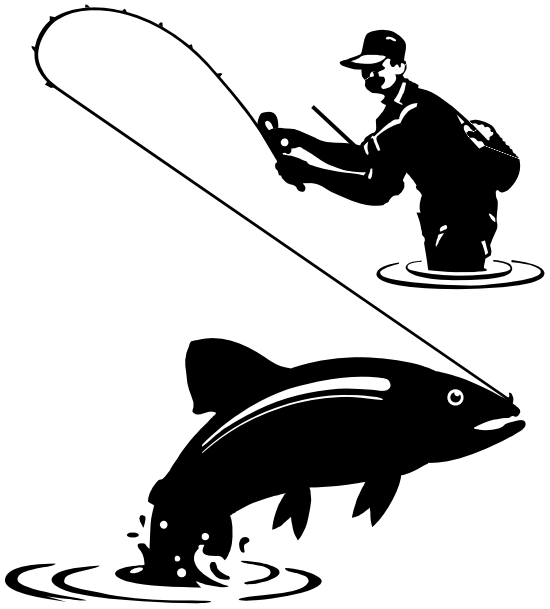
Fishing in Minnesota:
A Study of Angler Participation and Activities



Final Report

A cooperative study conducted by:

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

Fishing in Minnesota:
A Study of Angler Participation and Activities

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Acknowledgements

This study was a cooperative effort supported by the Minnesota Department of Natural Resources, Division of Wildlife (DNR) and the U.S. Geological Survey through the Minnesota Cooperative Fish and Wildlife Research Unit at the University of Minnesota. We especially wish to thank the Minnesota Department of Natural Resources for their support of the project. We give special thanks to Rick Nordby for his assistance in working with the electronic licensing system. Finally, we thank the many Minnesota anglers who took the time to complete the survey and helped to further our understanding of this important clientele.

Suggested Citation

Schroeder, S. & Fulton D. C. (2004). *Fishing in Minnesota: A Study of Angler Participation and Activities*. Final report to the Minnesota Department of Natural Resources. St. Paul, MN: University of Minnesota, USGS Minnesota Cooperative Fish and Wildlife Research Unit.

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Executive Summary

This study was conducted to:

- identify the lifelong fishing participation patterns of Minnesota residents.
- identify important factors in the process of initiation into and continuation of fishing for Minnesota residents.
- identify the constraints and barriers that influence the decision to participate in fishing.
- identify involvement in recruiting/mentoring new anglers.
- identify important factors related to recruiting/mentoring people into fishing.
- compare age cohorts on each of the above.

A survey was distributed to 2,400 individuals from each of four age cohorts. After adjusting for undeliverable surveys and invalid respondents, the response rate was 54%.

Fishing Background

Over 70% of respondents had fished in Minnesota in each of the previous 5 years. Only 3% of respondents had not fished any of the previous 5 years.

Sixty-one percent of respondents had fished for whatever was biting during the 2002 season. Seventy percent had fished for walleye. Approximately 60% had fished for northern pike, crappies, or sunfish. About a third fished for perch, smallmouth bass, or largemouth bass. About 10% fished for catfish or stream trout, and less than 10% fished for lake trout or white bass. (Figure S-1).

Figure S-1: Percentage of respondents who fished for ___ in 2002

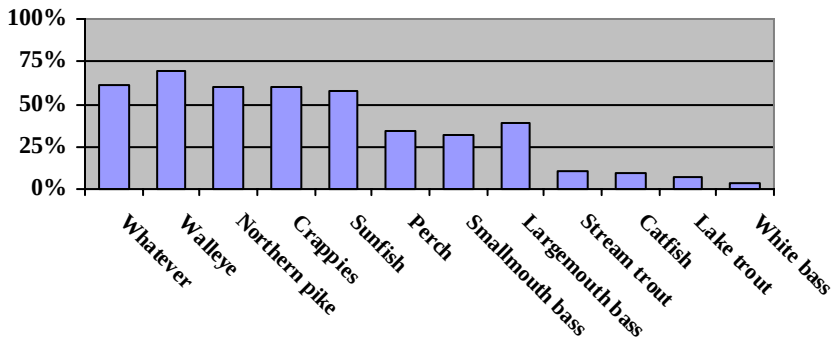
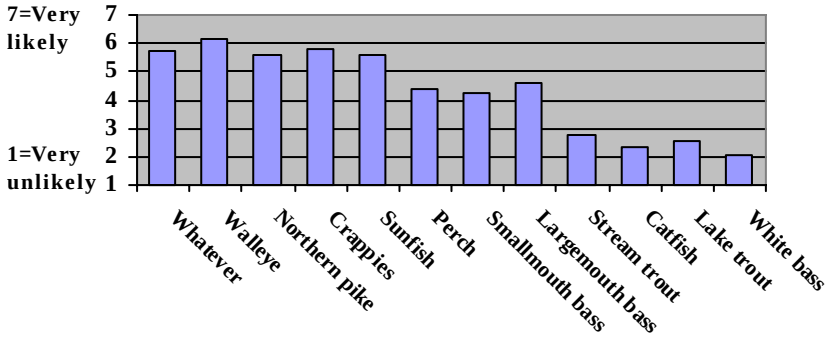


Figure S-2: Intention to fish for...



Respondents indicated their intention to fish for different types of fish in the next 5 years (Figure S-2). Respondents from the 20-29 age cohort indicated a somewhat stronger intention and respondents from the 50-65 age cohort reported a weaker intention to fish for "whatever is biting" in the next five years. Respondents from the 30-39 and 40-49 age cohorts reported a stronger intention to fish for two popular species, walleye and crappie.

Investment in Fishing

Based on responses to nine statements, respondents reported slightly to moderately high investment in fishing. About three-fourths of respondents indicated that they had mentored new anglers. Over half of respondents from the 20-29 year age cohort had mentored a new angler; nearly 80% of respondents from the other age cohorts had mentored new angler.

Attitudes About Fishing

Respondents reported very positive attitudes about fishing, and strong social support for their participation in fishing. The positive attitudes and norms were consistent among the age cohorts.

Outcomes of Fishing

Respondents reported that (a) enjoying nature and the outdoors, (b) spending time with family or friends, and (c) resting and relaxing were all very important outcomes of fishing. Developing and demonstrating skills, and getting food were only slightly to moderately important outcomes. Compared to older respondents, younger respondents rated spending time with family and friends, and developing and demonstrating skills as more important outcomes.

Constraints to Fishing

Respondents reported that it was slightly to moderately easy for them to go fishing. Nearly half of the respondents, however, reported that their fishing was constrained in some way.

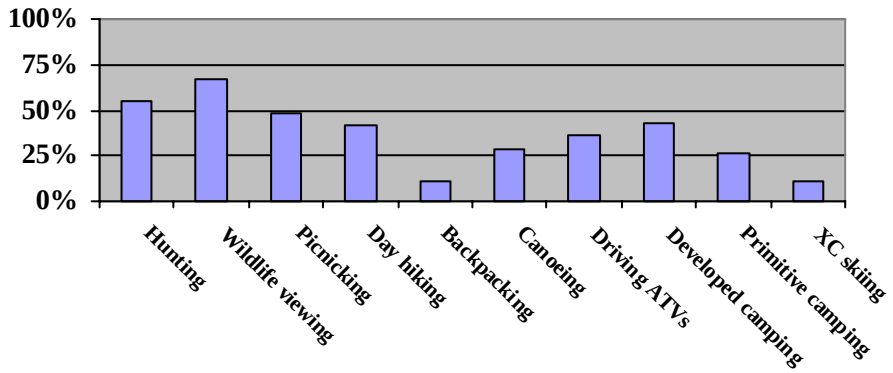
Nearly 90% of the respondents who reported being constrained indicated that they cannot fish as often as they would like. About 30% reported that they have stopped doing fishing activities that they did in the past, although they would still like to do them. Twenty percent of respondents reported that there are types of fishing that they would like to start but can't. Only 5% of respondents reported that because of constraints, they do not enjoy fishing as much as they might otherwise.

Survey participants responded to 25 specific constraint items. Work commitments most strongly limited respondents' fishing activity. Family commitments, limited leisure time, safety concerns, weather conditions, and crowding at fishing areas moderately limited fishing participation.

Compared to older respondents, younger respondents felt that their interest in other recreational activities, their interest in free time at home, and the cost of equipment were more limiting to their fishing participation. Physical ability, safety concerns, age, and poor health were rated more limiting by older respondents than by younger respondents. Family commitments were rated somewhat more limiting for respondents from the 30-39 and 40-49 age cohorts. Work commitments were rated somewhat less limiting for the 50-65 and 66 and older age cohorts. Weather conditions were rated somewhat less limiting to respondents from the 30-39 age cohort and somewhat more limiting to respondents from the 50-65 and 66 and older age cohorts. Limited fishing opportunities near home were rated more limiting by respondents from the 20-29 age cohort and less limiting by respondents from the 30-39, 50-65, and 66+ age cohorts.

Other Outdoor Activities

Figure S-3: Participation in other recreational activities



During the previous 12 months, over half of respondents had hunted, and approximately two-thirds of respondents had participated in wildlife watching. Approximately 40% of respondents had participated in picnicking, day hiking, driving all-terrain vehicles, or developed camping during the past 12 months. Between 25 and 30% of respondents had canoed or gone primitive camping, and about 10% of respondents had gone cross-country skiing or backpacking (Figure S-3).

Rural Residence

Respondents who report more rural upbringing or residence are more motivated to fish to get food, to spend time with family and friends, and to develop and demonstrate skills. They are more constrained by work commitments and the cost of licenses, and less constrained by personal concern for animals' pain and distress, and the lack of fishing opportunities near home.

Conclusions and Implications

The results suggest that Minnesota anglers are committed to fishing. They report consistent participation, positive attitudes and norms, and strong investment.

Research has suggested that fishing participation rates among younger age cohorts are declining. These results, however, suggest that young people who are already active anglers have moderate to high interest and commitment to the activity. In general, compared to older anglers, younger anglers report as high or higher levels of fishing participation and intention to participate in fishing in the future. In general, young people report similar attitudes and norms related to fishing. Respondents from the 20-29 age cohort, however, generally reported lower investment in fishing then respondents from the other age cohorts. More people from younger age cohorts also report being constrained in their fishing participation. Interest in other recreational activities, interest in free time at home, and the cost of equipment constrain young people more than older people.

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Introduction

Minnesota is home to over nearly 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).

Between 1991 and 2001, the number of state resident anglers increased 21%; the angling-related expenditures by in-state anglers increased 32%, and the angling days in the state increased 66% (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).

Although Minnesota's participation in angling appears stable, indicators of angler recruitment and retention in the United States point to decreasing trends nationwide (Kelly, 2004). If trends in fishing participation continue to decline, there are obvious negative implications for the funding obtained from license sales and the federal taxes on fishing equipment. In addition, declines in the number of people who fish and hunt could lead to decreasing social and political support for recreational and conservation programs. Recent license sales patterns in Minnesota suggest that participation among youths and young adults is dramatically lower than older age cohorts (Kelly, 2004).

Study Purpose and Objectives

The purpose of this study was to examine the experience-use patterns of anglers in Minnesota in order to better understand the implications of current participation and recruitment patterns on future trends in fishing participation.

The specific objectives of this study were to:

1. identify the lifelong fishing participation patterns of Minnesota residents.
2. identify important factors in the process of initiation into and continuation of fishing for Minnesota residents.
3. identify the constraints and barriers that influence the decision to participate in fishing.
4. identify involvement in recruiting/mentoring new anglers.
5. identify important factors related to recruiting/mentoring people into fishing.
6. compare age cohorts on each of the above.

The questions used to address each objective are provided in the survey instrument (Appendix A) and discussed in more detail in the subsequent sections.

Methods

Sampling

The population of interest in this study included all Minnesota residents aged 20 and older who had purchased a fishing license for any of the 2000, 2001, or 2002 seasons. The sampling frame used to draw the study sample was the Minnesota Department of Natural Resources' (DNR) Electronic Licensing System (ELS). A stratified random sample of Minnesota residents from the ELS was drawn. The study sample was stratified by age during the 2002 season. The four age cohorts were 20-29 years, 30-39 years,

40-49 years, and 50 years and older. The target sample size was n = 300 for each age cohort (n = 1,200 statewide). An initial stratified random sample of 2,400 individuals, approximately 600 from each of the four age cohorts, was drawn from the ELS.

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 four times between November 2003 and January 2004. 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. 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 7 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. Returned surveys were collected through April 7, 2004.

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: Your fishing background;
Part 2: Your introduction to fishing;
Part 3: Your involvement in fishing;
Part 4: Attitudes about fishing;
Part 5: The outcomes of fishing;
Part 6: Constraints to your fishing activity;
Part 7: Patterns of fishing in your life;
Part 8: Other outdoor activities;
Part 9: Sociodemographics.

Data Entry and Analysis

Data were professionally keypunched and analyzed on a personal computer using the Statistical Program for the Social Sciences (SPSS for Windows 11.5.0). We computed basic descriptive statistics and frequencies for the statewide results. Age strata results were compared using one-way analysis of variance and cross-tabulations.

Survey Response Rate

Of the 2,400 questionnaires mailed, 296 were undeliverable, sent to a deceased person, or otherwise invalid. Of the remaining 2,104 surveys, a total of 1,134 were returned, resulting in an overall response rate of 53.9%. Response rates for each age cohort are summarized in Table I-1. Responses received after

the third survey mailing (n = 173) were used as a nonresponse check. Differences between early and late responses are described in Section 9.

Based on the unique ID numbers in the Minnesota Department of Natural Resources' (DNR) Electronic Licensing System (ELS), we drew a random sample of 2,400 individuals who had purchased a fishing license in any of the years 2000, 2001, or 2002. This sample was stratified to obtain 600 each from the following four age cohorts: 20-29, 30-39, 40-49, and 50+.

Table I-1: Response rates for each age cohort

	Initial sample size	Number invalid	Valid sample size	Number completed and returned	Response rate %
20-29 years	600	127	473	187	39.53%
30-39 years	600	89	511	261	51.08%
40-49 years	600	41	559	312	55.81%
50+ years	600	39	561	374	66.67%
Full sample	2,400	296	2,104	1,134	53.90%

Population Estimates

Statewide Estimates

The study sample was drawn using a stratified random sample with age in 2002 defining the four study cohorts. For this reason the data had to be weighted to reflect the proportion of the population in each age cohort when making statewide estimates. Table I-2 summarizes the statewide population proportions for each age cohort.

Age-Cohort Estimates

For these estimates, the data were not weighted. To provide more detail about older respondents, the 50+ study cohort is divided into 50-65 year-olds and respondents over 65.

Table I-2: Proportion of state fishing-license purchasers and state residents by age cohort.

	Proportion of anglers in each age cohort (2002 season)		Proportion of Minnesota residents in each age cohort (2000 census)		Proportion of Minnesotans that fish (2000 season/census)	
Age cohorts	Frequency[1]	Proportion	Frequency[2]	Proportion	Frequency	Proportion
20-29	165,224	23.03%	642,309	18.43%	165,238	25.7%
30-39	176,472	24.60%	765,802	21.98%	193,625	25.3%
40-49	197,877	27.58%	775,939	22.27%	194,316	25.0%
50+	177,799	24.78%	1,300,584	37.32%	168,174	12.9%
Statewide	717,372	100.00%	3,484,634	100.00%	721,353	20.7%

Notes:

[1] Source: DNR license database

[2] Source: www.lmic.state.mn.us

Section 1: Fishing Background

Findings:

Age Started Fishing in Minnesota

Statewide

Respondents reported the year that they started fishing *in Minnesota*, and we calculated the age from the year reported. On average, respondents started fishing at 12 years of age (Table 1-1). The age of initiation to fishing ranged from 1 to 64 years.

Age Cohorts

The average age that respondents started fishing in Minnesota differed significantly by age cohort ($F=9.339$, $p\leq0.001$, $\eta=0.187$) (Table 1-1). In general, younger respondents started fishing at a younger age. Respondents from the 20-29 age cohort started fishing at nine years of age on average, compared to 10.8, 12.1, 14.0, and 16.4 years of age for the 30-39, 40-49, 50-65, and 66 and over age cohorts respectively. Given the pattern, the difference in reported age of initiation to Minnesota fishing may be the result of recall bias.

Fishing in Minnesota in 1998-2002

Statewide

Respondents checked a box for each of the years that they had fished in Minnesota from 1998 through 2002, or a box indicating that they had not fished in Minnesota during any of these years. Over 80% of respondents fished in each of the five years (Table 1-2). Over 70% of respondents fished in all of the seasons from 1998 through 2002, and less than 4% of respondents didn't fish any of these years (Table 1-3). There was no significant correlation between the number of years fishing in Minnesota between 1998 and 2002 and the percentage of years living in a rural area.

Age Cohorts

The percentage of respondents who fished in 1998 and 1999 differed significantly by age cohort (Table 1-2). In general, a smaller percentage of anglers from the 20-29 age cohort fished during these years compared to anglers from the other age cohorts. There was also a significant difference in the percentage of respondents who reported that they had not fished during any of these years. A larger proportion of older respondents reported that they had not fished during any of the years from 1998 through 2002.

Fishing for Different Species

Statewide

Respondents circled yes or no to indicate whether they had ever fished in Minnesota for: (a) whatever is biting, (b) walleye, (c) northern pike, (d) perch, (e) crappie, (f) sunfish, (g)

smallmouth bass, (h) largemouth bass, (i) white bass, (j) catfish, (k) lake trout, or (l) other trout (rainbow, brook, brown). Over 8 out of 10 respondents (83%) had fished for walleye in Minnesota at some point in their life (Table 1-5). About three-fourths of respondents had fished for sunfish (Table 1-9), crappie (Table 1-8), northern pike (Table 1-6), or "whatever is biting" (Table 1-4). Approximately half of the respondents had fished for largemouth bass (Table 1-11), perch (Table 1-7), or smallmouth bass (Table 1-10). Nearly 20% of respondents had fished for stream trout (Table 1-15). About 15% of respondents had fished for catfish (Table 1-13) or lake trout (Table 1-14). Only 7% of respondents had fished for white bass (Table 1-12).

