%	1.9%	1.588	n.s.
Outdoor volleyball	3.8%	5.6%	1.327	n.s.
Picnicking	15.4%	32.5%	27.148	***
Rock climbing (outdoors)	0.0%	1.3%	3.823	n.s.
Running or jogging	10.6%	8.9%	0.629	n.s.
Sailing or windsurfing	3.4%	1.3%	3.893	*
Sightseeing	23.3%	41.3%	25.861	***
Sledding	4.5%	8.7%	4.843	*
Snowmobiling	6.2%	6.3%	0.004	n.s.
Snowshoeing	1.7%	2.6%	0.636	n.s.
Soccer	1.0%	1.7%	0.617	n.s.
Swimming in lakes, rivers, oceans	17.1%	29.9%	15.532	***
Swimming in an outdoor pool	7.9%	20.6%	21.813	***
Tennis	4.1%	4.8%	0.177	n.s.
Walking for fitness or recreation	39.4%	59.7%	29.698	***
Water skiing	5.5%	4.8%	0.192	n.s.

<sup>1</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 1: Outdoor Recreation Participation

Table 1-15: Ranking of favorite activities, by strata.

Males (SSI)		Females (SSI)		Females (DNR)	
Activity	%	Activity	%	Activity	%
Walking	40.4%	Walking	65.2%	Fishing	62.8%
Fishing	39.6%	Gardening	45.7%	Walking	51.2%
Gardening	26.3%	Sightseeing	43.0%	Gardening	50.7%
Sightseeing	24.1%	Picnicking	36.5%	Sightseeing	39.5%
Hunting	23.7%	Bicycling	23.9%	Swimming in lakes,...	36.3%
Golfing	22.2%	Camping	23.0%	Motor boating	35.8%
Camping	21.1%	Fishing	22.6%	Camping	32.6%
Bicycling	20.4%	Swimming in ...	22.6%	Picnicking	27.0%
Motor boating	20.0%	Bird or wildlife watching	21.3%	Bicycling	24.7%
Swimming in lakes, ...	16.7%	Swimming in outdoor pool	20.9%	Bird or wildlife watching	24.7%
Bird or wildlife watching	15.9%	Motor boating	12.2%	Swimming in outdoor pool	19.1%
Picnicking	15.6%	Canoeing, ...	11.7%	Canoeing, ...	16.3%
Running or jogging	10.4%	Golfing	10.0%	Nature photography	13.0%
Canoeing, ...	8.5%	Ice skating	8.7%	Horseback riding	12.1%
Baseball or softball	7.8%	Horseback riding	7.8%	Running or jogging	11.6%
Swimming in outdoor pool	7.8%	Cross-country skiing	7.4%	Golfing	11.2%
ATV driving	7.0%	Nature/wildlife photography	7.4%	Snowmobiling	11.2%
Downhill skiing ...	7.0%	Sledding	7.0%	ATV driving	10.7%
Ice skating	7.0%	Tennis	7.0%	Sledding	10.7%
Snowmobiling	5.9%	Running or jogging	6.1%	Baseball or softball	10.2%
Water skiing	5.2%	Baseball or softball	4.8%	Downhill skiing ...	10.2%
Jet skiing	4.8%	Backpacking	4.3%	Jet skiing	8.4%
Nature/wildlife photography	4.8%	Downhill skiing...	4.3%	Hunting	7.9%
Backpacking	4.4%	Outdoor volleyball	3.5%	Ice skating	7.9%
Sledding	4.4%	Water skiing	3.5%	Outdoor volleyball	7.4%
Tennis	4.4%	Snowmobiling	2.2%	Cross-country skiing	6.5%
Cross-country skiing	4.1%	Hunting	1.7%	Water skiing	5.6%
Horseback riding	4.1%	Jet skiing	1.7%	Backpacking	4.2%
Outdoor volleyball	4.1%	Snowshoeing	1.7%	Snowshoeing	3.7%
Sailing or windsurfing	3.7%	ATV driving	1.3%	Outdoor basketball	2.8%
Outdoor basketball	3.0%	Outdoor basketball	1.3%	Tennis	2.3%
Snowshoeing	1.9%	Sailing or windsurfing	1.3%	Rock climbing (outdoors)	1.9%
Soccer	0.4%	Soccer	1.3%	Soccer	1.9%
Rock climbing (outdoors)	0.0%	Rock climbing (outdoors)	0.4%	Sailing or windsurfing	0.9%

## Section 1: Outdoor Recreation Participation

Table 1-16: Percentage who said activity was a favorite, by strata.

Activity	Males (SSI)	Females (SSI)	Females (DNR)	Chi Square	Sig.
ATV driving	7.0%	1.3%	10.7%	17.032	***
Backpacking	4.4%	4.3%	4.2%	0.019	n.s.
Baseball or softball	7.8%	4.8%	10.2%	4.759	n.s.
Bicycling	20.4%	23.9%	24.7%	1.486	n.s.
Bird or wildlife watching	15.9%	21.3%	24.7%	5.856	n.s.
Camping	21.1%	23.0%	32.6%	9.144	**
Canoeing, kayaking or rowing	8.5%	11.7%	16.3%	6.889	*
Cross-country skiing	4.1%	7.4%	6.5%	2.698	n.s.
Downhill skiing or snowboarding	7.0%	4.3%	10.2%	5.815	n.s.
Fishing	39.6%	22.6%	62.8%	74.503	***
Gardening	26.3%	45.7%	50.7%	34.475	***
Golfing	22.2%	10.0%	11.2%	18.072	***
Horseback riding	4.1%	7.8%	12.1%	10.848	**
Hunting	23.7%	1.7%	7.9%	61.855	***
Ice skating	7.0%	8.7%	7.9%	0.476	n.s.
Jet skiing	4.8%	1.7%	8.4%	10.508	**
Motor boating	20.0%	12.2%	35.8%	37.169	***
Nature/wildlife photography	4.8%	7.4%	13.0%	11.056	**
Outdoor basketball	3.0%	1.3%	2.8%	1.698	n.s.
Outdoor volleyball	4.1%	3.5%	7.4%	4.378	n.s.
Picnicking	15.6%	36.5%	27.0%	28.815	***
Rock climbing (outdoors)	0.0%	0.4%	1.9%	6.308	*
Running or jogging	10.4%	6.1%	11.6%	4.528	n.s.
Sailing or windsurfing	3.7%	1.3%	0.9%	5.522	n.s.
Sightseeing	24.1%	43.0%	39.5%	22.695	***
Sledding	4.4%	7.0%	10.7%	7.081	*
Snowmobiling	5.9%	2.2%	11.2%	15.324	***
Snowshoeing	1.9%	1.7%	3.7%	2.397	n.s.
Soccer	0.4%	1.3%	1.9%	2.508	n.s.
Swimming in lakes, rivers, oceans	16.7%	22.6%	36.3%	25.545	***
Swimming in an outdoor pool	7.8%	20.9%	19.1%	19.560	***
Tennis	4.4%	7.0%	2.3%	5.442	n.s.
Walking for fitness or recreation	40.4%	65.2%	51.2%	30.727	***
Water skiing	5.2%	3.5%	5.6%	1.262	n.s.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 1: Outdoor Recreation Participation

**Table 1-17: Of respondents who said that an activity was a favorite, percentage who said they have NOT participated in the past 12 months, by gender.**

Activity <sup>1</sup>		%	Males <sup>2</sup>		Females	
			Activity	%	Activity	%
Horseback riding	27	66.7%	Snowshoeing	60.0%	Sailing or windsurfing	66.7%
Sailing	12	50.0%	Horseback riding	41.7%	Horseback riding	51.0%
Snowshoeing	9	44.4%	Nature/wildlife photography	33.3%	Rock climbing (outdoors)	50.0%
Backpacking	21	38.1%	Soccer	33.3%	Backpacking	45.0%
Waterskiing	20	35.0%	Backpacking	30.8%	Water skiing	40.9%
Outdoor basketball	10	40.0%	Outdoor basketball	30.0%	Ice skating	34.2%
Outdoor volleyball	18	33.3%	Sailing or windsurfing	30.0%	Tennis	31.8%
Baseball	29	31.0%	Canoeing, kayaking ...	28.6%	Outdoor volleyball	30.8%
Sledding	26	30.8%	Outdoor volleyball	27.3%	Downhill skiing ...	30.3%
Jetskiing	15	26.7%	Jet skiing	26.7%	Sledding	27.5%
Downhill skiing	26	26.9%	Sledding	23.1%	Jet skiing	22.7%
Canoeing	48	29.2%	Picnicking	22.2%	Cross-country skiing	20.6%
Ice skating	36	27.8%	Snowmobiling	22.2%	Canoeing, kayaking ...	19.7%
Cross-country skiing	27	25.9%	Swimming in outdoor pool	21.7%	Camping	17.8%
Tennis	29	27.6%	Gardening	20.3%	Snowshoeing	16.7%
Nature photography	31	22.6%	Camping	19.0%	Nature photography	15.2%
Snowmobiling	18	22.2%	Downhill skiing ...	19.0%	Baseball or softball	14.7%
Camping	108	21.3%	Ice skating	19.0%	Running or jogging	14.6%
Biking	109	17.4%	Water skiing	18.8%	Snowmobiling	13.8%
Fishing	140	17.1%	Bicycling	17.7%	Swimming in outdoor pool	12.6%
Swimming in pools	69	17.4%	Cross-country skiing	16.7%	Bird or wildlife watching	12.5%
Gardening	175	14.9%	Tennis	16.7%	Soccer	12.5%
Running	42	16.7%	Motor boating	16.4%	Bicycling	12.3%
Picnicking	126	13.5%	Baseball or softball	15.4%	Golfing	12.0%
Boating	75	13.3%	Sightseeing	14.7%	Sightseeing	12.0%
Sightseeing	161	13.0%	Swimming in lakes...	14.0%	Outdoor basketball	11.1%
Hunting	57	12.3%	Fishing	12.4%	Gardening	10.8%
ATV driving	19	10.5%	Hunting	11.8%	Fishing	10.4%
Golfing	76	10.5%	ATV driving	10.5%	Picnicking	10.0%
Birdwatching	91	9.9%	Bird or wildlife watching	10.2%	Motor boating	8.3%
Swimming in lakes	89	9.0%	Running or jogging	9.7%	ATV driving	7.4%
Walking	267	6.7%	Walking	9.6%	Swimming in lakes...	5.8%
Rock climbing	1	0.0%	Golfing	9.2%	Walking	4.7%
Soccer	4	0.0%	Rock climbing (outdoors)	n.a.	Hunting	0.0%

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

## Section 1: Outdoor Recreation Participation

**Table 1-18: Of respondents who said that an activity was a favorite, percentage who said they have NOT participated in the past 12 months, by gender.**

Activity	Males <sup>1</sup>	Females	Chi square	Sig.
ATV driving	10.5%	7.4%	0.137	n.s.
Backpacking	30.8%	45.0%	0.668	n.s.
Baseball or softball	15.4%	14.7%	0.005	n.s.
Bicycling	17.7%	12.3%	0.983	n.s.
Bird or wildlife watching	10.2%	12.5%	0.169	n.s.
Camping	19.0%	17.8%	0.042	n.s.
Canoeing, kayaking or rowing	28.6%	19.7%	0.892	n.s.
Cross-country skiing	16.7%	20.6%	0.087	n.s.
Downhill skiing or snowboarding	19.0%	30.3%	0.847	n.s.
Fishing	12.4%	10.4%	0.293	n.s.
Gardening	20.3%	10.8%	4.341	*
Golfing	9.2%	12.0%	0.232	n.s.
Horseback riding	41.7%	51.0%	0.337	n.s.
Hunting	11.8%	0.0%	3.092	n.s.
Ice skating	19.0%	34.2%	1.516	n.s.
Jet skiing	26.7%	22.7%	0.075	n.s.
Motor boating	16.4%	8.3%	2.608	n.s.
Nature/wildlife photography	33.3%	15.2%	2.349	n.s.
Outdoor basketball	30.0%	11.1%	1.017	n.s.
Outdoor volleyball	27.3%	30.8%	0.045	n.s.
Picnicking	22.2%	10.0%	4.626	*
Rock climbing (outdoors)	n.a.	50.0%	n.a.	n.a.
Running or jogging	9.7%	14.6%	0.397	n.s.
Sailing or windsurfing	30.0%	66.7%	2.049	n.s.
Sightseeing	14.7%	12.0%	0.320	n.s.
Sledding	23.1%	27.5%	0.099	n.s.
Snowmobiling	22.2%	13.8%	0.559	n.s.
Snowshoeing	60.0%	16.7%	3.192	n.s.
Soccer	33.3%	12.5%	0.637	n.s.
Swimming in lakes, rivers, oceans	14.0%	5.8%	3.364	n.s.
Swimming in an outdoor pool	21.7%	12.6%	1.246	n.s.
Tennis	16.7%	31.8%	0.916	n.s.
Walking for fitness or recreation	9.6%	4.7%	3.321	n.s.
Water skiing	18.8%	40.9%	2.105	n.s.

<sup>1</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 1: Outdoor Recreation Participation

**Table 1-19: Of respondents who said that an activity was a favorite, percentage who said they have NOT participated in the past 12 months, by strata.**

Males (SSI)		Females (SSI)		Females (DNR)	
Activity	%	Activity	%	Activity	%
Snowshoeing	60.0%	Sailing or windsurfing	100.0%	Rock climbing (outdoors)	50.0%
Horseback riding	45.5%	Horseback riding	77.8%	Backpacking	44.4%
Outdoor basketball	37.5%	Water skiing	62.5%	Horseback riding	34.6%
Nature photography	30.8%	Backpacking	50.0%	Ice skating	29.4%
Canoeing, kayaking ...	30.4%	Jet skiing	50.0%	Soccer	25.0%
Sailing or windsurfing	30.0%	Baseball or softball	45.5%	Water skiing	25.0%
Outdoor volleyball	27.3%	Downhill skiing...	40.0%	Downhill skiing...	22.7%
Backpacking	25.0%	Ice skating	40.0%	Sledding	21.7%
Sledding	25.0%	Outdoor volleyball	37.5%	Tennis	20.0%
Snowmobiling	25.0%	Sledding	37.5%	Outdoor volleyball	18.8%
Picnicking	21.4%	Tennis	37.5%	Nature photography	17.9%
Downhill skiing...	21.1%	Canoeing, kayaking ...	33.3%	Jet skiing	16.7%
Gardening	21.1%	Outdoor basketball	33.3%	Snowmobiling	12.5%
Bicycling	20.0%	Cross-country skiing	29.4%	Snowshoeing	12.5%
Baseball or softball	19.0%	Running or jogging	28.6%	Canoeing, kayaking ...	11.4%
Cross-country skiing	18.2%	Camping	28.3%	Bird or wildlife watching	11.3%
Camping	17.5%	Fishing	26.9%	Camping	10.0%
Tennis	16.7%	Snowshoeing	25.0%	Bicycling	9.4%
Ice skating	15.8%	Snowmobiling	20.0%	Sightseeing	9.4%
Jet skiing	15.4%	Swimming in outdoor pool	18.8%	Gardening	9.2%
Motor boating	14.8%	Sightseeing	13.1%	ATV driving	8.7%
Swimming in outdoor pool	14.3%	Golfing	13.0%	Golfing	8.3%
Water skiing	14.3%	Bicycling	12.7%	Running or jogging	8.0%
Sightseeing	13.8%	Picnicking	11.9%	Swimming in outdoor pool	7.3%
Hunting	12.5%	Motor boating	10.7%	Cross-country skiing	7.1%
Fishing	12.1%	Gardening	10.5%	Picnicking	6.9%
Bird or wildlife watching	11.6%	Bird or wildlife watching	10.2%	Motor boating	6.5%
Swimming in lakes...	11.1%	Swimming in lakes...	9.6%	Walking	6.4%
Running or jogging	10.7%	Nature photography	5.9%	Swimming in lakes...	3.8%
ATV driving	10.5%	Walking	2.7%	Fishing	3.7%
Golfing	10.1%	ATV driving	0.0%	Baseball or softball	0.0%
Walking	10.1%	Hunting	0.0%	Hunting	0.0%
Soccer	0.0%	Rock climbing (outdoors)	0.0%	Outdoor basketball	0.0%
Rock climbing (outdoors)	n.a.	Soccer	0.0%	Sailing or windsurfing	0.0%

## Section 1: Outdoor Recreation Participation

**Table 1-20: Of respondents who said that an activity was a favorite, percentage who said they have NOT participated in the past 12 months, by strata.**

Activity	Males (SSI)	Females (SSI)	Females (DNR)	Chi Square	Sig.
ATV driving	10.5%	0.0%	8.7%	0.357	n.s.
Backpacking	25.0%	50.0%	44.4%	1.613	n.s.
Baseball or softball	19.0%	45.5%	0.0%	11.049	**
Bicycling	20.0%	12.7%	9.4%	2.617	n.s.
Bird or wildlife watching	11.6%	10.2%	11.3%	0.054	n.s.
Camping	17.5%	28.3%	10.0%	6.915	*
Canoeing, kayaking or rowing	30.4%	33.3%	11.4%	4.900	n.s.
Cross-country skiing	18.2%	29.4%	7.1%	2.476	n.s.
Downhill skiing or snowboarding	21.1%	40.0%	22.7%	1.394	n.s.
Fishing	12.1%	26.9%	3.7%	21.144	***
Gardening	21.1%	10.5%	9.2%	6.265	*
Golfing	10.1%	13.0%	8.3%	0.294	n.s.
Horseback riding	45.5%	77.8%	34.6%	8.092	*
Hunting	12.5%	0.0%	0.0%	2.898	n.s.
Ice skating	15.8%	40.0%	29.4%	2.807	n.s.
Jet skiing	15.4%	50.0%	16.7%	2.548	n.s.
Motor boating	14.8%	10.7%	6.5%	2.444	n.s.
Nature/wildlife photography	30.8%	5.9%	17.9%	3.212	n.s.
Outdoor basketball	37.5%	33.3%	0.0%	2.874	n.s.
Outdoor volleyball	27.3%	37.5%	18.8%	1.002	n.s.
Picnicking	21.4%	11.9%	6.9%	4.753	n.s.
Rock climbing (outdoors)	n.a.	0.0%	50.0%	0.833	n.s.
Running or jogging	10.7%	28.6%	8.0%	3.572	n.s.
Sailing or windsurfing	30.0%	100.0%	0.0%	6.250	*
Sightseeing	13.8%	13.1%	9.4%	0.865	n.s.
Sledding	25.0%	37.5%	21.7%	1.224	n.s.
Snowmobiling	25.0%	20.0%	12.5%	1.045	n.s.
Snowshoeing	60.0%	25.0%	12.5%	3.393	n.s.
Soccer	0.0%	0.0%	25.0%	1.143	n.s.
Swimming in lakes, rivers, oceans	11.1%	9.6%	3.8%	2.705	n.s.
Swimming in an outdoor pool	14.3%	18.8%	7.3%	2.464	n.s.
Tennis	16.7%	37.5%	20.0%	1.658	n.s.
Walking for fitness or recreation	10.1%	2.7%	6.4%	6.253	*
Water skiing	14.3%	62.5%	25.0%	5.874	n.s.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



## Section 2: Motivations for Outdoor Recreation

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### **Findings:**

#### *Overall*

Respondents were asked to report the importance of 24 possible outcomes of outdoor recreation using the scale 1 (not at all important) to 5 (extremely important). The Cronbach's alpha ( $\alpha$ ) measure of reliability for the 24-item scale was 0.928. A factor analysis was conducted to reveal underlying correlations among the items. Five underlying factors with Eigenvalues greater than 1.0 were identified. By examining which items loaded heavily ( $> 0.500$ ) on each factor, we found that the factors reflected different underlying motivations including: (a) achievement, (b) appreciation, (c) personal values and development, (d) affiliation, and (e) personal health. On average, respondents rated the personal health motivation factor ( $\bar{x} = 3.4$ ) and the appreciation factor ( $\bar{x} = 3.3$ ) the highest; affiliation ( $\bar{x} = 3.0$ ) fell at the midpoint of the 5-point importance scale, and personal values and development ( $\bar{x} = 2.4$ ) and achievement ( $\bar{x} = 2.4$ ) were lower ( $F=262.108$ ,  $p<0.001$ ,  $\eta^2 = 0.341$ ) (Figure 2-1).

Seven motivations loaded on first factor related to **achievement** ( $\bar{x} = 2.35$ ;  $\alpha = 0.862$ ). The motivation items included in this scale are: (a) to take risks ( $\bar{x} = 1.56$ ) (Table 2-11), (b) to develop skills and abilities ( $\bar{x} = 2.40$ ) (Table 2-12), (c) to gain self confidence ( $\bar{x} = 2.40$ ) (Table 2-13), (d) to feel independent ( $\bar{x} = 2.67$ ) (Table 2-14), (e) to be on my own ( $\bar{x} = 2.84$ ) (Table 2-15), (f) to challenge myself ( $\bar{x} = 2.56$ ) (Table 2-22), and (g) to get food ( $\bar{x} = 1.83$ ) (Table 2-23).

Seven motivations loaded on second factor related to **appreciation** ( $\bar{x} = 3.31$ ;  $\alpha = 0.862$ ). The motivation items included in this scale are: (a) to enjoy nature ( $\bar{x} = 3.86$ ) (Table 2-1), (b) to escape crowds/noise ( $\bar{x} = 3.39$ ) (Table 2-4), (c) to learn about the outdoors ( $\bar{x} = 2.81$ ) (Table 2-5), (d) to share my outdoor/recreational values ( $\bar{x} = 2.57$ ) (Table 2-6), (e) to rest and relax ( $\bar{x} = 3.76$ ) (Table 2-9), (f) to escape daily routine ( $\bar{x} = 3.14$ ) (Table 2-20), and (g) to view scenery ( $\bar{x} = 3.53$ ) (Table 2-21).

Four items related to **personal values and development** loaded on the third factor ( $\bar{x} = 2.36$ ;  $\alpha = 0.840$ ). The items included in this scale are: (a) to develop spiritual values ( $\bar{x} = 2.53$ ) (Table 2-16), (b) to think about personal values ( $\bar{x} = 2.65$ ) (Table 2-17), (c) to lead others ( $\bar{x} = 1.86$ ) (Table 2-18), and (d) to maintain my cultural roots ( $\bar{x} = 1.94$ ) (Table 2-19).

Three **social** motivation items loaded on the fourth factor ( $\bar{x} = 3.04$ ;  $\alpha = 0.743$ ). The items included in this scale are: (a) to spend time with family ( $\bar{x} = 3.62$ ) (Table 2-7), (b) to spend time with friends ( $\bar{x} = 3.32$ ) (Table 2-8), and (c) to meet new people ( $\bar{x} = 2.14$ ) (Table 2-10).

Two items related to **personal health** loaded on the fifth factor ( $\bar{x} = 3.39$ ;  $\alpha = 0.710$ ). The items in this scale are: (a) for physical fitness ( $\bar{x} = 3.34$ ) (Table 2-2) and (b) to reduce tension and stress ( $\bar{x} = 3.45$ ) (Table 2-3).

#### *Analysis by strata and gender*

Where there were significant differences by gender or strata in the importance of specific outdoor recreation outcomes, women generally rated the outcome more important than men did. This was the case

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for the following outcomes: (a) to enjoy nature (Table 2-1), (b) to reduce stress and tension (Table 2-3), (c) to spend time with family (Table 2-7), (d) to spend time with friends (Table 2-8), (e) to rest and relax (Table 2-9), (f) to meet new people (Table 2-10), (g) to gain self confidence (Table 2-13), (h) to feel independent (Table 2-14), (i) to be on my own (Table 2-15), (j) to develop spiritual values (Table 2-16), (k) to think about personal values (Table 2-17), (l) to view scenery (Table 2-21), and (m) to be creative (Table 2-24). Women from the sample drawn from the Department of Natural Resources' fishing license records rated the item "to escape daily routine" more important than male or female respondents drawn from the Survey Sampling Incorporated records (Table 2-20). Differences in the ratings of the five motivation factors by strata are shown in Figure 2-2.

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**Table 2-1: Motivations for outdoor recreation: enjoying nature.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	470	2.0	9.5	22.1	32.6	33.7	3.86
Males <sup>2</sup>	281	1.8	10.7	22.1	35.2	30.2	3.81
Females	448	1.3	7.4	19.0	34.8	37.5	4.00
	$\chi^2=5.853$ n.s., Cramer's V=0.090						F=5.660* $\eta=0.088$
Male (SSI)	259	1.9	11.2	22.0	34.4	30.5	3.80
Female (SSI)	220	1.4	9.5	20.9	31.8	36.4	3.92
Female (DNR)	211	1.4	5.7	18.0	36.5	38.4	4.05
	$\chi^2=8.285$ n.s., Cramer's V=0.077						F=3.336* $\eta=0.098$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 2-2: Motivations for outdoor recreation: physical fitness.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	462	6.3	17.2	29.2	31.2	16.1	3.34
Males <sup>2</sup>	273	5.1	16.1	35.5	30.0	13.2	3.30
Females	443	5.0	16.3	32.5	29.1	17.2	3.37
	$\chi^2=2.219$ n.s., Cramer's V=0.056						F=0.753 $\eta=0.032$
Male (SSI)	252	5.6	16.7	34.5	29.8	13.5	3.29
Female (SSI)	216	6.5	16.2	26.9	32.9	17.6	3.39
Female (DNR)	211	3.8	17.1	37.9	24.6	16.6	3.33
	$\chi^2=9.628$ n.s., Cramer's V=0.084						F=0.481 $\eta=0.038$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 2-3: Motivations for outdoor recreation: reducing stress and tension.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	459	7.0	13.3	26.4	34.0	19.2	3.45
Males <sup>2</sup>	273	7.7	13.9	30.0	32.2	16.1	3.35
Females	438	3.0	11.5	26.9	35.4	23.1	3.64
	$\chi^2=13.582^{**}$ , Cramer's V=0.138						F=11.810 <sup>***</sup> $\eta=0.128$
Male (SSI)	253	7.9	14.2	29.6	32.0	16.2	3.34
Female (SSI)	214	4.7	12.1	24.8	35.0	23.4	3.60
Female (DNR)	208	1.4	10.1	28.8	36.5	23.1	3.70
	$\chi^2=16.978^*$ , Cramer's V=0.112						F=6.639 <sup>***</sup> $\eta=0.139$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 2-4: Motivations for outdoor recreation: escaping crowds/noise.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	454	11.6	13.4	20.2	33.5	21.3	3.39
Males <sup>2</sup>	273	9.5	12.5	20.1	35.9	22.0	3.48
Females	434	7.6	14.7	22.6	30.6	24.4	3.50
	$\chi^2=3.676$ n.s., Cramer's V=0.072						F=0.016 $\eta=0.005$
Male (SSI)	251	10.4	12.4	20.3	35.1	21.9	3.46
Female (SSI)	211	10.9	15.2	21.8	31.3	20.9	3.36
Female (DNR)	208	4.8	13.0	24.0	30.8	27.4	3.63
	$\chi^2=10.004$ n.s., Cramer's V=0.086						F=2.593 $\eta=0.088$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 2-5: Motivations for outdoor recreation: learning about the outdoors.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	448	16.6	24.8	30.3	17.9	10.4	2.81
Males <sup>2</sup>	271	14.8	26.9	32.8	16.2	9.2	2.78
Females	432	11.3	28.0	30.3	19.0	11.3	2.91
	$\chi^2=3.353$ n.s., Cramer's V=0.069						F=1.984 $\eta=0.053$
Male (SSI)	250	14.8	26.8	32.0	16.8	9.6	2.80
Female (SSI)	207	15.0	24.6	29.0	19.3	12.1	2.89
Female (DNR)	209	8.1	30.6	31.6	19.1	10.5	2.93
	$\chi^2=8.056$ n.s., Cramer's V=0.078						F=0.823 $\eta=0.050$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 2-6: Motivations for outdoor recreation: sharing my outdoor/recreational values.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	449	23.9	25.9	26.3	17.1	6.8	2.57
Males <sup>2</sup>	269	20.8	26.8	25.7	17.8	8.9	2.67
Females	432	19.4	24.8	28.2	21.3	6.3	2.70
	$\chi^2=3.440$ n.s., Cramer's V=0.070						F=0.093 $\eta=0.012$
Male (SSI)	248	21.4	27.4	25.4	16.9	8.9	2.65
Female (SSI)	209	22.5	25.4	28.2	18.2	5.7	2.56
Female (DNR)	208	17.3	23.1	28.8	24.5	6.3	2.79
	$\chi^2=8.461$ n.s., Cramer's V=0.080						F=1.565 $\eta=0.069$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 2-7: Motivations for outdoor recreation: spending time with family.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	460	8.1	11.4	21.0	29.5	30.1	3.62
Males <sup>2</sup>	273	6.2	11.7	22.7	33.0	26.4	3.62
Females	440	4.3	7.3	20.0	30.0	38.4	3.91
	$\chi^2=13.215^{**}$ , Cramer's V=0.136						F=11.147 <sup>***</sup> $\eta=0.124$
Male (SSI)	252	6.7	11.5	23.4	32.9	25.4	3.59
Female (SSI)	213	7.0	10.3	20.2	28.2	34.3	3.72
Female (DNR)	211	1.9	3.8	20.9	32.2	41.2	4.07
	$\chi^2=25.931^{***}$ , Cramer's V=0.138						F=10.806 <sup>***</sup> $\eta=0.176$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 2-8: Motivations for outdoor recreation: spending time with friends.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	462	9.2	15.4	28.4	28.4	18.5	3.32
Males <sup>2</sup>	271	8.9	15.5	34.7	26.9	14.0	3.22
Females	442	3.6	10.2	24.7	34.6	26.9	3.94
	$\chi^2=33.856^{***}$ , Cramer's V=0.218						F=33.517 <sup>***</sup> $\eta=0.212$
Male (SSI)	251	9.6	16.3	34.3	26.3	13.5	3.18
Female (SSI)	216	6.0	13.0	25.0	32.4	23.6	3.55
Female (DNR)	210	1.4	7.1	24.8	36.2	30.5	3.87
	$\chi^2=44.532^{***}$ , Cramer's V=0.181						F=22.673 <sup>***</sup> $\eta=0.251$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 2-9: Motivations for outdoor recreation: resting and relaxing.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	454	5.1	4.5	26.1	38.4	26.0	3.76
Males <sup>2</sup>	273	3.7	6.2	24.9	42.1	23.1	3.75
Females	439	2.1	4.6	23.7	36.4	33.3	3.94
	$\chi^2=9.997^*$ , Cramer's V=0.118						F=6.727** $\eta=0.097$
Male (SSI)	252	4.0	6.7	25.8	39.7	23.8	3.73
Female (SSI)	211	4.3	3.3	27.0	37.0	28.4	3.82
Female (DNR)	211	0.0	5.7	20.9	36.5	37.0	4.05
	$\chi^2=20.368^{**}$ , Cramer's V=0.123						F=6.296** $\eta=0.136$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 2-10: Motivations for outdoor recreation: meeting new people.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	454	36.2	28.8	23.9	6.5	4.5	2.14
Males <sup>2</sup>	271	36.9	32.5	24.7	2.6	3.3	2.03
Females	435	33.1	30.8	21.8	9.2	5.1	2.22
	$\chi^2=13.563^{**}$ , Cramer's V=0.139						F=5.169* $\eta=0.085$
Male (SSI)	250	36.8	32.8	24.8	2.8	2.8	2.02
Female (SSI)	212	34.9	26.4	23.6	9.9	5.2	2.24
Female (DNR)	208	29.8	35.6	20.7	9.1	4.8	2.24
	$\chi^2=17.559^*$ , Cramer's V=0.114						F=3.112* $\eta=0.096$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 2-11: Motivations for outdoor recreation: taking risks.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	446	66.9	17.1	10.4	4.3	1.3	1.56
Males <sup>2</sup>	266	69.2	12.8	12.0	4.9	1.1	1.56
Females	428	55.6	25.0	11.4	7.0	0.9	1.73
	$\chi^2=18.319^{***}$ , Cramer's V=0.162						F=4.807* $\eta=0.083$
Male (SSI)	248	70.2	12.5	12.5	3.6	1.2	1.53
Female (SSI)	206	61.2	22.8	9.2	5.3	1.5	1.63
Female (DNR)	206	49.5	28.2	12.6	9.2	0.5	1.83
	$\chi^2=30.463^{***}$ , Cramer's V=0.152						F=5.488** $\eta=0.128$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 2-12: Motivations for outdoor recreation: developing skills and abilities.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	452	31.1	22.3	26.2	16.5	3.9	2.40
Males <sup>2</sup>	271	28.0	23.6	27.3	16.2	4.8	2.46
Females	431	23.0	27.6	28.1	16.0	5.3	2.53
	$\chi^2=2.872$ n.s., Cramer's V=0.064						F=0.592 $\eta=0.029$
Male (SSI)	250	29.2	23.2	28.4	15.2	4.0	2.42
Female (SSI)	211	30.8	23.2	25.6	16.1	4.3	2.40
Female (DNR)	205	15.1	31.2	30.2	17.1	6.3	2.68
	$\chi^2=18.466^*$ , Cramer's V=0.118						F=3.971* $\eta=0.109$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



