The 2002 Waterfowl Hunting Season in Minnesota: A Study of Hunters' Opinions and Activities

Final Report

A cooperative study conducted by:

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

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Executive Summary

This study of the 2002 Minnesota waterfowl-hunting season was conducted to assess waterfowl hunters':

- participation and activities;
- satisfaction, attitudes, and knowledge of waterfowl management; and
- opinions about waterfowl management and regulations including season dates, Youth Waterfowl Hunting Day, and battery-operated, spinning-wing decoys.

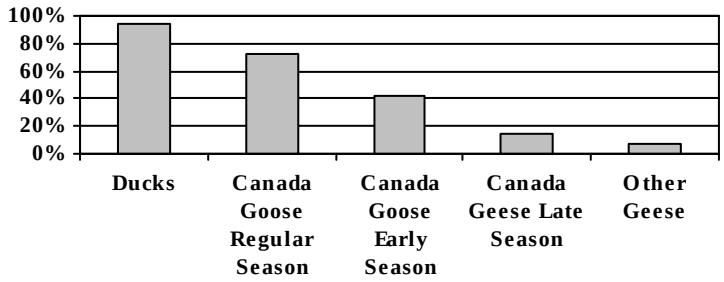
The survey was distributed to 4,800 waterfowl hunters; 3,129 completed surveys were used for this analysis. After adjusting for undeliverable surveys and invalid respondents, the response rate was 68%.

Experiences

Eighty-eight percent of survey respondents hunted waterfowl during the 2002 Minnesota season. Respondents who had hunted in 2002 were asked if they had hunted for ducks and Canada geese during the Early September, Regular, and Late December seasons. Responses ranged from 94% for ducks to only 8% for "other" geese (not Canada geese). See Figure 1.

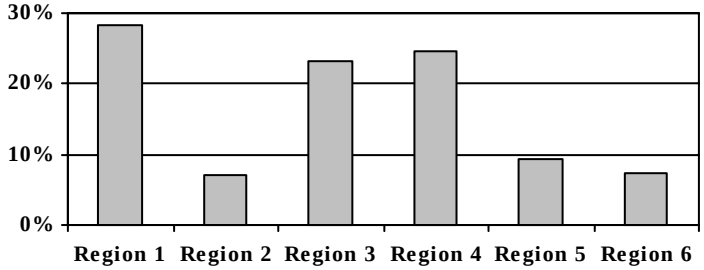
Hunters reported bagging an average of 10.39 ducks, 4.28 Canada geese, and 0.49 "other" geese over the course of the 2002 Minnesota season. Respondents hunted an average of 6.5 days on weekends and holidays, and 4.4 days during the week. Approximately two-thirds of waterfowl hunters statewide hunted opening Saturday (64%) or Sunday (67%).

Figure S-1: Percentage of Hunters Participating in Activities in 2002



Survey recipients were asked how many days they hunted in each of six management regions. Approximately 25% of respondents reported hunting most frequently in Region 1 (28.3%), Region 4 (24.6%), or Region 3 (23.3%). Less than 10% of the state waterfowl hunters reported that they most often hunted in Region 2 (7.0%), Region 5 (9.4%), or Region 6 (7.4%).

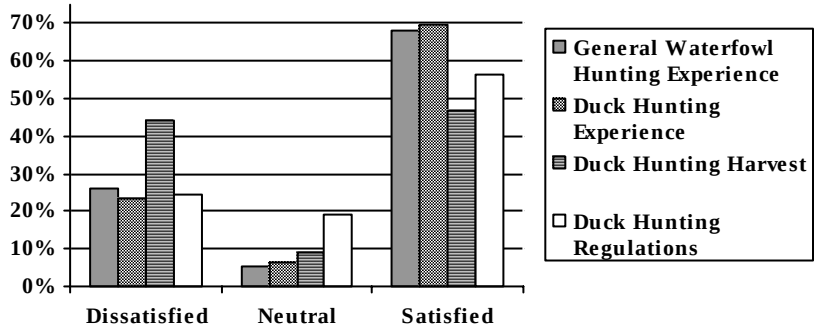
Figure S-2: Most Frequent Hunting Destination in 2002



Satisfaction

Over two-thirds of hunters reported being satisfied with their general waterfowl-hunting experience. Younger hunters, hunters who have been hunting for fewer years, avid hunters, and hunters who used battery-operated, spinning-wing decoys reported higher levels of satisfaction.

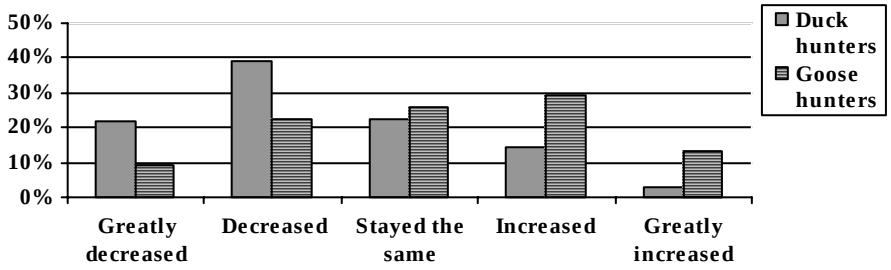
Figure S-3: Satisfaction With Duck Hunting in 2002



Seventy percent of respondents were satisfied with their 2002 duck-hunting experience. However, nearly one-half of respondents were dissatisfied with their duck-hunting harvest. Satisfaction with duck-hunting regulations fell between satisfaction levels for experience and harvest. Nearly one in five respondents felt neither satisfied nor dissatisfied about the duck-hunting regulations, compared to less than 10% for duck-hunting experience or harvest. There was a significant positive relationship between the number of ducks bagged and satisfaction with duck-hunting harvest.

Results show similar satisfaction levels for goose hunting as for duck hunting. Sixty-eight percent of goose hunters were satisfied with their general goose-hunting experience. Similar to results for duck hunting, more goose hunters were dissatisfied with their harvest. About half of goose hunters indicated they were satisfied with goose-hunting regulations. The number of geese bagged appears to have a slight positive influence on satisfaction with goose-hunting harvest.

Figure S-4: Change in Satisfaction Since Starting to Hunt in Minnesota



Hunters were also asked if their overall level of satisfaction for duck hunting and goose hunting had decreased or increased in the past three hunting seasons, and since they had begun hunting ducks and geese. About half of duck hunters indicated their overall level of satisfaction with duck hunting had decreased in the past three years and only 15% indicated their satisfaction had increased. Similarly, 61% of duck hunters indicated that their satisfaction had decreased since they began hunting. Compared to duck hunters, fewer goose hunters reported a decline in satisfaction over time. About one-third of goose hunters indicated their satisfaction had declined in the past three years, or since they began goose hunting in the state.

Youth Waterfowl Hunting Day

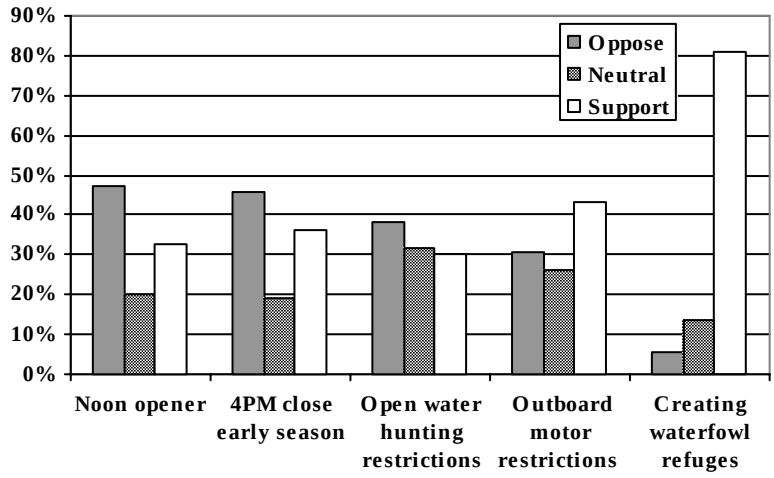
Youth Waterfowl Hunting Day has been somewhat controversial in Minnesota (Smith, 2002). However, survey results show continued support for the day. Overall, 61% of respondents support the youth hunt, with 36% strongly supporting it. Support for the youth hunt is somewhat lower than in 2000, when 66% of respondents supported the youth hunt with 44% strongly supporting it.

Study respondents were asked if they took any youths hunting on Minnesota's 2002 Youth Waterfowl Hunting Day, and 11% reported participating. Those respondents who participated in Youth Waterfowl Hunting Day reported escorting an average of 1.50 youths. Based on the percentages provided by the survey, it is estimated that 18,908 youths participated in the youth waterfowl hunt in 2002. On average, 2.63 ducks and 0.42 geese were harvested by each mentored group of youths.

Management Strategies

Survey recipients were asked to report their support for different waterfowl management strategies. A large majority of respondents (81 %) supported creating waterfowl refuges. Approximately one-third of hunters supported the noon opener, while almost half opposed it. Similarly, 36% of hunters supported and 46% opposed ending shooting hours at 4 p.m. during the first part of the season. Fewer respondents opposed restrictions on either open-water hunting, or outboard-motor use, but relatively large percentages were undecided about these restrictions. Approximately one-half of respondents indicated a preference for opening day shooting hours to begin one-half hour before sunrise. Approximately one-fourth of respondents preferred a 9 a.m. start (26%) or a noon start (27%) to shooting hours.

S-5: Support for Management Strategies

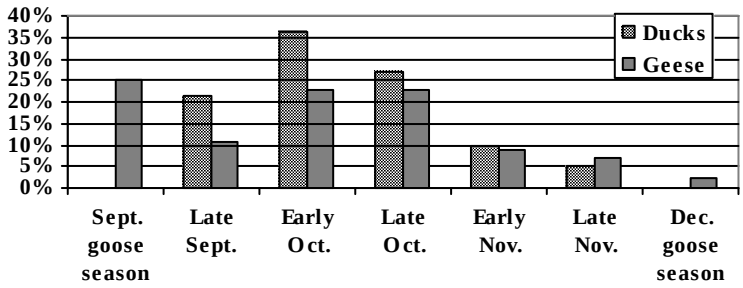


Season Dates

Respondents were asked a variety of questions addressing their preferences for season dates. We asked survey recipients about early opening dates, split seasons, and factors important in selecting season dates. More respondents (56%) supported an early opening date with a 60-day season than with a 45-day season (27%). For both 45- and 60-day seasons, residents of northern regions were more supportive of early opening dates.

Survey participants were asked to select their *most* preferred time period to hunt for ducks and for geese. Of the five duck-hunting periods listed, the early October (October 1-15) period was preferred by 36% of respondents statewide. Over 25% of respondents preferred the late October time period (October 16-31), and 22% preferred the opening-weekend period (September 28-30). Only 15% of respondents selected either of the two November time periods as their most preferred time. Of the seven goose-hunting time periods listed, most respondents (25%) selected the September goose season (September 1-22), followed by early October (23%), and late October (23%). Approximately 11% of respondents selected the opening-weekend period, and approximately 15% selected one of the two November time periods as their most preferred time to hunt geese. Only 3% of respondents selected the December goose season as their most preferred time to hunt geese.

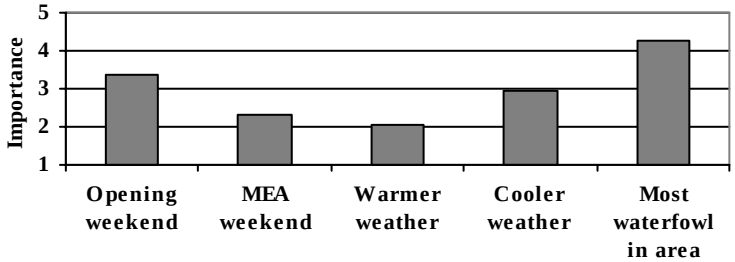
S-6: Preferred Time to Hunt



Survey recipients were asked to select their preferred season dates for 60-day, 45-day, and 30-day duck-hunting seasons. For a 60-day season, respondents selected between 1) a season with a traditional opening date, 2) a season with an early opening date, and 3) no opinion/undecided. Approximately one-half (52%) of respondents selected the early opening date with a 60-day season. Approximately one-third (35%) selected the traditional opening date, while 13% were undecided. For a 45-day season, 30% of respondents selected the single season with a traditional opening date; 29% selected a single season with an early opening date, 17% selected a split season with an early opening date with closed dates earlier in the season; 13% selected a split season with an early opening date with closed dates later in the season, and 11% were undecided. When survey participants were asked about a 30-day season, about half (48%) selected a single season with the traditional opening date, while 37% selected a split season, and 16% had no opinion.

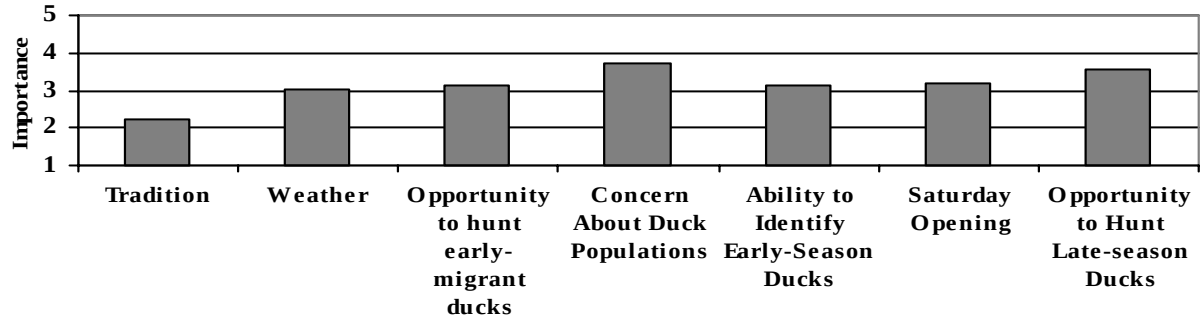
Respondents were asked the importance of five times for hunting waterfowl. Of the five listed times for hunting, “when the most waterfowl are in the area” was the only time rated “very important.” “Opening weekend” and “when the weather is cooler” were rated “somewhat important,” and “when the weather is warmer” and “MEA weekend” were rated “slightly important.”

S-7: Importance of Hunting at Certain Times



Study participants were asked about the importance of various reasons for selecting the duck season opening date. Reasons for selecting a duck season opening date included: tradition, weather/temperature, opportunity to hunt early-migrant teal and wood ducks, concern about duck populations, ability to identify ducks early in the season, Saturday opening, and opportunity to hunt late-season ducks. Of the seven listed reasons for selecting the duck season opening date, "tradition" was rated slightly important, while "concern for duck populations" and "opportunity to hunt late-season ducks" were rated very important.

S-8: Importance of Various Reasons for Selecting Opening Date



Hunting Techniques and Knowledge

Study participants were asked what techniques they used to hunt ducks and geese. The techniques included: pass shooting, decoying birds over water, decoying birds over land, jump shooting on ponds or streams, sneaking on birds in fields, hunting from motorized watercraft, hunting from non-motorized watercraft, and using duck/goose calls. Respondents reported using duck calls, goose calls, and decoying over water for ducks "often." Respondents reported using all of the other techniques less than half the time they hunted.

Study participants were asked about their knowledge of and support for various waterfowl management initiatives, including: adaptive harvest management, the Mississippi Flyway Council, duck stamps, the North American Waterfowl Management Plan, the Migratory Bird Harvest Information Program, and hunting spring snow geese. Respondents were asked to report their knowledge on a 4-point scale of 1=I have never heard of it, 2=I know a little bit about it, 3=I know something about it, and 4=I know a lot about it. They reported support on a 5-point scale of "strongly oppose" to "strongly support." On average, respondents reported knowing "something" about duck stamps and "a little bit" about the other listed initiatives. Respondents reported support for duck stamps and hunting spring snow geese. Respondents reported a moderate amount of support for other initiatives, which all scored between "neutral" and "support."

Spinning-Wing Decoys

Twenty percent of respondents reported that they owned a battery-operated, spinning-wing decoy, and 26% reported using these decoys during the 2002 waterfowl season. Only 10% of hunters reported use of battery-operated, spinning-wing decoys in 2000, so use of these decoys appears to be rising. However, use of battery-operated, spinning-wing decoys appears lower than in other states—a 2001-2002 survey of waterfowl hunters in Missouri found that 40% of hunters owned these decoys.

Respondents who reported using spinning-wing decoys used an average of two decoys in their hunting parties. Of those who used the decoys in 2002, 9% feel the decoys are extremely effective, 29% feel they

are very effective, 42% feel they are somewhat effective, 16% feel they are slightly effective, and 4% feel they are not at all effective. There are statistically significant differences in perceived effectiveness between those hunters who used battery decoys and those who did not (41% of nonusers versus 31% of users indicating that the decoys are either extremely or very effective).

Respondents were asked about their support for various restrictions on battery-operated, spinning-wing decoys, if these decoys are found to increase duck harvest rate and possibly result in shorter seasons and/or lower bag limits. Overall, respondents were relatively neutral about all the restrictions that were included in the survey. Of the listed restrictions, banning the use of the decoys for the entire season received the lowest level of support, and restricting the use of the decoys for the first 8 days of the season received the most support. Spinning-wing decoy owners were significantly less supportive of decoy restrictions than those respondents who did not own the decoys were. For example, only 13% of decoy owners "supported" or "strongly supported" a ban on the decoys for the entire season compared to 43% of those respondents who did not own a decoy.

The number of ducks harvested per hunting day, and over the course of the 2002 waterfowl season, was significantly higher for respondents who used battery-operated, spinning-wing decoys compared to respondents who didn't use the decoys. Over the course of the season, Minnesota spinning-wing decoy users harvested an average of 16.30 ducks compared to 7.96 for nonusers. Decoy users harvested an average of 1.29 ducks per hunting day compared to 0.99 ducks for respondents who didn't use the decoys. For comparison, Missouri hunters using these decoys reported bagging 1.62 ducks per day, compared to 0.99 ducks per day for nonusers (Humburg et al., 2002), and decoy users in Illinois averaged 1.77 ducks per day compared to 1.14 ducks per day for nonusers (Miller, 2002).

Opinions on the Minnesota Department of Natural Resources

Respondents were asked to respond to four statements about the Minnesota Department of Natural Resources (DNR). Overall, survey respondents have neutral to mildly positive opinions about the Minnesota Department of Natural Resources. Over 50% of respondents agreed with the statement: "The Minnesota DNR has waterfowl management staff who are well trained for their jobs." Nearly 50% of respondents also agreed with the statement: "The Minnesota DNR answers questions honestly." Fewer respondents agreed with two statements: "The Minnesota DNR listens to waterfowl hunters' concerns" (43%) and "The Minnesota DNR responds to waterfowl hunters' concerns" (37%).

Respondents were asked if they had been checked by a conservation officer during the 2002 waterfowl season and, if so, how they felt about the interaction. Seventeen percent of respondents reported being checked by a conservation officer during the season. Respondents who had been checked by an officer felt positively about their interaction. Nearly 90% of respondents who had been checked by a conservation officer agreed or strongly agreed that the officer properly enforced regulations. Just over 80% agreed or strongly agreed that officers were polite and respectful.

Comparison with 2000 Study Results

Participation levels, satisfaction and harvest of ducks and geese per hunter were similar in 2000 and 2002, but a smaller percentage of hunters reported hunting outside of Minnesota (18.6%) in 2002 than in 2000 (24.7%).The reported use of battery-operated, spinning-wing decoys more than doubled from 10% in 2000 to 26% in 2002, and there is less support for banning such decoys than there was in 2000. Support for Youth Waterfowl Hunting Day declined from 66.8% in 2000 to 61.0% in 2002. Likewise, support for management activities (a noon opener, a 4 p.m. close early in the season, open-water hunting restrictions, outboard-motor restrictions, creating waterfowl refuges) decreased from 2000 to 2002.

Conclusions and Implications

The results suggest that use and ownership of battery-operated, spinning-wing decoys are increasing in Minnesota. Results also show a general decline in support for restricting the use of these decoys. However, there is much stronger support for restrictions on battery-operated, spinning-wing decoys among hunters who do not own the decoys. If the DNR is considering implementing restrictions on battery-operated, spinning-wing decoys, they may have more support now when ownership of the decoys is still relatively low.

The results suggest that support for various management activities, including a noon opener, a 4 p.m. close early in the season, open-water hunting restrictions, outboard-motor restrictions, creating waterfowl refuges, and Youth Waterfowl Hunting Day, has declined. The DNR may gain more support for these management efforts through improved communications addressing the benefits of these actions.

This study examined hunter preferences for season dates. The results show substantial variability in hunters' opinions and preferences related to season dates. It appears that the DNR would have some support for an early-opening date with a 60-day waterfowl-hunting season, but less support for an early opening with a 45-day season. There is not strong support for split seasons with either 45-day or 30-day seasons.

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Introduction

Minnesota has a large number of waterfowl hunters, yet quantitative information about this important clientele is limited. The U.S. Fish and Wildlife Service (USFWS) estimates hunter numbers and harvest annually by via the Federal Harvest Estimates and the Harvest Information Program. The Minnesota Department of Natural Resources (DNR) also estimates hunter numbers and harvest through its Small Game Hunter Survey. Despite these regular measures, details of hunter activity and opinions on waterfowl management issues are not regularly documented.

Minnesota participated in the North American Duck Hunter Survey (Ringelman, 1997), and Minnesota hunter responses have been compared to those in rest of the United States (Lawrence & Ringelman, 2001). Much recreation research has examined participant satisfaction, and maintaining waterfowl hunter numbers over the long term depends on a satisfied clientele, In order to develop more information about satisfaction with waterfowl hunting in Minnesota and preferences concerning hunting regulations and experiences, data were collected from waterfowl hunters after the 2000 season (Vlaming, Fulton, Lawrence, & Price 2002). The current study provides updated information on hunter satisfaction. It also details hunters' experiences during the 2002 hunting season and hunters' attitudes about management issues such as season timing, mechanical decoys, and youth waterfowl hunting.

Development of annual waterfowl-hunting regulations must be within the frameworks established by the U.S. Fish and Wildlife Service. However, Minnesota and other states have some latitude to adjust season structure based on state characteristics and hunter preferences. A Saturday opening day, youth waterfowl hunt, and customized regulations are examples of regulations that can be modified by hunter preference. Hunter surveys like the one described in this report provide a better understanding of where the DNR Division of Wildlife needs to focus information and education efforts.

Study Purpose and Objectives

This study was conducted to provide ongoing information on waterfowl hunter demographics and attitudes in Minnesota. Its overall purpose was to measure hunter satisfaction, and to identify hunter preferences and opinions on various waterfowl hunting, management, and regulatory issues.

The specific objectives of this study were to:

1. Describe hunter effort in Minnesota in 2002 including: species and seasons hunted; number of days hunted; effort during weekdays, weekends, and opening weekend; management regions hunted; average actual hunting time during legal hunting hours; interaction with conservation officers, and hunting techniques used.
2. Describe hunting satisfaction with waterfowl (duck and goose) hunting in Minnesota in 2002.
3. Determine Minnesota waterfowl hunters' support for and participation in Youth Waterfowl Hunting Day;
4. Determine Minnesota waterfowl hunters' opinions concerning management strategies for maintaining waterfowl numbers;
5. Determine Minnesota waterfowl hunters' opinions on season dates.
6. Determine Minnesota waterfowl hunters' opinions on the Minnesota Department of Natural Resources.
7. Determine Minnesota waterfowl hunters' opinions on and use of battery-operated duck decoys.
8. Determine Minnesota waterfowl hunters' knowledge of waterfowl management.
9. Determine general characteristics of waterfowl hunters in Minnesota.
10. Examine trends in waterfowl hunters' characteristics and opinions over time.

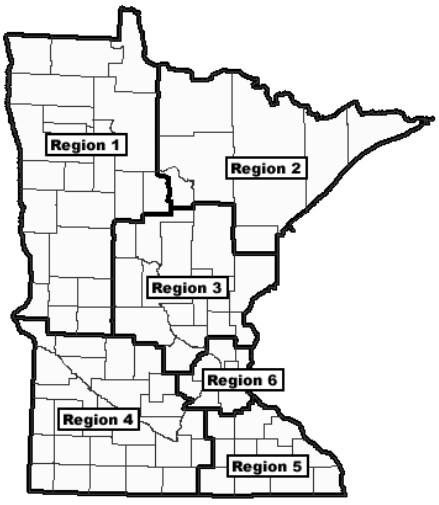
The questions used to address each objective are provided in the survey instrument (Appendix A) and discussed in more detail in the subsequent sections.

Methods

Sampling

The population of interest in this study included all Minnesota residents 16 years of age and older who hunted waterfowl in the state during 2002. The sampling frame used to draw the study sample was the Minnesota Department of Natural Resource's (DNR) Electronic Licensing System (ELS). A stratified random sample of Minnesota residents in the ELS was drawn. The sample included 1) individuals who had purchased a state waterfowl stamp in Minnesota, or 2) individuals who were over age 64 or under age 18 and were not required to purchase a state waterfowl stamp but reported through the Harvest Information Program (HIP). The study sample was stratified by residence of individuals (determined by ZIP code) in six DNR management regions that existed prior to 2001. The old six-management-region system was used for study stratification instead of the current four-region system to facilitate comparison to the 2000 Minnesota waterfowl study results (Fulton, Vlaming, Lawrence, & Price 2002). The target sample size was n = 400 for each region (n = 2,400 statewide). An initial stratified random sample of 4,800 individuals, approximately 800 from each of the six management regions, was drawn from the ELS (Figure 1).

Figure 1. Minnesota DNR Regions.



Data Collection

Data were collected using a mail-back survey following a 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 March 3, 2003 and April 25, 2003. 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 a personal appeal for respondents to complete and return the survey questionnaire. Approximately seven days later, a postcard was sent to all potential study 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 seven weeks after the first mailing, a fourth mailing that included another cover letter and replacement questionnaire with a stamped return envelope was sent to all individuals with valid addresses who had not yet replied. Returned surveys were collected through June 10, 2003.

Survey Instrument

The data collection instrument was a 12-page self-administered survey with 10 pages of questions (Appendix A). The questionnaire addressed the following topics:

Part 1: Background and length of experience as a waterfowl hunter;
Part 2: Hunting experiences during the 2002 Minnesota waterfowl-hunting seasons, including: species hunted, days hunted, management region most often hunted, average time hunting per day, interaction with conservation officers, and hunting techniques used;
Part 3: Satisfaction with duck and goose hunting including general experience, harvest, and regulations, and personal trends in hunting satisfaction for ducks and geese;
Part 4: Opinions concerning waterfowl management issues including season dates, strategies for reducing harvest rate and holding waterfowl in Minnesota, Youth Waterfowl Hunting Day, battery-operated decoys, and the Minnesota Department of Resources;
Part 5: Background information about hunting outside Minnesota;
Part 6: Waterfowl knowledge and information, and group membership.

Additional information concerning age and gender of respondents was obtained from the ELS database.

Data Entry and Analysis

Data were professionally keypunched and the data were analyzed on a PC 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. Regional results were compared using one-way analysis of variance and cross-tabulations.

Survey Response Rate

Of the 4,800 questionnaires mailed, 181 were undeliverable, sent to a deceased person, or otherwise invalid. Of the remaining 4,619 surveys, a total of 3,129 were returned, resulting in an overall response rate of 68%. Response rates for each region are summarized in Table I-1. Please note that the chart of response rates for each management region does not include 16 surveys that were returned without identification numbers. These 16 surveys were included in statewide results but could not be included in regional analyses. Responses received after the third survey mailing (n = 336) were used as a nonresponse check.

Table I-1: Response rates for each management region

	Initial sample size	Number invalid	Valid sample size	Number completed and returned	Response rate %
Region 1	800	34	766	522	68.1%
Region 2	800	34	766	498	65.0%
Region 3	800	40	760	513	67.5%
Region 4	800	39	761	500	65.7%
Region 5	800	28	772	528	68.4%
Region 6	800	31	769	552	71.8%

The average age of respondents was significantly older than the population of waterfowl hunters in each management region of the state. People over 40 returned the survey at a significantly higher rate than younger people (χ^2=86.742, p<0.001). Weights correcting this age bias were calculated and applied to the data. While there were a few statistically significant differences between the weighted and unweighted data, weighting the data did not change results beyond the margin of error for the survey and the effect size of all differences were minimal. For this reason, data were not weighted for age bias in any of the results reported here (see section 9 for respondent/study population age comparison).

Population Estimates

Statewide Estimates

The study sample was drawn using a stratified random sample with region of residence defining the six study strata. For this reason the data had to be weighted to reflect the proportion of the population residing in each region when making statewide estimates. Table I-2 summarizes the statewide population proportions for each region.

Regional Estimates

At the regional level, estimates were calculated based either on the region of residence or on the region most often hunted depending on the specific question asked. Estimates calculated based on the region of the state that respondents most often hunted waterfowl were made for participation in hunting seasons, birds bagged, days hunted, and satisfaction and motivation questions. For these estimates, the data were first weighted to reflect the proportion of hunters from each region based on residence (proportions listed in Table I-2).

Table I-2: Proportion of state waterfowl stamp purchasers by region of residence in Minnesota.

Region of residence	Proportion of state waterfowl stamp purchasers in each region age 18-64	
	Frequency[1]	Proportion
Region 1	15,754	0.142
Region 2	7,285	0.066
Region 3	21,986	0.199
Region 4	19,657	0.178
Region 5	7,960	0.072
Region 6	37,927	0.343
Statewide[2]	116,044	100.0

Notes:
[1] Source: DNR license database
[2] The statewide total is not equal to the total of the six regions because ZIP code changes or additions are ongoing, and DNR regional ZIP code files lag behind U.S. Postal Service changes.

Section 1: Experiences During the 2002 Waterfowl Hunt

Findings:

Results for Part 2 of the waterfowl hunter survey are reviewed below. This section of the survey focused on hunting experiences during the 2002 Minnesota waterfowl-hunting seasons. Only individuals who hunted waterfowl in Minnesota in 2002 completed this section of the survey.