Age Cohorts

More young respondents reported fishing for "whatever is biting" (χ^2=30.030, p≤0.001, Cramer's V=0.166) (Table 1-4), largemouth bass (χ^2=12.810, p≤0.05, Cramer's V=0.108) (Table 1-11), and catfish (χ^2=15.604, p≤0.01, Cramer's V=0.119) (Table 1-13). Fewer respondents from the 50-65 and 66 and over age cohorts reported fishing for perch (χ^2=13.254, p≤0.01, Cramer's V=0.110) (Table 1-7). There were no significant differences among age cohorts in the percentage of respondents who had fished for walleye (Table 1-5), northern pike (Table 1-6), crappie (Table 1-8), sunfish (Table 1-9), smallmouth bass (Table 1-10), white bass (Table 1-12), lake trout (Table 1-14), or stream trout (Table 1-15).

Fishing in the Previous 5 years

Statewide

If a respondent had fished for a type of fish, they reported the number of years of the previous 5 years that they had fished for that type of fish. Respondents fished an average of approximately 4 of the previous 5 years for "whatever is biting," walleye, northern pike, perch, crappie, sunfish, and largemouth bass (Tables 1-16, 1-17, 1-18, 1-19, 1-20, 1-21, and 1-23). On average, respondents fished 3.8 of the previous 5 years for smallmouth bass (Table 1-22), 3.4 years for white bass (Table 1-24), 3.2 years for catfish (Table 1-25), 3.1 years for stream trout (Table 1-27), and 2.8 years for lake trout (1-26).

Age Cohorts

There were significant differences by age cohort in the average number of years of the previous 5 years fishing for: walleye (F=4.058, p≤0.01, η=0.134) (Table 1-17), northern pike (F=2.429, p≤0.05, η=0.111) (Table 1-18), perch (F=3.602, p≤0.01, η=0.166) (Table 1-19), crappie (F=3.277, p≤0.05, η=0.126) (Table 1-20), and smallmouth bass (F=2.673, p≤0.05, η=0.148) (Table 1-22). For each of these types of fish, respondents from the 20-29 age cohort fished relatively fewer of the previous 5 years than other age cohorts. For perch and crappie, respondents from the 40-49 and 66+ age cohorts fished relatively more of the previous 5 years. For northern pike, respondents from the 40-49 and 50-65 age cohorts fished relatively more. For smallmouth bass, respondents from the 66+ age cohort fished relatively more, and for walleye, respondents from the 40-49, 50-65, and 66+ age cohorts fished relatively more of the previous 5 years.

Section 1: Fishing Background

Fishing During the 2002 Season

Statewide

Respondents circled yes or no to indicate if they had fished for a specific type of fish during the 2002 season. If they had fished for a type of fish, they were asked to report the number of days they fished during the past 12 months.

Over two-thirds of respondents (70%) fished for walleye in 2002 (Table 1-29). Approximately 60% of respondents had fished for "whatever is biting" (Table 1-28), northern pike (Table 1-30), crappie (Table 1-32), or sunfish (Table 1-33). Between 30% and 40% of respondents had fished for perch (Table 1-31), smallmouth bass (Table 1-34), or largemouth bass (Table 1-35). Approximately 10% of respondents had fished for catfish, lake trout, and stream trout (Tables 1-37, 1-38, 1-39). Only 4% of respondents had fished for white bass (Table 1-36).

On average, respondents who indicated that they had fished for a specific type of fish (as opposed to "whatever is biting") fished for four different types of fish in Minnesota during 2002 (Table 1-40). About 25% of respondents had targeted one to three types. Twenty-seven percent had targeted three to five types, and another 27% had targeted six or more different types. Nearly 20% had not targeted a specific type of fish.

Respondents fished an average of 20 days during 2002 for "whatever is biting" (Table 1-41). They fished an average of 18 days during the year for walleye (Table 1-42). They fished 16 to 17 days during the year for northern pike (Table 1-43), crappie (Table 1-45), and sunfish (Table 1-46). They fished 10 to 15 days during the year for perch (Table 1-44), smallmouth and largemouth bass (Tables 1-47 and 1-48), and catfish (Table 1-50). Respondents fished less than 10 days during the year for white bass (Table 1-49), lake trout (Table 1-51), and stream trout (Table 1-52).

Age Cohorts

A larger percentage of respondents from the younger age cohorts reported fishing for "whatever is biting" (χ^2=20.428, p≤0.001, Cramer's V=0.138) (Table 1-28), largemouth bass (χ^2=18.186, p≤0.001, Cramer's V=0.130) (Table 1-35), and catfish (χ^2=18.272, p≤0.001, Cramer's V=0.131) (Table 1-37). More respondents from the 30-39 age cohort and fewer respondents from the 50-65 and 66+ age cohorts reported fishing for sunfish (χ^2=9.489, p≤0.05, Cramer's V=0.094) (Table 1-33). Relatively more respondents from the 30-39 and 40-49 age cohorts fished for walleye (χ^2=10.671, p≤0.05, Cramer's V=0.100) (Table 1-29) and perch (χ^2=10.634, p≤0.05, Cramer's V=0.100) (Table 1-31).

Fishing During the Next 5 years

Statewide

Respondents were asked to indicate how likely it was that they would fish for different types of fish in Minnesota at some time during the next 5 years. Responses were recorded on a scale of 1 (very unlikely) to 7 (very likely).

The statewide average for walleye was 6.1 (somewhat likely) (Table 1-54). Over 85% of respondents indicated that it was slightly to very likely that they would fish for walleye in the next 5 years (Table 1-66). The statewide averages for "whatever is biting," northern pike, crappie, and sunfish were all between 5.0 and 6.0 (slightly to somewhat likely) (Tables 1-53, 1-55, 1-57, and 1-58). Over 75% of respondents indicated that it was slightly to very likely that they would fish for these species (Tables 1-65, 1-67, 1-69, 1-70). The averages for perch, smallmouth bass, and largemouth bass were between 4.0 and 5.0 (neutral to slightly likely) (Tables 1-54, 1-59, 1-60). Between 50 and 60% of respondents indicated that it was likely that they would fish for these types of fish (Tables 1-68, 1-71, 1-72). The averages for white bass, catfish, lake trout, and stream trout were between 2.0 and 3.0 (slightly to somewhat unlikely) (Tables 1-61, 1-62, 1-63, 1-64). One-quarter or fewer respondents indicated that it was likely that they would fish for these types of fish (Tables 1-73, 1-74, 1-75, 1-76).

Age Cohorts

There were significant differences by age cohort in intention to fish for specific types of fish in the next 5 years (Tables 1-53, 1-54, 1-56, 1-57, 1-60, 1-63). Respondents from the 30-39 and 40-49 age cohorts reported higher intentions to fish for walleye and crappie (Tables 1-54 and 1-57). When asked about intentions to fish for "whatever is biting," respondents from the 20-29 age cohort reported higher intentions and respondents from the 50-65 age cohort reported lower intentions (Table 1-53). For perch, respondents from the 30-39 age cohort reported higher intentions and respondents from the 50-65 age cohort reported lower intentions (Table 1-56). Respondents from the 20-29 and 30-39 age cohorts reported higher intentions to fish for largemouth bass, while respondents from the 50-65 and 66+ age cohorts reported lower intentions to target this type of fish (Table 1-60). Finally, for lake trout, respondents from the 20-29 age cohort reported higher intentions and respondents from the 50-65 and 66+ age cohorts reported lower intentions (Table 1-63). There were no significant differences by age cohort in intention to fish for northern pike, sunfish, smallmouth bass, white bass, catfish, or stream trout (Tables 1-55, 1-58, 1-59, 1-61, 1-62, 1-64).

Summary

More than 80% of respondents had fished each of the years between 1998 and 2002. Eighty-three percent of respondents had fished for walleye in Minnesota at some point during their lifetime, and about 75% had fished for northern pike, sunfish, crappie, or "whatever is biting." Younger respondents were more likely to have fished for "whatever is biting," catfish, or largemouth bass. Respondents in the 30-39 and 40-49 age cohorts were more likely to report having fished for walleye and crappie during 2002; respondents from these age cohorts also reported higher intentions to fish for these types of fish in the next 5 years.

Section 1: Fishing Background

Table 1-1: Age started fishing.

Age Cohorts	Sample size (n)	Age started fishing
Statewide[1]	1,044	11.6
20-29	175	9.0
30-39	242	10.8
40-49	287	12.1
50-65	299	14.0
66+	38	16.4
	F=9.339***, η=0.187	

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 1-2: Proportion of anglers who fished in 1998 through 2002.

Age Cohorts	% who fished in 1998	% who fished in 1999	% who fished in 2000	% who fished in 2001	% who fished in 2002	% who did not fish any of these years
Statewide[1]	80.2	82.6	85.1	87.0	86.3	3.7
20-29	73.1	76.3	81.7	84.9	87.6	2.7
30-39	78.7	82.9	87.2	90.7	89.1	2.3
40-49	85.3	87.3	87.0	87.9	86.6	3.3
50-65	82.9	83.5	84.8	85.1	83.2	4.0
66+	86.4	86.4	86.4	86.4	79.5	6.8
Chi-square	χ^2=13.815**	χ^2=10.350*	χ^2=3.446	χ^2=5.135	χ^2=6.248	χ^2=3.230
Cramer's V	0.111**	0.096*	0.056	0.068	0.075	0.054

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05, **P ≤ 0.01

Table 1-3: Proportion of anglers that fished ___ years between 1998 through 2002.

Age Cohorts	0	1	2	3	4	5	Mean
Statewide[1]	3.4	5.9	5.3	7.4	7.1	70.8	4.21
20-29	2.7	8.6	7.5	10.2	5.4	65.6	4.04
30-39	2.3	4.3	4.7	9.3	10.1	69.4	4.29
40-49	3.3	4.9	4.6	4.9	6.5	75.9	4.34
50-65	5.4	6.2	4.9	5.7	6.5	71.4	4.16
66+							
	χ^2=25.255*						F=2.167

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 1-4: Proportion of anglers who ever fished for whatever is biting.

Age Cohorts	n	% who fished for whatever
Statewide[1]	1,097	75.5
20-29	183	88.0
30-39	252	72.6
40-49	300	75.0
50-65	315	68.3
66+	43	58.1
	χ^2=30.030***, Cramer's V=0.166***	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 1-5: Proportion of anglers who ever fished for walleye.

Age Cohorts	n	% who fished for walleye
Statewide[1]	1,098	83.2
20-29	183	80.3
30-39	252	86.5
40-49	301	83.1
50-65	315	82.9
66+	43	86.0
	χ^2=3.322, Cramer's V=0.055	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-6: Proportion of anglers who ever fished for northern pike.

Age Cohorts	n	% who fished for northern pike
Statewide[1]	1,100	72.9
20-29	184	76.6
30-39	252	75.0
40-49	302	71.2
50-65	315	69.2
66+	43	69.8
	χ^2=4.472, Cramer's V=0.064	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-7: Proportion of anglers who ever fished for perch.

Age Cohorts	n	% who fished for perch
Statewide[1]	1,099	47.5
20-29	183	48.6
30-39	252	53.2
40-49	302	49.0
50-65	315	40.0
66+	43	34.9
	χ^2=13.254**, Cramer's V=0.110**	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 1-8: Proportion of anglers who ever fished for crappie.

Age Cohorts	n	% who fished for crappie
Statewide[1]	1100	76.0
20-29	184	73.4
30-39	252	76.2
40-49	302	77.8
50-65	315	78.7
66+	43	62.8
	χ^2=6.637, Cramer's V=0.078	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-9: Proportion of anglers who ever fished for sunfish.

Age Cohorts	n	% who fished for sunfish
Statewide[1]	1100	76.3
20-29	184	78.8
30-39	252	76.6
40-49	302	78.1
50-65	315	72.7
66+	43	65.1
	χ^2=6.227, Cramer's V=0.075	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-10: Proportion of anglers who ever fished for smallmouth bass.

Age Cohorts	n	% who fished for smallmouth bass
Statewide[1]	1099	44.6
20-29	184	45.1
30-39	251	48.2
40-49	302	44.0
50-65	315	43.2
66+	43	25.6
	χ^2=7.877, Cramer's V=0.085	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-11: Proportion of anglers who ever fished for largemouth bass.

Age Cohorts	n	% who fished for largemouth bass
Statewide[1]	1100	52.5
20-29	184	58.2
30-39	251	54.6
40-49	302	52.0
50-65	316	47.2
66+	43	32.6
	χ^2=12.810*, Cramer's V=0.108*	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*$P \leq 0.05$

Table 1-12: Proportion of anglers who ever fished for white bass.

Age Cohorts	n	% who fished for white bass
Statewide[1]	1099	7.4
20-29	183	6.0
30-39	252	9.1
40-49	302	8.3
50-65	315	6.7
66+	43	2.3
	χ^2=3.816, Cramer's V=0.059	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-13: Proportion of anglers who ever fished for catfish.

Age Cohorts	n	% who fished for catfish
Statewide[1]	1098	15.7
20-29	183	21.3
30-39	251	17.9
40-49	302	14.2
50-65	315	10.8
66+	43	4.7
	χ^2=15.604**, Cramer's V=0.119**	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 1-14: Proportion of anglers who ever fished for lake trout.

Age Cohorts	n	% who fished for lake trout
Statewide[1]	1098	14.2
20-29	183	13.1
30-39	251	15.5
40-49	302	12.9
50-65	315	15.6
66+	43	16.3
	χ^2=1.509, Cramer's V=0.037	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-15: Proportion of anglers who ever fished for stream trout.

Age Cohorts	n	% who fished for stream trout
Statewide[1]	1097	18.0
20-29	183	18.0
30-39	251	17.9
40-49	302	19.9
50-65	314	16.2
66+	43	14.0
	χ^2=1.843, Cramer's V=0.041	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-16: Average number of years, of previous 5 years, fishing for whatever is biting.[1]

Age Cohorts	Whatever	
	N	Mean
Statewide[1]	780	4.20
20-29	152	4.14
30-39	174	4.14
40-49	209	4.23
50-65	205	4.21
66+	23	4.83
	F=1.440, η=0.087	

Notes:

[1]A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-17: Average number of years, of previous 5 years, fishing for walleye.[1]

Age Cohorts	Walleye	
	N	Mean
Statewide[1]	901	4.12
20-29	148	3.78
30-39	218	4.10
40-49	246	4.31
50-65	253	4.20
66+	33	4.45
	F=4.058** η=0.134	

Notes:

[1]A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 1-18: Average number of years, of previous 5 years, fishing for northern pike.[1]

Age Cohorts	Northern pike	
	N	Mean
Statewide[1]	792	4.15
20-29	140	3.91
30-39	190	4.11
40-49	210	4.29
50-65	214	4.30
66+	28	4.11
	F=2.429* η=0.111	

Notes:

[1]A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 1-19: Average number of years, of previous 5 years, fishing for perch.[1]

Age Cohorts	Perch	
	N	Mean
Statewide[1]	525	3.96
20-29	89	3.55
30-39	137	3.92
40-49	147	4.24
50-65	128	4.08
66+	14	4.36
	F=3.602** η=0.166	

Notes:

[1]A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 1-20: Average number of years, of previous 5 years, fishing for crappie.[1]

Age Cohorts	Crappie	
	N	Mean
Statewide[1]	822	4.14
20-29	132	3.89
30-39	194	4.11
40-49	233	4.36
50-65	237	4.12
66+	25	4.52
	F=3.277* η=0.126	

Notes:

[1]A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 1-21: Average number of years, of previous 5 years, fishing for sunfish.[1]

Age Cohorts	Sunfish	
	N	Mean
Statewide[1]	815	4.12
20-29	140	3.99
30-39	191	4.06
40-49	229	4.25
50-65	222	4.14
66+	24	4.25
	F=1.001 η=0.071	

Notes:

[1]A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-22: Average number of years, of previous 5 years, fishing for smallmouth bass.[1]

Age Cohorts	Smallmouth bass	
	N	Mean
Statewide[1]	488	3.75
20-29	85	3.36
30-39	122	3.75
40-49	132	3.95
50-65	131	3.90
66+	10	4.40
	F=2.673* η=0.148	

Notes:

[1]A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 1-23: Average number of years, of previous 5 years, fishing for largemouth bass.[1]

Age Cohorts	Largemouth bass	
	N	Mean
Statewide[1]	564	3.93
20-29	105	3.72
30-39	139	3.88
40-49	153	4.05
50-65	153	4.11
66+		
	F=1.833 η	

Notes:

[1]A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-24: Average number of years, of previous 5 years, fishing for white bass.[1]

Age Cohorts	White bass	
	N	Mean
Statewide[1]	94	3.38
20-29	14	3.36
30-39	26	2.92
40-49	29	3.52
50-65	22	3.86
66+	1	5.00
	F=0.981 η=0.208	

Notes:

[1]A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-25: Average number of years, of previous 5 years, fishing for catfish.[1]

Age Cohorts	Catfish	
	N	Mean
Statewide[1]	179	3.16
20-29	41	2.83
30-39	48	3.02
40-49	43	3.42
50-65	34	3.59
66+	3	5.00
	F=2.139 η=0.223	

Notes:

[1]A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-26: Average number of years, of previous 5 years, fishing for lake trout.[1]

Age Cohorts	Lake trout	
	N	Mean
Statewide[1]	160	2.81
20-29	27	2.48
30-39	40	2.93
40-49	43	2.74
50-65	44	3.09
66+	4	3.00
	F=0.574 η=0.122	

Notes:

[1]A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-27: Average number of years, of previous 5 years, fishing for stream trout.[1]

Age Cohorts	Stream trout	
	N	Mean
Statewide[1]	200	3.12
20-29	34	2.74
30-39	47	3.34
40-49	62	3.11
50-65	49	3.45
66+	4	2.25
	F=1.358 η=0.166	

Notes:

[1]A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-28: Proportion of respondents who fished for whatever was biting in 2002.

