# THE 2017 WATERFOWL HUNTING SEASON IN MINNESOTA

## A study of hunters' opinions and activities



*2017 Minnesota Waterfowl Stamp*

# Final Report

A cooperative study conducted by:

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

**DEPARTMENT OF NATURAL RESOURCES**

# The 2017 Waterfowl Hunting Season in Minnesota:
# A Study of Hunters' Opinions and Activities

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# Executive Summary

This study of the 2017 Minnesota waterfowl-hunting season was conducted to assess waterfowl hunters':

- participation and activities,
- satisfaction,
- motivations,
- involvement with the activity, and
- attitudes about waterfowl management.

The survey was distributed to 3,600 waterfowl hunters in a statewide sample stratified by region, along with 900 pictorial stamp buyers, and 900 crane permit buyers. The number of full-length survey respondents for the three samples were: 1,661 for the statewide sample, 425 for the pictorial sample, and 415 for the crane sample. Total response numbers including shortened, nonresponse surveys were: 1842 for the statewide sample, 486 for the pictorial sample, and 457 for the crane sample. After adjusting for undeliverable surveys and invalid respondents, the response rate for the full-length survey was 49% for all three samples, and the response rates including respondents to the shortened, nonresponse survey was 53% for the crane sample, 54% for the statewide sample, and 55% for the pictorial sample. The executive summary focuses on results for the statewide sample; results for all study samples are detailed in the report.

## Experiences

Just less than 9 of 10 survey respondents (87%) hunted waterfowl during the 2017 Minnesota season. Respondents who had hunted for waterfowl in 2017 were asked if they had hunted for ducks, Canada Geese during the early and regular seasons, and other geese. Responses ranged from 94% for ducks to only 2% for sandhill cranes (Figure S-1).



Figure S-1: Percentage of Hunters Participating in Activities in 2017
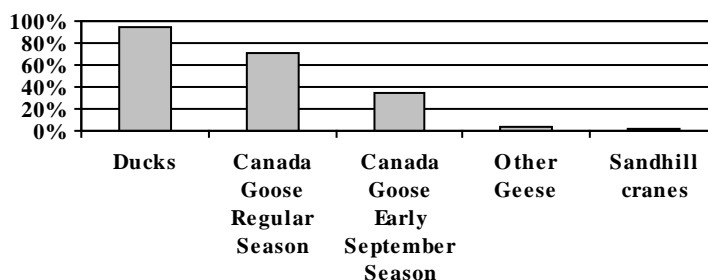
Hunters who reported pursuing ducks, Canada geese, or other geese reported bagging an average of 11.0 ducks, 6.4 Canada geese, and 1.6 "other" geese, respectively, over the course of the 2017 Minnesota season. Respondents hunted an average of 6.8 days on weekends and holidays, and 4.1 days during the week. Approximately two-thirds (64%) of waterfowl hunters statewide hunted on the opening Saturday.



Figure S-2: Most Frequent Hunting Destination in 2017
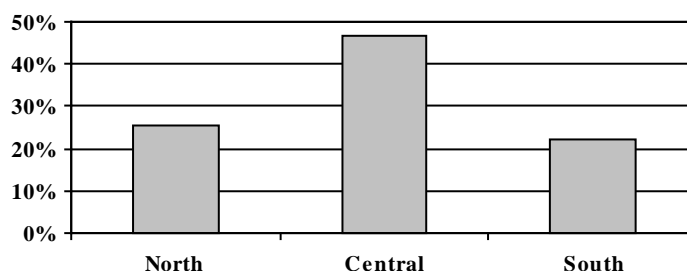
Survey recipients were asked to report the number of days they hunted in the different zones in the state. About 4 in 10 (39%) hunted only in the central zone, with 26% hunting only in the north zone, and 19% hunting only in the south duck zone. Nearly half of respondents hunted most frequently in the central zone (47%), with 26% hunting most frequently in the north zone, and 22%

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hunting most frequently in the south zone (Figure S-2). Respondents were fairly evenly divided in the land types where they hunted waterfowl; 44% hunted mostly privately owned areas, 39% hunted mostly public access areas, and 18% hunted public and private areas about the same.

**Satisfaction**

Over two-thirds of hunters (69%) reported being satisfied with their general waterfowl-hunting experience. Younger hunters and hunters who had been hunting for fewer years reported higher levels of satisfaction.

Nearly three-fourths (71%) of respondents were satisfied with their 2017 duck-hunting experience (Figure S-3). Nearly half of respondents (49%) were satisfied with their duck-hunting harvest. Satisfaction with duck-hunting regulations was between satisfaction levels for experience and harvest. A larger proportion of hunters were dissatisfied with their harvest compared to the proportion dissatisfied with the experience or regulations. About one in five respondents felt neither satisfied nor dissatisfied about the duck-hunting regulations, compared to 10% or fewer for duck-hunting experience or harvest. There was a significant positive relationship between the number of ducks bagged and satisfaction with duck-hunting harvest.

**Figure S-3: Satisfaction With Duck Hunting in 2017**
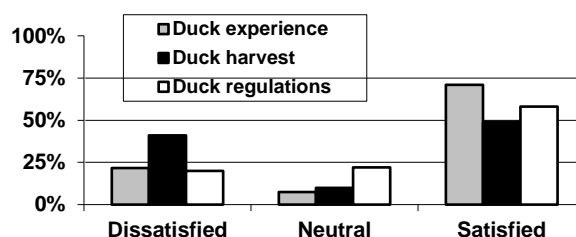


Nearly two-thirds of goose hunters (63%) were satisfied with their general goose-hunting experience, and about half respondents were satisfied with goose harvest (48%) and regulations (53%). The number of geese bagged had a positive influence on satisfaction with goose-hunting harvest.

Hunters were also asked about their satisfaction with waterfowl habitat where they hunted, and the number of ducks and geese seen in the field. About two-thirds of respondents were satisfied with habitat. Results for satisfaction with ducks and geese seen in the field are shown in Figure S-4.

**Figure S-4: Satisfaction With the Number of Ducks and Geese Seen in the Field**
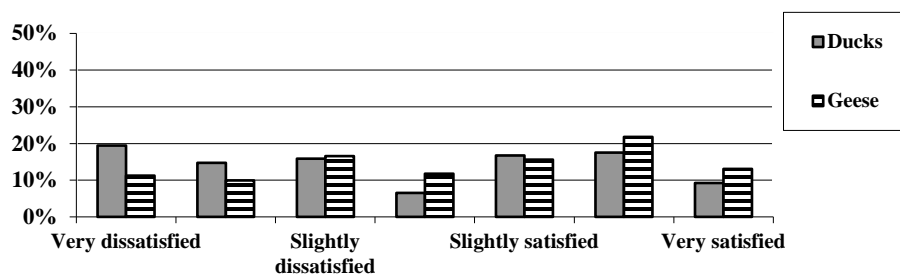


**Importance of, Involvement in, and Motivations for Waterfowl Hunting**

Respondents were asked how important waterfowl hunting was to them. About half of respondents (49%) indicated that it was "one of my most important recreational activities." Over one-fourth (28%) indicated that it was "no more important than my other recreational activities," while 10% indicated that it was "my most important recreational activity," 11% indicated that it was "less important than my other recreational activities," and 2% indicated that it was "one of my least important recreational activities"

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Respondents also rated statements related to their involvement with waterfowl hunting. Respondents agreed most strongly that: (a) waterfowl hunting provides me with the opportunity to be with friends, (b) waterfowl hunting is one of the most enjoyable things I do, and (c) I enjoy discussing waterfowl hunting with my friends. There was less agreement that: (a) a lot of my life is organized around waterfowl hunting and (b) waterfowl hunting has a central role in my life.

Respondents were asked to report how important 15 aspects of bagging waterfowl hunting were to them, then rate how much these 15 experiences happened during the 2017 Minnesota waterfowl season. An exploratory factor analysis of the importance of aspects of bagging waterfowl found four factors: (a) seeing ducks and geese, (b) attracting waterfowl with decoys and calls, (c) bagging a lot of waterfowl, and (d) specialized aspects of bagging waterfowl. The importance of these four factors is shown in Figure S-5.

**Figure S-5 Importance of Aspects of Bagging Waterfowl**



Mean importance level
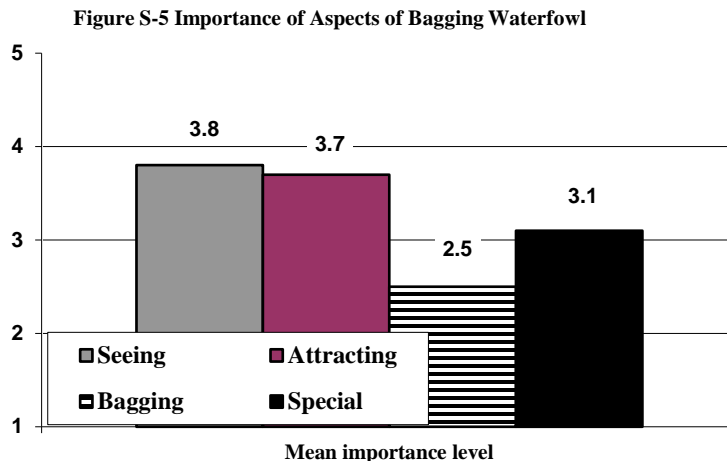
### Youth Waterfowl Hunting Day

Youth Waterfowl Hunting Day has been somewhat controversial in Minnesota (Smith, 2002). However, survey results show continued support for the day. Overall, 73% of respondents support the youth hunt, with 46% strongly supporting it.

Study respondents were asked if they took any youth hunting on Minnesota's 2017 Youth Waterfowl Hunting Day, and 12% reported participating. Those respondents who participated in Youth Waterfowl Hunting Day reported escorting an average of 1.8 youths. Based on the percentages provided by the survey, it is estimated that 18,027 youths participated in the youth waterfowl hunt in 2017.

### Management Strategies

Respondents were asked to indicate their opinion about the 6-duck bag limit, 2-hen mallard bag limit, and 3-wood duck bag limit. About two-thirds of respondents felt the 6-duck bag limit was about right, with 4% indicating that it was too low, 12% too high, and 16% no opinion. Similarly, about two-thirds of respondents felt the 2-hen mallard bag limit was about right, compared to 7% too low, 14% too high, and 16% no opinion. Nearly two-thirds of respondents felt the 3-wood duck bag limit was about right, compared to 15% who felt it was too low, 8% who thought it was too high, and 14% who had no opinion.

Respondents were asked to indicate their level of support for eight management strategies. Respondents reported the most support for using a North, Central, and South duck zone and allowing open-water hunting on a few (5-10) larger lakes or rivers during the regular waterfowl season. Respondents reported the least support for restricting the use of motorized decoys.

*2017 Minnesota Waterfowl Hunting*
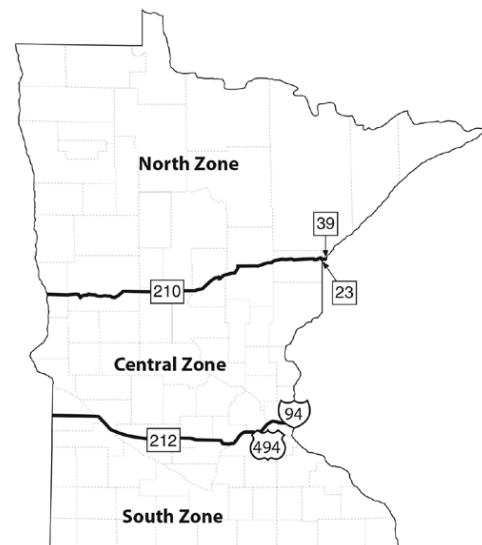
**Season Dates and Splits**

Respondents were asked to select the area of the state where season dates were most important to them using the map shown. The largest proportion (45%) selected the central region, followed by north (24%), and south (21%). Another 10% had no preference

Study participants were asked to select between a straight season, one of two split seasons, or no preference for a 60-day duck season in 2018. A substantially greater proportion of respondents from the North region preferred a straight season (58% compared to 16-30% for other regions). A substantially greater proportion of respondents from the South region preferred the split season with the later season closing dates (about 43% compared to 7-16% for other regions).

Study participants were asked to select a preferred season opening date. Statewide, respondents were fairly evenly split with 39% favoring the Saturday nearest September 24 and 41% favoring the Saturday nearest October 1, with 20% reporting no preference. Increased proportions of respondents from the Central and North regions preferred the earlier opening date, while increased proportions of respondents from the Metropolitan and South regions preferred the later opening date.

**Sandhill Crane Hunting in Minnesota**

Respondents were asked to indicate their level of support for five possible changes to sandhill crane hunting in Minnesota. On average, statewide, respondents were supportive of all five possible changes, with greatest support for expanding the size of the current crane zone and expanding sandhill crane hunting to a new hunting zone in the central/eastern part of the state. Respondents from the central and north regions were somewhat more supportive of changes to sandhill crane hunting, compared to respondents from the metropolitan and south regions. Respondents from the crane permit sample were significantly more supportive of changes compared to the statewide and pictorial samples.

**Comparison with Earlier Study Results**

Respondents reported significantly higher satisfaction levels for the 2017 season than for the 2000, 2005, 2007, 2010, 2011, and 2014 seasons. Satisfaction was not significantly different from the 2002 season. Support for Youth Waterfowl Hunting Day in 2017 was significantly higher than for previous survey years. Reported memberships in Ducks Unlimited, Delta Waterfowl, the Minnesota Waterfowl Association, and local sportsmen's clubs were lower in 2017 than in 2014, but similar to levels seen in previous study years.

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# Introduction

Minnesota has generally been in the top 3 states for number of waterfowl hunters in the United States, however waterfowl hunter numbers have declined by one-third since we began conducting surveys of Minnesota waterfowl hunters in 2000. Minnesota participated in the North American Duck Hunter Survey (Ringelman 1997) and Minnesota hunter responses were compared to those in other States (Lawrence and Ringelman 2001). More recently, reports documenting hunter activity and opinions following the 2000, 2002, 2005, 2007, 2010, 2011, and 2014 waterfowl hunting seasons were completed (Fulton et al. 2002, Schroeder et al. 2004, 2007*a*, 2008, 2012*a*, 2012*b,* 2015). In addition, a series of surveys looking at hunter recruitment and retention were completed following the 2005 waterfowl hunting season (Schroeder et al. 2007*b,c,d*) and a study of former waterfowl hunters was completed following the 2009 season (Schroeder et al. 2011). Results from some of these studies have been published in peer-reviewed journals (Schroeder et al. 2006, 2012c, 2013, 2014, 2017, under review). Information from these studies has been used to inform management decisions.

We originally planned on completing the statewide survey at 3-year intervals, but we have made exceptions. We conducted a survey in 2002 instead of 2003 to obtain current estimates of spinning-wing decoy use, and a limited survey was conducted following the 2007 waterfowl hunting season to evaluate changes in daily bag limits. We conducted a survey following the 2010 waterfowl season, but changes in waterfowl hunting regulations in 2011 (earlier opening date, shooting hours, bag limit and zone changes) necessitated the need for an additional hunter survey. It has been 3 years since the last survey. In addition to monitoring changes in hunter satisfaction, there was also a need to determine waterfowl hunter opinions on current zones and sandhill crane hunting, and collect more data on hunter involvement, motivations, and agency trust.