Regional estimates for participation in various seasons are presented both by region of residence and region most often hunted. Regional estimates for participation, harvest, days hunted, and hunting on private and public lands are based on the region most often hunted. Other regional estimates are based on the hunters' region of residence.

Waterfowl Seasons Hunted in Minnesota in 2002

Respondents were first asked to report if they had actually hunted waterfowl in Minnesota in 2002. Statewide 88.4% of the survey respondents indicated that they had hunted waterfowl in 2002. There were no significant differences in participation rates by region of residence (Table 1-1). Respondents who had hunted in 2002 were next asked if they had hunted for ducks and Canada geese during the early September, regular, and late December seasons. At the statewide level, 93.5% of actual waterfowl hunters in 2002 indicated they had hunted ducks while 73.1% had hunted Canada geese during the regular season. Approximately, 4 out of 10 respondents hunted Canada geese during the early season, while approximately 1 in 10 hunted Canada geese during the late season (13.9%). Less than 10% of respondents hunted "other" geese (7.8%). Statewide, 16.3% of respondents hunted ducks exclusively and 4.7% hunted geese exclusively.

Chi-square significance tests indicated that a larger proportion of waterfowl hunters residing in Region 2 hunted ducks than respondents in other management regions, but significantly smaller proportions of Region 2 residents hunted Canada geese during the early, regular, or late seasons. Hunters in Region 5 were less likely to hunt ducks, but were much more likely to hunt Canada geese during the late season compared to hunters in other regions (Table 1-1, Table 1-2).

Harvest

For each season in which they hunted, respondents were asked to report the number of ducks or geese they personally bagged. The statewide estimate of the average number of ducks each hunter harvested during the season was 10.39 (Table 1-4). Hunters reported an average of 2.56 geese during the early season, 2.52 during the regular season, and 1.01 during the late season. For all Canada goose seasons combined, hunters reported an average of 4.28 Canada geese for the year. On average, hunters harvested 0.49 "other" geese.

Results of ANOVA indicate that on average hunters residing in Regions 1 and 2 shot significantly more ducks than hunters in other regions did. In the early Canada goose season, the average number of geese harvested by hunters from Region 6 was significantly less than the number harvested by hunters from other regions. During the regular Canada goose season, hunters from Region 5 bagged more geese on average than hunters from the other regions did (Table 1-4). Across the three Canada goose seasons, hunters living in Regions 1 and 5 bagged an average of more than five geese for the year, while hunters living in Regions 2 and 6 shot four or fewer Canada geese on average. Based on these average harvest

estimates (Table 1-4) and hunter numbers (Table 1-3), the estimated statewide harvests for ducks and geese are reported in Table 1-5 along with estimated harvests by region of residence.

Average Number of Days Hunting Weekends and Weekdays

Next, respondents were asked to report the number of days they hunted on weekends or holidays and weekdays. On average, hunters spent more days hunting on weekends and holidays (6.5 days) than during the week (4.4 days). This trend was the same in each management region (Table 1-6). Table 1-7 shows hunter preferences for hunting weekends versus weekdays.

Hunting Opening Weekend

Approximately two-thirds of waterfowl hunters statewide hunted opening Saturday (64.4%) or Sunday (67.4%) during the 2002 duck season (Table 1-8). A smaller percentage of hunters in Region 5 (57.8%) hunted opening Saturday, and the percentage of hunters in Region 5 (62.2%) who hunted on opening Sunday was also smaller than in the other management regions.

Regions Hunted

Statewide

Across the state, Region 1 (28.3%), Region 4 (24.6%) and Region 3 (23.3%) were hunted most often by the largest proportions of waterfowl hunters. Less than 10% of the state waterfowl hunters reported that they hunted most often in Region 2 (7.0%), Region 5 (9.4%), or Region 6 (7.4%) (Table 1-9).

Regional

Very large majorities of waterfowl hunters residing in Region 1 (93.3%) and Region 4 (81.2%) hunted in their home regions. Also about 7 out 10 hunters residing in Region 2 (64.7%), Region 3 (68.2%), and Region 5 (74.4%) reported that they hunted most often in their home region. In contrast, waterfowl hunters from Region 6 were more likely to hunt in Region 1 (27.3%), Region 3 (23.9%), and Region 4 (19.2%) than in their home region (18.8%) (Table 1-9).

Average Actual Time Hunting During Each Hunt

Most hunters (54.8%) reported hunting an average of between 3 and 5 hours during each duck hunt in Minnesota. Hunters from the Twin Cities region (Region 6) were more likely to hunt an average of more than 5 hours (21.6%) during each duck hunt, compared to residents of other regions. (Table 1-10).

Section 1: Experiences During the 2002 Waterfowl Hunt

Table 1-1: Proportion of hunters participating in different waterfowl hunts by region of residence

Region of residence	Sample size (n)	% of hunters[1] indicating they hunted in Minnesota in 2002					
		%Who actually hunted in 2002	Ducks	Canada Geese Early September	Canada Geese Regular Season	Canada Geese Late Season	Other geese
Statewide[2]	3,069	88.4	93.5	41.9	73.1	13.9	7.8
Region 1	511	86.5	94.4	55.5	78.4	14.8	10.1
Region 2	492	88.4	95.9	19.2	59.0	1.7	11.6
Region 3	506	90.1	93.3	47.3	75.6	11.7	5.4
Region 4	490	89.8	92.1	53.9	78.1	20.7	14.0
Region 5	521	88.3	89.7	34.9	76.0	32.0	5.8
Region 6	547	87.4	94.3	32.0	68.8	9.5	4.6
		χ^2=4.745 n.s.	χ^2=16.498**	χ^2=167.248***	χ^2=59.571***	χ^2=159.063***	χ^2=36.427***

Notes:
[1] % for species reflects only % of respondents that actually hunted waterfowl during 2002.
[2] A stratified sample based on region of residence was drawn. Statewide data is weighted to reflect regional proportions in the population.
*P ≤ 0.05
**P ≤ 0.01
***P ≤ 0.001

Table 1-2: Proportion of hunters participating in different waterfowl hunts in each region

Area most often hunted[2]	n	% of hunters[1] indicating they hunted in Minnesota in 2002				
		Ducks	Canada Geese Early September	Canada Geese Regular Season	Canada Geese Late Season	Other geese
Statewide	2,650	93.5	41.9	73.1	13.9	7.8
Region 1	749	95.1	42.3	72.9	10.4	10.0
Region 2	186	97.8	18.0	53.8	1.3	8.7
Region 3	619	97.0	45.0	69.3	10.1	3.6
Region 4	651	91.4	45.1	81.9	15.6	11.0
Region 5	249	90.2	36.7	73.4	29.6	5.5
Region 6	196	93.7	44.2	80.8	18.1	3.1
		χ^2=31.093***	χ^2=46.689***	χ^2=66.611***	χ^2=82.162***	χ^2=31.250***

Notes:
[1] % for species reflects only % of respondents that actually hunted waterfowl during 2002
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
*p ≤ 0.05
**p ≤ 0.01
***p ≤ 0.001

Section 1: Experiences During the 2002 Waterfowl Hunt

Table 1-3: Estimate of the number of hunters participating in different waterfowl hunts

Region of residence	N	Actually hunted in 2002	Ducks	Canada Geese Early September	Canada Geese Regular Season	Canada Geese Late Season	Other geese
Statewide	116,044[1]	102,583	95,915	42,982	74,988	14,259	8,001
Region 1	15,754	13,627	12,864	7,563	10,684	2,017	1,376
Region 2	7,285	6,440	6,176	1,236	3,800	109	747
Region 3	21,986	19,809	18,482	9,370	14,976	2,318	1,070
Region 4	19,657	17,652	16,257	9,514	13,786	3,654	2,471
Region 5	7,960	7,029	6,305	2,453	5,342	2,249	408
Region 6	37,927	33,148	31,259	10,607	22,806	3,149	1,525

Notes:
[1] The statewide total is not equal to the total of the six regions because zip code changes or additions are ongoing, and DNR regional zip code files lag behind U.S. Postal Service changes.

Table 1-4: Average number of birds bagged statewide and by region of residence

Region of residence	Average number of birds bagged in Minnesota in 2002 per hunter for that specific season					
	Ducks	Canada Geese Early September	Canada Geese Regular Season	Canada Geese Late Season	Total Canada Geese All Seasons	Other Geese
Statewide[1]	10.39	2.56	2.52	1.01	4.28	0.49
Region 1	11.76	3.23	3.04	1.49	5.82	0.62
Region 2	12.03	2.34	1.76	0.02	3.07	0.66
Region 3	9.19	2.90	2.48	0.85	4.76	0.28
Region 4	10.86	2.71	2.40	0.76	4.57	1.06
Region 5	10.79	3.36	4.87	2.62	8.11	0.43
Region 6	9.88	1.60	1.96	0.66	3.16	0.15
	F=2.806*	F=2.319*	F=5.122***	F=9.483***	F=6.584***	F=1.868 n.s.

Notes: [1]
A stratified sample based on region of residence was drawn. Statewide data is weighted to reflect regional proportions in the population.
*$p \leq 0.05$
***$p \leq 0.001$

Table 1-5: Estimates of harvest statewide and by region of residence

Region of residence	Ducks	Canada Geese Early September	Canada Geese Regular Season	Canada Geese Late Season	Total Canada Geese All Seasons	Other geese
Statewide	996,557	110,034	188,970	14,402	313,406	3,920
Region 1	155,783	28,210	34,723	7,201	70,134	2,573
Region 2	75,780	5,389	7,410	36	12,835	1,322
Region 3	175,209	35,231	24,924	5,100	65,255	1,659
Region 4	183,379	30,445	35,706	5,371	71,522	6,202
Region 5	69,986	11,186	27,885	8,704	47,775	873
Region 6	316,966	24,078	50,401	7,306	81,785	1,357

Notes:
Estimates were only calculated for the statewide harvest and region of residence because a large percentage of hunters hunt in multiple regions, thus total seasonal harvest could not be identified at the regional level.

Table 1-6: Average number of days hunting on weekends and weekdays

Area most often hunted[1]	n	Mean number of days hunted during 2002 waterfowl season	
		Weekends/Holidays	Weekdays (Monday-Friday)
Statewide	2,759	6.5	4.4
Region 1	746	6.1	4.1
Region 2	185	5.5	4.0
Region 3	619	6.3	4.2
Region 4	649	7.3	4.6
Region 5	249	7.4	5.8
Region 6	196	6.7	4.9
		F=7.282***	F=3.306**

Notes:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
** $p \leq 0.01$,
*** $p \leq 0.001$

Table 1-7: Preference for hunting on weekends versus weekdays

Area most often hunted[1]	n	Percent of respondents who prefer hunting…		
		Weekends/Holidays	Weekdays (Monday-Friday)	No preference
Statewide	2,740	29.7	28.0	42.3
Region 1	746	32.4	24.0	43.6
Region 2	186	25.8	32.8	41.4
Region 3	614	28.3	25.2	46.4
Region 4	647	32.5	28.7	38.8
Region 5	247	21.9	37.2	40.9
Region 6	196	25.5	34.7	39.8
χ^2=34.426 p≤0.001				

Notes:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.

Table 1-8: Participation in hunting on opening Saturday and Sunday

Area most often hunted[1]	N	% hunting opening weekend in Minnesota	
		Opening Saturday (September 28, 2002)	First Sunday (September 29, 2002)
Statewide	2,748	64.4	67.4
Region 1	749	62.2	64.7
Region 2	185	60.0	67.6
Region 3	616	69.5	75.3
Region 4	649	66.6	65.5
Region 5	249	57.8	62.2
Region 6	196	63.8	66.3
		χ^2=16.108**	χ^2=24.292***

Notes:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
**p ≤ 0.01
***p ≤ 0.001

Table 1-9: Regional distribution of hunting across Minnesota

Residence of hunter	n	% of hunters indicating the region they MOST OFTEN hunted in Minnesota in 2002					
		Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
Statewide[1]	2,650	28.3	7.0	23.3	24.6	9.4	7.4
Region 1	435	93.3	2.5	2.5	1.6	0	0
Region 2	419	26.7	64.7	4.3	2.9	0.7	0.7
Region 3	443	15.8	1.8	68.2	10.4	0.9	2.9
Region 4	421	3.3	0.2	2.9	81.2	11.4	1.0
Region 5	454	5.1	1.1	2.9	15.2	74.4	1.3
Region 6	473	27.3	5.7	23.9	19.2	5.1	18.8
χ^2=5219.481***							

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data is weighted to reflect regional proportions in the population.
***$p \leq 0.001$

Table 1-10: Average time hunting during each duck hunt

Residence of hunter	n	% of hunters indicating the average length of time that they spent hunting during each duck hunt in Minnesota. (Time hunting during legal hunting hours excluding travel and preparation time.)			
		1 hour or less	More than 1 hour but less than 3 hours	3 hours to 5 hours	More than 5 hours
Statewide[1]	2,706	1.8	27.3	54.8	16.1
Region 1	447	2.9	38.5	48.8	9.8
Region 2	434	1.4	21.7	57.8	19.1
Region 3	455	1.1	31.2	53.6	14.1
Region 4	440	2.3	34.8	51.1	11.8
Region 5	453	2.2	21.0	60.5	16.3
Region 6	477	1.5	18.9	58.1	21.6
χ^2=98.496***					

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data is weighted to reflect regional proportions in the population.
***$p \leq 0.001$

Section 2: Satisfaction With the 2002 Waterfowl Hunt

Findings:

Study participants were asked to rate their satisfaction with their general waterfowl-hunting experience on a 7-point scale where 1 = very dissatisfied, 2 = moderately dissatisfied, 3 = slightly dissatisfied, 4 = neither, 5 = slightly satisfied, 6 = moderately satisfied, and 7 = very satisfied. They were also asked to rate hunting experiences, harvest, and hunting regulations for ducks and geese separately using the same response scale. Estimates at the regional level for these satisfaction questions are based on the region the respondents indicated that they most often hunted.

Satisfaction With the General Waterfowl Hunting Experience

Statewide over two-thirds of hunters (68.1%) reported being satisfied with their general waterfowl-hunting experience, with about one quarter expressing dissatisfaction (26.3%). The overall mean satisfaction score statewide was 4.88. While the mean satisfaction score did not vary significantly across the management regions, there were significant differences in the pattern of responses (χ^2= 46.148, $p \leq 0.05$). A smaller proportion of Region 6 hunters (5.3%), reported being very dissatisfied compared to hunters in other regions (Table 2-1). (See section 10 of this report for comparisons to the 2000 hunting season). There were significant differences in the mean satisfaction level (F = 3.569, p = 0.003) and pattern of responses (χ^2= 59.399, $p \leq 0.001$ by region of residence. Residents of Region 4 were the least satisfied with their general waterfowl-hunting experience, and Region 2 residents were most satisfied (Table 2-2).

Younger hunters, hunters who have been hunting for fewer years, avid hunters, and hunters who used battery-operated, spinning-wing decoys reported higher levels of satisfaction with the general waterfowl-hunting experience. There was a significant negative relationship (r=-0.225, p<0.001) between age and satisfaction. This means that older hunters reported less satisfaction than younger hunters. Likewise, there was a significant negative relationship (r=-.211, p<0.001) between years of waterfowl-hunting experience and satisfaction. Also, avid hunters who spent 20 or more days in the field reported significantly higher levels of satisfaction than intermediate and novice waterfowl hunters (F = 6.609, p < 0.001) (χ^2=38.525, p<0.001). See Table 2-3. Finally, battery-operated, spinning-wing decoy users reported higher levels of satisfaction compared to nonusers (F = 25.078, p < 0.001) (χ^2=34.241, p<0.001). See Table 2-4.

Satisfaction With Duck Hunting

Statewide

Statewide a large majority (69.8%) of duck hunters were satisfied (slightly, moderately, or very) with their duck-hunting experience in 2002; of these about 1 in 5 (21.4%) were very satisfied. Conversely, 23.6% of respondents were dissatisfied (slightly, moderately, or very), with less than 1 in 10 (7.2%) very dissatisfied with their duck-hunting experience. However, many fewer respondents were satisfied with their duck-hunting harvest. Nearly one-half (44.0%) of the respondents were dissatisfied with their duck harvest. Forty-seven percent of hunters were satisfied with their duck harvest and less than 1 in 10 (8.7%) were very satisfied with their duck harvest. Satisfaction with duck-hunting regulations was higher than satisfaction with harvest, with 56.3% of respondents reporting satisfaction with the regulations, including 44.2% of respondents who were moderately or very satisfied. However, nearly one in five respondents (19.3%) felt neither satisfied nor dissatisfied about the duck-hunting regulations, compared to only 6.5%

who felt neutral about the duck-hunting experience and only 9.0% who felt neutral about the duck-hunting harvest. (Tables 2-5, 2-6, 2-7).

The mean score for duck-harvest satisfaction (mean = 3.95) was significantly lower than the mean scores for experience (mean = 5.00, $t = -26.904$, $p < 0.001$) or regulations (mean = 4.75, $t = -20.513$, $p < 0.001$). The mean satisfaction score for experience was also significantly higher than for regulations ($t = 6.803$, $p < 0.001$).

There was a significant positive relationship ($r = 0.330$, $p < 0.001$) between the number of ducks bagged and the satisfaction with the duck-hunting harvest. As the number of ducks bagged increases, satisfaction moderately increases.

Regional

There were no differences in mean satisfaction scores for duck-hunting experience, harvest, or regulations across the regions. (Tables 2-5, 2-6, 2-7).

Satisfaction With Goose Hunting

Statewide

Statewide most goose hunters were satisfied (67.8%) with their general goose-hunting experience, with slightly more than half reporting they were moderately (28.0%) or very (22.2%) satisfied (Table 2-8). Most goose hunters were less satisfied with their harvest, however. A total of 40.2% reported being dissatisfied with their harvest with 11.2% moderately dissatisfied and 16.3% very dissatisfied (Table 2-9). About half (52.4%) of the goose hunters indicated they were satisfied with the goose-hunting regulations with 22.2% moderately satisfied and 18.2% very satisfied (Table 2-10).

There was a statistically significant correlation ($r=0.271$, $p<0.001$) between the total number of geese bagged in 2002 and satisfaction with the goose-hunting harvest. The number of geese bagged appears to have a moderate positive influence on satisfaction with goose-hunting harvest.

Regional

There were no significant differences among regions for satisfaction with goose-hunting experience or goose-hunting harvest. Goose hunters' satisfaction with goose-hunting regulations, however, varied significantly from region to region ($F=3.447$, $p=0.004$) (Table 2-10). Goose hunters in Regions 1 and 4 were less satisfied with goose-hunting regulations, compared to respondents who hunted primarily in other regions.

Comparison of Duck Hunting and Goose Hunting

We compared mean satisfaction levels for duck and goose hunting. Statewide there was no difference between duck hunters (mean = 5.00) and goose hunters (mean = 5.01) on satisfaction with experience ($t = -0.268$, $p = 0.789$). There were significant differences between duck hunters and goose hunters on harvest satisfaction (mean for duck hunting = 3.95, mean for goose hunting = 4.04, $t=2.362$, $p=0.018$), and satisfaction with regulations (duck mean = 4.75, goose mean = 4.54, $t = 5.912$, $p<0.001$). These differences were statistically significant, but the substantive differences between mean scores were small. (See Table 2-11.)

Changes in Satisfaction Levels

Hunters were asked if their overall level of satisfaction for duck hunting and goose hunting had decreased or increased in the past 3 hunting seasons and since they had begun hunting ducks and geese. Responses were recorded on a 5-point scale on which 1 = greatly decreased, 2 = decreased, 3 = stayed the same, 4 = increased, and 5 = greatly increased.

About one-half (51.6%) of duck hunters in the state indicated their overall level of satisfaction with duck hunting had decreased in the past 3 years prior to the study and only 14.5% indicated their satisfaction had increased (Table 2-12). Similarly, 60.7% indicated that their satisfaction had decreased since they began hunting (Table 2-14). There were no notable differences in these changes across region of residence in the state.

About one-third of goose hunters indicated their satisfaction had declined in the past 3 years (32.4%), or since they began goose hunting in the state (31.5%). There were no differences in changes in satisfaction levels across region of residence (Tables 2-13, 2-15).

There was a significant negative correlation ($r = -0.333$, $p < 0.001$) between total years of hunting experience in Minnesota and the change in level of satisfaction for hunting ducks in Minnesota. This indicates that as the number of years of experience increases, the satisfaction rate decreases slightly. In contrast, no statistically significant correlations were found between total years of hunting experience in Minnesota and the change in the level of satisfaction for hunting geese in Minnesota over time. Other factors besides total years of experience hunting in Minnesota may have greater effect on the change in satisfaction over time.

Satisfaction Levels of Minnesota Waterfowl Hunters Compared to Other Hunters

While an increasing number of state and national studies are being conducted on waterfowl-hunting activities, these studies typically have not asked the basic satisfaction level of hunters (e.g, Pierce et al., 1996; Ringelman, 1997). Recent studies conducted in Missouri, however, have asked respondents to rate their hunting experience on a scale of “poor,” “fair,” “good,” and “excellent.” In 1996, 10.3% of Missouri resident waterfowl hunters rated their overall waterfowl-hunting experience as “excellent, ” 43.3% rated their experience as “good,” 32.4% rate it “fair,” and 10.7% rated it “poor” (Humburg et al., no date). In South Dakota, the satisfaction level of waterfowl hunters was measured using the same question and 7-point scale used in the study reported here (Gigliotti, Personal Communication). The mean satisfaction scores for resident South Dakota waterfowl hunters were: 1998 = 4.42; 1999 = 4.48; and 2000 = 4.49 on a 7-point scale where 1 = very dissatisfied and 7 = very satisfied. In 2000, the mean score for satisfaction with the general waterfowl-hunting experience in Minnesota (mean = 4.77) was higher than in South Dakota, with both duck- and goose-hunting satisfaction rated slightly higher when asked separately (duck = 5.09, goose = 4.99). In 2002, the mean score for satisfaction with the general waterfowl-hunting experience in Minnesota (mean = 4.88) was slightly higher than 2000, which was higher than in South Dakota. Both duck- and goose-hunting satisfaction rated slightly higher when asked separately (duck = 5.00, goose = 5.01).

On a broader level, Vaske and others (Vaske et al. 1982) summarized and compared satisfaction ratings of consumptive and nonconsumptive recreationists, but these data are now quite dated and the scale used was “poor” to “excellent” and not satisfaction level. There are currently no other published summary documents comparing hunting satisfaction levels across locations or activities, although dozens of single hunting activity studies have been completed nationwide. Table 2-16 summarizes a few recent results from a variety of hunting activities in different states for comparison to waterfowl hunters in Minnesota.

Section 2: Satisfaction With the 2002 Waterfowl Hunt

Except for Colorado deer hunters in 1992 and 1993 and Alaskan moose hunters in 1997, Minnesota duck and goose hunters can be characterized as less satisfied with their experience. More telling is that the ratings for Colorado deer- and Alaskan moose-hunting experiences occurred when managers were aware that large numbers of hunters were complaining about hunting opportunities. For example, Colorado had recently reduced the deer-hunting season to 3 days (Barro & Manfredo, 1996), and Alaska had instituted restrictions on bull-moose harvest (Fulton, 1999).

Without additional satisfaction-trend information on waterfowl hunting in Minnesota and other states, it is difficult to accurately categorize the current satisfaction level for Minnesota duck and goose hunters as "low" or "high" relative to long-term experiences in Minnesota. Given that many studies of hunting activities report 75-85% of participants saying that they are slightly to very satisfied, the 70% satisfaction level for Minnesota waterfowl hunters appears a bit lower. However, satisfaction among Minnesota waterfowl hunters appears similar to satisfaction levels among South Dakota waterfowl hunters. It may be important for the Minnesota DNR to track the trend in waterfowl-hunting satisfaction in future years and identify factors that affect satisfaction.

Section 2: Satisfaction With the 2002 Waterfowl Hunt

Table 2-1: Satisfaction with the general waterfowl-hunting experience for the 2002 season by area most often hunted.

Area most often hunted[2]	n	% of hunters[1] indicating that level of satisfaction: Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	Mean[3]
Statewide	2,604	7.0	8.9	10.4	5.5	16.0	35.0	17.1	4.88
Region 1	713	7.7	8.4	10.0	6.0	13.0	35.1	19.8	4.92
Region 2	181	6.6	8.3	8.3	3.9	12.7	40.9	19.3	5.07
Region 3	583	7.9	10.1	10.3	3.9	20.6	32.2	14.9	4.76
Region 4	618	6.0	9.5	11.7	7.0	15.4	34.5	16.0	4.84
Region 5	238	7.1	7.6	14.3	5.5	14.3	37.4	13.9	4.80
Region 6	188	5.3	7.4	7.4	3.2	18.6	38.8	19.1	5.15
χ^2=46.148, p≤0.05									

Notes:
[1] This table does not include those respondents who did not hunt in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[3] F = 1.940 (p = 0.085) for one-way ANOVA comparing means among regions. No significant differences. Mean is based on the following scale: 1 = very dissatisfied; 2 = moderately dissatisfied; 3 = slightly dissatisfied, 4 = neither; 5 = slightly satisfied; 6 = moderately satisfied; 7 = very satisfied.

Table 2-2: Satisfaction with the general waterfowl-hunting experience for the 2002 season by region of residence.

Region of residence[2]	n	% of hunters[1] indicating that level of satisfaction: Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	Mean[3]
Statewide	2,604	7.0	8.9	10.4	5.5	16.0	35.0	17.1	4.88
Region 1	437	8.5	5.9	8.5	6.9	13.0	39.4	17.8	5.00
Region 2	423	5.9	9.0	6.6	4.0	14.9	39.0	20.6	5.12
Region 3	436	7.8	10.3	10.3	3.7	18.3	31.0	18.6	4.82
Region 4	424	7.1	10.1	13.0	8.3	17.9	28.8	14.9	4.66
Region 5	436	5.7	7.1	10.3	5.0	14.4	41.3	16.1	5.03
Region 6	454	6.4	9.0	10.8	5.1	15.4	36.8	16.5	4.91
χ^2=59.399, p≤0.001									

Notes:
[1] This table does not include those respondents who did not hunt in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
[3] F = 3.569 (p = 0.003) for one-way ANOVA comparing means among regions. No significant differences. Mean is based on the following scale: 1 = very dissatisfied; 2 = moderately dissatisfied; 3 = slightly dissatisfied, 4 = neither; 5 = slightly satisfied; 6 = moderately satisfied; 7 = very satisfied.

Table 2-3: Satisfaction with the general waterfowl-hunting experience by hunting experience level

Waterfowl-hunting experience[2]	n	% of hunters[1] indicating that level of satisfaction: Slightly, moderately, or very dissatisfied	Neither satisfied nor dissatisfied	Slightly, moderately, or very satisfied	Mean[3]
Novice (0-5 days afield)[4]	815	27.9	9.1	63.1	4.74
Intermediate (6-19 days afield)	1,378	26.6	4.4	69.0	4.88
Avid (20+ days afield)	411	22.9	2.2	74.9	5.15
χ^2=48.400, p<0.001					

Notes:
[1] This table does not include those respondents who did not hunt ducks in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[3] F = 6.609 (p < 0.001) for one-way ANOVA comparing means. Mean is based on the following scale: 1 = very dissatisfied; 2 = moderately dissatisfied; 3 = slightly dissatisfied, 4 = neither; 5 = slightly satisfied; 6 = moderately satisfied; 7 = very satisfied.
[4] Categories as defined by Humburg et al., 2002.

Table 2-4: Satisfaction with the general waterfowl-hunting experience by use of battery-operated, spinning-wing decoys

Waterfowl-hunting experience[2]	n	% of hunters[1] indicating that level of satisfaction: Slightly, moderately, or very dissatisfied	Neither satisfied nor dissatisfied	Slightly, moderately, or very satisfied	Mean[3]
Battery-operated spinning-wing decoy users	757	21.0	2.9	76.1	5.16
Battery-operated spinning-wing decoy nonusers	1,805	28.5	6.6	64.9	4.76
χ^2=34.241, p<0.001					

Notes:
[1] This table does not include those respondents who did not hunt ducks in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[3] F = 25.078 (p < 0.001) for one-way ANOVA comparing means. Mean is based on the following scale: 1 = very dissatisfied; 2 = moderately dissatisfied; 3 = slightly dissatisfied, 4 = neither; 5 = slightly satisfied; 6 = moderately satisfied; 7 = very satisfied.
[4] Categories as defined by Humburg et al., 2002.

Table 2-5: Satisfaction with the duck-hunting experience for the 2002 season

Area most often hunted[2]	n	% of hunters[1] indicating that level of satisfaction: Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	Mean[3]
Statewide	2,543	7.2	7.5	8.9	6.5	15.5	32.9	21.4	5.00
Region 1	712	8.3	8.4	7.3	6.7	14.0	31.3	23.9	4.99
Region 2	183	4.9	3.3	10.4	5.5	14.8	39.3	21.9	5.29
Region 3	586	6.7	7.2	9.2	5.6	16.6	34.0	20.8	5.03
Region 4	589	6.8	8.5	10.0	6.3	16.8	33.6	18.0	4.91
Region 5	224	9.4	7.6	9.8	7.6	14.3	29.5	21.9	4.87
Region 6	180	3.3	7.2	7.2	6.7	15.6	36.7	23.3	5.27
χ^2=32.278, n.s.									

Notes:
[1] This table does not include those respondents who did not hunt ducks in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[3] F = 2.164 (p = 0.055) for one-way ANOVA comparing means. Mean is based on the following scale: 1 = very dissatisfied; 2 = moderately dissatisfied; 3 = slightly dissatisfied, 4 = neither; 5 = slightly satisfied; 6 = moderately satisfied; 7 = very satisfied.