Age Cohorts	N	% who fished for whatever was biting
Statewide[1]	1073	61.4
20-29	179	73.7
30-39	248	60.5
40-49	292	59.2
50-65	309	54.4
66+	41	48.8
	χ^2=20.428***, Cramer's V=0.138***	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 1-29: Proportion of respondents who fished for walleye in 2002.

Age Cohorts	n	% who fished for walleye
Statewide[1]	1073	69.6
20-29	179	63.1
30-39	248	74.6
40-49	292	73.3
50-65	308	68.2
66+	42	59.5
	χ^2=10.671*, Cramer's V =0.100	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 1-30: Proportion of respondents who fished for northern pike in 2002.

Age Cohorts	n	% who fished for northern pike
Statewide[1]	1075	59.6
20-29	179	59.8
30-39	248	64.9
40-49	293	60.1
50-65	309	54.7
66+	42	50.0
	χ^2=7.546, Cramer's V =0.084	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-31: Proportion of respondents who fished for perch in 2002.

Age Cohorts	n	% who fished for perch
Statewide[1]	1075	34.1
20-29	179	324
30-39	248	37.1
40-49	293	38.2
50-65	309	29.4
66+	42	19.0
	χ^2=10.634*, Cramer's V =0.100*	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 1-32: Proportion of respondents who fished for crappie in 2002.

Age Cohorts	n	% who fished for crappie
Statewide[1]	1075	59.9
20-29	179	55.9
30-39	248	64.9
40-49	293	62.1
50-65	310	58.1
66+	42	45.2
	χ^2=8.606, Cramer's V =0.090	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-33: Proportion of respondents who fished for sunfish in 2002.

Age Cohorts	n	% who fished for sunfish
Statewide[1]	1074	57.7
20-29	179	58.7
30-39	248	62.1
40-49	292	59.2
50-65	309	52.4
66+	42	42.9
	χ^2=9.489*, Cramer's V =0.094*	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 1-34: Proportion of respondents who fished for smallmouth bass in 2002.

Age Cohorts	n	% who fished for smallmouth bass
Statewide[1]	1074	31.9
20-29	179	32.4
30-39	248	35.5
40-49	292	31.8
50-65	309	31.1
66+	42	7.1
	χ^2=13.458**, Cramer's V =0.112**	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 1-35: Proportion of respondents who fished for largemouth bass in 2002.

Age Cohorts	n	% who fished for largemouth bass
Statewide[1]	1074	39.2
20-29	179	45.3
30-39	248	40.3
40-49	292	39.7
50-65	309	35.0
66+	42	11.9
	χ^2=18.186***, Cramer's V =0.130***	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 1-36: Proportion of respondents who fished for white bass in 2002.

Age Cohorts	n	% who fished for white bass
Statewide[1]	1073	4.0
20-29	179	2.8
30-39	248	4.8
40-49	292	5.1
50-65	309	3.6
66+	41	0.0
	χ^2=3.958, Cramer's V =0.061	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-37: Proportion of respondents who fished for catfish in 2002.

Age Cohorts	n	% who fished for catfish
Statewide[1]	1073	10.0
20-29	179	14.0
30-39	248	13.3
40-49	292	8.2
50-65	309	5.8
66+	41	0.0
	χ^2=18.272***, Cramer's V =0.131***	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 1-38: Proportion of respondents who fished for lake trout in 2002.

Age Cohorts	n	% who fished for lake trout
Statewide[1]	1074	7.6
20-29	179	8.4
30-39	248	7.7
40-49	293	7.2
50-65	309	8.1
66+	41	2.4
	χ^2=1.901, Cramer's V =0.042	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-39: Proportion of respondents who fished for stream trout in 2002.

Age Cohorts	n	% who fished for stream trout
Statewide[1]	1072	10.3
20-29	179	9.5
30-39	246	10.2
40-49	293	12.6
50-65	309	9.1
66+	41	4.9
	χ^2=3.686, Cramer's V =0.059	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-40: Number of types of fish targeted during 2002.

Age Cohorts	Sample size (n)	% who targeted __ different types of fish							Mean # of types of fish targeted[2]
		0	1	2	3	4	5	6+	
Statewide[1]	1077	16.8	5.9	8.4	12.5	14.4	14.7	27.1	3.93
20-29	179	19.6	6.7	7.3	8.4	13.4	14.5	30.2	3.82
30-39	248	13.3	4.4	6.9	16.1	14.5	11.7	33.0	4.15
40-49	294	14.3	4.8	8.8	12.9	15.0	18.0	26.2	3.96
50-65	311	20.3	7.1	8.4	12.5	14.5	14.8	22.4	3.53
66+	42	16.7	14.3	26.2	11.9	16.7	11.9	2.4	2.43
	χ^2=68.273*, Cramer's V=0.126*								

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

[2] F=5.409 ($p \leq 0.001$). Range 0 to11.

*$P \leq 0.05$

Table 1-41: Average number of days spent fishing for "whatever is biting" in Minnesota in last 12 months, for those who fished in 2002.

Age Cohorts	Whatever is biting	
	N	Mean
Statewide[1]	662	20.20
20-29	129	22.05
30-39	150	19.50
40-49	178	18.58
50-65	171	21.38
66+	20	14.55
	F=0.635, η=0.063	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-42: Average number of days spent fishing for walleye in Minnesota in last 12 months, for those who fished in 2002.

Age Cohorts	Walleye	
	N	Mean
Statewide[1]	750	18.05
20-29	113	16.46
30-39	185	17.81
40-49	214	18.50
50-65	213	19.84
66+	26	13.92
	F=0.582, η=0.056	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-43: Average number of days spent fishing for northern pike in Minnesota in last 12 months, for those who fished in 2002.

Age Cohorts	Northern pike	
	N	Mean
Statewide[1]	643	16.19
20-29	109	18.25
30-39	160	15.79
40-49	176	15.75
50-65	169	15.79
66+	22	8.95
	F=0.816, η=0.072	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-44: Average number of days spent fishing for perch in Minnesota in last 12 months, for those who fished in 2002.

Age Cohorts	Perch	
	N	Mean
Statewide[1]	390	14.01
20-29	61	14.44
30-39	100	12.11
40-49	119	12.28
50-65	96	18.98
66+	9	16.11
	F=1.511, η=0.125	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-45: Average number of days spent fishing for crappie in Minnesota in last 12 months, for those who fished in 2002.

Age Cohorts	Crappie	
	N	Mean
Statewide[1]	650	16.79
20-29	102	18.94
30-39	161	16.54
40-49	180	16.77
50-65	186	15.78
66+	20	8.65
	F=0.799, η=0.070	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-46: Average number of days spent fishing for sunfish in Minnesota in last 12 months, for those who fished in 2002.

Age Cohorts	Sunfish	
	N	Mean
Statewide[1]	621	17.00
20-29	106	18.45
30-39	151	15.75
40-49	171	16.78
50-65	167	17.91
66+	20	10.90
	F=0.470, η=0.055	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-47: Average number of days spent fishing for smallmouth bass in Minnesota in last 12 months, for those who fished in 2002.

Age Cohorts	Smallmouth bass	
	N	Mean
Statewide[1]	358	12.84
20-29	64	11.45
30-39	92	11.58
40-49	93	13.25
50-65	98	15.24
66+	4	24.00
	F=0.743, η=0.092	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-48: Average number of days spent fishing for largemouth bass in Minnesota in last 12 months, for those who fished in 2002.

Age Cohorts	Largemouth bass	
	N	Mean
Statewide[1]	428	12.97
20-29	83	11.96
30-39	102	13.08
40-49	116	12.78
50-65	109	14.50
66+	6	13.50
	F=0.237, η=0.048	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-49: Average number of days spent fishing for white bass in Minnesota in last 12 months, for those who fished in 2002.

Age Cohorts	White bass	
	N	Mean
Statewide[1]	72	8.67
20-29	12	7.67
30-39	20	6.75
40-49	21	13.38
50-65	16	5.75
66+	1	0
	F=0.352, η=0.146	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-50: Average number of days spent fishing for catfish in Minnesota in last 12 months, for those who fished in 2002.

Age Cohorts	Catfish	
	N	Mean
Statewide[1]	138	10.82
20-29	32	8.63
30-39	41	9.22
40-49	32	13.13
50-65	22	17.05
66+	1	0.00
	F=0.463, η=0.122	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-51: Average number of days spent fishing for lake trout in Minnesota in last 12 months, for those who fished in 2002.

Age Cohorts	Lake trout	
	N	Mean
Statewide[1]	115	6.73
20-29	22	10.64
30-39	28	5.43
40-49	31	5.68
50-65	29	4.90
66+	2	1.50
	F=0.930, η=0.183	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-52: Average number of days spent fishing for stream trout in Minnesota in last 12 months, for those who fished in 2002.

Age Cohorts	Stream trout	
	N	Mean
Statewide[1]	142	8.02
20-29	23	14.91
30-39	35	7.23
40-49	45	5.07
50-65	34	6.24
66+	3	2.33
	F=2.492*, η=0.262	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 1-53: How likely you will fish for "whatever is biting" during the next 5 years[1].

Age Cohorts	n	Whatever is biting
Statewide[2]	987	5.71
20-29	176	6.12
30-39	229	5.69
40-49	272	5.73
50-65	268	5.19
66+	28	5.57
	F=5.103***, η=0.144	

Notes:

[1] Mean is based on a scale of 1=very unlikely, 2=somewhat unlikely, 3=slightly unlikely, 4=undecided, 5=slightly likely, 6=somewhat likely, 7=very likely.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 1-54: How likely you will fish for walleye during the next 5 years[1].

Age Cohorts	n	Walleye
Statewide[2]	1060	6.12
20-29	178	5.94
30-39	245	6.44
40-49	287	6.25
50-65	306	5.85
66+	40	5.58
	F=5.888***, η=0.148	

Notes:

[1] Mean is based on a scale of 1=very unlikely, 2=somewhat unlikely, 3=slightly unlikely, 4=undecided, 5=slightly likely, 6=somewhat likely, 7=very likely.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 1-55: How likely you will fish for northern pike during the next 5 years[1].

Age Cohorts	N	Northern pike
Statewide[2]	1031	5.58
20-29	178	5.62
30-39	240	5.80
40-49	278	5.59
50-65	291	5.28
66+	36	5.36
	F=2.286, η=0.094	

Notes:

[1] Mean is based on a scale of 1=very unlikely, 2=somewhat unlikely, 3=slightly unlikely, 4=undecided, 5=slightly likely, 6=somewhat likely, 7=very likely.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-56: How likely you will fish for perch during the next 5 years[1].

Age Cohorts	n	Perch
Statewide[2]	969	4.42
20-29	168	4.29
30-39	228	4.82
40-49	271	4.51
50-65	262	3.98
66+	28	4.39
	F=4.093**, η=0.130	

Notes:

[1] Mean is based on a scale of 1=very unlikely, 2=somewhat unlikely, 3=slightly unlikely, 4=undecided, 5=slightly likely, 6=somewhat likely, 7=very likely.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 1-57: How likely you will fish for crappie during the next 5 years[1].

Age Cohorts	n	Crappie
Statewide[2]	1039	5.77
20-29	177	5.49
30-39	237	6.11
40-49	287	5.95
50-65	298	5.54
66+	34	5.18
	F=5.332***, η=0.143	

Notes:

[1] Mean is based on a scale of 1=very unlikely, 2=somewhat unlikely, 3=slightly unlikely, 4=undecided, 5=slightly likely, 6=somewhat likely, 7=very likely.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 1-58: How likely you will fish for sunfish during the next 5 years[1].

Age Cohorts	n	Sunfish
Statewide[2]	1023	5.61
20-29	174	5.68
30-39	240	5.61
40-49	283	5.76
50-65	283	5.35
66+	34	5.24
	F=1.745, η=0.083	

Notes:

[1] Mean is based on a scale of 1=very unlikely, 2=somewhat unlikely, 3=slightly unlikely, 4=undecided, 5=slightly likely, 6=somewhat likely, 7=very likely.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-59: How likely you will fish for smallmouth bass during the next 5 years[1].

Age Cohorts	n	Smallmouth bass
Statewide[2]	962	4.28
20-29	169	4.51
30-39	S30	4.33
40-49	267	4.31
50-65	260	3.96
66+	21	3.57
	F=1.986, η=0.091	

Notes:

[1] Mean is based on a scale of 1=very unlikely, 2=somewhat unlikely, 3=slightly unlikely, 4=undecided, 5=slightly likely, 6=somewhat likely, 7=very likely.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-60: How likely you will fish for largemouth bass during the next 5 years[1].

Age Cohorts	n	Largemouth bass
Statewide[2]	976	4.58
20-29	171	4.90
30-39	235	4.73
40-49	268	4.56
50-65	263	4.15
66+	24	3.33
	F=4.486***, η=0.136	

Notes:

[1] Mean is based on a scale of 1=very unlikely, 2=somewhat unlikely, 3=slightly unlikely, 4=undecided, 5=slightly likely, 6=somewhat likely, 7=very likely.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***$P \leq 0.001$

Table 1-61: How likely you will fish for white bass during the next 5 years[1].

Age Cohorts	n	White bass
Statewide[2]	892	2.09
20-29	161	2.09
30-39	217	2.12
40-49	248	2.21
50-65	227	1.94
66+	20	1.25
	F=1.919, η=0.094	

Notes:

[1] Mean is based on a scale of 1=very unlikely, 2=somewhat unlikely, 3=slightly unlikely, 4=undecided, 5=slightly likely, 6=somewhat likely, 7=very likely.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-62: How likely you will fish for catfish during the next 5 years[1].

Age Cohorts	N	Catfish
Statewide[2]	911	2.36
20-29	164	2.55
30-39	222	2.36
40-49	253	2.37
50-65	232	2.15
66+	20	1.30
	F=2.462, η=0.105	

Notes:

[1] Mean is based on a scale of 1=very unlikely, 2=somewhat unlikely, 3=slightly unlikely, 4=undecided, 5=slightly likely, 6=somewhat likely, 7=very likely.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-63: How likely you will fish for lake trout during the next 5 years[1].

Age Cohorts	n	Lake trout
Statewide[2]	919	2.52
20-29	163	2.77
30-39	221	2.48
40-49	256	2.59
50-65	240	2.22
66+	22	1.91
	F=2.441*, η=0.104	

Notes:

[1] Mean is based on a scale of 1=very unlikely, 2=somewhat unlikely, 3=slightly unlikely, 4=undecided, 5=slightly likely, 6=somewhat likely, 7=very likely.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*$P \leq 0.05$

Table 1-64: How likely you will fish for stream trout during the next 5 years[1].

Age Cohorts	n	Stream trout
Statewide[2]	920	2.78
20-29	165	2.75
30-39	224	2.83
40-49	253	2.98
50-65	239	2.51
66+	21	1.86
	F=2.301, η=0.101	

Notes:

[1] Mean is based on a scale of 1=very unlikely, 2=somewhat unlikely, 3=slightly unlikely, 4=undecided, 5=slightly likely, 6=somewhat likely, 7=very likely.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-65: How likely respondents will fish for "whatever is biting" during the next 5 years.

Age Cohorts	Unlikely	Undecided	Likely
Statewide[1]	16.7	5.2	78.1
20-29	9.7	5.1	85.2
30-39	17.0	5.2	77.7
40-49	16.5	4.8	78.7
50-65	25.0	6.0	69.0
66+	17.9	3.6	78.6
	χ^2=19.112*, Cramer's V=0.099*		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 1-66: How likely respondents will fish for walleye during the next 5 years.

Age Cohorts	Unlikely	Undecided	Likely
Statewide[1]	9.3	4.7	86.0
20-29	10.7	5.1	84.3
30-39	4.5	4.5	91.0
40-49	7.7	4.5	87.8
50-65	14.1	4.9	81.0
66+	20.0	2.5	77.5
	χ^2=21.115**, Cramer's V=0.100**		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 1-67: How likely respondents will fish for northern pike during the next 5 years.

Age Cohorts	Unlikely	Undecided	Likely
Statewide[1]	16.2	7.8	76.0
20-29	15.2	6.7	78.1
30-39	12.1	8.3	79.6
40-49	15.5	9.0	75.5
50-65	22.7	6.9	70.4
66+	19.4	8.3	72.2
	χ^2=12.790, Cramer's V=0.079		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-68: How likely respondents will fish for perch during the next 5 years.

Age Cohorts	Unlikely	Undecided	Likely
Statewide[1]	35.5	10.0	54.5
20-29	36.9	12.5	50.6
30-39	28.1	11.0	61.0
40-49	33.9	10.0	56.1
50-65	45.0	6.5	48.5
66+	35.7	7.1	57.1
	χ^2=19.130*, Cramer's V=0.100*		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 1-69: How likely respondents will fish for crappie during the next 5 years.

Age Cohorts	Unlikely	Undecided	Likely
Statewide[1]	13.0	6.2	80.8
20-29	16.4	5.6	78.0
30-39	8.9	3.8	87.3
40-49	9.4	7.3	83.3
50-65	17.1	7.4	75.5
66+	23.5	11.8	64.7
	χ^2=22.912**, Cramer's V=0.105**		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 1-70: How likely respondents will fish for sunfish during the next 5 years.