**Study Purpose and Objectives**

This study was conducted to identify hunter preferences/opinion on regulations, seasons, daily bag limits and zones relative to their satisfaction, success, and opinions/preferences on other waterfowl hunting and management issues. Results describe how preferences/opinions vary based upon hunter characteristics. This survey also provides 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 2017 including: species and seasons hunted; number of days hunted; effort during weekdays, weekends, and opening weekend; and management regions hunted.
2. Describe hunting satisfaction with waterfowl (duck and goose) hunting in Minnesota in 2017.
3. Examine the importance of various experiences preferences (related to bagging waterfowl) and actualization of those experience in waterfowl hunting during 2017.
4. Examine importance of and involvement in waterfowl hunting to Minnesota and intentions to participate in the future.
5. Determine Minnesota waterfowl hunters' opinions concerning bag limits and other management strategies for maintaining waterfowl numbers;
6. Determine Minnesota waterfowl hunters' opinions on season dates and split seasons.
7. Determine Minnesota waterfowl hunters' opinions changes to sandhill crane hunting.

8. Determine Minnesota waterfowl hunters' support for and participation in Youth Waterfowl Hunting Day;
9. Determine demographics 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 instruments (Appendix A) and discussed in more detail in the subsequent sections.

# Methods

## Sampling

The population of interest in this study included all Minnesota residents 18 years of age and older who hunted waterfowl in the state during 2017. The sampling frame used to draw the study sample was the Minnesota Department of Natural Resources' (DNR) Electronic Licensing System (ELS). A stratified random sample of Minnesota residents in the ELS was drawn. The sample included individuals who had purchased a state waterfowl stamp in Minnesota for the 2017 season. The study sample was stratified by residence of individuals (determined by ZIP code) in four regions. The target sample size was n = 400 for each region (n = 1,600 statewide). An initial stratified random sample of 3,600 individuals, 900 from each of the four regions, was drawn from the ELS. We stratified based on 3 duck zones (North, Central, South) and the Twin Cities Metropolitan area (Figure 1).
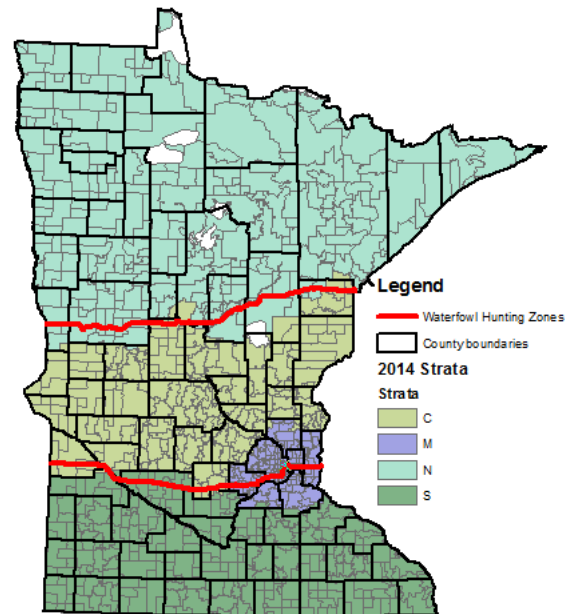


**Figure 1. Zones for the 2011, 2014, and 2017 Minnesota Waterfowl Hunter Surveys.**

In addition to the statewide sample, we conducted two targeted samples of individuals who purchased pictorial waterfowl stamps (n=900) and sandhill crane hunting permits (n=900).

## 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 January and May 2018. 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 3 weeks later, a second letter with another copy of the survey and business-reply envelope was sent to all study participants who had not responded to the first mailing. Three weeks after the second 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. About 3 weeks later, for the statewide and crane permit samples, we distributed a fourth mailing of the full-length survey, including a $1 incentive to

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maximize response. Finally, a shortened, 1-page survey was distributed to all three samples to gauge nonresponse bias.

**Survey Instrument**

The data collection instrument was a 12-page self-administered survey with 11 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 2017 Minnesota waterfowl-hunting seasons, including: species hunted, days hunted, and management zones/region(s) hunted;
Part 3:     Satisfaction with duck and goose hunting including general experience, harvest, and regulations, satisfaction with waterfowl habitat; and satisfaction with the number of ducks and geese seen in the field;
Part 4:     Motivations for waterfowl hunting;
Part 5:     Waterfowl hunting involvement
Part 6:     General waterfowl hunting information, including likelihood of waterfowl hunting in Minnesota in 2018, and opinions on bag limits;
Part 7:     Opinions concerning waterfowl management issues and special regulations;
Part 8:     Waterfowl hunting zones including zones and season dates;
Part 9:     Opinions about Youth Waterfowl Hunting Day
Part 10:    Use and regulation of battery-operated, spinning-wing decoys
Part 11:    Minnesota DNR waterfowl management; and
Part 12:    Conservation and hunting activities
Part 13:    Sociodemographics and information hunting outside Minnesota.

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

**Data Entry and Analysis**

Data were keypunched and the data were analyzed on a PC using the Statistical Program for the Social Sciences (SPSS for Windows 21). We computed basic descriptive statistics and frequencies for the statewide, pictorial, and crane samples. The three research strata and regional results were compared using one-way analysis of variance and cross-tabulations.

**Survey Response Rate**

Of the 3,600 questionnaires mailed in the statewide sample, 134 were undeliverable or otherwise invalid. Of the remaining 3,466 surveys, a total of 1,661 full-length surveys were returned, resulting in a response rate of 48.6%. An additional 181 hunters returned the shortened survey, used to gauge nonresponse bias, for a total response rate of 54% Of the 900 questionnaires mailed in the pictorial sample, 18 were undeliverable or otherwise invalid. Of the remaining 882 surveys, a total of 425 full-length surveys were returned, resulting in a response rate of 48.6%. An additional 61 hunters returned the shortened survey for a total response rate of 55% Of the 900 questionnaires mailed in the crane permit sample, 38 were undeliverable or otherwise invalid. Of the remaining 862 surveys, a total of 415 full-length surveys were returned, resulting in a response rate of 48.7%. An additional 42 hunters returned the shortened survey for a total response rate of 53%. 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 1 survey that was returned without an identification number. This survey was included in statewide results but could not be included in regional analyses.

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**Table I-1: Response rates for each management region**

| | Initial sample size | Number invalid | Valid sample size | Full-length surveys returned | Full-length survey response rate % | Shortened surveys returned | Total surveys returned | Full-length survey response rate % |
|---|---|---|---|---|---|---|---|---|
| Statewide | 3,600 | 134 | 3,466 | 1661 | 48.7% | 196 | 1,842 | 53.6% |
| CENTRAL | 900 | 35 | 865 | 396 | 45.8% | 49 | 445 | 51.4% |
| METRO | 900 | 35 | 865 | 427 | 49.4% | 51 | 478 | 55.3% |
| NORTH | 900 | 39 | 861 | 398 | 46.2% | 45 | 443 | 51.5% |
| SOUTH | 900 | 25 | 875 | 440 | 50.3% | 51 | 491 | 56.1% |
| CRANE | 900 | 38 | 862 | 415 | 48.7% | 43 | 458 | 53.1% |
| PICTORAL | 900 | 18 | 882 | 425 | 48.6% | 61 | 486 | 55.1% |

The average age of respondents (44.5 years) was significantly older than the population of waterfowl hunters ($\bar{x} = 39.7$) (t = 13.143***). People over 50 returned the survey at a significantly higher rate than younger people. 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 statewide study sample was drawn using a stratified random sample with region of residence defining the four 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).

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

| Region of residence | Proportion of resident state waterfowl stamp purchasers in each region age 18 and older | |
|---|---|---|
| | Frequency[1] | Proportion |
| CENTRAL | 22,993 | 28.2% |
| METRO | 26,207 | 32.2% |
| NORTH | 17,704 | 21.7% |
| SOUTH | 14,516 | 17.8% |
| Statewide[2] | 81,420 | 100% |

[1] Source: DNR license database
[2] The statewide total is not equal to the total number of waterfowl stamps sold. The number in the table reflects the sample population for the study, which excluded nonresident stamp buyers and individuals less than 18 years of age. The number shown in the table reflects the customer count rather than the stamp count. Customers can purchase more than one stamp.

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# Section 1: Experiences During the 2017 Waterfowl Hunt

Results for Part 2 of the waterfowl hunter survey are reviewed below. This section of the survey focused on hunting experiences during the 2017 Minnesota waterfowl-hunting seasons. Only individuals who hunted waterfowl in Minnesota in 2017 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 2017**

Respondents were first asked to report if they had actually hunted for waterfowl in Minnesota in 2017. Statewide 87% of the survey respondents indicated that they had hunted waterfowl in 2017. There were no significant differences in participation rates by region of residence (Table 1-1). Respondents who had hunted in 2017 were next asked if they had hunted for ducks, and Canada Geese during the early September and regular seasons. At the statewide level, 94% of actual waterfowl hunters in 2017 indicated they had hunted ducks while 72% had hunted Canada Geese during the regular season, and 35% hunted Canada Geese during the early September season. Less than 5% of respondents hunted "other" geese, and 2% targeted sandhill cranes. Statewide, 22% of respondents hunted ducks exclusively and 6% hunted geese exclusively.

Looking at differences in participation based on region of residence, smaller proportions of hunters from the north and south regions hunted for ducks compared to hunters from the central and metro regions (Table 1-1). A smaller proportion of waterfowl hunters residing in the metropolitan area hunted for Canada Geese during the early September goose season. Smaller proportions of hunters from the metro and north regions hunted during the regular Canada Goose season. Looking at differences based on where respondents hunted, a greater proportion of hunters targeted ducks in the central region compared to the north and south regions (Table 1-2).

Looking at differences in participation by research strata, a smaller proportion of hunters from the crane sample hunted for ducks compared to hunters from statewide and pictorial samples (Table 1-1). A much larger proportion of hunters from the crane sample targeted Canada Geese during both early and regular seasons, other geese, and sandhill cranes, compared to hunters from the statewide and pictorial samples.

**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 11.0 (Table 1-4). Hunters reported an average of 6.4 Canada Geese during the early September season, and 4.3 during the regular season. For all Canada Goose seasons combined, goose hunters bagged a total of 6.9 Canada Geese for the year. On average, hunters harvested 1.6 "other" geese and 0.4 sandhill cranes.

Results of ANOVA indicate that, on average, hunters residing in the metropolitan region, shot significantly fewer Canada Geese during the regular season and in total (Table 1-4). Based on the average

harvest estimates (Table 1-4) and the estimated hunters participating in different hunts (Table 1-3), the estimated statewide harvests and harvest by region are reported in Table 1-5.

**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 (6.8 days) than during the week (4.1 days) (Table 1-6). Hunters from the crane sample hunted a significantly greater number of weekdays and total days compared to hunters from the statewide and pictorial samples.

**Hunting Opening Saturday**

Approximately two-thirds of waterfowl hunters statewide hunted opening Saturday (64%) during the 2017 duck season (Tables 1-7, 1-8). There was no significant difference by region of residence or study strata in participation in hunting on the opening Saturday (Table 1-7). However, a smaller proportion of individuals hunting in the northern region hunted during opening weekend (Table 1-8).
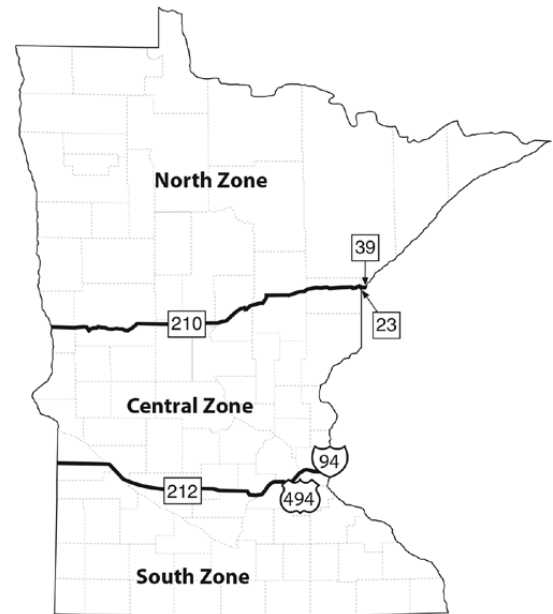
**Zones Hunted**

Respondents were asked to indicate which zones they hunted in during the season (see map) (Table 1-9). About 4 in 10 (39%) hunted only in the Central Duck Zone, with 26% hunting only in the North Duck Zone, and 19% hunting only in the South Duck Zone. About 8% of respondents hunted in both the North and Central Duck Zones, and about 6% hunted in both the Central and South Duck Zones. Less than 5% hunted in both the North and South Duck Zones or in all three zones.

Respondents were asked to indicate the number of days they hunted in each of the zones (see map) (Tables 1-10). Statewide, hunters hunted the most days in the Central Zone (M = 4.7) with fewer days of hunting in the North Zone (M = 2.5) and the South Zone (M = 2.4). Nearly half of respondents (47%) hunted most often in the Central Duck Zone, with 26% hunting most often in the North Zone, and 22% hunting most often in the South Zone (Table 1-11).

**Hunting Privately Owned Versus Public Access Land**

Respondents were asked if they had hunted mostly on privately owned areas, mostly on public access areas, or public and private about the same, during the 2017 season (Table 1-12). More respondents (44%) hunted mostly on privately owned areas, compared to 39% who hunted mostly on public access areas, and 18% who hunted public and private areas about the same.

**Hunting Techniques Used**

Respondents were asked how much they used a variety of hunting techniques for targeting ducks and geese during the 2017 season. Means for all activities are shown in Table 1-13. On average, hunters reported using duck/goose calls and decoying birds over water as the techniques used most often for targeting both ducks and geese. Frequencies for each technique for ducks are presented in Tables 1-14 to

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# Section 1: Experiences During the 2017 Waterfowl Hunt

1-24, and frequencies for each technique for geese are presented in Tables 1-25 to 1-35. There were few significant differences by region of residence in hunting techniques employed. However, there was greater use of decoying of geese over land by residents from the north region, while this technique was less frequently used by residents from the metro area (Table 1-27). There were more substantive differences in use of different techniques based on study strata. Hunters from the crane sample reported less decoying birds over water (Tables 1-15, 1-26) and more decoying birds over land (Tables 1-16, 1-27). They also employed more pass shooting (Table 1-25) and calls (Table 1-33) for geese. Hunters from the pictorial sample reported increased hunting for ducks with a retrieving dog, while crane hunters used dogs somewhat less (Table 1-23).

## Problems Encountered

Respondents were asked how frequently they encountered a variety of potential problems during the 2017 season. Means for all activities are shown in Table 1-36. On average, shifting migration routes, waterfowl concentrating on fewer areas, waterfowl arriving after the season is closed, and waterfowl numbers on opening weekend were the highest rated problems. Frequencies for each potential problem are presented in Tables 1-37 to 1-46.