Table 2-6: Satisfaction with the duck-hunting harvest for the 2002 season

Area most often hunted[2]	n	% of hunters[1] indicating that level of satisfaction: Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	Mean[3]
Statewide	2,523	16.5	11.9	15.6	9.0	18.9	19.4	8.7	3.95
Region 1	699	15.0	12.2	14.3	9.4	16.9	22.9	9.3	4.07
Region 2	180	18.9	9.4	13.3	11.1	20.6	18.9	7.8	3.94
Region 3	589	15.6	12.1	17.7	7.5	20.9	18.0	8.3	3.93
Region 4	581	17.7	12.0	14.3	9.1	20.5	18.1	8.3	3.90
Region 5	224	18.8	11.6	17.4	10.7	15.2	18.8	7.6	3.78
Region 6	181	12.7	14.4	16.0	7.7	21.0	17.7	10.5	4.04
χ^2=27.374, n.s.									

Notes:
[1] This table does not include those respondents who did not hunt ducks in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[3] F = 1.024 (p = 0.402). Mean is based on the following scale: 1 = very dissatisfied; 2 = moderately dissatisfied; 3 = slightly dissatisfied, 4 = neither; 5 = slightly satisfied; 6 = moderately satisfied; 7 = very satisfied.

Table 2-7: Satisfaction with the duck-hunting regulations for the 2002 season

Area most often hunted[2]	n	% of hunters[1] indicating that level of satisfaction: Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	Mean[3]
Statewide	2,499	6.2	6.7	11.4	19.3	12.1	26.4	17.8	4.75
Region 1	695	6.9	8.1	10.4	21.2	10.9	25.6	17.0	4.66
Region 2	180	7.8	6.1	14.4	18.9	12.8	20.0	20.0	4.62
Region 3	577	5.5	6.1	12.1	15.6	12.0	29.1	19.6	4.88
Region 4	578	6.4	6.4	11.8	18.3	14.2	27.3	15.6	4.72
Region 5	223	5.4	7.2	9.9	24.7	7.6	24.7	20.6	4.78
Region 6	177	4.5	4.0	10.7	15.8	14.7	28.8	21.5	5.03
χ^2=38.780, n.s.									

Notes:
[1] This table does not include those respondents who did not hunt ducks in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[3] F = 2.101 (p = 0.082). Mean is based on the following scale: 1 = very dissatisfied; 2 = moderately dissatisfied; 3 = slightly dissatisfied, 4 = neither; 5 = slightly satisfied; 6 = moderately satisfied; 7 = very satisfied.

Table 2-8: Satisfaction with the goose-hunting experience for the 2002 season

Area most often hunted[2]	n	% of hunters[1] indicating that level of satisfaction: Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	Mean[3]
Statewide	2,167	5.6	6.5	9.6	10.5	17.6	28.0	22.2	5.01
Region 1	582	6.5	7.6	9.3	9.6	18.4	24.2	24.4	4.96
Region 2	105	8.6	4.8	6.7	13.3	12.4	33.3	21.0	5.00
Region 3	478	4.0	6.5	9.8	11.7	17.8	30.8	19.5	5.04
Region 4	556	5.9	5.8	11.2	9.0	18.7	27.3	22.1	4.99
Region 5	201	6.5	5.0	9.0	10.4	15.4	30.3	23.4	5.08
Region 6	171	3.5	9.4	8.2	13.5	14.6	30.4	20.5	5.00
χ^2=31.664, n.s.									

Notes:
[1] This table does not include those respondents who did not hunt geese in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[3] F = 0.194 (p = 0.965). Mean is based on the following scale: 1 = very dissatisfied; 2 = moderately dissatisfied; 3 = slightly dissatisfied, 4 = neither; 5 = slightly satisfied; 6 = moderately satisfied; 7 = very satisfied.

Table 2-9: Satisfaction with the goose-hunting harvest for the 2002 season

Area most often hunted[2]	n	% of hunters[1] indicating that level of satisfaction: Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	Mean[3]
Statewide	2,140	16.3	11.2	12.7	13.6	16.1	17.7	12.3	4.04
Region 1	569	15.3	12.0	12.0	10.4	19.3	16.9	14.2	4.14
Region 2	103	14.6	10.7	10.7	14.6	17.5	17.5	14.6	4.20
Region 3	475	13.5	14.1	13.1	15.2	16.6	18.7	8.8	3.99
Region 4	552	20.1	9.4	14.1	13.4	13.4	17.8	11.8	3.91
Region 5	198	14.6	7.6	12.1	15.7	15.7	20.2	14.1	4.27
Region 6	169	18.9	11.8	11.2	19.5	14.2	15.4	8.9	3.80
χ^2=46.058, p≤0.05									

Notes:
[1] This table does not include those respondents who did not hunt geese in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[3] F = 1.966 (p = 0.081). Mean is based on the following scale: 1 = very dissatisfied; 2 = moderately dissatisfied; 3 = slightly dissatisfied, 4 = neither; 5 = slightly satisfied; 6 = moderately satisfied; 7 = very satisfied.

Table 2-10: Satisfaction with the goose-hunting regulations for the 2002 season

Area most often hunted[2]	n	% of hunters[1] indicating that level of satisfaction: Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	Mean[3]
Statewide	2,154	9.6	8.4	11.1	18.5	12.0	22.2	18.2	4.54
Region 1	572	11.2	10.1	11.5	17.1	12.6	21.7	15.7	4.38
Region 2	104	9.6	5.8	8.7	25.0	10.6	24.0	16.3	4.57
Region 3	477	6.9	7.8	10.3	20.3	11.1	25.6	18.0	4.69
Region 4	560	14.1	8.2	10.9	15.2	12.1	21.1	18.4	4.40
Region 5	199	7.0	6.5	11.6	20.1	9.5	21.1	24.1	4.78
Region 6	168	2.4	6.5	13.7	19.6	17.3	20.2	20.2	4.83
χ^2=56.223, p≤0.01									

Notes:
[1] This table does not include those respondents who did not hunt geese in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[3] F = 3.447 (p = 0.004). Mean is based on the following scale: 1 = very dissatisfied; 2 = moderately dissatisfied; 3 = slightly dissatisfied, 4 = neither; 5 = slightly satisfied; 6 = moderately satisfied; 7 = very satisfied.

Table 2-11: Comparison of duck-hunting and goose-hunting satisfaction

Satisfaction with…[1,2]	N	Mean[3]
Duck-hunting experience	2,543	5.00
Goose-hunting experience	2,167	5.01
t=-0.268, p=0.789		
Duck-hunting harvest	2,523	3.95
Goose-hunting harvest	2,140	4.04
p=-2.362, p=0.018		
Duck-hunting regulations	2,499	4.75
Goose-hunting regulations	2,154	4.54
t=5.912, p=0.000		

Notes:
[1] This table does not include those respondents who did not hunt geese in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[3] Means are based on the following scale: 1 = very dissatisfied; 2 = moderately dissatisfied; 3 = slightly dissatisfied, 4 = neither; 5 = slightly satisfied; 6 = moderately satisfied; 7 = very satisfied.

Table 2-12: Overall change in duck hunter's satisfaction over the past three seasons

Residence of hunter	n	% of hunters[1] indicating that their overall level of satisfaction has _____ over the past three years: Greatly decreased	Decreased	Stayed the same	Increased	Greatly increased	Mean[3]
Statewide[2]	2,575	14.0	37.6	33.8	12.8	1.7	2.51
Region 1	428	15.2	33.9	35.5	13.8	1.6	2.53
Region 2	414	10.4	35.7	38.4	13.8	1.7	2.61
Region 3	424	16.0	37.0	35.4	9.7	1.9	2.44
Region 4	419	16.2	36.0	32.2	13.8	1.7	2.49
Region 5	423	13.9	37.8	33.3	12.5	2.4	2.52
Region 6	458	12.0	40.6	32.3	13.5	1.5	2.52
χ^2=20.454, n.s.							

Notes:
[1] This table does not include those respondents who did not hunt ducks in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
[3] F = 1.351 (p =0.240). Mean is based on the following scale: 1 = greatly decreased; 2 = decreased; 3 = stayed the same, 4 = increased; 5 = greatly increased.

Table 2-13: Overall change in goose hunter's satisfaction over the past three seasons

Residence of hunter[2]	n	% of hunters[1] indicating that their overall level of satisfaction has _____ over the past three years: Greatly decreased	Decreased	Stayed the same	Increased	Greatly increased	Mean[3]
Statewide	2,280	7.7	24.7	42.8	20.6	4.2	2.89
Region 1	391	8.7	24.0	43.0	20.7	3.6	2.86
Region 2	294	7.5	24.8	43.5	20.7	3.4	2.88
Region 3	397	6.8	22.9	46.1	19.9	4.3	2.92
Region 4	400	9.8	23.8	41.3	21.3	4.0	2.86
Region 5	387	6.5	20.7	42.9	24.0	5.9	3.02
Region 6	383	6.8	27.7	41.3	19.8	4.4	2.87
χ^2=15.748, n.s.							

Notes:
[1] This table does not include those respondents who did not hunt geese in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
[3] F = 1.635 (p = 0.147). Mean is based on the following scale: 1 = greatly decreased; 2 = decreased; 3 = stayed the same, 4 = Increased; 5 = greatly increased.

Table 2-14: Overall change in duck hunter's satisfaction since they began hunting

Residence of hunter[2]	n	% of hunters[1] indicating that their overall level of satisfaction has _____ since they began hunting: Greatly decreased	Decreased	Stayed the same	Increased	Greatly increased	Mean[3]
Statewide	2,625	21.6	39.1	22.2	14.1	3.1	2.38
Region 1	436	21.8	37.4	23.4	14.4	3.0	2.39
Region 2	421	19.7	44.2	19.2	14.5	2.4	2.36
Region 3	440	23.4	37.3	22.0	13.6	3.6	2.37
Region 4	424	24.1	36.6	21.2	16.3	1.9	2.35
Region 5	432	25.0	34.0	23.8	16.0	1.2	2.34
Region 6	464	19.0	42.2	22.4	12.5	3.9	2.40
χ^2=28.783, n.s.							

Notes:
[1] This table does not include those respondents who did not hunt ducks in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
[3] F = 0.216 (p = 0.956). Mean is based on the following scale: 1 = greatly decreased; 2 = decreased; 3 = stayed the same, 4 = increased; 5 = greatly increased.

Table 2-15: Overall change in goose hunter's satisfaction since they began hunting

Residence of hunter[2]	n	% of hunters[1] indicating that their overall level of satisfaction has _____ since they began hunting: Greatly decreased	Decreased	Stayed the same	Increased	Greatly increased	Mean[3]
Statewide	2,335	9.2	22.3	25.9	29.2	13.5	3.16
Region 1	399	9.5	19.0	29.3	26.3	15.8	3.20
Region 2	314	9.6	25.2	26.1	27.7	11.5	3.06
Region 3	406	8.1	18.2	27.6	30.5	15.5	3.27
Region 4	402	8.7	22.6	25.6	29.9	13.2	3.16
Region 5	387	9.3	18.1	26.4	34.9	11.4	3.21
Region 6	397	9.8	26.4	23.4	28.2	12.1	3.06
χ^2=27.315, n.s.							

Notes:
[1] This table does not include those respondents who did not hunt geese in Minnesota in 2002.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
[3] F = 1.899 (p = 0.091). Mean is based on the following scale: 1 = greatly decreased; 2 = decreased; 3 = stayed the same, 4 = increased; 5 = greatly increased.

Table 2-16: Comparison of satisfaction levels for various recreation activities in recent years[1].

Hunting activity (year)	Very dissatisfied %	Slightly/somewhat/ moderately dissatisfied %	Neither %	Slightly/somewhat/ moderately satisfied %	Very satisfied %
Minnesota Duck Hunters (2002)	7.0	16.5	6.3	48.8	21.4
Minnesota Goose Hunters (2002)	16.4	16.3	13.7	34.1	11.9
Minnesota Duck Hunters (2000)	7.4	15.8	5.8	43.7	27.3
Minnesota Goose Hunters (2000)	7.3	16.3	10.0	40.0	26.4
South Dakota nonresident waterfowl hunters (1998)[2]	12.3 dissatisfied		8.1 neutral	79.6 satisfied	
South Dakota resident duck hunters (1994) [2]	22.0 dissatisfied		15.0 neutral or no opinion	63.0 satisfied	
South Dakota nonresident duck hunters (1994) [2]	19.0 dissatisfied		9.0 neutral or no opinion	72.0 satisfied	
South Dakota hunters' overall satisfaction (1995) [2]	13.9 dissatisfied		9.2 neutral	76.9 satisfied	
Colorado Elk[2] Bowhunters (1994)	11	4	-	26	59
Nationwide Hunting Overall[3] (1995)	5	10	2	33	51
Florida Hunting Overall[3] (1995)	2	13	2	48	35
Maryland Deer[3] (1992/3)	3	8	4	43	43
Vermont Grouse[3] (1996)	3	7	2	44	44
Vermont deer[3] (1996)	7	5	1	36	51
Vermont black bear[3] (1996)	7	13	6	44	31
Colorado deer[4] (1991)	8	10	3	31	48
Colorado deer [4] (1992)	26	18	3	24	29
Colorado deer[4] (1993)	23	19	1	32	25
Alaska moose[5] (1997)	15	18	19	22	27

Notes:
[1]Because various studies have used 5 or 7-point scales the categories of slightly, moderately, and somewhat have been combined.
[2] Gigliotti (2000)
[3] Fulton et al. (1995).
[4] Duda, Bissell and Young (1998).
[5] Barro and Manfredo (1996).
[6] Fulton (1999).

Section 3: Characteristics and Opinions on Youth Waterfowl Hunting Day

Findings:

All study participants were provided a brief background statement about Youth Waterfowl Hunting Day before their opinions concerning this issue were assessed (See Appendix A, Part 4 of the study instrument).

Support/Opposition to Youth Waterfowl Hunting Day

Respondents were first asked the degree to which they support or oppose the concept of Youth Waterfowl Hunting Day on the following scale: "strongly support," "support," "undecided or neutral," "oppose" and "strongly oppose". Results are summarized in Table 3-1. Statewide, 61.0% of respondents supported the youth hunting day with 35.8% strongly supporting it. In contrast, 26.3% opposed the hunt, with 17.0% strongly opposing it. There was a significant correlation between age and support for Youth Waterfowl Hunting Day ($r=-0.206$, $p<0.001$). This means that older hunters reported less support for the youth hunt than younger hunters.

Respondents were next asked if the Minnesota DNR should offer a youth waterfowl hunt. As summarized in Table 3-2, 62.6% of waterfowl hunters statewide said "yes," while 26.1% responded "no," with the remaining 26.1% undecided. Those that responded "yes" were asked if the hunt should be 1 or 2 days; they could also respond "Don't Know" (Table 3-3). A majority (55.2%) of respondents selected 2 days, however, this represents only about one-third of all respondents.

Although support was strong across all regions, a slightly smaller percentage of hunters from Region 3, Region 4, and Region 6 supported the hunt ($\chi^2 = 71.869$, $p < 0.001$) and were less likely to feel that the DNR should offer the hunt ($\chi^2 = 42.233$, $p < 0.001$). Across all regions, a majority of hunters who felt the DNR should offer a youth hunt preferred a 2-day hunt.

Participation in 2002

All study respondents were asked if they took any youths hunting on Youth Waterfowl Hunting Day in Minnesota in 2002 (Table 3-4). Statewide, 11.4% reported participating in the youth hunt, with the highest participation rate among residents of Region 1 (15.7%) and the lowest participation rate among residents of Region 6 (6.5%, $\chi^2 = 25.397$, $p < 0.001$).

Respondents that mentored youth on Youth Waterfowl Hunting Day were asked how many youths they took hunting, and the number of ducks and geese that were harvested. Statewide, mentors took an average 1.50 youths hunting on Youth Waterfowl Hunting Day (Table 3-5). Based on the percentages provided by the survey, it is estimated that 19,844 youths participated in the youth waterfowl hunt in 2002 (Table 3-7). On average, 2.63 ducks and 0.42 geese were harvested by each mentored group of youths (Table 3-6). Based on these averages, estimates of total harvest for the mentored youth groups are reported in Table 3-8.

Section 3: Characteristics and Opinions on Youth Waterfowl Hunting Day

Table 3-1: Do you support the concept of Youth Waterfowl Hunting Day?

Residence of hunter	n	% of hunters indicating that they _____ the concept of Youth Waterfowl Hunting Day: Strongly oppose	Oppose	Undecided/ neutral	Support	Strongly support	Mean[1]
Statewide[2]	3,027	17.0	9.3	12.7	25.2	35.8	3.53
Region 1	505	15.2	6.3	14.9	25.3	38.2	3.65
Region 2	488	10.7	5.5	13.7	25.8	44.3	3.88
Region 3	501	15.8	12.2	11.2	23.6	37.3	3.54
Region 4	482	16.6	10.0	13.1	25.7	34.6	3.52
Region 5	514	13.0	8.4	7.8	25.3	45.5	3.82
Region 6	538	20.8	9.3	13.4	25.7	30.9	3.36
χ^2=71.869 p≤0.001							

Notes:
[1]F = 9.204 (p < 0.001). Mean is based on the following scale: 1 = strongly oppose; 2 = oppose; 3 = undecided; 4 = support; 5 = strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 3-2: Should the Minnesota DNR offer a youth waterfowl hunt?

Residence of hunter	n	% of hunters answering _____: NO	Undecided	YES
Statewide[1]	3,005	26.1	11.2	62.6
Region 1	501	22.8	11.2	66.1
Region 2	485	16.3	13.6	70.1
Region 3	499	26.3	10.6	63.1
Region 4	479	25.9	11.5	62.6
Region 5	513	20.1	9.2	70.8
Region 6	532	30.8	11.5	57.7
χ^2=42.233, p≤0.001				

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Section 3: Characteristics and Opinions on Youth Waterfowl Hunting Day

Table 3-3: How long should the youth waterfowl hunt be?

Residence of hunter	n	% of hunters[1] answering _____: 1 Day	2 Days	Don't know
Statewide[2]	1,981	37.8	55.2	7.0
Region 1	351	35.3	60.4	4.3
Region 2	358	34.1	58.1	7.8
Region 3	325	35.1	58.2	6.8
Region 4	319	40.1	51.1	8.8
Region 5	375	34.1	58.1	7.7
Region 6	326	41.1	51.8	7.1
χ^2=14.616, n.s.				

Notes:
[1] Only those hunters who indicated that the DNR should offer a youth waterfowl hunt answered this question.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 3-4: Participation in Youth Waterfowl Hunting Day (Sept., 2002)

Residence of hunter	n	% of all hunters who indicated that they took youth hunting on YWHD in 2002
Statewide[1]	2,990	11.4
Region 1	503	15.7
Region 2	483	14.1
Region 3	497	13.7
Region 4	477	13.6
Region 5	511	11.4
Region 6	527	6.5
χ^2=25.397, p≤0.001		

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 3-5: Number of youth taken hunting on Youth Waterfowl Hunting Day (Sept., 2002)

Residence of hunter	n	Mean number of youth
Statewide[1]	2,990	1.50
Region 1	503	1.54
Region 2	483	1.50
Region 3	497	1.42
Region 4	477	1.59
Region 5	511	1.43
Region 6	527	1.49

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Section 3: Characteristics and Opinions on Youth Waterfowl Hunting Day

Table 3-6: Waterfowl taken during 2002 Youth Waterfowl Hunting Day

Residence of hunter	n	Mean number of ducks taken on Youth Waterfowl Hunting Day	n	Mean number of geese taken on Youth Waterfowl Hunting Day
Statewide[1]	330	2.63	254	0.42
Region 1	74	2.81	55	0.56
Region 2	64	2.34	51	0.37
Region 3	67	2.01	58	0.48
Region 4	63	3.35	45	0.44
Region 5	54	3.26	38	0.37
Region 6	35	2.37	26	0.23

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 3-7: Estimate of the number of youth participating in Youth Waterfowl Hunting Day

Residence of hunter	Total adult hunters for entire season	% of adult hunters as mentors in the 2002 YWHD	Total mentors in the 2002 YWHD	Average # of youth with a mentor	Estimate of total youth participating in YWHD
Statewide	116,044	11.4	13,229	1.50	19,844
Region 1	15,754	15.7	2,675	1.54	4,120
Region 2	7,285	14.1	1,027	1.50	1,541
Region 3	21,986	13.7	3,012	1.42	4,277
Region 4	19,657	13.6	2,673	1.59	4,250
Region 5	7,960	11.4	907	1.43	1,297
Region 6	37,927	6.5	2,465	1.49	3,673

Notes:
[1] Statewide estimates and the sum of regional estimates differ due to rounding. These estimates are based on mentors who purchased a duck stamp license (18-64 years of age). HIP participant mentors 65+ years of age are not included in the estimates. The number of respondents varies due to the use of multiple questions. Please refer to the preceding tables for this information.
[2] The statewide total is not equal to the total of the six regions because zip code changes or additions are ongoing, and DNR regional zip code files lag behind U.S. Postal Service changes.

Table 3-8: Estimated duck/goose harvest by youths on Youth Waterfowl Hunting Day

Residence of hunter	Total adult hunters for entire season	% of adult hunters as mentors in the 2002 YWHD	Estimated number of YWHD hunting groups	Average # of ducks harvested by youth groups on YWHD	Average # of geese harvested by youth groups on YWHD	Estimate of total ducks harvested by youth on YWHD	Estimate of total geese harvested by youth on YWHD
Statewide	116,044	11.4	13,229	2.63	0.42	34,792	5,556
Region 1	15,754	15.7	2,675	2.81	0.56	7,517	1,498
Region 2	7,285	14.1	1,027	2.34	0.37	2,403	380
Region 3	21,986	13.7	3,012	2.01	0.48	6,054	1,446
Region 4	19,657	13.6	2,673	3.35	0.44	8,955	1,176
Region 5	7,960	11.4	907	3.26	0.37	2,957	336
Region 6	37,927	6.5	2,465	2.37	0.23	5,842	567

Notes:
[1] Statewide estimates and the sum of regional estimates differ due to rounding. These estimates are based on mentors who purchased a duck stamp license (18-64 years of age). HIP participant mentors 65+ years of age are not included in the estimates. The number of respondents varies due to the use of multiple questions. Please refer to the preceding tables for this information.
[2] The statewide total is not equal to the total of the six regions because zip code changes or additions are ongoing, and DNR regional zip code files lag behind U.S. Postal Service changes.

Section 4: Opinions on Management Strategies

Findings:

Support for Management Strategies

Respondents were asked to indicate their level of support for each strategy on a 5-point scale on which 1 = strongly oppose, 2 = oppose, 3 = undecided, 4 = support, and 5 = strongly support.

Statewide

Tables 4-1 through 4-5 show respondents' support for five waterfowl-management strategies. Creating waterfowl refuges had the highest level of support (mean = 4.21). Other management strategies, including: restrictions on outboard motors (mean = 3.17), restrictions on open-water hunting (mean = 2.86), the noon opener (mean = 2.73), and ending shooting at 4 p.m. (mean = 2.80) had levels of support close to neutral (Table 4-6).

Approximately one-third of hunters (32.5%) supported the noon opener, while almost half (47.4%) opposed it. Similarly, 35.5% of hunters supported and 45.6% opposed ending shooting hours at 4 p.m. during the first part of the season. Fewer opposed restrictions on either open-water hunting (38.2%) or outboard-motor use (30.8%), but relatively large percentages were undecided about either (open-water restrictions 31.5%, outboard restrictions 26.0%). However, a very large majority (81.2%) supported creating waterfowl refuges (Tables 4-1 – 4-5).

Approximately one-half of respondents (46.7%) indicated a preference for opening day shooting hours to begin one-half hour before sunrise. Approximately one-fourth of respondents preferred a 9 a.m. start to shooting hours (26.1%) or a noon start (27.2%). (See Table 4-7.)

Regional

Region 2 residents were less supportive of four of the five management strategies, compared to residents of other regions (Tables 4-1-4-5). There were regional differences in preferences for the start of shooting hours on opening day. More residents of Region 1 (51.4%) and Region 2 (58.0%) preferred a one-half hour before sunrise opening-day start for shooting hours, compared to the statewide percentage who wanted shooting hours to start at that time (46.7%). Region 4 residents were nearly evenly divided in their preference for start time with 35.1% preferring a noon opener, 30.5% preferring a 9 a.m. start, and 34.5% selecting the one-half hour before sunrise start time.

Section 4: Opinions on Management Strategies

Table 4-1: Support for beginning shooting hours at noon on the opening day of duck season

Residence of hunter	n	% of hunters indicating that they _____ this management strategy: Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,919	24.7	22.7	20.1	19.9	12.6	2.73
Region 1	493	26.4	21.3	19.5	23.1	9.7	2.69
Region 2	471	33.1	26.3	17.6	14.0	8.9	2.39
Region 3	478	26.2	26.6	17.6	18.0	11.7	2.63
Region 4	462	17.5	20.3	23.6	22.1	16.5	3.00
Region 5	504	20.6	20.2	28.2	18.8	12.1	2.82
Region 6	519	26.2	22.0	18.9	19.8	13.1	2.72
χ^2=84.132, p≤0.001							

Notes:
[1] F = 10.571 (p < 0.001). Mean is based on the following scale: 1 = strongly oppose; 2 = oppose; 3 = undecided, 4 = support; 5 = strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 4-2: Support for ending shooting hours at 4 p.m. for the first part of Minnesota's waterfowl season

Residence of hunter	n	% of hunters indicating that they _____ this management strategy: Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,930	20.8	24.8	18.9	24.7	10.8	2.80
Region 1	488	25.2	24.0	15.8	27.3	7.8	2.68
Region 2	470	30.4	23.6	17.2	18.5	10.2	2.54
Region 3	483	21.7	23.6	20.1	23.8	10.8	2.78
Region 4	461	16.7	23.0	19.1	25.4	15.8	3.01
Region 5	503	19.7	27.0	21.1	22.1	10.1	2.76
Region 6	525	19.0	26.5	19.2	25.5	9.7	2.80
χ^2=60.037, p≤0.001							

Notes:
[1] F = 6.242 (p < 0.001). Mean is based on the following scale: 1 = strongly oppose; 2 = oppose; 3 = undecided, 4 = support; 5 = strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 4-3: Support for restrictions on open-water hunting

Residence of hunter	n	% of hunters indicating that they _____ this management strategy: Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,809	17.5	20.7	31.5	19.3	11.1	2.86
Region 1	466	20.4	24.7	26.8	19.1	9.0	2.72
Region 2	456	19.3	20.6	31.4	18.6	10.1	2.80
Region 3	464	18.1	23.3	32.3	16.8	9.5	2.76
Region 4	450	15.1	17.8	34.7	20.7	11.8	2.96
Region 5	485	15.9	19.2	35.5	18.8	10.7	2.89
Region 6	497	17.1	19.3	30.4	20.3	12.9	2.93
χ^2=27.468, n.s.							

Notes:
[1] F = 2.982 ($p < 0.05$). Mean is based on the following scale: 1 = strongly oppose; 2 = oppose; 3 = undecided, 4 = support; 5 = strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 4-4: Support for restrictions on outboard-motor use

Residence of hunter	n	% of hunters indicating that they _____ this management strategy: Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,857	15.5	15.3	26.0	22.8	20.3	3.17
Region 1	471	15.9	14.2	24.8	25.9	19.1	3.18
Region 2	462	18.0	19.7	23.6	19.3	19.5	3.03
Region 3	479	16.9	16.3	29.4	19.6	17.7	3.05
Region 4	451	12.4	12.2	27.3	23.1	25.1	3.36
Region 5	492	15.2	16.1	30.3	22.6	15.9	3.08
Region 6	507	15.8	15.8	23.5	24.1	20.9	3.19
χ^2=40.837, $p \leq 0.01$							

Notes:
[1] F = 4.039 ($p \leq 0.001$). Mean is based on the following scale: 1 = strongly oppose; 2 = oppose; 3 = undecided, 4 = support; 5 = strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 4-5: Support for creating waterfowl refuges

Residence of hunter	n	% of hunters indicating that they _____ this management strategy: Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,895	2.3	3.0	13.5	34.2	47.0	4.21
Region 1	488	3.3	3.5	15.2	35.5	42.6	4.11
Region 2	467	3.9	3.6	17.3	31.3	43.9	4.08
Region 3	479	2.1	2.5	14.6	37.0	43.8	4.18
Region 4	454	2.0	4.2	15.0	33.9	44.9	4.16
Region 5	497	1.2	2.4	15.7	33.8	46.9	4.23
Region 6	515	2.1	2.5	10.1	32.8	52.4	4.31
χ^2=33.369, p≤0.05							

Notes:
[1] F = 3.840 (p≤0.01). Mean is based on the following scale: 1 = strongly oppose; 2 = oppose; 3 = undecided, 4 = support; 5 = strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 4-6: Comparison of the level of support for the five strategies studied

Strategy	Statewide mean[1]
Creating waterfowl refuges	4.21
Restrictions on outboard-motor use	3.17
Restrictions on open-water hunting	2.86
Ending shooting hours at 4 PM for the first part of MN's waterfowl season	2.80
Beginning shooting hours at noon on the opening day of duck season	2.73

Notes:
[1] F = 763.816 (p < 0.001). Mean is based on the following scale: 1 = strongly oppose; 2 = oppose; 3 = undecided, 4 = support; 5 = strongly support.

Table 4-7: Preference for start of shooting hours on opening day of duck season

Residence of hunter	n	% of hunters indicating that they preferred a _____ start time for shooting hours on opening day		
		Noon	9 a.m.	½ hour before sunrise
Statewide[1]	2,983	27.2	26.1	46.7
Region 1	496	27.4	21.2	51.4
Region 2	483	18.4	23.6	58.0
Region 3	492	23.8	28.5	47.8
Region 4	476	35.1	30.5	34.5
Region 5	506	25.7	29.4	44.9
Region 6	531	26.2	26.2	47.6
χ^2=70.743, p≤0.001				

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Section 5: Opinions on Season Dates

Findings:

Study participants were asked their opinions and preferences for waterfowl-hunting season dates. Specifically, they were asked about season-opening dates, dates they hunted during the 2002 season, the importance of various issues for selecting season dates, and preferences for next year's season dates.