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**Table 2-13: Motivations for outdoor recreation: gaining self confidence.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	454	34.5	20.8	23.8	12.3	8.6	2.40
Males <sup>2</sup>	274	36.1	25.9	22.3	9.1	6.6	2.24
Females	433	26.1	23.1	27.0	14.1	9.7	2.58
	$\chi^2=13.031^*$ , Cramer's V=0.136						F=12.385*** $\eta=0.131$
Male (SSI)	252	36.5	26.6	21.0	9.9	6.0	2.22
Female (SSI)	211	31.3	16.6	26.1	14.7	11.4	2.58
Female (DNR)	206	20.9	27.7	29.1	14.1	8.3	2.61
	$\chi^2=25.723^{***}$ , Cramer's V=0.139						F=7.017*** $\eta=0.144$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 2-14: Motivations for outdoor recreation: feeling independent.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	456	26.7	20.0	23.6	19.3	10.4	2.67
Males <sup>2</sup>	274	33.6	21.2	23.0	16.8	5.5	2.39
Females	435	18.6	20.7	26.4	19.8	14.5	2.91
	$\chi^2=29.426^{***}$ , Cramer's V=0.204						F=26.604*** $\eta=0.190$
Male (SSI)	253	34.0	21.3	22.9	16.6	5.1	2.38
Female (SSI)	211	20.9	18.0	23.2	22.7	15.2	2.93
Female (DNR)	208	15.9	21.6	29.8	18.3	14.4	2.94
	$\chi^2=36.010^{***}$ , Cramer's V=0.164						F=14.824*** $\eta=0.206$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 2-15: Motivations for outdoor recreation: being on my own.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	456	24.3	19.0	20.7	20.2	15.7	2.84
Males <sup>2</sup>	276	29.0	22.1	19.9	18.8	10.1	2.59
Females	437	20.1	20.1	23.8	19.5	16.5	2.92
	$\chi^2=11.937^*$ , Cramer's V=0.129						F=9.966** $\eta=0.118$
Male (SSI)	255	30.2	21.6	20.4	17.3	10.6	2.56
Female (SSI)	212	19.8	17.0	20.8	23.6	18.9	3.05
Female (DNR)	209	19.6	22.0	27.3	16.7	14.4	2.84
	$\chi^2=20.739^{**}$ , Cramer's V=0.124						F=7.446*** $\eta=0.147$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 2-16: Motivations for outdoor recreation: developing spiritual values.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	450	32.7	21.8	17.7	15.6	12.2	2.53
Males <sup>2</sup>	272	40.1	25.7	16.5	10.7	7.0	2.19
Females	434	27.2	20.5	21.2	17.3	13.8	2.70
	$\chi^2=24.493^{***}$ , Cramer's V=0.186						F=24.418*** $\eta=0.183$
Male (SSI)	251	38.6	26.3	17.5	10.8	6.8	2.21
Female (SSI)	209	24.9	20.6	18.2	19.6	16.7	2.83
Female (DNR)	209	29.7	19.6	24.4	15.3	11.0	2.58
	$\chi^2=29.217^{***}$ , Cramer's V=0.148						F=12.610*** $\eta=0.191$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 2-17: Motivations for outdoor recreation: thinking about personal values.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	451	25.3	21.6	26.7	15.3	11.1	2.65
Males <sup>2</sup>	272	31.3	23.9	26.8	13.2	4.8	2.36
Females	434	19.8	19.8	26.5	18.7	15.2	2.90
	$\chi^2=29.557^{***}$ , Cramer's V=0.205						F=28.925 <sup>***</sup> $\eta=0.199$
Male (SSI)	251	29.9	25.5	27.1	12.7	4.8	2.37
Female (SSI)	210	19.0	19.0	27.6	18.1	16.2	2.93
Female (DNR)	208	20.7	19.2	26.4	19.7	13.9	2.87
	$\chi^2=28.817^{***}$ , Cramer's V=0.147						F=13.744 <sup>***</sup> $\eta=0.199$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 2-18: Motivations for outdoor recreation: leading others.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	450	49.9	24.8	16.9	5.9	2.5	1.86
Males <sup>2</sup>	270	48.9	27.0	15.6	6.3	2.2	1.86
Females	431	48.3	25.3	16.0	7.9	2.6	1.91
	$\chi^2=0.883$ n.s., Cramer's V=0.035						F=0.401 $\eta=0.024$
Male (SSI)	249	48.2	28.1	16.1	5.2	2.4	1.86
Female (SSI)	209	49.3	24.4	17.7	5.7	2.9	1.89
Female (DNR)	207	46.4	26.6	15.0	10.1	1.9	1.95
	$\chi^2=6.215$ n.s., Cramer's V=0.068						F=0.428 $\eta=0.036$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 2: Motivations for Outdoor Recreation

**Table 2-19: Motivations for outdoor recreation: maintaining my cultural roots.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	452	53.4	18.3	15.7	6.5	6.1	1.94
Males <sup>2</sup>	270	57.4	17.4	15.9	5.9	3.3	1.80
Females	432	49.8	22.5	14.4	6.7	6.7	1.98
	$\chi^2=7.844$ n.s., Cramer's V=0.106						F=3.726 $\eta=0.073$
Male (SSI)	250	57.6	17.2	16.0	5.6	3.6	1.80
Female (SSI)	211	48.8	20.9	15.2	7.1	8.1	2.05
Female (DNR)	205	49.8	23.9	13.7	6.8	5.9	1.95
	$\chi^2=9.465$ n.s., Cramer's V=0.084						F=2.423 $\eta=0.085$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 2-20: Motivations for outdoor recreation: escaping daily routine.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	456	14.1	15.5	29.3	24.5	16.6	3.14
Males <sup>2</sup>	272	11.8	13.6	31.3	26.1	17.3	3.24
Females	439	8.0	15.5	27.6	26.2	22.8	3.40
	$\chi^2=6.213$ n.s., Cramer's V=0.093						F=3.165 $\eta=0.067$
Male (SSI)	251	11.6	13.9	31.9	26.3	16.3	3.22
Female (SSI)	214	12.6	16.8	29.0	24.3	17.3	3.17
Female (DNR)	209	2.9	13.9	25.8	29.2	28.2	3.66
	$\chi^2=25.915$ ***, Cramer's V=0.139						F=10.916*** $\eta=0.178$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 2-21: Motivations for outdoor recreation: viewing scenery.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	453	6.6	12.0	27.0	30.3	24.1	3.53
Males <sup>2</sup>	274	6.2	12.8	29.6	29.9	21.5	3.48
Females	437	2.5	7.1	25.4	34.3	30.7	3.84
	$\chi^2=18.918^{***}$ , Cramer's V=0.163						F=18.698 <sup>***</sup> $\eta=0.160$
Male (SSI)	252	6.7	13.1	29.4	29.4	21.4	3.46
Female (SSI)	210	3.8	10.0	26.7	31.4	28.1	3.70
Female (DNR)	210	1.0	4.8	24.8	36.7	32.9	3.96
	$\chi^2=26.544^{***}$ , Cramer's V=0.141						F=12.508 <sup>***</sup> $\eta=0.190$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 2-22: Motivations for outdoor recreation: challenging myself.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	451	27.8	20.6	27.8	15.3	8.5	2.56
Males <sup>2</sup>	271	25.8	25.5	22.9	18.8	7.0	2.56
Females	433	22.4	23.1	29.1	14.3	11.1	2.69
	$\chi^2=8.641$ n.s., Cramer's V=0.111						F=1.728 $\eta=0.050$
Male (SSI)	250	27.2	24.4	24.4	18.0	6.0	2.51
Female (SSI)	210	25.2	18.1	30.5	14.3	11.9	2.70
Female (DNR)	207	19.8	26.1	28.5	15.0	10.6	2.71
	$\chi^2=13.560$ n.s., Cramer's V=0.101						F=1.741 $\eta=0.072$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 2-23: Motivations for outdoor recreation: getting food.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	454	56.4	20.2	12.2	7.1	4.2	1.83
Males <sup>2</sup>	270	57.0	23.7	11.1	5.6	2.6	1.73
Females	434	53.5	23.3	11.5	6.9	4.8	1.86
	$\chi^2=3.018$ n.s., Cramer's V=0.062						F=2.426 $\eta=0.059$
Male (SSI)	250	57.6	23.2	10.8	5.6	2.8	1.73
Female (SSI)	210	55.2	17.6	12.4	9.0	5.7	1.92
Female (DNR)	208	51.0	28.4	11.5	4.8	4.3	1.83
	$\chi^2=12.089$ n.s., Cramer's V=0.095						F=1.741 $\eta=0.072$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 2-24: Motivations for outdoor recreation: being creative.**

	n	Not at all important	Somewhat important	Important	Very important	Extremely important	Mean
Overall (SSI) <sup>1</sup>	451	38.7	21.8	22.1	10.5	6.9	2.25
Males <sup>2</sup>	272	46.0	20.6	19.5	9.2	4.8	2.06
Females	434	29.0	24.0	25.6	12.2	9.2	2.49
	$\chi^2=22.747^{***}$ , Cramer's V=0.179						F=19.203*** $\eta=0.163$
Male (SSI)	251	46.2	21.9	19.1	8.0	4.8	2.03
Female (SSI)	209	31.1	22.5	23.9	13.4	9.1	2.47
Female (DNR)	209	25.8	24.4	27.8	12.0	10.0	2.56
	$\chi^2=27.038^{***}$ , Cramer's V=0.142						F=11.974** $\eta=0.186$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 2: Motivations for Outdoor Recreation

**Table 2-25: Comparison of recreation motivations.**

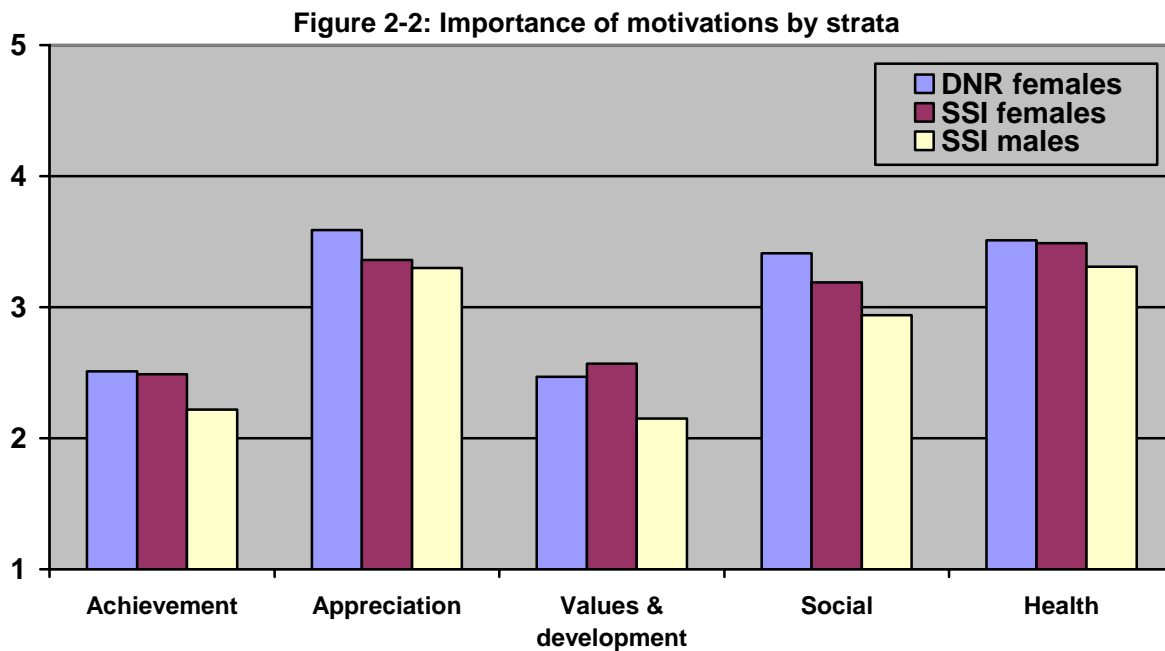
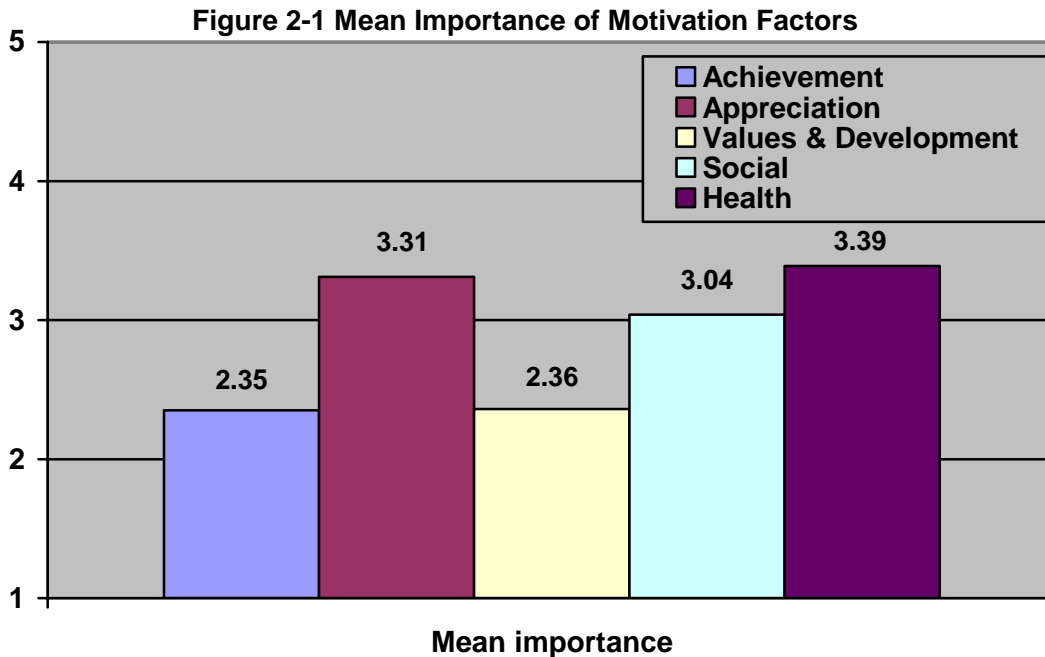
	Overall mean <sup>1</sup>
To enjoy nature	3.86
To rest and relax	3.76
To spend time with family	3.62
To view scenery	3.53
To reduce stress and tension	3.45
To escape crowds/noise	3.39
For physical fitness	3.34
To spend time with friends	3.32
To escape daily routine	3.14
To be on my own	2.84
To learn about the outdoors	2.81
To feel independent	2.67
To think about personal values	2.65
To share my outdoor/recreational values	2.57
To challenge myself	2.56
To develop spiritual values	2.53
To develop skills and abilities	2.40
To gain self confidence	2.40
To be creative	2.25
To meet new people	2.14
To maintain my cultural roots	1.94
To lead others	1.86
To get food	1.83
To take risks	1.56

**Notes:**

<sup>1</sup> F=223.730\*\*\* Grand mean=2.709,  $\eta^2=0.335$  Mean is based on the scale: 1 = not at all important, 2 = somewhat important, 3 = important, 4 = very important, 5 = extremely important.

<sup>2</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

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Notes: Differences based on analysis of variance and Student-Newman-Keuls test (different superscripts mean the group is significantly different at the 0.05 level).

Achievement: DNR Females—2.51<sup>b</sup>, SSI Females—2.49<sup>b</sup>, SSI Males—2.22<sup>a</sup>

Appreciation: DNR Females—3.59<sup>b</sup>, SSI Females—3.36<sup>a</sup>, SSI Males—3.30<sup>a</sup>

Values and development: DNR Females—2.47<sup>b</sup>, SSI Females—2.57<sup>b</sup>, SSI Males—2.15<sup>a</sup>

Social: DNR Females—3.41<sup>c</sup>, SSI Females—3.19<sup>b</sup>, SSI Males—2.94<sup>a</sup>

Health: DNR Females—3.51<sup>a</sup>, SSI Females—3.49<sup>a</sup>, SSI Males—3.31<sup>a</sup>



## Section 3: Constraints to Outdoor Recreation

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### **Findings:**

#### ***Factors That Constrain Outdoor Recreation Participation***

##### *Overall*

Respondents were asked to rate 24 possible constraints to fishing on the scale 1 (not at all limiting) to 5 (extremely limiting). One constraint, work commitments, had a mean score greater than or equal to the midpoint on the scale ( $\bar{x} = 3.02$ ). All other constraints had mean scores less than the midpoint on the scale. Eight constraints had mean ratings between 2.0 and 3.0: (a) travel costs ( $\bar{x} = 2.54$ ), (b) crowding at fishing areas ( $\bar{x} = 2.45$ ), (c) cost of equipment ( $\bar{x} = 2.44$ ), (d) family commitments ( $\bar{x} = 2.27$ ), (e) weather conditions ( $\bar{x} = 2.22$ ), (f) cost of permits and licenses ( $\bar{x} = 2.17$ ), (g) availability of people to go with ( $\bar{x} = 2.11$ ), and the amount of effort required to go ( $\bar{x} = 2.02$ ). All other constraints were rated less than 2.0 on the 5-point scale (Tables 3-1 through 3-25).

The reliability for the 24-item scale was 0.843. A factor analysis was conducted to reveal underlying correlations among the items. Seven underlying factors with Eigenvalues greater than 1.0 were identified. By examining which items loaded heavily on each factor, we found that the factors reflected different underlying motivations including: (a) costs and regulations, (b) fear/dislike of outdoors, (c) discrimination, (d) effort and planning required (e) physical ability, (f) lack of access, and (g) family and work commitments. On average, respondents rated the family and work commitments ( $\bar{x} = 2.64$ ) and the cost ( $\bar{x} = 2.28$ ) factors as the most limiting, followed by the planning factor ( $\bar{x} = 1.99$ ), the ability factor ( $\bar{x} = 1.88$ ), the dislike of the outdoors factor ( $\bar{x} = 1.64$ ), the access factor ( $\bar{x} = 1.46$ ), and the discrimination factor ( $\bar{x} = 1.26$ ) ( $F = 223.093$ ,  $p < 0.001$ ,  $\eta^2 = 0.311$ ) (Figure 3-1).

Five items loaded on the first constraint factor related to **costs and regulations** ( $\bar{x} = 2.28$ ;  $\alpha = 0.819$ ). The items included in this scale are: (a) crowding ( $\bar{x} = 2.45$ ) (Table 3-3), (b) cost of equipment ( $\bar{x} = 2.44$ ) (Table 3-4), (c) cost of permits and licenses ( $\bar{x} = 2.17$ ) (Table 3-5), (d) travel costs and entrance fees ( $\bar{x} = 2.54$ ) (Table 3-6), (e) regulations too restrictive or unclear ( $\bar{x} = 1.75$ ) (Table 3-7).

Five items loaded on the second factor related to **discomfort related to the outdoors** ( $\bar{x} = 1.64$ ;  $\alpha = 0.733$ ). The items included in this scale are: (a) being outdoors is uncomfortable ( $\bar{x} = 1.30$ ) (Table 3-11), (b) no desire to participate ( $\bar{x} = 1.54$ ) (Table 3-13), (c) weather conditions ( $\bar{x} = 2.22$ ) (Table 3-14), (d) interest in indoor activities ( $\bar{x} = 1.74$ ) (Table 3-15), and (e) don't like to be outside ( $\bar{x} = 1.23$ ) (Table 3-23).

Three items related to **discrimination and fear** loaded on the third factor ( $\bar{x} = 1.26$ ;  $\alpha = 0.661$ ). The items included in this scale are: (a) people of my gender or ethnic background are discriminated against by other participants ( $\bar{x} = 1.30$ ) (Table 3-8), (b) fear or safety concerns ( $\bar{x} = 1.54$ ) (Table 3-12), and (c) people of my gender or ethnic background are discriminated against by outdoor recreation managers ( $\bar{x} = 1.18$ ) (Table 3-20).

Three items loaded on the fourth constraint factor related to **planning** ( $\bar{x} = 1.99$ ;  $\alpha = 0.748$ ). The items included in this scale are: (a) the amount of planning required to go ( $\bar{x} = 1.78$ ) (Table 3-17), (b)

## Section 3: Recreation Constraints

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availability of people to go with ( $\bar{x} = 2.11$ ) (Table 3-18), and (c) the amount of effort required to go ( $\bar{x} = 2.02$ ) (Table 3-19).

Three items related to **physical ability** loaded on the fifth factor ( $\bar{x} = 1.88$ ;  $\alpha = 0.699$ ). The items in this scale are: (a) health problems ( $\bar{x} = 1.92$ ) (Table 3-9), inadequate skills ( $\bar{x} = 1.73$ ) (Table 3-10), and (c) age ( $\bar{x} = 1.81$ ) (Table 3-21).

Three items related to **access** loaded on the sixth factor ( $\bar{x} = 1.46$ ;  $\alpha = 0.647$ ). The items in this scale are: (a) the other people who participate are not friendly ( $\bar{x} = 1.34$ ) (Table 3-16), (b) limited access to good places to go ( $\bar{x} = 1.72$ ) (Table 3-22), and (c) no good opportunities near my home ( $\bar{x} = 1.56$ ) (Table 3-24).

Two items related to **family and work commitments** loaded on the seventh factor ( $\bar{x} = 2.64$ ;  $\alpha = 0.626$ ). The items in this scale are: (a) family commitments ( $\bar{x} = 2.27$ ) (Table 3-1) and (b) work commitments ( $\bar{x} = 3.02$ ) (Table 3-2).

### *Analysis by strata and gender*

Where there were significant differences by gender or strata in constraints to participation in outdoor recreation, women—particularly the sample of women from the general public—generally rated the factor as more limiting than men did. There were two factors that men rated more limiting than women did; these were: (a) family commitments (Table 2-1) and (b) regulations too restrictive or unclear (Table 2-7). Women from both the fishing license and general public samples rated the cost-related factors more limiting than men did: (a) cost of equipment (Table 2-5), (b) cost of permits and licenses (Table 2-6), and (c) travel costs and entrance fees (Table 2-7). Women from the general public sample rated several health, ability, and interest factors more limiting than the other groups did, including: (a) discrimination by other participants (Table 2-8), (b) health problems (Table 2-9), (c) inadequate skills (Table 2-10), (d) being outdoors is uncomfortable (Table 2-11), (e) no desire to participate (Table 2-13), (f) interest in indoor activities (Table 2-15), (g) the amount of effort require to go (Table 2-19), and (h) don't like to be outside (Table 2-23). There were three factors that women from the fishing license records rated more limiting than men did, and that women from the general public sample rated even more limiting: (a) fear or safety concerns (Table 2-12), (b) the amount of planning require to go (Table 2-17), and (c) availability of people to go with (Table 2-18). Age was rated as a significantly more limiting factor by male and female respondents from the general public sample compared to female respondents selected from the fishing license records. Respondents from the two general public samples were significantly older ( $\bar{x} = 53$  years) than respondents drawn from the fishing license records ( $\bar{x} = 41$  years).

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**Table 3-1: Constraints to recreation: Family commitments.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	453	29.7	31.4	25.2	9.9	3.7	2.27
Males <sup>2</sup>	270	19.3	34.4	30.7	13.0	2.6	2.45
Females	437	32.0	33.0	22.4	9.6	3.0	2.19
	$\chi^2=16.459^{**}$ , Cramer's V=0.153						F=10.566 <sup>***</sup> $\eta=0.122$
Male (SSI)	248	20.2	33.9	30.6	12.9	2.4	2.44
Female (SSI)	213	37.6	29.6	20.2	8.0	4.7	2.13
Female (DNR)	208	28.8	35.1	24.0	10.6	1.4	2.21
	$\chi^2=25.244^{***}$ , Cramer's V=0.137						F=5.288 <sup>**</sup> $\eta=0.125$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 3-2: Constraints to recreation: Work commitments.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	444	21.0	15.1	22.5	23.7	17.8	3.02
Males <sup>2</sup>	268	16.8	16.4	21.6	27.6	17.5	3.13
Females	431	18.6	18.3	24.4	23.4	15.3	2.99
	$\chi^2=2.815$ n.s., Cramer's V=0.063						F=1.833 $\eta=0.051$
Male (SSI)	247	17.0	15.8	23.1	25.9	18.2	3.13
Female (SSI)	204	23.5	15.7	21.6	23.5	15.7	2.92
Female (DNR)	211	14.7	20.4	27.5	23.7	13.7	3.01
	$\chi^2=10.013$ n.s., Cramer's V=0.087						F=1.313 $\eta=0.063$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 3-3: Constraints to recreation: Crowding at recreation areas.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	445	24.0	30.2	28.5	11.0	6.3	2.45
Males <sup>2</sup>	266	21.8	29.3	31.2	10.9	6.8	2.52
Females	428	22.0	33.9	26.6	12.1	5.4	2.45
	$\chi^2=3.024$ n.s., Cramer's V=0.066						F=0.527 $\eta=0.028$
Male (SSI)	246	22.4	29.7	30.9	10.2	6.9	2.50
Female (SSI)	207	23.7	30.4	28.0	12.1	5.8	2.46
Female (DNR)	206	18.9	36.4	26.2	13.1	5.3	2.50
	$\chi^2=5.224$ n.s., Cramer's V=0.063						F=0.074 $\eta=0.015$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 3-4: Constraints to recreation: Cost of equipment.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	448	30.0	24.9	23.1	15.2	6.8	2.44
Males <sup>2</sup>	268	31.0	43.1	21.3	11.6	4.5	2.27
Females	434	24.2	25.8	24.7	16.4	9.0	2.60
	$\chi^2=12.971^*$ , Cramer's V=0.136						F=12.506*** $\eta=0.131$
Male (SSI)	246	30.1	30.9	22.0	12.6	4.5	2.30
Female (SSI)	211	26.1	20.9	26.1	17.5	9.5	2.64
Female (DNR)	208	22.1	29.3	24.5	15.4	8.7	2.59
	$\chi^2=14.659$ n.s., Cramer's V=0.105						F=4.972** $\eta=0.122$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

### Section 3: Recreation Constraints

**Table 3-5: Constraints to recreation: Cost of permits and licenses.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	446	38.5	28.3	17.6	9.0	6.5	2.17
Males <sup>2</sup>	268	39.9	34.0	17.9	4.1	4.1	1.99
Females	431	32.5	30.2	19.5	9.7	8.1	2.31
	$\chi^2=14.544^{**}$ , Cramer's V=0.144						F=12.506 <sup>***</sup> $\eta=0.133$
Male (SSI)	246	40.2	34.1	17.9	4.5	3.3	1.96
Female (SSI)	208	33.7	25.5	17.8	14.4	8.7	2.39
Female (DNR)	208	30.8	33.7	21.6	5.8	8.2	2.27
	$\chi^2=29.631^{***}$ , Cramer's V=0.150						F=8.029 <sup>***</sup> $\eta=0.154$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 3-6: Constraints to recreation: Travel costs and entrance fees.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	445	23.9	31.7	21.0	13.4	10.0	2.54
Males <sup>2</sup>	270	25.6	39.6	18.5	9.3	7.0	2.33
Females	430	19.5	28.8	26.0	15.3	10.2	2.68
	$\chi^2=19.279^{***}$ , Cramer's V=0.166						F=14.168 <sup>***</sup> $\eta=0.141$
Male (SSI)	248	24.2	40.7	19.0	9.3	6.9	2.34
Female (SSI)	206	21.8	23.8	24.8	17.5	12.1	2.74
Female (DNR)	208	16.3	32.7	27.9	13.9	9.1	2.67
	$\chi^2=26.440^{***}$ , Cramer's V=0.141						F=7.343 <sup>***</sup> $\eta=0.148$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

### Section 3: Recreation Constraints

**Table 3-7: Constraints to recreation: Regulations too restrictive or unclear.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	439	54.2	27.3	11.2	3.8	3.6	1.75
Males <sup>2</sup>	264	49.2	28.8	13.3	4.5	4.2	1.86
Females	427	56.9	27.6	9.6	3.0	2.8	1.67
	$\chi^2=5.753$ n.s., Cramer's V=0.091						F=5.397* $\eta=0.088$
Male (SSI)	242	49.6	28.1	14.0	4.5	3.7	1.85
Female (SSI)	205	57.1	27.8	9.8	2.9	2.4	1.66
Female (DNR)	207	56.0	27.1	10.1	3.4	3.4	1.71
	$\chi^2=5.138$ n.s., Cramer's V=0.063						F=2.105 $\eta=0.080$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 3-8: Constraints to recreation: People of my gender or ethnic background are discriminated against by other participants.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	445	85.1	6.3	4.7	1.1	2.8	1.30
Males <sup>2</sup>	265	91.7	4.2	2.6	0.4	1.1	1.15
Females	432	86.3	7.4	3.0	1.4	1.9	1.25
	$\chi^2=5.646$ n.s., Cramer's V=0.090						F=3.405 $\eta=0.070$
Male (SSI)	244	91.4	4.1	2.9	0.4	1.2	1.16
Female (SSI)	209	82.8	9.1	3.8	1.4	2.9	1.33
Female (DNR)	208	88.9	6.3	2.4	1.4	1.0	1.19
	$\chi^2=10.402$ n.s., Cramer's V=0.089						F=3.401* $\eta=0.101$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