Age Cohorts	Unlikely	Undecided	Likely
Statewide[1]	17.3	6.0	76.7
20-29	14.9	5.2	79.9
30-39	18.8	5.8	75.4
40-49	13.8	6.4	79.9
50-65	22.3	6.4	71.4
66+	23.5	8.8	67.6
	χ^2=10.023, Cramer's V=0.070		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-71: How likely respondents will fish for smallmouth bass during the next 5 years.

Age Cohorts	Unlikely	Undecided	Likely
Statewide[1]	37.1	10.4	52.4
20-29	33.1	10.7	56.2
30-39	36.1	10.0	53.9
40-49	36.3	10.5	53.2
50-65	43.8	10.8	45.4
66+	47.6	9.5	42.9
	χ^2=7.738, Cramer's V=0.064		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-72: How likely respondents will fish for largemouth bass during the next 5 years.

Age Cohorts	Unlikely	Undecided	Likely
Statewide[1]	32.8	9.8	57.4
20-29	28.1	8.8	63.2
30-39	28.5	11.9	59.6
40-49	33.6	9.0	57.5
50-65	41.1	9.9	49.0
66+	54.2	8.3	37.5
	χ^2=18.018*, Cramer's V=0.097*		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*$P \leq 0.05$

Table 1-73: How likely respondents will fish for white bass during the next 5 years.

Age Cohorts	Unlikely	Undecided	Likely
Statewide[1]	78.0	12.3	9.7
20-29	78.3	14.3	7.5
30-39	77.4	12.9	9.7
40-49	76.2	11.7	12.1
50-65	79.7	10.6	9.7
66+	95.0	5.0	0.0
	χ^2=7,226, Cramer's V=0.064		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-74: How likely respondents will fish for catfish during the next 5 years.

Age Cohorts	Unlikely	Undecided	Likely
Statewide[1]	73.2	9.5	17.3
20-29	68.9	11.0	20.1
30-39	73.9	8.6	17.6
40-49	72.3	9.9	17.8
50-65	77.6	8.6	13.8
66+	95.0	5.0	0.0
	χ^2=9.431, Cramer's V=0.073		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-75: How likely respondents will fish for lake trout during the next 5 years.

Age Cohorts	Unlikely	Undecided	Likely
Statewide[1]	68.6	11.1	20.3
20-29	63.8	13.5	22.7
30-39	69.7	11.8	18.6
40-49	66.0	11.7	22.3
50-65	75.8	7.1	17.1
66+	81.8	4.5	13.6
	χ^2=11.448, Cramer's V=0.080		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 1-76: How likely respondents will fish for stream trout during the next 5 years.

Age Cohorts	Unlikely	Undecided	Likely
Statewide[1]	63.7	11.5	24.8
20-29	63.0	17.6	19.4
30-39	63.4	11.2	25.4
40-49	59.3	9.5	31.2
50-65	69.9	7.5	22.6
66+	85.7	0.0	14.3
	χ^2=23.485**, Cramer's V=0.114**		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Section 2: Your Introduction to Fishing

Findings:

Age When you Started Fishing

The mean age that respondents started fishing, *not necessarily in Minnesota*, was 8 years (Table 2-1). The starting age ranged from 1 to 65 years. On average, respondents from the 66+ age cohort started fishing slightly older (13 years), compared to respondents from the other age cohorts (6-10 years) ($F=18.035$, $p\leq0.001$, $\eta=0.248$).

Who Introduced you to Fishing?

Statewide

Respondents were asked to indicate who introduced them to fishing by selecting from the following list: grandparent, father, mother, sibling, uncle/aunt, friend, organized class or group, self, or other. Two-thirds of respondents were introduced to fishing by their father; 14% were introduced to fishing by a grandparent, and 7% were introduced to fishing by a friend (Table 2-2).

Age Cohorts

Over 50% of respondents from all age cohorts reported being introduced to fishing by their father (Table 2-2). In general, grandparents were the next most common source of their introduction to fishing. Younger respondents were more likely to report having been introduced to fishing by their father or a grandparent, and less likely to report being introduced to fishing by a friend ($\chi^2=48.448$; $p\leq0.05$, Cramer's $V=0.105$).

Father's Attitude Toward Fishing

Statewide

Respondents were asked to indicate their father's attitude toward fishing from a list of five options. The large majority (78%) of respondents' fathers were anglers, and another 15% of respondents' fathers "did not fish, but approved of fishing" (Table 2-3).

Age Cohorts

The majority of respondents from all age cohorts reported that their father is or was an angler (Table 2-3). Eighty-seven percent of respondents from the 20-29 year old age cohort reported that their father is, or was, an angler; this compares to 79% of respondents from the 30-39 year-old age cohort, 78% of respondents from the 40-49 year-old age cohort, 70% of respondents from the 50-65 age cohort, and 67% of respondents from the 66 and older age cohort. Compared to respondents from the younger age cohorts, more respondents from the older age cohorts reported

that their father did not fish, but approved of fishing, or that they did not know how their father felt about fishing (χ^2=34.328; p≤0.01, Cramer's V=0.088).

Mother's Attitude Toward Fishing

Statewide

Respondents indicated their mother's attitude toward fishing. Nearly half (46%) of respondents indicated that their mother was an angler, and nearly half (46%) reported that their mother did not fish but approved of fishing. A small percentage of respondents (6%) indicated that their mother did not fish, but tolerated fishing (Table 2-4).

Age Cohorts

A greater percentage of respondents from the 20-29 and 30-39 age cohorts reported that their mother is or was an angler compared to respondents from the older age cohorts (χ^2=29.436; p≤0.05, Cramer's V=0.083) (Table 2-4).

Section 2: Introduction to Fishing

Table 2-1: Age started fishing.

Age Cohorts	Sample size (n)	Age started fishing
Statewide[1]	1107	7.76
20-29	182	6.46
30-39	254	6.64
40-49	305	7.78
50-65	322	9.72
66+	43	12.79
	F=18.035***, η=0.248	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 2-2: Who introduced you to fishing?

Age Cohorts	Sample size (n)	Grand-parent	Father	Mother	Sibling	Uncle/ aunt	Friend	Class/ group	Self	Other
Statewide[1]	1111	14.1	67.3	1.6	2.6	3.6	6.5	0.2	1.6	2.4
20-29	183	15.3	71.0	1.1	2.7	3.3	2.7	0.5	0.5	2.7
30-39	255	14.1	71.4	1.6	2.4	3.1	5.1	0.0	0.0	2.4
40-49	307	16.0	65.8	1.6	2.0	3.3	7.5	0.0	2.0	2.0
50-65	321	10.9	62.0	2.2	2.8	4.4	11.2	0.3	3.7	2.5
66+	43	9.3	58.1	2.3	7.0	9.3	4.7	0.0	4.7	4.7
	χ^2=48.448*, Cramer's V=0.105*									

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 2-3: Father's attitude toward fishing.

Age Cohorts	Sample size (n)	He is, or was, an angler.	He did not fish, but approved of fishing.	He did not fish, but tolerated fishing.	He did not fish and discouraged fishing.	I do not know.
Statewide[1]	1112	78.1	14.8	2.8	0.2	4.1
20-29	183	87.4	9.3	1.1	0.0	2.2
30-39	255	78.8	16.5	1.2	0.4	3.1
40-49	308	77.6	14.0	4.2	0.0	4.2
50-65	321	69.5	18.7	4.7	0.3	6.9
66+	43	67.4	25.6	2.3	0.0	4.7
	χ^2=34.328**, Cramer's V=0.088**					

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 2-4: Mother's attitude toward fishing.

Age Cohorts	Sample size (n)	She is, or was, an angler.	She did not fish, but approved of fishing.	She did not fish, but tolerated fishing.	She did not fish and discouraged fishing.	I do not know.
Statewide[1]	1110	46.2	45.7	5.5	0.1	2.4
20-29	183	54.6	41.5	3.3	0.0	0.5
30-39	254	48.0	44.9	5.5	0.0	1.6
40-49	307	41.4	49.5	7.2	0.0	2.0
50-65	321	42.1	45.8	5.9	0.6	5.6
66+	43	41.9	48.8	4.7	0.0	4.7
	χ^2=30.730*, Cramer's V=0.083*					

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Section 3: Your Investment in Fishing

Findings:

Fishing Investment

Statewide

Respondents were asked to rate their investment in fishing by responding to nine items on a scale of 1 (strongly disagree) to 7 (strongly agree). Mean scores for the items ranged from 3.6 for "I would rather fish than do any other recreational activity" to 5.8 for "I have acquired equipment that I would not use if I quit fishing" (Table 3-10). The internal consistency of the nine-item scale was measured with Cronbach's alpha, which was 0.94.

Age Cohorts

Respondents from different age cohorts differed in their fishing investment (Tables 3-1 to 3-9). Significant differences were found for five of the nine items used to measure fishing investment. For three items, (a) "if I stopped fishing, I would feel an important part of my life was missing" (Table 3-3), (b) "I have put a lot of time and energy into developing skills for fishing" (Table 3-5), and (c) I would go fishing even if I did not have partners to go with" (Table 3-8), respondents from the 30-39 and 40-49 age cohorts were the most involved and respondents from the 20-29 age cohort were least involved. Respondents from the 20-29 age cohort rated the item, "I have acquired equipment that I would not use if I quit fishing," lower than average while respondents from the 30-39, 40-49, and 66+ age cohorts rated it higher (Table 3-7) ($F=3.705$, $p\leq0.01$, $\eta=0.115$). Respondents from older age cohorts rated the item "I have close friendships that are based on a common interest in fishing" higher than respondents from younger age cohorts did ($F=7.220$; $p\leq0.001$, $\eta=0.160$) (Table 3-1).

Mentoring New Anglers

Statewide

Respondents were asked if they have ever taken someone fishing who was not already familiar with the sport (mentored a new angler). Statewide, nearly three-fourths of respondents (73%) had mentored a new angler (Table 3-11). Of respondents who had mentored a new angler—39% had mentored a son (Table 3-12); 33% had mentored a daughter (Table 3-13); 31% had mentored a spouse or significant other (Table 3-18); 27% had mentored a male friend (Table 3-19); 20% had mentored a female friend (Table 3-20); and 11% had mentored a brother (Table 3-14. Less than 10% had mentored their sister (Table 3-15), father (Table 3-16), or mother (Table 3-17).

Age Cohorts

Respondents from the 20-29 age cohort had mentored fewer new anglers than older anglers ($\chi^2=39.976$, $p\leq0.001$, Cramer's $V=0.188$) (Table 3-11). This is to be expected because younger anglers have had fewer years to introduce new people to fishing. Mentoring new people into fishing, however, is fairly common even among younger anglers. More than 50% of respondents

from the 20-20 year old age cohort had mentored new anglers. Among the 30-39, 40-49, 50-65, and 66 and over age cohort, 78%, 80%, 78%, and 80% of respondents respectively had mentored new anglers. Likewise, fewer respondents from the 20-29 age cohort have mentored sons, daughters, or spouses/significant others into fishing compared to older anglers (Tables 3-12, 3-13, and 3-18). More 20-29 year-old respondents, however, have mentored female friends (χ^2=14.699, p≤0.01, Cramer's V=0.114) (Table 3-20).

Membership in Fishing-Related Organizations

Statewide

Respondents were asked how many fishing-related organizations they belonged to. Eighty-eight percent of respondents were not members of any fishing-related organizations, and 11% were members of one or two organizations (Table 3-30).

Age Cohorts

There were no significant differences among age cohorts in membership in fishing-related organizations.

Section 3: Investment in Fishing

Table 3-1: I have close friendships that are based on a common interest in fishing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1107	5.06
20-29	184	4.46
30-39	253	5.14
40-49	307	5.24
50-65	317	5.34
66+	43	5.53
	F=7.220***, η=0.160	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 3-2: I have annual traditions related to fishing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1103	5.32
20-29	184	5.29
30-39	254	5.52
40-49	304	5.40
50-65	315	5.07
66+	42	5.07
	F=1.946, η=0.084	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-3: If I stopped fishing, I would feel an important part of my life was missing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1109	5.11
20-29	184	4.76
30-39	254	5.31
40-49	307	5.26
50-65	318	5.08
66+	43	5.14
	F=2.465*, η=0.094	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 3-4: Participation in fishing is a large part of my life.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1108	4.67
20-29	184	4.40
30-39	254	4.87
40-49	307	4.82
50-65	317	4.56
66+	43	4.47
	F=2.179, η=0.089	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-5: I have put a lot of time and energy into developing skills for fishing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1107	4.48
20-29	184	4.08
30-39	253	4.72
40-49	307	4.70
50-65	317	4.37
66+	43	4.37
	F=3.812**, η=0.117	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 3-6: It would be difficult for me to find another recreational activity to replace fishing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1109	4.20
20-29	184	3.88
30-39	254	4.43
40-49	306	4.32
50-65	319	4.12
66+	43	4.30
	F=2.075, η=0.087	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-7: I have acquired equipment that I would not use if I quit fishing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1109	5.80
20-29	184	5.41
30-39	254	5.96
40-49	307	5.96
50-65	318	5.81
66+	43	6.16
	F=3.705**, η=0.115	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 3-8: I would go fishing even if I did not have partners to go with.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1108	5.26
20-29	184	4.71
30-39	253	5.50
40-49	306	5.55
50-65	319	5.24
66+	43	5.00
	F=6.367***, η=0.150	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 3-9: I would rather fish than do any other recreational activity.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1107	3.62
20-29	183	3.27
30-39	254	3.64
40-49	306	3.75
50-65	319	3.78
66+	43	3.67
	F=2.204, η=0.089	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Section 3: Investment in Fishing

Table 3-10: Comparison of level of agreement for investment items.

Item	Statewide mean[1]
I have acquired equipment that would not use if I quit fishing.	5.80
I have annual traditions related to fishing.	5.32
I would go fishing even if I did not have partners to go with.	5.26
If I stopped fishing, I would feel an important part of my life was missing.	5.11
I have close friendships that are based on a common interest in fishing.	5.06
Participation in fishing is a large part of my life.	4.67
I have put a lot of time and energy into developing skills for fishing.	4.48
It would be difficult for me to find another recreational activity to replace fishing.	4.20
I would rather fish than do any other recreational activity.	3.62

Notes:

[1] F= 321.021 ($p<0.001$). Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

Table 3-11: Have you ever taken someone fishing who was not already familiar with the sport (mentored a new angler)?

Age Cohorts	Sample size (n)	No	Yes
Statewide[1]	1133	26.8	73.2
20-29	186	43.5	56.5
30-39	261	22.2	77.8
40-49	312	20.5	79.5
50-65	325	22.5	77.5
66+	45	20.0	80.0
	χ^2=39.976***, Cramer's V=0.188***		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 3-12: If you have mentored a new angler, did you mentor a son?

Age Cohorts	Sample size (n)	No	Yes
Statewide[1]	1133	60.8	39.2
20-29	186	90.9	9.1
30-39	261	61.3	38.7
40-49	312	47.4	52.6
50-65	325	47.1	52.9
66+	45	44.4	55.6
	χ^2=116.819***, Cramer's V=0.322***		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 3-13: If you have mentored a new angler, did you mentor a daughter?

Age Cohorts	Sample size (n)	No	Yes
Statewide[1]	1133	66.2	33.8
20-29	186	93.5	6.5
30-39	261	63.2	36.8
40-49	312	53.8	46.2
50-65	325	57.8	42.2
66+	45	53.3	46.7
	χ^2=91.684***, Cramer's V=0.285***		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 3-14: If you have mentored a new angler, did you mentor a brother?

Age Cohorts	Sample size (n)	No	Yes
Statewide[1]	1133	89.4	10.6
20-29	186	90.9	9.1
30-39	261	88.9	11.1
40-49	312	88.1	11.9
50-65	325	90.5	9.5
66+	45	84.4	15.6
	χ^2=2.524, Cramer's V=0.047		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-15: If you have mentored a new angler, did you mentor a sister?

Age Cohorts	Sample size (n)	No	Yes
Statewide[1]	1133	93.7	6.3
20-29	186	93.5	6.5
30-39	261	94.3	5.7
40-49	312	92.9	7.1
50-65	325	94.5	5.5
66+	45	91.1	8.9
	χ^2=1.273, Cramer's V=0.034		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Section 3: Investment in Fishing

Table 3-16: If you have mentored a new angler, did you mentor a father?

Age Cohorts	Sample size (n)	No	Yes
Statewide[1]	1133	96.2	3.8
20-29	186	97.8	2.2
30-39	261	95.8	4.2
40-49	312	95.8	4.2
50-65	325	95.7	4.3
66+	45	93.3	6.7
	χ^2=2.632, Cramer's V=0.048		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-17: If you have mentored a new angler, did you mentor a mother?

Age Cohorts	Sample size (n)	No	Yes
Statewide[1]	1133	97.6	2.4
20-29	186	98.4	1.6
30-39	261	97.7	2.3
40-49	312	97.8	2.2
50-65	325	96.9	3.1
66+	45	93.3	6.7
	χ^2=4.242, Cramer's V=0.061		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-18: If you have mentored a new angler, did you mentor a spouse or significant other?

Age Cohorts	Sample size (n)	No	Yes
Statewide[1]	1133	69.3	30.7
20-29	186	82.8	17.2
30-39	261	68.2	31.8
40-49	312	65.4	34.6
50-65	325	63.1	36.9
66+	45	53.3	46.7
	χ^2=27.627***, Cramer's V=0.156***		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 3-19: If you have mentored a new angler, did you mentor a male friend?

Age Cohorts	Sample size (n)	No	Yes
Statewide[1]	1133	73.3	26.7
20-29	186	79.6	20.4
30-39	261	72.4	27.6
40-49	312	71.5	28.5
50-65	325	69.2	30.8
66+	45	75.6	24.4
	χ^2=6.787, Cramer's V=0.078		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-20: If you have mentored a new angler, did you mentor a female friend?