Preferred 2002 Season Opening Date

Respondents were first asked which season-opening date they would have preferred for the 2002 waterfowl-hunting season. The response options were: "September 21, 2002," "September 28, 2002" and "No opinion." Results are summarized in Table 5-1. Statewide, 33.5% of respondents selected September 21, 42.0% selected September 28, and 24.5% had no opinion. More hunters who lived in Regions 1 and 2 preferred the earlier opening date, compared to those in Regions 4, 5 and 6. Respondents who had fewer years of experience waterfowl hunting in Minnesota, respondents who bagged more ducks during the 2002 season, and respondents who hunted more days during the season more frequently selected the earlier opening date (Tables 5-2, 5-3, and 5-4).

Support for Early Opening Dates

Study participants were asked the degree to which they support or oppose an early season-opening date on the following scale: "strongly oppose," "oppose," "neither support nor oppose," "support," "strongly support." Respondents show more support for an early opening date with a 60-day season (mean = 3.48) than with a 45-day season (mean = 2.69). For both 45- and 60-day seasons, residents of northern regions were more supportive of early opening dates. See Table 5-5 and Table 5-9. Respondents who had fewer years of experience waterfowl hunting in Minnesota, respondents who bagged more ducks during the 2002 season, and respondents who hunted more days during the season were somewhat more supportive of early opening dates with 60-day seasons (Tables 5-6, 5-7, and 5-8). However, respondents who bagged more ducks during the 2002 season, and respondents who hunted more days during the season were somewhat *less* supportive of early opening dates with 45-day seasons (Tables 5-10, 5-11, and 5-12).

Reasons for Selecting the Duck Season Opening Date

Study participants were asked about the importance of various reasons for selecting the duck season opening date on the following scale: "not at all important," "slightly important," "somewhat important," "very important," "extremely important." Reasons for selecting a duck season opening date included: tradition, weather/temperature, opportunity to hunt early-migrant teal and wood ducks, concern about duck populations, ability to identify ducks early in the season, Saturday opening, and opportunity to hunt late-season ducks.

Statewide

Of the seven listed reasons for selecting the duck season opening date, "tradition" was rated less important (mean = 2.21), while "concern for duck populations" (mean = 3.70) and "opportunity to hunt late-season ducks" (mean = 3.58) were rated more important. Results are summarized in Table 5-20.

Regional

Most reasons for selecting a duck season opening date did not differ significantly by region (Table 5-13 through Table 5-19). However, hunters from the northern regions (Region 1, Region 2 and Region 3) rated "the opportunity to hunt early-migrant teal and wood ducks" as slightly more important in selecting an opening date than did the residents of more southerly regions (Table 5-15). Similarly, residents from the regions in southern Minnesota (Region 4 and Region 5) rated "the opportunity to hunt late-season ducks" as more important than did the residents from northern regions (Table 5-19). Residents from Regions 4 and 6 rated "concern for duck populations" somewhat more important in selecting an opening date than did residents of the other regions (Table 5-16).

2002 Actual Hunting Dates by Time Period

Statewide

On average, respondents hunted for ducks 1.55 days during the opening-weekend period, 3.49 days in the first half of October, 3.48 days in the second half of October, 2.28 days in early November, and 1.48 days in late November. (See Table 5-21.) Based on the number of possible hunting days, respondents hunted 51.2% of opening-weekend days, 23.3% of days in early October, 21.8% of days in late October, 15.2% of days in early November, and 13.5% of days in late November. (See Table 5-22.)

On average, respondents hunted for geese 2.19 days during the September goose season, 1.23 days during the opening-weekend period, 2.37 days in early October, 2.48 days in late October, 1.65 days in early November, 1.16 days in late November, and 0.57 days during the December goose season. (See Table 5-23.) Based on the number of possible hunting days, respondents hunted 10.0% of September goose season days, 15.3% of opening-weekend days, 15.8% of days in early October, 15.5% of days in late October, 11.0% of days in early November, 5.5% of days in late November, and 2.3% of days during the December goose season. (See Table 5-24.)

Preferred Hunting Dates by Time Period

Statewide

Survey participants were asked to select their *most* preferred time period to hunt for ducks and for geese. Of the five duck-hunting periods listed, the early October (October 1-15) period was preferred by 36.1% of respondents statewide (Table 5-25). Over 25% of respondents (27.2%) preferred the late October time period (October 16-31), and 21.6% preferred the opening-weekend period (September 28-30). Only 15.1% of respondents selected one of the two November time periods as their most preferred time.

Of the seven goose-hunting time periods listed, the largest number of respondents (24.9%) selected the September goose season (September 1-22), followed by early October (22.9%), and late October (23.0%). Approximately 11% of respondents selected the opening-weekend period and approximately 15% selected one of the two November time periods as their most preferred time to hunt geese. Only 2.5% of

respondents selected the December goose season as their most preferred time to hunt geese. Results are summarized in Table 5-26.

Regional

In each region, except Region 2, the majority of respondents selected the early October time period as their most preferred time to hunt ducks. In Regions 1 and 2, less than 10% of respondents selected November time periods as their most preferred times to hunt ducks; this compares to over 30% of Region 5 respondents who selected these time periods. See Table 5-27.

Nearly one-third of respondents in Regions 1, 3 and 4 selected the September goose season as their preferred time to hunt geese (Table 5-28). However, less than 20% of respondents from Region 5 and 6 selected this time period as their most preferred. Region 5 respondents preferred hunting geese later in the year compared to respondents from other regions. Approximately 45% of Region 5 respondents selected November or December time periods as their most preferred time to hunt geese; in the other five regions only 7 to 25% of respondents selected these later time periods.

Important Dates to Hunt

Statewide

Of the five listed times for hunting, "when the most waterfowl are in the area" was rated "very important" (mean score 4.26), while "when the weather is warmer" and "MEA weekend" were rated only "slightly important" (mean scores 2.03 and 2.33 respectively). "Opening weekend" and "when the weather is cooler" were rated "somewhat important" with mean scores of 3.37 and 2.96 respectively. Results are summarized in Table 5-32.

Regional

Significant differences among regions exist in the importance of all five listed times for hunting waterfowl. Hunting opening weekend was relatively less important for residents of Region 5, and relatively more important for residents of Region 3 and Region 4 (Table 5-27). Hunting MEA weekend was slightly more important for residents of Regions 1 and 2, compared to other regions (Table 5-28). As might be expected, residents of regions in the southern part of the state felt it was relatively less important to hunt when the weather is warmer, while residents of regions in the northern part of the state felt it was relatively less important to hunt when the weather was cooler (Table 5-29 and Table 5-30). Respondents from all regions felt that hunting "when the most waterfowl are in the area" was "very important;" with respondents from Region 2 and Region 5 rating this time more important compared to respondents from other regions (Table 5-31).

Preferred 2003 Hunting Dates

Statewide

Survey recipients were asked to select their preferred season dates for 60-day, 45-day and 30-day duck-hunting seasons. For a 60-day season, respondents selected between: 1) a season with a traditional opening date, 2) a season with an early opening date, and 3) no opinion/undecided. Approximately one-half (51.7%) of respondents selected the early opening date with a 60-day season. Approximately one-third (35.2%) selected the traditional opening date, while 13.1% were undecided. Results are presented in

Table 5-33. Preferences for the 60-day season options based on years of hunting experience in Minnesota, hunting success, and number of days afield are presented in Tables 5-34, 5-35, and 5-36.

For the question addressing a 45-day season, 30.1% of respondents selected the single season with a traditional opening date; 29.2% selected a single season with an early opening date, 17.1% selected a split season with an early opening date with closed dates earlier in the season; 12.7% selected a split season with an early opening date with closed dates later in the season, and 10.8% were undecided. (See Table 5-37.) Preferences for the 45-day season options based on years of hunting experience in Minnesota, hunting success, and number of days afield are presented in Tables 5-38, 5-39, and 5-40.

When survey participants were asked about a 30-day season, about half (47.8%) selected a single season with the traditional opening date, while 36.5% selected a split season, and 15.7% had no opinion (Table 5-41). Preferences for the 30-day season options based on years of hunting experience in Minnesota, hunting success, and number of days afield are presented in Tables 5-42, 5-43, and 5-44. Respondents who hunted more days and bagged more ducks during the 2002 season showed a stronger preference for a split season with a 30-day season.

Regional

Respondents' preferences varied among regions for all season lengths. Results are presented in Tables 5-24, 5-25 and 5-26. More residents from the northern regions (Region 1 and Region 2) preferred an early opening date for a 60-day duck season (Table 5-24). Likewise, more respondents from Regions 1 and 2 preferred a single season with an early opening date for a 45-day season. More residents from Regions 4 and 5 preferred a season with an early opening date and closed days early and mid-season, compared to respondents from other regions. Preferences for 45-day season options are presented in Table 5-25. For a 30-day season, more residents from regions in the southern part of Minnesota (Regions 4 and 5) preferred a split season, compared to respondents from northern regions. (See Table 5-26.)

Section 5: Opinions on Season Dates

Table 5-1: Season opening date that would have been preferred for the 2002 season

Residence of hunter	n	% of hunters indicating that they preferred _____ for the season opening date: September 21, 2002	September 28, 2002	No opinion
Statewide[1]	3,053	33.5	42.0	24.5
Region 1	508	41.1	36.2	22.6
Region 2	487	39.4	37.8	22.8
Region 3	505	34.1	42.6	23.4
Region 4	490	31.0	42.7	26.3
Region 5	514	25.1	47.5	27.4
Region 6	543	32.0	43.3	24.7
χ^2=39.952, p≤0.001				

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-2: Season opening date that would have been preferred for the 2002 season by years of experience hunting waterfowl in Minnesota

Years hunting waterfowl in MN	n	% of hunters indicating that they preferred _____ for the season opening date: [1] September 21, 2002	September 28, 2002	No opinion
0-4	329	39.5	19.8	40.7
5-9	426	43.0	31.0	26.1
10-14	339	41.0	35.1	23.9
15-19	263	33.1	41.4	25.5
20-24	335	28.4	47.8	23.9
25+	1,311	28.8	51.9	19.4
χ^2=170.149, p≤0.001				

Notes:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.

Table 5-3: Season opening date that would have been preferred for the 2002 season by number of ducks bagged during 2002 season

Ducks bagged during 2002 season	n	% of hunters indicating that they preferred _____ for the season opening date: [1]		
		September 21, 2002	September 28, 2002	No opinion
0	404	31.4	36.4	32.2
1-10	1,309	32.2	43.5	24.2
11+	844	39.9	47.4	12.7
χ^2=73.788, p≤0.001				

Notes:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.

Table 5-4: Season opening date that would have been preferred for the 2002 season by number of days hunted during the 2002 season

Number of days hunted during 2002 season	n	% of hunters indicating that they preferred _____ for the season opening date:[1]		
		September 21, 2002	September 28, 2002	No opinion
Novice (0-5 days afield)[2]	1,192	31.1	36.3	32.6
Intermediate (6-19 days afield)	1,446	34.4	44.9	20.7
Avid (20+ days afield)	415	37.3	48.0	14.7
χ^2=76.157, p≤0.001				

Notes:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[2] Categories as defined by Humburg et al., 2002.

Section 5: Opinions on Season Dates

Table 5-5: Support for earlier opening date with a 60-day season

Residence of hunter	n	% of hunters indicating that they _____an earlier opening date: Strongly Oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,752	12.0	12.3	19.5	27.6	28.6	3.48
Region 1	464	9.3	10.8	20.3	26.9	32.8	3.63
Region 2	450	11.1	12.4	19.6	23.1	33.8	3.56
Region 3	442	11.3	11.3	19.9	29.4	28.1	3.52
Region 4	450	14.9	11.8	20.0	25.1	28.2	3.40
Region 5	474	13.9	12.4	17.7	28.3	27.6	3.43
Region 6	486	11.7	13.8	19.1	28.8	26.5	3.45
χ^2=23.121, n.s.							

Notes:
[1] F=1.974 (p=0.079) Mean is based on the following scale: 1= strongly oppose, 2= oppose, 3=neither support nor oppose, 4=support, 5=strongly support
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-6: Support for earlier opening date with a 60-day season by years hunting waterfowl in Minnesota

Years hunting waterfowl in MN	n	% of hunters indicating that they _____an earlier opening date:[1] Strongly Oppose	Oppose	Neutral	Support	Strongly support	Mean[2]
0-4	268	2.6	6.0	26.5	34.7	30.2	3.84
5-9	398	8.0	9.5	19.8	27.9	34.7	3.72
10-14	317	12.3	9.8	19.9	25.9	32.2	3.56
15-19	240	13.3	9.6	18.8	30.0	28.3	3.50
20-24	310	11.0	14.5	18.7	26.1	29.7	3.49
25+	1,182	15.4	15.3	17.9	26.3	25.1	3.31
χ^2=88.308, p≤0.001							

Notes:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[2] F=10.866 (p=0.000) Mean is based on the following scale: 1= strongly oppose, 2= oppose, 3=neither support nor oppose, 4=support, 5=strongly support

Section 5: Opinions on Season Dates

Table 5-7: Support for earlier opening date with a 60-day season by number of ducks bagged during 2002 season

Ducks bagged during 2002 season	n	% of hunters indicating that they _____an earlier opening date:[1]					Mean[2]
		Strongly Oppose	Oppose	Neutral	Support	Strongly support	
0	344	11.0	11.3	25.9	25.6	26.2	3.44
1-10	1,195	12.2	12.9	20.3	29.0	25.5	3.43
11+	812	13.2	11.5	13.5	24.6	37.2	3.61
χ^2=52.185, p≤0.001							

Notes:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[2] F=4.740 (p=0.009) Mean is based on the following scale: 1= strongly oppose, 2= oppose, 3=neither support nor oppose, 4=support, 5=strongly support

Table 5-8: Support for earlier opening date with a 60-day season by number of days hunted during the 2002 season

Number of days hunted during 2002 season	n	% of hunters indicating that they _____an earlier opening date:[1]					Mean[2]
		Strongly Oppose	Oppose	Neutral	Support	Strongly support	
Novice (0-5 days afield)[3]	1,019	10.6	12.4	24.5	29.5	23.0	3.42
Intermediate (6-19 days afield)	1,338	12.6	13.7	17.6	26.2	29.9	3.47
Avid (20+ days afield)	394	13.5	7.4	13.2	27.2	38.8	3.70
χ^2=65.354, p≤0.001							

Notes:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[2] F=6.644 (p=0.001) Mean is based on the following scale: 1= strongly oppose, 2= oppose, 3=neither support nor oppose, 4=support, 5=strongly support
[3] Categories as defined by Humburg et al., 2002.

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Table 5-9: Support for earlier opening date with a 45-day season

Residence of hunter	n	% of hunters indicating that they _____an earlier opening date: Strongly Oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,553	22.4	21.7	28.8	18.5	8.6	2.69
Region 1	430	18.1	19.5	33.3	17.9	11.2	2.84
Region 2	427	20.4	20.1	27.2	22.7	9.6	2.81
Region 3	421	18.5	19.2	27.3	25.4	9.5	2.88
Region 4	403	26.3	25.3	29.0	13.6	5.7	2.47
Region 5	446	28.5	24.2	27.6	13.5	6.3	2.45
Region 6	449	23.6	22.0	28.3	17.4	8.7	2.65
χ^2=65.332, p≤0.001							

Notes:
[1] F=10.210 (p=0.000) Mean is based on the following scale: 1= strongly oppose, 2= oppose, 3=neither support nor oppose, 4=support, 5=strongly support
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-10: Support for earlier opening date with a 45-day season by years hunting waterfowl in Minnesota

Years hunting waterfowl in MN	n	% of hunters indicating that they _____an earlier opening date:[1] Strongly Oppose	Oppose	Neutral	Support	Strongly support	Mean[2]
0-4	251	10.4	19.1	42.2	21.9	6.4	2.94
5-9	370	22.7	19.7	30.8	19.2	7.6	2.69
10-14	286	21.3	17.5	32.9	20.3	8.0	2.76
15-19	228	26.3	19.3	30.7	17.1	6.6	2.58
20-24	289	25.3	23.9	25.6	16.6	8.7	2.59
25+	1,097	23.8	24.2	24.3	17.7	10.0	2.66
χ^2=66.849, p≤0.001							

Notes:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[2] F=3.113 (p=0.008) Mean is based on the following scale: 1= strongly oppose, 2= oppose, 3=neither support nor oppose, 4=support, 5=strongly support

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Table 5-11: Support for earlier opening date with a 45-day season by number of ducks bagged during 2002 season

Ducks bagged during 2002 season	n	% of hunters indicating that they _____an earlier opening date:[1]					Mean[2]
		Strongly Oppose	Oppose	Neutral	Support	Strongly support	
0	315	17.1	19.7	40.6	17.5	5.1	2.74
1-10	1,102	19.7	22.7	28.0	21.4	8.2	2.76
11+	769	30.7	22.8	22.8	14.2	9.6	2.49
χ^2=74.792, p≤0.001							

Notes:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[2] F=10.980 (p=0.000) Mean is based on the following scale: 1= strongly oppose, 2= oppose, 3=neither support nor oppose, 4=support, 5=strongly support

Table 5-12: Support for earlier opening date with a 45-day season by number of days hunted during the 2002 season

Number of days hunted during 2002 season	n	% of hunters indicating that they _____an earlier opening date:[1]					Mean[2]
		Strongly Oppose	Oppose	Neutral	Support	Strongly support	
Novice (0-5 days afield)[3]	943	16.6	20.4	33.9	21.2	7.8	2.83
Intermediate (6-19 days afield)	1,249	22.8	22.0	27.1	18.6	9.5	2.70
Avid (20+ days afield)	361	36.0	24.4	21.3	11.1	7.2	2.29
χ^2=80.028, p≤0.001							

Notes:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[2] F=25.713 (p=0.000) Mean is based on the following scale: 1= strongly oppose, 2= oppose, 3=neither support nor oppose, 4=support, 5=strongly support
[3] Categories as defined by Humburg et al., 2002.

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Table 5-13: Importance of tradition for selecting the duck season opening date

Residence of hunter	n	% of hunters indicating that they think tradition is _____ when selecting the duck season opening date:					Mean[1]
		Not at all important	Slightly important	Somewhat important	Very important	Extremely important	
Statewide[2]	2,953	42.6	16.8	23.7	11.2	5.7	2.21
Region 1	486	42.0	18.5	23.3	11.3	4.9	2.19
Region 2	468	42.7	15.4	25.2	11.3	5.3	2.21
Region 3	488	44.5	18.4	21.3	9.4	6.4	2.15
Region 4	474	46.2	16.5	21.7	10.3	5.3	2.12
Region 5	510	42.2	15.9	27.3	10.8	3.9	2.18
Region 6	526	39.9	15.8	25.3	12.7	6.3	2.30
χ^2=17.737, n.s.							

Notes:
[1] F=1.207 (p=0.303) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-14: Importance of weather/temperature for selecting the duck season opening date

Residence of hunter	n	% of hunters indicating that they think weather/temperature is _____ when selecting the duck season opening date:					Mean[1]
		Not at all important	Slightly important	Somewhat important	Very important	Extremely important	
Statewide[2]	2,972	17.7	14.1	29.0	27.8	11.4	3.01
Region 1	490	15.1	14.7	30.0	29.8	10.4	3.06
Region 2	472	18.4	14.0	26.7	28.0	12.9	3.03
Region 3	492	17.7	11.6	32.7	27.8	10.2	3.01
Region 4	476	20.2	17.9	26.3	25.4	10.3	2.88
Region 5	513	18.7	12.7	28.8	29.2	10.5	3.00
Region 6	529	17.0	13.6	28.4	28.0	13.0	3.06
χ^2=220.803, n.s.							

Notes:
[1] F=1.406 (p=0.219) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

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Table 5-15: Importance of opportunity to hunt early-migrant teal and wood ducks for selecting the duck season opening date

Residence of hunter	n	% of hunters indicating that they think opportunity to hunt early-migrant teal and wood ducks is _____ when selecting the duck season opening date:					Mean[1]
		Not at all important	Slightly important	Somewhat important	Very important	Extremely important	
Statewide[2]	2,981	14.2	14.1	28.4	28.2	15.1	3.16
Region 1	489	12.9	11.2	29.2	27.6	19.0	3.29
Region 2	473	16.9	14.2	26.8	23.0	19.0	3.13
Region 3	492	13.6	12.8	29.3	30.3	14.0	3.18
Region 4	479	15.7	14.8	28.4	27.3	13.8	3.09
Region 5	512	16.4	14.8	29.9	27.7	11.1	3.02
Region 6	532	13.3	15.4	27.4	28.8	15.0	3.17
χ^2=31.559, p≤0.05							

Notes:
[1] F=2.508 (p=0.028) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-16: Importance of concern about duck populations for selecting the duck season opening date

Residence of hunter	n	% of hunters indicating that they think concern about duck populations is _____ when selecting the duck season opening date:					Mean[1]
		Not at all important	Slightly important	Somewhat important	Very important	Extremely important	
Statewide[2]	2,955	7.3	7.4	21.9	34.5	28.8	3.70
Region 1	488	5.7	8.6	27.0	33.4	25.2	3.64
Region 2	474	8.6	10.5	24.9	29.5	26.4	3.54
Region 3	481	7.9	8.1	23.3	33.7	27.0	3.64
Region 4	477	6.5	8.4	18.9	36.5	29.8	3.75
Region 5	508	7.1	8.5	22.6	36.4	25.4	3.65
Region 6	528	7.8	5.3	19.9	35.0	32.0	3.78
χ^2=33.944, p≤0.05							

Notes:
[1] F=2.653 (p=0.021) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

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Table 5-17: Importance of ability to identify ducks early in the season for selecting the duck season opening date

Residence of hunter	n	% of hunters indicating that they think ability to identify ducks early in the season is _____ when selecting the duck season opening date:					Mean[1]
		Not at all important	Slightly important	Somewhat important	Very important	Extremely important	
Statewide[2]	2,946	16.0	13.3	28.3	28.6	13.7	3.11
Region 1	489	15.1	13.5	32.1	27.6	11.7	3.07
Region 2	464	20.0	13.6	30.0	24.8	11.6	2.94
Region 3	484	15.3	15.7	28.9	27.1	13.0	3.07
Region 4	470	17.2	13.2	24.9	28.7	16.0	3.13
Region 5	509	18.1	15.9	27.1	26.3	12.6	2.99
Region 6	527	15.0	11.4	28.1	31.1	14.4	3.19
χ^2=25.818, n.s.							

Notes:
[1] F=2.372 (p=0.037) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-18: Importance of Saturday opening for selecting the duck season opening date

Residence of hunter	n	% of hunters indicating that they think Saturday opening is _____ when selecting the duck season opening date:					Mean[1]
		Not at all important	Slightly important	Somewhat important	Very important	Extremely important	
Statewide[2]	2,982	20.3	9.5	21.1	27.2	21.9	3.21
Region 1	495	20.6	8.3	23.6	26.7	20.8	3.19
Region 2	469	24.1	12.2	21.1	24.5	18.1	3.00
Region 3	489	17.6	10.8	20.2	27.4	23.9	3.29
Region 4	481	20.6	8.5	22.5	26.6	21.8	3.21
Region 5	511	23.5	11.2	20.5	25.4	19.4	3.06
Region 6	532	20.1	8.8	20.1	28.6	22.4	3.24
χ^2=22.384, n.s.							

Notes:
[1] F=2.960 (p=0.011) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

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Table 5-19: Importance of opportunity to hunt late-season ducks for selecting the duck season opening date

Residence of hunter	n	% of hunters indicating that they think opportunity to hunt late-season ducks is _____ when selecting the duck season opening date:					Mean[1]
		Not at all important	Slightly important	Somewhat important	Very important	Extremely important	
Statewide[2]	3,008	10.0	9.4	22.5	28.9	29.3	3.58
Region 1	499	10.4	11.6	23.4	27.9	26.7	3.49
Region 2	474	10.8	11.0	25.1	25.1	28.1	3.49
Region 3	497	11.9	10.3	23.5	28.4	26.0	3.46
Region 4	482	9.3	7.3	20.7	26.1	36.5	3.73
Region 5	515	7.0	6.2	19.8	28.3	38.6	3.85
Region 6	536	9.5	9.3	22.4	31.9	26.9	3.57
χ^2=54.572, p≤0.001							

Notes:
[1] F=7.974 (p=0.000) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-20: Comparison of importance of reasons for selecting duck season opening date

Reason	n	Statewide mean[1]
Concern about duck populations	2,955	3.70
Opportunity to hunt late-season ducks	3,008	3.58
Saturday opening	2,982	3.21
Opportunity to hunt early-migrant teal and wood ducks	2,981	3.16
Ability to identify ducks early in the season	2,946	3.11
Weather/temperature	2,972	3.01
Tradition	2,953	2.21

Notes:
[1]F=448.342 (p=0.000) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important

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Table 5-21: 2002 Duck hunting dates

Residence of hunter	Average number of days hunters spent hunting during each time period				
	Opening weekend period (Sept. 28-30)	Early October (Oct. 1-15)	Late October (Oct. 16-31)	Early November (Nov. 1-15)	Late November (Nov. 16-26)
Statewide[1]	1.55	3.49	3.48	2.28	1.48
Region 1	1.61	4.02	3.88	2.08	1.15
Region 2	1.59	4.02	3.96	1.85	0.68
Region 3	1.64	3.57	3.35	2.05	1.30
Region 4	1.57	3.73	3.85	2.98	1.99
Region 5	1.32	2.99	3.05	2.58	1.96
Region 6	1.51	3.09	3.02	2.07	1.41
	F=5.523***	F=8.546***	F=5.786***	F=6.830***	F=10.285***

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
***$p \leq 0.001$

Table 5-22: 2002 percent of days duck hunting by time period

Residence of hunter	Average percent of possible days hunters spent hunting during each time period				
	Opening weekend period (Sept. 28-30)	Early October (Oct. 1-15)	Late October (Oct. 16-31)	Early November (Nov. 1-15)	Late November (Nov. 16-26)
Statewide[1]	51.2	23.3	21.8	15.2	13.5
Region 1	53.5	26.8	24.3	13.8	10.5
Region 2	53.0	26.8	24.7	12.3	6.2
Region 3	54.6	23.8	20.9	13.7	11.8
Region 4	52.3	24.9	24.0	19.9	18.1
Region 5	44.1	19.9	19.1	17.2	17.8
Region 6	50.2	20.6	20.0	13.8	12.9
	F=5.523***	F=8.546***	F=5.786***	F=6.830***	F=10.285***

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
***$p \leq 0.001$

Table 5-23: 2002 Goose hunting dates

Residence of hunter	Average number of days hunters spent hunting during each time period						
	September goose season (Sept. 1-22)	Opening weekend period (Sept. 28-30)	Early October (Oct. 1-15)	Late October (Oct. 16-31)	Early November (Nov. 1-15)	Late November (Nov. 16-26)	December goose season (After Dec. 6)
Statewide[1]	2.19	1.23	2.37	2.48	1.65	1.16	0.57
Region 1	2.77	1.29	2.86	2.62	1.32	0.86	0.68
Region 2	1.22	1.10	2.03	2.11	0.75	0.23	0.02
Region 3	2.62	1.37	2.74	2.77	1.58	1.15	0.43
Region 4	2.80	1.25	2.37	2.72	2.28	1.51	0.73
Region 5	1.99	1.14	2.41	2.56	2.46	2.42	1.42
Region 6	1.40	1.14	1.99	2.20	1.39	0.89	0.37
	F=13.167***	F=2.005	F=5.158***	F=2.623*	F=15.984***	F=20.983***	F=21.173***

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
*$p \leq 0.05$
***$p \leq 0.001$

Table 5-24: 2002 percent of days goose hunting by time period

Residence of hunter	Average percent of possible days hunters spent hunting during each time period						
	September goose season (Sept. 1-22)	Opening weekend period (Sept. 28-30)	Early October (Oct. 1-15)	Late October (Oct. 16-31)	Early November (Nov. 1-15)	Late November (Nov. 16-26)	December goose season (After Dec. 6)
Statewide[1]	10.0	15.3	15.8	15.5	11.0	5.5	2.3
Region 1	12.6	16.2	19.1	16.4	8.8	4.1	2.7
Region 2	5.6	13.8	13.5	13.2	5.0	1.1	0.1
Region 3	11.9	17.1	18.3	17.3	10.5	5.5	1.7
Region 4	12.7	15.6	15.8	17.0	15.2	7.2	2.9
Region 5	9.0	14.3	16.1	16.0	16.4	11.5	5.7
Region 6	6.4	14.3	13.3	13.7	9.3	4.3	1.5
	F=13.167***	F=2.005	F=5.158***	F=2.623*	F=15.984***	F=20.983***	F=21.173***

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
*$p \leq 0.05$
***$p \leq 0.001$

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Table 5-25: Preferred duck-hunting dates

Residence of hunter	n	Percent of hunters who selected time period as *most* preferred time period to hunt				
		Opening weekend period (Sept. 28-30)	Early October (Oct. 1-15)	Late October (Oct. 16-31)	Early November (Nov. 1-15)	Late November (Nov. 16-26)
Statewide[1]	2,905	21.6	36.1	27.2	9.8	5.3
Region 1	483	25.7	38.9	26.1	5.4	3.9
Region 2	464	22.0	33.8	36.4	6.5	1.3
Region 3	478	27.4	35.8	25.3	8.8	2.7
Region 4	460	20.4	34.6	22.2	13.5	9.3
Region 5	489	14.5	27.0	23.7	18.2	16.6
Region 6	522	18.6	38.1	30.3	9.2	3.8
χ^2=241.967, p≤0.001						

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-26: Preferred goose-hunting dates

Residence of hunter	N	Percent of hunters who selected time period as most preferred time period to hunt						
		September goose season (Sept. 1-22)	Opening weekend period (Sept. 28-30)	Early October (Oct. 1-15)	Late October (Oct. 16-31)	Early November (Nov. 1-15)	Late November (Nov. 16-26)	December goose season (After Dec. 6)
Statewide[1]	2,594	24.9	10.9	22.9	23.0	8.7	7.0	2.5
Region 1	448	31.7	13.8	23.4	19.2	5.4	4.7	1.8
Region 2	358	22.9	14.5	34.4	21.5	4.2	2.0	0.6
Region 3	430	31.6	10.7	23.3	23.3	5.6	4.0	1.6
Region 4	432	30.3	8.1	16.9	20.4	12.7	9.3	2.3
Region 5	439	17.1	7.1	12.5	18.0	14.4	21.0	10.0
Region 6	456	17.1	11.6	26.1	27.2	9.4	6.4	2.2
χ^2=372.238, p≤0.001								

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

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Table 5-27: How important is it for you to hunt opening weekend?