# Section 1: Experiences During the 2017 Waterfowl Hunt

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

| Region of residence | %Who actually hunted in 2017 | % of hunters[1] indicating they hunted in Minnesota in 2017 | | | | |
|---|---|---|---|---|---|---|
| | | Ducks | Canada Geese Early September | Canada Geese Regular Season | Other Geese | Sandhill cranes |
| Statewide[2] | 87.3% | 93.9% | 35.3% | 71.5% | 4.4% | 1.6% |
| CENTRAL | 88.0% | 96.8% | 38.8% | 77.6% | 3.2% | 1.0% |
| METRO | 86.1% | 94.3% | 26.9% | 67.1% | 4.3% | 1.5% |
| NORTH | 86.9% | 91.0% | 39.4% | 69.0% | 5.9% | 3.6% |
| SOUTH | 88.8% | 92.4% | 39.2% | 72.5% | 4.8% | 0.3% |
| | $\chi^2=1.585$ n.s. | $\chi^2=11.032^*$ V=0.088 | $\chi^2=16.831^{**}$ V=0.112 | $\chi^2=10.466^*$ V=0.087 | $\chi^2=2.767$ n.s. | $\chi^2=12.627^{**}$ V=0.099 |
| CRANE | 92.2% | 83.4% | 64.4% | 84.1% | 17.5% | 65.1% |
| PICTORAL | 84.6% | 95.0% | 30.8% | 70.8% | 6.3% | 0.3% |
| | $\chi^2=11.177^{**}$ V=0.068 | $\chi^2=48.830^{***}$ V=0.152 | $\chi^2=110.049^{***}$ V=0.234 | $\chi^2=24.340^{***}$ V=0.109 | $\chi^2=68.218^{***}$ V=0.190 | $\chi^2=1044.560^{***}$ V=0.734 |

[1] % for species reflects only % of respondents that actually hunted waterfowl during 2017.
[2] The first row of statistical tests compare regions from the statewide sample, and the second row compare statewide to crane and pictoral samples.
[3] A stratified sample based on region of residence was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

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

| Area most often hunted | % of hunters[1] indicating they hunted in Minnesota in 2017 | | | | |
|---|---|---|---|---|---|
| | Ducks | Canada Geese Early September | Canada Geese Regular Season | Other geese | Sandhill cranes |
| Statewide[2] | 93.9% | 35.3% | 71.5% | 4.4% | 1.6% |
| Central [3] | 95.6% | 34.1% | 73.6% | 4.1% | 0.8% |
| North | 92.0% | 35.0% | 66.4% | 5.9% | 4.3% |
| South | 93.4% | 35.6% | 70.6% | 3.2% | 0.8% |
| | $\chi^2=6.051^*$ V=0.067 | $\chi^2=0.224$ n.s. | $\chi^2=5.765$ n.s. | $\chi^2=2.917$ n.s. | $\chi^2=22.972^{***}$ V=0.137 |
| CRANE | 83.4% | 64.4% | 84.1% | 17.5% | 65.1% |
| PICTORAL | 95.0% | 30.8% | 70.8% | 6.3% | 0.3% |
| | $\chi^2=48.830^{***}$ V=0.152 | $\chi^2=110.049^{***}$ V=0.234 | $\chi^2=24.340^{***}$ V=0.109 | $\chi^2=68.218^{***}$ V=0.190 | $\chi^2=1044.560^{***}$ V=0.734 |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[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] The regional data includes only respondents for the statewide sample.
n.s. = not significant, $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

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

| Region of residence | N | Actually hunted in 2017 | Ducks | Canada Geese Early September | Canada Geese Regular Season | Other geese | Sandhill cranes |
|---|---|---|---|---|---|---|---|
| Statewide | 81420[1,2] | 71080 | 66744 | 25091 | 50822 | 3128 | 1137 |
| CENTRAL | 22993 | 20234 | 19586 | 7851 | 15701 | 647 | 202 |
| METRO | 26207 | 22564 | 21278 | 6070 | 15141 | 970 | 338 |
| NORTH | 17704 | 15385 | 14000 | 6062 | 10615 | 908 | 554 |
| SOUTH | 14516 | 12890 | 11911 | 5053 | 9345 | 619 | 39 |
|  |  |  |  |  |  |  |  |
| CRANE | 1073 | 989 | 825 | 637 | 832 | 173 | 644 |
| PICTORAL | 9121 | 7716 | 7331 | 2377 | 5463 | 486 | 23 |

[1] Source: DNR license database
[2] The statewide total is not equal to the total number of waterfowl stamps sold. The number reflects the sample population for the study, which excluded nonresident stamp buyers and individuals less than 18 years of age. This number reflects the customer count rather than the stamp count. Customers can purchase more than one stamp.

**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 2017 per hunter for that specific season | | | | | |
|---|---|---|---|---|---|---|
|  | Ducks | Canada Geese Early September | Canada Geese Regular Season | Total Canada Geese All Seasons[2] | Other Geese | Sandhill cranes |
| Statewide[3] | 11.0 | 6.4 | 4.3 | 6.9 | 1.6 | 0.4 |
| CENTRAL | 11.1 | 7.3 | 4.4 | 7.6 | 3.2 | 0.6 |
| METRO | 9.7 | 4.7 | 3.3 | 4.8 | 0.4 | 0.2 |
| NORTH | 12.0 | 7.6 | 6.2 | 9.3 | 1.3 | 0.7 |
| SOUTH | 11.8 | 5.8 | 3.8 | 6.3 | 2.4 | 0.0 |
|  | $F= 1.9$ n.s. | $F=2.2$ n.s. | $F=2.9^*$ | $F=3.7^*$ | $F=0.9$ n.s. | $F=1.7$ n.s. |
| CRANE | 13.6 | 13.3 | 6.9 | 15.3 | 1.3 | 0.6 |
| PICTORAL | 12.2 | 8.6 | 4.3 | 7.3 | 3.1 | 0.0 |
|  | $F= 4.0^*$ | $F=8.0^{***}$ | $F=5.2^{**}$ | $F=17.8^{***}$ | $F=0.6$ n.s. | $F=0.7$ n.s. |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] Total number of Canada Geese bagged was not asked directly on the survey. This number was calculated as a sum of the number of Canada geese bagged in all seasons, including hunters who hunted in one to three of the possible seasons for Canada Geese.
[3] A stratified sample based on region of residence was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, $^*p < 0.05$, $^{**}p< 0.01$, $^{***}p< 0.001$

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

| Region of residence | Ducks | Canada Geese Early September | Canada Geese Regular Season | Other geese | Sandhill cranes |
|---|---|---|---|---|---|
| Statewide | 734182 | 160583 | 218534 | 5004 | 455 |
| CENTRAL | 217409 | 57310 | 69086 | 2072 | 121 |
| METRO | 206397 | 28528 | 49964 | 388 | 68 |
| NORTH | 168002 | 46068 | 65816 | 1180 | 388 |
| SOUTH | 140545 | 29307 | 35513 | 1485 | 0 |
| | | | | | |
| CRANE | 11221 | 8474 | 5741 | 225 | 386 |
| PICTORAL | 89433 | 20439 | 23492 | 1507 | 0 |

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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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

| Area most often hunted | Mean number of days hunted during 2017 waterfowl season | | |
|---|---|---|---|
| | Weekends/Holidays | Weekdays (Monday-Friday) | Total |
| Statewide[2] | 6.8 | 4.1 | 10.0 |
| Central [3] | 6.8 | 4.2 | 10.1 |
| North | 6.3 | 3.8 | 9.3 |
| South | 7.0 | 4.0 | 10.3 |
| | F=1.9 n.s. | F=0.5 n.s. | F=1.4 n.s. |
| CRANE | 7.4 | 6.6 | 13.0 |
| PICTORAL | 6.6 | 4.2 | 10.0 |
| | F=1.9 n.s. | F=17.6*** | F=12.5*** |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[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] The regional data includes only respondents for the statewide sample.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 1-7: Participation in hunting on opening Saturday by region of residence**

| Region of residence | % hunting<br>Opening Saturday (Sept. 23, 2017) |
|---|---|
| Statewide[2] | 64.0% |
| CENTRAL | 66.0% |
| METRO | 66.3% |
| NORTH | 59.8% |
| SOUTH | 61.7% |
| | $\chi^2$=4.661 n.s. |
| CRANE | 59.0% |
| PICTORAL | 66.3% |
| | $\chi^2$=4.420 n.s. |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 1-8: Participation in hunting on opening Saturday by region most often hunted**

| Area most often hunted | % hunting opening weekend in Minnesota<br>Opening Saturday (Sept. 23, 2017) |
|---|---|
| Statewide[2] | 64.0% |
| Central [3] | 68.3% |
| North | 58.6% |
| South | 60.7% |
| | $\chi^2$=11.316** V=0.092 |
| CRANE | 59.0% |
| PICTORAL | 66.3% |
| | $\chi^2$=4.420 n.s. |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[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] The regional data includes only respondents for the statewide sample.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 1-9: Hunting North and South Zones during the 2017 Minnesota Season**

| Residence of hunter | % of hunters… | | | | | | |
|---|---|---|---|---|---|---|---|
| | Hunted only in the North duck zone | Hunted only in the Central duck zone | Hunted only in the South duck zone | Hunted in the North & Central Zones | Hunted in the Central & South Zones | Hunted in the North and South Zones | Hunted in all three zones |
| Statewide[2] | 26.0% | 38.6% | 18.9% | 8.2% | 5.5% | 1.7% | 1.2% |
| CENTRAL | 9.6% | 72.5% | 0.6% | 13.6% | 2.6% | 0.3% | 0.9% |
| METRO | 20.7% | 41.7% | 13.4% | 7.8% | 11.0% | 3.0% | 2.4% |
| NORTH | 71.5% | 17.4% | 1.2% | 8.1% | 0.3% | 0.9% | 0.6% |
| SOUTH | 7.3% | 4.6% | 78.2% | 0.5% | 6.5% | 2.7% | 0.3% |
| | $\chi^2$=482.543*** V = 0.580 | $\chi^2$=424.318*** V = 0.544 | $\chi^2$=817.850*** V = 0.756 | $\chi^2$=45.331*** V = 0.178 | $\chi^2$=47.974*** V = 0.183 | $\chi^2$=10.926* V = 0.087 | $\chi^2$=9.747* V = 0.083 |
| CRANE | 76.8% | 5.2% | 1.6% | 12.9% | 0.5% | 2.5% | 0.5% |
| PICTORAL | 26.9% | 40.5% | 15.1% | 7.2% | 5.8% | 2.9% | 1.4% |
| | $\chi^2$=342.936*** V = 0.400 | $\chi^2$=155.863*** V = 0.270 | $\chi^2$=66.907*** V = 0.177 | $\chi^2$=9.200* V = 0.066 | $\chi^2$=17.065*** V = 0.089 | $\chi^2$=2.556 n.s. | $\chi^2$=1.469 n.s. |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] A stratified sample based on region of residence was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 1-10: Regional distribution of hunting across Minnesota**

| Residence of hunter | Mean number of days hunting by region | | |
|---|---|---|---|
| | North | Central | South |
| Statewide[2] | 2.5 | 4.7 | 2.4 |
| CENTRAL | 1.1 | 9.1 | .2 |
| METRO | 1.7 | 5.1 | 2.3 |
| NORTH | 7.5 | 2.0 | .1 |
| SOUTH | .4 | .6 | 8.9 |
| | F=142.801*** | F=132.790*** | F=195.385*** |
| CRANE | 9.4 | 1.7 | .5 |
| PICTORAL | 2.7 | 4.8 | 2.1 |
| | F=143.542*** | F=28.527*** | F=15.554*** |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] A stratified sample based on region of residence was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

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**Table 1-11: Regional distribution of hunting across Minnesota**

| Residence of hunter | % of hunters indicating the region they MOST OFTEN hunted (i.e. greater than or equal to the number of days in other regions) in Minnesota in 2017 | | |
|---|---|---|---|
| | North | Central | South |
| Statewide[2] | 25.6% | 46.6% | 22.4% |
| CENTRAL | 8.7% | 84.6% | 1.4% |
| METRO | 22.0% | 52.4% | 20.2% |
| NORTH | 72.4% | 20.9% | 1.5% |
| SOUTH | 3.8% | 7.0% | 83.8% |
| | $\chi^2 = 534.137^{***}$ V = 0.611 | $\chi^2 = 526.702^{***}$ V = 0.606 | $\chi^2 = 832.040^{***}$ V = 0.762 |
| CRANE | 76.4% | 11.8% | 3.0% |
| PICTORAL | 27.7% | 46.8% | 18.8% |
| | $\chi^2 = 340.042^{***}$ V = 0.398 | $\chi^2 = 152.744^{***}$ V = 0.267 | $\chi^2 = 72.349^{***}$ V = 0.184 |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] A stratified sample based on region of residence was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 1-12: Hunting private versus public access areas.**

| Residence of hunter | n | % of hunters indicating that during 2017 they hunted | | |
|---|---|---|---|---|
| | | % Mostly on privately owned areas | % Mostly on public access areas[2] | % Public and private about the same |
| Statewide[3] | 1379 | 43.8% | 38.5% | 17.7% |
| CENTRAL | 333 | 50.2% | 30.3% | 19.5% |
| METRO | 358 | 42.2% | 44.4% | 13.4% |
| NORTH | 330 | 38.2% | 43.3% | 18.5% |
| SOUTH | 360 | 43.1% | 35.6% | 21.4% |
| | | $\chi^2=24.4^{***}$, V=0.094 | | |
| CRANE | 352 | 44.9% | 34.4% | 20.7% |
| PICTORAL | 340 | 43.8% | 42.1% | 14.1% |
| | | $\chi^2 = 7.066$ n.s. | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] Public access areas listed included Wildlife Management Areas, Waterfowl Production Areas, public access waters.
[3] A stratified sample based on region of residence was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 1-13: Mean statewide results: Use of techniques to target ducks and geese.**

| Item | Duck Mean[2,4] | Goose Mean[3,4] |
|---|---|---|
| Pass shooting. | 2.2 | 2.0 |
| Decoying birds over water. | 3.8 | 2.7 |
| Decoying birds over land. | 1.7 | 2.5 |
| Jump shooting on ponds or streams. | 1.7 | 1.3 |
| Sneaking on birds in fields. | 1.1 | 1.2 |
| Hunting from NON-motorized watercraft. | 1.9 | 1.6 |
| Hunting from motorized watercraft <u>with</u> a mud motor. | 1.3 | 1.2 |
| Hunting from motorized watercraft <u>without</u> a mud motor. | 1.8 | 1.5 |
| Using duck/ goose calls. | 4.1 | 3.7 |
| Hunting with a retrieving dog. | 2.9 | 2.5 |
| Hunting with a paid guide. | 1.0 | 1.1 |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2]Grand mean=2.1, F=27290.1***, $\eta^2$=0.420. Mean based on scale: 1=never, 2=occasionally, 3=About half the time I hunted, 4=often, 5=every time I hunted.
[3]Grand mean=1.9, F=15206.7***, $\eta^2$=0.308. Mean based on scale: 1=never, 2=occasionally, 3=About half the time I hunted, 4=often, 5=every time I hunted.
[4] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.