Age Cohorts	Sample size (n)	No	Yes
Statewide[1]	1133	79.7	20.3
20-29	186	71.5	28.5
30-39	261	83.1	16.9
40-49	312	79.2	20.8
50-65	325	84.6	15.4
66+	45	82.2	17.8
	χ^2=14.699**, Cramer's V=0.114**		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 3-21: If you mentored a son, how many sons did you mentor?

Age Cohorts	Sample size (n)	1	2	3	4 or more
Statewide[1]	427	48.5	33.5	10.1	8.0
20-29	17	70.6	29.4	0.0	0.0
30-39	98	54.1	28.6	10.2	7.1
40-49	157	49.0	34.4	9.6	7.0
50-65	164	40.2	36.6	9.6	7.0
66+	24	37.5	37.5	8.3	16.7
	χ^2=14.118, Cramer's V=0.101				

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-22: If you mentored a daughter, how many did you mentor?

Age Cohorts	Sample size (n)	1	2	3	4 or more
Statewide[1]	367	53.1	30.2	8.8	7.8
20-29	12	66.7	25.0	8.3	0.0
30-39	92	55.4	31.5	8.7	4.3
40-49	137	57.7	28.5	8.8	5.1
50-65	133	46.6	30.8	8.3	14.3
66+	19	26.3	36.8	15.8	21.1
	χ^2=19.610, Cramer's V=0.129				

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-23: If you mentored a brother, how many did you mentor?

Age Cohorts	Sample size (n)	1	2	3	4 or more
Statewide[1]	119	55.2	27.8	8.8	8.2
20-29	17	64.7	17.6	11.8	5.9
30-39	29	62.1	27.6	6.9	3.4
40-49	37	43.2	32.4	10.8	13.5
50-65	29	48.3	37.9	6.9	6.9
66+	7	85.7	0.0	0.0	14.3
	χ^2=10.464, Cramer's V=0.171				

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-24: If you mentored a sister, how many did you mentor?

Age Cohorts	Sample size (n)	1	2	3	4 or more
Statewide[1]	76	63.6	21.8	8.3	6.3
20-29	12	83.3	16.7	0.0	0.0
30-39	16	62.5	25.0	6.3	6.3
40-49	22	50.0	22.7	13.6	13.6
50-65	21	66.7	23.8	9.5	0.0
66+	6	50.0	16.7	16.7	16.7
	χ^2=8.874, Cramer's V=0.196				

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-25: If you mentored a father, how many did you mentor?

Age Cohorts	Sample size (n)	1	2	3	4 or more
Statewide[1]	40	85.7	6.2	0.0	8.2
20-29	3	66.7	33.3	0.0	0.0
30-39	10	90.0	10.0	0.0	0.0
40-49	13	92.3	0.0	0.0	7.7
50-65	13	92.3	0.0	0.0	7.7
66+	3	33.3	0.0	0.0	66.7
	χ^2=19.956*, Cramer's V=0.487*				

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-26: If you mentored a mother, how many did you mentor?

Age Cohorts	Sample size (n)	1	2	3	4
Statewide[1]	25	90.0	3.0	0.0	7.0
20-29	3	100.0	0.0	0.0	0.0
30-39	5	100.0	0.0	0.0	0.0
40-49	8	87.5	0.0	0.0	12.5
50-65	7	100.0	0.0	0.0	0.0
66+	3	33.3	33.3	0.0	33.3
	χ^2=12.882, Cramer's V=0.498				

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-27: If you mentored a spouse or significant other, how many did you mentor?

Age Cohorts	Sample size (n)	1	2	3	4 or more
Statewide[1]	335	83.0	9.8	2.3	4.9
20-29	31	77.4	19.4	0.0	3.2
30-39	78	82.1	10.3	5.1	2.6
40-49	106	83.0	8.5	1.9	6.6
50-65	115	87.0	7.0	1.7	4.3
66+	20	80.0	5.0	0.0	15.0
	χ^2=14.758, Cramer's V=0.119				

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-28: If you mentored a male friend, how many did you mentor?

Age Cohorts	Sample size (n)	1	2	3	4 or more
Statewide[1]	294	27.2	33.2	11.4	28.2
20-29	38	39.5	36.8	7.9	15.8
30-39	69	31.9	27.5	13.0	27.5
40-49	87	20.7	36.8	11.5	31.0
50-65	95	22.1	33.7	12.6	31.6
66+	11	18.2	18.2	9.1	54.5
	χ^2=13.046, Cramer's V=0.120				

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-29: If you mentored a female friend, how many did you mentor?

Age Cohorts	Sample size (n)	1	2	3	4 or more
Statewide[1]	222	41.4	27.5	9.3	21.9
20-29	53	45.3	30.2	7.5	17.0
30-39	42	45.2	26.2	4.8	23.8
40-49	62	35.5	22.6	14.5	27.4
50-65	47	36.2	34.0	10.6	19.1
66+	7	57.1	14.3	0.0	28.6
	χ^2=8.851, Cramer's V=0.118				

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 3-30: How many fishing-related organizations do you belong to?

Age Cohorts	Sample size (n)	None	1 or 2	3 to 5	6 to 10	More than 10
Statewide[1]	1116	87.7	11.2	1.0	0.1	0.0
20-29	183	91.3	8.2	0.5	0.0	0.0
30-39	258	86.0	11.6	1.9	0.4	0.0
40-49	308	86.4	13.0	0.6	0.0	0.0
50-65	320	87.8	11.3	0.9	0.0	0.0
66+	45	86.7	13.3	0.0	0.0	0.0
	χ^2=9.751, Cramer's V=0.054					

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Section 4: Fishing Attitudes and Norms

Findings:

Fishing Attitudes

Statewide

Respondents were asked to report their attitudes about fishing. First, respondents reported whether fishing is negative or positive using the scale 1 (extremely negative) to 7 (extremely positive). The statewide mean was 6.3, moderately to extremely positive (Table 4-1). Then, respondents reported on how enjoyable fishing is, using the scale 1 (extremely unenjoyable) to 7 (extremely enjoyable). The statewide mean was 6.3, moderately to extremely enjoyable (Table 4-2). When scores on these two items were averaged, the statewide mean was 6.3. The reliability coefficient for the scale of these two items was 0.73.

Age Cohorts

There were no significant differences among age cohorts in positive or negative attitudes toward fishing (Table 4-1), or in the perception of whether fishing is enjoyable or not enjoyable (Table 4-2).

Fishing Norms

Statewide

Respondents were asked about their subjective fishing norms. Respondents were asked to respond to the statement "most people important to me think I should fish" using the scale 1 (definitely false) to 7 (definitely true). The statewide mean was 5.3, slightly to moderately true (Table 4-3). Respondents asked to report whether most people important to them approve or disapprove of them fishing. The average response was 6.1 on a 7-point scale, indicating moderate to strong approval (Table 4-4). The average score for these two items combined was 5.7. The Cronbach's alpha for these two items was 0.70. This norm index was strongly correlated to the two-item attitude index ($r=0.525$, $p\leq0.001$).

Respondents were asked to specifically report whether certain people (including father, mother, spouse/significant other, friends, and children) approved of them fishing. The mean responses ranged from 6.3 for children to 6.5 for fathers (Table 4-10). The Cronbach's alpha for the scale of five items was 0.91, and the overall mean for the five items was 6.4. Rural residence during adulthood was positively related to whether respondents' friends approved of them fishing ($r=0.063$, $p\leq0.05$).

Age Cohorts

There were no significant differences among age cohorts in whether people important to them thought they should fish (Table 4-3), or approved of their fishing (Table 4-4).

Section 4: Fishing Attitudes and Norms

There were significant differences among age cohorts in how much respondents' parents and children approved of them fishing (Tables 4-5, 4-6, and 4-9). In the case of parents, respondents from the 50-65, and 66+ age cohorts perceived less approval from both mothers (χ^2=3.513, $p \leq 0.01$, η=0.121) (Table 4-6) and fathers (χ^2=6.061, $p \leq 0.01$, η=0.165) (Table 4-5). In the case of children, respondents from the 20-29 age cohort perceived less approval (χ^2=6.858, $p \leq 0.001$, η=0.179) (Table 4-9). There were no significant differences among age cohorts in how much respondents' spouses or friends approved of their fishing (Tables 4-7 and 4-8).

Section 4: Fishing Attitudes and Norms

Table 4-1: Angler attitudes: How positive or negative is fishing?

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1118	6.34
20-29	184	6.36
30-39	258	6.38
40-49	307	6.37
50-65	322	6.26
66+	45	6.24
	F=0.931, η=0.058	

Notes:

[1] Mean is based on a scale of: 1=extremely negative, 2=moderately negative, 3=slightly negative, 4=neutral, 5=slightly positive, 6=moderately positive, 7=extremely positive.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 4-2: Angler attitudes: How enjoyable or unenjoyable is fishing?

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1119	6.31
20-29	184	6.34
30-39	259	6.32
40-49	310	6.35
50-65	319	6.24
66+	44	6.20
	F=0.559, η=0.045	

Notes:

[1] Mean is based on a scale of: 1=extremely unenjoyable, 2=moderately unenjoyable, 3=slightly unenjoyable, 4=neutral, 5=slightly enjoyable, 6=moderately enjoyable, 7=extremely enjoyable.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 4-3: Angler norms: Most people important to me think I should fish.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1117	5.27
20-29	183	5.14
30-39	257	5.19
40-49	311	5.34
50-65	320	5.37
66+	44	5.55
	F=1.110, η=0.063	

Notes:

[1] Mean is based on a scale of: 1=definitely false, 2=moderately false, 3=slightly false, 4=neutral, 5=slightly true, 6=moderately true, 7=definitely true.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 4-4: Angler norms: Most people important to me approve/disapprove of me fishing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1123	6.06
20-29	184	6.11
30-39	259	6.11
40-49	310	6.04
50-65	323	5.98
66+	45	6.02
	F=0.639, η=0.048	

Notes:

[1] Mean is based on a scale of: 1=strongly disapprove, 2=moderately disapprove, 3=slightly disapprove, 4=neutral, 5=slightly approve, 6=moderately approve, 7=strongly approve.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 4-5: Angler norms: My father approves of me fishing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	900	6.45
20-29	175	6.53
30-39	235	6.64
40-49	239	6.40
50-65	199	6.15
66+	19	6.05
	F=6.061***, η=0.165	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 4-6: Angler norms: My mother approves of me fishing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	969	6.36
20-29	180	6.42
30-39	245	6.50
40-49	262	6.33
50-65	236	6.14
66+	20	6.00
	F=3.513**, η=0.121	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 4-7: Angler norms: My spouse or significant other approves of me fishing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	994	6.30
20-29	145	6.17
30-39	228	6.38
40-49	289	6.34
50-65	301	6.25
66+	41	6.66
	F=1.757, η=0.084	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 4-8: Angler norms: My friends approve of me fishing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1087	6.36
20-29	179	6.34
30-39	255	6.47
40-49	299	6.34
50-65	310	6.27
66+	41	6.44
	F=1.139, η=0.065	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 4-9: Angler norms: My children approve of me fishing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	789	6.41
20-29	56	5.79
30-39	187	6.63
40-49	262	6.43
50-65	288	6.37
66+	41	6.63
	F=6.858***, η=0.179	

Notes:

[1] Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***$P \leq 0.001$

Table 4-10: Comparison of level of agreement for social norms.

Item	Statewide mean[1]
My father approves of me fishing.	6.45
My mother approves of me fishing.	6.41
My friends approve of me fishing.	6.36
My spouse or significant other approves of me fishing.	6.36
My children approve of me fishing.	6.30

Notes:

[1]F= 5.500 ($p \leq 0.001$). Mean is based on a scale of: 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neutral, 5=slightly agree, 6=moderately agree, 7=strongly agree.

Section 5: The Outcomes of Fishing

Findings:

Statewide

Respondents were asked to report the importance of five possible outcomes of fishing using the scale 1 (not at all important) to 5 (extremely important). Enjoying nature and the outdoors, spending time with family and friends, and resting and relaxing, were all rated very to extremely important. Two items, developing and demonstrating skills, and getting food, were rated slightly to moderately important (Table 5-6).

The outcome of getting food was positively related to the percentage of life living in a rural area: (a) from birth to age 17 ($r=0.132$, $p\leq0.001$), (b) from age 18 to current age ($r=0.180$, $p\leq0.001$), and (c) from birth to current age ($r=0.182$, $p\leq0.001$). This means that rural respondents reported more importance for getting food as an outcome of fishing. The outcomes of spending time with family/friends and developing/demonstrating skills were positively correlated to percentage of life living in a rural area: (a) from age 18 to current age ($r=0.090$, $p\leq0.01$; $r=0.103$, $p\leq0.001$), and (b) from birth to current age ($r=0.090$, $p\leq0.01$; $r=0.098$, $p\leq0.001$). The outcome of resting and relaxing was slightly related to the percentage of life living in a rural area from age 18 to current age ($r=0.068$, $p\leq0.05$).

Age Cohorts

There were significant differences by age cohort in the importance of two of the five listed outcomes for fishing. Respondents from the 20-29 and 30-39 age cohorts rated "fishing is a way for me to spend time with family or friends" as more important, while respondents from the 50-65 and 66+ age cohorts rated this item less important ($F=3.257$, $p\leq0.05$, $\eta=0.108$) (Table 5-3). Likewise, respondents from the 20-29 and 30-39 age cohorts rated "fishing is a way for me to develop and demonstrate skills" more important, compared to the ratings given by the 50-65 and 66+ age cohorts ($F=3.226$, $p\leq0.05$, $\eta=0.107$) (Table 5-5). There were no significant differences by age cohort for the items: (a) fishing is a way for me to enjoy nature and the outdoors, (b) fishing is a way for me to get food, and (c) fishing is a way for me to rest and relax (Tables 5-1, 5-2 and 5-4).

Section 5: Outcomes of Fishing

Table 5-1: Fishing is a way for me to enjoy nature and the outdoors.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1122	4.25
20-29	184	4.34
30-39	258	4.32
40-49	311	4.23
50-65	323	4.13
66+	45	4.04
	F=2.170, η=0.088	

Notes:

[1] Mean is based on a scale of: 1=not at all important, 2=slightly important, 3=moderately important, 4=very important, 5=extremely important.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 5-2: Fishing is a way for me to get food.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1119	2.15
20-29	184	2.23
30-39	257	2.15
40-49	309	2.19
50-65	322	1.98
66+	45	2.29
	F=2.135, η=0.087	

Notes:

[1] Mean is based on a scale of: 1=not at all important, 2=slightly important, 3=moderately important, 4=very important, 5=extremely important.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 5-3: Fishing is a way for me to spend time with family or friends.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1120	3.99
20-29	184	4.05
30-39	258	4.13
40-49	311	3.97
50-65	320	3.81
66+	45	3.89
	F=3.257*, η=0.108	

Notes:

[1] Mean is based on a scale of: 1=not at all important, 2=slightly important, 3=moderately important, 4=very important, 5=extremely important.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 5-4: Fishing is a way for me to rest and relax.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1123	4.13
20-29	184	4.16
30-39	258	4.22
40-49	311	4.10
50-65	324	4.06
66+	45	3.98
	F=1.008, η=0.060	

Notes:

[1] Mean is based on a scale of: 1=not at all important, 2=slightly important, 3=moderately important, 4=very important, 5=extremely important.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 5-5: Fishing is a way for me to develop and demonstrate skills.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1119	2.67
20-29	184	2.79
30-39	256	2.80
40-49	310	2.65
50-65	323	2.48
66+	45	2.33
	F=3.226*, η=0.107	

Notes:

[1] Mean is based on a scale of: 1=not at all important, 2=slightly important, 3=moderately important, 4=very important, 5=extremely important.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 5-6: Comparison of outcomes of fishing.

Outcome	Sample size (n)	Mean[1]
Fishing is a way for me to…		
…enjoy nature and the outdoors.	1122	4.25
…spend time with family or friends.	1120	3.99
…rest and relax.	1123	4.13
…develop and demonstrate skills	1119	2.67
…get food.	1119	2.15

Notes:

[1] F=1426.776 (p<0.001). Mean is based on a scale of: 1=not at all important, 2=slightly important, 3=moderately important, 4=very important, 5=extremely important.

[2] A stratified sample based on age was drawn. Data is weighted to reflect age proportions in the population.

Section 6: Constraints to Fishing

Findings:

How Easy or Difficult it is to go Fishing

Statewide

Respondents were asked to rate how easy or difficult it is for them to go fishing using the scale 1 (very difficult) to 7 (very easy). On average, respondents rated going fishing slightly easy (4.9) (Table 6-1). Respondents were also asked: "if I wanted to, I could easily go fishing," with responses on the scale 1 (definitely false) to 7 (definitely true). The mean score for this question was slightly to moderately true (5.3) (Table 6-2). When these two items were averaged, the statewide mean score was 5.1. The reliability coefficient for these two items was 0.89.

Age Cohorts

Respondents differed by age cohort in their perceptions of how easy or difficult it is to go fishing. In general, older respondents found it easier to go fishing than younger respondents did. When asked "how easy or difficult is it for you to go fishing," respondents from the 66 and older age cohort rated it 5.6 compared to 5.2 for 50 to 65-year-olds, 5.0 for 40 to 49-year-olds, and 4.7 for 30 to 39-year-olds and 20 to 29-year-olds ($F=5.523$, $p\leq0.01$, $\eta=0.139$) (Table 6-1). Likewise, when asked "if I wanted to, I could easily go fishing," the respondents from the 66 and older age cohort rated the item 6.0, compared to 5.7 for 50 to 65-year-olds, 5.4 for 40 to 49-year-olds, and 5.1 for the other age cohorts ($F=7.164$, $p\leq0.001$, $\eta=0.158$) (Table 6-2).