Residence of hunter	n	% of hunters indicating that they think hunting opening weekend is _____: Not at all important	Slightly important	Somewhat important	Very important	Extremely important	Mean[1]
Statewide[2]	2,997	16.4	11.1	19.9	24.5	28.0	3.37
Region 1	497	15.5	10.7	20.9	26.8	26.2	3.37
Region 2	474	19.0	11.8	19.6	23.4	26.2	3.26
Region 3	491	10.8	12.6	21.8	24.6	30.1	3.51
Region 4	475	15.8	10.5	17.5	24.8	31.4	3.45
Region 5	515	23.5	16.9	19.6	17.7	22.3	2.98
Region 6	539	18.4	9.5	19.9	24.9	27.5	3.34
χ^2=63.910, p≤0.001							

Notes:
[1] F=8.672 (p=0.000) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-28: How important is it for you to hunt the weekend of the annual teachers convention (MEA weekend)?

Residence of hunter	n	% of hunters indicating that they think hunting MEA weekend is _____: Not at all important	Slightly important	Somewhat important	Very important	Extremely important	Mean[1]
Statewide[2]	2,955	46.2	10.7	18.9	12.6	11.6	2.33
Region 1	494	42.9	10.5	19.6	13.4	13.6	2.44
Region 2	469	44.3	9.4	15.1	16.6	14.5	2.48
Region 3	484	45.0	12.4	15.9	14.7	12.0	2.36
Region 4	468	44.9	12.8	20.1	11.8	10.5	2.30
Region 5	505	52.9	12.5	16.0	8.7	9.9	2.10
Region 6	530	47.7	8.7	21.1	11.5	10.9	2.29
χ^2=44.423, p≤0.001							

Notes:
[1] F=4.152 (p=0.001) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

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Table 5-29: How important is it for you to hunt when the weather is warmer?

Residence of hunter	n	% of hunters indicating that they think hunting when the weather is warmer is _____: Not at all important	Slightly important	Somewhat important	Very important	Extremely important	Mean[1]
Statewide[2]	2,948	44.9	21.6	22.8	7.2	3.6	2.03
Region 1	490	40.4	22.2	25.7	6.7	4.9	2.13
Region 2	469	45.0	16.8	23.5	9.4	5.3	2.13
Region 3	483	38.3	25.7	24.4	8.5	3.1	2.12
Region 4	472	44.3	22.0	23.5	6.6	3.6	2.03
Region 5	508	53.0	20.7	19.9	3.5	3.0	1.83
Region 6	526	49.2	19.8	20.7	7.2	3.0	1.95
χ^2=52.677, p≤0.001							

Notes:
[1] F=5.965 (p=0.000) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-30: How important is it for you to hunt when the weather is cooler?

Residence of hunter	n	% of hunters indicating that they think hunting when the weather is cooler is _____: Not at all important	Slightly important	Somewhat important	Very important	Extremely important	Mean[1]
Statewide[2]	2,948	18.4	13.6	32.2	25.1	10.7	2.96
Region 1	493	18.9	15.4	35.9	21.7	8.1	2.85
Region 2	468	23.7	12.4	30.3	23.1	10.5	2.84
Region 3	483	18.2	15.3	34.4	23.0	9.1	2.89
Region 4	465	17.6	12.7	34.6	23.0	12.0	2.99
Region 5	507	16.0	11.6	28.6	28.4	15.4	3.16
Region 6	529	18.3	13.0	29.3	28.4	11.0	3.01
χ^2=44.621, p≤0.001							

Notes:
[1] F=4.586 (p=0.000) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Section 5: Opinions on Season Dates

Table 5-31: How important is it for you to hunt when the most waterfowl are in the area?

Residence of hunter	n	% of hunters indicating that they think hunting when the most waterfowl are in the area is _____: Not at all important	Slightly important	Somewhat important	Very important	Extremely important	Mean[1]
Statewide[2]	3,001	2.2	2.3	12.6	33.5	49.5	4.26
Region 1	500	2.6	2.2	12.8	32.2	50.2	4.25
Region 2	479	2.1	1.9	10.6	26.9	58.5	4.38
Region 3	489	2.5	3.7	14.1	34.4	45.4	4.17
Region 4	478	1.9	2.3	12.6	31.2	52.1	4.29
Region 5	520	1.7	1.2	10.2	32.5	54.4	4.37
Region 6	537	2.0	1.9	12.5	36.1	47.5	4.25
χ^2=32.113, p≤0.05							

Notes:
[1] F=3.817 (p=0.002) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-32: Comparison of importance of hunting during specific times

Reason	n	Statewide mean[1]
When the most waterfowl are in the area.	3,001	4.26
Opening weekend	2,997	3.37
When the weather is cooler.	2,948	2.96
MEA weekend	2,955	2.33
When the weather is warmer.	2,948	2.03

Note:
[1]F=1,514.999 (p<0.001) Mean is based on the following scale: 1= not at all important, 2= slightly important, 3=somewhat important, 4=very important, 5=extremely important

Table 5-33: 2003 Season Dates: If the season is 60 days in length, which option would you most prefer?

Residence of hunter	n	% of hunters indicating that they preferred _____ for the season opening date: Traditional opening date (Saturday, Oct. 4)	Early opening date (Saturday, Sept. 27)	No opinion/undecided
Statewide[1]	3,003	35.2	51.7	13.1
Region 1	496	25.0	63.9	11.1
Region 2	481	23.7	61.3	15.0
Region 3	498	32.7	53.8	13.5
Region 4	476	43.3	43.3	13.4
Region 5	519	50.3	35.3	14.5
Region 6	535	35.5	51.6	12.9
$\chi^2 = 136.678$, $p \leq 0.001$				

Note:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-34: 2003 Season Dates: If the season is 60 days in length, which option would you most prefer, by years hunting waterfowl in Minnesota

Years hunting waterfowl in MN	n	% of hunters indicating that they preferred _____ for the season opening date:[1] Traditional opening date (Saturday, Oct. 4)	Early opening date (Saturday, Sept. 27)	No opinion/undecided
0-4	321	24.0	48.9	27.1
5-9	421	29.0	54.4	16.6
10-14	333	34.5	54.1	11.4
15-19	261	36.4	49.8	13.8
20-24	325	39.4	49.8	10.8
25+	1,301	38.7	52.3	9.0
$\chi^2 = 96.223$, $p \leq 0.001$				

Note:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.

Section 5: Opinions on Season Dates

Table 5-35: 2003 Season Dates: If the season is 60 days in length, which option would you most prefer, by ducks bagged during the 2002 season

Ducks bagged during 2002 season	n	% of hunters indicating that they preferred _____ for the season opening date:[1]		
		Traditional opening date (Saturday, Oct. 4)	Early opening date (Saturday, Sept. 27)	No opinion/undecided
0	386	37.8	44.3	17.9
1-10	1,298	33.2	52.9	13.9
11+	847	37.3	57.1	5.5
$\chi^2 = 56.735$, $p \leq 0.001$				

Note:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.

Table 5-36: 2003 Season Dates: If the season is 60 days in length, which option would you most prefer, by number of days hunted during the 2002 season

Number of days hunted during 2002 season	n	% of hunters indicating that they preferred _____ for the season opening date:[1]		
		Traditional opening date (Saturday, Oct. 4)	Early opening date (Saturday, Sept. 27)	No opinion/ undecided
Novice (0-5 days afield)[2]	1,156	33.5	48.8	17.7
Intermediate (6-19 days afield)	1,434	34.2	55.4	10.5
Avid (20+ days afield)	412	43.4	47.3	9.2
$\chi^2 = 47.840$, $p \leq 0.001$				

Note:
[1] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[2] Categories as defined by Humburg et al., 2002.

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Table 5-37: 2003 Season Dates. If the season is 45 days in length, which option would you most prefer?

Residence of hunter	n	% of hunters indicating that they preferred _____ for the season opening date:				
		Single 45-day season with traditional opening date	A single 45-day season with an early opening date	A season with an early opening date with closed days early and in the middle	A season with an early opening date with closed days later in the season	No opinion/ undecided
Statewide[1]	3,013	30.1	29.2	17.1	12.7	10.8
Region 1	496	26.6	39.7	13.3	10.5	9.9
Region 2	475	28.0	39.4	12.6	12.0	8.0
Region 3	498	30.9	31.9	16.1	10.4	10.6
Region 4	482	29.9	22.2	21.6	12.7	13.7
Region 5	515	29.3	16.1	28.2	14.2	12.2
Region 6	539	31.7	27.8	15.6	14.8	10.0
$\chi^2 = 143.440$, $p \leq 0.001$						

Note:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-38: 2003 Season Dates. If the season is 45 days in length, which option would you most prefer, by years hunting waterfowl in Minnesota

Years hunting waterfowl in MN	n	% of hunters indicating that they preferred _____ for the season opening date:				
		Single 45-day season with traditional opening date	A single 45-day season with an early opening date	A season with an early opening date with closed days early and in the middle	A season with an early opening date with closed days later in the season	No opinion/ undecided
0-4	316	15.8	32.3	14.2	19.0	18.7
5-9	420	24.0	28.6	20.7	15.2	11.4
10-14	336	28.6	33.0	18.2	12.8	7.4
15-19	262	32.1	30.5	17.2	8.8	11.5
20-24	331	32.6	22.1	20.2	13.3	11.8
25+	1,303	34.8	29.3	16.0	11.1	8.8
$\chi^2 = 99.149$, $p \leq 0.001$						

Note:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

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Table 5-39: 2003 Season Dates. If the season is 45 days in length, which option would you most prefer, by ducks bagged during the 2002 season

Number of ducks bagged during 2002 season	n	% of hunters indicating that they preferred _____ for the season opening date:				
		Single 45-day season with traditional opening date	A single 45-day season with an early opening date	A season with an early opening date with closed days early and in the middle	A season with an early opening date with closed days later in the season	No opinion/ undecided
0	391	33.2	27.9	14.6	10.2	14.1
1-10	1,311	30.4	30.1	17.4	13.0	9.1
11+	843	29.9	29.9	20.4	13.8	6.0
$\chi^2 = 29.372$, $p \leq 0.001$						

Note:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-40: 2003 Season Dates. If the season is 45 days in length, which option would you most prefer, by number of days hunted during the 2002 season

Number of days hunted during 2002 season	n	% of hunters indicating that they preferred _____ for the season opening date:				
		Single 45-day season with traditional opening date	A single 45-day season with an early opening date	A season with an early opening date with closed days early and in the middle	A season with an early opening date with closed days later in the season	No opinion/ undecided
Novice (0-5 days afield)[2]	1,158	28.7	29.1	15.4	12.5	14.3
Intermediate (6-19 days afield)	1,441	30.4	31.3	16.2	13.6	8.5
Avid (20+ days afield)	414	33.1	22.2	25.1	10.4	9.2
$\chi^2 = 53.646$, $p \leq 0.001$						

Note:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
[2] Categories as defined by Humburg et al., 2002.

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Table 5-41: 2003 Season Dates. If the season is 30 days in length, which option would you most prefer?

Residence of hunter	n	% of hunters indicating that they preferred _____ for the season opening date: Continuous season with the traditional opening date (Saturday, Oct. 4)	Split season with the traditional opening date (Saturday, Oct. 4)	No opinion/undecided
Statewide[1]	2,986	47.8	36.5	15.7
Region 1	494	54.7	32.4	13.0
Region 2	475	58.7	26.9	14.3
Region 3	490	55.3	28.2	16.5
Region 4	478	38.7	43.1	18.2
Region 5	511	32.1	50.1	17.8
Region 6	534	46.6	38.6	14.8
$\chi^2 = 119.738$, $p \leq 0.001$				

Note:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-42: 2003 Season Dates. If the season is 30 days in length, which option would you most prefer, by years hunting waterfowl in Minnesota

Years hunting waterfowl in MN	n	% of hunters indicating that they preferred _____ for the season opening date: Continuous season with the traditional opening date (Saturday, Oct. 4)	Split season with the traditional opening date (Saturday, Oct. 4)	No opinion/undecided
0-4	313	40.6	31.6	27.8
5-9	419	42.5	39.9	17.7
10-14	336	50.0	37.2	12.8
15-19	262	48.1	38.5	13.4
20-24	327	46.2	43.4	10.4
25+	1,284	51.5	34.3	14.3
$\chi^2 = 60.640$, $p \leq 0.001$				

Note:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-43: 2003 Season Dates. If the season is 30 days in length, which option would you most prefer, by ducks bagged during the 2002 season

Number of ducks bagged during 2002 season	n	% of hunters indicating that they preferred _____ for the season opening date: Continuous season with the traditional opening date (Saturday, Oct. 4)	Split season with the traditional opening date (Saturday, Oct. 4)	No opinion/undecided
0	386	47.9	31.3	20.7
1-10	1,296	49.6	36.2	14.2
11+	841	46.3	43.9	9.9
$\chi^2 = 37.510$, $p \leq 0.001$				

Note:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 5-44: 2003 Season Dates. If the season is 30 days in length, which option would you most prefer, by number of days hunted during the 2002 season

Number of days hunted during 2002 season	n	% of hunters indicating that they preferred _____ for the season opening date: Continuous season with the traditional opening date (Saturday, Oct. 4)	Split season with the traditional opening date (Saturday, Oct. 4)	No opinion/undecided
Novice (0-5 days afield)[2]	1,144	48.4	31.7	19.8
Intermediate (6-19 days afield)	1,432	50.3	37.0	12.7
Avid (20+ days afield)	408	37.5	48.3	14.2
$\chi^2 = 55.019$, $p \leq 0.001$				

Note:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
[2] Categories as defined by Humburg et al., 2002.

Section 6: Waterfowl Hunting Techniques and Knowledge

Findings:

Study participants were asked to report what techniques they used to hunt ducks and geese. The techniques included: pass shooting, decoying birds over water, decoying birds over land, jump shooting on ponds or streams, sneaking on birds in fields, hunting from motorized watercraft, hunting from non-motorized watercraft, and using duck/goose calls. Respondents were asked to report how often they used each technique using a 5-point scale on which 1=never, 2=occasionally, 3=about half the time I hunted, 4=often, and 5=every time I hunted.

Techniques Used to Hunt Ducks

Statewide

Respondents reported using duck calls more frequently than other techniques (mean=4.03) for hunting ducks, followed by decoying birds over water (mean 3.80). Respondents reported using all of the other techniques less than half the time they hunted. Results are shown in Tables 6-1 through 6-9.

Regional

Although statistically significant differences existed in the use of hunting techniques for ducks, there were no substantive differences across regions. Results are presented in Tables 6-1 through 6-9.

Techniques Used to Hunt Geese

Statewide

Respondents reported using goose calls most frequently to hunt geese (mean=3.80). On average, all other techniques were used less than half the time.

Regional

Statistically significant differences existed between regions in the use of the listed hunting techniques for geese (Tables 6-10 through 6-18). Region 1 residents report decoying over land to hunt geese more than half the time, compared to residents of other regions who used this technique, on average, less than half the time (Table 6-12). Other regional differences were not substantive.

Comparison of Techniques Used to Hunt Ducks Versus Geese

Statistically significant differences existed in the use of techniques for duck hunting compared to goose hunting. On average, respondents used decoying over land and sneaking on birds in fields more for goose hunting than for duck hunting. All other techniques were used more for duck hunting than for goose hunting. See Table 6-19.

Section 6: Waterfowl Hunting Techniques and Knowledge

Knowledge of Waterfowl Management Initiatives

Study participants were asked to report their knowledge of various waterfowl-management initiatives, including: adaptive harvest management, the Mississippi Flyway Council, duck stamps, the North American Waterfowl Management Plan, the Migratory Bird Harvest Information Program, and hunting spring snow geese. Respondents were asked to report their knowledge on a 4-point scale with 1=I have never heard of it, 2=I know a little bit about it, 3=I know something about it, and 4=I know a lot about it.

Statewide

Statewide, respondents reported more knowledge of ducks stamps (mean=3.37), than any of the other initiatives listed. Respondents reported knowing a little bit about the other listed initiatives (means=1.85 to 2.54). See Tables 6-20 through 6-26.

Regional

There were no substantive differences in respondents' knowledge of waterfowl-management initiatives by region.

Support for Waterfowl Management Initiatives

Study participants were asked to report their support for various waterfowl-management initiatives, including: adaptive harvest management, the Mississippi Flyway Council, duck stamps, the North American Waterfowl Management Plan, the Migratory Bird Harvest Information Program, and hunting spring snow geese. Respondents were asked to report their support on a 5-point scale with 1=strongly oppose, 2=oppose, 3=neutral, 4=support, and 5=strongly support. Respondents were also given a "don't know" option.

Statewide
Statewide, respondents reported most support for duck stamps (mean=4.20) and hunting spring snow geese (mean=4.01). Respondents reported a moderate amount of support for all other initiatives, which scored between "neutral" and "support" (means 3.47 to 3.76). See Tables 6-27 through 6-33.

Regional
Region 5 and Region 6 residents reported stronger support for duck stamps compared to residents of other regions (Table 6-29). There were no other substantive differences in respondents' support of waterfowl management initiatives by region.

Table 6-1: How often respondents used pass shooting to hunt ducks

Residence of hunter	n	% of hunters indicating this frequency of use while hunting ducks in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	2,227	33.2	29.9	14.9	10.4	11.5	2.37
Region 1	372	31.5	33.6	14.5	10.8	9.7	2.34
Region 2	370	32.7	33.2	11.6	9.2	13.2	2.37
Region 3	372	30.6	31.2	14.2	12.9	11.0	2.42
Region 4	368	29.9	29.1	17.9	11.1	12.0	2.46
Region 5	370	32.4	29.2	14.6	10.5	13.2	2.43
Region 6	385	37.7	27.5	14.5	8.6	11.7	2.29
χ^2 =20.339 n.s.							

Notes:
[1] F=0.873, p=0.498. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-2: How often respondents used decoying over water to hunt ducks

Residence of hunter	n	% of hunters indicating this frequency of use while hunting ducks in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	2,434	10.2	9.0	12.7	27.1	41.0	3.80
Region 1	396	11.9	13.1	15.2	27.8	32.1	3.55
Region 2	413	6.8	6.5	13.6	27.4	45.8	3.99
Region 3	406	10.6	10.6	12.6	27.3	38.9	3.73
Region 4	381	12.1	13.9	14.2	27.0	32.8	3.55
Region 5	406	10.6	9.1	12.8	24.6	42.9	3.80
Region 6	436	8.9	4.6	10.8	27.1	48.6	4.02
χ^2 =64.531 p≤0.001							

Notes:
[1] F=9.787, p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-3: How often respondents used decoying over land to hunt ducks

Residence of hunter	n	% of hunters indicating this frequency of use while hunting ducks in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	2,142	66.9	18.7	5.0	4.9	4.4	1.61
Region 1	360	57.5	23.6	6.7	6.4	5.8	1.79
Region 2	350	82.9	8.9	2.3	3.4	2.6	1.34
Region 3	357	67.8	17.6	6.4	4.8	3.4	1.58
Region 4	351	61.8	23.4	4.6	7.1	3.1	1.66
Region 5	364	70.3	16.5	5.5	3.6	4.1	1.55
Region 6	371	69.3	17.3	4.0	3.8	5.7	1.59
χ^2 =75.308 p≤0.001							

Notes:
[1] F=7.113, p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-4: How often respondents used jump shooting on ponds or streams to hunt ducks

Residence of hunter	n	% of hunters indicating this frequency of use while hunting ducks in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	2,283	39.8	37.2	8.9	8.2	5.9	2.03
Region 1	382	32.7	37.7	12.8	10.5	6.3	2.20
Region 2	380	35.0	38.2	9.5	13.9	3.4	2.13
Region 3	389	35.0	36.8	9.8	10.8	7.7	2.20
Region 4	377	36.6	40.3	8.0	8.8	6.4	2.08
Region 5	387	45.5	33.9	9.3	5.9	5.4	1.92
Region 6	388	47.4	36.1	7.0	4.6	4.9	1.84
χ^2 =61.402 p≤0.001							

Notes:
[1] F=6.513, p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-5: How often respondents used sneaking in fields to hunt ducks

Residence of hunter	n	% of hunters indicating this frequency of use while hunting ducks in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	2,152	83.3	13.0	1.9	1.1	0.7	1.23
Region 1	361	75.3	17.7	3.3	2.8	0.8	1.36
Region 2	355	86.2	10.7	0.8	1.7	0.6	1.20
Region 3	361	83.9	12.7	2.5	0.6	0.3	1.20
Region 4	358	76.0	19.8	2.2	1.4	0.6	1.31
Region 5	375	87.5	9.9	1.3	0.8	0.5	1.17
Region 6	366	88.8	8.5	1.1	0.5	1.1	1.17
χ^2 =57.616 p≤0.001							

Notes:
[1] F=6.328, p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-6: How often respondents used motorized watercraft to hunt ducks

Residence of hunter	n	% of hunters indicating this frequency of use while hunting ducks in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	2,209	69.0	8.4	6.3	6.8	9.4	1.79
Region 1	360	77.8	7.2	5.0	5.6	4.4	1.52
Region 2	372	57.8	12.4	8.1	7.8	14.0	2.08
Region 3	372	72.6	8.6	6.5	5.9	6.5	1.65
Region 4	361	70.6	9.1	4.7	8.3	7.2	1.72
Region 5	382	60.5	7.3	6.5	7.1	18.6	2.16
Region 6	382	66.5	7.9	7.3	6.8	11.5	1.89
χ^2 =82.070 p≤0.001							

Notes:
[1] F=12.425, p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-7: How often respondents used non-motorized watercraft to hunt ducks

Residence of hunter	n	% of hunters indicating this frequency of use while hunting ducks in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	2,241	52.0	17.3	8.6	11.1	11.2	2.12
Region 1	370	57.8	19.7	10.0	7.8	4.6	1.82
Region 2	375	39.7	20.0	12.0	12.8	15.5	2.44
Region 3	374	49.7	19.3	8.0	13.1	9.9	2.14
Region 4	361	54.3	20.2	6.1	11.6	7.8	1.98
Region 5	383	60.6	18.3	7.0	6.5	7.6	1.82
Region 6	392	50.3	12.8	9.2	11.5	16.3	2.31
χ^2 =91.298 p≤0.001							

Notes:
[1] F=13.212, p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-8: How often respondents used duck calls to hunt ducks

Residence of hunter	n	% of hunters indicating this frequency of use while hunting ducks in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	2,412	10.2	10.1	6.1	13.5	60.1	4.03
Region 1	393	13.0	12.2	7.6	15.8	51.4	3.80
Region 2	398	10.6	9.0	7.5	17.3	55.5	3.98
Region 3	408	9.8	9.6	6.6	16.2	57.8	4.03
Region 4	390	9.2	13.3	8.2	11.8	57.4	3.95
Region 5	396	8.8	6.6	7.8	11.4	65.4	4.18
Region 6	425	10.1	8.7	3.5	11.5	66.1	4.15
χ^2 =47.366 p≤0.001							

Notes:
[1] F=3.857, p= 0.002. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-9: Comparison of techniques used to hunt ducks

Technique	Statewide mean[1]
Using duck/goose calls	4.03
Decoying birds over water	3.80
Pass shooting	2.37
Hunting from non-motorized watercraft	2.12
Jump shooting on ponds or streams	2.03
Hunting from motorized watercraft	1.79
Decoying birds over land	1.61
Sneaking on birds in fields	1.23

Notes:
[1] F=1,108.177, p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.

Table 6-10: How often respondents used pass shooting to hunt geese

Residence of hunter	n	% of hunters indicating this frequency of use while hunting geese in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	1,901	45.6	22.5	9.5	8.6	13.8	2.22
Region 1	320	45.9	24.1	8.8	6.9	14.4	2.20
Region 2	270	51.1	23.7	6.7	7.8	10.7	2.03
Region 3	316	41.8	25.0	10.4	11.1	11.7	2.26
Region 4	336	37.8	23.5	13.7	10.1	14.9	2.41
Region 5	335	45.4	22.1	12.2	7.5	12.8	2.20
Region 6	322	51.6	19.6	6.5	7.5	14.9	2.15
χ^2 =35.328 p≤0.05							

Notes:
[1] F=2.325, p=0.041. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-11: How often respondents used decoying over water to hunt geese

Residence of hunter	n	% of hunters indicating this frequency of use while hunting geese in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	1,891	40.8	17.9	10.2	12.6	18.4	2.50
Region 1	318	48.4	17.6	6.9	12.3	14.8	2.27
Region 2	281	39.5	16.4	9.3	12.1	22.8	2.62
Region 3	310	36.5	18.7	10.6	17.4	16.8	2.59
Region 4	331	39.6	25.7	10.3	12.4	12.1	2.32
Region 5	339	46.0	14.7	11.8	9.1	18.3	2.39
Region 6	321	39.9	14.0	11.2	10.9	24.0	2.65
χ^2 =57.444 p≤0.001							

Notes:
[1] F=3.676, p=0.003. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-12: How often respondents used decoying over land to hunt geese

Residence of hunter	n	% of hunters indicating this frequency of use while hunting geese in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	2,007	35.7	12.0	11.2	17.8	23.3	2.81
Region 1	336	24.7	11.9	10.7	22.6	30.1	3.21
Region 2	278	59.7	9.4	6.5	8.6	15.8	2.12
Region 3	334	30.5	12.3	12.0	22.2	23.1	2.95
Region 4	353	32.6	15.0	11.3	19.3	21.8	2.83
Region 5	353	33.7	11.9	10.8	12.2	31.4	2.96
Region 6	343	41.7	10.5	11.7	15.2	21.0	2.63
χ^2 =125.233 p≤0.001							

Notes:
[1] F=16.640. p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-13: How often respondents used jump shooting on ponds or streams to hunt geese

Residence of hunter	n	% of hunters indicating this frequency of use while hunting geese in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	1,860	76.2	16.9	3.2	1.7	1.9	1.36
Region 1	313	70.0	22.4	3.8	1.0	2.9	1.44
Region 2	271	74.2	16.6	2.6	5.9	0.7	1.42
Region 3	309	68.6	21.4	4.9	2.6	2.6	1.49
Region 4	333	73.9	18.6	3.0	1.8	2.7	1.41
Region 5	334	77.2	15.9	3.3	2.1	1.5	1.35
Region 6	310	85.2	11.0	2.3	0.6	1.0	1.21
χ^2 =55.986 p≤0.001							

Notes:
[1] F=4.483, p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-14: How often respondents used sneaking in fields to hunt geese

Residence of hunter	n	% of hunters indicating this frequency of use while hunting geese in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	1,881	71.8	20.1	3.7	2.9	1.4	1.42
Region 1	317	61.8	27.8	5.7	3.2	1.6	1.55
Region 2	268	76.5	15.7	2.2	4.1	1.5	1.38
Region 3	310	66.8	24.5	4.2	2.6	1.9	1.48
Region 4	333	64.9	24.0	6.0	3.9	1.2	1.53
Region 5	337	79.5	15.7	3.6	1.2	0.0	1.26
Region 6	318	80.8	13.5	1.6	2.5	1.6	1.31
χ^2 =67.127 p≤0.001							

Notes:
[1] F=7.214, p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-15: How often respondents used motorized watercraft to hunt geese

Residence of hunter	n	% of hunters indicating this frequency of use while hunting geese in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	1,864	80.4	7.8	4.2	3.8	3.9	1.43
Region 1	309	88.3	6.1	1.3	1.6	2.6	1.24
Region 2	269	74.7	7.4	6.3	3.3	8.2	1.63
Region 3	311	77.5	8.7	4.8	5.1	3.9	1.49
Region 4	331	81.6	8.5	4.8	3.0	2.1	1.36
Region 5	334	77.5	7.5	4.8	2.4	7.8	1.55
Region 6	314	79.6	7.6	4.1	4.8	3.8	1.46
χ^2 =46.591 p≤0.001							

Notes:
[1] F=5.409, p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-16: How often respondents used non-motorized watercraft to hunt geese

Residence of hunter	n	% of hunters indicating this frequency of use while hunting geese in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	1,883	71.6	12.4	4.2	5.4	6.4	1.63
Region 1	313	79.2	12.1	4.5	2.2	1.9	1.35
Region 2	269	66.5	11.2	7.4	6.3	8.6	1.79
Region 3	312	67.3	15.1	5.4	8.7	3.5	1.66
Region 4	333	74.5	13.5	4.5	4.5	3.0	1.48
Region 5	331	75.8	11.8	4.5	3.6	4.2	1.49
Region 6	321	69.2	10.6	2.5	5.6	12.1	1.81
χ^2 =77.126 p≤0.001							

Notes:
[1] F=8.289, p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-17: How often respondents used goose calls to hunt geese

Residence of hunter	n	% of hunters indicating this frequency of use while hunting geese in 2002					Mean[1]
		Never	Occasionally	About half the time I hunted	Often	Every time I hunted	
Statewide[2]	2,045	20.1	6.6	4.4	10.9	58.1	3.80
Region 1	340	20.0	5.9	5.0	15.6	53.5	3.77
Region 2	284	29.9	7.4	2.1	9.5	51.1	3.44
Region 3	342	16.7	7.3	6.1	11.4	58.5	3.88
Region 4	356	19.9	9.6	5.1	11.0	54.5	3.71
Region 5	358	17.3	5.3	5.0	9.2	63.1	3.96
Region 6	352	21.3	4.8	2.8	9.1	61.9	3.86
χ^2 =49.316 p≤0.001							

Notes:
[1] F=3.774, p<0.002. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-18: Comparison of techniques used to hunt geese

Technique	Statewide mean[1]
Using duck/goose calls	3.80
Decoying birds over land	2.81
Decoying birds over water	2.50
Pass shooting	2.22
Hunting from non-motorized watercraft	1.63
Hunting from motorized watercraft	1.43
Sneaking on birds in fields	1.42
Jump shooting on ponds or streams	1.36

Notes:
[1] F=685.775, p<0.000. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.