**Table 1-14: Use of techniques to target ducks: Pass shooting.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
| Statewide[3] | 1266 | 41.7% | 24.7% | 12.9% | 9.1% | 11.6% | 2.2 |
| CENTRAL | 313 | 40.9% | 24.6% | 14.1% | 8.3% | 12.1% | 2.3 |
| METRO | 330 | 42.4% | 26.4% | 9.7% | 9.7% | 11.8% | 2.2 |
| NORTH | 297 | 42.4% | 24.2% | 13.8% | 8.1% | 11.4% | 2.2 |
| SOUTH | 323 | 40.9% | 22.6% | 15.5% | 10.5% | 10.5% | 2.3 |
| | | $\chi^2$ = 7.5 n.s. | | | | | |
| CRANE | 299 | 40.1% | 31.1% | 11.0% | 7.0% | 10.7% | 2.2 |
| PICTORAL | 305 | 39.2% | 29.7% | 9.5% | 14.4% | 7.2% | 2.2 |
| | | $\chi^2$ = 22.359** V = 0.077 | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 0.1 n.s. for one-way ANOVA comparing regional means. F = 0.4 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 1-15: Use of techniques to target ducks: Decoying birds over water.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | **Never** | **Occasionally** | **About half the time I hunted** | **Often** | **Every time I hunted** | |
| Statewide[3] | 1311 | 11.7% | 8.0% | 13.2% | 23.7% | 43.4% | 3.8 |
| CENTRAL | 327 | 11.0% | 8.6% | 13.1% | 26.9% | 40.4% | 3.8 |
| METRO | 339 | 10.3% | 7.1% | 13.3% | 23.6% | 45.7% | 3.9 |
| NORTH | 311 | 13.2% | 8.0% | 10.9% | 21.5% | 46.3% | 3.8 |
| SOUTH | 330 | 13.3% | 8.8% | 15.8% | 21.2% | 40.9% | 3.7 |
| | | $\chi^2 = 10.5$ n.s. | | | | | |
| CRANE | 310 | 28.4% | 15.5% | 10.6% | 20.3% | 25.2% | 3.0 |
| PICTORAL | 319 | 9.4% | 6.0% | 7.2% | 32.0% | 45.5% | 4.0 |
| | | $\chi^2 = 115.732$*** V = 0.173 | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 1.2 n.s. for one-way ANOVA comparing regional means. F = 50.7*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 1-16: Use of techniques to target ducks: Decoying birds over land.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | **Never** | **Occasionally** | **About half the time I hunted** | **Often** | **Every time I hunted** | |
| Statewide[3] | 1258 | 67.0% | 15.0% | 5.7% | 6.9% | 5.4% | 1.7 |
| CENTRAL | 314 | 65.0% | 17.2% | 6.1% | 6.1% | 5.7% | 1.7 |
| METRO | 331 | 70.7% | 15.1% | 4.8% | 6.0% | 3.3% | 1.6 |
| NORTH | 288 | 69.4% | 11.8% | 4.5% | 6.6% | 7.6% | 1.7 |
| SOUTH | 320 | 60.9% | 14.7% | 8.1% | 10.3% | 5.9% | 1.9 |
| | | $\chi^2 = 21.0$ n.s. | | | | | |
| CRANE | 303 | 47.4% | 20.9% | 7.6% | 14.2% | 9.9% | 2.2 |
| PICTORAL | 304 | 70.6% | 16.2% | 6.3% | 5.3% | 1.7% | 1.5 |
| | | $\chi^2 = 62.077$*** V = 0.129 | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 3.3* for one-way ANOVA comparing regional means. F = 28.1*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 1-17: Use of techniques to target ducks: Jump shooting on ponds or streams.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1304 | 58.3% | 26.0% | 7.1% | 4.2% | 4.5% | 1.7 |
| CENTRAL | 324 | 55.6% | 29.9% | 7.4% | 3.7% | 3.4% | 1.7 |
| METRO | 341 | 63.3% | 23.5% | 5.9% | 3.2% | 4.1% | 1.6 |
| NORTH | 303 | 55.4% | 26.7% | 7.9% | 4.6% | 5.3% | 1.8 |
| SOUTH | 333 | 57.1% | 23.1% | 7.8% | 6.0% | 6.0% | 1.8 |
| | | $\chi^2$ = 13.8 n.s. | | | | | |
| CRANE | 311 | 56.9% | 28.9% | 4.8% | 5.8% | 3.5% | 1.7 |
| PICTORAL | 315 | 58.1% | 26.7% | 5.7% | 6.3% | 3.2% | 1.7 |
| | | $\chi^2$ = 8.023 n.s. | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 2.2 n.s. for one-way ANOVA comparing regional means. F = 0.2 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p< 0.01$, ***$p< 0.001$

**Table 1-18: Use of techniques to target ducks: Sneaking on birds in fields.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1287 | 91.9% | 6.2% | 1.2% | 0.3% | 0.4% | 1.1 |
| CENTRAL | 317 | 90.5% | 7.6% | 1.6% | 0.3% | 0.0% | 1.1 |
| METRO | 340 | 94.1% | 4.4% | 0.9% | 0.0% | 0.6% | 1.1 |
| NORTH | 300 | 90.7% | 7.3% | 1.3% | 0.3% | 0.3% | 1.1 |
| SOUTH | 326 | 91.7% | 6.1% | 0.9% | 0.6% | 0.6% | 1.1 |
| | | $\chi^2$ = 8.5 n.s. | | | | | |
| CRANE | 307 | 87.9% | 9.1% | 1.6% | 0.3% | 1.0% | 1.2 |
| PICTORAL | 313 | 92.7% | 5.4% | 0.6% | 0.3% | 1.0% | 1.1 |
| | | $\chi^2$ = 8.306 n.s. | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 0.6 n.s. for one-way ANOVA comparing regional means. F = 2.5 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p< 0.01$, ***$p< 0.001$

# Section 1: Experiences During the 2017 Waterfowl Hunt

**Table 1-19: Use of techniques to target ducks: Hunting from NON-motorized watercraft.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
| Statewide[3] | 1302 | 60.2% | 14.6% | 6.2% | 8.4% | 10.7% | 1.9 |
| CENTRAL | 324 | 57.7% | 16.0% | 6.5% | 9.6% | 10.2% | 2.0 |
| METRO | 340 | 60.3% | 11.5% | 7.4% | 8.8% | 12.1% | 2.0 |
| NORTH | 304 | 57.9% | 17.4% | 5.6% | 8.2% | 10.9% | 2.0 |
| SOUTH | 330 | 66.7% | 14.2% | 4.2% | 5.8% | 9.1% | 1.8 |
| | | $\chi^2 = 15.0$ n.s. | | | | | |
| CRANE | 308 | 62.0% | 14.6% | 8.4% | 8.4% | 6.5% | 1.8 |
| PICTORAL | 315 | 53.3% | 18.4% | 5.7% | 9.8% | 12.7% | 2.1 |
| | | $\chi^2 = 14.314$ n.s. | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] $F = 2.2$ n.s. for one-way ANOVA comparing regional means. $F = 2.9$ n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$

**Table 1-20: Use of techniques to target ducks: Hunting from motorized watercraft with a mud motor.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
| Statewide[3] | 1293 | 85.6% | 5.0% | 3.1% | 3.0% | 3.3% | 1.3 |
| CENTRAL | 320 | 88.8% | 5.3% | 2.5% | 2.2% | 1.3% | 1.2 |
| METRO | 338 | 85.5% | 4.1% | 4.4% | 2.7% | 3.3% | 1.3 |
| NORTH | 303 | 85.8% | 5.6% | 1.7% | 3.0% | 4.0% | 1.3 |
| SOUTH | 328 | 80.2% | 5.2% | 3.7% | 5.2% | 5.8% | 1.5 |
| | | $\chi^2 = 21.8^*$ V =0.075 | | | | | |
| CRANE | 308 | 90.6% | 4.6% | 2.0% | 2.0% | 1.0% | 1.2 |
| PICTORAL | 313 | 90.1% | 4.5% | 0.3% | 2.5% | 2.5% | 1.2 |
| | | $\chi^2 = 15.689^*$ V = 0.064 | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] $F = 5.2^{**}$ for one-way ANOVA comparing regional means. $F = 4.9^{**}$ for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$

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**Table 1-21: Use of techniques to target ducks: Hunting from motorized watercraft without a mud motor.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1299 | 69.6% | 9.3% | 5.4% | 6.4% | 9.4% | 1.8 |
| CENTRAL | 321 | 72.3% | 10.6% | 5.9% | 5.0% | 6.2% | 1.6 |
| METRO | 342 | 68.1% | 8.2% | 5.8% | 7.6% | 10.2% | 1.8 |
| NORTH | 305 | 67.5% | 8.9% | 3.0% | 8.2% | 12.5% | 1.9 |
| SOUTH | 326 | 70.2% | 9.5% | 6.4% | 4.3% | 9.5% | 1.7 |
| | | $\chi^2 = 18.3$ n.s. | | | | | |
| CRANE | 307 | 71.0% | 10.4% | 6.5% | 5.9% | 6.2% | 1.7 |
| PICTORAL | 314 | 65.8% | 8.9% | 6.7% | 7.7% | 10.9% | 1.9 |
| | | $\chi^2 = 7.147$ n.s. | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] $F = 2.5$ n.s. for one-way ANOVA comparing regional means. $F = 2.4$ n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 1-22: Use of techniques to target ducks: Using duck/goose calls.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1317 | 11.7% | 7.0% | 6.2% | 12.4% | 62.6% | 4.1 |
| CENTRAL | 327 | 12.2% | 8.0% | 7.0% | 9.5% | 63.3% | 4.0 |
| METRO | 343 | 11.4% | 6.7% | 5.5% | 12.2% | 64.1% | 4.1 |
| NORTH | 310 | 12.9% | 7.4% | 7.1% | 13.9% | 58.7% | 4.0 |
| SOUTH | 333 | 10.2% | 5.7% | 5.1% | 15.6% | 63.4% | 4.2 |
| | | $\chi^2 = 10.3$ n.s. | | | | | |
| CRANE | 314 | 16.0% | 7.3% | 4.5% | 16.6% | 55.6% | 3.9 |
| PICTORAL | 322 | 9.6% | 7.1% | 6.5% | 14.5% | 62.3% | 4.1 |
| | | $\chi^2 = 13.050$ n.s. | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] $F = 1.0$ n.s. for one-way ANOVA comparing regional means. $F = 2.9$ n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

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**Table 1-23: Use of techniques to target ducks: Hunting with a retrieving dog.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | **Never** | **Occasionally** | **About half the time I hunted** | **Often** | **Every time I hunted** | |
| Statewide[3] | 1314 | 38.0% | 10.0% | 7.7% | 9.0% | 35.3% | 2.9 |
| CENTRAL | 327 | 34.9% | 13.1% | 8.6% | 9.5% | 33.9% | 2.9 |
| METRO | 342 | 42.7% | 7.9% | 5.3% | 8.8% | 35.4% | 2.9 |
| NORTH | 308 | 37.3% | 9.7% | 9.4% | 8.4% | 35.1% | 2.9 |
| SOUTH | 334 | 35.6% | 8.7% | 8.7% | 9.3% | 37.7% | 3.0 |
| | | $\chi^2 = 14.0$ n.s. | | | | | |
| CRANE | 310 | 47.2% | 9.7% | 9.1% | 7.4% | 26.5% | 2.6 |
| PICTORAL | 318 | 33.6% | 10.1% | 5.7% | 7.2% | 43.4% | 3.2 |
| | | $\chi^2 = 24.548^{**}$ V = 0.080 | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 0.6 n.s. for one-way ANOVA comparing regional means. F = 9.6*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 1-24: Use of techniques to target ducks: Hunting with a paid guide.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | **Never** | **Occasionally** | **About half the time I hunted** | **Often** | **Every time I hunted** | |
| Statewide[3] | 1298 | 98.1% | 0.8% | 0.4% | 0.1% | 0.6% | 1.0 |
| CENTRAL | 322 | 98.1% | 1.2% | 0.3% | 0.3% | 0.0% | 1.0 |
| METRO | 340 | 97.4% | 1.2% | 0.6% | 0.0% | 0.9% | 1.1 |
| NORTH | 305 | 99.0% | 0.0% | 0.0% | 0.0% | 1.0% | 1.0 |
| SOUTH | 327 | 98.5% | 0.3% | 0.6% | 0.0% | 0.6% | 1.0 |
| | | $\chi^2 = 13.5$ n.s. | | | | | |
| CRANE | 310 | 98.4% | 1.3% | 0.0% | 0.0% | 0.3% | 1.0 |
| PICTORAL | 315 | 98.1% | 1.0% | 0.6% | 0.0% | 0.3% | 1.0 |
| | | $\chi^2 = 3.760$ n.s. | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 0.4 n.s. for one-way ANOVA comparing regional means. F = 0.5 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 1-25: Use of techniques to target geese: Pass shooting.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | **Never** | **Occasionally** | **About half the time I hunted** | **Often** | **Every time I hunted** | |
| Statewide[3] | 1128 | 55.0% | 19.9% | 8.6% | 5.2% | 11.3% | 2.0 |
| CENTRAL | 285 | 54.7% | 16.8% | 11.2% | 5.3% | 11.9% | 2.0 |
| METRO | 288 | 54.9% | 23.3% | 5.2% | 4.5% | 12.2% | 2.0 |
| NORTH | 263 | 56.7% | 20.2% | 8.7% | 4.9% | 9.5% | 1.9 |
| SOUTH | 291 | 53.6% | 18.9% | 10.0% | 6.5% | 11.0% | 2.0 |
| | | $\chi^2$ = 12.3 n.s. | | | | | |
| CRANE | 311 | 39.2% | 27.7% | 10.0% | 9.0% | 14.1% | 2.3 |
| PICTORAL | 269 | 52.4% | 23.4% | 8.6% | 8.2% | 7.4% | 1.9 |
| | | $\chi^2$ = 32.086*** V = 0.097 | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 0.5 n.s. for one-way ANOVA comparing regional means. F = 8.1*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

**Table 1-26: Use of techniques to target geese: Decoying birds over water.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | **Never** | **Occasionally** | **About half the time I hunted** | **Often** | **Every time I hunted** | |
| Statewide[3] | 1161 | 39.2% | 14.3% | 11.0% | 11.3% | 24.1% | 2.7 |
| CENTRAL | 286 | 33.6% | 17.1% | 13.6% | 13.6% | 22.0% | 2.7 |
| METRO | 312 | 42.3% | 10.9% | 9.0% | 11.2% | 26.6% | 2.7 |
| NORTH | 257 | 44.0% | 15.2% | 9.7% | 8.6% | 22.6% | 2.5 |
| SOUTH | 302 | 37.7% | 14.9% | 11.9% | 10.9% | 24.5% | 2.7 |
| | | $\chi^2$ = 17.3 n.s. | | | | | |
| CRANE | 301 | 48.3% | 21.0% | 10.7% | 10.0% | 10.0% | 2.1 |
| PICTORAL | 279 | 32.1% | 15.9% | 8.3% | 14.4% | 29.2% | 2.9 |
| | | $\chi^2$ = 48.529*** V = 0.118 | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 1.0 n.s. for one-way ANOVA comparing regional means. F = 20.5*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p < 0.01, ***p < 0.001