How is Fishing Participation Constrained

Statewide

Respondents were asked whether the amount of time they spend fishing, or the type of fishing they do, is constrained (restricted or inhibited) in any way. Forty-six percent of respondents indicated that their fishing was constrained (Table 6-3).

We asked respondents who felt that their fishing was constrained to report how their fishing was constrained. Respondents were asked to check all of the statements that they felt applied to their fishing participation from a list of four items (Table 6-4). Twenty percent of respondents indicated that "there are types of fishing that I would like to start, but can't." Thirty-one percent reported that "I have stopped doing fishing activities that I did in the past, although I would still like to do them." Eighty-seven percent indicated that "I cannot fish as often as I would like." Finally, 5% reported that "because of constraints to my fishing, I do not enjoy fishing as much as I might otherwise."

Age Cohorts

Fewer respondents from the 66 and older and 50-65 age cohorts reported that fishing time or the type of fishing they do is constrained, restricted, or inhibited. Approximately half of the respondents in the 20-29, 30-39, and 40-49 age cohorts reported that their fishing was constrained, compared to 35% of respondents from the 50-65 age cohort and 30% of respondents over 65 (χ^2=27.045, p≤0.001, Cramer's V=0.156) (Table 6-3). Older respondents were more likely to report that "I have stopped doing fishing activities that I did in the past, although I would still like to do them" (χ^2=9.930, p≤0.05, Cramer's V=0.142) (Table 6-4).

Factors That Constrain Fishing Participation

Statewide

Respondents were asked to rate 25 possible constraints to fishing on the scale 1 (not at all limiting) to 7 (very limiting). One constraint, work commitments, had a mean score greater than the midpoint on the scale. All other constraints had mean scores less than the midpoint on the scale. Six constraints had mean ratings between 3.0 and 4.0: (a) family commitments (3.8), (b) interest in other recreational activities (3.5), (c) safety concerns (3.4), (d) interest in free time at home (3.4), (e) weather conditions (3.2), and (f) crowding at fishing areas (3.1) (Tables 6-5 through 6-30).

Rural residence was positively related to the fishing constraints of: (a) work commitments (rural residence as an adult r=0.066, p≤0.05; rural residence throughout life r=0.084, p≤0.01) and (b) cost of licenses (rural residence as an adult r=0.065, p≤0.05; rural residence throughout life r=0.086, p≤0.01). Rural residence was negatively correlated to the fishing constraints of: (a) personal concern for animals' pain and distress (rural residence as an adult r=-0.078, p≤0.05; rural residence throughout life r=-0.107, p≤0.001), and (b) no fishing opportunities near my home (rural residence as an adult r=-0.116, p≤0.001; rural residence throughout life r=-0.063, p≤0.05).

Age Cohorts

There were significant differences by age cohort in how limiting 12 of the 25 constraints were perceived by respondents.

Compared to older respondents, younger respondents felt more constrained by: (a) the cost of equipment (F=4.884, p≤0.001, η=0.133) (Table 6-8), (b) interest in other recreational activities (F=6.035, p≤0.001, η=0.147) (Table 6-15), and (c) interest in free time at home (F=6.257, p≤0.001, η=0.151) (Table 6-23).

Three items were rated as more limiting for older respondents than for younger respondents: (a) being physically unable to go fishing (F=13.234, p≤0.001, η=0.215) (Table 6-13), (b) age (F=18.723, p≤0.001, η=0.254) (Table 6-26), and (c) poor health (F=17.209, p≤0.001, η=0.244) (Table 6-29).

Family commitments were rated as somewhat more limiting for respondents from the 30-39 and 40-49 age cohorts (F=14.946, p≤0.001, η=0.229) (Table 6-5). Work commitments were rated somewhat less limiting for the 50-65 and 66 and older age cohorts (F=26.102, p≤0.001, η=0.296) (Table 6-6). Safety concerns were rated somewhat less limiting by respondents in the 20-29 age cohort and somewhat more limiting by respondents in the 50-65 and 66+ age cohorts (F=4.357,

$p \leq 0.01$, $\eta = 0.125$) (Table 6-16). Weather conditions were rated somewhat less limiting to respondents from the 30-39 age cohort and somewhat more limiting to respondents from the 50-65 and 66 and older age cohorts ($F = 3.046$, $p \leq 0.05$, $\eta = 0.105$) (Table 6-22). The item, "limited fishing opportunities near home," was rated more limiting by respondents from the 20-29 age cohort and less limiting by respondents from the 30-39, 50-65, and 66+ age cohorts ($F = 2.382$, $p \leq 0.05$, $\eta = 0.093$) (Table 6-28).

Section 6: Constraints to Fishing

Table 6-1: How easy or difficult is it for you to go fishing?

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1123	4.90
20-29	184	4.71
30-39	259	4.67
40-49	310	4.96
50-65	323	5.20
66+	45	5.60
	F=5.523***, η=0.139	

Notes:

[1] Mean is based on a scale of: 1=very difficult, 2=moderately difficult, 3=slightly difficult, 4=neutral, 5=slightly easy, 6=moderately easy, 7=very easy.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 6-2: If I wanted to, I could easily go fishing.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1122	5.33
20-29	184	5.09
30-39	259	5.08
40-49	309	5.42
50-65	324	5.65
66+	45	6.00
	F=7.164***, η=0.158	

Notes:

[1] Mean is based on a scale of: 1=definitely false, 2=moderately false, 3=slightly false, 4=neutral, 5=slightly true, 6=moderately true, 7=very true.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 6-3: Do you feel that the amount of time you spend fishing, or the type of fishing you do, is constrained (restricted or inhibited) in any way?

Age Cohorts	Sample size (n)	No	Yes
Statewide[1]	1111	54.1	45.9
20-29	180	50.0	50.0
30-39	256	46.5	53.5
40-49	312	54.2	45.8
50-65	318	65.4	34.6
66+	43	69.8	30.2
	χ^2=27.045***, Cramer's V=0.156***		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Section 6: Constraints to Fishing

Table 6-4: For respondents who said that the amount of time they spend fishing, or the type of fishing they do, is constrained, percentage who indicated…

Age Cohorts	Sample size (n)	There are types of fishing that I would like to start, but can't.	I have stopped doing fishing activities that I did in the past, although I would still like to do them.	I cannot fish as often as I would like.	Because of constraints to my fishing, I do not enjoy fishing as much as I might otherwise.
Statewide[1]	509	19.6	31.2	86.8	5.2
20-29	90	18.9	25.6	91.1	3.3
30-39	137	19.0	29.2	87.6	6.6
40-49	143	18.9	31.5	86.0	4.2
50-65	110	24.5	39.1	82.7	7.3
66+	13	7.7	61.5	76.9	0.0
Chi square		χ^2=2.931	χ^2=9.930*	χ^2=4.142	χ^2=3.075
Cramer's V		0.077	0.142	0.092	0.079

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 6-5: How much family commitments limit fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1088	3.77
20-29	178	3.31
30-39	256	4.29
40-49	301	3.99
50-65	306	3.52
66+	43	2.60
	F=14.946***, η=0.229	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 6-6: How much work commitments limit fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1092	4.69
20-29	176	4.94
30-39	256	4.98
40-49	303	4.93
50-65	314	4.12
66+	42	2.31
	F=26.102***, η=0.296	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 6-7: How much crowding at fishing areas limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1078	3.12
20-29	177	2.90
30-39	252	3.26
40-49	298	3.24
50-65	305	3.17
66+	43	2.21
	F=4.050**, η=0.122	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 6-8: How much the cost of equipment limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1090	2.83
20-29	176	3.16
30-39	256	2.92
40-49	302	2.73
50-65	312	2.58
66+	43	2.26
	F=4.884***, η=0.133	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 6-9: How much the cost of licenses limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1095	2.54
20-29	177	2.64
30-39	256	2.60
40-49	304	2.48
50-65	312	2.37
66+	44	2.93
	F=1.645, η=0.078	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-10: How much travel costs limit fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1093	2.93
20-29	178	3.14
30-39	255	2.96
40-49	303	2.90
50-65	312	2.76
66+	43	2.56
	F=1.839, η=0.082	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-11: How much restrictive fishing regulations limit fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1092	2.49
20-29	178	2.29
30-39	255	2.59
40-49	304	2.46
50-65	310	2.58
66+	42	2.81
	F=1.185, η=0.066	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-12: How much availability of fishing partners limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1096	2.70
20-29	178	2.93
30-39	255	2.71
40-49	304	2.59
50-65	313	2.66
66+	44	2.18
	F=1.975, η=0.085	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-13: How much being physically unable to go fishing limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1097	1.31
20-29	178	1.13
30-39	255	1.17
40-49	305	1.25
50-65	315	1.64
66+	43	1.93
	F=13.234***, η=0.215	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 6-14: How much inadequate fishing skills limit fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1095	1.79
20-29	178	1.83
30-39	254	1.73
40-49	304	1.71
50-65	314	1.92
66+	43	1.86
	F=1.067, η=0.063	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-15: How much interest in other recreational activities limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1097	3.54
20-29	178	3.88
30-39	256	3.72
40-49	304	3.40
50-65	314	3.28
66+	43	2.72
	F=6.035***, η=0.147	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 6-16: How much safety concerns limit fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1097	3.54
20-29	178	1.31
30-39	256	1.61
40-49	305	1.57
50-65	313	1.79
66+	43	1.77
	F=4.357**, η=0.125	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

**P ≤ 0.01

Table 6-17: How much low fish populations limit fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1086	2.75
20-29	178	2.68
30-39	253	2.77
40-49	302	2.64
50-65	308	2.91
66+	42	2.91
	F=0.890, η=0.057	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-18: How much low desire for fish for food limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1090	1.95
20-29	177	2.10
30-39	256	1.86
40-49	301	1.84
50-65	311	2.06
66+	43	1.77
	F=1.471, η=0.074	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-19: How much low need for fish for food limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1084	1.92
20-29	177	1.99
30-39	254	1.84
40-49	299	1.88
50-65	309	2.01
66+	43	1.65
	F=0.856, η=0.056	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-20: How much personal concern for fish pain and distress limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1094	1.48
20-29	177	1.59
30-39	255	1.42
40-49	304	1.45
50-65	314	1.46
66+	43	1.58
	F=0.651, η=0.049	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-21: How much other people's concern for fish pain and distress limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1096	1.36
20-29	178	1.38
30-39	256	1.30
40-49	304	1.35
50-65	313	1.39
66+	43	1.56
	F=0.744, η=0.052	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-22: How much weather conditions limit fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1095	3.24
20-29	178	3.22
30-39	256	3.06
40-49	303	3.20
50-65	312	3.53
66+	44	3.32
	F=3.046*, η=0.105	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 6-23: How much interest in free time at home limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1080	3.40
20-29	178	3.66
30-39	247	3.61
40-49	299	3.27
50-65	311	3.20
66+	43	2.44
	F=6.257***, η=0.151	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 6-24: How much the type of people that fish limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1095	1.83
20-29	178	1.89
30-39	256	1.82
40-49	303	1.80
50-65	313	1.88
66+	43	1.49
	F=0.969, η=0.060	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-25: How much the amount of planning required to go fishing limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1096	2.07
20-29	178	2.22
30-39	256	2.16
40-49	303	2.05
50-65	313	1.91
66+	44	1.73
	F=2.324, η=0.092	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-26: How much age limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1094	1.44
20-29	178	1.25
30-39	256	1.29
40-49	304	1.35
50-65	311	1.81
66+	43	2.35
	F=18.723***, η=0.254	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 6-27: How much the amount of effort required to go fishing limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1092	2.17
20-29	178	2.20
30-39	254	2.11
40-49	303	2.14
50-65	311	2.25
66+	44	2.30
	F=0.452, η=0.041	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 6-28: How much limited fishing opportunities near home limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1098	2.28
20-29	178	2.62
30-39	256	2.16
40-49	305	2.22
50-65	314	2.16
66+	43	2.12
	F=2.382*, η=0.093	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05

Table 6-29: How much poor health limits fishing participation.

Age Cohorts	Sample size (n)	Mean[1]
Statewide[2]	1095	1.29
20-29	178	1.13
30-39	256	1.14
40-49	303	1.21
50-65	313	1.61
66+	43	2.02
	F=17.209***, η=0.244	

Notes:

[1] Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 6-30: Comparison of constraints to fishing.

Constraint	Sample size (n)	Mean[1]
Work commitments	1092	4.69
Family commitments	1088	3.77
Interest in other recreational activities	1097	3.54
Safety concerns	1097	3.54
Interest in free time at home	1080	3.40
Weather conditions	1095	3.24
Crowding at fishing areas	1078	3.12
Travel costs	1093	2.93
Cost of equipment	1090	2.83
Fish populations too low	1086	2.75
Availability of fishing partners	1096	2.70
Cost of licenses	1095	2.54
Fishing regulations too restrictive	1092	2.49
No fishing opportunities near my home	1098	2.28
The amount of effort required to go fishing	1092	2.17
The amount of planning required to go fishing	1096	2.07
No desire for fish as food	1090	1.95
No need for fish as food	1084	1.92
The type of people that go fishing	1095	1.83
Inadequate fishing skills	1095	1.79
Personal concern for fish pain and distress	1094	1.48
Age	1094	1.44
Other people's concern for fish pain and distress	1096	1.36
Physically unable to go fishing	1097	1.31
Poor health	1095	1.29

Notes:

[1] $F=371.841$ ($p<0.001$). Mean is based on a scale of: 1=not at all limiting to 7=very limiting.

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Section 7: Patterns of Fishing Participation

Findings:

Respondents were asked to report the patterns of fishing participation during their lives. First, respondents were asked to indicate the number of years that they had fished during seven age ranges: 10-19, 20-29, 30-39, 40-49, 50-59, 60-69, and 70+. Second, they were asked to report the approximate number of days they fished each year in each of the age ranges using the scale 1 (1 or 2 days), 2 (about 5 days), 3 (about 10 days), 4 (about 15 days), 5 (about 20 days), 6 (about 25 days), 7 (about 30 days), 8 (about 35 days), and 9 (40 or more days).

In order to compare level of participation during a specific age range for participants with different levels of opportunity to fish during an age range (for example, comparing a 22-year-old respondent who could only have fished 3 years during his twenties with a 29-year-old who could have fished 10 years during his twenties), we calculated the percentage of possible years fished during each age range for each respondent. We also calculated a level of participation index by multiplying the percentage of possible fishing years in an age range by the scale of how many days per year fished. The range for the resultant index was 0 to 9.

Statewide

The average number of years fished during each age range is presented in Table 7-1. Respondents fished about three-fourths of possible years during their teens (76%), twenties (73%), thirties (78%), forties (78%), fifties (78%), and sixties (71%), and about half of possible years during their seventies (Table 7-2). On average, anglers fish about 5 days per year (Table 7-3). The participation index was highest during the teens, thirties, forties, and fifties, and lowest for the 70 and over age range (Table 7-4).

Age Cohorts

Anglers from the 30-39 and 40-49 age cohorts fished a larger percentage of possible years during their teen years, compared to respondents from the other age cohorts ($F=4.424$, $p\leq0.001$, $\eta=0.127$) (Table 7-2). Older anglers reported fishing a larger proportion of possible years during their forties, fifties, and sixties compared to younger anglers ($F=3.100$, $p\leq0.05$, $\eta=0.139$; $F=9.217$, $p\leq0.001$, $\eta=0.312$; $F=13.977$, $p\leq0.001$, $\eta=0.561$) (Table 7-2). Compared to older anglers, anglers in the 20-29 and 30-39 age cohorts reported fishing more days per year during their teens ($F=5.108$; $p\leq0.001$, $\eta=0.139$) (Table 7-3). The index of fishing participation shows anglers from the 30-39 age range had stronger participation during their teen years and anglers from the 50-65 and 66+ age cohorts had weaker participation ($F=6.069$, $p\leq0.001$, $\eta=0.151$) (Table 7-4). Respondents from older age cohorts had stronger participation during their forties, fifties, and sixties compared to respondents currently in their forties ($F=2.783$, $p\leq0.05$, $\eta=0.134$; $F=3.896$, $p\leq0.01$, $\eta=0.212$; $F=4.736$, $p\leq0.001$, $\eta=0.372$) (Table 7-4).

Section 7: Patterns of Fishing Participation

Table 7-1: Number of years fishing during specific age ranges.

Age Cohorts	Mean 10-19 years old	Mean 20-29 years old	Mean 30-39 years old	Mean 40-49 years old	Mean 50-59 years old	Mean 60-69 years old	Mean 70+ years old
Statewide[1]	7.59	6.77	7.10	6.60	6.52	5.08	3.50
20-29	7.47	4.99	n.a.	n.a.	n.a.	n.a.	n.a.
30-39	8.03	7.57	5.86	n.a.	n.a.	n.a.	n.a.
40-49	7.73	7.27	8.00	5.49	n.a.	n.a.	n.a.
50-65	7.16	6.98	7.48	7.96	6.21	4.08	n.a.
66+	6.38	6.95	8.24	8.73	8.76	7.40	3.60

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 7-2: Proportion of years fishing during specific age ranges.

Age Cohorts	Mean % 10-19 year olds	Mean % 20-29 year olds	Mean % 30-39 year olds	Mean % 40-49 year olds	Mean % 50-59 year olds	Mean % 60-69 year olds	Mean % 70+ year olds
Statewide[1, 2]	75.9	73.2	78.0	78.2	77.8	71.4	49.8
20-29	74.7	74.8	n.a.	n.a.	n.a.	n.a.	n.a.
30-39	80.2	75.7	78.2	n.a.	n.a.	n.a.	n.a.
40-49	77.4	72.7	80.1	76.9	n.a.	n.a.	n.a.
50-65	71.7	69.6	74.7	79.5	76.8	68.8	n.a.
66+	63.8	68.7	81.5	86.7	87.0	78.8	70.0
F	4.424***	1.610	1.445	3.100*	9.217***	13.977***	n.a.
η	0.127	0.078	0.081	0.139	0.312	0.561	n.a.