Table 6-19: Comparison of techniques used to hunt ducks versus geese

Technique	n	Hunting ducks	Hunting geese	Difference	F*
Pass shooting	1,481	2.37	2.22	0.15	21.951
Decoying birds over water	1,529	3.80	2.50	1.30	1,025.191
Decoying birds over land	1,501	1.61	2.81	-1.20	738.425
Jump shooting on ponds or streams	1,513	2.03	1.36	0.67	582.238
Sneaking on birds in fields	1,495	1.23	1.42	-0.19	109.591
Hunting from motorized watercraft	1,511	1.79	1.43	0.36	167.842
Hunting from non-motorized watercraft	1,528	2.12	1.63	0.49	275.694
Using duck/goose calls	1,638	4.03	3.80	0.23	62.966

Notes:
[1] F=685.775, p<0.001. Mean is based on the following scale: 1= never, 2= occasionally, 3=about half the time I hunted, 4=often, 5=every time I hunted.

*All significant p <0.001.

Table 6-20: How much respondents know about adaptive harvest management

Residence of hunter	N	% of hunters indicating that they _____ adaptive harvest management				Mean[1]
		Have never heard of	Know a little bit about	Know something about	Know a lot about	
Statewide[2]	2,913	43.5	31.6	21.1	3.8	1.85
Region 1	485	41.4	29.9	23.1	5.6	1.93
Region 2	470	47.4	29.4	20.6	2.6	1.78
Region 3	481	43.2	31.6	21.0	4.2	1.86
Region 4	461	40.6	36.7	18.9	3.9	1.86
Region 5	492	41.9	32.9	20.9	4.3	1.88
Region 6	521	45.7	29.8	21.7	2.9	1.82
χ^2 =19.158 n.s.						

Notes:
[1] F=1.538, p=0.174. Mean is based on the following scale: 1=I have never heard of it, 2= I know a little bit about it, 3=I know something about it, 4=I know a lot about it.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-21: How much respondents know about the Mississippi Flyway Council

Residence of hunter	N	% of hunters indicating that they _____ the Mississippi Flyway Council				Mean[1]
		Have never heard of	Know a little bit about	Know something about	Know a lot about	
Statewide[2]	2,905	31.3	38.9	24.8	5.0	2.04
Region 1	482	32.6	38.2	22.8	6.4	2.03
Region 2	468	35.9	34.0	25.2	4.9	1.99
Region 3	479	29.2	41.8	23.8	5.2	2.05
Region 4	460	35.2	37.2	24.8	2.8	1.95
Region 5	494	31.8	40.9	22.7	4.7	2.00
Region 6	520	29.0	38.8	26.5	5.6	2.09
χ^2 =20.222 n.s.						

Notes:
[1] F=1.429, p=0.210. Mean is based on the following scale: 1=I have never heard of it, 2= I know a little bit about it, 3=I know something about it, 4=I know a lot about it
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-22: How much respondents know about duck stamps

Residence of hunter	n	% of hunters indicating that they _____ duck stamps				Mean[1]
		Have never heard of	Know a little bit about	Know something about	Know a lot about	
Statewide[2]	2,857	0.7	8.1	45.1	46.1	3.37
Region 1	475	1.1	5.9	50.3	42.7	3.35
Region 2	462	0.9	9.1	44.2	45.9	3.35
Region 3	471	0.6	9.8	45.6	43.9	3.33
Region 4	458	0.7	10.3	46.5	42.6	3.31
Region 5	489	1.2	8.0	44.2	46.6	3.36
Region 6	507	0.4	6.7	42.4	50.5	3.43
χ^2 =20.293 n.s						

Notes:
[1] F=1.878, p=0.095. Mean is based on the following scale: 1=I have never heard of it, 2= I know a little bit about it, 3=I know something about it, 4=I know a lot about it.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-23: How much respondents know about the North American Waterfowl Management Plan

Residence of hunter	n	% of hunters indicating that they _____ the North American Waterfowl Management Plan				Mean[1]
		Have never heard of	Know a little bit about	Know something about	Know a lot about	
Statewide	2,894	31.3	37.7	24.7	6.3	2.06
Region 1	479	31.7	34.7	26.9	6.7	2.09
Region 2	462	31.6	38.5	23.6	6.3	2.05
Region 3	477	32.3	38.2	22.6	6.9	2.04
Region 4	460	33.3	39.1	23.5	4.1	1.98
Region 5	491	29.5	38.1	27.1	5.3	2.08
Region 6	519	29.9	37.6	25.4	7.1	2.10
χ^2 =11.773 n.s.						

Notes:
[1] F=1.031, p=0.398. Mean is based on the following scale: 1=I have never heard of it, 2= I know a little bit about it, 3=I know something about it, 4=I know a lot about it.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-24: How much respondents know about the Migratory Bird Harvest Information Program

Residence of hunter	n	% of hunters indicating that they _____ the Migratory Bird Harvest Information Program				Mean[1]
		Have never heard of	Know a little bit about	Know something about	Know a lot about	
Statewide[2]	2,900	29.2	33.7	28.9	8.3	2.16
Region 1	481	25.8	36.0	30.8	7.5	2.20
Region 2	464	29.3	33.0	27.6	10.1	2.19
Region 3	479	28.6	32.6	29.4	9.4	2.20
Region 4	462	28.8	39.6	26.2	5.4	2.08
Region 5	493	29.0	31.2	30.8	8.9	2.20
Region 6	518	31.1	31.1	29.0	8.9	2.16
χ^2 =20.814 n.s.						

Notes:
[1] F=1.100, p=0.358. Mean is based on the following scale: 1=I have never heard of it, 2= I know a little bit about it, 3=I know something about it, 4=I know a lot about it.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-25: How much respondents know about hunting spring snow geese

Residence of hunter	n	% of hunters indicating that they _____ hunting spring snow geese				Mean[1]
		Have never heard of	Know a little bit about	Know something about	Know a lot about	
Statewide[2]	2,891	14.6	33.4	35.9	16.1	2.54
Region 1	482	11.8	34.9	38.0	15.4	2.57
Region 2	462	17.3	36.8	33.5	12.3	2.41
Region 3	476	15.1	33.6	33.8	17.4	2.54
Region 4	459	11.5	34.4	37.5	16.6	2.59
Region 5	495	18.0	34.1	32.1	15.8	2.46
Region 6	516	15.7	31.4	36.6	16.3	2.53
χ^2 =22.464 n.s.						

Notes:
[1] F=2.622, p=0.023. Mean is based on the following scale: 1=I have never heard of it, 2= I know a little bit about it, 3=I know something about it, 4=I know a lot about it.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-26 Comparison of knowledge of waterfowl management initiatives

Management group or action	Statewide mean[1]
Duck stamps	3.37
Hunting spring snow geese	2.54
Migratory Bird Harvest Information Program	2.16
North American Waterfowl Management Plan	2.06
Mississippi Flyway Council	2.04
Adaptive harvest management	1.85

Notes:
[1] F=1,569.926, p<0.001. Mean is based on the following scale: 1=I have never heard of it, 2= I know a little bit about it, 3=I know something about it, 4=I know a lot about it.

Table 6-27: How much respondents support adaptive harvest management

Residence of hunter	n	% of hunters indicating that they _____ adaptive harvest management					Mean[1]
		Strongly oppose	Oppose	Neutral	Support	Strongly support	
Statewide[2]	1,674	0.7	1.0	50.7	39.7	7.8	3.53
Region 1	293	1.7	1.0	49.8	39.9	7.5	3.51
Region 2	258	1.6	1.9	52.7	38.4	5.4	3.44
Region 3	281	0.0	0.4	51.6	39.5	8.5	3.56
Region 4	268	0.0	1.5	55.6	34.7	8.2	3.50
Region 5	278	0.7	1.1	48.9	38.8	10.4	3.57
Region 6	292	1.0	1.0	47.9	42.8	7.2	3.54
χ^2 =21.555 n.s.							

Notes:
[1] F=1.320, p=0.253. Mean is based on the following scale: 1=strongly oppose, 2= oppose, 3=neutral, 4=support, 5=strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-28: How much respondents support the Mississippi Flyway Council

Residence of hunter	n	% of hunters indicating that they _____ the Mississippi Flyway Council					Mean[1]
		Strongly oppose	Oppose	Neutral	Support	Strongly support	
Statewide[2]	1,841	1.2	3.9	50.0	36.7	8.2	3.47
Region 1	307	2.0	4.2	52.1	35.8	5.9	3.39
Region 2	292	1.4	2.4	50.0	36.3	9.9	3.51
Region 3	309	0.6	3.6	51.1	35.0	9.7	3.50
Region 4	283	0.0	3.9	60.4	28.6	7.1	3.39
Region 5	324	1.9	3.4	50.9	34.0	9.9	3.47
Region 6	329	1.5	4.3	43.2	42.9	8.2	3.52
χ^2 =32.110 p≤0.05							

Notes:
[1] F=1.790, p=0.112. Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neutral, 4=support, 5=strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-29: How much respondents support duck stamps

Residence of hunter	n	% of hunters indicating that they _____ duck stamps					Mean[1]
		Strongly oppose	Oppose	Neutral	Support	Strongly support	
Statewide[2]	2,589	1.7	2.3	12.6	40.9	42.4	4.20
Region 1	427	2.1	2.3	15.5	41.7	38.4	4.12
Region 2	418	2.2	3.6	12.9	40.7	40.7	4.14
Region 3	426	1.2	3.1	14.6	43.7	37.6	4.13
Region 4	410	1.2	2.9	15.1	41.7	39.0	4.14
Region 5	450	1.3	2.9	13.3	36.2	46.2	4.23
Region 6	463	1.9	1.3	8.9	39.7	48.2	4.31
χ^2 =31.795 p≤0.05							

Notes:
[1] F=3.242, p=0.006. Mean is based on the following scale: 1=I have never heard of it, 2= I know a little bit about it, 3=I know something about it, 4=I know a lot about it.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-30: How much respondents support the North American Waterfowl Management Plan

Residence of hunter	n	% of hunters indicating that they _____ the North American Waterfowl Management Plan					Mean[1]
		Strongly oppose	Oppose	Neutral	Support	Strongly support	
Statewide[2]	1,914	1.0	1.8	42.4	40.6	14.3	3.65
Region 1	328	1.2	1.8	43.6	36.6	16.8	3.66
Region 2	311	0.3	1.3	43.7	37.0	17.7	3.70
Region 3	318	0.0	1.6	41.8	41.2	15.4	3.70
Region 4	290	0.3	2.4	47.9	37.9	11.4	3.58
Region 5	327	1.2	1.2	42.5	41.3	13.8	3.65
Region 6	343	1.7	1.7	39.4	43.7	13.4	3.65
χ^2 =22.748 n.s.							

Notes:
[1] F=1.102, p=0.357. Mean is based on the following scale: 1=I have never heard of it, 2= I know a little bit about it, 3=I know something about it, 4=I know a lot about it.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-31: How much respondents support the Migratory Bird Harvest Information Program

Residence of hunter	n	% of hunters indicating that they _____ the Migratory Bird Harvest Information Program					Mean[1]
		Strongly oppose	Oppose	Neutral	Support	Strongly support	
Statewide[2]	2,005	0.4	1.1	37.7	44.1	16.7	3.76
Region 1	345	0.0	2.3	36.5	45.5	15.7	3.74
Region 2	325	0.3	0.9	40.9	39.1	18.8	3.75
Region 3	335	0.3	0.9	38.8	44.8	15.2	3.74
Region 4	308	0.3	1.6	42.9	41.2	14.0	3.67
Region 5	354	0.3	0.8	35.6	44.1	19.2	3.81
Region 6	353	0.6	0.6	34.8	45.6	18.4	3.81
χ^2 =19.738 n.s.							

Notes:
[1] F=1.595, p=0.158. Mean is based on the following scale: 1=I have never heard of it, 2= I know a little bit about it, 3=I know something about it, 4=I know a lot about it.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-32: How much respondents support hunting spring snow geese

Residence of hunter	n	% of hunters indicating that they _____ hunting spring snow geese					Mean[1]
		Strongly oppose	Oppose	Neutral	Support	Strongly support	
Statewide[2]	2,366	1.9	2.0	26.0	33.9	36.2	4.01
Region 1	404	1.7	3.5	29.2	34.7	30.9	3.90
Region 2	375	2.1	2.7	27.2	36.0	32.0	3.93
Region 3	394	0.8	1.5	26.1	35.8	35.8	4.04
Region 4	385	1.3	1.3	26.5	35.1	35.8	4.03
Region 5	391	1.0	0.8	27.4	32.7	38.1	4.06
Region 6	414	3.1	2.2	23.7	31.6	39.4	4.02
χ^2 =29.117 n.s.							

Notes:
[1] F=2.073, p=0.066. Mean is based on the following scale: 1=I have never heard of it, 2= I know a little bit about it, 3=I know something about it, 4=I know a lot about it.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 6-33: Comparison of support for waterfowl management initiatives

Management group or action	Statewide mean[1]
Duck stamps	4.20
Hunting spring snow geese	4.01
Migratory Bird Harvest Information Program	3.76
North American Waterfowl Management Plan	3.65
Adaptive harvest management	3.53
Mississippi Flyway Council	3.47

Notes:
[1] F=237.889, p<0.001. Mean is based on the following scale: 1=I have never heard of it, 2= I know a little bit about it, 3=I know something about it, 4=I know a lot about it.

Section 7: Use and Opinions on Battery-Operated, Spinning-Wing Decoys

Findings:

Ownership and use of Battery-Operated, Spinning-Wing Decoys

Statewide, 19.7% of respondents reported that they owned a battery-operated, spinning-wing decoy, and 26.1% reported using these decoys during the 2002 waterfowl season. Ownership ranged from a low of 16.8% among residents of Region 1 and Region 2 to a high of 24.6% for residents of Region 5. See Table 7-1. There was no significant difference in ownership between metropolitan and out-state residents (Table 7-2). Fewer respondents to this survey report ownership of battery-operated, spinning-wing decoys compared to respondents of a 2001-2002 waterfowl hunter survey in Missouri, which reported that 40% of respondents owned these decoys (Humburg et al., 2002). Humburg et al. (2002) found that 67% of avid hunters (those who hunter 20 or more days per year) owned these decoys compared to 20% of novice hunters (those who hunted five or fewer days per year). Similarly, we found that 38% of avid hunters owned decoys, compared to only 11% of novice hunters.

Use of spinning-wing decoys ranged from 21.3% among residents of Region 2 to 29.0% among residents of Region 6. Twenty-nine percent of metropolitan residents reported using the decoys compared to 24.5% of residents from non-metropolitan regions. See Tables 7-1 through 7-4. For comparison, Humburg et al. (2002) found that 83% of Missouri hunters used spinning-wing decoys during the 2000 season, while Miller (2002) found that 61% of hunters used spinning-wing decoys during the 2000-2001 Illinois waterfowl season.

Number of Decoys and Frequency of Decoy use

Respondents who reported using spinning-wing decoys employed an average of 2.05 spinning-wing decoys in their hunting parties. Respondents that used spinning-wing decoys were asked on what percentage of their 2002 hunting outings they used them. The survey erroneously included 0% as a response option, and, statewide, 23.6% of the respondents who reported using the decoys in 2002 reported using them 0% of the time. Approximately, 25% of the decoy users reported using them 1-25% of the time; 17.4% used them 26-50% of the time; 14.4% used them 51-75% of the time, and 19.5% used them 76-100% of the time. Region 1 residents report using spinning-wing decoys less frequently than respondents from other regions. Residents of Region 5 and Region 6 report the most frequent use of these decoys. See Tables 7-5 and 7-6.

Hunters' Opinions on the Effectiveness of Battery-Operated, Spinning-Wing Decoys

Table 7-8 provides information on the opinions of hunters about the effectiveness of battery-operated, spinning-wing decoys for bringing ducks into shooting range. Statewide, of those who used the decoys in 2002, 9.1% feel the decoys are extremely effective, 21.9% feel they are very effective, 43.6% feel they are somewhat effective, 15.7% feel they are slightly effective, and 4.4% feel they are not at all effective. There are statistically significant differences ($\chi^2 = 38.363$, $p < 0.001$) between those hunters who used the decoys and those who did not (approximately 31% of users versus 41% of nonusers indicating that the decoys are either extremely or very effective). Seventy-five percent of Missouri waterfowl hunters report that battery-operated, spinning-wing decoys are more effective than regular decoys (Humburg et al., 2002).

Section 7: Use and Opinions on Battery-Operated, Spinning-Wing Decoys

Support for Restricting the use of Battery-Operated, Spinning-Wing Decoys

Tables 7-9 through 7-14 summarize the support for various restrictions on battery-operated, spinning-wing decoys, if they are found to increase duck harvest rate and possibly result in shorter seasons and/or lower bag limits. Overall, respondents were evenly divided on support for and opposition to all the restrictions that were included in the survey. Based on a scale of 1 (strongly oppose) to 5 (strongly support), mean responses ranged from 3.00 for banning the use of the decoys for the entire season to 3.59 for restricting the use of the decoys for the first eight days of the season (Table 7-15). There were no significant regional differences for the questions addressing support of decoy restrictions (Tables 7-9 through 7-14).

Tables 7-16 through 7-21 show that spinning-wing decoy owners are significantly less supportive of decoy restrictions than those respondents who do not own the decoys. For example, only 13.4% of decoy owners "supported" or "strongly supported" a ban on the decoys for the entire season compared to 43.1% of those respondents who do not own a decoy.

Use of Battery-Operated, Spinning-Wing Decoys and Duck Harvest, 2002 Hunting Days and Years of Hunting Experience.

Respondents who used battery-operated, spinning-wing decoys harvested significantly more ducks per hunting day, and over the course of the 2002 waterfowl season, than did respondents who didn't use the decoys. Results are summarized in Table 7-23. Over the course of the season, Minnesota spinning-wing decoy users harvested an average of 16.54 ducks compared to 7.84 for nonusers. Decoy users harvested an average of 1.34 ducks per hunting day compared to 0.89 ducks per day for respondents who didn't use the decoys. For comparison, Missouri hunters using these decoys reported bagging 1.62 ducks per day, compared to 0.99 ducks per day for nonusers (Humburg et al., 2002), and decoy users in Illinois averaged 1.77 ducks per day compared to 1.14 ducks per day for nonusers (Miller, 2002).

Minnesota hunters who used battery-operated, spinning-wing decoys spent significantly more days in the field, on average, compared to hunters who did not use the decoys (an average of 14.4 days compared to an average of 8.2 days) ($t=14.099$, $p<0.001$). Results are shown in Table 7-23.

For hunters who used spinning-wing decoys in 2002, the average number of years hunting waterfowl in Minnesota is 21.3 years, and for those who did not use the battery-operated decoys, the average is 24.5 years ($t=4.816$, $p<0.001$). Results are shown in Table 7-23. The average ducks bagged, ducks bagged per day, days hunting in 2002, and years hunting are significantly different (all t-tests had p-values < 0.001) between spinning-wing decoy users and nonusers. The data suggest that battery decoys provide a greater duck harvest rate, however there may be confounding variables such as hunting skill levels that influence hunting success.

Section 7: Use and Opinions on Battery-Operated, Spinning-Wing Decoys

Table 7-1: Do you own a battery-operated, spinning-wing decoy?

Residence of hunter	n	Yes (%)	No (%)	% of all waterfowl hunters in state[2]
Statewide[1]	3,027	19.7	80.3	100.0
Region 1	506	16.8	83.2	14.2
Region 2	487	16.8	83.2	6.6
Region 3	501	19.2	80.8	19.9
Region 4	484	18.4	81.6	17.8
Region 5	513	24.6	75.4	7.2
Region 6	537	21.4	78.6	34.3
χ^2 =14.535, p =0.013				

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
[2] Proportion of state waterfowl stamp purchasers by region of residence.

Table 7-2: Ownership of battery-operated, spinning-wing decoys by metropolitan residence

Residence of hunter	n	Yes (%)	No (%)	% of all waterfowl hunters in state[1]
Non-metro (Regions 1 – 5)	2,491	19.2	80.8	65.7
Metro (Region 6)	537	21.4	78.6	34.3
χ^2 =1.390, p =0.238				

Notes:
[1] Proportion of state waterfowl stamp purchasers by region of residence.

Table 7-3: Did you use battery-operated, spinning-wing decoys when hunting in Minnesota during the 2002 waterfowl season?

Residence of hunter	N	Yes (%)	No (%)	% of all waterfowl hunters in state[2]
Statewide[1]	3,015	26.1	73.9	100.0
Region 1	502	22.5	77.5	14.2
Region 2	484	21.3	78.7	6.6
Region 3	497	23.9	76.1	19.9
Region 4	480	27.3	72.7	17.8
Region 5	512	27.3	72.7	7.2
Region 6	538	29.0	71.0	34.3
χ^2 =12.719, p =0.026				

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
[2] Proportion of state waterfowl stamp purchasers by region of residence.

Table 7-4: Use of battery-operated, spinning-wing decoys by metropolitan residence

Residence of hunter	N	Yes (%)	No (%)	% of all waterfowl hunters in state[1]
Non-metro (Regions 1 – 5)	2,475	24.5	75.5	65.7
Metro (Region 6)	538	29.0	71.0	34.3
χ^2 =4.761, p =0.029				

Notes:
[1] Proportion of state waterfowl stamp purchasers by region of residence.

Section 7: Use and Opinions on Battery-Operated, Spinning-Wing Decoys

Table 7-5: If you used a battery-operated, spinning-wing decoy during the 2002 Minnesota waterfowl season, how many decoys did your hunting party typically use?

Residence of hunter	N	% of respondents indicating that they typically used ___ decoys					Mean[1]
		0	1	2	3	≥4	
Statewide[2]	967	19.5	58.0	20.3	1.8	0.3	2.05
Region 1	150	26.0	52.7	19.3	2.0	0.0	1.97
Region 2	138	28.3	56.5	13.0	2.2	0.0	1.89
Region 3	151	19.2	63.6	13.2	3.3	0.7	2.03
Region 4	170	23.5	58.8	17.1	0.6	0.0	1.95
Region 5	174	19.0	51.7	23.0	6.3	0.0	2.17
Region 6	175	13.7	58.3	26.9	0.6	0.6	2.16
χ^2 =45.588, p < 0.001							

Notes:
[1]F=4.084 (p<0.001).
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 7-6: If you used a battery-operated, spinning-wing decoy during the 2002 Minnesota waterfowl season, what percent of your 2002 hunting outings did you use them?

Residence of hunter	N	% of respondents indicating that they used battery-operated decoys on __% of hunting outings				
		0%	1-25%	26-50%	51-75%	76-100%
Statewide[1]	1,044	23.6	25.1	17.4	14.4	19.5
Region 1	170	32.9	33.5	16.5	6.5	10.6
Region 2	153	32.0	19.6	18.3	16.3	13.7
Region 3	154	21.4	27.3	18.2	16.2	16.9
Region 4	185	29.7	21.6	15.7	16.2	16.8
Region 5	181	21.5	22.7	19.3	14.4	22.1
Region 6	191	16.8	24.1	17.8	15.2	26.2
χ^2 =49.280, p <0.001						

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 7-7: Percentage of 2002 hunting outings that battery-operated, spinning-wing decoys were used, by ownership.

Decoy ownership	N	% of respondents indicating that they used battery-operated decoys on __% of hunting outings				
		0 %	1-25%	26-50%	51-75%	76-100%
Battery-operated, spinning-wing decoy users who did not own the decoys.	305	0.7	49.5	21.3	10.2	18.4
Battery-operated, spinning-wing decoy owners.	483	0.4	21.5	24.2	24.4	29.4
χ^2 =75.307, p <0.001						

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Section 7: Use and Opinions on Battery-Operated, Spinning-Wing Decoys

Table 7-8: How effective do you feel battery-operated, spinning-wing decoys are in bringing ducks into shooting range?

Experience with battery-operated decoys	n	Not at all effective	Slightly effective	Somewhat effective	Very effective	Extremely effective	Mean[1]
All hunters	2,856	4.4	15.7	41.6	28.8	9.4	3.23
Hunters who used the decoys during 2002	787	4.4	21.0	43.6	21.9	9.1	3.10
Hunters who did not use these decoys	2,053	4.3	13.7	40.9	31.5	9.5	3.28
χ^2=38.363, p<0.001							

Notes:
[1]F=18.858 (p<0.001). Mean is based on the following scale: 1=not at all effective, 2=slightly effective, 3=somewhat effective, 4=very effective, 5=extremely effective

Table 7-9: Support for restricting the use of battery-operated, spinning-wing decoys for the first eight days of the duck season, if battery-operated, spinning-wing decoys are found to increase duck harvest and possibly lead to shorter seasons and/or lower bag limits

Residence of hunter	N	Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,978	10.2	8.5	22.0	30.5	28.7	3.59
Region 1	496	11.9	8.1	22.4	32.5	25.2	3.51
Region 2	473	11.4	9.7	21.6	30.7	26.6	3.51
Region 3	493	12.0	8.1	23.5	28.2	28.2	3.53
Region 4	476	10.1	7.6	24.6	29.0	28.8	3.59
Region 5	507	9.7	7.3	23.1	29.8	30.2	3.64
Region 6	530	8.3	9.4	19.6	32.1	30.6	3.67
χ^2 =17.563, p =0.616							

Notes:
[1]F=1.486 (p=0.191). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 7-10: Support for banning the use of battery-operated, spinning-wing decoys for the entire season, if battery-operated, spinning-wing decoys are found to increase duck harvest and possibly lead to shorter seasons and/or lower bag limits

Residence of hunter	N	Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,999	21.8	17.4	23.5	13.3	24.0	3.00
Region 1	498	24.1	17.5	24.5	12.9	21.1	2.89
Region 2	480	21.0	16.5	21.7	12.9	27.9	3.10
Region 3	495	21.4	18.8	26.1	12.1	21.6	2.94
Region 4	477	20.8	14.3	26.0	13.8	25.2	3.08
Region 5	509	21.2	17.7	22.2	13.6	25.3	3.04
Region 6	536	22.0	18.3	20.9	14.0	24.8	3.01
χ^2 =18.448, p =0.558							

Notes:
[1]F=1.541 (p=0.174). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Section 7: Use and Opinions on Battery-Operated, Spinning-Wing Decoys

Table 7-11: Support for restricting the use of battery-operated, spinning-wing decoys on public lands and waters, if battery-operated, spinning-wing decoys are found to increase duck harvest and possibly lead to shorter seasons and/or lower bag limits

Residence of hunter	N	Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,969	18.0	15.3	24.0	17.9	24.7	3.16
Region 1	491	19.1	13.6	27.7	16.9	22.6	3.10
Region 2	474	18.4	15.0	21.5	19.2	25.9	3.19
Region 3	492	17.9	17.5	24.0	18.5	22.2	3.10
Region 4	471	16.8	12.1	28.2	18.0	24.8	3.22
Region 5	506	17.8	15.4	23.9	17.8	25.1	3.17
Region 6	531	18.3	16.4	20.9	17.7	26.7	3.18
χ^2 =20.406, p =0.433							

Notes:
[1]F=0.628 (p=0.678). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 7-12: Support for restricting the use of battery-operated, spinning-wing decoys on DNR Wildlife Management Areas, if battery-operated, spinning-wing decoys are found to increase duck harvest and possibly lead to shorter seasons and/or lower bag limits

Residence of hunter	N	Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,981	15.8	12.4	25.6	20.0	26.1	3.28
Region 1	494	17.8	10.5	27.7	19.8	24.1	3.22
Region 2	477	15.1	9.9	25.2	22.2	27.7	3.38
Region 3	494	14.8	14.8	25.1	19.8	25.5	3.27
Region 4	475	15.6	9.7	26.5	22.5	25.7	3.33
Region 5	504	15.5	14.1	25.2	18.8	26.4	3.27
Region 6	532	16.0	13.3	24.6	18.8	27.3	3.28
χ^2 =18.537, p =0.552							

Notes:
[1]F=0.772 (p=0.570). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 7-13: Support for a nationwide ban on battery-operated, spinning-wing decoys, if they are found to increase duck harvest and possibly lead to shorter seasons and/or lower bag limits

Residence of hunter	N	Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,825	16.1	12.8	16.0	23.6	31.6	3.42
Region 1	463	17.5	11.7	17.9	25.7	27.2	3.33
Region 2	455	14.7	11.2	15.8	23.3	34.9	3.53
Region 3	464	16.6	13.6	18.8	21.1	30.0	3.34
Region 4	443	14.7	10.8	17.6	23.3	33.6	3.50
Region 5	465	15.5	13.8	13.3	22.8	34.6	3.47
Region 6	515	16.3	13.8	13.4	24.5	32.0	3.42
χ^2 =22.447, p =0.317							

Notes:
[1]F=1.449 (p=0.203). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 7-14: Support for the 2002 Minnesota waterfowl season restriction on battery-operated, spinning-wing decoys

Residence of hunter	N	Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
Statewide[2]	2,788	10.9	10.5	21.6	27.6	29.3	3.54
Region 1	462	12.8	11.3	22.5	30.1	23.4	3.40
Region 2	446	11.7	10.8	22.0	24.4	31.2	3.53
Region 3	457	10.9	10.7	23.9	27.6	26.9	3.49
Region 4	444	9.5	10.1	21.6	25.7	33.1	3.63
Region 5	456	9.4	9.6	21.3	31.1	28.5	3.60
Region 6	504	11.1	10.5	20.0	27.4	31.0	3.57
χ^2 =20.938, p =0.401							

Notes:
[1]F=1.829 (p=0.104). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 7-15: Comparison of level of support for different restrictions on battery-operated, spinning-wing decoys

Restriction	Mean[1]
Restrict the use of battery-operated, spinning-wing decoys for the first eight days of the duck season	3.59
The 2002 Minnesota restriction on battery-operated, spinning-wing decoys	3.54
A nationwide ban on battery-operated, spinning-wing decoys	3.42
Restrict use of battery-operated, spinning-wing decoys on DNR Wildlife Management Areas	3.28
Restrict use of battery-operated, spinning-wing decoys on public lands and waters.	3.16
Ban the use of battery-operated, spinning-wing decoys for the entire season.	3.00

Notes:
[1]F=194.320 (p<0.001). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.