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**Table 1-27: Use of techniques to target geese: Decoying birds over land.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | **Never** | **Occasionally** | **About half the time I hunted** | **Often** | **Every time I hunted** | |
| Statewide[3] | 1157 | 47.5% | 11.0% | 8.4% | 12.4% | 20.8% | 2.5 |
| CENTRAL | 287 | 43.2% | 10.8% | 12.9% | 13.2% | 19.9% | 2.6 |
| METRO | 295 | 55.9% | 12.2% | 4.4% | 10.2% | 17.3% | 2.2 |
| NORTH | 276 | 42.4% | 8.3% | 8.3% | 12.3% | 28.6% | 2.8 |
| SOUTH | 300 | 45.7% | 12.3% | 8.0% | 15.0% | 19.0% | 2.5 |
| | | $\chi^2 = 35.6^{***}$ | | | | | |
| CRANE | 316 | 25.2% | 8.2% | 9.1% | 25.2% | 32.2% | 3.3 |
| PICTORAL | 277 | 55.2% | 10.1% | 9.0% | 11.6% | 14.1% | 2.2 |
| | | $\chi^2 = 91.661^{***}$ V = 0.162 | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 5.7** for one-way ANOVA comparing regional means. F = 42.2*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 1-28: Use of techniques to target geese: Jump shooting on ponds or streams.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | **Never** | **Occasionally** | **About half the time I hunted** | **Often** | **Every time I hunted** | |
| Statewide[3] | 1128 | 81.1% | 12.5% | 2.8% | 1.3% | 2.3% | 1.3 |
| CENTRAL | 282 | 80.1% | 15.6% | 2.8% | 0.7% | 0.7% | 1.3 |
| METRO | 291 | 85.2% | 10.0% | 2.1% | 0.7% | 2.1% | 1.2 |
| NORTH | 263 | 79.1% | 12.2% | 3.4% | 2.7% | 2.7% | 1.4 |
| SOUTH | 291 | 77.7% | 12.4% | 3.4% | 1.7% | 4.8% | 1.4 |
| | | $\chi^2 = 21.0$ n.s. | | | | | |
| CRANE | 306 | 78.8% | 15.7% | 2.0% | 1.6% | 2.0% | 1.3 |
| PICTORAL | 274 | 79.6% | 14.6% | 1.5% | 3.3% | 1.1% | 1.3 |
| | | $\chi^2 = 11.006$ n.s. | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 3.6* for one-way ANOVA comparing regional means. F = 0.0 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 1-29: Use of techniques to target geese: Sneaking on birds in fields.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
| Statewide[3] | 1130 | 86.6% | 9.3% | 2.5% | 1.0% | 0.6% | 1.2 |
| CENTRAL | 285 | 84.2% | 11.6% | 2.5% | 1.1% | 0.7% | 1.2 |
| METRO | 288 | 91.0% | 5.9% | 2.1% | 0.7% | 0.3% | 1.1 |
| NORTH | 265 | 86.0% | 9.4% | 3.8% | 0.4% | 0.4% | 1.2 |
| SOUTH | 291 | 83.5% | 11.3% | 2.1% | 2.1% | 1.0% | 1.3 |
| | | $\chi^2 = 15.1$ n.s. | | | | | |
| CRANE | 303 | 83.2% | 11.9% | 3.3% | 1.3% | 0.3% | 1.2 |
| PICTORAL | 273 | 89.0% | 9.2% | 1.1% | 0.0% | 0.7% | 1.1 |
| | | $\chi^2 = 8.960$ n.s. | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] $F = 2.2$ n.s. for one-way ANOVA comparing regional means. $F = 1.9$ n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$

**Table 1-30: Use of techniques to target geese: Hunting from NON-motorized watercraft.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
| Statewide[3] | 1146 | 73.7% | 10.5% | 4.5% | 4.8% | 6.7% | 1.6 |
| CENTRAL | 285 | 70.5% | 12.3% | 4.2% | 5.3% | 7.7% | 1.7 |
| METRO | 299 | 72.6% | 9.4% | 4.7% | 5.4% | 8.0% | 1.7 |
| NORTH | 266 | 75.9% | 10.9% | 5.6% | 3.8% | 3.8% | 1.5 |
| SOUTH | 293 | 78.2% | 8.9% | 3.1% | 4.1% | 5.8% | 1.5 |
| | | $\chi^2 = 11.8$ n.s. | | | | | |
| CRANE | 306 | 77.0% | 11.5% | 3.9% | 4.3% | 3.3% | 1.5 |
| PICTORAL | 278 | 71.6% | 10.4% | 5.4% | 2.2% | 10.4% | 1.7 |
| | | $\chi^2 = 16.416^*$ V = 0.069 | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] $F = 2.2$ n.s. for one-way ANOVA comparing regional means. $F = 3.2^*$ for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$

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**Table 1-31: Use of techniques to target geese: Hunting from motorized watercraft with a mud motor.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
| Statewide[3] | 1131 | 90.2% | 4.2% | 2.3% | 1.4% | 1.9% | 1.2 |
| CENTRAL | 282 | 91.8% | 3.9% | 2.5% | 0.7% | 1.1% | 1.2 |
| METRO | 292 | 89.7% | 4.1% | 2.4% | 1.4% | 2.4% | 1.2 |
| NORTH | 261 | 91.6% | 4.6% | 1.1% | 1.1% | 1.5% | 1.2 |
| SOUTH | 296 | 86.8% | 4.4% | 3.0% | 2.7% | 3.0% | 1.3 |
| | | $\chi^2$ = 10.5 n.s. | | | | | |
| CRANE | 305 | 93.1% | 3.6% | 1.3% | 1.3% | 0.7% | 1.1 |
| PICTORAL | 275 | 94.2% | 2.9% | 1.1% | 1.1% | 0.7% | 1.1 |
| | | $\chi^2$ = 8.140 n.s. | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] $F$ = 2.6* for one-way ANOVA comparing regional means. $F$ = 3.2* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 1-32: Use of techniques to target geese: Hunting from motorized watercraft without a mud motor.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
| Statewide[3] | 1141 | 77.8% | 7.9% | 4.1% | 3.6% | 6.5% | 1.5 |
| CENTRAL | 283 | 79.5% | 8.8% | 4.9% | 1.8% | 4.9% | 1.4 |
| METRO | 297 | 75.8% | 8.4% | 3.7% | 4.7% | 7.4% | 1.6 |
| NORTH | 266 | 77.4% | 6.8% | 2.3% | 4.9% | 8.6% | 1.6 |
| SOUTH | 293 | 79.2% | 6.8% | 5.5% | 3.4% | 5.1% | 1.5 |
| | | $\chi^2$ = 14.7 n.s. | | | | | |
| CRANE | 304 | 79.9% | 8.9% | 5.9% | 2.0% | 3.3% | 1.4 |
| PICTORAL | 274 | 78.8% | 5.9% | 3.7% | 5.1% | 6.6% | 1.6 |
| | | $\chi^2$ = 12.465 n.s. | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] $F$ = 1.4 n.s. for one-way ANOVA comparing regional means. $F$ = 1.9 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

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**Table 1-33: Use of techniques to target geese: Using duck/goose calls.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1191 | 23.8% | 4.5% | 4.8% | 8.2% | 58.8% | 3.7 |
| CENTRAL | 297 | 23.6% | 4.0% | 4.4% | 7.1% | 60.9% | 3.8 |
| METRO | 312 | 24.7% | 4.8% | 3.8% | 7.1% | 59.6% | 3.7 |
| NORTH | 274 | 20.1% | 5.1% | 6.6% | 10.9% | 57.3% | 3.8 |
| SOUTH | 304 | 26.6% | 3.9% | 5.3% | 8.9% | 55.3% | 3.6 |
| | | $\chi^2 = 10.3$ n.s. | | | | | |
| CRANE | 315 | 15.2% | 4.4% | 7.0% | 14.9% | 58.4% | 4.0 |
| PICTORAL | 285 | 20.8% | 5.6% | 4.9% | 10.9% | 57.7% | 3.8 |
| | | $\chi^2 = 23.734^{**}$ V = 0.081 | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 0.7 n.s. for one-way ANOVA comparing regional means. F = 2.4 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 1-34: Use of techniques to target geese: Hunting with a retrieving dog.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
| | | Never | Occasionally | About half the time I hunted | Often | Every time I hunted | |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1172 | 50.6% | 8.2% | 6.9% | 6.9% | 27.4% | 2.5 |
| CENTRAL | 290 | 47.2% | 9.0% | 6.6% | 9.7% | 27.6% | 2.6 |
| METRO | 304 | 54.9% | 6.6% | 5.6% | 5.3% | 27.6% | 2.4 |
| NORTH | 272 | 50.7% | 9.2% | 8.1% | 6.3% | 25.7% | 2.5 |
| SOUTH | 306 | 48.4% | 8.5% | 8.2% | 6.2% | 28.8% | 2.6 |
| | | $\chi^2 = 10.8$ n.s. | | | | | |
| CRANE | 310 | 50.8% | 10.9% | 9.3% | 7.1% | 21.9% | 2.4 |
| PICTORAL | 278 | 46.4% | 8.3% | 4.0% | 6.1% | 35.3% | 2.8 |
| | | $\chi^2 = 19.053^{*}$ V = 0.074 | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 0.7 n.s. for one-way ANOVA comparing regional means. F =3.5* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 1-35: Use of techniques to target geese: Hunting with a paid guide.**

| Region of residence | n | % of hunters[1] indicating that they used the technique: | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|
| | | **Never** | **Occasionally** | **About half the time I hunted** | **Often** | **Every time I hunted** | |
| Statewide[3] | 1134 | 96.7% | 1.6% | 0.3% | 0.2% | 1.1% | 1.1 |
| CENTRAL | 282 | 97.9% | 1.8% | 0.0% | 0.4% | 0.0% | 1.0 |
| METRO | 294 | 94.9% | 1.4% | 0.7% | 0.3% | 2.7% | 1.1 |
| NORTH | 266 | 98.9% | 0.8% | 0.0% | 0.0% | 0.4% | 1.0 |
| SOUTH | 290 | 95.5% | 2.8% | 0.7% | 0.0% | 1.0% | 1.1 |
| | | $\chi^2 = 21.4^*$ V = 0.079 | | | | | |
| CRANE | 307 | 97.4% | 1.6% | 0.7% | 0.0% | 0.3% | 1.0 |
| PICTORAL | 277 | 94.9% | 1.4% | 1.1% | 0.0% | 2.5% | 1.1 |
| | | $\chi^2 = 9.480$ n.s. | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] $F = 4.5^{**}$ for one-way ANOVA comparing regional means. $F = 3.2^*$ for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

**Table 1-36: Mean statewide results: Potential problems encountered during the 2017 waterfowl season.**

| Item | Mean[2,4] |
|---|---|
| Crowding at hunting areas | 2.5 |
| Hunting pressure | 2.7 |
| Waterfowl unable to find rest areas | 2.3 |
| Shifting waterfowl migration routes | 3.4 |
| Interference from other hunters | 2.4 |
| Waterfowl arriving after the season is closed | 3.1 |
| Waterfowl concentrating on fewer areas | 3.2 |
| Waterfowl numbers on opening weekend | 3.0 |
| Finding someone to hunt with | 1.8 |
| Finding a place to hunt | 2.4 |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] Grand mean=3.0, F=7917.9***, $\eta^2$=0.154. Mean based on scale: 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.

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**Table 1-37: Potential problems encountered during the 2017 waterfowl season: Crowding at hunting areas.**

| Region of residence | n | % of hunters[1] indicating that they ___ encountered the problem: | | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|---|
| | | Never | Rarely | Sometimes | Often | Very often | Don't know | |
| Statewide[3] | 1399 | 27.9% | 19.4% | 28.7% | 12.3% | 8.4% | 3.4% | 2.5 |
| CENTRAL | 336 | 28.7% | 19.2% | 28.7% | 14.1% | 6.6% | 2.7% | 2.5 |
| METRO | 365 | 25.3% | 19.2% | 26.7% | 11.1% | 13.3% | 4.4% | 2.7 |
| NORTH | 334 | 32.0% | 21.3% | 28.4% | 12.2% | 3.7% | 2.4% | 2.3 |
| SOUTH | 366 | 26.2% | 18.0% | 32.3% | 11.9% | 8.0% | 3.6% | 2.6 |
| | | $\chi^2 = 31.5^{**}$ V = 0.087 | | | | | | |
| CRANE | 357 | 25.9% | 29.3% | 31.3% | 8.2% | 2.8% | 2.6% | 2.3 |
| PICTORAL | 338 | 32.6% | 18.1% | 27.6% | 10.7% | 8.6% | 2.4% | 2.4 |
| | | $\chi^2 = 34.9^{***}$ V = 0.091 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 4.3** for one-way ANOVA comparing means. F = 4.1* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean based on scale: 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 1-38: Potential problems encountered during the 2017 waterfowl season: Hunting pressure.**

| Region of residence | n | % of hunters[1] indicating that they ___ encountered the problem: | | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|---|
| | | Never | Rarely | Sometimes | Often | Very often | Don't know | |
| Statewide[3] | 1393 | 20.9% | 20.9% | 29.5% | 16.4% | 9.7% | 2.6% | 2.7 |
| CENTRAL | 335 | 24.0% | 17.4% | 27.3% | 21.6% | 8.1% | 1.5% | 2.7 |
| METRO | 363 | 18.4% | 23.5% | 27.7% | 12.8% | 13.7% | 3.9% | 2.8 |
| NORTH | 333 | 21.7% | 23.5% | 33.6% | 14.1% | 5.2% | 1.8% | 2.6 |
| SOUTH | 365 | 19.4% | 18.8% | 31.6% | 16.9% | 10.2% | 3.0% | 2.8 |
| | | $\chi^2 = 38.5^{**}$ V = 0.096 | | | | | | |
| CRANE | 358 | 19.6% | 28.4% | 33.2% | 11.1% | 5.4% | 2.3% | 2.5 |
| PICTORAL | 337 | 22.9% | 26.5% | 28.3% | 12.5% | 8.3% | 1.5% | 2.6 |
| | | $\chi^2 = 24.8^{**}$ V = 0.077 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 2.4 n.s. for one-way ANOVA comparing means. F = 4.5* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean based on scale: 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