Notes:

[1] $F=4.050$ ($p \leq 0.001$).

[2] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***$P \leq 0.001$; *$P \leq 0.05$

Table 7-3: Approximate number of days fishing per year during specific age ranges.

Age Cohorts	Mean[1] 10-19 years old	Mean 20-29 years old	Mean 30-39 years old	Mean 40-49 years old	Mean 50-59 years old	Mean 60-69 years old	Mean 70+ years old
Statewide[2,3]	5.41	5.08	5.17	5.14	5.18	4.90	4.82
20-29	5.66	5.21	n.a.	n.a.	n.a.	n.a.	n.a.
30-39	5.70	5.22	5.03	n.a.	n.a.	n.a.	n.a.
40-49	5.38	5.02	5.30	4.92	n.a.	n.a.	n.a.
50-65	5.00	4.96	5.25	5.39	5.13	4.66	n.a.
66+	4.03	4.43	4.87	5.22	5.59	5.37	4.33
F	5.108***	1.070	0.909	1.223	1.427	0.530	n.a.
η	0.139	0.064	0.065	0.088	0.129	0.132	n.a.

Notes:

[1] Means are based on the scale of 1=1 or 2 days, 2=about 5 days, 3=about 10 days, 4=about 15 days, 5=about 20 days, 6=about 25 days, 7=about 30 days, 8=about 35 days, 9=40+ days.

[2] F=0.5769 (n.s.).

[3] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P≤0.001

Table 7-4: Index of level of participation in fishing during age ranges.

Age Cohorts	Mean[1] 10-19 years old	Mean 20-29 years old	Mean 30-39 years old	Mean 40-49 years old	Mean 50-59 years old	Mean 60-69 years old	Mean 70+ years old
Statewide[1,2]	4.49	4.15	4.40	4.36	4.41	3.86	1.65
20-29	4.54	4.22	n.a.	n.a.	n.a.	n.a.	n.a.
30-39	4.96	4.35	4.21	n.a.	n.a.	n.a.	n.a.
40-49	4.55	4.12	4.60	4.05	n.a.	n.a.	n.a.
50-65	4.01	3.98	4.45	4.71	4.33	3.52	n.a.
66+	2.84	3.23	4.20	4.79	5.07	4.66	2.57
F	6.069***	1.408	0.836	2.783*	3.896**	4.736***	n.a.
η	0.151	0.073	0.062	0.134	0.212	0.372	n.a.

Notes:

[1] Means are on the scale of 0 to 9, based on the multiplied index of percent of possible fishing years in age range times scale of how often during each year fishing based on scale: 1=1 or 2 days, 2=about 5 days, 3=about 10 days, 4=about 15 days, 5=about 20 days, 6=about 25 days, 7=about 30 days, 8=about 35 days, 9=40+ days.

[2] F=4.376 (p≤0.001)

[3] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P≤0.001; **P≤0.01; *P≤0.05

Section 8: Other Outdoor Interests

Findings:

Statewide

Respondents were asked to indicate whether they participated in 10 outdoor recreational activities during the previous 12 months. Over half of the respondents had participated in hunting (55%) or wildlife viewing (67%) during the previous 12 months. Between 30 and 50% had participated in picnicking (48%), developed camping (43%), day hiking (42%), or driving ATVs (36%). Less than a third of respondents had participated in canoeing (28%), primitive camping (27%), cross-country skiing (11%), or backpacking (11%) (Table 8-1).

If respondents had done a recreational activity, they were asked to indicate the number of days that they had participated in the activity during the previous 12 months (Tables 8-2 through 8-11). Respondents averaged 70 days in the previous year watching wildlife, 21 days driving off-road vehicles, 16 days fishing, 14 days hiking, and 13 days camping in developed campgrounds. Respondents spent an average of less than 10 days during the previous 12 months participating in other activities.

Age Cohorts

There were significant differences by age cohort in participation in 6 of the 10 listed recreational activities (Table 8-1). Participation in two activities—backpacking (χ^2=14.791; p≤0.01, Cramer's V=0.119) and driving ATVs (χ^2=46.359; p≤0.001, Cramer's V=0.210)—was significantly lower for older age cohorts. Participation in hunting (χ^2=19.743, p≤0.001, Cramer's V=0.134) and developed camping (χ^2=32.780; p≤0.001, Cramer's V=0.176) was somewhat higher for respondents from the 30-39 age cohort and somewhat lower for the 50-65 and 66 and older age cohorts. Participation in canoeing (χ^2=11.913; p≤0.05, Cramer's V=0.106) and primitive camping (χ^2=21.426; p≤0.001, Cramer's V=0.143) was lower among respondents in the 50-65 and 66 and over age cohorts. There were no significant differences by age cohort for participation in wildlife viewing, picnicking, day hiking, or cross-country skiing.

Among respondents who participated in recreation activities, there were significant differences by age cohort in the number of days that people had participated in 2 of the 10 activities. Of respondents who reported participating in wildlife watching, respondents from the 20-29 age cohort reported participating fewer days while respondents from the 50-65 and 66 and over age cohorts reported participating more days during the previous year (F=5.242, p≤0.001, η=0.175) (Tables 8-3). Compared to younger age cohorts, respondents from the 50 and over age cohort spent more days driving off-road vehicles (F=2.965, p≤0.05, η=0.181) (Table 8-8). There were no significant differences by age cohort in the number of days spent fishing, picnicking, day hiking, backpacking, canoeing, developed camping, primitive camping, or cross-country skiing (Tables 8-2, 8-4, 8-5, 8-6, 8-7, 8-9, 8-10, 8-11).

Section 8: Other Outdoor Recreation Activities

Table 8-1: Percentage of respondents participating in outdoor activities in the past 12 months.

Age Cohorts	Hunting	Wildlife viewing	Picnicking	Day hiking	Backpacking	Canoeing	Driving ATVs	Developed camping	Primitive camping	XC skiing
Statewide[1]	55.3	66.5	48.3	42.2	11.1	28.1	35.8	42.5	26.6	10.9
20-29	52.8	60.2	43.4	43.2	14.4	29.0	50.0	43.8	29.3	8.6
30-39	64.5	65.7	50.6	40.4	14.2	33.7	39.8	52.6	28.7	11.4
40-49	56.3	70.9	51.2	46.6	9.7	28.3	32.1	43.5	30.5	13.4
50-65	48.3	68.3	46.3	38.4	7.0	22.1	21.5	29.6	18.7	10.2
66+	39.0	65.9	52.5	33.3	0.0	16.2	27.0	31.6	5.4	5.4
Chi Square	χ^2=19.793***	χ^2=6.176	χ^2=3.919	χ^2=5.699	χ^2=14.791**	χ^2=11.913*	χ^2=46.359***	χ^2=32.780***	χ^2=21.426***	χ^2=4.147
Cramer's V	0.134***	0.076	0.061	0.073	0.119**	0.106*	0.210***	0.176***	0.143***	0.063

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*P ≤ 0.05, **P ≤ 0.01, ***P ≤ 0.001

Table 8-2: Of respondents who hunted in the last 12 months, average number of days spent hunting in past 12 months.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	605	15.83
20-29	96	18.67
30-39	168	16.18
40-49	164	15.28
50-65	153	13.22
66+	16	11.31
	F=1.592, η=0.103	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 8-3: Of respondents who participated in wildlife viewing in the last 12 months, average number of days spent wildlife viewing in past 12 months.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	664	70.05
20-29	101	29.10
30-39	155	73.12
40-49	193	75.90
50-65	196	94.93
66+	22	98.68
	F=5.242***, η=0.175	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 8-4: Of respondents who picnicked in the last 12 months, average number of days picnicking in past 12 months.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	490	7.87
20-29	72	5.86
30-39	121	7.39
40-49	142	9.33
50-65	137	8.45
66+	20	7.50
	F=0.458, η=0.061	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 8-5: Of respondents who went day hiking in the last 12 months, average number of days spent day hiking in past 12 months.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	434	13.80
20-29	71	9.21
30-39	100	9.46
40-49	132	15.67
50-65	116	20.48
66+	11	24.27
	F=1.710, η=0.126	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 8-6: Of respondents who went backpacking in the last 12 months, average number of days spent backpacking in past 12 months.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	131	8.05
20-29	25	12.16
30-39	38	7.11
40-49	34	6.15
50-65	29	6.17
66+	0	0.0
	F=0.417, η=0.117	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 8-7: Of respondents who went canoeing in the last 12 months, average number of days spent canoeing in past 12 months.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	303	6.48
20-29	52	7.37
30-39	85	5.12
40-49	81	6.85
50-65	72	7.15
66+	5	4.60
	F=0.383, η=0.072	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 8-8: Of respondents who drove off-road vehicles in the last 12 months, average number of days spent driving off-road vehicles in past 12 months.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	378	20.89
20-29	88	17.08
30-39	98	22.84
40-49	91	16.82
50-65	70	33.84
66+	9	13.89
	F=2.965*, η=0.181	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

*$P \leq 0.05$

Table 8-9: Of respondents who camped in developed campgrounds in the last 12 months, average number of days spent camping in past 12 months.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	446	12.99
20-29	81	10.94
30-39	128	11.17
40-49	118	15.40
50-65	91	14.98
66+	12	19.50
	F=1.117, η=0.102	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 8-10: Of respondents who went primitive camping in the last 12 months, average number of days spent primitive camping in past 12 months.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	279	7.14
20-29	51	7.75
30-39	72	6.69
40-49	86	7.07
50-65	57	7.21
66+	2	3.50
	F=0.307, η=0.068	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 8-11: Of respondents who went cross-country skiing in the last 12 months, average number of days spent cross-country skiing in the past 12 months.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	134	7.85
20-29	18	5.44
30-39	33	9.94
40-49	43	7.07
50-65	38	8.47
66+	2	10.00
	F=0.289, η=0.094	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Section 9: Demographic Information

Findings:

Age

Statewide

Respondents were asked to indicate the year they were born, and age was calculated. The average respondent age was calculated to be 42 years (Table 9-1). Respondents ranged in age from 14 to 85 years.

Age Cohorts

The average age for respondents from the 20-29 year old age cohort was 25.2. For the 30-39 age cohort it was 35.6. The average age for the 40-49 age cohort was 45.3, and the average age for the 50-65 cohort was 57.1, and the average age for the 66 and over age cohort was 69.1 (Table 9-1).

Percentage of Life Living in Minnesota

Statewide

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 86% of their lives.

Age Cohorts

There was not a significant difference by age cohort in the proportion of life living in Minnesota.

Percentage of Life Living on a Farm or Ranch

Statewide

Survey recipients were asked to report the number of years that they lived on a farm, ranch, or non-suburban rural area from birth until age 17, and from age 18 until now. Using this information, we calculated: (a) the proportion of life from birth to age 17 living on a farm, or ranch, or in a non-suburban rural area, (b) the proportion of life from age 18 until now living on a farm, ranch, or non-suburban rural area, and (c) the total proportion of life living on a farm, ranch, or non-suburban rural area. Respondents had lived an average of 44% of their lives from birth to age 17 on a farm or ranch (Table 9-3). Respondents had lived an average of 28% of their adult lives on farms or ranches (Table 9-4). Respondents had lived an average of 35% their entire lives on farms or ranches (Table 9-5).

Age Cohorts

There were no significant differences by age cohort in the percentage of life spent living on a farm, or ranch, or in a non-suburban rural area. (Table 9-5).

Education

Statewide

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 75% of respondents had more than a high-school education (Table 9-6).

Age Cohorts

In general, respondents from the younger age cohorts had higher levels of education (χ^2=75.564, p≤0.001, Cramer's V=0.131) (Table 9-6).

Gender

Statewide

Eighty percent of respondents were male (Table 9-7).

Age Cohorts

A greater proportion of respondents from the 20-29 age cohort were female compared to the proportion of female respondents in the other age cohorts (χ^2=28.221, p≤0.001, Cramer's V=0.160) (Table 9-7).

Marital Status

Statewide

Respondents were asked to select their current marital status from the list of: (a) single, (b) divorced or widowed, (c) living with a partner, or (d) married. About two-thirds of respondents were married, about 20% were single, and the rest were either divorced, widowed, or living with a partner.

Age Cohorts

There were significant differences by age cohort in respondents' marital status. As might be expected, a smaller percentage of respondents from the 20-29 age cohort were married (32%), compared to respondents from the 30-39 age cohort (73%), the 40-49 age cohort (75%), the 50-65

age cohort (85%), and the 66+ age cohort (91%) (χ^2=285.663, p≤0.001, Cramer's V=0.293) (Table 9-8).

Race

Statewide

Nearly all respondents (97%) were White.

Age Cohorts

There was not a significant difference in race or Hispanic background by age cohort (Tables 9-9 and 9-10).

Late Respondents

There were no significant differences between early and late respondents in their age, percent of life in Minnesota, or percent of life on a farm, ranch, or non-suburban rural area. Likewise, there were no differences between early and late respondents in gender, marital status, race, or Hispanic background. There was, however, a significant difference in education. Late respondents were somewhat more likely to report having a completed grade school, some high school, or a high school diploma, while early respondents were somewhat more likely to report having completed some college or some graduate school (χ^2=18.687, p≤0.05, Cramer's V=0.130).

There were no significant differences between early and late respondents in the number of years they fished between 1998 and 2002. There were also no significant differences between early and late respondents in their past participation and future intentions to fish. In addition, there were no significant differences between early and late respondents in their attitudes or norms related to fishing. Likewise, there were no significant differences in items related to fishing outcomes or the perceived difficulty of going fishing. There was a significant difference between early and late respondents for one of the nine items addressing investment in fishing. Late respondents rated the item, "I have annual traditions related to fishing," lower (5.0) than early respondents did (5.4) (F=4.354, p≤0.05, η=0.063).

Section 9: Demographic Information

Table 9-1: Year of birth.

Age Cohorts	Sample size (n)	Year of birth	Age
Statewide[1]	1106	1961.48	41.52
20-29	182	1977.84	25.16
30-39	256	1967.36	35.64
40-49	305	1957.73	45.27
50-65	319	1945.91	57.09
66+	43	1933.93	69.07
	F=3407.913***, η=0.962		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 9-2: Proportion of life living in Minnesota.

Age Cohorts	Sample size (n)	Mean %
Statewide[1]	1080	85.7
20-29	178	89.6
30-39	255	83.2
40-49	293	84.5
50-65	311	85.4
66+	42	90.5
	F=2.189, η=0.090	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 9-3: Proportion of life from birth to age 17 living on a farm or ranch, or non-suburban rural area.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	1050	43.7
20-29	174	43.4
30-39	248	44.4
40-49	288	39.7
50-65	296	46.9
66+	41	54.2
	F=1.462, η=0.075	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Section 9: Demographic Information

Table 9-4: Proportion of life from age 18 until now living on a farm or ranch, or non-suburban rural area.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	1066	28.3
20-29	173	25.1
30-39	251	29.1
40-49	292	28.3
50-65	307	30.0
66+	43	31.9
	F=0.564, η=0.046	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 9-5: Proportion of life living on a farm or ranch, or non-suburban rural area.

Age Cohorts	Sample size (n)	Mean
Statewide[1]	1076	34.8
20-29	176	36.7
30-39	252	36.2
40-49	296	32.2
50-65	308	34.4
66+	43	37.4
	F=0.672, η=0.050	

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 9-6: Highest Level of Education.

	Percent of respondents whose highest level of education was…								
Age Cohorts	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
Statewide[1]	0.6	2.8	19.8	9.7	16.9	16.7	20.6	5.2	7.7
20-29	1.1	1.6	18.1	6.6	20.3	14.8	27.5	5.5	4.4
30-39	0.4	3.1	14.5	9.4	16.8	16.8	24.6	5.9	8.6
40-49	0.0	2.0	25.5	9.8	18.6	17.0	17.6	3.3	6.2
50-65	0.6	4.4	19.6	11.8	12.5	18.1	14.6	6.5	11.8
66+	4.7	4.7	25.6	18.6	7.0	18.6	4.7	7.0	9.3
	χ^2=75.564***, Cramer's V=0.131***								

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P $\leq$ 0.001

Section 9: Demographic Information

Table 9-7: Gender.

Age Cohorts	Sample size (n)	Male	Female
Statewide[1]	1108	79.7	20.3
20-29	181	68.5	31.5
30-39	257	83.7	16.3
40-49	306	79.1	20.9
50-65	321	86.9	13.1
66+	43	86.0	14.0
	χ^2=28.221***, Cramer's V=0.160***		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 9-8: Marital Status.

Age Cohorts	Sample size (n)	Single	Divorced or widowed	Living with a partner	Married
Statewide[1]	1108	20.3	6.0	6.5	67.2
20-29	182	54.4	1.6	11.5	32.4
30-39	257	18.3	4.3	4.7	72.8
40-49	305	9.2	9.2	6.9	74.8
50-65	320	3.4	8.1	3.8	84.7
66+	43	0.0	9.3	0.0	90.7
	χ^2=285.663***, Cramer's V=0.293***				

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

***P ≤ 0.001

Table 9-9: Race.

Age Cohorts	Sample size (n)	Caucasian/ White	African American/ Black	Asian	Pacific Islander	American Indian or Alaskan Native
Statewide[1]	1094	96.7	0.3	1.8	0.6	0.6
20-29	177	94.9	0.0	3.4	1.1	0.6
30-39	255	96.9	0.0	2.4	0.0	0.8
40-49	305	96.4	0.7	1.3	0.7	1.0
50-65	314	98.4	0.3	0.3	1.0	0.0
66+	43	100.0	0.0	0.0	0.0	0.0
	χ^2=18.226, Cramer's V=0.065					

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

Table 9-10: Hispanic background.