### Section 3: Recreation Constraints

**Table 3-9: Constraints to recreation: Health problems.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	467	56.6	17.2	11.5	7.6	7.1	1.92
Males <sup>2</sup>	275	64.4	16.0	12.7	4.7	2.2	1.64
Females	442	58.8	20.6	7.2	5.7	7.7	1.83
$\chi^2=17.715^{***}$ , Cramer's V=0.157							F=4.259* $\eta=0.077$
Male (SSI)	254	63.8	16.1	12.6	5.1	2.4	1.66
Female (SSI)	217	50.7	20.7	8.8	8.3	11.5	2.09
Female (DNR)	209	66.5	20.1	5.7	3.3	4.3	1.59
$\chi^2=35.415^{***}$ , Cramer's V=0.161							F=11.915*** $\eta=0.184$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 3-10: Constraints to recreation: Inadequate skills.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	444	54.9	25.7	14.1	2.5	2.8	1.73
Males <sup>2</sup>	267	65.9	23.6	9.7	0.4	0.4	1.46
Females	429	49.0	31.9	13.5	3.3	2.3	1.78
$\chi^2=24.834^{***}$ , Cramer's V=0.189							F=22.631*** $\eta=0.178$
Male (SSI)	245	64.9	24.1	10.2	0.4	0.4	1.47
Female (SSI)	207	44.4	29.5	17.4	4.3	4.3	1.95
Female (DNR)	207	52.7	34.8	10.1	2.4	0.0	1.62
$\chi^2=42.900^{***}$ , Cramer's V=0.180							F=17.116*** $\eta=0.223$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

### Section 3: Recreation Constraints

**Table 3-11: Constraints to recreation: Being outdoors is uncomfortable.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	446	82.0	10.2	5.2	0.7	2.0	1.30
Males <sup>2</sup>	269	90.3	5.6	3.3	0.4	0.4	1.15
Females	431	80.7	13.0	4.2	1.2	0.9	1.29
$\chi^2=13.003^*$ , Cramer's V=0.136							F=7.942** $\eta=0.106$
Male (SSI)	247	90.3	5.7	3.2	0.4	0.4	1.15
Female (SSI)	207	75.4	14.0	7.7	1.0	1.9	1.40
Female (DNR)	208	85.1	12.5	1.0	1.4	0.0	1.19
$\chi^2=31.502^{***}$ , Cramer's V=0.154							F=10.037*** $\eta=0.172$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 3-12: Constraints to recreation: Fear or safety concerns.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	447	64.4	22.7	9.2	1.7	2.0	1.54
Males <sup>2</sup>	266	78.6	14.3	5.6	1.1	0.4	1.30
Females	432	58.6	28.9	8.8	2.5	1.2	1.59
$\chi^2=30.067^{***}$ , Cramer's V=0.208							F=21.764*** $\eta=0.174$
Male (SSI)	244	78.3	15.2	4.9	1.2	0.4	1.30
Female (SSI)	209	53.6	29.2	12.9	2.4	1.9	1.70
Female (DNR)	207	62.3	30.0	5.3	1.9	0.5	1.48
$\chi^2=39.934^{***}$ , Cramer's V=0.174							F=14.769*** $\eta=0.207$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



### Section 3: Recreation Constraints

**Table 3-13: Constraints to recreation: No desire to participate.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	442	69.0	15.4	10.0	3.4	2.2	1.54
Males <sup>2</sup>	264	74.2	17.4	6.4	1.1	0.8	1.37
Females	430	70.5	13.7	10.0	4.4	1.4	1.53
	$\chi^2=10.342^*$ , Cramer's V=0.122						F=5.481* $\eta=0.089$
Male (SSI)	244	73.8	17.6	7.0	0.8	0.8	1.37
Female (SSI)	206	65.0	13.1	13.6	6.3	1.9	1.67
Female (DNR)	208	74.5	15.4	6.7	2.4	1.0	1.40
	$\chi^2=23.079^{**}$ , Cramer's V=0.132						F=7.786*** $\eta=0.152$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 3-14: Constraints to recreation: Weather conditions.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	452	26.1	40.1	23.6	5.7	4.5	2.22
Males <sup>2</sup>	269	28.6	49.1	15.6	4.5	2.2	2.03
Females	439	19.6	36.7	31.4	7.3	5.0	2.41
	$\chi^2= 33.938^{***}$ , Cramer's V=0.219						F=25.567*** $\eta=0.187$
Male (SSI)	247	28.7	50.2	14.6	4.0	2.4	2.01
Female (SSI)	212	22.2	31.6	32.1	7.5	6.6	2.45
Female (DNR)	211	16.6	41.2	31.3	7.1	3.8	2.40
	$\chi^2=42.589^{***}$ , Cramer's V=0.178						F=13.531*** $\eta=0.197$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

### Section 3: Recreation Constraints

**Table 3-15: Constraints to recreation: Interest in indoor activities.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	445	54.4	26.5	12.6	3.7	2.9	1.74
Males <sup>2</sup>	264	58.7	27.3	9.5	2.3	2.3	1.62
Females	434	54.6	27.9	13.4	3.2	0.9	1.68
	$\chi^2=5.220$ n.s., Cramer's V=0.086						F=0.695 $\eta=0.032$
Male (SSI)	243	59.7	27.2	8.2	2.5	2.5	1.61
Female (SSI)	210	51.0	27.1	15.2	5.2	1.4	1.79
Female (DNR)	208	58.7	27.4	12.5	1.0	0.5	1.57
	$\chi^2=16.373^*$ , Cramer's V=0.111						F=3.574* $\eta=0.104$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 3-16: Constraints to recreation: The other people who participate are not friendly.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	446	78.9	11.7	7.0	1.1	1.3	1.34
Males <sup>2</sup>	266	80.8	12.8	4.5	0.8	1.1	1.29
Females	431	80.0	11.8	6.5	0.7	0.9	1.31
	$\chi^2=1.336$ n.s., Cramer's V=0.044						F=0.142 $\eta=0.014$
Male (SSI)	244	80.7	12.7	4.5	0.8	1.2	1.29
Female (SSI)	207	78.7	11.6	7.7	1.4	0.5	1.33
Female (DNR)	208	79.8	13.0	5.8	0.0	1.4	1.30
	$\chi^2=6.104$ n.s., Cramer's V=0.068						F=0.206 $\eta=0.025$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

### Section 3: Recreation Constraints

**Table 3-17: Constraints to recreation: The amount of planning required to go.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	446	49.7	29.0	16.1	3.6	1.6	1.78
Males <sup>2</sup>	267	56.2	28.8	12.7	1.1	1.1	1.62
Females	432	44.9	35.4	14.4	4.2	1.2	1.81
	$\chi^2=11.833^*$ , Cramer's V=0.130						F=7.715** $\eta=0.105$
Male (SSI)	245	57.6	27.3	12.7	1.2	1.2	1.61
Female (SSI)	208	42.3	33.2	16.8	6.3	1.4	1.91
Female (DNR)	208	46.2	38.5	12.5	1.9	1.0	1.73
	$\chi^2=22.808^{**}$ , Cramer's V=0.131						F=6.549** $\eta=0.140$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 3-18: Constraints to recreation: Availability of people to go with.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	446	39.4	28.0	19.8	7.9	4.9	2.11
Males <sup>2</sup>	269	45.4	28.6	38.1	4.1	2.2	1.89
Females	432	33.3	33.8	19.9	9.0	3.9	2.16
	$\chi^2=14.846^{**}$ , Cramer's V=0.146						F=10.766*** $\eta=0.123$
Male (SSI)	247	46.2	28.3	19.4	3.6	2.4	1.88
Female (SSI)	207	31.4	28.5	21.7	12.6	5.8	2.33
Female (DNR)	209	33.5	39.7	19.1	5.7	1.9	2.03
	$\chi^2=33.087^{***}$ , Cramer's V=0.158						F=10.335*** $\eta=0.174$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

### Section 3: Recreation Constraints

**Table 3-19: Constraints to recreation: The amount of effort required to go.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	445	38.4	33.1	18.8	7.5	2.1	2.02
Males <sup>2</sup>	267	41.9	36.3	15.7	4.9	1.1	1.87
Females	429	37.3	38.0	17.0	6.1	1.6	1.97
	$\chi^2=1.911$ n.s., Cramer's V=0.052						F=1.763 $\eta=0.050$
Male (SSI)	245	41.6	36.3	15.5	5.3	1.2	1.88
Female (SSI)	208	35.6	32.2	20.2	9.1	2.9	2.12
Female (DNR)	205	37.6	44.9	13.7	3.4	0.5	1.84
	$\chi^2=18.681^*$ , Cramer's V=0.119						F=5.011** $\eta=0.123$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 3-20: Constraints to recreation: People of my gender or ethnic background are discriminated against by outdoor recreation managers.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	449	91.3	3.3	3.6	0.2	1.6	1.18
Males <sup>2</sup>	266	94.4	3.0	2.3	0.0	0.4	1.09
Females	430	92.6	4.2	1.6	0.2	1.4	1.14
	$\chi^2=3.332$ n.s., Cramer's V=0.069						F=1.334 $\eta=0.044$
Male (SSI)	245	94.3	2.9	2.4	0.0	0.4	1.09
Female (SSI)	208	91.8	3.8	2.4	0.5	1.4	1.16
Female (DNR)	207	92.8	4.8	1.0	0.0	1.4	1.13
	$\chi^2=6.512$ n.s., Cramer's V=0.070						F=0.829 $\eta=0.050$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

### Section 3: Recreation Constraints

**Table 3-21: Constraints to recreation: Age.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	458	56.7	21.6	10.8	5.6	5.2	1.81
Males <sup>2</sup>	271	60.9	22.5	10.3	3.7	2.6	1.65
Females	443	60.0	21.7	9.0	4.7	4.5	1.72
$\chi^2=2.459$ n.s., Cramer's V=0.059							F=0.830 $\eta=0.034$
Male (SSI)	249	60.6	22.1	10.4	4.0	2.8	1.66
Female (SSI)	217	51.2	22.6	11.5	7.8	6.9	1.97
Female (DNR)	210	69.0	20.0	6.7	1.9	2.4	1.49
$\chi^2=24.286^{**}$ , Cramer's V=0.134							F=11.378 <sup>***</sup> $\eta=0.181$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 3-22: Constraints to recreation: Limited access to good places to go.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	446	56.0	24.6	13.6	3.0	2.9	1.72
Males <sup>2</sup>	269	54.3	23.8	13.4	5.9	2.6	1.79
Females	430	58.1	24.4	12.1	2.1	3.3	1.68
$\chi^2=7.793$ n.s., Cramer's V=0.106							F=1.913 $\eta=0.052$
Male (SSI)	247	53.8	25.1	13.8	4.5	2.8	1.77
Female (SSI)	207	57.5	23.2	14.0	1.9	3.4	1.71
Female (DNR)	207	57.5	26.1	11.1	1.9	3.4	1.68
$\chi^2=5.137$ n.s., Cramer's V=0.062							F=0.560 $\eta=0.041$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

### Section 3: Recreation Constraints

**Table 3-23: Constraints to recreation: Don't like to be outside.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	446	86.7	8.0	2.8	0.8	1.6	1.23
Males <sup>2</sup>	268	91.4	6.0	1.5	0.7	0.4	1.13
Females	432	88.4	7.6	2.5	0.7	0.7	1.18
	$\chi^2=1.985$ n.s., Cramer's V=0.053						F=1.387 $\eta=0.045$
Male (SSI)	247	90.7	6.5	1.6	0.8	0.4	1.14
Female (SSI)	208	84.1	9.1	4.3	1.0	1.4	1.26
Female (DNR)	208	92.3	6.3	1.0	0.5	0.0	1.10
	$\chi^2=12.500$ n.s., Cramer's V=0.097						F=5.436** $\eta=0.127$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 3-24: Constraints to recreation: No good opportunities near my home.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	447	67.9	16.4	9.6	4.4	1.7	1.56
Males <sup>2</sup>	268	71.3	13.4	10.1	4.1	1.1	1.50
Females	433	64.7	22.2	7.4	3.2	2.5	1.57
	$\chi^2=11.230^*$ , Cramer's V=0.127						F=0.788 $\eta=0.034$
Male (SSI)	247	70.9	13.0	10.9	4.0	1.2	1.52
Female (SSI)	208	64.9	20.7	7.7	4.3	2.4	1.59
Female (DNR)	209	63.6	24.4	7.2	1.9	2.9	1.56
	$\chi^2=15.251$ n.s., Cramer's V=0.107						F=0.306 $\eta=0.030$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 3: Recreation Constraints

**Table 3-25: Comparison of constraints to outdoor recreation.**

Constraint	Sample size (n)	Mean <sup>1</sup>
Work commitments	444	3.02
Travel costs and entrance fees	445	2.54
Crowding at recreation areas	445	2.45
Cost of equipment	448	2.44
Family commitments	453	2.27
Weather conditions	452	2.22
Cost of permits and licenses	446	2.17
Availability of people to go with	446	2.11
The amount of effort required to go	445	2.02
Health problems	467	1.92
Age	458	1.81
The amount of planning required to go	446	1.78
Regulations too restrictive or unclear	439	1.75
Interest in indoor activities	445	1.74
Inadequate skills	444	1.73
Limited access to good places to go	446	1.72
No good opportunities near my home	447	1.56
Fear or safety concerns	447	1.54
No desire to participate	442	1.54
The other people who participate are not friendly	446	1.34
People of my gender or ethnic background are discriminated against by other participants	445	1.30
Being outdoors is uncomfortable	446	1.30
Don't like to be outside	446	1.23
People of my gender or ethnic background are discriminated against by outdoor recreation managers	449	1.18

**Notes:**

<sup>1</sup> F=118.307\*\*\* Grand mean=1.796,  $\eta^2=0.216$ . Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

<sup>2</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

### Section 3: Recreation Constraints

Figure 3-1 Means on Constraint Factors

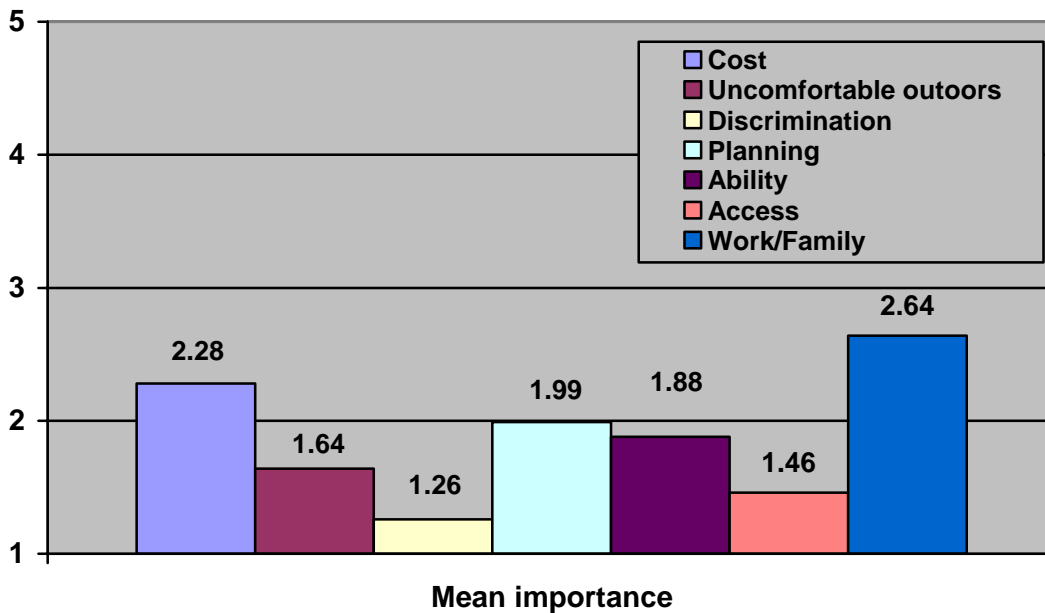
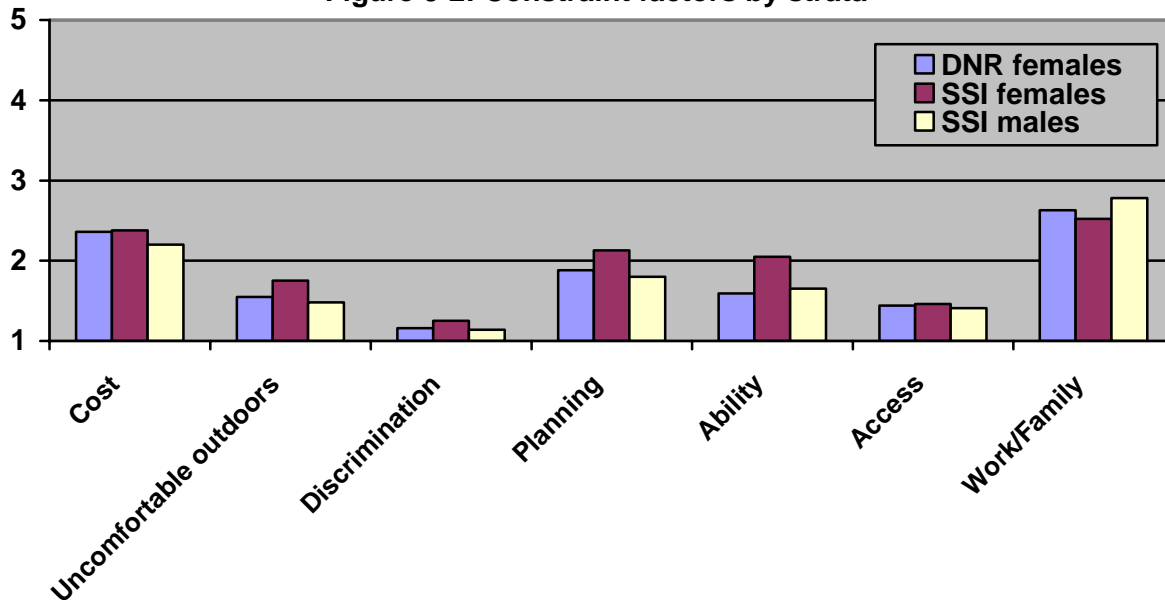


Figure 3-2: Constraint factors by strata



Notes: Differences based on analysis of variance and Student-Newman-Keuls test (different superscripts mean the group is significantly different at the 0.05 level). There were no differences on cost, discrimination, or access.

Uncomfortable outdoors: DNR Females—1.55<sup>a</sup>, SSI Females—1.75<sup>b</sup>, SSI Males—1.48<sup>a</sup>

Planning: DNR Females—1.88<sup>a</sup>, SSI Females—2.13<sup>b</sup>, SSI Males—1.80<sup>a</sup>

Ability: DNR Females—1.59<sup>b</sup>, SSI Females—2.05<sup>b</sup>, SSI Males—1.65<sup>a</sup>

Work/Family: DNR Females—2.63<sup>ab</sup>, SSI Females—2.52<sup>a</sup>, SSI Males—2.78<sup>b</sup>



## Section 4: Environmental Values

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### **Findings:**

#### *Overall*

Respondents were asked to rate 12 possible statements related to environmental values on the scale 1 (disagree) to 5 (agree). After reversing four items to make utilitarian/human-centered values consistently positive of the scale, the reliability for the 12-item scale was 0.822. A factor analysis was conducted to reveal underlying correlations among the items. Three underlying factors with Eigenvalues greater than 1.0 were identified. By examining which items loaded heavily on each factor, we found that the factors reflected different underlying value orientations including: (a) utilitarian, (b) anthropocentric, and (c) biocentric. On average, respondents agreed with the biocentric value orientation ( $\bar{x} = 4.07$ ) and disagreed with the anthropocentric ( $\bar{x} = 2.19$ ) and utilitarian ( $\bar{x} = 1.99$ ) factors ( $F = 1279.475$ ,  $p < 0.001$ ,  $\eta^2 = 0.708$ ) (Figure 4-1).

Five items loaded on the first value factor related to **utilitarian value orientations** ( $\alpha = 0.773$ ). The items included in this scale are: (a) the primary value of nature is to provide recreation for people ( $\bar{x} = 2.34$ ) (Table 4-1), (b) nature is valuable only to produce jobs and income for people ( $\bar{x} = 1.43$ ) (Table 4-2), (c) nature's primary value is to provide things useful to people ( $\bar{x} = 2.25$ ) (Table 4-3), (d) nature is valuable only if people get to use it in some way ( $\bar{x} = 1.93$ ) (Table 4-4), and (e) plants and animals are primarily valuable as food for people ( $\bar{x} = 2.52$ ) (Table 4-6).

Three items loaded on the second factor related to **anthropocentric value orientation** ( $\alpha = 0.799$ ). The items included in this scale are: (a) humans were meant to rule over the rest of nature ( $\bar{x} = 2.47$ ) (Table 4-9), (b) humans have a right to change the natural world to suit their needs ( $\bar{x} = 1.95$ ) (Table 4-10), and (c) nature should primarily be managed for human benefit ( $\bar{x} = 2.15$ ) (Table 4-11).

Four items related to **biocentric value orientations** loaded on the third factor ( $\alpha = 0.648$ ). The items included in this scale are: (a) plants and animals have as much right to exist as people, ( $\bar{x} = 4.10$ ) (Table 4-5), (b) nature is valuable in its own right, regardless of people ( $\bar{x} = 4.42$ ) (Table 4-7), (c) humans are no more important than other parts of nature ( $\bar{x} = 3.14$ ) (Table 4-8), and (d) humans have a duty to protect fish and wildlife ( $\bar{x} = 4.59$ ) (Table 4-12). On average, respondents only agreed with the items associated with the biocentric value orientation.

#### *Analysis by strata and gender*

Where there were significant differences by gender or strata in environmental value orientations, men rated items that comprised the utilitarian and anthropocentric value orientations higher than women did, and women rated items that comprised the biocentric value orientation higher than men did. Men rated the four of the five utilitarian items higher than women did. They also rated all three of the anthropocentric items higher than women did. Women rated two of the four biocentric items higher than men did.

## Section 4: Environmental Values

**Table 4-1: Environmental values: The primary value of nature is to provide recreation for people..**

Gender	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean <sup>2</sup>
Overall <sup>1</sup>	465	33.3	24.5	24.3	11.1	6.8	2.34
Males <sup>2</sup>	273	27.5	24.5	26.0	16.5	5.5	2.48
Females	443	36.6	29.1	19.2	8.6	6.5	2.19
$\chi^2=18.532^{***}$ , Cramer's V=0.0.161							F=9.454** ; $\eta=0.114$
Male (SSI)	251	27.5	24.7	25.9	15.9	6.0	2.48
Female (SSI)	219	38.8	25.1	22.4	7.3	6.4	2.17
Female (DNR)	208	35.1	32.7	15.9	9.6	6.7	2.20
$\chi^2=21.839^{**}$ , Cramer's V=0.127							F=4.703** ; $\eta=0.117$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 4-2: Environmental values: Nature is valuable only to produce jobs & income for people.**

Gender	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean <sup>2</sup>
Overall <sup>1</sup>	473	69.4	20.8	8.4	0.4	1.0	1.43
Males <sup>2</sup>	277	66.4	23.8	53.3	0.4	0.7	1.45
Females	447	72.7	20.4	4.7	1.1	1.1	1.38
$\chi^2=7.700$ , Cramer's V=0.103							F=1.832 ; $\eta=0.050$
Male (SSI)	255	67.1	22.7	9.0	0.4	0.8	1.45
Female (SSI)	221	72.4	19.5	6.3	0.5	1.4	1.39
Female (DNR)	210	72.4	21.4	3.3	1.9	1.0	1.38
$\chi^2=11.131$ , Cramer's V=0.090							F=0.698 ; $\eta=0.045$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 4: Environmental Values

**Table 4-3: Environmental values: Nature’s primary value is to provide things useful to people.**

Gender	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean <sup>2</sup>
Overall <sup>1</sup>	467	39.8	21.2	17.8	16.3	4.8	2.25
Males <sup>2</sup>	275	33.5	25.1	16.4	20.0	5.1	2.38
Females	442	46.2	19.2	18.6	11.5	4.5	2.09
$\chi^2=18.116^{***}$ , Cramer's V=0.159							F=9.273** ; $\eta=0.113$
Male (SSI)	253	34.8	23.7	15.8	20.2	5.5	2.38
Female (SSI)	217	46.1	19.8	19.4	10.6	4.1	2.07
Female (DNR)	209	45.5	18.7	18.2	12.4	5.3	2.13
$\chi^2=15.876^*$ , Cramer's V=0.108							F=4.039* ; $\eta=0.109$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 4-4: Environmental values: Nature is valuable only if people get to use it in some way.**

Gender	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean <sup>2</sup>
Overall <sup>1</sup>	466	52.9	21.4	10.6	1.2	4.9	1.93
Males <sup>2</sup>	274	46.4	24.5	13.9	10.6	4.7	2.03
Females	441	54.9	23.1	9.1	9.8	3.2	1.83
$\chi^2=7.291$ , Cramer's V=0.101							F=4.844* ; $\eta=0.082$
Male (SSI)	252	48.0	23.4	13.5	9.9	5.2	2.01
Female (SSI)	217	56.2	22.1	7.8	9.2	4.6	1.84
Female (DNR)	209	54.1	23.9	10.5	9.6	1.9	1.81
$\chi^2=8.674$ , Cramer's V=0.080							F=1.944 ; $\eta=0.076$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 4: Environmental Values

**Table 4-5: Environmental values: Plants and animals have as much right to exist as people.**

Gender	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean <sup>2</sup>
Overall <sup>1</sup>	468	6.2	6.8	9.9	25.1	51.9	4.10
Males <sup>2</sup>	276	9.1	10.5	10.9	26.1	43.5	3.84
Females	61.8	3.4	3.8	10.8	27.8	54.3	4.26
$\chi^2=26.116^{***}$ , Cramer's V=0.190							F=22.164 <sup>***</sup> ; $\eta=0.173$
Male (SSI)	254	9.4	10.2	10.2	27.2	42.9	3.84
Female (SSI)	219	4.1	3.7	9.6	24.7	58.0	4.29
Female (DNR)	212	2.4	4.2	12.3	30.2	50.9	4.23
$\chi^2=29.167^{***}$ , Cramer's V=0.146							F=10.939 <sup>***</sup> ; $\eta=0.176$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 4-6: Environmental values: Plants and animals are primarily valuable as food for people.**

Gender	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean <sup>2</sup>
Overall <sup>1</sup>	466	29.6	23.5	23.4	12.6	10.9	2.52
Males <sup>2</sup>	277	23.5	22.7	26.4	17.3	10.1	2.68
Females	443	30.7	25.7	24.4	11.5	7.7	2.40
$\chi^2=9.444$ , Cramer's V=0.115							F=8.512 <sup>**</sup> ; $\eta=0.108$
Male (SSI)	255	23.5	22.7	27.1	16.9	9.8	2.67
Female (SSI)	216	34.7	24.5	20.4	9.3	11.1	2.38
Female (DNR)	27.0	27.0	26.1	28.0	14.2	4.7	2.44
$\chi^2=19.527^*$ , Cramer's V=0.120							F=3.547 <sup>*</sup> ; $\eta=0.102$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 4: Environmental Values

**Table 4-7: Environmental values: Nature is valuable in its own right, regardless of people.**

Gender	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean <sup>2</sup>
Overall <sup>1</sup>	464	2.4	3.0	6.4	26.3	62.0	4.42
Males <sup>2</sup>	274	1.8	3.6	8.0	28.5	58.0	4.37
Females	443	1.8	2.3	5.9	26.6	63.4	4.48
$\chi^2=3.369$ , Cramer's V=0.069							F=2.397 ; $\eta=0.058$
Male (SSI)	252	2.0	4.0	7.9	29.0	57.1	4.35
Female (SSI)	216	2.8	1.9	5.6	22.7	67.1	4.50
Female (DNR)	211	0.9	2.8	6.6	30.8	58.8	4.44
$\chi^2=9.611$ , Cramer's V=0.084							F=1.523 ; $\eta=0.067$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 4-8: Environmental values: Humans are no more important than other parts of nature.**

Gender	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean <sup>2</sup>
Overall <sup>1</sup>	466	18.7	17.6	20.5	17.3	25.9	3.14
Males <sup>2</sup>	274	23.7	16.8	19.7	19.0	20.8	2.96
Females	442	12.0	21.3	21.3	20.4	25.1	3.25
$\chi^2=17.562^{**}$ , Cramer's V=0.157							F=7.264 <sup>**</sup> ; $\eta=0.100$
Male (SSI)	252	25.0	15.9	21.4	18.7	19.0	2.91
Female (SSI)	217	11.5	21.2	20.7	16.1	30.4	3.33
Female (DNR)	209	12.4	21.1	21.1	24.9	27.4	3.20
$\chi^2=30.097^{***}$ , Cramer's V=0.149							F=5.604 <sup>**</sup> ; $\eta=0.128$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 4-9: Environmental values: Humans were meant to rule over the rest of nature.**

Gender	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean <sup>2</sup>
Overall <sup>1</sup>	467	34.3	20.6	19.7	14.5	10.9	2.47
Males <sup>2</sup>	276	31.2	17.0	22.5	15.6	13.8	2.64
Females	440	41.1	24.1	16.6	11.8	6.4	2.18
$\chi^2=23.485^{***}$ , Cramer's V=0.181							F=20.145 <sup>***</sup> ; $\eta=0.166$
Male (SSI)	254	31.1	16.1	23.2	15.4	14.2	2.65
Female (SSI)	216	38.0	25.9	16.7	13.4	6.0	2.24
Female (DNR)	208	45.2	22.1	15.4	10.6	6.7	2.12
$\chi^2=28.416^{***}$ , Cramer's V=0.145							F=10.712 <sup>***</sup> ; $\eta=0.175$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 4-10: Environmental values: Humans have a right to change the natural world to suit their needs.**

Gender	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean <sup>2</sup>
Overall <sup>1</sup>	473	48.4	23.3	16.8	7.5	3.9	1.95
Males <sup>2</sup>	277	41.5	21.3	23.1	11.2	2.9	2.13
Females	447	54.4	27.3	11.9	4.3	2.2	1.73
$\chi^2=33.775^{***}$ , Cramer's V=0.216							F=24.629 <sup>***</sup> ; $\eta=0.182$
Male (SSI)	255	42.4	22.7	22.0	9.8	3.1	2.09
Female (SSI)	221	56.6	24.9	11.3	4.5	2.7	1.72
Female (DNR)	210	51.9	30.5	12.4	3.3	1.9	1.73
$\chi^2=28.349^{***}$ , Cramer's V=0.144							F=9.658 <sup>***</sup> ; $\eta=0.166$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 4-11: Environmental values: Nature should primarily be managed for human benefit.**

Gender	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean <sup>2</sup>
Overall <sup>1</sup>	467	39.7	26.0	19.5	9.0	5.8	2.15
Males <sup>2</sup>	276	34.1	26.4	19.9	14.1	5.4	2.30
Females	443	43.6	32.3	15.1	5.6	3.4	1.93
$\chi^2=23.560^{***}$ , Cramer's V=0.181							F=18.831 <sup>***</sup> ; $\eta=0.160$
Male (SSI)	254	35.4	25.6	20.1	13.4	5.5	2.28
Female (SSI)	216	43.1	37.0	12.3	5.2	2.4	1.98
Female (DNR)	211	43.1	37.0	12.3	5.2	2.4	1.87
$\chi^2=26.551^{***}$ , Cramer's V=0.140							F=8.574 <sup>***</sup> ; $\eta=0.157$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 4-12: Environmental values: Humans have a duty to protect fish and wildlife.**

Gender	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean <sup>2</sup>
Overall <sup>1</sup>	476	0.6	1.8	4.7	24.2	68.7	4.59
Males <sup>2</sup>	279	0.7	1.4	3.6	26.5	67.7	4.59
Females	449	0.7	0.9	5.3	22.5	70.6	4.61
$\chi^2=2.974$ , Cramer's V=0.064S							F=0.194; $\eta=0.016$
Male (SSI)	257	0.8	1.6	3.9	26.8	66.9	4.58
Female (SSI)	222	0.5	1.4	5.9	21.6	70.7	4.61
Female (DNR)	211	0.9	0.5	4.3	23.7	70.6	4.63
$\chi^2=4.446$ Cramer's V=0.057							F=0.307; $\eta=0.030$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 4: Environmental Values

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**Table 4-13: Comparison of environmental values for overall study population.**

	Overall mean <sup>1</sup>
Humans have a duty to protect fish and wildlife.	4.59
Nature is valuable in its own right, regardless of people.	4.42
Plants and animals have as much right to exist as people.	4.10
Humans are no more important than other parts of nature.	3.14
Plants and animals are primarily valuable as food for people.	2.52
Humans were meant to rule over the rest of nature.	2.47
The primary value of nature is to provide recreation for people.	2.34
Nature's primary value is to provide things useful to people.	2.25
Nature should primarily be managed for human benefit.	2.15
Humans have a right to change the natural world to suit their needs.	1.95
Nature is valuable only if people get to use it in some way.	1.93
Nature is valuable only to produce jobs & income for people.	1.43

**Notes:**

<sup>1</sup> F=436.560\*\*\*, Grand mean=2.764,  $\eta^2=0.476$ . Mean is based on the scale: 1 = disagree, 2 = tend to disagree, 3 = neutral, 4 = tend to agree, 5 = agree.