Section 7: Use and Opinions on Battery-Operated, Spinning-Wing Decoys

Table 7-16: Support for restricting the use of battery-operated, spinning-wing decoys for the first eight days of the duck season by ownership

Decoy ownership	N	Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
All hunters	2,944	10.1	8.3	22.1	30.7	28.8	3.59
Decoy owners	592	20.4	16.0	20.3	29.7	13.5	3.00
Decoy non-owners	2,352	7.5	6.4	22.5	31.0	32.6	3.75
χ^2 =192.340, p<0.001							

Notes:
[1]F=176.259 (p<0.001). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.

Table 7-17: Support for banning the use of battery-operated, spinning-wing decoys for the entire season by ownership

Decoy ownership	N	Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
All hunters	2,962	21.9	17.4	23.4	13.3	23.9	3.00
Decoy owners	589	54.2	23.8	8.7	6.1	7.3	1.89
Decoy non-owners	2,373	13.9	15.8	27.1	15.1	28.0	3.27
χ^2 =546.483, p =0.000							

Notes:
[1]F=494.329 (p<0.001). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.

Table 7-18: Support for restricting the use of battery-operated, spinning-wing decoys on public lands and waters by ownership

Decoy ownership	N	Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
All hunters	2,937	18.0	15.3	23.9	18.0	24.7	3.16
Decoy owners	587	42.4	21.1	15.5	10.9	10.1	2.25
Decoy non-owners	2,350	12.0	13.9	26.0	19.7	28.4	3.39
χ^2 =363.709, p <0.001							

Notes:
[1]F=336.572 (p<0.001). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.

Table 7-19: Support for restricting the use of battery-operated, spinning-wing decoys on DNR Wildlife Management Areas by ownership

Decoy ownership	N	Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
All hunters	2,947	15.8	12.4	25.4	20.2	26.2	3.28
Decoy owners	587	34.8	16.9	22.3	14.5	11.6	2.51
Decoy non-owners	2,360	11.1	11.3	26.2	21.6	29.8	3.48
χ^2 =251.304, p <0.001							

Notes:
[1]F=245.362 (p<0.001). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.

Section 7: Use and Opinions on Battery-Operated, Spinning-Wing Decoys

Table 7-20: Support for a nationwide ban on battery-operated, spinning-wing decoys by ownership

Decoy ownership	N	Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
All hunters	2,788	16.0	12.6	16.0	23.7	31.6	3.42
Decoy owners	578	34.9	19.7	11.8	18.9	14.7	2.59
Decoy non-owners	2,210	11.1	10.8	17.1	25.0	36.0	3.64
χ^2 =273.189, p <0.001							

Notes:
[1]F=266.531 (p<0.001). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.

Table 7-21: Support for the 2002 Minnesota waterfowl season restriction on battery-operated, spinning-wing decoys by ownership

Decoy ownership	N	Strongly oppose	Oppose	Neutral	Support	Strongly support	Mean[1]
All hunters	2,750	10.9	10.4	21.6	27.7	29.4	3.54
Decoy owners	580	24.0	17.8	23.4	22.8	12.1	2.81
Decoy non-owners	2,170	7.4	8.5	21.1	29.0	34.1	3.74
χ^2 =235.448, p <0.001							

Notes:
[1]F=252.376 (p<0.001). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.

Table 7-22: Comparison of level of support for different restrictions on battery-operated, spinning-wing decoys by ownership

Restriction	Mean for all hunters[1]	Mean for decoy non-owners[2]	Mean for decoy owners[3]
Restrict the use of battery-operated, spinning-wing decoys for the first eight days of the duck season	3.59	3.75	3.00
The 2002 Minnesota restriction on battery-operated, spinning-wing decoys	3.54	3.74	2.81
A nationwide ban on battery-operated, spinning-wing decoys	3.42	3.64	2.59
Restrict use of battery-operated, spinning-wing decoys on DNR Wildlife Management Areas	3.28	3.48	2.51
Restrict use of battery-operated, spinning-wing decoys on public lands and waters.	3.16	3.39	2.25
Ban the use of battery-operated, spinning-wing decoys for the entire season.	3.00	3.27	1.89

Notes:
[1]F=194.320 (p<0.001). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.
[2]F=118.846 (p<0.001). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.
[3]F= 86.986 (p<0.001). Mean is based on the following scale: 1=strongly oppose, 2=oppose, 3=neither support nor oppose, 4=support, 5=strongly support.

Table 7-23: Duck harvest by use of battery-operated, spinning-wing decoys by use

Residence of hunter	N	Decoy users	Decoy non-users	Difference	T-test t, sig.
Total 2002 duck harvest	2,541	16.54	7.84	8.70	-12.312, p<0.001
Duck harvest per day hunting in 2002	2,641	1.34	0.89	0.45	-6.436, p<0.001
# of days hunting waterfowl in MN in 2002	3,015	14.41	8.19	6.22	-14.099, p<0.001
Total years hunting waterfowl in Minnesota	2,969	21.26	24.45	-3.19	4.816, p<0.001

Note:
Data for days hunting ducks, ducks bagged, and ducks bagged per day reflect only those hunters who went duck hunting and provided information on both the number of days spent duck hunting and the number of ducks bagged during the season.

Section 8: Opinions About the Minnesota Department of Natural Resources

Findings:

Opinions about the Minnesota Department of Natural Resources

Statewide

Respondents were asked to respond to four statements about the Minnesota Department of Natural Resources. Overall, survey respondents had neutral to mildly positive opinions about the Minnesota Department of Natural Resources. Statewide, respondents agreed most with the statement: "The Minnesota DNR has waterfowl management staff who are well trained for their jobs" (mean=3.51). Over 50% of respondents agreed with this statement. A majority of respondents also tend to agree with the statement: "The Minnesota DNR answers questions honestly" (mean=3.34). On average, responses were neutral to two statements: "The Minnesota DNR listens to waterfowl hunters' concerns" (mean=3.16) and "The Minnesota DNR responds to waterfowl hunters' concerns" (mean=3.06). Results are presented in Tables 8-1 through 8-5.

Regional

Respondents from the metropolitan region (Region 6) agreed slightly more with the statement "the Minnesota DNR listens to waterfowl hunters' concerns" ($F=2.370$, $p=0.037$) (Table 8-2). There were no other significant differences in opinions of the DNR between regions.

Interaction With Conservation Officers

Statewide, 16.7% of respondents reported being checked by a conservation officer during the 2002 waterfowl season. Regionally, over 20% of respondents who hunted most frequently in Region 5 (22.9%) or Region 6 (23.5%) were checked by a conservation officer during the 2002 waterfowl season. This compares to 11.4% of respondents who hunted most frequently in Region 2. See Table 8-6.

Opinions About Interactions With Conservation Officers

Statewide

If respondents had been checked by a conservation officer during the 2002 waterfowl season, they were asked to respond to three statements about their interaction. Overall, respondents felt positively about their interaction with conservation officers. Statewide, respondents agreed that officers properly enforced regulations (mean=4.34), were respectful (mean=4.20), and were polite (mean=4.16). See Table 8-10. Nearly 90% of respondents who had been checked by an officer agreed or strongly agreed that the officer properly enforced regulations (Table 8-8). Just over 80% agreed or strongly agreed that officers were polite and respectful (Tables 8-7 and 8-9).

Regional

Because of the limited number of respondents who had been checked by conservation officers, chi-square analysis was not used. There were no significant differences in mean scores among regions.

Section 8: Opinions About the Minnesota Department of Natural Resources

Table 8-1: The Minnesota DNR has waterfowl management staff who are well trained for their jobs.

Residence of hunter	N	% of respondents who said that they _____					Mean[1]
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Statewide[2]	2,556	3.6	7.6	32.3	46.4	10.0	3.51
Region 1	441	4.5	10.4	32.9	42.4	9.8	3.42
Region 2	420	2.9	12.4	31.7	43.3	9.8	3.45
Region 3	418	4.1	6.9	34.0	45.9	9.1	3.49
Region 4	414	3.1	9.2	32.9	45.2	9.7	3.49
Region 5	430	3.7	7.2	27.4	52.8	8.8	3.56
Region 6	446	3.4	5.2	32.1	48.4	11.0	3.59
χ^2 =31.208, p =0.052							

Notes:
[1]F=2.039 (p=0.070). Mean based on scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 8-2: The Minnesota DNR listens to waterfowl hunters' concerns.

Residence of hunter	N	% of respondents who said that they _____					Mean[1]
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Statewide[2]	2,665	7.4	19.1	30.2	36.8	6.6	3.16
Region 1	443	10.2	20.5	29.6	32.7	7.0	3.06
Region 2	421	7.8	20.7	29.2	35.9	6.4	3.12
Region 3	443	8.8	19.2	33.0	33.2	5.9	3.08
Region 4	429	7.0	17.9	32.4	38.9	3.7	3.14
Region 5	453	9.1	19.2	28.3	37.7	5.7	3.12
Region 6	472	5.1	18.9	28.2	39.4	8.5	3.27
χ^2 =27.478, p =0.122							

Notes:
[1]F=2.370 (p=0.037). Mean based on scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 8-3: The Minnesota DNR responds to waterfowl hunters' concerns.

Residence of hunter	N	% of respondents who said that they _____					Mean[1]
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Statewide[2]	2,645	6.9	22.5	33.7	31.6	5.3	3.06
Region 1	440	8.4	24.3	33.0	28.6	5.7	2.99
Region 2	417	7.7	23.3	33.6	30.2	5.3	3.02
Region 3	436	8.3	22.5	32.8	31.9	4.6	3.02
Region 4	428	6.5	21.5	36.0	31.8	4.2	3.06
Region 5	452	7.5	18.6	37.2	33.2	3.5	3.07
Region 6	469	5.3	23.0	32.6	32.6	6.4	3.12
χ^2 =17.606, p =0.613							

Notes:
[1]F=0.897 (p=0.482). Mean based on scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Section 8: Opinions About the Minnesota Department of Natural Resources

Table 8-4: The Minnesota DNR answers questions honestly.

Residence of hunter	N	% of respondents who said that they _____					Mean[1]
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
Statewide[2]	2,609	5.3	12.0	35.1	38.6	9.1	3.34
Region 1	446	7.4	11.4	34.3	37.4	9.4	3.30
Region 2	418	5.7	10.3	36.1	38.5	9.3	3.35
Region 3	433	5.5	13.4	35.6	36.3	9.2	3.30
Region 4	416	6.0	10.6	38.7	38.0	6.7	3.29
Region 5	446	5.4	11.9	33.0	41.0	8.7	3.36
Region 6	458	3.7	12.4	33.6	40.2	10.0	3.40
χ^2 =15.699, p =0.735							

Notes:
[1]F=0.918 (p=0.468). Mean based on scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 8-5: Comparison of level of agreement with statements about the Minnesota DNR

Statement	Mean[1]
The Minnesota DNR has waterfowl management staff who are well trained for their jobs.	3.51
The Minnesota DNR answers questions honestly.	3.34
The Minnesota DNR listens to waterfowl hunters' concerns.	3.16
The Minnesota DNR responds to waterfowl hunters' concerns.	3.06

Notes:
[1]F=243.578 (p<0.001). Mean is based on the following scale: 1=strongly disagree, 2=disagree, 3=neither disagree nor agree, 4=agree, 5=strongly agree.

Table 8-6: Were you checked by a conservation officer during the 2002 waterfowl-hunting season?

Area most often hunted	n	Yes (%)	No (%)
Statewide[1]	2,744	16.7	83.3
Region 1	748	15.4	84.6
Region 2	185	11.4	88.6
Region 3	615	14.5	85.5
Region 4	650	17.2	82.8
Region 5	249	22.9	77.1
Region 6	196	23.5	76.5
χ^2 =20.441, p <0.001			

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Section 8: Opinions About the Minnesota Department of Natural Resources

Table 8-7: If you were checked by a conservation officer, was the officer polite?

Area most often hunted	N	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean[1]
Statewide[2]	462	3.9	3.1	11.5	36.7	44.8	4.16
Region 1	117	0.9	2.6	12.0	29.9	54.7	4.34
Region 2	22	4.5	4.5	27.3	27.3	36.4	3.92
Region 3	91	3.3	4.4	9.9	39.6	42.9	4.14
Region 4	113	8.0	0.9	11.5	38.9	40.7	4.03
Region 5	56	5.4	5.4	10.7	32.1	46.4	4.09
Region 6	46	0.0	4.3	8.7	60.9	26.1	4.09

Notes:
[1]F=1.471 (p=0.198). Mean is based on the following scale: 1=strongly disagree, 2=disagree, 3=neither disagree nor agree, 4=agree, 5=strongly agree.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 8-8: If you were checked by a conservation officer, did the officer properly enforce regulations?

Area most often hunted	N	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean[1]
Statewide[2]	457	2.0	2.2	7.7	36.0	52.1	4.34
Region 1	113	1.8	1.8	8.0	32.7	55.8	4.39
Region 2	21	4.8	0.0	9.5	33.3	52.4	4.28
Region 3	90	1.1	0.0	13.3	36.7	48.9	4.32
Region 4	114	1.8	6.1	7.0	34.2	50.9	4.27
Region 5	55	5.5	0.0	7.3	36.4	50.9	4.26
Region 6	46	0.0	0.0	0.0	58.7	41.3	4.41

Notes:
[1]F=0.392 (p=0.854). Mean is based on the following scale: 1=strongly disagree, 2=disagree, 3=neither disagree nor agree, 4=agree, 5=strongly agree.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 8-9: If you were checked by a conservation officer, was the officer respectful?

Area most often hunted	N	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean[1]
Statewide[2]	460	3.5	3.4	10.8	34.6	47.7	4.20
Region 1	116	0.9	3.4	9.5	24.1	62.1	4.42
Region 2	21	4.8	4.8	9.5	42.9	38.1	4.07
Region 3	90	3.3	5.6	10.0	37.8	43.3	4.11
Region 4	113	6.2	3.5	10.6	38.1	41.6	4.06
Region 5	56	5.4	1.8	14.3	32.1	46.4	4.13
Region 6	46	0.0	0.0	13.0	56.5	30.4	4.18

Notes:
[1]F=1.877 (p=0.097). Mean is based on the following scale: 1=strongly disagree, 2=disagree, 3=neither disagree nor agree, 4=agree, 5=strongly agree.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 8-10: Comparison of level of agreement with statements about conservation officers

Statement	Mean[1]
The conservation officer properly enforced regulations.	4.34
The conservation officer was respectful.	4.20
The conservation officer was polite.	4.16

Notes:
[1]F=12.304 ($p<0.001$). Mean is based on the following scale: 1=strongly disagree, 2=disagree, 3=neither disagree nor agree, 4=agree, 5=strongly agree.

Section 9: Characteristics of Waterfowl Hunters in Minnesota

Findings:

Information from the Electronic Licensing System database indicates that over one-third (34.3%) of the Minnesota residents who purchased a state duck stamp live within Region 6, encompassing the Twin Cities metro area. Slightly more than half (51.9%) of duck stamp purchasers live in Region 1 (14.2%), Region 3 (19.9%), or Region 4 (17.8%). Smaller percentages live in Region 2 (6.6%) and Region 5 (7.2%). See Table 9-1.

Hunter Age

The average age of hunters randomly selected to receive the survey was 41.8. The average age of study respondents (45.3 years) was significantly higher than the age of the random sample ($t=11.289$, $p<0.001$). Those under the age of 40 tended to respond at a lower rate than those over the age of 40 leading to this slight age bias in the sample. (See Tables 9-2 and 9-3.) The bias in age of the respondents did not substantively affect any estimates reported previously in this document, and thus, data were not weighted in calculating those estimates.

The response rate of study participants chosen due to HIP participation was slightly lower compared to stamp purchasers in similar age categories. Forty-six percent of 16- and 17-year-old survey recipients selected based on HIP participation returned a survey, compared to 53% of stamp purchasers from the same age group. Likewise, 75% of the 65 and older HIP participants returned surveys compared to 84% of stamp purchasers in the same age group. Overall, 16- and 17-year-olds responded at a much lower rate than respondents who were 65 years and older. Almost 90% of 16-and 17-year-old respondents indicated that they hunted waterfowl in 2002, which is similar to the other age categories in the study. Older survey respondents hunted in 2002 at a lower rate than hunters in the other age categories; less than 70% of hunters aged 65 and older indicated that they hunted waterfowl in 2002 (Table 9-4). The reduced hunting participation reported among older hunters appears to result from lower participation among HIP participants compared to stamp purchasers (Tables 9-5 and 9-6).

Years of Waterfowl Hunting

At the beginning of the survey instrument, respondents were asked to report the year they first hunted waterfowl in the state of Minnesota, how many total years they have hunted waterfowl in Minnesota, and how many years since 1995 that they hunted waterfowl in the state. Please note that because responses to these questions are strongly correlated to age, the data presented in Tables 9-7, 9-8, 9-9 are weighted to correct for the age bias for these results.

Statewide almost one-third (30.3%), began hunting waterfowl in 1990 or more recently (Table 9-7). On average, waterfowl hunters in Minnesota have been hunting in the state for 21.8 years. The median of 19.0 indicates that half of the hunters have hunted 19 or more years in the state (Table 9-8). Across the regions, hunters in Region 1 (mean = 23.0; median = 20.0) and Region 6 (mean = 23.2; median = 20.0) tended to have slightly more years hunting experience in Minnesota, while hunters in Region 5 had fewer years experience (mean = 18.6; median = 15.0).

Statewide a majority (65.9%) of the waterfowl hunters hunted for waterfowl in Minnesota every year during the past 5 years. While the differences are not statistically significant, consistency of participation was slightly higher in Region 4, where 68.4% of residents hunted every year in the past 5 years.

Consistency was lowest in Region 2, where 62.9% of waterfowl hunters hunted every year during the past 5 years (Table 9-9). Of the 7.8% of respondents who did not hunt waterfowl during any of the years between 1997 and 2001, approximately two-thirds (67.8%) hunted waterfowl during 2002. Approximately one-third (31.3%) of the respondents who did not hunt waterfowl during any of the years between 1997 and 2001 were HIP participants, of these respondents only about one-third (34.4%) hunted waterfowl during 2002.

Age and Experience Comparison

Respondents to this survey are, on average, older (mean=45 years) than respondents to surveys of waterfowl hunters in other states. Michigan waterfowl hunters for the 1998-1999 season averaged 39 years of age (Soulliere & Frawley, 2001). Respondents to this survey are also older than Missouri waterfowl hunters, who averaged 39 years of age in 1988 and 42 years of age in 1995. Similarly, our Minnesota respondents are older than the average age reported by New York duck hunters (41 years) (Enck et al., 1993).

Respondents to this survey report an average of 18 years of waterfowl-hunting experience. This compares to the 15 years of experience reported by Michigan waterfowl hunters during the 1998-1999 season (Soulliere & Frawley, 2001), and the 19 years of experience reported by Colorado waterfowl hunters in 1992-1993 (Pierce, Ringelman, Szymczak, & Manfredo, 1996)

Membership in Conservation and Hunting Organizations

More than half (56.6%) of the waterfowl hunters reported that they belonged to a conservation/hunting organization. As shown in Table 9-10, respondents reported membership in a wide variety of organization. More than one-third (36.8%) of respondents reported membership in Ducks Unlimited and one in ten (10.5%) reported membership in Minnesota Waterfowl Association (Table 9-11). For comparison, 24% of survey respondents who hunted waterfowl in Colorado during the 1992-1993 season reported membership in Ducks Unlimited (Pierce et al., 1996).

Hunting Outside of Minnesota

Approximately one in five (18.6%) Minnesota waterfowl hunters hunted outside the state in 2002, with hunters residing in Region 3 (21.6%), Region 5 (21.6%) and Region 6 (20.5%) most likely to hunt elsewhere (Table 9-12). North Dakota was the most popular destination for Minnesota hunters (11.5%), followed by South Dakota (2.4%), Saskatchewan (1.7%), and Manitoba (1.7%) (Refer to Tables 9-13, 9-14.)

Late Respondents

A comparison of late respondents to other respondents found that late respondents hunted somewhat less often over the past 5 years. (Fifty-eight percent of late respondents had hunted 5 of the previous 5 years, compared to 68% of early respondents.) Also, 85% of late respondents hunted in 2002 compared to 89% of early respondents. In addition, fewer late respondents hunted outside Minnesota during 2002 (13% compared to 19% of early respondents). More late respondents prefer hunting on the weekends (33% compared to 27% of early respondents). Late respondents were more supportive of Youth Waterfowl Hunting Day (70% compared to 63% of early respondents). Finally, late respondents were significantly less supportive of regulatory strategies to manage waterfowl.

Section 9: Characteristics of Waterfowl Hunters in Minnesota

Table 9-1: Residence of waterfowl stamp buyers

Residence of hunter	Proportion of state waterfowl stamp purchasers in each region age 18-64	
	# of licensed MN waterfowl hunters[1]	% of all MN waterfowl hunters
Region 1	15,754	14.2%
Region 2	7,285	6.6%
Region 3	21,986	19.9%
Region 4	19,657	17.8%
Region 5	7,960	7.2%
Region 6	37,927	34.3%
Statewide	116,044[2]	100%

Notes:
[1] Source: DNR license database
[2] The statewide total is not equal to the total of the six regions because zip code changes or additions are ongoing, and DNR regional zip code files lag behind U.S. Postal Service changes.

Table 9-2: Age of study population

Residence of hunter	16-17	18-19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 64	65 +	Average age
Statewide	4.7	4.1	19.6	19.8	20.6	13.0	3.9	14.3	41.8
Region 1	4.5	5.0	18.6	14.6	19.5	13.3	4.6	19.8	43.7
Region 2	5.0	3.3	18.5	20.3	22.1	16.3	3.8	10.9	41.5
Region 3	5.5	3.9	19.8	23.5	19.4	11.8	3.1	13.0	40.7
Region 4	5.3	4.9	23.4	17.6	18.3	11.5	3.6	15.5	41.2
Region 5	4.6	4.5	23.2	22.0	22.5	13.9	4.0	5.3	38.5
Region 6	3.0	3.1	14.4	20.5	22.1	11.1	4.4	21.4	45.4

Table 9-3: Age of respondents

Residence of hunter	n	16-17	18-19	20 – 29	30 – 39	40 – 49	50 - 59	60 - 64	65 +	Average age
Statewide	3109	3.3	3.2	14.6	19.1	21.7	14.3	4.5	19.3	45.3
Region 1	521	3.5	3.5	14.0	12.9	22.8	14.6	6.0	22.8	46.8
Region 2	498	3.8	2.4	14.5	16.9	25.5	19.7	5.2	12.0	44.2
Region 3	512	4.7	2.5	15.2	24.4	19.3	15.0	3.3	15.4	43.2
Region 4	499	3.6	4.8	19.0	17.6	18.4	13.0	4.6	18.8	43.9
Region 5	526	3.4	3.4	16.5	21.7	25.9	17.7	5.5	5.9	41.4
Region 6	552	2.2	2.7	11.8	19.2	22.6	12.9	4.2	24.5	47.5

Table 9-4: Proportion of age categories actually hunting waterfowl in Minnesota in the year 2002

Age category	N	% No	% Yes	Chi-square
16-17	103	9.2	90.8	
18-19	99	6.0	94.0	
20-29	451	4.5	95.5	
30-39	586	6.1	93.9	
40-49	670	7.2	92.8	
50-59	441	9.6	90.4	
60-64	137	19.7	80.3	
65+	579	31.9	68.1	269.069, p<0.001

Table 9-5: Proportion of state waterfowl stamp purchasers, by age, who actually hunted waterfowl in Minnesota in the year 2002

Age category	N	% No	% Yes	Chi-square
16-17	36	5.6	94.4	
18-19	99	5.1	94.9	
20-29	451	4.2	95.8	
30-39	586	6.5	93.5	
40-49	670	7.2	92.8	
50-59	441	9.3	90.7	
60-64	114	14.0	86.0	
65+	31	19.4	80.6	25.007, p=0.001

Table 9-6: Proportion HIP participants, by age, who actually hunted waterfowl in Minnesota in the year 2002

Age category	N	% No	% Yes	Chi-square
16-17	66	6.1	93.9	
60-64	24	41.7	58.3	
65+	549	30.8	62.2	19.691, p<0.001

Table 9-7: What year the hunter first hunted waterfowl

Year/decade	% of hunters from that area who indicated that they first hunted waterfowl (not necessarily in Minnesota) in that year or decade:						
	Statewide[1]	Region 1[2]	Region 2	Region 3	Region 4	Region 5	Region 6
N	3,043	501	483	509	497	525	524
2002	2.3	1.8	2.9	3.5	1.8	2.7	1.7
2001	1.5	0.8	1.7	2.2	1.6	2.1	1.3
2000	2.2	1.8	3.1	2.6	2.4	3.4	1.5
1999	2.1	1.4	2.5	2.2	1.6	4.2	2.1
1998	3.4	3.2	3.9	4.1	3.2	3.8	2.7
1997	2.9	4.0	2.3	2.9	3.4	3.2	2.3
1996	2.6	3.0	1.2	1.4	3.4	3.6	2.7
1995	2.8	1.8	2.3	3.9	4.6	3.4	1.5
1990 – 1994	10.5	10.6	9.0	9.5	12.2	10.9	10.3
1980's	17.3	13.2	15.5	19.2	18.6	18.4	17.1
1970's	18.7	19.0	18.4	18.2	16.0	18.6	20.3
1960's	13.7	14.4	21.7	13.2	11.4	15.5	12.8
1950's	10.6	11.8	9.9	9.8	9.6	7.5	12.1
1940's	7.5	10.4	3.8	6.2	7.8	2.4	8.6
1930's	1.9	2.6	1.0	1.8	1.4	0.2	2.9
1920's	0.1	<0.1	0.2	<0.1	<0.1	0.0	0.2
Before 1920	0.2	<0.1	<0.1	<0.1	<0.1	0.2	0.2

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population. Because this question is strongly correlated to age, this data is also weighted to correct for age.
[2] Regional data is weighted to correct for age.

Table 9-8: Number of years hunting waterfowl in Minnesota

# of years	% of hunters from that area who indicated that they have been hunting in Minnesota for _____ years:[1]						
	Statewide[2]	Region 1[3]	Region 2	Region 3	Region 4	Region 5	Region 6
N	3,038	499	485	509	498	524	530
1	3.0	2.8	4.9	3.7	2.6	3.1	2.4
2	3.0	2.4	4.1	3.1	3.6	4.8	2.1
3	3.4	3.0	4.3	3.1	2.8	5.3	3.4
4	3.0	2.4	2.9	4.9	2.4	4.4	2.1
5	4.7	5.4	4.5	5.3	5.0	4.4	4.1
6	3.6	5.0	3.5	1.8	4.6	3.8	3.6
7	3.0	3.2	3.3	2.8	3.4	2.9	3.0
8	3.5	4.0	1.4	2.6	5.6	3.8	3.2
9	1.6	0.8	1.9	1.2	2.2	2.5	1.7
10 – 19	21.5	19.1	16.9	23.6	22.7	21.2	21.7
20 – 29	18.6	18.3	18.6	19.8	17.5	18.1	18.5
30 – 39	14.1	14.1	18.6	13.6	12.7	16.0	13.9
40 – 49	7.5	7.8	9.9	6.9	4.8	6.9	8.9
50 – 59	6.8	8.8	4.3	5.1	7.8	2.3	7.9
60 – 69	2.5	2.6	0.8	2.4	1.8	0.6	3.4
70 +	0.2	0.4	0.0	0.2	0.2	0.0	0.2
Mean	21.8	23.0	21.2	21.1	20.5	18.6	23.2
Median	19.0	20.0	20.0	18.0	16.0	15.0	20.0

Notes:
[1]Actual number years were collected for each hunter and used in computation of the means and medians. Data are presented in categorical form in the table for 10+ years to simplify the table.
[2] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population. Because this question is strongly correlated to age, this data is also weighted to correct for age.
[3] Regional data is weighted to correct for age.