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**Table 1-39: Potential problems encountered during the 2017 waterfowl season: Waterfowl unable to find rest areas.**

| Region of residence | n | % of hunters[1] indicating that they ___ encountered the problem: | | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|---|
| | | **Never** | **Rarely** | **Sometimes** | **Often** | **Very often** | **Don't know** | |
| Statewide[3] | 1380 | 26.2% | 29.8% | 21.3% | 10.1% | 5.3% | 7.4% | 2.3 |
| CENTRAL | 332 | 25.5% | 25.8% | 22.7% | 12.1% | 4.8% | 9.1% | 2.4 |
| METRO | 357 | 24.4% | 29.2% | 22.4% | 10.2% | 5.1% | 8.8% | 2.4 |
| NORTH | 330 | 30.5% | 36.0% | 17.2% | 7.7% | 4.3% | 4.3% | 2.2 |
| SOUTH | 365 | 25.5% | 30.2% | 21.9% | 9.4% | 7.2% | 5.8% | 2.4 |
| | | $\chi^2 = 27.2^*$ V = 0.081 | | | | | | |
| CRANE | 356 | 28.2% | 35.3% | 19.1% | 6.6% | 4.3% | 6.6% | 2.2 |
| PICTORAL | 331 | 25.5% | 28.8% | 23.9% | 5.2% | 7.0% | 9.7% | 2.3 |
| | | $\chi^2 = 18.8^*$ V = 0.067 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 3.1* for one-way ANOVA comparing means. F = 2.5 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean based on scale: 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 1-40: Potential problems encountered during the 2017 waterfowl season: Shifting waterfowl migration routes.**

| Region of residence | n | % of hunters[1] indicating that they ___ encountered the problem: | | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|---|
| | | **Never** | **Rarely** | **Sometimes** | **Often** | **Very often** | **Don't know** | |
| Statewide[3] | 1383 | 11.0% | 12.1% | 23.0% | 22.9% | 22.0% | 9.0% | 3.4 |
| CENTRAL | 334 | 9.0% | 10.2% | 25.3% | 22.3% | 25.6% | 7.5% | 3.5 |
| METRO | 358 | 12.4% | 14.7% | 21.8% | 20.3% | 19.2% | 11.6% | 3.2 |
| NORTH | 331 | 10.8% | 11.4% | 22.8% | 25.2% | 22.5% | 7.4% | 3.4 |
| SOUTH | 362 | 12.0% | 11.2% | 21.8% | 25.7% | 20.7% | 8.7% | 3.3 |
| | | $\chi^2 = 17.4$ n.s. | | | | | | |
| CRANE | 354 | 11.1% | 16.0% | 27.1% | 17.4% | 18.3% | 10.0% | 3.2 |
| PICTORAL | 334 | 9.6% | 10.2% | 22.8% | 23.1% | 21.9% | 12.3% | 3.4 |
| | | $\chi^2 = 16.3$ n.s. | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 2.4 n.s. for one-way ANOVA comparing means. F = 3.4* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean based on scale: 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

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**Table 1-41: Potential problems encountered during the 2017 waterfowl season: Interference from other hunters.**

| Region of residence | n | % of hunters[1] indicating that they ___ encountered the problem: | | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|---|
| | | Never | Rarely | Sometimes | Often | Very often | Don't know | |
| Statewide[3] | 1388 | 26.3% | 29.4% | 26.5% | 10.0% | 5.8% | 2.0% | 2.4 |
| CENTRAL | 334 | 28.0% | 26.5% | 28.6% | 10.2% | 5.4% | 1.2% | 2.4 |
| METRO | 361 | 23.9% | 28.4% | 25.8% | 11.2% | 7.6% | 3.1% | 2.5 |
| NORTH | 332 | 29.4% | 33.4% | 24.5% | 6.4% | 4.0% | 2.1% | 2.2 |
| SOUTH | 365 | 24.1% | 31.0% | 26.6% | 11.6% | 5.5% | 1.1% | 2.4 |
| | $\chi^2 = 21.7$ n.s. | | | | | | | |
| CRANE | 353 | 26.4% | 33.0% | 31.0% | 4.3% | 3.2% | 2.0% | 2.2 |
| PICTORAL | 334 | 33.9% | 26.4% | 25.2% | 8.1% | 5.7% | 0.6% | 2.3 |
| | $\chi^2 = 29.3$** V = 0.084 | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 3.7* for one-way ANOVA comparing means. F = 3.6* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean based on scale: 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 1-42: Potential problems encountered during the 2017 waterfowl season: Waterfowl arriving after the season is closed.**

| Region of residence | n | % of hunters[1] indicating that they ___ encountered the problem: | | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|---|
| | | Never | Rarely | Sometimes | Often | Very often | Don't know | |
| Statewide[3] | 1398 | 15.3% | 16.0% | 25.0% | 18.7% | 16.9% | 8.1% | 3.1 |
| CENTRAL | 338 | 14.3% | 17.9% | 23.8% | 19.9% | 17.0% | 7.1% | 3.1 |
| METRO | 363 | 16.5% | 14.2% | 24.0% | 17.9% | 16.2% | 11.2% | 3.0 |
| NORTH | 332 | 18.1% | 17.2% | 26.4% | 15.0% | 17.2% | 6.1% | 3.0 |
| SOUTH | 367 | 11.8% | 14.9% | 26.7% | 22.6% | 17.6% | 6.3% | 3.2 |
| | $\chi^2 = 22.5$ n.s. | | | | | | | |
| CRANE | 358 | 20.7% | 19.0% | 22.4% | 14.4% | 15.9% | 7.6% | 2.8 |
| PICTORAL | 339 | 18.3% | 13.9% | 24.9% | 18.6% | 14.5% | 9.8% | 3.0 |
| | $\chi^2 = 13.7$ n.s. | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 2.0 n.s. for one-way ANOVA comparing means. F = 3.7* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean based on scale: 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

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**Table 1-43: Potential problems encountered during the 2017 waterfowl season: Waterfowl concentrating on fewer areas.**

| Region of residence | n | % of hunters[1] indicating that they ___ encountered the problem: | | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|---|
| | | **Never** | **Rarely** | **Sometimes** | **Often** | **Very often** | **Don't know** | |
| Statewide[3] | 1386 | 8.8% | 12.1% | 34.0% | 24.1% | 11.8% | 9.3% | 3.2 |
| CENTRAL | 331 | 7.6% | 10.0% | 33.4% | 25.8% | 15.2% | 7.9% | 3.3 |
| METRO | 362 | 9.5% | 12.3% | 30.8% | 22.1% | 10.9% | 14.3% | 3.1 |
| NORTH | 331 | 8.9% | 12.9% | 36.6% | 24.0% | 10.8% | 6.8% | 3.2 |
| SOUTH | 366 | 9.1% | 14.1% | 37.3% | 24.9% | 9.1% | 5.5% | 3.1 |
| | | $\chi^2 = 32.6^{**}$ V = 0.088 | | | | | | |
| CRANE | 359 | 9.0% | 17.8% | 31.9% | 21.8% | 10.2% | 9.3% | 3.1 |
| PICTORAL | 336 | 7.5% | 12.2% | 32.2% | 27.2% | 11.3% | 9.6% | 3.3 |
| | | $\chi^2 = 10.7$ n.s. | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 2.5 n.s. for one-way ANOVA comparing means. F = 2.5 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean based on scale: 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p< 0.01$, ***$p< 0.001$

**Table 1-44: Potential problems encountered during the 2017 waterfowl season: Waterfowl numbers on opening weekend.**

| Region of residence | n | % of hunters[1] indicating that they ___ encountered the problem: | | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|---|
| | | **Never** | **Rarely** | **Sometimes** | **Often** | **Very often** | **Don't know** | |
| Statewide[3] | 1386 | 12.6% | 17.5% | 26.8% | 15.8% | 13.9% | 13.3% | 3.0 |
| CENTRAL | 334 | 12.0% | 16.9% | 28.9% | 16.9% | 15.4% | 9.9% | 3.1 |
| METRO | 363 | 12.3% | 15.9% | 24.8% | 17.8% | 12.0% | 17.3% | 3.0 |
| NORTH | 329 | 11.5% | 17.0% | 27.6% | 15.5% | 15.2% | 13.3% | 3.1 |
| SOUTH | 363 | 15.3% | 22.0% | 26.2% | 11.1% | 13.6% | 11.7% | 2.8 |
| | | $\chi^2 = 25.5^{*}$ V = 0.078 | | | | | | |
| CRANE | 349 | 11.9% | 22.7% | 32.6% | 13.7% | 7.0% | 12.2% | 2.8 |
| PICTORAL | 334 | 12.6% | 19.2% | 27.9% | 15.3% | 12.0% | 12.9% | 2.9 |
| | | $\chi^2 = 18.8^{*}$ V = 0.067 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 2.3 n.s. for one-way ANOVA comparing means. F = 4.0* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean based on scale: 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p< 0.01$, ***$p< 0.001$

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**Table 1-45: Potential problems encountered during the 2017 waterfowl season: Finding someone to hunt with.**

| Region of residence | n | % of hunters[1] indicating that they ___ encountered the problem: | | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|---|
| | | Never | Rarely | Sometimes | Often | Very often | Don't know | |
| Statewide[3] | 1397 | 52.6% | 24.2% | 13.3% | 4.9% | 3.6% | 1.4% | 1.8 |
| CENTRAL | 336 | 51.8% | 26.3% | 12.0% | 5.1% | 3.9% | 0.9% | 1.8 |
| METRO | 365 | 55.3% | 22.2% | 11.7% | 5.6% | 3.6% | 1.7% | 1.8 |
| NORTH | 332 | 51.5% | 24.2% | 16.0% | 3.4% | 3.7% | 1.2% | 1.8 |
| SOUTH | 366 | 50.6% | 24.3% | 15.2% | 5.0% | 3.0% | 1.9% | 1.8 |
| | | $\chi^2 = 8.9$ n.s. | | | | | | |
| CRANE | 355 | 51.7% | 26.0% | 12.3% | 4.9% | 3.4% | 1.7% | 1.8 |
| PICTORAL | 339 | 54.4% | 24.3% | 13.0% | 5.3% | 1.8% | 1.2% | 1.7 |
| | | $\chi^2 = 4.5$ n.s. | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 0.2 n.s. for one-way ANOVA comparing means. F = 0.5 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean based on scale: 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 1-46: Potential problems encountered during the 2017 waterfowl season: Finding a place to hunt.**

| Region of residence | n | % of hunters[1] indicating that they ___ encountered the problem: | | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|---|
| | | Never | Rarely | Sometimes | Often | Very often | Don't know | |
| Statewide[3] | 1402 | 34.5% | 20.0% | 24.4% | 11.1% | 9.0% | 1.1% | 2.4 |
| CENTRAL | 338 | 35.1% | 19.0% | 21.7% | 13.1% | 10.4% | 0.6% | 2.4 |
| METRO | 366 | 32.7% | 21.1% | 23.5% | 8.9% | 11.9% | 1.9% | 2.5 |
| NORTH | 334 | 36.3% | 21.6% | 25.6% | 11.3% | 4.3% | 0.9% | 2.2 |
| SOUTH | 367 | 34.4% | 17.6% | 28.7% | 11.6% | 6.9% | 0.8% | 2.4 |
| | | $\chi^2 = 27.1^*$ V = 0.080 | | | | | | |
| CRANE | 358 | 32.3% | 24.4% | 25.8% | 7.6% | 8.2% | 1.7% | 2.3 |
| PICTORAL | 341 | 41.6% | 17.1% | 25.4% | 6.8% | 7.7% | 1.5% | 2.2 |
| | | $\chi^2 = 20.2^*$ V = 0.069 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 1.7 n.s. for one-way ANOVA comparing means. F = 2.8 n.s.for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean based on scale: 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 2: Satisfaction With the 2017 Waterfowl Hunt

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 about two-thirds of hunters (69%) reported being satisfied with their general waterfowl-hunting experience, with 25% expressing dissatisfaction. Statewide the overall mean satisfaction score was 4.9. There were no significant differences in the pattern of responses by region hunted most frequently or region of residence. On average, hunters from the metropolitan and north regions of residents and from crane permit sample were slightly more satisfied (Tables 2-1 and 2-2).

Younger hunters, and hunters who have been hunting for fewer years reported higher levels of satisfaction with the general waterfowl-hunting experience. There was a significant negative relationship ($r = -0.195$, $p<0.001$) between age and satisfaction. This means that older hunters reported less satisfaction than younger hunters. Likewise, there was a significant negative relationship ($r = -0.213$, $p<0.001$) between years of waterfowl-hunting experience and satisfaction. Using Humburg et al.'s (2002) avidity categories, we found that more avid waterfowl hunters reported slightly higher mean levels of general satisfaction compared to casual (called "novice" by Humburg) or intermediate hunters (Table 2-3). Age was significantly related to avidity. Avid hunters were significantly younger than intermediate and casual hunters; the mean age for casual hunters was 44 years, intermediate hunters 44 years, and avid hunters 41 years ($F = 4.286$, $p < 0.05$).

**Satisfaction with Duck Hunting**

Statewide

Statewide over two-thirds (71%) of duck hunters were satisfied (slightly, moderately, or very) with their duck-hunting experience in 2017; of these 24% were very satisfied. Conversely, 22% of respondents were dissatisfied (slightly, moderately, or very), with 8% very dissatisfied with their duck-hunting experience. Nearly one-half (49%) of respondents were satisfied with their duck-hunting harvest, and a slightly smaller proportion (41%) of the respondents were dissatisfied with their duck harvest. About one in ten hunters (11%) were very satisfied with their duck harvest. Satisfaction with duck-hunting regulations was higher than satisfaction with harvest, with 58% of respondents reporting satisfaction with the regulations, including 46% of respondents who were moderately or very satisfied. However, about one in five respondents (22%) felt neither satisfied nor dissatisfied about the duck-hunting regulations, compared to only 7% who felt neutral about the duck-hunting experience and only 10% who felt neutral about the duck-hunting harvest. (Tables 2-4, 2-5, 2-6).

# Section 2: Satisfaction With the 2017 Waterfowl Hunt

The mean score for duck-harvest satisfaction ($\bar{x}$ = 4.1) was significantly lower than the mean scores for experience ($\bar{x}$ = 5.1, t = 23.865, p < 0.001) or regulations ($\bar{x}$ = 4.9, t = 14.561, p < 0.001). The mean satisfaction score for experience was significantly higher than for regulations (t = 4.486, p<0.001).

There was a significant positive relationship (r = 0.281, 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 increases.

Regional

There were no significant differences in mean satisfaction ratings or patterns of response among regions. The only difference observed between the three samples was slightly greater satisfaction with duck regulations among hunters from the pictorial sample compared to the statewide and crane samples.

**Satisfaction with Goose Hunting**

Statewide

Statewide most goose hunters were satisfied (63%) with their general goose-hunting experience, with slightly less than half reporting that they were moderately (27%) or very (22%) satisfied (Table 2-7). About half (48%) of goose hunters were satisfied with their harvest. A total of 35% reported being dissatisfied with their harvest with 10% moderately dissatisfied and 12% very dissatisfied (Table 2-8). Over half (53%) of the goose hunters indicated they were satisfied with the goose-hunting regulations with 22% moderately satisfied and 18% very satisfied (Table 2-9).

There was a statistically significant correlation (r = 0.250, p<0.001) between the total number of geese bagged in 2017 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 significant, but slight, differences among regions for satisfaction with goose-hunting experience and regulations. Hunters from the crane sample were significantly more satisfied with the goose-hunting experience and harvest, compared to hunters from the statewide and pictorial samples.

**Comparison of Duck Hunting and Goose Hunting**

We compared mean satisfaction levels for duck and goose hunting (Table 2-10). Levels of satisfaction were similar when comparing duck and goose hunting.

**Satisfaction with Waterfowl Habitat**

Hunters were asked about how satisfied they were with the habitat in the areas they hunted most during the 2017 season. Responses were recorded on a 7-point scale on which 1 = very dissatisfied, 2 = moderately dissatisfied, 3 = slightly dissatisfied, 4 = neither, 5 = slightly satisfied, 6 = moderately satisfied, and 7 = very satisfied.

# Section 2: Satisfaction With the 2017 Waterfowl Hunt

Nearly two-thirds (64%) of respondents were satisfied with the waterfowl habitat in the areas they hunted most, and 21% were very satisfied (Table 2-11).