<sup>2</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



## Section 4: Environmental Values

Figure 4-1 Mean agreement with value factors

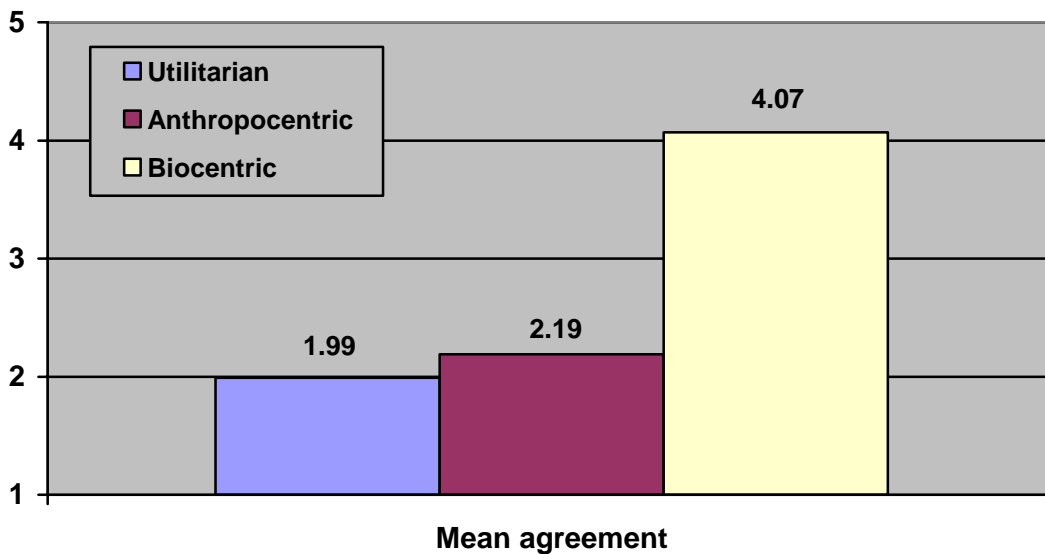
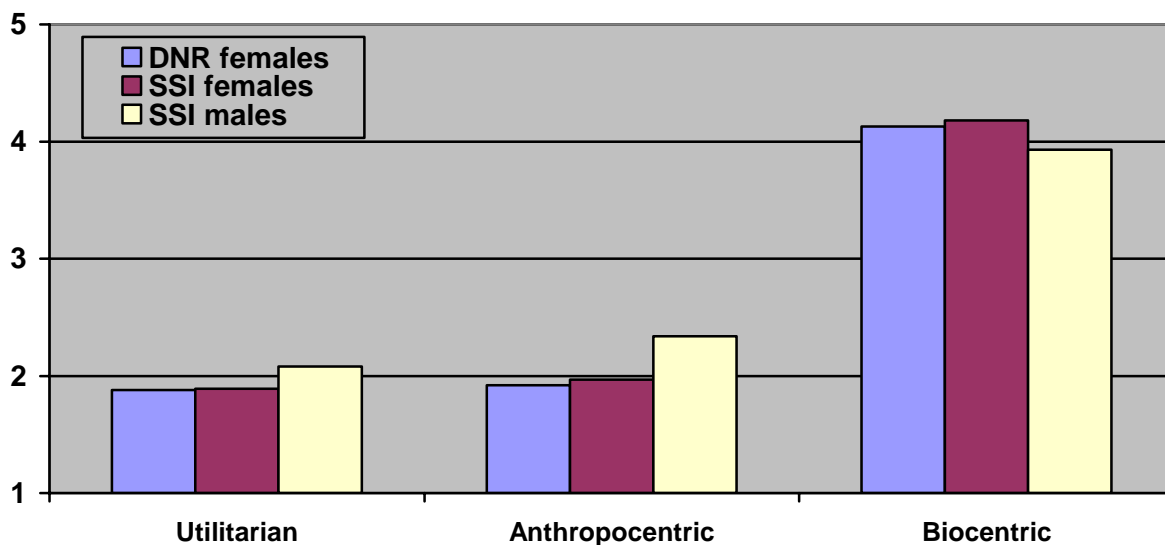


Figure 4-2: Environmental value orientations by strata



Notes: Differences based on analysis of variance and Student-Newman-Keuls test (different superscripts mean the group is significantly different at the 0.05 level).

Utilitarian value orientation: DNR Females—1.88<sup>a</sup>, SSI Females—1.89<sup>a</sup>, SSI Males—2.08<sup>b</sup>

Anthropocentric value orientation: DNR Females—1.92<sup>a</sup>, SSI Females—1.97<sup>a</sup>, SSI Males—2.34<sup>b</sup>

Biocentric value orientation: DNR Females—4.13<sup>b</sup>, SSI Females—4.18<sup>b</sup>, SSI Males—3.93<sup>a</sup>

## Section 5: Attitudes About Fishing

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### **Findings:**

#### *Emotions Related to Fishing*

##### *Overall*

Respondents were asked to respond to eight scales addressing emotions that people might feel about fishing. Semantic differential scales anchored by two contrasting words with five incremental points were used. Respondents felt most strongly that fishing was “good” ( $\bar{x} = 4.21$ ) (Table 5-1) and “relaxing” ( $\bar{x} = 4.12$ ) (Table 5-5). They also felt that fishing was “pleasant” ( $\bar{x} = 3.95$ ) (Table 5-3), “favorable” ( $\bar{x} = 3.93$ ) (Table 5-8), “safe” ( $\bar{x} = 3.78$ ) (Table 5-6), and “fun” ( $\bar{x} = 3.71$ ) (Table 5-4). Respondents felt less strongly that fishing was “easy” ( $\bar{x} = 3.54$ ) (Table 5-7) and “clean” ( $\bar{x} = 3.19$ ) (Table 5-2). Results are summarized in Table 5-9 and Figure 5-1.

We constructed a scale of the 8 items addressing emotions related to fishing ( $\alpha = 0.874$ ). Positive emotions related to fishing were positively correlated with proportion of life in Minnesota ( $r = 0.120$ ). The relationship between proportion of life in a rural setting and emotions about fishing was not significant.

##### *Analysis by strata and gender*

Where there were significant differences by sampling strata in respondents’ emotions related to fishing, women from the fishing license records generally held the most positive emotions related to fishing, followed by men from the general public sample, then women from the general public sample (Tables 5-1 through 5-8; Figure 5-2).

#### **Benefits of Fishing**

##### *Overall*

Respondents were asked to rate how likely fishing would be to provide 24 possible benefits. Items were measured on the scale 1 (very unlikely) to 5 (very likely). Respondents felt that fishing would likely be a way to achieve a number of benefits including: (a) viewing scenery ( $\bar{x} = 4.09$ ), (b) enjoying nature ( $\bar{x} = 4.02$ ), (c) resting and relaxing ( $\bar{x} = 3.93$ ), (d) escaping crowds/noise ( $\bar{x} = 3.92$ ), (e) escaping daily routine ( $\bar{x} = 3.82$ ), (f) reducing stress and tension ( $\bar{x} = 3.77$ ), (g) learning about the outdoors ( $\bar{x} = 3.69$ ), (h) spending time with family ( $\bar{x} = 3.68$ ), and (i) spending time with friends ( $\bar{x} = 3.57$ ). A number of benefits were seen to be an unlikely outcome of fishing, including: (a) leading others ( $\bar{x} = 2.44$ ), (b) maintaining cultural roots ( $\bar{x} = 2.39$ ), (c) getting physically fit ( $\bar{x} = 2.30$ ), and (d) taking risks ( $\bar{x} = 2.20$ ). The other benefits were seen as neither likely nor unlikely outcomes of fishing.

## **Section 5: Attitudes About Fishing**

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### *Analysis by strata and gender*

In general, women drawn from the fishing license records indicated that fishing was more likely to help achieve the listed recreation benefits. Compared to women from the general public sample, women from the fishing license records and men from the general public felt that fishing was more likely to help them: (a) enjoy nature (Table 5-11), (b) reduce tension and stress (Table 5-13), (c) learn about the outdoors (Table 5-15), (d) share outdoor/recreational values with others (Table 5-16), (e) spend time with friends (Table 5-18). Compared to the men and women from the general public samples, women from the fishing license records felt that fishing was more likely to help them: (a) spend time with family (Table 5-17), (b) rest and relax (Table 5-19), (c) escape daily routine (Table 5-30), (d) view scenery (Table 5-31), and (e) get food (Table 5-33). Compared to men, women from the fishing license records and women from the general public sample felt that fishing was more likely to help them: (a) take risks (Table 5-21), (b) develop skills and abilities (Table 5-22), (c) gain self confidence (Table 5-23), (d) develop spiritual values (Table 5-26), (e) think about personal values (Table 5-27), and (f) challenge themselves (Table 5-32). Compared to the women from both samples, men felt that fishing was more likely to help them spend time on their own (Table 5-25).

## Section 5: Attitudes About Fishing

**Table 5-1: Emotions Related to Fishing: Fishing is bad...good.**

Gender	n	Very bad	Somewhat bad	Neither	Somewhat good	Very good	Mean <sup>2</sup>
Overall <sup>1</sup>	453	0.6	1.8	23.5	24.4	49.7	4.21
Males <sup>2</sup>	270	0.4	0.7	14.4	21.5	63.0	4.46
Females	435	0.5	1.1	18.4	21.6	58.4	4.36
	$\chi^2=2.429$ , Cramer's V=0.059						F=2.234 ; $\eta=0.056$
Male (SSI)	248	0.4	0.8	15.3	21.8	61.7	4.44
Female (SSI)	211	0.9	1.9	27.5	26.1	43.6	4.09
Female (DNR)	208	0.0	0.5	10.1	16.8	72.6	4.62
	$\chi^2=42.840^{***}$ Cramer's V=0.179						F=22.200 <sup>***</sup> ; $\eta=0.250$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-2: Emotions Related to Fishing: Fishing is dirty...clean.**

Gender	n	Very dirty	Somewhat dirty	Neither	Somewhat clean	Very clean	Mean <sup>2</sup>
Overall <sup>1</sup>	455	1.0	21.8	44.6	22.2	10.3	3.19
Males <sup>2</sup>	269	0.7	15.6	44.2	24.5	14.9	3.37
Females	438	0.9	26.5	37.0	26.5	9.1	3.16
	$\chi^2=16.168^{**}$ , Cramer's V=0.151						F=7.956 <sup>**</sup> ; $\eta=0.106$
Male (SSI)	247	0.8	15.0	44.9	23.9	15.4	3.38
Female (SSI)	214	1.4	28.0	42.1	20.1	8.4	3.06
Female (DNR)	208	0.5	25.0	32.7	33.2	8.7	3.25
	$\chi^2=29.407^{***}$ Cramer's V=0.148						F=6.623 <sup>***</sup> ; $\eta=0.140$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 5: Attitudes About Fishing

**Table 5-3: Emotions Related to Fishing: Fishing is unpleasant...pleasant.**

Gender	n	Very unpleasant	Somewhat unpleasant	Neither	Somewhat pleasant	Very pleasant	Mean <sup>2</sup>
Overall <sup>1</sup>	454	0.9	8.1	25.1	26.7	39.2	3.95
Males <sup>2</sup>	271	0.4	3.0	18.5	28.0	50.2	4.25
Females	432	0.7	7.6	17.8	22.7	51.2	4.16
$\chi^2=8.582$ , Cramer's V=0.110							F=1.362 ; $\eta=0.044$
Male (SSI)	249	0.4	3.2	19.3	28.5	48.6	4.22
Female (SSI)	210	1.4	11.0	26.2	26.2	35.2	3.83
Female (DNR)	206	0.0	3.4	9.7	20.4	66.5	4.50
$\chi^2=57.496^{***}$ Cramer's V=0.208							F=27.332 <sup>***</sup> ; $\eta=0.276$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-4: Emotions Related to Fishing: Fishing is boring...fun.**

Gender	n	Very boring	Somewhat boring	Neither	Somewhat fun	Very fun	Mean <sup>2</sup>
Overall <sup>1</sup>	451	5.1	15.4	15.8	30.5	33.3	3.71
Males <sup>2</sup>	270	3.7	11.5	10.4	32.2	42.2	3.98
Females	431	4.2	9.3	13.7	30.4	42.5	3.98
$\chi^2=2.540$ , Cramer's V=0.060							F=0.000 ; $\eta=0.000$
Male (SSI)	248	3.6	12.1	11.3	32.7	40.3	3.94
Female (SSI)	208	6.7	15.4	18.3	29.3	30.3	3.61
Female (DNR)	207	1.4	3.4	8.7	32.4	54.1	4.34
$\chi^2=45.800^{***}$ Cramer's V=0.186							F=22.696 <sup>***</sup> ; $\eta=0.254$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 5: Attitudes About Fishing

**Table 5-5: Emotions Related to Fishing: Fishing is stressful...relaxing.**

Gender	n	Very stressful	Somewhat stressful	Neither	Somewhat relaxing	Very relaxing	Mean <sup>2</sup>
Overall <sup>1</sup>	449	0.4	3.2	23.6	29.8	43.1	4.12
Males <sup>2</sup>	270	0.7	2.6	15.2	31.5	50.0	4.27
Females	428	0.0	1.9	17.3	25.2	55.6	4.35
$\chi^2=7.330$ , Cramer's V=0.102							F=1.199 ; $\eta=0.041$
Male (SSI)	248	0.8	2.8	15.7	31.9	48.8	4.25
Female (SSI)	206	0.0	2.9	24.3	30.1	42.7	4.13
Female (DNR)	206	0.0	1.0	10.2	20.9	68.0	4.56
$\chi^2=37.082^{***}$ Cramer's V=0.168							F=14.863 <sup>***</sup> ; $\eta=0.208$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-6: Emotions Related to Fishing: Fishing is dangerous...safe.**

Gender	n	Very dangerous	Somewhat dangerous	Neither	Somewhat safe	Very safe	Mean <sup>2</sup>
Overall <sup>1</sup>	456	1.0	5.2	35.0	32.0	26.8	3.78
Males <sup>2</sup>	271	0.7	3.7	27.3	33.2	35.1	3.98
Females	433	0.5	5.1	31.4	29.1	33.9	3.91
$\chi^2=2.851$ , Cramer's V=0.064							F=0.980 ; $\eta=0.037$
Male (SSI)	249	0.8	4.0	28.1	33.7	37.2	3.95
Female (SSI)	212	0.9	7.1	37.7	31.1	23.1	3.68
Female (DNR)	205	0.0	3.4	25.9	26.3	44.4	4.12
$\chi^2=26.923^{***}$ Cramer's V=0.142							F=11.701 <sup>***</sup> ; $\eta=0.185$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 5: Attitudes About Fishing

**Table 5-7: Emotions Related to Fishing: Fishing is difficult...easy.**

Gender	n	Very difficult	Somewhat difficult	Neither	Somewhat easy	Very easy	Mean <sup>2</sup>
Overall <sup>1</sup>	456	1.0	14.1	34.7	30.6	19.5	3.54
Males <sup>2</sup>	273	0.7	12.1	31.1	33.0	23.1	3.66
Females	433	1.4	12.7	30.3	31.2	24.5	3.65
$\chi^2=1.029$ , Cramer's V=0.038							F=0.013 ; $\eta=0.004$
Male (SSI)	251	0.8	12.0	32.3	32.3	22.7	3.64
Female (SSI)	210	1.4	16.2	34.8	28.6	19.0	3.48
Female (DNR)	207	1.4	9.7	25.1	33.3	30.4	3.82
$\chi^2=14.350$ Cramer's V=0.104							F=5.927** ; $\eta=0.132$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-8: Emotions Related to Fishing: Fishing is unfavorable...favorable.**

Gender	n	Very bad	Somewhat bad	Neither	Somewhat good	Very good	Mean <sup>2</sup>
Overall <sup>1</sup>	453	2.0	5.5	28.7	25.6	38.2	3.93
Males <sup>2</sup>	272	1.1	2.6	20.2	26.8	49.3	4.21
Females	431	1.4	3.7	20.6	25.3	49.0	4.17
$\chi^2=0.943$ , Cramer's V=0.037							F=0.276 ; $\eta=0.020$
Male (SSI)	250	1.2	2.4	21.2	27.2	48.0	4.18
Female (SSI)	209	1.9	3.7	32.5	24.9	34.0	3.82
Female (DNR)	206	1.0	1.0	8.7	26.7	62.6	4.49
$\chi^2=58.112$ *** Cramer's V=0.209							F=27.221*** ; $\eta=0.276$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 5: Attitudes About Fishing

**Table 5-9: Comparison of emotions related to fishing.**

	Overall mean <sup>1</sup>
Bad...Good	4.21
Stressful...Relaxing	4.12
Unpleasant...Pleasant	3.95
Unfavorable...Favorable	3.93
Dangerous...Safe	3.78
Boring...Fun	3.71
Difficult--Easy	3.54
Dirty...Clean	3.19

**Notes:**

<sup>1</sup> F=96.440\*\*\*, Grand mean=3.803,  $\eta^2=0.164$ . Mean is based on the scale: 1 = Bad to 5 = Good.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-10: If I wanted to, I could easily go fishing.**

	n	Definitely False	Somewhat False	Neutral	Somewhat True	Definitely True	Mean
Overall (SSI) <sup>1</sup>	407	7.7	9.1	10.9	29.0	43.3	3.91
Males <sup>2</sup>	249	1.6	5.2	9.6	26.1	57.4	4.33
Females	380	6.8	8.7	8.4	30.0	46.1	4.00
	$\chi^2=4.016$ n.s., Cramer's V=0.074						F=12.653*** $\eta=0.141$
Male (SSI)	233	1.7	5.2	10.3	26.6	56.2	4.30
Female (SSI)	181	11.6	12.7	11.0	34.3	30.4	3.59
Female (DNR)	185	1.6	4.9	5.9	26.5	61.1	4.41
	$\chi^2=62.809$ ***, Cramer's V=0.229						F=31.363*** $\eta=0.309$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



## Section 5: Attitudes About Fishing

**Table 5-11: Beliefs about benefits of fishing: Good way to... enjoy nature.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	475	6.8	5.9	4.7	44.3	38.4	4.02
Males <sup>2</sup>	284	3.2	4.9	4.6	42.3	45.1	4.21
Females	444	5.0	2.9	3.6	40.5	48.0	4.24
	$\chi^2=4.016$ n.s., Cramer's V=0.074						F=0.111 $\eta=0.012$
Male (SSI)	262	3.4	5.0	5.0	43.1	43.5	4.18
Female (SSI)	219	8.2	4.1	5.0	46.6	36.1	3.98
Female (DNR)	209	1.0	1.9	2.4	34.4	60.3	4.51
	$\chi^2=37.575^{***}$ , Cramer's V=0.165						F=16.188 <sup>***</sup> $\eta=0.212$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-12: Beliefs about benefits of fishing: Good way to... get physically fit.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	470	27.7	30.2	28.4	11.4	2.2	2.30
Males <sup>2</sup>	281	27.8	33.5	28.8	7.8	2.1	2.23
Females	445	29.7	29.4	25.8	11.5	3.6	2.30
	$\chi^2=5.150$ n.s., Cramer's V=0.084						F=0.677 $\eta=0.031$
Male (SSI)	259	27.8	33.2	30.1	7.3	1.5	2.22
Female (SSI)	217	28.1	27.6	27.2	14.3	2.8	2.36
Female (DNR)	211	29.4	32.2	25.6	9.0	3.8	2.26
	$\chi^2=10.565$ n.s., Cramer's V=0.088						F=1.118 $\eta=0.057$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 5: Attitudes About Fishing

**Table 5-13: Beliefs about benefits of fishing: Good way to...reduce stress and tension.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	471	8.3	6.2	10.7	49.4	25.4	3.77
Males <sup>2</sup>	284	4.6	5.6	11.6	47.9	30.3	3.94
Females	443	6.1	3.4	7.7	50.6	32.3	4.00
	$\chi^2=6.167$ n.s., Cramer's V=0.092						F=0.558 $\eta=0.008$
Male (SSI)	262	4.6	6.1	11.8	48.5	29.0	3.91
Female (SSI)	216	10.6	3.7	9.3	53.7	22.7	3.74
Female (DNR)	210	1.4	2.4	6.2	48.6	41.4	4.26
	$\chi^2=38.475^{***}$ , Cramer's V=0.167						F=14.666 <sup>***</sup> $\eta=0.203$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-14: Beliefs about benefits of fishing: Good way to...escape crowds/noise.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	472	6.5	4.8	10.7	46.1	32.0	3.92
Males <sup>2</sup>	283	3.9	3.9	7.8	52.7	31.8	4.05
Females	445	4.5	2.7	8.8	47.6	36.4	4.09
	$\chi^2=3.062$ n.s., Cramer's V=0.065						F=0.321 $\eta=0.021$
Male (SSI)	261	3.8	4.2	8.4	51.0	32.6	4.04
Female (SSI)	217	7.8	4.6	10.1	45.6	31.8	3.89
Female (DNR)	211	0.9	0.9	7.1	50.7	40.3	4.28
	$\chi^2=22.204^{**}$ , Cramer's V=0.127						F=9.229 <sup>***</sup> $\eta=0.162$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 5: Attitudes About Fishing

**Table 5-15: Beliefs about benefits of fishing: Good way to...learn about the outdoors.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	466	6.9	7.6	15.7	49.4	20.4	3.69
Males <sup>2</sup>	283	4.9	7.8	18.0	51.6	17.7	3.69
Females	436	5.0	5.5	14.2	52.1	23.2	3.83
	$\chi^2=5.439$ n.s., Cramer's V=0.087						F=3.080 $\eta=0.065$
Male (SSI)	261	4.6	8.0	18.4	51.3	17.6	3.69
Female (SSI)	212	8.0	7.1	11.3	50.9	22.6	3.73
Female (DNR)	207	2.4	3.9	17.9	53.6	22.2	3.89
	$\chi^2=16.275^*$ , Cramer's V=0.109						F=2.460 $\eta=0.085$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-16: Beliefs about benefits of fishing: Good way to...share my outdoor/recreational values.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	472	10.2	7.9	20.8	42.1	19.0	3.52
Males <sup>2</sup>	283	5.3	8.8	18.7	48.4	18.7	3.66
Females	444	8.6	8.1	18.5	40.3	24.5	3.64
	$\chi^2=7.866$ n.s., Cramer's V=0.104						F=0.068 $\eta=0.010$
Male (SSI)	261	5.0	9.6	19.9	47.5	18.0	3.64
Female (SSI)	217	13.4	7.8	19.4	38.7	20.7	3.46
Female (DNR)	211	4.3	7.6	18.0	42.7	27.5	3.82
	$\chi^2=23.321^{**}$ , Cramer's V=0.130						F=5.451** $\eta=0.125$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 5-17: Beliefs about benefits of fishing: Good way to...spend time with family.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	471	9.5	9.3	10.9	43.5	26.7	3.68
Males <sup>2</sup>	282	5.3	8.9	12.4	48.2	25.2	3.79
Females	446	6.5	5.8	6.7	39.7	41.3	4.03
	$\chi^2=24.608^{***}$ , Cramer's V=0.184						F=8.154** $\eta=0.105$
Male (SSI)	260	5.4	9.6	12.7	48.1	24.2	3.76
Female (SSI)	217	11.5	6.9	9.7	42.4	29.5	3.71
Female (DNR)	212	1.4	3.8	3.3	38.7	52.8	4.38
	$\chi^2=68.358^{***}$ , Cramer's V=0.223						F=25.440*** $\eta=0.263$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-18: Beliefs about benefits of fishing: Good way to...spend time with friends.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	472	10.5	11.5	11.8	43.1	23.1	3.57
Males <sup>2</sup>	283	6.4	8.5	9.9	49.5	25.8	3.80
Females	445	7.6	9.0	11.7	38.7	33.0	3.80
	$\chi^2=8.676$ n.s., Cramer's V=0.109						F=0.004 $\eta=0.002$
Male (SSI)	261	6.5	8.8	10.3	49.8	24.5	3.77
Female (SSI)	217	12.4	12.4	13.8	39.2	22.1	3.46
Female (DNR)	211	2.8	4.7	10.0	37.9	44.5	4.17
	$\chi^2=49.871^{***}$ , Cramer's V=0.190						F=20.556*** $\eta=0.238$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 5-19: Beliefs about benefits of fishing: Good way to...rest and relax.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	471	6.6	4.7	10.0	46.8	31.9	3.93
Males <sup>2</sup>	285	3.5	4.2	8.4	48.1	35.8	4.08
Females	442	4.3	2.3	7.7	43.9	41.9	4.17
	$\chi^2=4.839$ n.s., Cramer's V=0.082						F=1.280 $\eta=0.042$
Male (SSI)	263	3.4	4.6	9.1	49.0	33.8	4.05
Female (SSI)	215	7.9	2.3	9.8	49.3	30.7	3.93
Female (DNR)	210	1.0	1.4	5.2	41.0	51.4	4.40
	$\chi^2=36.756$ ***, Cramer's V=0.163						F=14.670*** $\eta=0.203$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-20: Beliefs about benefits of fishing: Good way to...meet new people.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	469	18.1	25.3	26.5	20.7	9.4	2.78
Males <sup>2</sup>	282	15.2	23.8	34.4	19.5	7.1	2.79
Females	440	18.9	29.1	24.1	20.5	7.5	2.69
	$\chi^2=9.705$ *, Cramer's V=0.116						F=1.441 $\eta=0.045$
Male (SSI)	260	14.6	23.8	34.6	20.0	6.9	2.81
Female (SSI)	215	20.9	27.9	20.5	21.4	9.3	2.70
Female (DNR)	208	16.3	30.8	27.9	19.7	5.3	2.67
	$\chi^2=15.905$ *, Cramer's V=0.108						F=0.915 $\eta=0.052$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 5-21: Beliefs about benefits of fishing: Good way to...take risks.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	463	32.8	28.4	27.9	8.1	2.9	2.20
Males <sup>2</sup>	278	36.7	31.3	24.8	5.0	2.2	2.05
Females	438	28.3	30.4	27.2	10.7	3.4	2.31
	$\chi^2=11.592^*$ , Cramer's V=0.127						F=10.127** $\eta=0.118$
Male (SSI)	257	37.0	31.9	24.5	5.4	1.2	2.02
Female (SSI)	212	27.8	26.9	29.7	11.3	4.2	2.37
Female (DNR)	209	28.2	35.4	23.9	10.0	2.4	2.23
	$\chi^2=17.858^*$ , Cramer's V=0.115						F=6.801*** $\eta=0.141$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-22: Beliefs about benefits of fishing: Good way to...develop skills and abilities.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	471	12.4	11.9	20.5	43.6	11.6	3.30
Males <sup>2</sup>	281	10.3	14.2	19.2	46.6	9.6	3.31
Females	446	8.3	8.3	20.2	46.4	16.8	3.55
	$\chi^2=12.984^*$ , Cramer's V=0.134						F=7.916** $\eta=0.104$
Male (SSI)	259	10.0	14.3	20.5	46.7	8.5	3.29
Female (SSI)	218	11.9	9.2	21.1	44.5	13.3	3.38
Female (DNR)	211	5.2	7.6	18.0	49.3	19.9	3.71
	$\chi^2=23.490^{**}$ , Cramer's V=0.131						F=8.680*** $\eta=0.157$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 5-23: Beliefs about benefits of fishing: Good way to...gain self confidence.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	468	16.6	19.0	30.9	25.9	7.7	2.89
Males <sup>2</sup>	280	14.3	22.1	35.0	22.1	6.4	2.84
Females	442	15.2	14.0	29.9	30.8	10.2	3.07
	$\chi^2=15.498^{**}$ , Cramer's V=0.147						F=6.293* $\eta=0.093$
Male (SSI)	258	14.1	23.3	34.5	23.3	5.0	2.82
Female (SSI)	216	17.6	14.4	28.7	30.1	9.3	2.99
Female (DNR)	209	13.9	12.4	31.1	32.5	10.0	3.12
	$\chi^2=20.195^{**}$ , Cramer's V=0.122						F=3.943* $\eta=0.107$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-24: Beliefs about benefits of fishing: Good way to...feel independent.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	469	16.2	14.6	29.2	29.6	10.4	3.03
Males <sup>2</sup>	282	13.8	13.8	30.1	30.9	11.3	3.12
Females	441	13.6	15.0	27.0	33.3	11.1	3.13
	$\chi^2=1.103$ n.s., Cramer's V=0.039						F=0.021 $\eta=0.005$
Male (SSI)	260	13.5	14.2	31.2	30.8	10.4	3.10
Female (SSI)	215	17.2	14.9	27.9	30.2	9.8	3.00
Female (DNR)	210	11.0	13.3	27.6	37.1	11.0	3.24
	$\chi^2=5.984$ n.s., Cramer's V=0.066						F=2.052 $\eta=0.077$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 5-25: Beliefs about benefits of fishing: Good way to... be on my own.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	470	14.7	14.6	22.5	35.0	13.2	3.17
Males <sup>2</sup>	283	10.6	12.0	22.6	41.0	13.8	3.35
Females	442	13.6	17.6	24.0	30.8	14.0	3.14
	$\chi^2=10.103^*$ , Cramer's V=0.118						F=5.225* $\eta=0.085$
Male (SSI)	261	10.3	12.3	23.8	40.2	13.4	3.34
Female (SSI)	215	17.2	16.7	21.4	33.0	11.6	3.05
Female (DNR)	210	11.0	18.1	28.1	27.6	15.2	3.18
	$\chi^2=16.582^*$ , Cramer's V=0.110						F=3.363* $\eta=0.099$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-26: Beliefs about benefits of fishing: Good way to... develop spiritual values.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	472	26.5	17.1	30.4	18.1	7.8	2.64
Males <sup>2</sup>	283	29.3	17.7	31.1	17.0	4.9	2.51
Females	444	23.4	16.9	30.4	19.8	9.5	2.75
	$\chi^2=7.754$ n.s., Cramer's V=0.103						F=6.605** $\eta=0.095$
Male (SSI)	261	28.4	18.8	30.7	17.2	5.0	2.52
Female (SSI)	217	22.6	14.7	32.7	19.4	10.6	2.81
Female (DNR)	210	25.2	18.6	29.5	18.1	8.6	2.66
	$\chi^2=8.503$ n.s., Cramer's V=0.079						F=3.175* $\eta=0.096$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