Age Cohorts	Sample size (n)	No	Yes
Statewide[1]	1078	98.0	2.0
20-29	177	97.2	2.8
30-39	253	98.4	1.6
40-49	299	98.0	2.0
50-65	306	98.7	1.3
66+	41	97.6	2.4
	χ^2=1.634, Cramer's V=0.039		

Notes:

[1] A stratified sample based on age was drawn. Statewide data is weighted to reflect age proportions in the population.

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Enck, J. W., Decker, D. J., & Brown, T. L. (2000). Status of hunter recruitment and retention in the United States. *Wildlife Society Bulletin*, 28, 817-824.

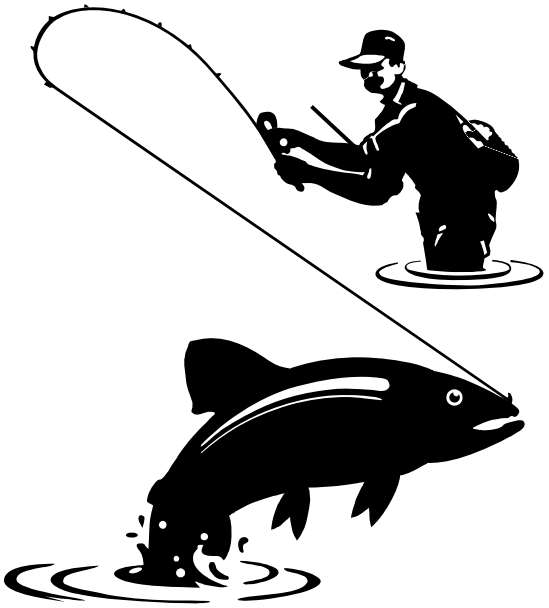
Kelly, T. (2004). Outdoor recreation participation trends in wildlife-related activities (fishing, fishing, wildlife observation) and recreational boating. St. Paul, MN: Minnesota Department of Natural Resources Office of Management and Budget Services.

U.S. Department of the Interior, Fish and Wildlife Service, and U.S. Department of Commerce, Bureau of the Census. (2002). 2001 National survey of fishing, fishing, and wildlife-associated recreation. Washington, DC: U.S. Government Printing Office.

Appendix 1: Survey Instrument

FISHING IN MINNESOTA

A study of angler participation and activities



A cooperative study conducted by the University of Minnesota for the Minnesota Department of Natural Resources

Your help on this study is greatly appreciated!

Please return your completed questionnaire in the enclosed envelope. The envelope is self-addressed and no postage is required. Thanks!

Minnesota Cooperative Fish and Wildlife Research Unit,
Department of Fisheries, Wildlife and Conservation Biology
University of Minnesota
St. Paul, Minnesota 55108-6124

Appendix A: Survey Instrument

Part 1. Your Fishing Background

We would like to know about your background and experience as a angler.

Q1. **In what year did you begin fishing <u>in Minnesota</u>? *If uncertain please estimate.***

_____ year

Q2. **For the previous 5 years, please indicate which years you fished in Minnesota? (*Check all that apply*.)**

- ❑ 2002
- ❑ 2001
- ❑ 2000
- ❑ 1999
- ❑ 1998
- ❑ I did not fish during any of these years.

Q3. Please indicate whether you <u>have ever fished</u> for the following kinds of fish. If you have fished for that kind of fish, please indicate how many years <u>during the previous 5 years</u> that you fished for that kind.

Have you ever fished for:	**Please circle no or yes.**		**<u>If yes,</u> during the <u>previous 5 years</u>, how many years did you fish for each kind of fish?**				
Whatever is biting	no	yes	1	2	3	4	5
Walleye	no	yes	1	2	3	4	5
Northern pike	no	yes	1	2	3	4	5
Perch	no	yes	1	2	3	4	5
Crappie	no	yes	1	2	3	4	5
Sunfish	no	yes	1	2	3	4	5
Smallmouth bass	no	yes	1	2	3	4	5
Largemouth bass	no	yes	1	2	3	4	5
White bass	no	yes	1	2	3	4	5
Catfish	no	yes	1	2	3	4	5
Lake trout	no	yes	1	2	3	4	5
Stream trout (rainbow, brook, brown)	no	yes	1	2	3	4	5

Appendix A: Survey Instrument

Q4. Please indicate whether you fished for the following kinds of fish <u>in Minnesota</u> during the past 12 months. If you did fish, estimate the <u>total</u> number of days that you fished.

During the past 12 months did you fish for:	Please circle no or yes.		<u>If yes</u>, how many days did you fish <u>in Minnesota</u> in the past 12 months?
Whatever is biting	no	yes	_____ days
Walleye	no	yes	_____ days
Northern pike	no	yes	_____ days
Perch	no	yes	_____ days
Crappie	no	yes	_____ days
Sunfish	no	yes	_____ days
Smallmouth bass	no	yes	_____ days
Largemouth bass	no	yes	_____ days
White bass	no	yes	_____ days
Catfish	no	yes	_____ days
Lake trout	no	yes	_____ days
Other trout (rainbow, brook, brown)	no	yes	_____ days

Q5. Please indicate how likely it is you will fish for each of the following at some time <u>during the next 5 years in Minnesota</u>. *Please circle one response for each.*

	Very Unlikely	Somewhat Unlikely	Slightly Unlikely	Undecided	Slightly Likely	Somewhat Likely	Very Likely
Whatever is biting	1	2	3	4	5	6	7
Walleye	1	2	3	4	5	6	7
Northern pike	1	2	3	4	5	6	7
Perch	1	2	3	4	5	6	7
Crappie	1	2	3	4	5	6	7
Sunfish	1	2	3	4	5	6	7
Smallmouth bass	1	2	3	4	5	6	7
Largemouth bass	1	2	3	4	5	6	7
White bass	1	2	3	4	5	6	7
Catfish	1	2	3	4	5	6	7
Lake trout	1	2	3	4	5	6	7
Other trout (rainbow, brook, brown)	1	2	3	4	5	6	7

Appendix A: Survey Instrument

Part 2. Your Introduction to Fishing

Q6. How old were you when you first began to fish (not necessarily in Minnesota)? *If uncertain please estimate*.

_____ years old

Q7. Who introduced you to fishing? *(Check one.)*

- ❑ Grandparent
- ❑ Father
- ❑ Mother
- ❑ Sibling
- ❑ Uncle or aunt
- ❑ Friend
- ❑ Organized class or group
- ❑ Self
- ❑ Other:_____ *(Please specify.)*

Q8. Please check the response that best reflects your father's attitude toward fishing. *(Check one.)*

- ❑ He is, or was, an angler.
- ❑ He did not fish, but approved of fishing.
- ❑ He did not fish, but tolerated interests in fishing.
- ❑ He did not fish and discouraged interests in fishing.
- ❑ I do not know.

Q9. Please check the response that best reflects your mother's attitude toward fishing. *(Check one.)*

- ❑ She is, or was, an angler.
- ❑ She did not fish, but approved of fishing.
- ❑ She did not fish, but tolerated interests in fishing.
- ❑ She did not fish and discouraged interests in fishing.
- ❑ I do not know.

Appendix A: Survey Instrument

Part 3. Your Involvement in Fishing

Q10. Please indicate how much you agree or disagree with the following statements about fishing. ***Please circle one response for each:***

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
I have close friendships that are based on a common interest in fishing.	1	2	3	4	5	6	7
I have annual traditions related to fishing.	1	2	3	4	5	6	7
If I stopped fishing, I would feel that an important part of my life was missing.	1	2	3	4	5	6	7
Participation in fishing is a large part of my life.	1	2	3	4	5	6	7
I have put a lot of time and energy into developing skills for fishing.	1	2	3	4	5	6	7
It would be difficult for me to find another recreational activity to replace fishing.	1	2	3	4	5	6	7
Over time, I have acquired equipment that I would not use if I quit fishing.	1	2	3	4	5	6	7
I would go fishing even if I did not have partners to go with.	1	2	3	4	5	6	7
I would rather fish than do any other recreational activity.	1	2	3	4	5	6	7

Q11. Have you ever taken someone fishing who was not already familiar with the sport (mentored a new angler)?

- ❑ No → *Skip to Q12*
- ❑ Yes. *(Please answer Q11a.)*

Q11a. If yes, what was their relationship to you? ***(Please circle yes or no and the number of people you have mentored.)***

Relationship:	Please circle no or yes.		Number of people mentored			
Son	no	yes	1	2	3	4 or more
Daughter	no	yes	1	2	3	4 or more
Brother	no	yes	1	2	3	4 or more
Sister	no	yes	1	2	3	4 or more
Father	no	yes	1	2	3	4 or more
Mother	no	yes	1	2	3	4 or more
Spouse or significant other	no	yes	1	2	3	4 or more
Male friend	no	yes	1	2	3	4 or more
Female friend	no	yes	1	2	3	4 or more
Other. Please specify:	no	yes	1	2	3	4 or more

Q12. How many fishing-related organizations do you belong to?

- ❑ None
- ❑ 1 or 2
- ❑ 3 to 5
- ❑ 6 to 10
- ❑ More than 10

Part 4. Attitudes About Fishing

Please circle the number that best represents your response.

In my opinion…

	Extremely Negative	Moderately Negative	Slightly Negative	Neutral	Slightly Positive	Moderately Positive	Extremely Positive
Q13. Fishing is…	1	2	3	4	5	6	7

	Extremely Unenjoyable	Moderately Unenjoyable	Slightly Unenjoyable	Neutral	Slightly Enjoyable	Moderately Enjoyable	Extremely Enjoyable
Q14. Fishing is…	1	2	3	4	5	6	7

	Definitely False	Moderately False	Slightly False	Neutral	Slightly True	Moderately True	Definitely True
Q15. Most people important to me think I should fish.	1	2	3	4	5	6	7

	Strongly Disapprove	Moderately Disapprove	Slightly Disapprove	Neutral	Slightly Approve	Moderately Approve	Strongly Approve
Q16. How do most people important to you feel about you fishing?	1	2	3	4	5	6	7

Q17. Please respond to the following statements about how others feel about your fishing, using the scale "strongly disagree" to "strongly agree." ***Please circle <u>one</u> response <u>for each</u>:***

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree	Not applicable
My father approves of me fishing.	1	2	3	4	5	6	7	9
My mother approves of me fishing.	1	2	3	4	5	6	7	9
My spouse or significant other approves of me fishing.	1	2	3	4	5	6	7	9
My friends approve of me fishing.	1	2	3	4	5	6	7	9
My children approve of me fishing.	1	2	3	4	5	6	7	9

Appendix A: Survey Instrument

Part 5. The Outcomes of Fishing

Q18. Please identify how important the following outcomes of fishing are for you personally. ***Please circle <u>one</u> response <u>for each</u>:***

	Not at all Important	Slightly Important	Moderately Important	Very Important	Extremely Important
Fishing is a way for me to enjoy nature and the outdoors.	1	2	3	4	5
Fishing is a way for me get food.	1	2	3	4	5
Fishing is a way for me to spend time with family or friends.	1	2	3	4	5
Fishing is a way for me to develop and demonstrate skills.	1	2	3	4	5
Fishing is a way for me to rest and relax.	1	2	3	4	5

Part 6. Constraints to Your Fishing Activity

	Very Difficult	Moderately Difficult	Slightly Difficult	Neutral	Slightly Easy	Moderately Easy	Very Easy
Q19. How easy or difficult is it for you to go fishing?	1	2	3	4	5	6	7
	Definitely False	**Moderately False**	**Slightly False**	**Neutral**	**Slightly True**	**Moderately True**	**Definitely True**
Q20. If I wanted to, I could easily go fishing.	1	2	3	4	5	6	7

Q21. Do you feel that the amount of time you spend fishing, or the type of fishing you do, is constrained (restricted or inhibited) in any way?

- ❑ No ⟶ *Skip to Q22.*
- ❑ Yes. *(Please answer Q21a.)*

Q21a. If yes, please check the statements that you feel apply to your fishing participation. ***(Check all that apply.)***

- ❑ There are types of fishing that I would like to start, but can't.
- ❑ I have stopped doing fishing activities that I did in the past, although I would still like to do them.
- ❑ I cannot fish as often as I would like.
- ❑ I do not enjoy fishing as much as I might otherwise.

Appendix A: Survey Instrument

Q22. Specifically, how much do the following factors limit your fishing participation? Please circle the response that indicates how much the factor limits the amount and type of fishing you do. *Please circle one response for each:*

	HOW MUCH DO THE LISTED FACTORS LIMIT THE AMOUNT AND TYPES OF FISHING YOU DO?						
	Not at all limiting						**Very limiting**
Family commitments	1	2	3	4	5	6	7
Work commitments	1	2	3	4	5	6	7
Crowding at fishing areas	1	2	3	4	5	6	7
Cost of equipment	1	2	3	4	5	6	7
Cost of licenses	1	2	3	4	5	6	7
Travel costs	1	2	3	4	5	6	7
Fishing regulations	1	2	3	4	5	6	7
Availability of people to fish with	1	2	3	4	5	6	7
Physically unable to go fishing	1	2	3	4	5	6	7
Inadequate fishing skills	1	2	3	4	5	6	7
Interest in other recreational activities	1	2	3	4	5	6	7
Safety concerns	1	2	3	4	5	6	7
Fish populations too low	1	2	3	4	5	6	7
No desire to catch fish for food	1	2	3	4	5	6	7
No need to catch fish for food	1	2	3	4	5	6	7
Personal concern for causing fish pain and distress	1	2	3	4	5	6	7
Other people's concern for causing fish pain and distress	1	2	3	4	5	6	7
Weather conditions	1	2	3	4	5	6	7
Interest in free time at home	1	2	3	4	5	6	7
The type of people that go fishing	1	2	3	4	5	6	7
The amount of planning required to go fishing	1	2	3	4	5	6	7
Age	1	2	3	4	5	6	7
The amount of effort required to go fishing	1	2	3	4	5	6	7
No good fishing opportunities near my home	1	2	3	4	5	6	7
Poor health	1	2	3	4	5	6	7

Part 7. Patterns of Fishing in Your Life

Peoples' lives change over time, and they sometimes find that they have increased or decreased time for fishing and other recreational activities. We are interested in seeing how your involvement in fishing may have changed throughout your life.

Please circle the number of years you fished during each age range. If you are younger than the listed age range , circle N/A for not applicable.

Q23a. Please circle the number of years that you fished during <u>each age range</u>.

Age range	About how many years out of 10 did you fish during the following 10 year age ranges?											
10-19	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**N/A**
20-29	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**N/A**
30-39	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**N/A**
40-49	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**N/A**
50-59	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**N/A**
60-69	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**N/A**
70+	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**N/A**

Q23b. Please estimate <u>how often</u> you went fishing in a typical year during the following 10-year age ranges.

Age range	About how often did you fish each year during the following 10 year age ranges?									
	One or two days	About 5 days	About 10 days	About 15 days	About 20 days	About 25 days	About 30 days	About 35 days	40 or more days	
10-19	1	2	3	4	5	6	7	8	9	N/A
20-29	1	2	3	4	5	6	7	8	9	N/A
30-39	1	2	3	4	5	6	7	8	9	N/A
40-49	1	2	3	4	5	6	7	8	9	N/A
50-59	1	2	3	4	5	6	7	8	9	N/A
60-69	1	2	3	4	5	6	7	8	9	N/A
70+	1	2	3	4	5	6	7	8	9	N/A

Part 8. Other Outdoor Activities

Q24. We are interested in what outdoor activities you do, besides fishing. For each, please circle yes or no for whether you have done the listed activity within the past 12 months. If yes, please indicate how many days you participated in the activity.

Have you participated in the following activities in the past 12 months?	Please circle no or yes.		If yes, how many days did you participate in the activity in the past 12 months?
Hunting	no	yes	_____ days
Watching wildlife	no	yes	_____ days
Picnicking	no	yes	_____ days
Day hiking	no	yes	_____ days
Backpacking	no	yes	_____ days
Canoeing	no	yes	_____ days
Driving off-road vehicles	no	yes	_____ days
Developed camping	no	yes	_____ days
Primitive camping	no	yes	_____ days
Cross-country skiing	no	yes	_____ days

Part 9. About You

Q25. In what year were you born?

_____ year

Q26. How many years have you lived in Minnesota?

_____ years

Q27. How many years did you live on a farm or ranch, or in a non-suburban rural area from birth until age 17?

_____ years

Q28. How many years have you lived on a farm or ranch, or in a non-suburban rural area from age 18 until now?

_____ years

29. What is the highest level of education you have completed? ***(Check one.)***

☐ Grade school
☐ Some high school
☐ High school diploma or GED
☐ Some vocational or technical school
☐ Vocational or technical school (associate's) degree
☐ Some college
☐ Four-year college (bachelor's) degree
☐ Some graduate school
☐ Graduate (master's or doctoral) degree

Q30. What is your gender?

- ❑ Male
- ❑ Female

Q31. What was your approximate total household income before taxes last year?

$ _____

Q32. Which of the following <u>best describes</u> your <u>current</u> marital status? ***(Check one.)***

- ❑ Single
- ❑ Divorced or widowed
- ❑ Living with a partner
- ❑ Married

Q33. Which of the following <u>best describes</u> your race? ***(Check all that apply.)***

- ❑ Caucasian/White
- ❑ African American/Black
- ❑ Asian
- ❑ Pacific Islander
- ❑ American Indian or Alaskan Native

Q34. Do you consider yourself Hispanic/Latino/Spanish? (*Check one*.)

- ❑ No
- ❑ Yes

Please make any additional comments you may have in the space below. Thanks!

THANK YOU FOR YOUR HELP!

Please return the completed questionnaire in the enclosed self-addressed, stamped envelope.