**Satisfaction with the Number of Ducks and Geese Seen in the Field**

Hunters were asked about how satisfied they were with the number of ducks and geese seen in the field during the 2017 season. Responses were recorded on a 7-point scale on which 1 = very dissatisfied, 2 = moderately dissatisfied, 3 = slightly dissatisfied, 4 = neither, 5 = slightly satisfied, 6 = moderately satisfied, and 7 = very satisfied.

About 43% of respondents were satisfied with the number of ducks that they saw in the field, and 9% were very satisfied (Table 2-12). There was no significant difference among regions in the mean level of satisfaction with number of ducks seen in the field. Just over half of respondents (51%) were satisfied with the number of geese that they saw in the field, with 13% who were very satisfied (Table 2-13). There was no significant difference among regions in the mean level of satisfaction with number of geese seen in the field.

# Section 2: Satisfaction With the 2017 Waterfowl Hunt

**Table 2-1: Satisfaction with the general waterfowl-hunting experience for the 2017 season by zone most often hunted.**

| Area most often hunted | n | % of hunters[1] indicating that level of satisfaction: | | | | | | | Mean[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | |
| Statewide[3] | 1305 | 7.8% | 8.2% | 8.8% | 6.1% | 16.3% | 34.3% | 18.5% | 4.9 |
| Central [4] | 607 | 8.7% | 8.2% | 9.7% | 6.7% | 15.1% | 33.7% | 17.8% | 4.8 |
| North | 343 | 7.3% | 8.7% | 7.3% | 4.1% | 15.5% | 35.3% | 21.9% | 5.1 |
| South | 298 | 6.4% | 7.4% | 8.4% | 7.7% | 18.8% | 33.9% | 17.4% | 5.0 |
| | | $\chi^2 = 11.585$ n.s. | | | | | | | |
| CRANE | 331 | 5.1% | 6.3% | 9.1% | 6.6% | 14.5% | 31.4% | 26.9% | 5.2 |
| PICTORAL | 324 | 6.5% | 9.3% | 9.3% | 5.6% | 15.7% | 32.1% | 21.6% | 5.0 |
| | | $\chi^2 = 15.960$ n.s. | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017; regional data excludes individuals who hunted the same number of days in multiple regions.
[2] F = 1.7 n.s.one-way ANOVA comparing means among regions. F = 3.4* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[4] The regional data includes only respondents for the statewide sample.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 2-2: Satisfaction with the general waterfowl-hunting experience for the 2017 season by region of residence.**

| Region of residence | n | % of hunters[1] indicating that level of satisfaction: | | | | | | | Mean[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | |
| Statewide[3] | 1305 | 7.8% | 8.2% | 8.8% | 6.1% | 16.3% | 34.3% | 18.5% | 4.9 |
| CENTRAL | 317 | 9.8% | 9.5% | 10.4% | 6.9% | 16.1% | 30.6% | 16.7% | 4.7 |
| METRO | 335 | 7.8% | 6.3% | 9.3% | 4.8% | 15.8% | 35.8% | 20.3% | 5.0 |
| NORTH | 312 | 6.1% | 9.0% | 6.1% | 5.4% | 14.7% | 39.1% | 19.6% | 5.1 |
| SOUTH | 344 | 6.7% | 8.7% | 8.4% | 7.8% | 19.5% | 32.0% | 16.9% | 4.9 |
| | | $\chi^2 = 21.0$ n.s. | | | | | | | |
| CRANE | 331 | 5.1% | 6.3% | 9.1% | 6.6% | 14.5% | 31.4% | 26.9% | 5.2 |
| PICTORAL | 324 | 6.5% | 9.3% | 9.3% | 5.6% | 15.7% | 32.1% | 21.6% | 5.0 |
| | | $\chi^2 = 15.960$ n.s. | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F = 2.7* for one-way ANOVA comparing means among regions. F = 3.4* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 2: Satisfaction With the 2017 Waterfowl Hunt

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

| 2017 Waterfowl-hunting involvement[2] | n | % of hunters[1] indicating that level of satisfaction: | | | Mean[3] |
|---|---|---|---|---|---|
| | | Slightly, moderately, or very dissatisfied | Neither satisfied nor dissatisfied | Slightly, moderately, or very satisfied | |
| Casual (0-5 days afield)[4] | 494 | 28.1% | 7.9% | 64.0% | 4.8 |
| Intermediate (6-19 days afield) | 615 | 22.8% | 5.7% | 71.5% | 5.0 |
| Avid (20+ days afield) | 188 | 22.3% | 3.7% | 73.9% | 5.1 |
| | $\chi^2 = 11.135^*$, Cramer's V = 0.066 | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[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 =2.1 n.s. 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. Data includes only respondents for the statewide sample.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 2-4: Satisfaction with the duck-hunting experience for the 2017 season**

| Area most often hunted | n | % of hunters[1] indicating that level of satisfaction: | | | | | | | Mean[3] |
|---|---|---|---|---|---|---|---|---|---|
| | | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | |
| Statewide[3] | 1326 | 7.5% | 6.3% | 7.8% | 7.3% | 15.3% | 32.2% | 23.6% | 5.1 |
| Central [4] | 625 | 7.0% | 6.1% | 7.0% | 9.3% | 14.4% | 34.2% | 21.9% | 5.1 |
| North | 329 | 8.8% | 5.5% | 8.8% | 3.9% | 14.2% | 30.6% | 28.2% | 5.1 |
| South | 302 | 7.0% | 7.3% | 7.0% | 7.6% | 17.6% | 30.9% | 22.6% | 5.0 |
| | $\chi^2 = 17.768$ n.s. | | | | | | | | |
| CRANE | 307 | 8.8% | 7.2% | 9.8% | 8.8% | 15.6% | 27.0% | 22.8% | 4.9 |
| PICTORAL | 324 | 6.5% | 7.1% | 5.3% | 7.4% | 13.3% | 32.2% | 28.2% | 5.2 |
| | $\chi^2 = 11.963$ n.s. | | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017; regional data excludes individuals who hunted the same number of days in multiple regions.
[2] F = 0.2 n.s. for one-way ANOVA comparing means. F = 2.6 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[4] The regional data includes only respondents for the statewide sample.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 2: Satisfaction With the 2017 Waterfowl Hunt

**Table 2-5: Satisfaction with the duck-hunting harvest for the 2017 season**

| Area most often hunted | n | % of hunters[1] indicating that level of satisfaction: | | | | | | | Mean[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | |
| Statewide[3] | 1330 | 15.7% | 12.0% | 13.4% | 9.9% | 18.7% | 19.1% | 11.1% | 4.1 |
| Central[4] | 628 | 16.2% | 13.5% | 12.7% | 10.5% | 17.0% | 19.3% | 10.7% | 4.0 |
| North | 331 | 19.3% | 10.0% | 14.2% | 7.6% | 18.4% | 18.4% | 12.1% | 4.0 |
| South | 302 | 11.6% | 10.6% | 12.6% | 11.0% | 22.3% | 20.6% | 11.3% | 4.3 |
| | $\chi^2$ = 15.408 n.s. | | | | | | | | |
| CRANE | 307 | 14.0% | 12.0% | 13.3% | 10.7% | 19.5% | 15.3% | 15.3% | 4.2 |
| PICTORAL | 319 | 12.6% | 14.2% | 13.8% | 9.1% | 18.6% | 19.5% | 12.3% | 4.2 |
| | $\chi^2$ = 9.088 n.s. | | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017; regional data excludes individuals who hunted the same number of days in multiple regions.
[2] $F$ = 2.4 n.s. for one-way ANOVA comparing means. $F$ = 0.5 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[4] The regional data includes only respondents for the statewide sample.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 2-6: Satisfaction with the duck-hunting regulations for the 2017 season**

| Area most often hunted | n | % of hunters[1] indicating that level of satisfaction: | | | | | | | Mean[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | |
| Statewide[3] | 1314 | 5.7% | 5.7% | 8.6% | 22.1% | 12.3% | 26.0% | 19.6% | 4.9 |
| Central[4] | 620 | 5.5% | 6.4% | 8.2% | 23.3% | 11.0% | 25.0% | 20.6% | 4.9 |
| North | 329 | 5.2% | 5.2% | 8.2% | 22.0% | 14.3% | 27.1% | 18.0% | 4.9 |
| South | 298 | 6.1% | 5.4% | 8.4% | 18.9% | 12.1% | 28.6% | 20.5% | 4.9 |
| | $\chi^2$ = 6.770 n.s. | | | | | | | | |
| CRANE | 307 | 7.2% | 7.8% | 6.2% | 22.8% | 13.7% | 25.4% | 16.9% | 4.7 |
| PICTORAL | 318 | 4.4% | 4.7% | 6.3% | 22.4% | 10.4% | 28.1% | 23.7% | 5.1 |
| | $\chi^2$ = 13.441 n.s. | | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017; regional data excludes individuals who hunted the same number of days in multiple regions.
[2] $F$ = 0.2 n.s. for one-way ANOVA comparing means. $F$ = 3.4* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[4] The regional data includes only respondents for the statewide sample.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

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# Section 2: Satisfaction With the 2017 Waterfowl Hunt

**Table 2-7: Satisfaction with the goose-hunting experience for the 2017 season**

| Area most often hunted | n | % of hunters[1] indicating that level of satisfaction: | | | | | | | Mean[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | |
| Statewide[3] | 1110 | 5.9% | 5.5% | 9.0% | 16.1% | 15.0% | 26.7% | 21.7% | 5.0 |
| Central[4] | 513 | 6.8% | 5.9% | 10.0% | 17.4% | 14.6% | 26.0% | 19.3% | 4.8 |
| North | 277 | 4.7% | 4.7% | 6.1% | 14.4% | 12.6% | 31.4% | 26.0% | 5.2 |
| South | 254 | 5.5% | 5.5% | 10.6% | 16.5% | 16.1% | 25.2% | 20.5% | 4.9 |
| | | $\chi^2 = 14.092$ n.s. | | | | | | | |
| CRANE | 326 | 3.4% | 6.4% | 6.4% | 7.3% | 11.3% | 29.7% | 35.5% | 5.5 |
| PICTORAL | 271 | 4.8% | 6.6% | 9.9% | 14.3% | 15.8% | 28.3% | 20.2% | 5.0 |
| | | $\chi^2 = 45.985^{***}$ V = 0.116 | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017; regional data excludes individuals who hunted the same number of days in multiple regions.
[2] F = 5.5** for one-way ANOVA comparing means. F = 12.0*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[4] The regional data includes only respondents for the statewide sample.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 2-8: Satisfaction with the goose-hunting harvest for the 2017 season**

| Area most often hunted | n | % of hunters[1] indicating that level of satisfaction: | | | | | | | Mean[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | |
| Statewide[3] | 1113 | 12.2% | 9.9% | 12.4% | 17.4% | 15.7% | 19.7% | 12.6% | 4.2 |
| Central[4] | 515 | 14.9% | 10.6% | 12.8% | 16.6% | 14.1% | 19.0% | 12.0% | 4.1 |
| North | 277 | 10.8% | 9.7% | 10.5% | 16.2% | 15.2% | 21.7% | 15.9% | 4.4 |
| South | 254 | 9.9% | 9.5% | 14.2% | 20.9% | 17.4% | 17.4% | 10.7% | 4.2 |
| | | $\chi^2 = 14.069$ n.s. | | | | | | | |
| CRANE | 326 | 9.1% | 7.0% | 9.8% | 7.9% | 14.0% | 27.4% | 24.7% | 4.9 |
| PICTORAL | 268 | 13.4% | 13.8% | 13.1% | 18.7% | 14.2% | 15.3% | 11.6% | 4.0 |
| | | $\chi^2 = 67.151^{***}$ V = 0.140 | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017; regional data excludes individuals who hunted the same number of days in multiple regions.
[2] F = 3.0 n.s. for one-way ANOVA comparing means. F = 21.1*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[4] The regional data includes only respondents for the statewide sample.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

# Section 2: Satisfaction With the 2017 Waterfowl Hunt

**Table 2-9: Satisfaction with the goose-hunting regulations for the 2017 season**

| Area most often hunted | n | % of hunters[1] indicating that level of satisfaction: | | | | | | | Mean[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | |
| Statewide[3] | 1112 | 5.6% | 6.5% | 9.3% | 25.6% | 12.8% | 21.9% | 18.4% | 4.7 |
| Central [4] | 513 | 5.5% | 8.0% | 8.2% | 28.8% | 9.4% | 21.2% | 18.9% | 4.7 |
| North | 278 | 4.7% | 5.0% | 9.0% | 23.7% | 17.6% | 21.9% | 18.3% | 4.8 |
| South | 256 | 6.6% | 4.7% | 10.1% | 21.0% | 12.5% | 24.1% | 21.0% | 4.8 |
| | | $\chi^2 = 21.519^*$ V = 0.101 | | | | | | | |
| CRANE | 327 | 5.2% | 8.3% | 7.6% | 17.1% | 12.8% | 28.4% | 20.5% | 4.9 |
| PICTORAL | 268 | 5.2% | 4.5% | 6.0% | 29.6% | 10.1% | 23.6% | 21.0% | 4.9 |
| | | $\chi^2 = 23.978^*$ V = 0.084 | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017; regional data excludes individuals who hunted the same number of days in multiple regions.
[2] F = 1.2 n.s. for one-way ANOVA comparing means. F = 2.0 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[4] The regional data includes only respondents for the statewide sample.
n.s. = not significant, $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

**Table 2-10: Comparison of duck-hunting and goose-hunting satisfaction**

| Satisfaction with…[1,2] | Mean[3] |
|---|---|
| Duck-hunting experience | 5.1 |
| Goose-hunting experience | 5.0 |
| Duck-hunting harvest | 4.1 |
| Goose-hunting harvest | 4.2 |
| Duck-hunting regulations | 4.9 |
| Goose-hunting regulations | 4.7 |

[1] Table includes only respondents who actually hunted waterfowl during 2017. Data includes only respondents for the statewide sample.
[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.
n.s. = not significant, $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

# Section 2: Satisfaction With the 2017 Waterfowl Hunt

**Table 2-11: Satisfaction with waterfowl habitat in the areas you hunted most.**

| Area most often hunted | n | % of hunters[1] indicating that level of satisfaction: | | | | | | | Mean[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | |
| Statewide[3] | 1392 | 7.2% | 6.7% | 11.1% | 11.6% | 15.1% | 27.4% | 21.0% | 4.9 |
| Central [4] | 647 | 7.6% | 7.3% | 10.5% | 13.3% | 14.0% | 27.9% | 19.4% | 4.8 |
| North | 360 | 4.7% | 4.7% | 10.9% | 9.5% | 15.6% | 29.3% | 25.1% | 5.1 |
| South | 316 | 9.5% | 7.3% | 11.4% | 8.2% | 15.5% | 27.2% | 20.9% | 4.8 |
| | | $\chi^2 = 18.343$ n.s. | | | | | | | |
| CRANE | 351 | 7.1% | 5.1% | 8.2% | 9.7% | 12.8% | 33.2% | 23.9% | 5.1 |
| PICTORAL | 340 | 6.7% | 7.9% | 9.7% | 9.1% | 14.4% | 29.0% | 23.2% | 5.0 |
| | | $\chi^2 = 12.437$ n.s. | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017; regional data excludes individuals who hunted the same number of days in multiple regions.
[2] $F = 4.6*$ n.s. for one-way ANOVA comparing regional means. $F = 2.7$ n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[4] The regional data includes only respondents for the statewide sample.
n.s. = not significant, $*p < 0.05$, $**p< 0.01$, $***p< 0.001$