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**Table 5-27: Beliefs about benefits of fishing: Good way to... think about personal values.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	467	15.7	12.0	27.3	32.8	12.2	3.14
Males <sup>2</sup>	283	15.2	12.7	30.7	31.4	9.9	3.08
Females	441	12.7	11.3	24.0	35.4	16.6	3.32
	$\chi^2=10.235^*$ , Cramer's V=0.119						F=6.401* $\eta=0.094$
Male (SSI)	261	14.2	13.8	31.4	31.0	9.6	3.08
Female (SSI)	213	15.5	9.9	23.5	36.2	15.0	3.25
Female (DNR)	211	10.9	12.3	24.2	34.6	18.0	3.36
	$\chi^2=14.033$ , Cramer's V=0.101						F=3.252* $\eta=0.097$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-28: Beliefs about benefits of fishing: Good way to... lead others.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	469	28.0	21.5	33.6	12.1	4.7	2.44
Males <sup>2</sup>	282	25.2	22.7	36.2	11.7	4.3	2.47
Females	442	26.7	21.5	33.3	14.5	4.1	2.48
	$\chi^2=1.695$ n.s., Cramer's V=0.048						F=0.004 $\eta=0.002$
Male (SSI)	260	24.6	23.8	36.2	10.8	4.6	2.47
Female (SSI)	215	30.2	20.5	31.2	13.0	5.1	2.42
Female (DNR)	210	23.3	21.9	35.7	16.2	2.9	2.53
	$\chi^2=7.884$ n.s., Cramer's V=0.076						F=0.504 $\eta=0.038$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 5-29: Beliefs about benefits of fishing: Good way to... maintain my cultural roots.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	470	34.4	18.9	27.9	11.1	7.7	2.39
Males <sup>2</sup>	282	35.1	20.6	28.7	12.1	3.5	2.28
Females	442	33.3	17.2	28.3	12.4	8.8	2.46
	$\chi^2=8.349$ n.s., Cramer's V=0.107						F= 3.565 $\eta=0.070$
Male (SSI)	260	34.2	21.9	28.1	11.9	3.8	2.29
Female (SSI)	216	33.8	17.6	26.9	11.1	10.6	2.47
Female (DNR)	209	32.5	16.3	30.1	13.9	7.2	2.47
	$\chi^2=11.248$ n.s., Cramer's V=0.091						F=1.626 $\eta=0.069$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-30: Beliefs about benefits of fishing: Good way to... escape daily routine.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	469	9.1	3.8	9.6	50.9	26.6	3.82
Males <sup>2</sup>	283	6.7	2.5	8.5	55.1	27.2	3.94
Females	443	4.5	2.7	8.4	47.6	36.8	4.09
	$\chi^2=8.313$ n.s., Cramer's V=0.107						F= 4.340* $\eta=0.077$
Male (SSI)	261	6.9	2.3	8.4	55.9	26.4	3.93
Female (SSI)	215	7.9	4.7	10.7	49.3	27.4	3.84
Female (DNR)	211	1.4	0.9	5.2	47.4	45.0	4.34
	$\chi^2=35.962^{***}$ , Cramer's V=0.162						F=15.783*** $\eta=0.210$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 5: Attitudes About Fishing

**Table 5-31: Beliefs about benefits of fishing: Good way to... view scenery.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	466	7.0	1.7	5.1	48.1	38.2	4.09
Males <sup>2</sup>	279	5.0	1.1	4.7	52.7	36.6	4.15
Females	446	2.9	0.9	3.6	40.4	52.2	4.38
	$\chi^2=17.509^{**}$ , Cramer's V=0.155						F=12.065 <sup>***</sup> $\eta=0.128$
Male (SSI)	257	5.1	1.2	4.7	52.9	36.2	4.14
Female (SSI)	217	5.5	1.4	5.1	46.5	41.5	4.17
Female (DNR)	212	0.5	0.5	2.4	33.5	63.2	4.58
	$\chi^2=42.073^{***}$ , Cramer's V=0.175						F=17.826 <sup>***</sup> $\eta=0.223$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-32: Beliefs about benefits of fishing: Good way to... challenge myself.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	467	13.9	12.6	28.9	32.6	12.0	3.16
Males <sup>2</sup>	281	11.7	12.1	37.0	30.6	8.5	3.12
Females	441	10.9	13.4	25.2	33.8	16.8	3.32
	$\chi^2=17.529^{**}$ , Cramer's V=0.156						F=5.022* $\eta=0.083$
Male (SSI)	259	11.2	12.7	37.1	31.7	7.3	3.11
Female (SSI)	214	15.0	13.1	23.4	33.2	15.4	3.21
Female (DNR)	210	7.6	12.9	27.1	34.8	17.6	3.42
	$\chi^2=24.264^{**}$ , Cramer's V=0.133						F=4.087* $\eta=0.109$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 5: Attitudes About Fishing

**Table 5-33: Beliefs about benefits of fishing: Good way to... get food.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	466	19.4	15.3	22.3	30.9	12.2	3.01
Males <sup>2</sup>	280	17.9	15.0	22.9	35.0	9.3	3.03
Females	444	16.7	13.7	19.4	34.2	16.0	3.19
	$\chi^2=7.134$ n.s., Cramer's V=0.099						F=2.695 $\eta=0.061$
Male (SSI)	258	17.1	14.7	23.6	34.9	9.7	3.05
Female (SSI)	216	19.9	15.3	22.7	27.8	14.4	3.01
Female (DNR)	211	12.8	10.4	16.1	43.1	17.5	3.42
	$\chi^2=21.647^{**}$ , Cramer's V=0.126						F=6.658 <sup>***</sup> $\eta=0.138$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 5-34: Beliefs about benefits of fishing: Good way to... be creative.**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	471	24.8	18.2	32.3	18.7	6.0	2.63
Males <sup>2</sup>	283	22.6	19.4	34.3	19.1	4.6	2.64
Females	443	22.1	17.4	33.2	20.1	7.2	2.73
	$\chi^2=2.497$ n.s., Cramer's V=0.059						F=1.049 $\eta=0.038$
Male (SSI)	261	22.6	19.9	34.1	19.5	3.8	2.62
Female (SSI)	216	24.1	16.7	33.3	18.1	7.9	2.69
Female (DNR)	210	20.0	17.1	33.3	22.9	6.7	2.79
	$\chi^2=6.438$ n.s., Cramer's V=0.068						F=1.184 $\eta=0.003$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 5: Attitudes About Fishing

**Table 5-35: Comparison of likely benefits of fishing.**

	Overall mean <sup>1</sup>
To view scenery	4.09
To enjoy nature	4.02
To rest and relax	3.93
To escape crowds/noise	3.92
To escape daily routine	3.82
To reduce stress and tension	3.77
To learn about the outdoors	3.69
To spend time with family	3.68
To spend time with friends	3.57
To share my outdoor/recreational values	3.52
To develop skills and abilities	3.30
To be on my own	3.17
To challenge myself	3.16
To think about personal values	3.14
To feel independent	3.03
To get food	3.01
To gain self confidence	2.89
To meet new people	2.78
To develop spiritual values	2.64
To be creative	2.63
To lead others	2.44
To maintain my cultural roots	2.39
For physical fitness	2.30
To take risks	2.20

**Notes:**

<sup>1</sup> F=233.173\*\*\*, Grand mean=3.190,  $\eta^2=0.334$ . Mean is based on the scale: 1 = very unlikely, 2 = unlikely, 3 = neither, 4 = likely, 5 = very likely.

<sup>2</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 5: Attitudes About Fishing

Figure 5-1 Mean emotions related to fishing

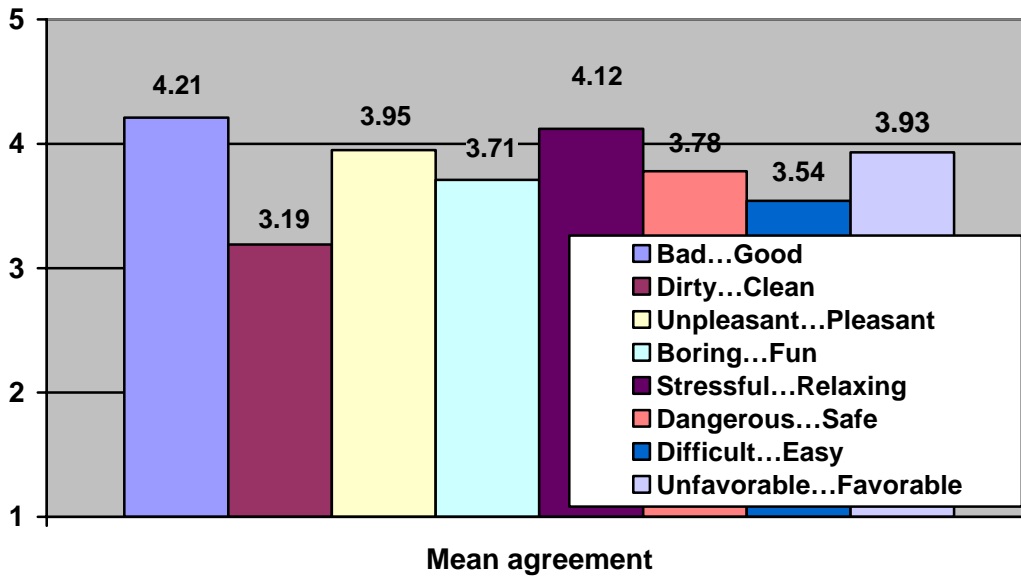
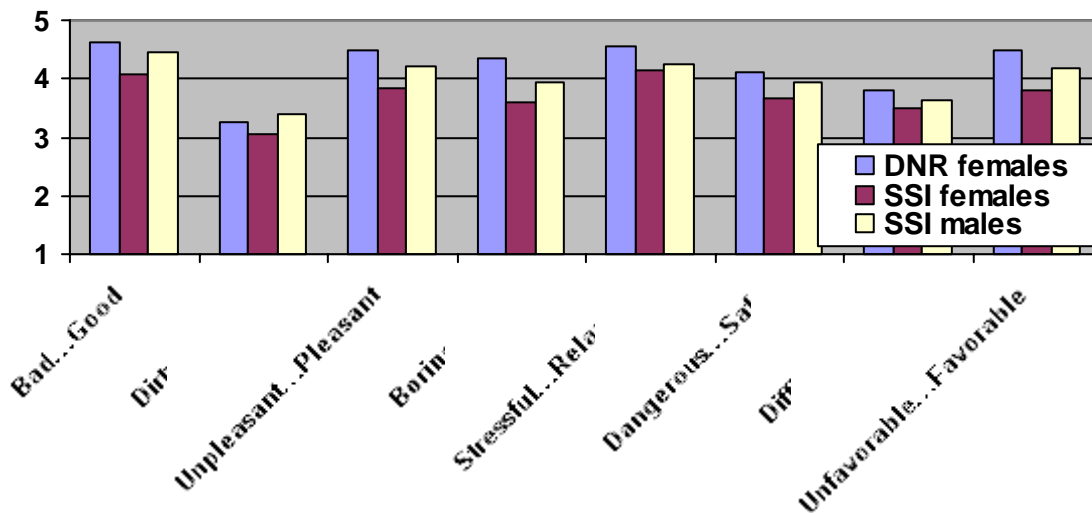


Figure 5-2: Emotions related to fishing by strata



Notes: Differences based on analysis of variance and Student-Newman-Keuls test (different superscripts mean the group is significantly different at the 0.05 level).

Bad...Good: DNR Females—4.62<sup>c</sup>, SSI Females—4.09<sup>a</sup>, SSI Males—4.44<sup>b</sup>  
 Dirty...Clean: DNR Females—3.25<sup>b</sup>, SSI Females—3.06<sup>a</sup>, SSI Males—3.38<sup>b</sup>  
 Unpleasant...Pleasant: DNR Females—4.50<sup>c</sup>, SSI Females—3.83<sup>a</sup>, SSI Males—4.22<sup>b</sup>  
 Boring...Fun: DNR Females—4.34<sup>c</sup>, SSI Females—3.61<sup>a</sup>, SSI Males—3.94<sup>b</sup>  
 Stressful...Relaxing: DNR Females—4.56<sup>b</sup>, SSI Females—4.13<sup>a</sup>, SSI Males—4.25<sup>a</sup>  
 Dangerous...Safe: DNR Females—4.12<sup>b</sup>, SSI Females—3.68<sup>a</sup>, SSI Males—3.95<sup>b</sup>  
 Difficult...Easy: DNR Females—3.82<sup>b</sup>, SSI Females—3.48<sup>a</sup>, SSI Males—3.64<sup>a,b</sup>  
 Unfavorable...Favorable: DNR Females—4.49<sup>c</sup>, SSI Females—3.82<sup>a</sup>, SSI Males—4.18<sup>b</sup>

## Section 6: Fishing Norms

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### **Findings:**

#### ***Fishing Norms***

##### *Overall*

Respondents were asked to rate how much eight “significant others” would approve of them participating in fishing on a scale of 1 (strongly disapprove) to 5 (strongly approve). On average, respondents felt that all of the “significant others” would approve of their participation in fishing. Means ranged from 4.04 for sisters to 4.41 for fathers. (Tables 6-1 through 6-8) (Figure 6-1).

Next, respondents were asked how likely they were to do what these eight “significant others” thought they should do on a scale of 1 (very unlikely) to 5 (very likely). On average, respondents were most likely to want to do what their spouse or significant other thought they should do ( $\bar{x} = 3.70$ ) (Table 6-11). They were somewhat less likely to comply with the interests of their sons ( $\bar{x} = 3.45$ ) (Table 6-13), mothers ( $\bar{x} = 3.38$ ) (Table 6-10), daughters ( $\bar{x} = 3.36$ ) (Table 6-14), fathers ( $\bar{x} = 3.35$ ) (Table 6-9), friends ( $\bar{x} = 3.18$ ) (Table 6-12), sisters ( $\bar{x} = 3.16$ ) (Table 6-16), and brothers ( $\bar{x} = 3.10$ ) (Table 6-15). Results are summarized in Figure 6-2.

##### *Analysis by strata and gender*

On average, women from the fishing license record sample felt that their “significant others” would approve more of them participating in fishing, compared to men and women from the general public samples (Tables 6-9 through 6-16) (Figure 6-4).

On average, women from the general public sample reported that they would be less likely to comply with the interests of their “significant others”. However, differences were only significant for motivation to comply with (a) spouses (Table 6-11), (b) sons (Table 6-13), and (c) brothers (Table 6-15). Results are summarized in Figure 6-5.

## Section 6: Fishing Norms

**Table 6-1: Fishing norms: How much father would approve of you fishing.**

	n	Strongly disapprove	Moderately disapprove	Neither	Moderately approve	Strongly approve	Mean
Overall (SSI) <sup>1</sup>	324	1.5	1.1	16.3	17.4	63.7	4.41
Males <sup>2</sup>	224	0.9	0.4	12.9	16.1	69.6	4.53
Females	333	0.9	1.2	11.1	13.5	73.3	4.57
	$\chi^2=2.079$ n.s., Cramer's V=0.061						F=0.320 n.s. $\eta=0.024$
Male (SSI)	203	0.5	0.5	13.3	16.7	69.0	4.53
Female (SSI)	136	0.7	1.5	16.9	19.9	61.0	4.39
Female (DNR)	184	0.5	0.5	6.5	8.2	84.2	4.75
	$\chi^2=23.816^{**}$ , Cramer's V=0.151						F=9.208 <sup>***</sup> $\eta=0.185$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 6-2: Fishing norms: How much mother would approve of you fishing.**

	n	Strongly disapprove	Moderately disapprove	Neither	Moderately approve	Strongly approve	Mean
Overall (SSI) <sup>1</sup>	342	1.4	2.1	23.5	26.1	46.7	4.15
Males <sup>2</sup>	233	0.9	0.9	21.0	25.8	51.5	4.26
Females	347	1.2	1.7	16.7	22.5	57.9	4.34
	$\chi^2=3.957$ n.s., Cramer's V=0.083						F=1.160 n.s. $\eta=0.045$
Male (SSI)	212	0.5	0.9	22.6	25.0	50.9	4.25
Female (SSI)	145	0.7	2.8	22.8	29.7	44.1	4.14
Female (DNR)	189	1.1	0.5	12.7	16.9	68.8	4.52
	$\chi^2=26.610^{***}$ , Cramer's V=0.156						F=8.913 <sup>***</sup> $\eta=0.178$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



## Section 6: Fishing Norms

**Table 6-3: Fishing norms: How much spouse/significant other would approve of you fishing.**

	n	Strongly disapprove	Moderately disapprove	Neither	Moderately approve	Strongly approve	Mean
Overall (SSI) <sup>1</sup>	350	2.5	3.4	17.4	27.9	48.7	4.17
Males <sup>2</sup>	261	1.1	3.1	16.5	36.0	43.3	4.17
Females	327	1.8	0.6	11.0	14.1	72.5	4.55
	$\chi^2=58.943^{***}$ , Cramer's V=0.317						F=26.922 <sup>***</sup> $\eta=0.210$
Male (SSI)	241	0.8	3.3	15.8	36.9	43.2	4.18
Female (SSI)	128	3.1	1.6	16.4	16.4	62.5	4.34
Female (DNR)	184	1.1	0.0	6.5	12.0	80.4	4.71
	$\chi^2=73.773^{***}$ n.s., Cramer's V=0.258						F=20.024 <sup>***</sup> $\eta=0.261$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 6-4: Fishing norms: How much friends would approve of you fishing.**

	n	Strongly disapprove	Moderately disapprove	Neither	Moderately approve	Strongly approve	Mean
Overall (SSI) <sup>1</sup>	438	0.4	2.5	23.5	35.4	38.2	4.09
Males <sup>2</sup>	275	0.7	1.1	17.8	36.4	44.0	4.22
Females	421	0.7	1.2	19.7	32.1	46.3	4.22
	$\chi^2=1.436$ n.s., Cramer's V=0.045						F=0.002 n.s. $\eta=0.002$
Male (SSI)	253	0.4	1.2	18.2	36.4	43.9	4.22
Female (SSI)	199	0.5	2.5	26.1	34.2	36.7	4.04
Female (DNR)	206	1.0	0.0	13.1	30.1	55.8	4.40
	$\chi^2=24.833^{**}$ , Cramer's V=0.137						F=9.505 <sup>***</sup> $\eta=0.168$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 6: Fishing Norms

**Table 6-5: Fishing norms: How much son(s) would approve of you fishing.**

	n	Strongly disapprove	Moderately disapprove	Neither	Moderately approve	Strongly approve	Mean
Overall (SSI) <sup>1</sup>	264	2.0	1.4	15.5	29.7	51.4	4.27
Males <sup>2</sup>	187	1.1	0.5	13.9	27.8	56.7	4.39
Females	205	1.5	1.5	9.8	24.9	62.4	4.45
	$\chi^2=3.241$ n.s., Cramer's V=0.091						F=0.663 n.s. $\eta=0.041$
Male (SSI)	174	0.6	0.6	13.8	29.3	55.7	4.39
Female (SSI)	102	2.0	2.0	12.7	32.4	51.0	4.28
Female (DNR)	90	1.1	1.1	6.7	16.7	74.4	4.62
	$\chi^2=14.983$ n.s., Cramer's V=0.143						F=4.291* $\eta=0.152$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 6-6: Fishing norms: How much daughter(s) would approve of you fishing.**

	n	Strongly disapprove	Moderately disapprove	Neither	Moderately approve	Strongly approve	Mean
Overall (SSI) <sup>1</sup>	270	0.8	2.7	23.3	32.4	40.9	4.10
Males <sup>2</sup>	184	0.5	2.2	21.7	32.1	43.5	4.16
Females	211	0.9	1.9	15.6	26.5	55.0	4.33
	$\chi^2=5.877$ n.s., Cramer's V=0.122						F=3.685 n.s. $\eta=0.096$
Male (SSI)	174	0.0	2.3	22.4	33.3	42.0	4.15
Female (SSI)	105	1.9	2.9	16.2	34.3	44.8	4.17
Female (DNR)	94	0.0	1.1	13.8	18.1	67.0	4.51
	$\chi^2=22.878$ ** , Cramer's V=0.175						F=6.011** $\eta=0.177$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 6: Fishing Norms

**Table 6-7: Fishing norms: How much brother(s) would approve of you fishing.**

	n	Strongly disapprove	Moderately disapprove	Neither	Moderately approve	Strongly approve	Mean
Overall (SSI) <sup>1</sup>	334	1.8	1.3	26.3	23.1	47.5	4.13
Males <sup>2</sup>	200	1.0	1.5	21.5	23.0	53.0	4.26
Females	327	0.6	0.9	16.2	19.0	63.3	4.43
	$\chi^2=5.731$ n.s., Cramer's V=0.104						F=5.309* $\eta=0.100$
Male (SSI)	185	1.1	1.1	22.7	23.2	51.9	4.24
Female (SSI)	153	1.3	1.3	24.8	23.5	49.0	4.18
Female (DNR)	161	0.0	0.6	8.1	14.3	77.0	4.68
	$\chi^2=34.188^{***}$ , Cramer's V=0.185						F=16.834*** $\eta=0.252$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 6-8: Fishing norms: How much sister(s) would approve of you fishing.**

	n	Strongly disapprove	Moderately disapprove	Neither	Moderately approve	Strongly approve	Mean
Overall (SSI) <sup>1</sup>	328	1.5	1.6	28.7	27.5	40.6	4.04
Males <sup>2</sup>	217	1.4	1.8	25.8	25.3	45.6	4.12
Females	300	1.0	0.7	21.7	27.3	49.3	4.23
	$\chi^2=3.134$ n.s., Cramer's V=0.078						F=1.959 n.s. $\eta=0.062$
Male (SSI)	201	1.0	1.5	27.4	25.4	44.8	4.11
Female (SSI)	144	2.1	1.4	27.8	30.6	38.2	4.01
Female (DNR)	143	0.0	0.0	15.4	23.8	60.8	4.45
	$\chi^2=21.038^{**}$ , Cramer's V=0.147						F=9.913*** $\eta=0.198$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 6: Fishing Norms

**Table 6-9: Motivation to comply: How much do you want to do what your father thinks you should do?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	280	8.3	8.2	35.7	36.2	11.6	3.35
Males <sup>2</sup>	199	5.0	6.0	33.2	41.7	14.1	3.54
Females	295	11.9	9.8	32.9	31.2	14.2	3.26
	$\chi^2=11.889^*$ , Cramer's V=0.155						F=7.480** $\eta=0.122$
Male (SSI)	180	5.6	5.6	35.6	40.0	13.3	3.50
Female (SSI)	115	9.6	12.2	34.8	33.0	10.4	3.23
Female (DNR)	168	14.3	7.1	32.1	29.8	16.7	3.27
	$\chi^2=15.929^*$ , Cramer's V=0.131						F=2.747 n.s. $\eta=0.109$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 6-10: Motivation to comply: How much do you want to do what your mother thinks you should do?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	310	8.3	6.6	34.7	40.1	10.3	3.38
Males <sup>2</sup>	212	6.6	4.2	34.4	43.4	11.3	3.49
Females	323	9.9	8.7	31.3	36.5	13.6	3.35
	$\chi^2=7.709$ n.s., Cramer's V=0.120						F=1.967 n.s. $\eta=0.061$
Male (SSI)	194	6.7	3.6	36.6	42.3	10.8	3.47
Female (SSI)	132	8.3	10.6	32.6	37.9	10.6	3.32
Female (DNR)	179	11.7	5.6	30.2	36.9	15.6	3.39
	$\chi^2=13.303$ n.s., Cramer's V=0.162						F=0.792 n.s. $\eta=0.056$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 6: Fishing Norms

**Table 6-11: Motivation to comply: How much do you want to do what your spouse/significant other thinks you should do?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	335	5.3	5.1	22.5	48.5	18.6	3.70
Males <sup>2</sup>	252	2.8	3.2	21.0	48.8	24.2	3.88
Females	305	7.9	4.6	22.6	43.3	21.6	3.66
	$\chi^2=8.607$ n.s., Cramer's V=0.124						F=6.568* $\eta=0.108$
Male (SSI)	233	3.0	3.4	21.0	48.9	23.6	3.87
Female (SSI)	121	7.4	8.3	24.0	48.8	11.6	3.49
Female (DNR)	170	8.8	1.2	21.8	40.0	28.2	3.78
	$\chi^2=27.089$ ***, Cramer's V=0.161						F=5.546** $\eta=0.144$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 6-12: Motivation to comply: How much do you want to do what your friends think you should do?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	422	7.7	11.0	43.8	31.0	6.5	3.18
Males <sup>2</sup>	262	6.5	11.1	41.6	32.1	8.8	3.26
Females	403	8.7	8.2	41.7	34.7	6.7	3.23
	$\chi^2=3.643$ n.s., Cramer's V=0.074						F=0.144 n.s. $\eta=0.015$
Male (SSI)	242	6.2	11.6	42.6	31.8	7.9	3.24
Female (SSI)	191	8.4	10.5	44.5	31.9	4.7	3.14
Female (DNR)	196	9.7	5.6	38.8	37.2	8.7	3.30
	$\chi^2=10.514$ n.s., Cramer's V=0.091						F=1.194 $\eta=0.062$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 6: Fishing Norms

**Table 6-13: Motivation to comply: How much do you want to do what your son(s) think you should do?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	267	7.8	8.2	30.4	38.6	15.1	3.45
Males <sup>2</sup>	187	4.3	5.9	28.9	42.8	18.2	3.65
Females	205	10.7	5.9	33.2	36.6	13.7	3.37
	$\chi^2=8.116$ n.s., Cramer's V=0.144						F=6.850** $\eta=0.131$
Male (SSI)	175	4.6	6.3	29.7	41.1	18.3	3.62
Female (SSI)	102	10.8	9.8	30.4	38.2	10.8	3.28
Female (DNR)	89	12.4	0.0	33.7	37.1	16.9	3.46
	$\chi^2=16.629^*$ , Cramer's V=0.151						F=3.217* $\eta=0.132$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 6-14: Motivation to comply: How much do you want to do what your daughter(s) think you should do?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	269	8.3	9.1	33.3	36.4	13.0	3.36
Males <sup>2</sup>	181	5.0	7.2	30.9	43.1	13.8	3.54
Females	206	10.2	6.8	33.0	35.0	15.0	3.38
	$\chi^2=5.288$ n.s., Cramer's V=0.117						F=2.088 n.s. $\eta=0.073$
Male (SSI)	172	5.2	7.6	31.4	42.4	13.4	3.51
Female (SSI)	104	10.6	10.6	31.7	34.6	12.5	3.28
Female (DNR)	90	11.1	2.2	31.1	37.8	17.8	3.49
	$\chi^2=10.509$ n.s., Cramer's V=0.120						F=1.632 n.s. $\eta=0.094$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 6: Fishing Norms

**Table 6-15: Motivation to comply: How much do you want to do what your brother(s) thinks you should do?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	330	9.5	11.0	46.3	26.1	7.0	3.10
Males <sup>2</sup>	196	6.6	10.7	42.3	29.1	11.2	3.28
Females	317	12.3	9.1	45.7	26.5	6.3	3.05
	$\chi^2=8.328$ n.s., Cramer's V=0.127						F=5.528* $\eta=0.103$
Male (SSI)	181	6.1	11.6	43.6	28.2	10.5	3.25
Female (SSI)	151	11.9	10.6	49.0	25.2	3.3	2.97
Female (DNR)	153	13.7	5.9	42.5	28.8	9.2	3.14
	$\chi^2=15.567^*$ , Cramer's V=0.127						F=3.032* $\eta=0.111$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 6-16: Motivation to comply: How much do you want to do what your sister(s) think you should do?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	321	9.3	9.3	44.5	29.5	7.4	3.16
Males <sup>2</sup>	210	7.6	8.6	42.9	32.4	8.6	3.26
Females	291	10.3	7.2	46.7	27.5	8.2	3.16
	$\chi^2=2.658$ n.s., Cramer's V=0.073						F=1.076 n.s. $\eta=0.046$
Male (SSI)	194	7.2	8.8	44.8	31.4	7.7	3.24
Female (SSI)	142	10.6	10.6	43.0	28.9	7.0	3.11
Female (DNR)	136	11.0	2.9	50.0	26.5	9.6	3.21
	$\chi^2=9.518$ n.s., Cramer's V=0.100						F=0.529 n.s. $\eta=0.052$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 6: Fishing Norms

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Figure 6-1 Mean approval of significant others

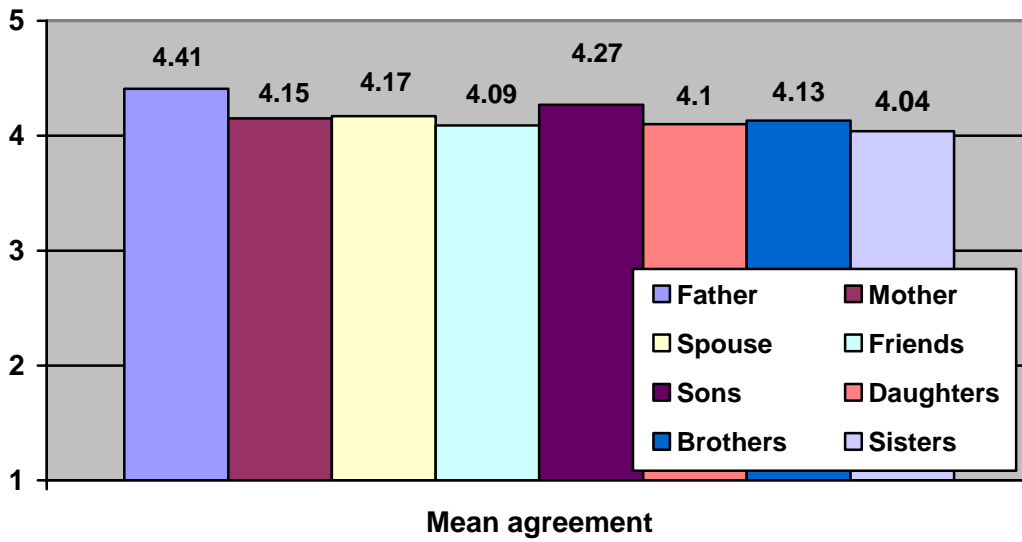
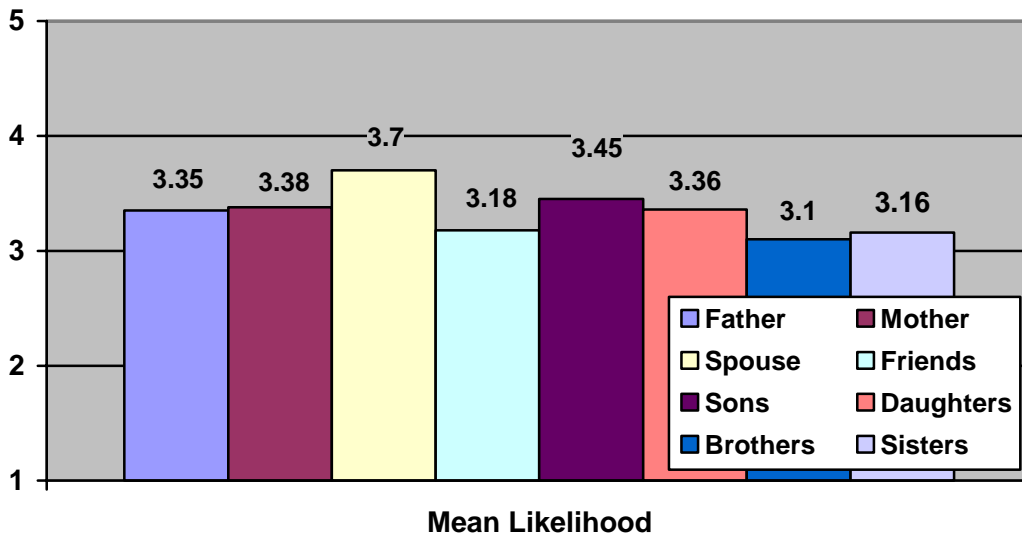