Table 9-9: Hunting in the last five years

Residence of hunter		% of hunters who hunted that particular year:						
	n	2001	2000	1999	1998	1997	Hunted every year	Did not hunt during any of these years
Statewide[1]	3,126	85.6	84.3	81.4	76.7	72.8	65.9	7.8
Region 1[2]	512	85.9	85.4	81.6	78.3	73.0	67.6	8.4
Region 2	494	84.2	81.4	76.3	73.5	68.6	62.9	9.9
Region 3	518	87.5	85.2	82.4	77.1	70.8	65.0	6.6
Region 4	508	86.2	84.3	81.3	76.8	74.8	68.4	8.1
Region 5	533	87.4	85.7	82.7	74.9	71.7	65.5	6.2
Region 6	540	84.1	83.5	81.5	76.7	73.9	65.2	8.1
χ^2=26.864, n.s.								

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population. Because this question is strongly correlated to age, this data is also weighted to correct for age.
[2] Regional data is weighted to correct for age.

Table 9-10: List of other conservation and hunting organizations mentioned by hunters

ADVANCED HUNTER EDUCATION	GROUSE UNLIMITED	NATIONAL HUNTING	SOUTH ST PAUL GUN CLUB
AMERICAN HUNTER	IGAC WATER LEAGUE	NATIONAL RIFLE ASSOCIATION	SPORTSMAN
AMERICAN RIFLEMANS	INFISH NAHC, NRA	NATIONAL TRAPPERS ASSOCIATION	TAMARAC NATIONAL WILDLIFE REFUGE
AMMO	IZAAK WALTON LEAGUE RGS	NATIONAL WILD TURKEY FEDERATION	THE NATURE CONSERVANCY
AUDUBON	LAKE SUPERIOR STEELHEAD ASSOCIATION	NATURAL RESOURCES DEFENSE COUNCIL	TIPS
AWWA	LIFE	NAUHDA	TRADITIONAL BOWHUNTERS OF MINNESOTA
BASS	MARSH LAKE HUNTING CLUB	NAVD	TRAPPERS ASSOCIATION
BLUFFLANDS	MDA	NDC	TRAPPERS MINNESOTA
BOWHUNTER	MINNESOTA BOWHUNTERS INC.	NORTH AMERICAN ELK FOUNDATION	TRI LAKE SPORTSMAN
BWA	MINNESOTA CONSERVATION FEDERATION	NORTH AMERICAN HUNTING CLUB	TROUT
CONSERVATION PARTNERS OF AMERICA	MINNESOTA DARKHOUSE AND ANGLING ASSOCIATION	NSCA	TROUT UNLIMITED
CWCS	MINNESOTA DEER HUNTERS ASSOCIATION	NSSA	TV
DEER & TURKEY	MINNESOTA DUCK CALLERS ASSOCIATION	OUTDOORSMEN	UNITED NORTHERN SPORTSMANS
DEER HUNTERS ASSOCIATION	MINNESOTA FIREARMS SAFETY	PHEASANTS & HABITAT	WATERFOWLER.COM
DONNELLY ROD AND GUN CLUB	MINNESOTA GAME AND FISH COALITION	PHEASANTS FOREVER	WATONA RETRIEVER CLUB
DUCKS IN FLIGHT	MINNESOTA LAKE ASSO	PISTOL & RIFLE CLUB	WEF
DWF	MINNESOTA NONGAME WILDLIFE FUND	ROCKY MOUNTAIN ELK FOUNDATION	WHITETAIL
EDGE	MINNESOTA PHEASANT INC	RUFFED GROUSE SOCIETY	WILDLIFE SPORTSMAN ALLIANCE
FERGUS FALLS RIFLE AND PISTOL CLUB	MINNESOTA SPORTSMAN	SAFARI CLUB	WILDLIFE FOREVER
FRIENDS OF UPPER MS RIVER REFUGES	MINNESOTA TAXIDERMY GUILD	SCI	WILDLIFE SOCIETY
FNA	MINNESOTA TRAPPERS ASSOCIATION	SDWF	WISCONSIN WILDLIFE FEDERATION
FWLA	MINNESOTA WHITETAIL ELK CLUB	SIBLEY COUNTY	WOOD DUCK SOCIETY
GAME & FISH COALITION	MINNESOTA WHITETAILS	SIERRA CLUB	WTF
GREENWINGS	NADH	SOUTHERN MINNESOTA DEERHUNTERS ASSOCIATION	WWA
GROUSE SOCIETY	NAGA	SOCIETY OF FIELD ORNITHOLOGIST	

Section 9: Characteristics of Waterfowl Hunters in Minnesota

Table 9-11: Membership in hunting-related groups

Hunting-related group	% of hunters indicating membership in that group:						
	Statewide[1]	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
N	3,113	520	498	512	500	527	552
Ducks Unlimited	36.8	31.5	39.4	35.7	32.2	44.0	40.0
Local Sportsman's club	22.3	28.5	14.9	23.6	29.0	30.7	15.2
Other national/statewide conservation/hunting organizations	15.1	13.1	10.6	17.8	14.6	16.7	15.2
Minnesota Waterfowl Association	10.5	9.1	8.0	9.2	11.6	8.9	12.0
Delta Waterfowl	2.9	2.7	3.2	3.3	1.4	3.8	3.3
Not a member[2]	43.9	45.0	45.8	42.3	45.4	36.2	44.9

Notes:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
[2]"Not a member of any conservation/hunting organization" was not a direct question. It was determined by counting those respondents who did not indicate they were members of any of the group categories.

Table 9-12: Did you hunt in a state or province outside of Minnesota in 2002?

Residence of hunter	n	Yes	No
Statewide[1]	3,035	18.6	81.4
Region 1	502	14.3	85.7
Region 2	486	17.7	82.3
Region 3	501	21.6	78.4
Region 4	485	14.0	86.0
Region 5	514	21.6	78.4
Region 6	542	20.5	79.5

Note:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 9-13: Most popular hunted areas outside of Minnesota for hunting waterfowl

Residence of hunter	n	Most popular hunted area outside of MN	% of all hunters who hunted that area in 2002	Average # of days spent hunting that area in 2002
Statewide[1]	3,035	North Dakota	11.5	6.5
Region 1	502	North Dakota	9.4	6.7
Region 2	486	North Dakota	10.7	6.7
Region 3	501	North Dakota	14.6	6.6
Region 4	485	North Dakota	7.2	5.7
Region 5	514	North Dakota	9.7	6.9
Region 6	542	North Dakota	13.1	6.1

Note:
[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.

Table 9-14: List of areas hunted outside of Minnesota in 2002 by MN hunters

State/Province	% of all MN hunters who hunted that area in 2002	Average # of days spent hunting that area in 2002
n	3,035	
Did not hunt outside of MN	81.4	Not applicable
North Dakota	11.5	6.5
South Dakota	2.4	5.7
Canada - Saskatchewan	1.7	6.6
Canada - Manitoba	1.7	7.2
Wisconsin	1.5	13.6
Iowa	0.7	6.5
Nebraska	0.4	7.8
Montana	0.4	8.6
Missouri	0.3	3.6
Canada - Ontario	0.3	5.7
Arkansas	0.1	3.2
Canada - general	0.1	7.8
Canada - Alberta	0.1	9.8
Texas	0.1	6.5
Arizona	0.1	6.0
Alaska	<0.05	7.0
Argentina	<0.05	6.0
Illinois	<0.05	5.0
Kansas	<0.05	5.0
Maryland	<0.05	3.0
Mexico	<0.05	6.0
Michigan	<0.05	13.0
Utah	<0.05	6.0
Wyoming	<0.05	6.0
New Mexico	<0.05	Not available
Louisiana	<0.05	5.0

Notes:
Hunters could indicate that they hunted in more than one state. Consequently, the total percent of hunters is greater than 100%.

Some respondents indicated that they had hunted in certain states or countries, but did not provide information on the number of days they hunted in that state, or provided the total days hunting for multiple states. For those cases, the respondent is recognized as hunting in another state or country, but the average number of days is not available.

Section 10: Comparison of 1995, 2000, and 2002 Minnesota Waterfowl Hunter Survey Findings

Findings:

In this section, we compare results from this 2002 waterfowl hunter survey to previous studies of Minnesota waterfowl hunters. In 2000, a similar survey of Minnesota waterfowl hunters was completed (Fulton et al. 2002). Also, in 1995, the Minnesota DNR participated in a survey of duck hunters in 23 states to learn more about duck hunters' experiences and opinions (Ringelman, 1997; Lawrence & Ringelman, 2001). The Ringelman (1997) study surveyed waterfowl hunters for experiences in both 1995 and 1996 because many southern states hunt in January; Minnesota data from this study is only for 1995. Some of the questions asked in these previous surveys are either identical or similar to questions asked in the 2002 waterfowl study. For those questions, a comparison of responses is provided.

Respondent age, Years Hunting and Days Hunting During the Season

The average age of respondents to the 1995 and 2000 surveys was approximately 41 years. This is significantly younger than the average age (45.3 years) of respondents to the 2002 survey (Table 10-1). There were also significant differences between the 2002 data and the two earlier sets of data concerning the average number years hunting waterfowl (Table 10-2). Respondents to the 2002 survey report hunting waterfowl an average of 21.8 years compared to 22.9 in 1995 and 22.5 years in 2000. The average number of days spent hunting waterfowl also differed significantly when comparing 2002 results to the earlier surveys. Respondents reported hunting an average of 9.7 days in 2002, compared to an average of 11.6 in 2000 and 10.7 in 1995 (Table 10-3). However, the estimates in 2000 were likely inflated because hunters were asked to make two separate estimates of hunting days: one for weekends and one for weekdays.

Waterfowl Harvest

Reported number of ducks bagged per hunter in 2002 varied significantly from 2000 ($\chi^2 = 6.732$, $p=0.035$) and 1995/96 ($\chi^2 = 569.909$, $p<0.001$) (Table 10-4). A larger percentage of hunters reported that they did not bag any ducks during the 2002 season (16.2%) compared to 2000 (14.7%) and 1995/96 (5.3%). Also, a larger percentage of hunters (41.1%) reported bagging more than 10 ducks during the 1995 season compared to hunters in 2000 (31.9%) or 2002 (32.9%). These differences may be due to how the samples were selected in the two studies. The 1995 study sample went only to hunters who had responded to a small-game-hunter survey and had indicated that they had hunted ducks. This sample selection method may have created a "successful hunter" bias in the study sample.

Hunting Participation and Satisfaction

Reported participation in early- and late-season hunts for Canada geese was significantly higher in 2002 than in 2000 (Table 10-5). There were no significant differences in participation in duck hunting, the regular season hunt for Canada geese, or hunts for other geese. There were slight differences between 2002 and 2000 in the percentage of respondents who reported hunting on opening Saturday and opening Sunday. Slightly more respondents reported hunting on opening Saturday (64.4%) in 2002 compared to in 2000 (63.2%) ($\chi^2=4.822$, $p=0.028$). However, slightly fewer respondents reported hunting on the Sunday of opening weekend in 2002 (67.4%) compared to in 2000 (69.7%) ($\chi^2=4.205$, $p=0.040$). See Table 10-6. There were also significant differences in the regions where respondents reported hunting most frequently, and in the frequency of participants hunting in their home region. However, these differences

were not substantive (Table 10-7 and 10-8). Significantly fewer respondents reported hunting outside of Minnesota during the 2002 season (18.6%) compared to the 2000 season (24.7%) (χ^2=67.225, p<0.001) (Table 10-9). However, it must be noted that question phrasing may have caused higher reporting of out-of-state hunting for the 2000 survey. The 2002 survey specified hunting out of state in 2002. In the 2000 survey of waterfowl hunters, the question was phrased "Did you waterfowl hunt in a state or province other than Minnesota?" and did not specify the year. Therefore, respondents to the 2000 survey may have responded affirmatively to the question because they hunted outside of Minnesota in years prior to 2000.

There was a significant difference in reported overall satisfaction with waterfowl hunting between 2002 and 2000, however this difference was not substantive (Table 10-10).

Youth Waterfowl Hunting Day

Reported support for Youth Waterfowl Hunting Day declined slightly from 2000 (65.8%) to 2002 (61.0%) (Table 10-11). In 2000, 44.1% of respondents indicated that they strongly supported Youth Waterfowl Hunting Day, compared to 35.8% of respondents in 2002. The percentage of respondents indicating that they strongly opposed the day increased from 11.7 to 17.0% from 2000 to 2002. The mean level of support declined from 3.77 to 3.53 (t=-8.782, p<0.001).

Battery-Operated, Spinning-Wing Decoys

Use of battery-operated, spinning-wing decoys increased significantly from 10.3% in 2000 to 26.1% in 2002 (Table 10-12). Respondents reported stronger thoughts on the effectiveness of these decoys. In 2000, 66.8% of respondents indicated that they thought these decoys were "somewhat effective," compared to 41.6% of respondents in 2002 (Table 10-13). In 2002, 38.2% respondents reported that the decoys were "very effective" or "extremely effective" compared to 2000 when 25.1% of respondents reported that the decoys were "very effective." Likewise, in 2002 more respondents (20.2%) reported that the decoys were "slightly effective" or "not at all effective" compared to those reporting that the decoys were "not effective" in 2000 (8.1%). Support for a ban on battery-operated, spinning-wing decoys decreased significantly from 64.6% in 2000 to 37.3% in 2002 (Table 10-14).

Support for Management Strategies

Support for various management strategies decreased from 2000 to 2002 (Table 10-15). Based on a five-point scale from 1 (strongly oppose) to 5 (strongly support), the mean level of support for beginning shooting hours at noon on opening day dropped from 3.02 in 2000 to 2.73 in 2002 (t=-11.578, p<0.001). Likewise, support for ending shooting hours at 4 p.m. for the first part of the season dropped from 3.04 to 2.80 (t=-10.002, p<0.001). Support for restriction on open-water hunting dropped from 3.73 to 2.86 (t=-37.390, p<0.001), and support for restrictions on outboard-motor use dropped from 3.79 to 3.17 (t=-24.814, p<0.001). Finally, support for creating waterfowl refuges dropped from 4.51 in 2000 to 4.21 in 2002 (t=-17.313, p<0.001).

Group Membership

Reported membership in Ducks Unlimited and the Minnesota Waterfowl Association did not change significantly between 2000 and 2002. However, reported membership in local sportsman's clubs increased from 16.0% in 2000 to 22.3% in 2002. See Table 10-16.

Section 10: Comparison of 1995, 2000, and 2002 Minnesota Waterfowl Hunter Survey Findings

Table 10-1: Age of hunters: 1995, 2000 and 2002 findings

Study year	N	Average age (years)	Range (years)	t-test
1995 hunters	448	40.9	15 - 82	t=14.231, p<0.001
2000 hunters	2,454	41.4	16 - 88	t=12.597, p<0.001
2002 hunters	3,109	45.3	14 - 88	

Table 10-2: Number of years hunting ducks/waterfowl: 1995 and 2000 findings

Study year	N	Average number of years hunting ducks/waterfowl[1]	t-test
1995 hunters (ducks)	457	22.9	t=-3.805, p<0.001
2000 hunters (waterfowl)	2,376	22.5	t=-2.456, p<0.001
2002 hunters (waterfowl)	3,038	21.8	

[1] In both 2000 and 2002, a stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population. Because this question is strongly correlated to age, data is also weighted to correct for age.

Table 10-3: # of days hunting waterfowl: 1995 and 2000 findings

Study year	n	Average number of days hunting waterfowl	t-test
1995 hunters (waterfowl)	463	10.7	t=-6.063, p<0.001
2000 hunters	1,895	11.6	t=-11.281, p<0.001
2002 hunters (waterfowl)	3,113	9.7	

Table 10-4: # of ducks bagged: 1995 and 2000 findings

Study year	1995 hunters (%)	2000 hunters (%)	2002 hunters (%)
N	458	1,959	2,027
Bagged none	5.3	14.7	16.2
Bagged 1 – 10	53.6	53.4	50.9
Bagged more than 10	41.1	31.9	32.9
Chi-square analysis	χ^2=569.909, p<0.001	χ^2=6.732, p=0.035	

Table 10-5: Waterfowl Hunting Activity: 2000 and 2002 findings

Study year	n	Hunt ducks	Hunt Canada geese regular season	Hunt Canada geese—early season	Hunt Canada geese—late season	Hunt geese--other
2000 hunters	2,191	92.6	72.3	38.5	9.0	6.9
2002 hunters	2,650	93.5	73.1	41.9	13.9	7.8
Chi-square analysis		χ^2=3.646, p=0.056	χ^2=2.400, p=0.121	χ^2=26.298, p<0.001	χ^2=41.072, p<0.001	χ^2=1.646, p=0.199

Section 10: Comparison of 1995, 2000, and 2002 Minnesota Waterfowl Hunter Survey Findings

Table 10-6: Waterfowl Hunting, Opening Weekend: 2000 and 2002 findings

Study year	N	Hunt opening Saturday	Hunt opening Sunday
2000 hunters	2,191	63.2	69.7
2002 hunters	2,745	64.4	67.4
Chi-square analysis		χ^2=4.822, p=0.028	χ^2=4.205, p=0.040

Table 10-7: Region Most Frequently Hunted: 2000 and 2002 findings

Study year	N	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
2000 hunters	2,192	27.7	6.7	23.4	27.7	6.4	8.1
2002 hunters	2,650	28.3	7.0	23.3	24.6	9.4	7.4
Chi-square analysis	χ^2=82.961, p<0.001						

Table 10-8: Hunt Most in Home Region: 2000 and 2002 findings

Study year	n	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6
2000 hunters	2,191	93.5	69.4	67.4	91.3	71.7	21.2
2002 hunters	2,651	93.2	64.7	68.2	81.2	74.5	18.8
Chi-square analysis		χ^2=0.027, p=0.869	Not enough valid cases for processing.	χ^2=0.126, p=0.723	χ^2=52.885, p<0.001	Not enough valid cases for processing.	χ^2=3.126, p=0.077

Table 10-9: Hunt Outside Minnesota: 2000 and 2002 findings

Study year	N	Hunt Outside Minnesota
2000 hunters	2,399	24.7
2002 hunters	3,035	18.6
Chi-square analysis	χ^2=67.225, p<0.001	

Table 10-10: Overall Satisfaction With Waterfowl Hunting: 2000 and 2002 findings

Study year	n	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Moderately satisfied	Very satisfied	Means
2000 hunters	1,788	8.8	10.3	11.4	4.0	15.3	30.8	19.5	4.77
2002 hunters	2,604	7.0	8.9	10.4	5.5	16.0	35.0	17.1	4.88
	χ^2=46.745, p<0.001								t=3.006, p=0.003

Section 10: Comparison of 1995, 2000, and 2002 Minnesota Waterfowl Hunter Survey Findings

Table 10-11 Support for Youth Waterfowl Hunting Day: 2000 and 2002 findings

Study year	n	Strongly oppose	Oppose	Neutral	Support	Strongly support	Means
2000 hunters	2,432	11.7	9.4	13.0	21.7	44.1	3.77
2002 hunters	3,027	17.0	9.3	12.7	25.2	35.8	3.53
	χ^2=155.028, p<0.001						t=-8.782, p<0.001

Table 10-12: Use Battery-Operated, Spinning-Wing Decoys: 2000 and 2002 findings

Study year	Question	n	Use Battery-Operated, Spinning-Wing Decoys
2000 hunters	Have you used battery-operated, rotating wing decoys when hunting?	2,440	10.3
2002 hunters	Did you use battery-operated, spinning-wing decoys when hunting in Minnesota during the 2002 waterfowl season?	3,015	26.1
Chi-square analysis	χ^2=720.480, p<0.001		

Table 10-13 Effectiveness of Battery-Operated, Spinning-Wing Decoys: 2000 and 2002 findings

Study year	n	Not effective (2000)/ Not at all effective or Slightly effective (2002)	Somewhat effective	Very effective (2000)/ Very effective or Extremely effective (2002)
2000 hunters	1,163	8.1	66.8	25.1
2002 hunters	2,856	20.2	41.6	38.2
Chi-square analysis	χ^2=861.701, p<0.001			

Table 10-14 Support for Banning Battery-Operated, Spinning-Wing Decoys: 2000 and 2002 findings

Study year	n	No (2000)/ Oppose or Strongly oppose (2002)	Undecided (2000)/ Neutral (2002)	Yes (2000)/ Support or Strongly support (2002)
2000 hunters	2,438	16.6	18.8	64.6
2002 hunters	3,027	39.2	23.5	37.3
Chi-square analysis	χ^2=1136.862, p<0.001			

Table 10-15: Support for Management Strategies: 2000 and 2002 findings

Study year	n	Begin shooting hours at noon on opening day	Ending shooting hours at 4 p.m. for the first part of the season	Restrictions on open water hunting	Restrictions on outboard-motor use	Creating waterfowl refuges
2000 hunters	2,399	3.02	3.04	3.73	3.79	4.51
2002 hunters	2,696	2.73	2.80	2.86	3.17	4.21
Chi-square analysis		t=-11.578, p<0.001	t=-10.002, p<0.001	t=-37.390, p<0.001	t=-24.814, p<0.001	t=-17.313, p<0.001

Section 10: Comparison of 1995, 2000, and 2002 Minnesota Waterfowl Hunter Survey Findings

Table 10-16 Group Membership : 2000 and 2002 findings

Study year	n	Ducks Unlimited	Minnesota Waterfowl Association	Local sportsman's club
2000 hunters	2,454	35.6	11.0	16.0
2002 hunters	2,635	36.8	10.5	22.3
Chi-square analysis		χ^2=0.207, p=0.649	χ^2=0.189, p=0.664	χ^2=72.246, p<0.001

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Appendix A: Survey Instrument

THE 2002 WATERFOWL HUNTING SEASON IN MINNESOTA

A study of hunters' opinions 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 Waterfowl Hunting Background

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

Q1. **In what year did you first hunt waterfowl, <u>not necessarily in Minnesota</u>? *If uncertain please estimate*.**

_____ year

Q2. **<u>How many</u> years have you hunted waterfowl <u>in Minnesota</u>? *If uncertain please estimate.***

_____ years

Q3. **For the previous 5 years, please indicate which years you hunted waterfowl in Minnesota? (*Check <u>all</u> that apply*.)**

- ❑ 2001
- ❑ 2000
- ❑ 1999
- ❑ 1998
- ❑ 1997
- ❑ I did not hunt during any of these years.

Q4. Did you hunt waterfowl in Minnesota during the year 2002? (*Please check <u>one</u>.)*

- ❑ No. → *Skip to part 4, question Q17.*
- ❑ Yes. (*Complete parts 2 and 3 of the survey*.)

Part 2. Your 2002 Waterfowl Hunting Season

Next we have a few questions about your hunting experiences during the 2002 Minnesota waterfowl-hunting season.
(*If you <u>did not</u> hunt waterfowl in Minnesota in 2002 please skip to question Q17.)*

Q5. Please indicate whether you hunted for the following kinds of waterfowl <u>in Minnesota</u> in 2002. If you did hunt, estimate the <u>total</u> number of that kind of waterfowl you bagged (shot and retrieved).

During the 2002 waterfowl season, did you hunt in Minnesota for:	*Please circle no or yes.*		<u>If yes</u>, how many did you <u>personally</u> bag in Minnesota? (*Write in number bagged).*
Ducks	no	yes	_____ducks
Canada Geese during:			
Early September Canada Goose Season	no	yes	_____geese
Regular Canada Goose Season (Late September—Early December)	no	yes	_____geese
Late Goose Season (December)	no	yes	_____geese
Other Geese (Snow Geese, etc.)	no	yes	_____geese

Q6. During the 2002 Minnesota waterfowl season, about how many days did you hunt on…

Weekend days or holidays: _____days

Weekdays (Monday-Friday): _____days

Q7. When do you most <u>prefer</u> to hunt waterfowl in Minnesota? (*Please check <u>one</u>*.)

- ❑ Weekend days or holidays
- ❑ Weekdays (Monday-Friday)
- ❑ No preference

Q8. Did you hunt the opening Saturday (September 28) of the 2002 Minnesota Season? (*Please check one.*)

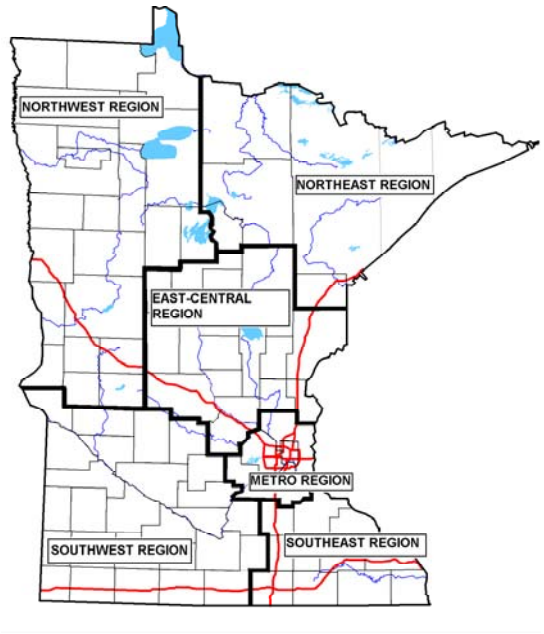
- ❑ YES
- ❑ NO

Q9. Did you hunt the first Sunday (September 29) of the 2002 Minnesota Season? (*Please check one.*)

- ❑ YES
- ❑ NO

Q10. During the 2002 Minnesota waterfowl-hunting season, how many days did you hunt in each region? (*See map.*) *Do not include days hunted during the special September or December goose seasons.*

Region	Number of Days
Northwest region	days
Northeast region	days
East-central region	days
Southwest region	days
Southeast region	days
Metro region	days



Q11. In 2002, what was the average length of time that you spent hunting during each duck hunt in Minnesota? *Please estimate your actual time hunting during legal hunting hours; exclude travel and preparation time. (Please check one.)*

- ❑ 1 hour or less
- ❑ More than 1 hour but less than 3 hours
- ❑ 3 hours to 5 hours
- ❑ More than 5 hours

Q12. Were you checked by a conservation officer during the 2002 waterfowl-hunting season? (*Please check one.*)

- ❑ No → *(Skip to Q13.)*
- ❑ Yes *(Please answer Q12a.)*

Q12a. How did you feel about your interaction? Circle one response for each of the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The conservation officer was polite.	1	2	3	4	5
The conservation officer properly enforced regulations.	1	2	3	4	5
The conservation officer was respectful.	1	2	3	4	5

Q13. During the 2002 season, how often did you use the following techniques? ***(Please circle one response for each.)***

	HUNTING DUCKS					HUNTING GEESE				
	Never	Occasionally	About half the time I hunted	Often	Every time I hunted	Never	Occasionally	About half the time I hunted	Often	Every time I hunted
Pass shooting.	1	2	3	4	5	1	2	3	4	5
Decoying birds over water.	1	2	3	4	5	1	2	3	4	5
Decoying birds over land.	1	2	3	4	5	1	2	3	4	5
Jump shooting on ponds or streams.	1	2	3	4	5	1	2	3	4	5
Sneaking on birds in fields.	1	2	3	4	5	1	2	3	4	5
Hunting from motorized watercraft.	1	2	3	4	5	1	2	3	4	5
Hunting from NON-motorized watercraft.	1	2	3	4	5	1	2	3	4	5
Using duck/ goose calls.	1	2	3	4	5	1	2	3	4	5

Part 3. Your Hunting Satisfaction

Q14. During the 2002 Minnesota waterfowl hunting season, how satisfied or dissatisfied were you with the following? (*Please circle one response for each. If you did not hunt ducks or geese please circle "9" in the far right column.*)

	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	Did not hunt ducks/geese
General waterfowl hunting experience	1	2	3	4	5	6	7	9
DUCKS:								
hunting experience	1	2	3	4	5	6	7	9
hunting harvest	1	2	3	4	5	6	7	9
hunting regulations	1	2	3	4	5	6	7	9
GEESE:								
hunting experience	1	2	3	4	5	6	7	9
hunting harvest	1	2	3	4	5	6	7	9
hunting regulations	1	2	3	4	5	6	7	9

Q15. During the past three duck and goose hunting seasons in Minnesota, would you say your overall level of satisfaction with waterfowl hunting in Minnesota has generally decreased or increased? (*Please circle one for each.*)

	Greatly decreased	Decreased	Stayed the same	Increased	Greatly increased	Did not hunt ducks/geese
Ducks	1	2	3	4	5	9
Geese	1	2	3	4	5	9

Q16. Since you began hunting ducks and geese in the state, would you say your overall satisfaction with duck and goose hunting in Minnesota has decreased or increased? (*Please circle one response for each.*)

	Greatly decreased	Decreased	Stayed the same	Increased	Greatly increased	Did not hunt ducks/geese
Ducks	1	2	3	4	5	9
Geese	1	2	3	4	5	9

Part 4. General Waterfowl Hunting Issues

Season Opening Dates

In recent years, Minnesota has opened duck hunting season from September 28 to October 4 depending on the year. Last year, the U.S. Fish and Wildlife Service announced that it may allow states the option of an early duck season opening date from September 21 to 27 depending on the year, when season lengths are 45 days or longer.

Q17. Last fall, Minnesota had the option of an early duck season opening date. Which opening date would you have preferred? (*Please check one.*)

- ❑ September 21, 2002
- ❑ September 28, 2002
- ❑ No opinion

Q18. Do you support or oppose the following options? *(Please circle one for each.)*

	Strongly oppose	Oppose	Neither support nor oppose	Support	Strongly support	Don't know
An earlier opening date (Saturday, September 21-27) with a 60-day season.	1	2	3	4	5	9
An earlier opening date (Saturday, September 21-27) with a 45-day season.	1	2	3	4	5	9

Q19. How important are the following reasons for selecting the duck season opening date? *(Please circle one for each.)*

	Not at all important	Slightly important	Somewhat important	Very important	Extremely important
Tradition.	1	2	3	4	5
Weather/temperature.	1	2	3	4	5
Opportunity to hunt early-migrant teal and wood ducks.	1	2	3	4	5
Concern about duck populations.	1	2	3	4	5
Ability to identify ducks early in the season.	1	2	3	4	5
Saturday opening.	1	2	3		