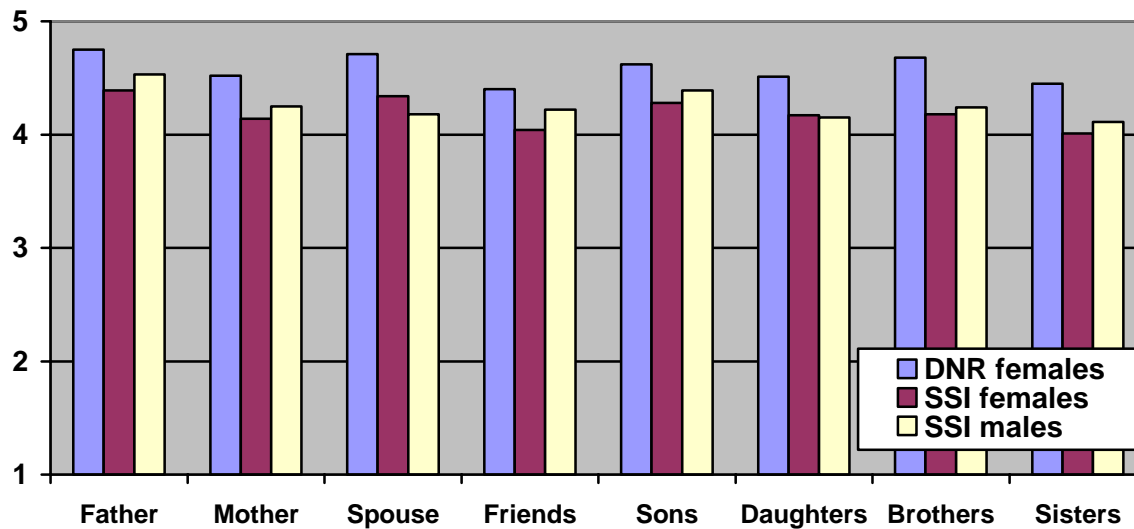
Figure 6-2 Motivation to Comply with Significant Others





## Section 6: Fishing Norms

Figure 6-3: Approval of Significant Others by Strata

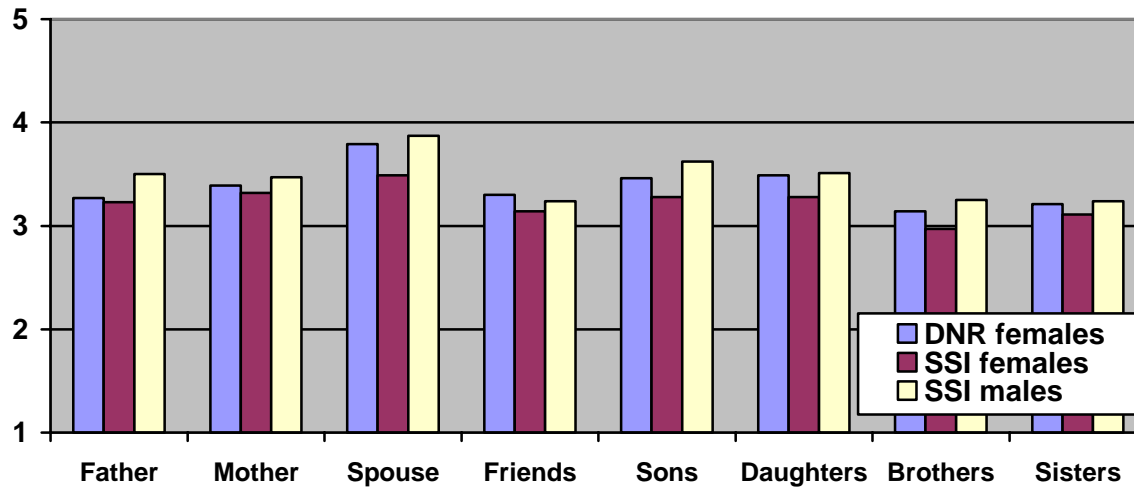


Notes: Differences based on analysis of variance and Student-Newman-Keuls test (different superscripts mean the group is significantly different at the 0.05 level).

Father: DNR Females—4.75<sup>b</sup>, SSI Females—4.39<sup>a</sup>, SSI Males—4.53<sup>a</sup>  
 Mother: DNR Females—4.52<sup>b</sup>, SSI Females—4.14<sup>a</sup>, SSI Males—4.25<sup>a</sup>  
 Spouse: DNR Females—4.71<sup>b</sup>, SSI Females—4.34<sup>a</sup>, SSI Males—4.18<sup>a</sup>  
 Friends: DNR Females—4.40<sup>c</sup>, SSI Females—4.04<sup>a</sup>, SSI Males—4.22<sup>b</sup>  
 Sons: DNR Females—4.62<sup>b</sup>, SSI Females—4.28<sup>a</sup>, SSI Males—4.39<sup>a</sup>  
 Daughters: DNR Females—4.51<sup>b</sup>, SSI Females—4.17<sup>a</sup>, SSI Males—4.15<sup>a</sup>  
 Brothers: DNR Females—4.68<sup>b</sup>, SSI Females—4.18<sup>a</sup>, SSI Males—4.24<sup>a</sup>  
 Sisters: DNR Females—4.49<sup>c</sup>, SSI Females—3.82<sup>a</sup>, SSI Males—4.18<sup>b</sup>

## Section 6: Fishing Norms

**Figure 6-4: Motivation to Comply with Significant Others by Strata**



Notes: Differences based on analysis of variance and Student-Newman-Keuls test (different superscripts mean the group is significantly different at the 0.05 level).

Father: Subsets not significantly different

Mother: Subsets not significantly different

Spouse: DNR Females—3.78<sup>b</sup>, SSI Females—3.49<sup>a</sup>, SSI Males—3.87<sup>b</sup>

Friends: Subsets not significantly different

Sons: Subsets not significantly different

Daughters: Subsets not significantly different

Brothers: DNR Females—3.14<sup>a,b</sup>, SSI Females—2.97<sup>a</sup>, SSI Males—3.25<sup>b</sup>

Sisters: DNR Females— Subsets not significantly different

## Section 7: Fishing in the Future

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### **Findings:**

#### *Likelihood of Fishing in the Future*

##### *Overall*

Respondents were asked to respond to six questions about their likelihood of fishing in the future on the scale of 1 (very unlikely) to 5 (very likely). On average, respondents reported that they were slightly likely to fish: (a) anytime in the future ( $\bar{x} = 3.36$ ) (Table 7-1), (b) anytime in the future in Minnesota ( $\bar{x} = 3.41$ ) (Table 7-2), (c) in Minnesota in the next 5 years ( $\bar{x} = 3.44$ ) (Table 7-4), and (d) in Minnesota in the next year ( $\bar{x} = 3.26$ ) (Table 7-6). They were somewhat unlikely to fish (a) outside Minnesota in the next 5 years ( $\bar{x} = 2.65$ ) (Table 7-3) and outside Minnesota in the next year ( $\bar{x} = 2.42$ ) (Table 7-5). Results are summarized in Figure 7-1. The likelihood of fishing in the future in Minnesota was positively correlated with proportion of life lived in Minnesota and income. It was negatively correlated with age.

##### *Analysis by strata and gender*

In every case where there were significant differences by sampling strata in respondents' likelihood of fishing in the future, women from the fishing license records indicated the highest likelihood of fishing, followed by men from the general public sample, then women from the general public sample. (Tables 7-1 through 7-6; Figure 7-2).

## Section 7: Fishing in the Future

**Table 7-1: Fishing in the future: How likely you might be to go fishing... anytime in the future?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	484	23.0	12.9	6.1	21.4	36.6	3.36
Males <sup>2</sup>	289	13.1	9.7	2.1	23.5	51.6	3.91
Females	452	13.7	8.0	4.9	21.0	52.4	3.90
	$\chi^2=4.805$ n.s., Cramer's V=0.081						F= 0.000 n.s. $\eta=0.001$
Male (SSI)	267	13.9	10.5	2.2	24.0	49.4	3.85
Female (SSI)	223	25.6	14.3	9.9	22.0	28.3	3.13
Female (DNR)	212	1.4	0.9	0.0	18.9	78.8	4.73
	$\chi^2=154.695^{***}$ , Cramer's V=0.332						F=79.258 <sup>***</sup> $\eta=0.430$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 7-2: Fishing in the future: How likely you might be to go fishing... in Minnesota anytime in the future?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	480	21.9	12.8	4.9	22.8	37.5	3.41
Males <sup>2</sup>	288	13.5	8.7	2.1	22.9	52.8	3.93
Females	451	12.6	8.2	4.0	21.3	53.9	3.96
	$\chi^2=2.381$ n.s., Cramer's V=0.057						F=0.069 n.s. $\eta=0.010$
Male (SSI)	266	13.9	9.0	2.3	23.7	51.1	3.89
Female (SSI)	221	24.0	15.4	7.7	24.4	28.5	3.18
Female (DNR)	213	0.9	0.5	0.5	17.8	80.3	4.76
	$\chi^2=148.884^{***}$ , Cramer's V=0.326						F=79.902 <sup>***</sup> $\eta=0.432$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 7: Fishing in the Future

**Table 7-3: Fishing in the future: How likely you might be to go fishing... outside of Minnesota in the next 5 years?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	479	32.4	22.8	11.0	14.9	18.8	2.65
Males <sup>2</sup>	288	19.4	22.2	8.3	20.1	29.9	3.19
Females	448	26.8	21.7	12.5	16.5	22.5	2.86
	$\chi^2=11.752$ n.s., Cramer's V=0.126						F=7.807** $\eta=0.103$
Male (SSI)	266	20.7	23.3	8.6	20.7	26.7	3.09
Female (SSI)	220	39.1	22.3	14.1	11.8	12.7	2.37
Female (DNR)	211	14.7	20.9	11.8	20.4	32.2	3.35
	$\chi^2=57.195^{***}$ , Cramer's V=0.203						F=25.808*** $\eta=0.263$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 7-4: Fishing in the future: How likely you might be to go fishing... in Minnesota in the next 5 years?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	479	21.8	12.1	5.4	21.9	38.8	3.44
Males <sup>2</sup>	288	12.8	7.6	3.5	22.2	53.8	3.97
Females	448	12.7	8.7	4.2	18.3	56.0	3.96
	$\chi^2=2.018$ n.s., Cramer's V=0.052						F=0.001 n.s. $\eta=0.001$
Male (SSI)	266	13.5	7.9	3.4	22.9	52.3	3.92
Female (SSI)	220	24.1	15.0	7.3	23.6	30.0	3.20
Female (DNR)	211	0.9	1.9	0.9	13.3	82.9	4.75
	$\chi^2=141.010^{***}$ , Cramer's V=0.318						F=74.955*** $\eta=0.421$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 7: Fishing in the Future

**Table 7-5: Fishing in the future: How likely you might be to go fishing... outside of Minnesota in the next year?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	478	37.2	24.1	12.6	11.6	14.5	2.42
Males <sup>2</sup>	285	23.9	24.2	11.9	15.8	24.2	2.92
Females	449	31.4	25.2	13.6	13.1	16.7	2.59
	$\chi^2=9.789^*$ , Cramer's V=0.115						F=8.954** $\eta=0.110$
Male (SSI)	264	25.4	25.4	12.1	15.9	21.2	2.82
Female (SSI)	221	44.3	23.1	14.0	9.5	9.0	2.16
Female (DNR)	211	19.0	26.5	14.2	15.6	24.6	3.00
	$\chi^2=47.496^{***}$ , Cramer's V=0.185						F=21.117*** $\eta=0.240$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 7-6: Fishing in the future: How likely you might be to go fishing... in Minnesota in the next year?**

	n	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Mean
Overall (SSI) <sup>1</sup>	478	23.1	15.5	9.0	17.0	35.4	3.26
Males <sup>2</sup>	288	14.2	11.1	6.6	18.1	50.0	3.78
Females	449	13.8	9.6	7.1	16.9	52.6	3.85
	$\chi^2=0.852$ n.s., Cramer's V=0.034						F=0.321 n.s. $\eta=0.021$
Male (SSI)	266	14.7	12.0	6.0	19.2	48.1	3.74
Female (SSI)	220	25.9	17.7	12.3	17.3	26.8	3.01
Female (DNR)	212	1.4	0.5	2.4	16.5	79.2	4.72
	$\chi^2=153.518^{***}$ , Cramer's V=0.332						F=88.254*** $\eta=0.450$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 7: Fishing in the Future

Figure 7-1 Mean Likelihood of Fishing in future

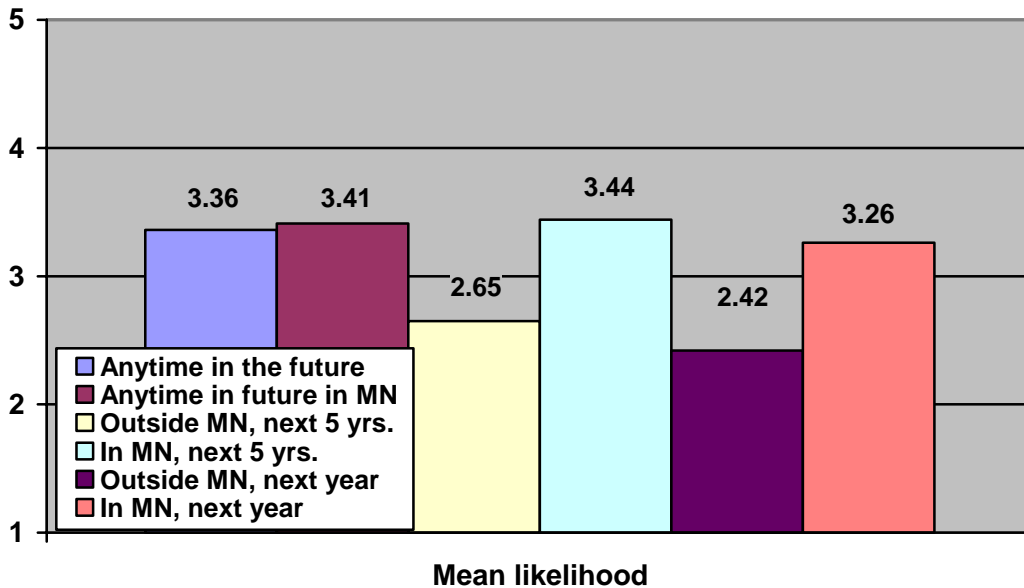
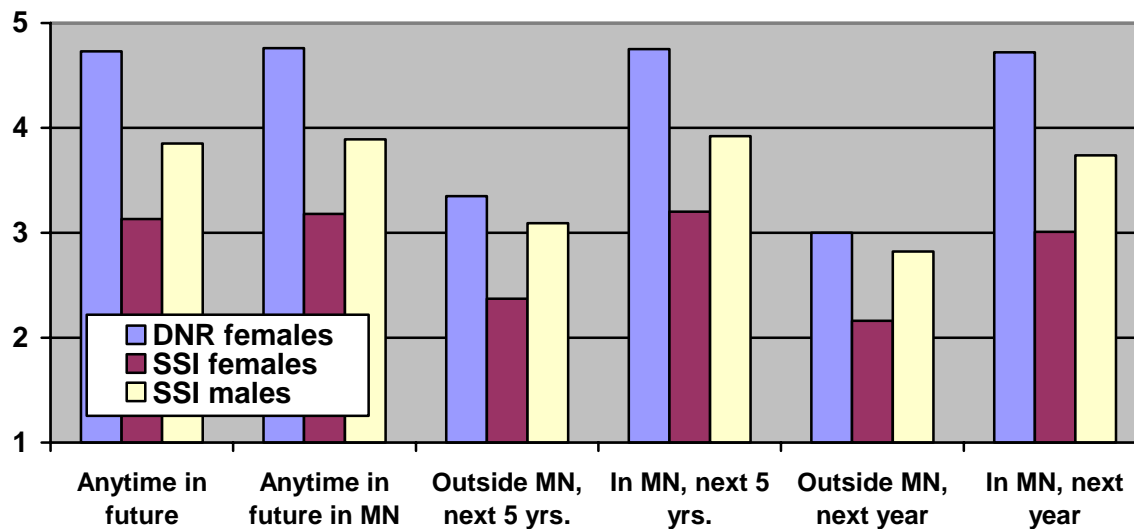


Figure 7-2: Likelihood of Fishing in the Future, by Strata



Notes: Differences based on analysis of variance and Student-Newman-Keuls test (different superscripts mean the group is significantly different at the 0.05 level).

Fish anytime in the future: DNR Females—4.73<sup>c</sup>, SSI Females—3.13<sup>a</sup>, SSI Males—3.85<sup>b</sup>  
 Fish in MN, anytime in the future: DNR Females—4.76<sup>c</sup>, SSI Females—3.18<sup>a</sup>, SSI Males—3.89<sup>b</sup>  
 Fish outside MN, in next 5 years: DNR Females—3.35<sup>b</sup>, SSI Females—2.37<sup>a</sup>, SSI Males—3.09<sup>b</sup>  
 Fish in MN, in next 5 years: DNR Females—4.75<sup>c</sup>, SSI Females—3.20<sup>a</sup>, SSI Males—3.92<sup>b</sup>  
 Fish outside MN, next year: DNR Females—3.00<sup>b</sup>, SSI Females—2.16<sup>a</sup>, SSI Males—2.82<sup>b</sup>  
 Fish in MN, next year: DNR Females—4.72<sup>c</sup>, SSI Females—3.01<sup>a</sup>, SSI Males—3.74<sup>b</sup>

## Section 8: Constraints to Fishing

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### **Findings:**

#### *Factors That Constrain Fishing Participation*

##### *Overall*

Respondents were asked to rate 25 possible constraints to fishing on the scale 1 (not at all limiting) to 5 (extremely limiting). None of the constraints had a score at or above the midpoint on the scale. Nine constraints were rated somewhat to moderately limiting (between 2.0 and 3.0 on the 5-point scale), including: (a) work commitments ( $\bar{x} = 2.63$ ) (Table 8-1), (b) not interested in fishing ( $\bar{x} = 2.25$ ) (Table 8-2), (c) family commitments ( $\bar{x} = 2.24$ ) (Table 8-3), (d) no desire to participate ( $\bar{x} = 2.05$ ) (Table 8-4), (e) travel costs ( $\bar{x} = 2.14$ ) (Table 8-5), (f) weather conditions ( $\bar{x} = 2.08$ ) (Table 8-6), (g) crowding at fishing areas ( $\bar{x} = 2.05$ ) (Table 8-7), (h) cost of equipment ( $\bar{x} = 2.02$ ) (Table 8-8), and (i) availability of people to go with ( $\bar{x} = 2.00$ ) (Table 8-9). All other constraints were rated not at all to somewhat limiting (between 1.17 and 1.92 on the 5-point scale (Tables 8-10 through 8-25). Results are summarized in Table 8-26.

##### *Analysis by strata and gender*

There were significant differences by strata in how limiting 19 of the 25 constraints were perceived by respondents. For all constraints, except one, the women from the general public sample viewed the constraint as more limiting. However, men from the general public sample viewed family commitments as more limiting than women from either sample (Table 8-3).



## Section 8: Constraints to Fishing

**Table 8-1: Constraints to fishing: Work commitments.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	457	29.8	20.0	18.9	20.0	11.3	2.63
Males <sup>2</sup>	279	24.4	20.4	21.9	23.3	10.0	2.74
Females	433	24.5	22.6	22.2	18.9	11.8	2.71
	$\chi^2=2.413$ n.s., Cramer's V=0.058						F=0.104 n.s. $\eta=0.012$
Male (SSI)	257	24.5	20.6	21.8	22.6	10.5	2.74
Female (SSI)	206	32.0	18.4	18.0	18.9	12.6	2.62
Female (DNR)	210	18.6	27.1	25.2	18.6	10.5	2.75
	$\chi^2=15.794^*$ , Cramer's V=0.108						F=0.669 n.s. $\eta=0.045$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 8-2: Constraints to fishing: Not interested in fishing.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	470	48.3	17.5	11.6	6.4	16.2	2.25
Males <sup>2</sup>	282	60.3	15.6	10.6	6.7	6.7	1.84
Females	439	59.2	14.8	10.3	4.1	11.6	1.94
	$\chi^2=6.668$ n.s., Cramer's V=0.096						F=0.976 n.s. $\eta=0.037$
Male (SSI)	261	58.6	16.5	11.1	6.9	6.9	1.87
Female (SSI)	212	40.6	19.8	13.2	6.6	19.8	2.45
Female (DNR)	210	78.1	10.0	7.1	1.4	3.3	1.42
	$\chi^2=76.753^{***}$ , Cramer's V=0.237						F=35.109 <sup>***</sup> $\eta=0.306$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 8-3: Constraints to fishing: Family commitments.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	461	33.1	30.1	20.8	11.8	4.2	2.24
Males <sup>2</sup>	280	24.6	34.6	25.0	12.5	3.2	2.35
Females	436	33.7	34.2	20.0	8.5	3.7	2.14
	$\chi^2=9.476^*$ , Cramer's V=0.115						F=6.237* $\eta=0.093$
Male (SSI)	258	25.6	33.7	24.4	13.2	3.1	2.34
Female (SSI)	208	38.9	26.0	19.2	11.1	4.8	2.17
Female (DNR)	211	29.9	41.2	20.9	5.2	2.8	2.10
	$\chi^2=24.556^{**}$ , Cramer's V=0.135						F=3.187* $\eta=0.097$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 8-4: Constraints to fishing: No desire to participate in fishing.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	460	57.2	14.1	9.7	4.0	15.0	2.05
Males <sup>2</sup>	282	70.6	11.3	6.0	4.3	7.8	1.67
Females	433	67.7	11.5	7.6	3.0	10.2	1.76
	$\chi^2=2.632$ n.s., Cramer's V=0.061						F=0.847 n.s. $\eta=0.034$
Male (SSI)	260	69.6	11.5	6.5	4.2	8.1	1.70
Female (SSI)	204	49.0	18.1	11.8	4.4	16.7	2.22
Female (DNR)	212	86.3	4.7	4.2	1.4	3.3	1.31
	$\chi^2=70.341^{***}$ , Cramer's V=0.228						F=28.273*** $\eta=0.278$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 8: Constraints to Fishing

**Table 8-5: Constraints to fishing: Travel costs and entrance fees.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	456	36.6	31.5	18.0	8.8	5.1	2.14
Males <sup>2</sup>	281	35.9	35.9	17.8	7.1	3.2	2.06
Females	430	37.0	32.6	16.5	8.4	5.6	2.13
	$\chi^2=3.199$ n.s., Cramer's V=0.067						F=0.724 n.s. $\eta=0.032$
Male (SSI)	259	35.1	36.7	18.5	6.9	2.7	2.05
Female (SSI)	203	35.0	27.6	18.2	11.3	7.9	2.30
Female (DNR)	210	38.6	36.7	15.7	5.7	3.3	1.99
	$\chi^2=16.848^*$ , Cramer's V=0.112						F=4.476* $\eta=0.115$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 8-6: Constraints to fishing: Weather conditions.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	458	34.5	36.2	20.7	4.4	4.2	2.08
Males <sup>2</sup>	279	36.6	40.9	17.6	3.6	1.4	1.92
Females	433	23.3	38.8	26.3	6.5	5.1	2.31
	$\chi^2= 25.120^{***}$ , Cramer's V=0.188						F=25.478*** $\eta=0.186$
Male (SSI)	258	37.2	40.7	17.8	2.7	1.6	1.91
Female (SSI)	205	28.3	35.1	23.4	6.8	6.3	2.28
Female (DNR)	211	19.0	43.6	28.0	6.2	3.3	2.31
	$\chi^2=32.724^{***}$ , Cramer's V=0.156						F=12.289*** $\eta=0.188$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 8: Constraints to Fishing

**Table 8-7: Constraints to fishing: Crowding at fishing areas.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	454	41.7	28.4	17.4	8.3	4.1	2.05
Males <sup>2</sup>	281	34.5	35.2	17.4	8.2	4.6	2.13
Females	427	39.6	28.6	19.0	9.8	3.0	2.08
	$\chi^2=5.437$ n.s., Cramer's V=0.088						F=0.335 n.s. $\eta=0.022$
Male (SSI)	259	36.3	33.6	17.0	8.1	5.0	2.12
Female (SSI)	201	44.3	23.9	18.9	9.5	3.5	2.04
Female (DNR)	210	33.8	33.3	19.5	10.5	2.9	2.15
	$\chi^2=10.179$ n.s., Cramer's V=0.087						F=0.542 n.s. $\eta=0.040$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 8-8: Constraints to fishing: Cost of fishing equipment.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	459	41.9	29.8	17.1	7.1	4.1	2.02
Males <sup>2</sup>	282	44.7	33.3	16.7	2.5	2.8	1.85
Females	433	41.3	29.3	18.7	7.2	3.5	2.02
	$\chi^2=8.967$ n.s., Cramer's V=0.112						F=4.279* $\eta=0.077$
Male (SSI)	260	44.2	33.5	16.9	2.3	3.1	1.87
Female (SSI)	204	36.3	28.4	18.6	11.3	5.4	2.21
Female (DNR)	212	46.7	30.2	19.3	2.4	1.4	1.82
	$\chi^2=32.056$ ***, Cramer's V=0.154						F=9.076*** $\eta=0.162$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 8: Constraints to Fishing

**Table 8-9: Constraints to fishing: Availability of people to go fishing with.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	462	45.5	27.7	14.4	5.9	6.5	2.00
Males <sup>2</sup>	281	52.3	30.2	11.4	3.6	2.5	1.74
Females	434	38.2	31.1	17.7	7.1	5.8	2.11
	$\chi^2=20.159^{***}$ , Cramer's V=0.168						F=20.025 <sup>***</sup> $\eta=0.165$
Male (SSI)	259	52.5	29.7	11.6	3.5	2.7	1.74
Female (SSI)	207	35.7	28.0	18.4	9.2	8.7	2.27
Female (DNR)	210	41.4	34.8	17.1	3.8	2.9	1.92
	$\chi^2=32.863^{***}$ , Cramer's V=0.156						F=13.925 <sup>***</sup> $\eta=0.199$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 8-10: Constraints to fishing: Cost of fishing licenses.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	462	47.5	27.5	13.7	7.8	3.5	1.92
Males <sup>2</sup>	282	52.8	30.5	11.3	3.2	2.1	1.71
Females	436	47.2	25.9	15.1	8.7	3.0	1.94
	$\chi^2=12.635^*$ , Cramer's V=0.133						F=8.231 <sup>**</sup> $\eta=0.107$
Male (SSI)	260	53.1	30.8	11.9	2.3	1.9	1.69
Female (SSI)	207	39.6	26.1	16.4	12.6	5.3	2.18
Female (DNR)	212	54.7	25.5	14.6	4.2	0.9	1.71
	$\chi^2=39.182^{***}$ , Cramer's V=0.170						F=15.656 <sup>***</sup> $\eta=0.210$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 8: Constraints to Fishing

**Table 8-11: Constraints to fishing: Fishing regulations too restrictive or unclear.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	456	57.5	22.3	13.7	4.1	2.4	1.72
Males <sup>2</sup>	281	55.9	25.3	12.8	3.2	2.8	1.72
Females	431	61.0	20.9	11.1	4.9	2.1	1.66
	$\chi^2=4.151$ n.s., Cramer's V=0.076						F=0.568 n.s. $\eta=0.028$
Male (SSI)	259	55.2	25.5	13.9	3.1	2.3	1.72
Female (SSI)	202	58.9	19.8	13.4	5.4	2.5	1.73
Female (DNR)	212	64.6	1.8	9.4	4.2	1.9	1.59
	$\chi^2=7.913$ n.s., Cramer's V=0.077						F=1.308 n.s. $\eta=0.062$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 8-12: Constraints to fishing: People of my gender or ethnic background are discriminated against by outdoor recreation managers.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	457	91.5	3.9	2.0	0.5	2.2	1.18
Males <sup>2</sup>	277	95.3	2.9	1.1	0.4	0.4	1.08
Females	425	93.9	2.8	1.9	0.5	0.9	1.12
	$\chi^2=1.562$ n.s., Cramer's V=0.047						F=1.256 n.s. $\eta=0.042$
Male (SSI)	256	95.3	2.7	1.2	0.4	0.4	1.08
Female (SSI)	198	90.9	3.5	3.5	0.5	1.5	1.18
Female (DNR)	211	96.2	2.4	0.5	0.5	0.5	1.07
	$\chi^2=9.463$ n.s., Cramer's V=0.084						F=3.431* $\eta=0.101$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 8: Constraints to Fishing

**Table 8-13: Constraints to fishing: Health problems.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	460	69.7	9.8	8.4	5.7	6.5	1.69
Males <sup>2</sup>	283	75.6	9.9	9.2	3.5	1.8	1.46
Females	434	74.0	9.9	6.0	4.8	5.3	1.58
	$\chi^2=8.626$ n.s., Cramer's V=0.110						F=2.078 n.s. $\eta=0.054$
Male (SSI)	262	75.2	9.9	9.2	3.8	1.9	1.47
Female (SSI)	204	64.7	9.3	8.8	8.3	8.8	1.87
Female (DNR)	213	82.2	10.3	3.3	1.9	2.3	1.32
	$\chi^2=36.811$ ***, Cramer's V=0.165						F=15.276*** $\eta=0.208$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 8-14: Constraints to fishing: Inadequate fishing skills.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	455	53.0	24.9	12.3	4.6	5.3	1.84
Males <sup>2</sup>	281	63.0	22.8	10.0	3.2	1.1	1.57
Females	433	49.0	29.8	11.8	4.2	5.3	1.87
	$\chi^2=18.606$ ***, Cramer's V=0.161						F=15.037*** $\eta=0.144$
Male (SSI)	259	61.8	23.9	10.4	2.7	1.2	1.58
Female (SSI)	203	42.9	27.1	14.8	6.4	8.9	2.11
Female (DNR)	213	55.4	32.9	9.4	1.4	0.9	1.60
	$\chi^2=47.672$ ***, Cramer's V=0.188						F=20.309*** $\eta=0.239$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 8-15: Constraints to fishing: Being outdoors is uncomfortable.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	460	83.2	7.5	5.3	1.5	2.5	1.33
Males <sup>2</sup>	281	92.2	4.3	2.5	0.4	0.7	1.13
Females	434	83.2	9.4	4.8	1.6	0.9	1.28
	$\chi^2=12.655^*$ , Cramer's V=0.133						F=8.648** $\eta=0.109$
Male (SSI)	260	92.3	3.8	2.7	0.4	0.8	1.13
Female (SSI)	204	76.5	12.3	6.9	2.9	1.5	1.41
Female (DNR)	213	90.1	7.0	2.3	0.0	0.5	1.14
	$\chi^2=33.345^{***}$ , Cramer's V=0.157						F=13.091*** $\eta=0.193$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 8-16: Constraints to fishing: Fear or safety concerns.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	460	78.2	11.6	7.4	1.0	1.8	1.37
Males <sup>2</sup>	283	88.3	7.4	3.9	0.4	0.0	1.16
Females	432	77.8	14.8	5.3	0.7	1.4	1.33
	$\chi^2=15.220^{**}$ , Cramer's V=0.146						F=11.605*** $\eta=0.127$
Male (SSI)	261	88.1	7.3	4.2	0.4	0.0	1.17
Female (SSI)	204	69.1	17.6	8.8	1.5	2.9	1.51
Female (DNR)	211	85.3	12.3	2.4	0.0	0.0	1.17
	$\chi^2=43.055^{***}$ , Cramer's V=0.178						F=20.299*** $\eta=0.239$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



## Section 8: Constraints to Fishing

**Table 8-17: Constraints to fishing: Interest in indoor activities.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	456	60.9	20.6	11.7	2.5	4.4	1.69
Males <sup>2</sup>	278	66.2	19.8	9.7	2.2	2.2	1.54
Females	430	64.7	19.8	9.8	3.5	2.3	1.59
	$\chi^2=1.090$ n.s., Cramer's V=0.039						F=0.428 n.s. $\eta=0.003$
Male (SSI)	257	66.1	20.2	9.3	1.9	2.3	1.54
Female (SSI)	203	56.2	23.6	11.8	3.4	4.9	1.77
Female (DNR)	210	73.8	16.2	6.7	3.3	0.0	1.40
	$\chi^2=22.446^{**}$ , Cramer's V=0.129						F=8.641 <sup>***</sup> $\eta=0.159$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 8-18: Constraints to fishing: The other people who fish are not friendly.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	458	88.6	5.9	3.4	1.4	0.8	1.20
Males <sup>2</sup>	279	88.2	7.5	2.9	1.1	0.4	1.18
Females	433	89.4	6.0	2.5	1.2	0.9	1.18
	$\chi^2=1.473$ n.s., Cramer's V=0.045						F=0.005 n.s. $\eta=0.014$
Male (SSI)	258	88.0	7.8	2.7	1.2	0.4	1.18
Female (SSI)	204	89.2	4.9	3.4	1.5	1.0	1.20
Female (DNR)	212	90.1	7.1	1.4	0.9	0.5	1.15
	$\chi^2=4.252$ n.s., Cramer's V=0.056						F=0.479 n.s. $\eta=0.038$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 8: Constraints to Fishing

**Table 8-19: Constraints to fishing: The amount of planning required to go fishing.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	457	55.5	24.9	12.8	3.9	3.0	1.74
Males <sup>2</sup>	280	62.1	25.7	8.6	3.2	0.4	1.54
Females	432	50.9	29.9	12.5	3.9	2.8	1.78
	$\chi^2=12.985^*$ , Cramer's V=0.135						F=11.206*** $\eta=0.125$
Male (SSI)	258	62.4	25.2	8.5	3.5	0.4	1.54
Female (SSI)	204	46.6	27.9	15.7	4.9	4.9	1.94
Female (DNR)	211	55.9	31.8	9.0	2.4	0.9	1.61
	$\chi^2=28.703^{***}$ , Cramer's V=0.146						F=11.350*** $\eta=0.181$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 8-20: Constraints to fishing: The amount of effort required to go fishing.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	455	47.5	26.6	17.0	5.8	3.1	1.90
Males <sup>2</sup>	280	53.2	28.2	13.6	5.0	0.0	1.70
Females	430	45.6	30.9	15.6	4.9	3.0	1.89
	$\chi^2=11.385^*$ , Cramer's V=0.127						F=6.056* $\eta=0.092$
Male (SSI)	258	52.7	27.5	14.3	5.4	0.0	1.72
Female (SSI)	201	39.3	29.4	18.4	7.0	6.0	2.11
Female (DNR)	212	51.9	33.0	12.7	1.9	0.5	1.66
	$\chi^2=38.685^{***}$ , Cramer's V=0.170						F=13.144*** $\eta=0.195$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 8: Constraints to Fishing

**Table 8-21: Constraints to fishing: People of my gender or ethnic background are discriminated against by other anglers.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	449	91.9	3.1	2.3	1.1	1.6	1.17
Males <sup>2</sup>	280	95.7	2.1	1.4	0.0	0.7	1.08
Females	433	92.8	4.6	1.6	0.5	0.5	1.11
	$\chi^2=4.534$ n.s., Cramer's V=0.080						F=0.869 n.s. $\eta=0.035$
Male (SSI)	259	95.8	1.9	1.5	0.0	0.8	1.08
Female (SSI)	204	89.2	6.4	2.5	1.0	1.0	1.18
Female (DNR)	212	96.2	3.3	0.5	0.0	0.0	1.04
	$\chi^2=16.201^*$ , Cramer's V=0.110						F=5.215** $\eta=0.124$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 8-22: Constraints to fishing: Age.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	461	71.6	10.2	7.4	4.4	6.3	1.63
Males <sup>2</sup>	285	75.4	11.9	6.0	3.5	3.2	1.47
Females	431	78.0	9.0	6.3	3.2	3.5	1.45
	$\chi^2=1.651$ n.s., Cramer's V=0.048						F=0.055 n.s. $\eta=0.009$
Male (SSI)	263	75.7	11.0	6.1	3.8	3.4	1.48
Female (SSI)	204	68.1	9.8	9.8	5.4	6.9	1.73
Female (DNR)	210	87.6	8.1	3.3	0.5	0.5	1.18
	$\chi^2=33.133^{***}$ , Cramer's V=0.156						F=16.455*** $\eta=0.216$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 8: Constraints to Fishing

**Table 8-23: Constraints to fishing: Limited access to good places to go fishing.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	458	60.1	21.8	11.5	3.9	2.7	1.67
Males <sup>2</sup>	283	61.8	21.2	10.2	5.3	1.4	1.63
Females	431	53.8	28.3	11.1	3.9	2.8	1.74
	$\chi^2=7.564$ n.s., Cramer's V=0.103						F=1.876 n.s. $\eta=0.051$
Male (SSI)	261	61.3	21.8	10.3	5.0	1.5	1.64
Female (SSI)	203	55.7	24.1	13.3	3.0	3.9	1.75
Female (DNR)	211	51.7	32.7	9.5	4.3	1.9	1.72
	$\chi^2=13.381$ n.s., Cramer's V=0.100						F=0.407 n.s. $\eta=0.052$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 8-24: Constraints to fishing: Don't like to be outside.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	465	86.1	6.9	3.2	1.7	2.1	1.27
Males <sup>2</sup>	282	94.3	3.2	1.8	0.4	0.4	1.09
Females	437	87.2	7.6	2.3	1.8	1.1	1.22
	$\chi^2=11.031^*$ , Cramer's V=0.124						F=8.113** $\eta=0.106$
Male (SSI)	261	94.3	3.4	1.5	0.4	0.4	1.09
Female (SSI)	208	80.8	11.1	2.9	2.9	2.4	1.35
Female (DNR)	212	94.3	3.8	1.4	0.5	0.0	1.08
	$\chi^2=33.692^{***}$ , Cramer's V=0.157						F=14.844*** $\eta=0.205$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 8: Constraints to Fishing

**Table 8-25: Constraints to fishing: No good fishing opportunities near my home.**

	n	Not at all limiting	Somewhat limiting	Limiting	Very limiting	Extremely limiting	Mean
Overall (SSI) <sup>1</sup>	458	65.2	20.2	9.4	3.6	1.6	1.56
Males <sup>2</sup>	281	66.2	21.4	6.4	4.6	1.4	1.54
Females	433	60.7	25.6	9.0	2.8	1.8	1.59
	$\chi^2=5.412$ n.s., Cramer's V=0.087						F=0.657 $\eta=0.030$
Male (SSI)	260	65.8	21.5	6.5	4.6	1.5	1.55
Female (SSI)	204	62.7	20.6	12.3	2.5	2.0	1.60
Female (DNR)	212	59.0	30.2	6.1	2.8	1.9	1.58
	$\chi^2=14.022$ n.s., Cramer's V=0.102						F=0.787 n.s. $\eta=0.027$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 8: Constraints to Fishing

**Table 8-26: Comparison of constraints to fishing.**

Constraint	Sample size (n)	Mean <sup>1</sup>
Work commitments	457	2.63
Not interested in fishing	470	2.25
Family commitments	461	2.24
Travel costs and entrance fees	456	2.14
Weather conditions	458	2.08
No desire to participate	460	2.05
Crowding at recreation areas	454	2.05
Cost of equipment	459	2.02
Availability of people to go with	462	2.00
Cost of permits and licenses	462	1.92
The amount of effort required to go	455	1.90
Inadequate skills	455	1.84
The amount of planning required to go	457	1.74
Regulations too restrictive or unclear	456	1.72
Health problems	460	1.69
Interest in indoor activities	456	1.69
Limited access to good places to go	458	1.67
Age	461	1.63
No good opportunities near my home	458	1.56
Fear or safety concerns	460	1.37
Being outdoors is uncomfortable	460	1.33
Don't like to be outside	465	1.27
The other people who participate are not friendly	458	1.20
People of my gender or ethnic background are discriminated against by outdoor recreation managers	457	1.18
People of my gender or ethnic background are discriminated against by other participants	449	1.17

**Notes:**

<sup>1</sup>  $F=73.779^{***}$ , Grand mean=1.709,  $\eta^2=0.144$ . Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

<sup>2</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

## Section 9: Twin Cities Fishing/Knowledge of Programs & Advisories

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### **Findings:**

#### *Twin Cities Fishing and Knowledge of Programs*

##### *Overall*

Respondents were asked to rate how much they agreed with five items addressing the cleanliness of Twin Cities waterways using the scale 1 (disagree) to 5 (agree). On average, respondents agreed that “there are good places to fish in the Twin Cities” ( $\bar{x} = 3.66$ ) (Table 9-1). However, on average they disagreed slightly that they “would eat fish caught from lakes in the Twin Cities” ( $\bar{x} = 2.97$ ) (Table 9-2), and that they “would eat fish caught from Twin Cities rivers & streams” ( $\bar{x} = 2.72$ ) (Table 9-8-3). They were slightly in disagreement that: “lakes in the Twin Cities are too dirty for fish to live in” ( $\bar{x} = 2.50$ ) (Table 9-4), and “lakes in the Twin Cities are dirty/polluted” ( $\bar{x} = 2.92$ ) (Table 9-5).

Respondents were also asked if they had heard of several state programs and advisories. Less than one-fifth of respondents had heard of either the Minnesota Department of Natural Resources’ *Fishing in the Neighborhood* program (16.3%) (Table 9-6), or the Minnesota Department of Natural Resources’ *MinnAqua* program (8.2%) (Table 9-7). However, nearly half (44.2%) of respondents had heard of the Minnesota Fish Consumption Advisory from the Department of Health (Table 9-8).

##### *Analysis by strata and gender*

There were significant differences by strata in perceptions of the cleanliness of Twin Cities waterways. On average, male respondents rated items related to the quality of fishing in the Twin Cities higher than females, including: (a) “there are good places to fish in the Twin Cities” (Table 9-1) and “I would eat fish caught in Twin Cities lakes” (Table 9-2). Men rated items related to pollution in the Twin Cities lakes lower (Tables 9-4 and 9-5). A greater proportion of men (53.8%) versus women (40.6%) had heard of the Minnesota Fish Consumption Advisory (Table 9-8).

## Section 9: Twin Cities Fishing/Knowledge of Programs & Advisories

**Table 9-1: Fishing in the metro area: There are good places to fish in the Twin Cities.**

	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean
Overall (SSI) <sup>1</sup>	477	6.7	9.3	23.3	32.6	28.2	3.66
Males <sup>2</sup>	287	3.5	10.1	19.2	36.2	31.0	3.81
Females	446	6.5	11.0	25.6	29.1	27.8	3.61
	$\chi^2=9.583^*$ , Cramer's V=0.114						F=5.510* $\eta=0.086$
Male (SSI)	265	3.4	10.2	19.2	35.5	31.7	3.82
Female (SSI)	217	7.8	9.7	26.7	31.3	24.4	3.55
Female (DNR)	212	5.7	13.2	24.5	25.5	31.1	3.63
	$\chi^2=15.186$ n.s., Cramer's V=0.105						F=3.480* $\eta=0.100$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 9-2: Fishing in the metro area: I would eat fish caught from lakes in the Twin Cities.**

	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean
Overall (SSI) <sup>1</sup>	476	23.5	16.3	17.9	24.5	17.8	2.97
Males <sup>2</sup>	286	17.5	15.7	17.5	27.6	21.7	3.20
Females	445	23.6	16.6	18.2	24.5	17.1	2.95
	$\chi^2=5.818$ n.s., Cramer's V=0.089						F=5.607* $\eta=0.087$
Male (SSI)	264	18.2	14.0	18.2	27.3	22.3	3.22
Female (SSI)	217	26.3	18.4	17.5	22.1	15.7	2.82
Female (DNR)	211	21.3	15.2	18.0	26.1	19.4	3.07
	$\chi^2=9.251$ n.s., Cramer's V=0.082						F=4.517* $\eta=0.114$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



## Section 9: Twin Cities Fishing/Knowledge of Programs & Advisories

**Table 9-3: Fishing in the metro area: I would eat fish caught from Twin Cities rivers & streams.**

	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean
Overall (SSI) <sup>1</sup>	474	25.7	22.3	19.7	18.7	13.6	2.72
Males <sup>2</sup>	286	20.3	24.8	19.6	19.9	15.4	2.85
Females	444	27.9	23.9	20.9	16.9	10.4	2.58
	$\chi^2=8.755$ n.s., Cramer's V=0.110						F=0.788 $\eta=0.099$
Male (SSI)	264	20.5	23.9	20.1	19.3	16.3	2.87
Female (SSI)	216	29.2	22.2	19.0	18.1	11.6	2.61
Female (DNR)	211	27.5	26.5	22.3	14.2	9.5	2.52
	$\chi^2=11.996$ n.s., Cramer's V=0.093						F=7.263** $\eta=0.114$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 9-4: Fishing in the metro area: Lakes in the Twin Cities are too dirty for fish to live in.**

	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean
Overall (SSI) <sup>1</sup>	471	23.7	29.2	26.7	14.3	6.0	2.50
Males <sup>2</sup>	286	33.9	32.2	21.3	10.5	2.1	2.15
Females	441	20.0	27.0	29.9	17.7	5.4	2.62
	$\chi=30.484$ ***, Cramer's V=0.205						F=30.655*** $\eta=0.201$
Male (SSI)	264	34.1	31.1	22.0	10.6	2.3	2.16
Female (SSI)	213	16.9	24.9	30.5	19.2	8.5	2.77
Female (DNR)	211	22.7	29.4	29.9	15.2	2.8	2.46
	$\chi^2=38.236$ ***, Cramer's V=0.167						F=17.934*** $\eta=0.223$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 9: Twin Cities Fishing/Knowledge of Programs & Advisories

**Table 9-5: Fishing in the metro area: Lakes in the Twin Cities are dirty/polluted.**

	n	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Mean
Overall (SSI) <sup>1</sup>	472	14.7	22.1	28.4	26.0	8.8	2.92
Males <sup>2</sup>	287	17.4	26.5	28.6	23.7	3.8	2.70
Females	442	11.1	17.6	29.0	33.3	9.0	3.12
	$\chi^2=23.748^{***}$ , Cramer's V=0.180						F=23.248 <sup>***</sup> $\eta=0.176$
Male (SSI)	265	17.7	26.4	27.9	23.8	4.2	2.70
Female (SSI)	214	12.1	15.4	29.9	29.9	12.6	3.15
Female (DNR)	211	10.0	19.9	28.4	36.0	5.7	3.08
	$\chi^2=31.617^{***}$ , Cramer's V=0.151						F=10.967 <sup>***</sup> $\eta=0.176$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 9-6: Have you heard of the Minnesota Department of Natural Resources' *Fishing in the Neighborhood* program aimed at increasing angling opportunities, public awareness & environmental stewardship in the Twin Cities metropolitan area?**

	N	No	Yes
Overall (SSI) <sup>1</sup>	489	83.7	16.3
Males <sup>2</sup>	291	82.8	17.2
Females	450	83.8	16.2
	$\chi^2=0.118$ n.s., Cramer's V=0.013		
Male (SSI)	269	84.4	15.6
Female (SSI)	222	82.0	18.0
Female (DNR)	212	85.8	14.2
	$\chi^2=1.244$ n.s., Cramer's V=0.042		

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 9: Twin Cities Fishing/Knowledge of Programs & Advisories

**Table 9-7: Have you heard of the Minnesota Department of Natural Resources' *MinnAqua* program for angling education?**

	N	No	Yes
Overall (SSI) <sup>1</sup>	490	91.8	8.2
Males <sup>2</sup>	290	91.7	8.3
Females	453	89.6	10.4
	$\chi^2=0.902$ n.s., Cramer's V=0.035		
Male (SSI)	268	92.5	7.5
Female (SSI)	224	91.1	8.9
Female (DNR)	213	88.7	11.3
	$\chi^2=2.090$ n.s., Cramer's V=0.054		

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 9-8: Have you heard of the Minnesota Fish Consumption Advisory from the Department of Health?**

	n	No	Yes
Overall (SSI) <sup>1</sup>	486	55.8	44.2
Males <sup>2</sup>	290	46.2	53.8
Females	453	59.4	40.6
	$\chi^2=12.365^{***}$ , Cramer's V=0.129		
Male (SSI)	268	48.5	51.5
Female (SSI)	223	59.6	40.4
Female (DNR)	213	60.1	39.9
	$\chi^2=8.675^*$ , Cramer's V=0.111		

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 10: Past Participation in Fishing

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### **Findings:**

#### *Previous Fishing Participation*

##### *Overall*

Nearly 9 out of 10 respondents had participated in fishing at some point in their life (87.1%) (Table 10-1). Most respondents had fished for the first time in their life prior to the age of 10 years (73.1%); another 18.1% participated for the first time between the ages of 10 and 19 years, and less than 10% participated for the first time after the age of 19 years (Table 10-2). Over 90% of respondents who had fished in the past had fished in Minnesota (94.0%) (Table 10-3). Nearly two-thirds of respondents who had fished in Minnesota had fished in the Twin Cities metropolitan area (63.2%) (Table 10-4). Nearly 9 out of 10 respondents (88.8%) who had fished in Minnesota had fished outside the metropolitan area (Table 10-5).

Nearly two-thirds of respondents (69.2%) who had fished in the past had fished in the past 10 years. On average respondents who had fished in the past 10 years had fished in 7 of the previous 10 years (Table 10-7). Respondents had fished an average of 6.6 of the previous 10 years in the state of Minnesota (Table 10-8). About half of the respondents (48.6%) had fished outside of Minnesota. Wisconsin was the most commonly noted place where people had fished outside of Minnesota.

Respondents who had fished in the past had fished in a variety of ways. Over half of respondents (63.3%) had fished from a public pier, and 54.1% had done so in Minnesota (Table 10-9). Over three-fourths (77.1%) had fished from the shore of a lake, river, stream, and about two-thirds (67.7%) had done so in Minnesota (Table 10-10). Nearly 9 out of 10 respondents (85.2%) had fished from motorized boats, and about three-fourths (75.1%) had fished that way in Minnesota (Table 10-11). Over one-half of respondents (57.3%) had fished from a non-motorized boat, with 50.4% having done so in Minnesota (Table 10-12). Similarly, about half (56.3%) had ever ice fished and half (52.0%) had ice fished in Minnesota (Table 10-13). About one-fifth of respondents had fly fished (20.2%), with 14.7% having fly fished in Minnesota (Table 10-14). Only a small proportion of respondents had spear fished (10.1%) or bow fished (6.0%), and yet fewer had spear fished (8.9%), or bow fished (5.6%) in Minnesota (Tables 10-15 and 10-16). Most respondents (54.6%) indicated that when they fished, they fished for “whatever was biting;” about one-fifth of respondents reported that they “targeted a specific type of fish” (22.9%) or “spent about an equal amount of time doing both” (22.5%) (Table 10-17). Respondents were asked to indicate what types of fish they had targeted most frequently; walleye and sunfish were commonly noted.

##### *Analysis by strata and gender*

A greater proportion of men started fishing prior to age 10 (82.2% for men versus 74.2% for women). All of the female respondents selected from the fishing license records had fished in Minnesota, and nearly all of the men selected from public records (97.7%) had fished in Minnesota. Fewer women from the public records (90.2%) had fished in Minnesota. Nearly three-fourths of women from the fishing license records (70.8%) had fished in the metropolitan area compared to 66.4% of men and 56.2% of women from the general public samples. A smaller proportion of women from the general public sample had fished outside the metropolitan area.

## **Section 10: Past Participation in Fishing**

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Nearly all (98.6%) of the women selected from the fishing license records had fished in the past 10 years, compared to 80.4% of men and 58.1% of women from the general public samples. The average number of years fishing of the past 10 was lower for women from the general public sample.

A smaller proportion of women from the general public sample reported having (a) fished from a public pier, (b) fished from the shore of a lake, river, stream, (c) fished from a motorboat, or (d) ice fished. Compared to men, a smaller proportion of women from both samples reported: (a) fishing from a non-motorized boat, (b) fly fishing, (c) spear fishing, and (d) bow fishing. A greater proportion of women from the general public sample reported fishing for “whatever was biting;” likewise a smaller proportion of the women from this group reported “targeting a specific type of fish.”

## Section 10: Past Participation in Fishing

**Table 10-1: Have you ever participated in fishing?**

	n	No	Yes
Overall (SSI) <sup>1</sup>	494	12.9	87.1
Males <sup>2</sup>	291	3.4	96.6
Females	455	4.4	95.6
$\chi^2=11.230^*$ , Cramer's V=0.127			
Male (SSI)	269	3.7	96.3
Female (SSI)	225	8.0	92.0
Female (DNR)	213	0.5	99.5
$\chi^2=0.423$ n.s., Cramer's V=0.024			

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 10-2: If you have fished, how old were you when you first went fishing?**

	n	< 10 years	10-19	20-29	30-39	40-49	50+
Overall (SSI) <sup>1</sup>	429	73.1	18.1	4.8	2.4	0.9	0.7
Males <sup>2</sup>	281	82.2	14.6	2.5	0.0	0.4	0.4
Females	434	74.2	15.2	5.8	2.8	1.2	0.9
$\chi^2=15.371^{**}$ , Cramer's V=0.147							
Male (SSI)	259	80.7	15.8	2.7	0.0	0.4	0.4
Female (SSI)	206	65.5	20.4	6.8	4.9	1.5	1.0
Female (DNR)	212	81.6	11.3	4.7	0.5	0.9	0.9
$\chi^2=35.577^{***}$ , Cramer's V=0.162							

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 10-3: If you have fished, have you fished in Minnesota?**

	n	No	Yes
Overall (SSI) <sup>1</sup>	428	6.0	94.0
Males <sup>2</sup>	281	2.1	97.9
Females	433	4.8	95.2
$\chi^2=3.451$ n.s., Cramer's V=0.070			
Male (SSI)	259	2.3	97.7
Female (SSI)	205	9.8	90.2
Female (DNR)	212	0.0	100.0
$\chi^2=29.479^{***}$ , Cramer's V=0.209			

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 10: Past Participation in Fishing

**Table 10-4: If you have fished in Minnesota, have you fished in the metro area?**

	n	No	Yes
Overall (SSI) <sup>1</sup>	406	36.8	63.2
Males <sup>2</sup>	274	28.5	71.5
Females	412	35.9	64.1
	$\chi^2=4.140^*$ , Cramer's V=0.078		
Male (SSI)	252	33.6	66.4
Female (SSI)	185	43.8	56.2
Female (DNR)	212	29.2	70.8
	$\chi^2=12.067^{**}$ , Cramer's V=0.136		

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 10-5: If you have fished in Minnesota, have you fished in out-state Minnesota?**

	n	No	Yes
Overall (SSI) <sup>1</sup>	405	11.2	88.8
Males <sup>2</sup>	274	6.2	93.8
Females	411	10.5	89.5
	$\chi^2=3.729$ n.s., Cramer's V=0.074		
Male (SSI)	252	6.0	94.0
Female (SSI)	184	16.3	83.7
Female (DNR)	212	5.7	94.3
	$\chi^2=18.068^{***}$ , Cramer's V=0.167		

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 10-6: If you have fished, have you fished in the past 10 years?**

	n	No	Yes
Overall (SSI) <sup>1</sup>	422	30.8	69.2
Males <sup>2</sup>	276	18.1	81.9
Females	429	21.2	78.8
	$\chi^2=1.006$ n.s., Cramer's V=0.038		
Male (SSI)	210	1.4	80.4
Female (SSI)	203	41.9	58.1
Female (DNR)	255	19.6	98.6
	$\chi^2=103.283^{***}$ , Cramer's V=0.393		

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 10: Past Participation in Fishing

**Table 10-7: If you have fished in the past 10 years, approximately how many years did you fish?**

	n	Years
Overall (SSI) <sup>1</sup>	279	7.01
Males <sup>2</sup>	220	7.57
Females	330	7.27
	F=0.910 n.s., $\eta=0.041$	
Male (SSI)	199	7.47
Female (SSI)	110	6.35
Female (DNR)	207	7.76
	F=5.832**, $\eta=0.149$	

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 10-8: If you have fished in the past 10 years, how many years did you fish in Minnesota?**

	N	Years
Overall (SSI) <sup>1</sup>	275	6.64
Males <sup>2</sup>	215	7.22
Females	327	6.99
	F=0.437 n.s., $\eta=0.028$	
Male (SSI)	194	7.14
Female (SSI)	110	5.94
Female (DNR)	205	7.54
	F=6.105**, $\eta=0.153$	

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 10-9: If you have fished, have you ever fished from... a public pier/dock?**

	n	Anywhere?	In Minnesota?
		% Yes	% Yes
Overall (SSI) <sup>1</sup>	430	63.3	54.1
Males <sup>2</sup>	281	70.1	61.2
Females	435	62.8	57.2
		$\chi^2=4.087^*$ , Cramer's V=0.076	$\chi^2=1.110$ n.s., Cramer's V=0.039
Male (SSI)	259	70.7	61.4
Female (SSI)	207	56.0	46.9
Female (DNR)	212	70.3	67.9
		$\chi^2=13.402^{***}$ , Cramer's V=0.141	$\chi^2=20.203^{***}$ , Cramer's V=0.173

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



## Section 10: Past Participation in Fishing

**Table 10-10: If you have fished, have you ever fished from... the shore of a lake, river, stream?**

	n	Anywhere?	In Minnesota?
		% Yes	% Yes
Overall (SSI) <sup>1</sup>	430	77.1	67.7
Males <sup>2</sup>	281	84.0	76.9
Females	435	78.4	71.5
		$\chi^2=3.416$ n.s., Cramer's V=0.069	$\chi^2=2.538$ n.s., Cramer's V=0.060
Male (SSI)	259	83.8	76.4
Female (SSI)	207	70.5	58.9
Female (DNR)	212	85.4	82.5
		$\chi^2=17.883^{***}$ , Cramer's V=0.162	$\chi^2=32.142^{***}$ , Cramer's V=0.218

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 10-11: If you have fished, have you ever fished from... a motorized boat/canoe?**

	n	Anywhere?	In Minnesota?
		% Yes	% Yes
Overall (SSI) <sup>1</sup>	430	85.2	75.1
Males <sup>2</sup>	281	91.1	83.3
Females	435	87.6	80.9
		$\chi^2=2.151$ , Cramer's V=0.055	$\chi^2=0.637$ n.s., Cramer's V=0.030
Male (SSI)	259	90.7	82.6
Female (SSI)	207	79.7	67.6
Female (DNR)	212	95.8	93.9
		$\chi^2=28.778^{***}$ , Cramer's V=0.206	$\chi^2=48.252^{***}$ , Cramer's V=0.267

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 10: Past Participation in Fishing

**Table 10-12: If you have fished, have you ever fished from... a nonmotorized boat/canoe?**

	n	Anywhere?	In Minnesota?
		% Yes	% Yes
Overall (SSI) <sup>1</sup>	430	57.3	50.4
Males <sup>2</sup>	281	64.4	59.4
Females	435	53.8	49.0
		$\chi^2=7.902^{**}$ , Cramer's V=0.105	$\chi^2=7.507^{**}$ , Cramer's V=0.102
Male (SSI)	259	62.9	57.9
Female (SSI)	207	51.7	43.0
Female (DNR)	212	55.7	54.2
		$\chi^2=6.251^*$ , Cramer's V=0.096	$\chi^2=10.775^{**}$ , Cramer's V=0.126

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 10-13: If you have fished, have you ever ice fished?**

	n	Anywhere?	In Minnesota?
		% Yes	% Yes
Overall (SSI) <sup>1</sup>	430	56.3	52.0
Males <sup>2</sup>	281	73.0	69.0
Females	435	55.6	52.0
		$\chi^2=21.838^{***}$ , Cramer's V=0.175	$\chi^2=20.550^{***}$ , Cramer's V=0.169
Male (SSI)	259	72.6	68.3
Female (SSI)	207	40.1	35.7
Female (DNR)	212	72.6	69.8
		$\chi^2=64.994^{***}$ , Cramer's V=0.	$\chi^2=65.766^{***}$ , Cramer's V=0.311

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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**Table 10-14: If you have fished, have you ever fly fished?**

	n	Anywhere?	In Minnesota?
		% Yes	% Yes
Overall (SSI) <sup>1</sup>	430	20.2	14.7
Males <sup>2</sup>	281	28.5	21.4
Females	435	13.6	8.7
		$\chi^2=24.248^{***}$ , Cramer's V=0.184	$\chi^2=23.003^{***}$ , Cramer's V=0.179
Male (SSI)	259	27.4	21.2
Female (SSI)	207	13.0	8.2
Female (DNR)	212	13.2	8.5
		$\chi^2=21.594^{***}$ , Cramer's V=0.178	$\chi^2=23.080^{***}$ , Cramer's V=0.185

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 10-15: If you have fished, have you ever spear fished?**

	n	Anywhere?	In Minnesota?
		% Yes	% Yes
Overall (SSI) <sup>1</sup>	430	10.1	8.9
Males <sup>2</sup>	281	19.2	17.4
Females	435	2.5	1.8
		$\chi^2=57.602^{***}$ , Cramer's V=0.284	$\chi^2=56.692^{***}$ , Cramer's V=0.281
Male (SSI)	259	17.4	15.8
Female (SSI)	207	2.9	1.9
Female (DNR)	212	2.4	1.9
		$\chi^2=45.992^{***}$ , Cramer's V=0.260	$\chi^2=46.262^{***}$ , Cramer's V=0.261

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 10: Past Participation in Fishing

**Table 10-16: If you have fished, have you ever bow fished?**

	n	Anywhere?	In Minnesota?
		% Yes	% Yes
Overall (SSI) <sup>1</sup>	430	6.0	5.6
Males <sup>2</sup>	281	11.4	10.3
Females	435	2.1	2.3
		$\chi^2=27.463^{***}$ , Cramer's V=0.196	$\chi^2=21.328^{***}$ , Cramer's V=0.173
Male (SSI)	259	10.0	8.9
Female (SSI)	207	1.9	2.4
Female (DNR)	212	2.4	2.4
		$\chi^2=20.395^{***}$ , Cramer's V=0.173	$\chi^2=14.577^{***}$ , Cramer's V=0.147

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 10-17: If you have fished in the past, have you generally targeted a specific type of fish or fished for whatever was biting?**

	n	Whatever was biting	Specific type of fish	Equal amount of time doing both
Overall (SSI) <sup>1</sup>	407	54.6	22.9	22.5
Males <sup>2</sup>	271	41.7	30.6	27.7
Females	416	52.6	22.4	25.0
		$\chi^2=8.902^*$ , Cramer's V=0.114		
Male (SSI)	250	44.4	30.4	25.2
Female (SSI)	192	65.1	15.1	19.8
Female (DNR)	209	39.7	30.1	30.1
		$\chi^2=31.266^{***}$ , Cramer's V=0.155		

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 11: Demographics

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### **Findings:**

#### *Age*

##### *Overall*

Respondents were asked to indicate the year they were born, and age was calculated. The average respondent age was calculated to be 54 years (Table 11-1). Respondents ranged in age from 20 to 92 years.

##### *Analysis by strata and gender*

Female respondents from the fishing license records were substantially younger (42 years) than respondents from the other strata (53 years) (Table 11-1).

#### **Percentage of Life Living in Minnesota**

##### *Overall*

Respondents were asked to report the number of years they had lived in Minnesota. Using respondents' age and number of years living in Minnesota, we calculated the proportion of life spent living in the state. On average, respondents had lived in Minnesota for 77.7% of their lives (Table 11-4).

##### *Analysis by strata and gender*

Female respondents from the general public sample had lived a smaller proportion of their lives in Minnesota.

#### **Education**

##### *Overall*

Respondents were asked to select their highest level of education from a list of nine options including: (a) grade school, (b) some high school, (c) high school diploma or GED, (d) some vocational or technical school, (e) vocational or technical school (associate's) degree, (f) some college, (g) four-year college (bachelor's) degree, (h) some graduate school, and (i) graduate (master's or doctoral) degree. More than 80% of respondents had completed at least some college or had completed a vocational-technical education (Table 11-8).

##### *Analysis by strata and gender*

There were no significant differences by gender or sampling strata in the highest level of education completed (Table 11-8).

## **Section 11: Demographic Information**

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### ***Income***

#### *Overall*

Respondents reported their income in an open-ended question. Average income was \$60,324.51 (Table 11-10).

#### *Analysis by strata and gender*

Male respondents reported a higher average income (\$80,139.69) compared to women from the fishing license records (\$60,630.81) or women from the general public (\$43,829.91) (Table 11-10).

### ***Marital Status***

#### *Overall*

Nearly half of the respondents were married (44.9%), compared to 26.3% who were divorced or widowed, 22.0% who were single, and 6.8% who were living with a partner (Table 11-11).

#### *Analysis by strata and gender*

A significantly larger proportion of male respondents were married (72.4%) compared to female respondents (32.0%) (Table 11-11).

### ***Race***

#### *Overall*

Nearly all respondents (91.5%) were White (Table 11-12). About 1% of respondents considered themselves Hispanic/Latino (Table 11-14).

#### *Analysis by strata and gender*

There were no significant differences by strata in race (Table 11-12). A slightly higher proportion of female respondents considered themselves Hispanic/Latino (Table 11-14).

### ***Late Respondents***

People who responded to a follow-up postcard survey used to gauge nonresponse (i.e. reluctant responders) were similar in age and gender to other respondents. The reluctant respondents had lived fewer years ( $\bar{x} = 40.19$  years) in Minnesota than other respondents had ( $\bar{x} = 42.25$  years) ( $t = 2.267$ ,  $p < 0.05$ ). They had also lived a smaller proportion of their lives in Minnesota (75.3% versus 79.3%) ( $t = 3.171$ ,  $p < 0.01$ ). A smaller proportion of reluctant respondents (81%) had participated in fishing compared to the early respondents (94%) ( $t = 12.802$ ,  $p < 0.001$ ). Of respondents who had fished, a smaller proportion of reluctant respondents (58%) had participated in fishing in the past 10 years, compared to the early respondents (69%) ( $t = 5.872$ ,  $p < 0.001$ ). Similarly, a smaller proportion of reluctant respondents who had fished had fished in Minnesota (91%), compared to the early respondents (93%) ( $t = 3.178$ ,  $p < 0.01$ ).

## Section 11: Demographic Information

**Table 11-1: Year of birth.**

Regions	Sample size (n)	Year of birth	Age
Overall (SSI) <sup>1</sup>	472	1951	53.7
Males <sup>2</sup>	282	1952	52.9
Females	445	1957	47.6
F=18.326***, $\eta=0.157$			
Male (SSI)	261	1952	53.4
Female (SSI)	218	1952	53.4
Female (DNR)	211	1964	41.5
F=41.677***, $\eta=0.329$			

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 11-2: Were you born in the United States?**

	n	No	Yes
Overall (SSI) <sup>1</sup>	484	6.4	93.6
Males <sup>2</sup>	286	5.2	94.8
Females	454	2.2	97.8
$\chi^2=4.975^*$ , Cramer's V=0.082			
Male (SSI)	265	5.7	94.3
Female (SSI)	224	3.1	96.9
Female (DNR)	213	0.5	99.5
$\chi^2=10.064^{**}$ , Cramer's V=0.120			

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 11: Demographic Information

**Table 11-3: If born outside the United States, how long have you lived in the United States?**

	n	Years
Overall (SSI) <sup>1</sup>	31	19.7
Males <sup>2</sup>	15	27.1
Females	10	15.5
	F=4.166 n.s.; $\eta=0.392$	
Male (SSI)	15	27.1
Female (SSI)	7	14.3
Female (DNR)	1	18.0
	F=1.845 n.s.; $\eta=0.395$	

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 11-4: Years and proportion of life living in Minnesota.**

	n	Years	%
Overall (SSI) <sup>1</sup>	468	41.56	77.69
Males <sup>2</sup>	285	43.34	82.04
Females	444	38.29	81.88
	F=12.212***; $\eta=0.129$		F=0.006 n.s.; $\eta=0.003$
Male (SSI)	264	43.41	81.45
Female (SSI)	218	40.85	76.68
Female (DNR)	210	35.83	87.50
	F=9.403***; $\eta=0.163$		F=9.432***; $\eta=0.164$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001



## Section 11: Demographic Information

**Table 11-5: Years and proportion of life from birth to age 17 living on a farm, ranch, or in a non-suburban rural area.**

	N	Years	%
Overall (SSI) <sup>1</sup>	450	5.35	10.34
Males <sup>2</sup>	274	5.65	11.16
Females	433	5.28	12.03
		F=0.440 n.s.; $\eta=0.025$	F=0.415 n.s.; $\eta=0.024$
Male (SSI)	254	5.54	10.95
Female (SSI)	206	5.09	9.90
Female (DNR)	210	5.46	14.19
		F=0.235 n.s.; $\eta=0.027$	F=3.422*; $\eta=0.101$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 11-6: Years and proportion of adult life living on a farm, ranch, or in a non-suburban rural area.**

	N	Years	%
Overall (SSI) <sup>1</sup>	449	3.78	6.58
Males <sup>2</sup>	271	4.03	7.16
Females	428	3.06	5.83
		F=1.954 n.s.; $\eta=0.053$	F=1.306 n.s.; $\eta=0.043$
Male (SSI)	252	3.83	6.71
Female (SSI)	204	3.56	6.25
Female (DNR)	207	2.47	5.25
		F=1.431 n.s.; $\eta=0.066$	F=0.573 n.s.; $\eta=0.042$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 11: Demographic Information

**Table 11-7: Years and proportion of life living on a farm, ranch, or in a non-suburban rural area.**

	N	Years	%
Overall (SSI) <sup>1</sup>	444	8.99	16.76
Males <sup>2</sup>	271	9.68	18.23
Females	425	8.23	17.82
		F=1.913 n.s.; $\eta$ =0.052	F=0.040 n.s.; $\eta$ =0.008
Male (SSI)	252	9.35	17.55
Female (SSI)	201	8.38	15.90
Female (DNR)	207	7.99	19.60
		F=0.634 n.s.; $\eta$ =0.044	F=1.004 n.s.; $\eta$ =0.055

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 11-8: Highest Level of Education.**

Regions	Percent of respondents whose highest level of education was...								
	Grade school	Some high school	High school diploma (or GED)	Some vocational or technical school	Associate's degree	Some college	4-year college degree	Some graduate school	Graduate degree
Overall (SSI) <sup>1</sup>	2.1	2.0	13.8	9.9	7.9	23.4	20.7	6.6	13.5
Males <sup>2</sup>	2.1	2.1	11.3	8.6	9.6	23.3	22.9	6.5	13.7
Females	2.4	1.1	16.2	9.1	10.2	25.1	20.6	4.1	11.3
	$\chi^2=8.027$ n.s., Cramer's V=0.103								
Male (SSI)	1.5	2.2	11.5	8.5	10.0	23.0	23.3	6.7	13.3
Female (SSI)	3.5	1.7	15.7	10.4	7.0	24.3	19.6	4.8	13.0
Female (DNR)	1.4	0.5	17.7	8.4	14.0	25.6	21.4	2.8	8.4
	8.4	$\chi^2=22.778$ n.s., Cramer's V=0.126							

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 11: Demographic Information

**Table 11-9: Do you primarily speak English at home?**

	n	No	Yes
Overall (SSI) <sup>1</sup>	490	3.8	96.2
Males <sup>2</sup>	292	1.7	98.3
Females	460	2.0	98.0
	$\chi^2=0.058$ n.s., Cramer's V=0.009		
Male (SSI)	270	1.9	98.1
Female (SSI)	228	3.5	96.5
Female (DNR)	215	0.5	99.5
	$\chi^2=5.353$ n.s., Cramer's V=0.087		

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 11-10: What was your approximate total (gross) household income before taxes last year?**

	N	\$
Overall (SSI) <sup>1</sup>	386	\$60,324.51
Males <sup>2</sup>	230	\$84,260.40
Females	369	\$53,090.44
		F=32.318***; $\eta=0.227$
Male (SSI)	214	\$80,139.68
Female (SSI)	183	\$43,829.91
Female (DNR)	172	\$60,630.81
		F=22.867***; $\eta=0.273$

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 11: Demographic Information

**Table 11-11: Which of the following best describes your current marital status?**

	n	Single	Divorced/ Widowed	Living with a partner	Married
Overall (SSI) <sup>1</sup>	490	22.0	26.3	6.8	44.9
Males <sup>2</sup>	290	14.1	9.3	4.1	72.4
Females	460	28.7	28.3	11.1	32.0
$\chi^2=118.243^{***}$ , Cramer's V=0.397					
Male (SSI)	268	13.8	9.3	3.4	73.5
Female (SSI)	229	30.6	41.0	9.6	18.8
Female (DNR)	214	28.5	14.5	13.6	43.5
$\chi^2=177.914^{***}$ , Cramer's V=0.354					

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 11-12: Race.**

Regions	n	Caucasian/ White	African American/ Black	Asian	Pacific Islander	American Indian or Alaskan Native
Overall (SSI) <sup>1</sup>	484	91.5	4.3	3.3	0.0	1.0
Males <sup>2</sup>	288	96.2	1.7	1.7	0.0	0.3
Females	457	95.0	2.8	1.5	0.0	0.7
$\chi^2=1.286$ n.s., Cramer's V=0.042						
Male (SSI)	266	95.9	1.9	1.9	0.0	0.4
Female (SSI)	226	91.6	4.4	2.7	0.0	1.3
Female (DNR)	214	98.1	1.4	0.5	0.0	0.0
$\chi^2=12.074$ n.s., Cramer's V=0.092						

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.

n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 11: Demographic Information

**Table 11-13: If you are Asian, do you consider yourself...**

Regions	n	Hmong	Vietnamese	Laotian	Chinese	Japanese	Other
Overall (SSI) <sup>1</sup>	15	34.0	0.0	0.0	12.7	12.7	40.6
Males <sup>2</sup>	5	40.0	0.0	0.0	20.0	20.0	20.0
Females	6	16.7	0.0	0.0	16.7	16.7	50.0
$\chi^2=1.253$ n.s., Cramer's V=0.337							
Male (SSI)	5	40.0	0.0	0.0	20.0	20.0	20.0
Female (SSI)	5	20.0	0.0	0.0	20.0	20.0	40.0
Female (DNR)	1	0.0	0.0	0.0	0.0	0.0	100.0
$\chi^2=12.074$ n.s., Cramer's V=0.092							

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

**Table 11-14: Hispanic background.**

Regions	Sample size (n)	% Yes
Overall (SSI) <sup>1</sup>	403	1.0
Males <sup>2</sup>	247	0.0
Females	390	1.5
$\chi^2=3.836^*$ , Cramer's V=0.078		
Male (SSI)	229	0.0
Female (SSI)	183	2.2
Female (DNR)	192	1.0
$\chi^2=4.948$ n.s., Cramer's V=0.091		

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

## Section 11: Demographic Information

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**Table 11-15: If you are Hispanic, do you consider yourself...**

Regions	n	Mexican-American	Central American	Hispanic American	Latino	Chicano
Overall (SSI) <sup>1</sup>	2	50.0	0.0	50.0	0.0	0.0
Males <sup>2</sup>	0	0.0	0.0	0.0	0.0	0.0
Females	3	33.3	0.0	66.7	0.0	0.0
	$\chi^2=1.253$ n.s., Cramer's V=0.337					
Male (SSI)	0	0.0	0.0	0.0	0.0	0.0
Female (SSI)	2	50.0	0.0	50.0	0.0	0.0
Female (DNR)	1	0.0	0.0	100.0	0.0	0.0

**Notes:**

<sup>1</sup> A stratified sample based on gender was drawn. Overall data includes general public (SSI) samples and excludes the female sample drawn from the DNR license records. The overall data is weighted to reflect gender and angler proportions in the population.

<sup>2</sup> Gender data includes respondents from both the general public (SSI) and the DNR license record samples.  
n.s.=not significant, \*P ≤ 0.05, \*\*P ≤ 0.01, \*\*\*P ≤ 0.001

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# Appendix A



# OUTDOOR RECREATION AND FISHING SURVEY

**A study of Twin Cities residents' interest and participation in  
fishing and other outdoor recreation activities.**



**Summer 2005**

**Please complete this survey and return it in  
the postage-paid return envelope.**

Minnesota Cooperative Fish and Wildlife Research Unit  
University of Minnesota  
200 Hodson Hall, 1980 Folwell Avenue  
St. Paul, Minnesota 55108  
(612) 624-3479

**Part 1: Participation in Outdoor Activities**

**Q1. Check yes if you have ever participated in the following outdoor activities. If you have participated, indicate how many times in the past year, and if it is a favorite activity.**

For each activity listed, if you have ever participated in the activity, please check yes.	How many days did you do this activity in the past 12 months?	Is this a favorite activity?
Walking for fitness or recreation <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Running or jogging <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Bicycling <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Outdoor rock climbing <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Backpacking <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Camping <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Bird or wildlife watching <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Nature/wildlife photography <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Hunting <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Fishing <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Canoeing, kayaking or rowing <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Sailing or windsurfing <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Motor boating <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Water skiing <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Jet skiing <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Swimming in lakes, rivers, oceans <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Swimming in an outdoor pool <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Golf <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Tennis <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Baseball or softball <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Soccer <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Outdoor basketball <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Outdoor volleyball <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
All-terrain vehicle (ATV) driving <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Snowmobiling <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Cross-country skiing <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Snowshoeing <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Downhill skiing or snowboarding <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Sledding <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Outdoor ice skating <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes

**Q1 (continued).**

For each activity listed, if you have <u>ever</u> participated in the activity, please check yes.	How many days did you do this activity in the past 12 months?	Is this a favorite activity?
Picnicking <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Gardening <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Horseback riding <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes
Sightseeing <input type="checkbox"/> Yes	_____	<input type="checkbox"/> Yes

**Q2. How important are the following outcomes when you select outdoor activities to participate in? Circle one number for each item using the scale 1 (not at all important) to 5 (extremely important).**

	Not at all Important	Somewhat Important	Important	Very Important	Extremely Important
To enjoy nature	1	2	3	4	5
For physical fitness	1	2	3	4	5
To reduce stress and tension	1	2	3	4	5
To escape crowds/noise	1	2	3	4	5
To learn about the outdoors	1	2	3	4	5
To share my outdoor/recreational values	1	2	3	4	5
To spend time with family	1	2	3	4	5
To spend time with friends	1	2	3	4	5
To rest and relax	1	2	3	4	5
To meet new people	1	2	3	4	5
To take risks	1	2	3	4	5
To develop skills and abilities	1	2	3	4	5
To gain self confidence	1	2	3	4	5
To feel independent	1	2	3	4	5
To be on my own	1	2	3	4	5
To develop spiritual values	1	2	3	4	5
To think about personal values	1	2	3	4	5
To lead others	1	2	3	4	5
To maintain my cultural roots	1	2	3	4	5
To escape daily routine	1	2	3	4	5
To view scenery	1	2	3	4	5
To challenge myself	1	2	3	4	5
To get food	1	2	3	4	5
To be creative	1	2	3	4	5

**Q3. How much do the following factors limit your participation in outdoor activities? Please circle the response that indicates how much the factor limits the amount and type of activities you do. (Please circle one response for each.)**

	<b>Not at all Limiting</b>	<b>Somewhat Limiting</b>	<b>Limiting</b>	<b>Very Limiting</b>	<b>Extremely Limiting</b>
Family commitments	1	2	3	4	5
Work commitments	1	2	3	4	5
Crowding at recreation areas	1	2	3	4	5
Cost of equipment	1	2	3	4	5
Cost of permits and licenses	1	2	3	4	5
Travel costs and entrance fees	1	2	3	4	5
Regulations too restrictive or unclear	1	2	3	4	5
People of my gender or ethnic background are discriminated against by other participants	1	2	3	4	5
Health problems	1	2	3	4	5
Inadequate skills	1	2	3	4	5
Being outdoors is uncomfortable	1	2	3	4	5
Fear or safety concerns	1	2	3	4	5
No desire to participate	1	2	3	4	5
Weather conditions	1	2	3	4	5
Interest in indoor activities	1	2	3	4	5
The other people who participate are not friendly	1	2	3	4	5
The amount of planning required to go	1	2	3	4	5
Availability of people to go with	1	2	3	4	5
The amount of effort required to go	1	2	3	4	5
People of my gender or ethnic background are discriminated against by outdoor recreation managers	1	2	3	4	5
Age	1	2	3	4	5
Limited access to good places to go	1	2	3	4	5
Don't like to be outside	1	2	3	4	5
No good opportunities near my home	1	2	3	4	5

**Part 2: Personal Values**

**Q4.** Listed below are statements concerning the value and management of nature. (Circle one response for each.)

For each item, indicate how much you agree or disagree.	Disagree	Tend to Disagree	Neutral	Tend to Agree	Agree
The primary value of nature is to provide recreation for people.	1	2	3	4	5
Nature is valuable only to produce jobs & income for people.	1	2	3	4	5
Nature's primary value is to provide things useful to people.	1	2	3	4	5
Nature is valuable only if people get to use it in some way.	1	2	3	4	5
Plants and animals have as much right to exist as people.	1	2	3	4	5
Plants and animals are primarily valuable as food for people.	1	2	3	4	5
Nature is valuable in its own right, regardless of people.	1	2	3	4	5
Humans are no more important than other parts of nature.	1	2	3	4	5
Humans were meant to rule over the rest of nature.	1	2	3	4	5
Humans have a right to change the natural world to suit their needs.	1	2	3	4	5
Nature should primarily be managed for human benefit.	1	2	3	4	5
Humans have a duty to protect fish and wildlife.	1	2	3	4	5

**Part 3: Perceptions of Fishing**

We are interested in learning how people feel about recreational fishing. It does not matter whether or not you have fished in the past or intend to fish in the future. You do not need to know anything specific about fishing.

**Q5.** For each of the word pairs below, please place an "X" in the space that best expresses how you feel about fishing. Mark the middle category (neither) if neither word describes your feelings about fishing.

Fishing is...

Bad	Very	Somewhat	Neither	Somewhat	Very	Good
Dirty	Very	Somewhat	Neither	Somewhat	Very	Clean
Unpleasant	Very	Somewhat	Neither	Somewhat	Very	Pleasant
Boring	Very	Somewhat	Neither	Somewhat	Very	Fun
Stressful	Very	Somewhat	Neither	Somewhat	Very	Relaxing
Dangerous	Very	Somewhat	Neither	Somewhat	Very	Safe
Difficult	Very	Somewhat	Neither	Somewhat	Very	Easy
Unfavorable	Very	Somewhat	Neither	Somewhat	Very	Favorable

	Definitely False	Somewhat False	Neutral	Somewhat True	Definitely True
Q6. If I wanted to, I could easily go fishing. (Please circle one.)	1	2	3	4	5

Q7. Now we are interested in learning about your personal beliefs about fishing. Please circle the response that indicates **how much fishing would help you achieve the listed outcome.** (Please circle *one* response for each.)

Fishing would be a good way for me to...	Very Unlikely	Unlikely	Neither	Likely	Very Likely
...enjoy nature	1	2	3	4	5
...get physically fit	1	2	3	4	5
...reduce stress and tension	1	2	3	4	5
...escape crowds/noise	1	2	3	4	5
...learn about the outdoors	1	2	3	4	5
...share my outdoor/recreational values with others	1	2	3	4	5
...spend time with family	1	2	3	4	5
...spend time with friends	1	2	3	4	5
...rest and relax	1	2	3	4	5
...meet new people	1	2	3	4	5
...take risks	1	2	3	4	5
...develop skills and abilities	1	2	3	4	5
...gain self confidence	1	2	3	4	5
...feel independent	1	2	3	4	5
...be on my own	1	2	3	4	5
...develop spiritual values	1	2	3	4	5
...think about personal values	1	2	3	4	5
...lead others	1	2	3	4	5
...maintain my cultural roots	1	2	3	4	5
...escape daily routine	1	2	3	4	5
...view scenery	1	2	3	4	5
...challenge myself	1	2	3	4	5
...get food	1	2	3	4	5
...be creative	1	2	3	4	5

**Q8. Now we are interested in how other people you know feel about fishing. How much would the following people approve of you fishing? (Please circle one response for each.)**

	Strongly Disapprove	Moderately Disapprove	Neither	Moderately Approve	Strongly Approve	Not Applicable
Father	1	2	3	4	5	NA
Mother	1	2	3	4	5	NA
Spouse/significant other	1	2	3	4	5	NA
Friends	1	2	3	4	5	NA
Son(s)	1	2	3	4	5	NA
Daughter(s)	1	2	3	4	5	NA
Brother(s)	1	2	3	4	5	NA
Sister(s)	1	2	3	4	5	NA

**Q9. How much do you want to do what the people listed think you should do? (Circle one response for each.)**

I want to do what my _____ thinks I should do.	Very Unlikely	Unlikely	Neither	Likely	Very Likely	Not Applicable
Father	1	2	3	4	5	NA
Mother	1	2	3	4	5	NA
Spouse or significant other	1	2	3	4	5	NA
Friends	1	2	3	4	5	NA
Son(s)	1	2	3	4	5	NA
Daughter(s)	1	2	3	4	5	NA
Brother(s)	1	2	3	4	5	NA
Sister(s)	1	2	3	4	5	NA

**Q10. Now we are interested in how likely you might be to go fishing. (Circle one response for each.)**

How likely is it that you will participate in fishing...	Very Unlikely	Unlikely	Neither	Likely	Very Likely
...anytime in the future?	1	2	3	4	5
...in Minnesota anytime in the future?	1	2	3	4	5
...outside of Minnesota in the next 5 years?	1	2	3	4	5
...in Minnesota in the next 5 years?	1	2	3	4	5
...outside of Minnesota in the next year?	1	2	3	4	5
...in Minnesota in the next year?	1	2	3	4	5

**Q11. How much do each of the following factors limit your interest/participation in fishing? (Circle one number for each.)**

	<b>Not at all Limiting</b>	<b>Somewhat Limiting</b>	<b>Limiting</b>	<b>Very Limiting</b>	<b>Extremely Limiting</b>
Not interested in fishing	1	2	3	4	5
Family commitments	1	2	3	4	5
Work commitments	1	2	3	4	5
Crowding at fishing areas	1	2	3	4	5
Cost of fishing equipment	1	2	3	4	5
Cost of fishing licenses	1	2	3	4	5
Travel costs and entrance fees	1	2	3	4	5
Fishing regulations too restrictive or unclear	1	2	3	4	5
People of my gender or ethnic background are discriminated against by outdoor recreation managers	1	2	3	4	5
Health problems	1	2	3	4	5
Inadequate fishing skills	1	2	3	4	5
Being outdoors is uncomfortable	1	2	3	4	5
Fear or safety concerns	1	2	3	4	5
No desire to participate in fishing	1	2	3	4	5
Weather conditions	1	2	3	4	5
Interest in indoor activities	1	2	3	4	5
The other people who fish are not friendly	1	2	3	4	5
The amount of planning required to go fishing	1	2	3	4	5
Availability of people to go fishing with	1	2	3	4	5
The amount of effort required to go fishing	1	2	3	4	5
People from my gender or ethnic background are discriminated against by other anglers	1	2	3	4	5
Age	1	2	3	4	5
Limited access to good places to go fishing	1	2	3	4	5
Don't like to be outside	1	2	3	4	5
No good fishing opportunities near my home	1	2	3	4	5



**Q12. Listed below are statements concerning lakes in the Twin Cities metro area. (Circle one response for each.)**

	Disagree	Tend to Disagree	Neutral	Tend to Agree	Agree
There are good places to fish in the Twin Cities	1	2	3	4	5
I would eat fish caught from lakes in the Twin Cities	1	2	3	4	5
I would eat fish caught from Twin Cities rivers & streams	1	2	3	4	5
Lakes in the Twin Cities are too dirty for fish to live in.	1	2	3	4	5
Lakes in the Twin Cities are dirty/polluted	1	2	3	4	5

**Q13. Have you heard of the Minnesota Department of Natural Resources' *Fishing in the Neighborhood* program aimed at increasing angling opportunities, public awareness and environmental stewardship in the Twin Cities metropolitan region?**

- Yes.
- No.

**Q14. Have you heard of the Minnesota Department of Natural Resources' *MinnAqua* program for angling education?**

- Yes.
- No.

**Q15. Have you heard of the Minnesota Fish Consumption Advisory from the Department of Health?**

- Yes.
- No.

**Part 4: Past Participation in Fishing**

**Q16. Have you ever participated in fishing?**

- Yes. *(Please continue by answering Q17.)*
- No. *(If no, skip to Section 5, Q27.)*

**Q17. How old were you when you first went fishing?**

- Less than 10 years old
- 10-19 years old
- 20-29 years old
- 30-39 years old
- 40-49 years old
- 50+ years old

**Q18. Have you fished in Minnesota?**

- Yes. *(Please answer Q18a and 19.)*
- No. *(Please answer Q19.)*

**Q18a. Where in Minnesota have you fished?**  
*(Check all that apply.) (Then please answer Q19.)*

- Twin Cities metro (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, Washington counties)
- Minnesota counties outside the metro area

**Q19. Please list states and countries outside Minnesota where you have fished:**

**Q20. Have you fished in the past 10 years?**

- Yes. *(Please continue with Q21.)*
- No. *(If no, please skip to Q23.)*

**Q21. If yes, of the past 10 years, approximately how many years did you fish?**

↓ \_\_\_\_\_ Years

**Q22. Over the past 10 years, how many years did you fish in Minnesota?**

\_\_\_\_\_ Years

<b>Q23. Have you ever fished from:</b>	<b>If yes, check box.</b>	<b>If yes, have you participated in Minnesota?</b>
... a public pier/dock	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
... the shore of a lake, river, stream	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
... a motorized boat/canoe	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
... a nonmotorized boat/canoe	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes

<b>Q24. Have you ever done the following types of fishing?</b>	<b>If yes, check box.</b>	<b>If yes, have you participated in Minnesota?</b>
Ice fishing	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Fly fishing	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Spear fishing	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
Bow fishing	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes

**Q25. When you have fished in the past, have you generally targeted a specific type of fish or fished for whatever was biting?**

- Fished for whatever was biting. *(Please skip to Q27.)*
- Targeted a specific type of fish. *(Please answer Q26.)*
- Spent about an equal amount of time doing both. *(Please answer Q26.)*

**Q26. When you have fished in the past, what 3 types of fish have you targeted most frequently:**

1 \_\_\_\_\_

2 \_\_\_\_\_

3 \_\_\_\_\_

**Part 5. About You**

**Q27. In what year were you born?**

\_\_\_\_\_ year

**Q28. Were you born in the United States?**

- No. (Answer Q28a and Q28b.)  
 Yes. (Skip to Q 29.)

→ **Q28a. Where were you born?**



\_\_\_\_\_

**Q28b. How long have you lived in the United States?**

\_\_\_\_\_ years

**Q29. How many years have you lived in Minnesota?**

\_\_\_\_\_ years

**Q30. How many years did you live on a farm or ranch, or in a non-suburban rural area from birth until age 17?**

\_\_\_\_\_ years

**Q31. How many years have you lived on a farm or ranch, or in a non-suburban rural area from age 18 until now?**

\_\_\_\_\_ years

**Q32. What is the highest level of education you have completed? (Check one.)**

- |  |   |
|--|---|
| <input type="checkbox"/> Grade school  | <input type="checkbox"/> Some college                           |
| <input type="checkbox"/> Some high school                                    | <input type="checkbox"/> Four-year college (bachelor's) degree  |
| <input type="checkbox"/> High school diploma or GED                          | <input type="checkbox"/> Some graduate school                   |
| <input type="checkbox"/> Some vocational or technical school                 | <input type="checkbox"/> Graduate (master's or doctoral) degree |
| <input type="checkbox"/> Vocational or technical school (associate's) degree |   |

**Q33. Do you primarily speak English at home?**

- No. (*Answer Q33a.*)
- Yes. (*Skip to Q 34.*)

**Q33a. What language do you primarily speak at home?**

---

**Q34. What is your gender?**

- Male
- Female

**Q35. What was your approximate total (gross) household income before taxes last year?**

\$ \_\_\_\_\_

**Q36. Which of the following best describes your current marital status? (*Check one.*)**

- Single
- Divorced or widowed
- Living with a partner
- Married

**Q37. Which of the following best describes your race?**

(*Check all that apply.*)

- Caucasian/White
- African American/Black
- Asian (*If yes, answer Q35a.*) →
- Pacific Islander
- American Indian or Alaskan Native

**Q37a. Do you consider yourself...**

- Hmong
- Vietnamese
- Laotian
- Chinese
- Japanese
- Other:

**Q38. Do you consider yourself**

**Hispanic/Latino/Spanish? (*Check one.*)**

- No
- Yes (*If yes, answer Q36a.*) →

**Q38a. Do you consider yourself...**

- Mexican American
- Central American
- Hispanic American
- Latino
- Chicano

**THANK YOU FOR YOUR HELP!**

Please return the completed questionnaire in the enclosed self-addressed, stamped envelope.