**Table 2-12: Satisfaction with number of ducks seen in the field during the 2017 Minnesota waterfowl hunting season**

| Area most often hunted | n | % of hunters[1] indicating that level of satisfaction: | | | | | | | Mean[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | |
| Statewide[3] | 1333 | 19.4% | 14.7% | 15.9% | 6.5% | 16.7% | 17.5% | 9.2% | 3.8 |
| Central [4] | 622 | 19.6% | 15.6% | 14.9% | 6.4% | 17.5% | 16.5% | 9.5% | 3.7 |
| North | 339 | 23.0% | 13.9% | 16.8% | 5.9% | 14.7% | 18.3% | 7.4% | 3.6 |
| South | 302 | 15.9% | 13.9% | 16.9% | 6.6% | 17.2% | 18.2% | 11.3% | 4.0 |
| | | $\chi^2 = 9.813$ n.s. | | | | | | | |
| CRANE | 323 | 18.0% | 14.6% | 17.3% | 5.0% | 15.2% | 21.1% | 9.0% | 3.8 |
| PICTORAL | 326 | 18.4% | 15.6% | 20.9% | 4.9% | 12.6% | 16.6% | 11.0% | 3.7 |
| | | $\chi^2 = 12.507$ n.s. | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017; regional data excludes individuals who hunted the same number of days in multiple regions.
[2] $F = 2.4$ n.s. for one-way ANOVA comparing regional means. $F = 0.4$ n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[4] The regional data includes only respondents for the statewide sample.
n.s. = not significant, $*p < 0.05$, $**p< 0.01$, $***p< 0.001$

# Section 2: Satisfaction With the 2017 Waterfowl Hunt

**Table 2-13: Satisfaction with number of geese seen in the field during the 2017 Minnesota waterfowl hunting season**

| Area most often hunted | n | % of hunters[1] indicating that level of satisfaction: | | | | | | | Mean[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | |
| Statewide[3] | 1184 | 11.2% | 9.9% | 16.6% | 11.8% | 15.6% | 21.8% | 13.1% | 4.3 |
| Central [4] | 555 | 13.7% | 12.1% | 15.5% | 12.1% | 14.4% | 19.6% | 12.8% | 4.1 |
| North | 286 | 9.1% | 8.7% | 18.2% | 10.5% | 14.3% | 24.1% | 15.0% | 4.4 |
| South | 274 | 9.9% | 7.3% | 17.9% | 14.3% | 16.8% | 23.4% | 10.3% | 4.3 |
| | | $\chi^2 = 17.455$ n.s. | | | | | | | |
| CRANE | 333 | 6.0% | 8.7% | 11.4% | 5.1% | 16.8% | 30.5% | 21.6% | 5.0 |
| PICTORAL | 287 | 10.5% | 11.5% | 19.5% | 11.5% | 16.4% | 16.4% | 14.3% | 4.2 |
| | | $\chi^2 = 54.263$*** V = 0.123 | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017; regional data excludes individuals who hunted the same number of days in multiple regions.
[2] F = 3.0 n.s. for one-way ANOVA comparing regional means. F = 18.1*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
[3] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.
[4] The regional data includes only respondents for the statewide sample.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 3: Youth Waterfowl Hunting Day/Battery-Operated Spinning-Wing Decoys

All study participants were provided with a brief background statement about Youth Waterfowl Hunting Day before their opinions concerning this issue were assessed (See Appendix A, Part 9 of the study instrument).

**Support/Opposition to Youth Waterfowl Hunting Day**

Respondents were asked if 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, 73% of respondents supported the youth hunting day with 46% strongly supporting it. In contrast, 17% opposed the hunt, with 10% strongly opposing it. There was a significant negative correlation between age and support for Youth Waterfowl Hunting Day (r = -0.270, p<0.001). This means that older hunters reported less support for the youth hunt than younger hunters. There was no significant difference among regions in support for Youth Waterfowl Hunting Day.

**Participation in Youth Waterfowl Hunting Day in 2017**

All study respondents were asked if they took any youths hunting on Youth Waterfowl Hunting Day in Minnesota in 2017 (Table 3-2). Statewide, 12% of respondents reported participating in the youth hunt. Respondents that mentored youth on Youth Waterfowl Hunting Day were asked how many youths they took hunting. Statewide, mentors took an average 1.8 youths hunting on Youth Waterfowl Hunting Day (Table 3-3). Based on the percentages provided by the survey, it is estimated that 18,027 youths participated in the youth hunt in 2017 (Table 3-4).

**Ownership and Use of Battery-Operated, Spinning-Wing Decoys**

Respondents were asked if they owned battery-operated, spinning-wing decoys and if they used them during the 2017 season. Statewide, 47% of respondents reported owning a battery-operated, spinning-wing decoy (Table 3-5), and 38% of respondents reported using one during the 2017 season (Table 3-6). A significantly smaller proportion of respondents from the north region reported using a battery-operated, spinning-wing decoy. A significantly smaller proportion of hunters from the crane permit sample reported ownership of a battery-operated, spinning-wing decoy, and hunters from both the crane and pictorial samples used these decoys less than respondents from the statewide sample.

# Section 3: Youth Waterfowl Hunting Day and Battery-Operated Spinning Wing Decoys

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

| Residence of hunter | n | % of hunters indicating that they _____ the concept of Youth Waterfowl Hunting Day: | | | | | Mean[1] |
|---|---|---|---|---|---|---|---|
| | | Strongly oppose | Oppose | Undecided/ neutral | Support | Strongly support | |
| Statewide[2] | 1611 | 9.7% | 7.3% | 10.0% | 26.8% | 46.2% | 3.9 |
| CENTRAL | 386 | 12.7% | 7.5% | 11.1% | 26.4% | 42.2% | 3.8 |
| METRO | 424 | 8.7% | 6.8% | 11.1% | 26.4% | 46.9% | 4.0 |
| NORTH | 392 | 8.4% | 8.7% | 6.6% | 28.3% | 48.0% | 4.0 |
| SOUTH | 408 | 8.1% | 6.1% | 10.5% | 26.0% | 49.3% | 4.0 |
| | | $\chi^2$=16.175 n.s. | | | | | |
| CRANE | 393 | 8.1% | 7.9% | 7.9% | 28.5% | 47.6% | 4.0 |
| PICTORAL | 401 | 10.2% | 8.0% | 12.2% | 26.9% | 42.6% | 3.8 |
| | | $\chi^2$= 6.575 n.s. | | | | | |

[1]F = 2.689* for one-way ANOVA comparing statewide regional means. F = 1.5 n.s.for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 3-2: Last September (2017), did you take youth hunting on Youth Waterfowl Hunting Day**

| Residence of hunter | n | % yes |
|---|---|---|
| Statewide[1] | 1605 | 12.3% |
| CENTRAL | 384 | 15.9% |
| METRO | 421 | 7.4% |
| NORTH | 391 | 14.1% |
| SOUTH | 409 | 13.4% |
| | | $\chi^2$=15.292**, Cramer's V=0.098 |
| CRANE | 391 | 10.0% |
| PICTORAL | 400 | 7.5% |
| | | $\chi^2$= 8.209* V=0.059 |

[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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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# Section 3: Youth Waterfowl Hunting Day and Battery-Operated Spinning Wing Decoys

**Table 3-3: Number of youth taken hunting on 2017 Youth Waterfowl Hunting Day**

| Residence of hunter | n | Mean number of youth |
|---|---|---|
| Statewide[1] | 181 | 1.8 |
| CENTRAL | 53 | 1.8 |
| METRO | 28 | 2.0 |
| NORTH | 54 | 1.8 |
| SOUTH | 51 | 1.7 |
| | | F = 0.713 n.s. |
| CRANE | 36 | 1.8 |
| PICTORAL | 30 | 1.7 |
| | | F = 0.077 n.s. |

[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.
n.s. = not significant, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$

**Table 3-4: 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 2017 YWHD | Total mentors in the 2017 YWHD | Average # of youth with a mentor | Estimate of total youth participating in YWHD |
|---|---|---|---|---|---|
| Statewide[1,2] | 81420 | 12.3% | 10015 | 1.8 | 18027 |
| CENTRAL | 22993 | 15.9% | 3656 | 1.8 | 6543 |
| METRO | 26207 | 7.4% | 1939 | 2.0 | 3878 |
| NORTH | 17704 | 14.1% | 2496 | 1.8 | 4493 |
| SOUTH | 14516 | 13.4% | 1945 | 1.7 | 1947 |
| | | | | | |
| CRANE | 1073 | 10.0% | 107 | 1.8 | 193 |
| PICTORAL | 9121 | 7.5% | 684 | 1.7 | 1163 |

[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.

# Section 3: Youth Waterfowl Hunting Day and Battery-Operated Spinning Wing Decoys

**Table 3-5: Do you <u>own a battery-operated, spinning-wing decoy?</u>**

| Residence of hunter | n | % yes |
|---|---|---|
| Statewide[1] | 1547 | 46.5% |
| CENTRAL | 367 | 49.3% |
| METRO | 405 | 46.7% |
| NORTH | 378 | 42.6% |
| SOUTH | 400 | 46.5% |
| | | $\chi^2$=3.463 n.s. |
| CRANE | 370 | 34.6% |
| PICTORAL | 395 | 47.1% |
| | | $\chi^2$= 18.252*** V=0.089 |

[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.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 3-6: Did you <u>use battery-operated, spinning-wing decoys</u> when hunting in Minnesota during the 2017 waterfowl season?**

| Residence of hunter | n | % yes |
|---|---|---|
| Statewide[1] | 1585 | 38.2% |
| CENTRAL | 382 | 41.1% |
| METRO | 414 | 38.6% |
| NORTH | 385 | 31.7% |
| SOUTH | 403 | 40.4% |
| | | $\chi^2$=9.165* n.s. V=0.076 |
| CRANE | 382 | 28.5% |
| PICTORAL | 400 | 31.3% |
| | | $\chi^2$= 16.195*** V = 0.083 |

[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.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

*2017 Minnesota Waterfowl Hunting*

# Section 4: Opinions on Management and Special Regulations

**Opinions About Duck Bag Limits**

Respondents were asked to indicate their opinions about the 6-duck bag limit, 2-hen mallard bag limit, and 3-wood duck bag limit. Possible responses to these questions were: too low, about right, too high, and no opinion. Statewide, about two-thirds of respondents (69%) felt the 6-duck bag limit was about right, with 4% indicating that it was too low, 12% too high, and 16% no opinion (Table 4-1). Statewide, 64% of respondents felt the 2-hen mallard bag limit was about right, compared to 7% too low, 14% too high, and 16% no opinion (Table 4-2). Statewide, 62% of respondents felt the 3-wood duck bag limit was about right, compared to 15% who felt it was too low, 8% who thought it was too high, and 14% who had no opinion (Table 4-3). There was no significant difference among regions in opinion of the three limits.

**Waterfowl Management Strategies and Special Regulations**

Respondents were asked to indicate their level of support for eight management strategies on the scale 1 = strongly oppose, 2 = oppose, 3 = undecided, 4 = support, and 5 = strongly support (Tables 4-4 to 4-12). Respondents reported the most support for using a North, Central, and South duck zone during last year's season and allowing open water hunting on a few (5-10) larger lakes or rivers during the regular waterfowl season. Respondents reported the least support for restricting the use of motorized decoys (Table 4-4). Statewide, 42% of respondents supported using a North, Central, and South duck zone during last year's season, with only 8% opposing (Table 4-5). About one-quarter (26%) of respondents supported using a split season in the Central Duck Zone during last year's waterfowl season (Table 4-6), and 23% supported using a split season in the South Duck Zone (Table 4-7). Statewide, 43% of respondents opposed and 32% supported ending shooting hours at 4 pm for the first part of the season (Table 4-8). More than one-third (35%) of respondents supported restrictions on open water hunting during the regular waterfowl season, with 25% opposed (Table 4-9). About 4 in 10 respondents (42%) supported open water hunting on a few larger lakes or rivers during the regular waterfowl season, with 11% opposed and 40% neutral (Table 4-10). About one-fourth (24%) of respondents supported restricting the use of motorized decoys for the first part of Minnesota's waterfowl season, with 45% opposed (Table 4-11). About one in five (21%) of respondents supported restricting the use of motorized decoys on wildlife management areas, with 46% opposed (Table 4-12).

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# Section 4: Opinions on Management and Special Regulations

**Table 4-1: Opinion on 6-duck bag limit.**

| Residence of hunter | n | % of hunters indicating that the bag limit was: | | | |
|---|---|---|---|---|---|
| | | Too low | About right | Too high | No opinion |
| Statewide[1] | 1622 | 3.7% | 68.6% | 12.2% | 15.5% |
| CENTRAL | 391 | 5.6% | 67.3% | 11.8% | 15.3% |
| METRO | 427 | 3.3% | 67.7% | 13.1% | 15.9% |
| NORTH | 392 | 2.6% | 70.7% | 11.2% | 15.6% |
| SOUTH | 409 | 2.9% | 69.9% | 12.2% | 14.9% |
| | | $\chi^2$=7.595 n.s. | | | |
| CRANE | 394 | 6.1% | 64.5% | 7.4% | 22.1% |
| PICTORAL | 407 | 3.9% | 70.0% | 12.5% | 13.5% |
| | | $\chi^2$= 22.826** V = 0.069 | | | |

[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.
n.s. = not significant, $*p < 0.05$, $**p< 0.01$, $***p< 0.001$

**Table 4-2: Opinion on 2-hen mallard bag limit.**

| Residence of hunter | n | % of hunters indicating that the bag limit was: | | | |
|---|---|---|---|---|---|
| | | Too low | About right | Too high | No opinion |
| Statewide[1] | 1630 | 6.8% | 63.9% | 13.7% | 15.7% |
| CENTRAL | 391 | 6.9% | 63.2% | 12.3% | 17.6% |
| METRO | 428 | 7.9% | 64.3% | 13.8% | 14.0% |
| NORTH | 396 | 7.1% | 64.9% | 12.4% | 15.7% |
| SOUTH | 414 | 4.1% | 63.3% | 17.1% | 15.5% |
| | | $\chi^2$=11.716 n.s. | | | |
| CRANE | 395 | 10.1% | 62.8% | 5.8% | 21.3% |
| PICTORAL | 406 | 6.9% | 62.8% | 15.5% | 14.8% |
| | | $\chi^2$= 30.463*** V = 0.079 | | | |

[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.
n.s. = not significant, $*p < 0.05$, $**p< 0.01$, $***p< 0.001$

**Table 4-3: Opinion on 3-wood duck bag limit.**

| Residence of hunter | n | % of hunters indicating that the bag limit was: | | | |
|---|---|---|---|---|---|
| | | Too low | About right | Too high | No opinion |
| Statewide[1] | 1628 | 15.4% | 62.4% | 8.3% | 13.9% |
| CENTRAL | 390 | 19.7% | 57.4% | 8.7% | 14.1% |
| METRO | 428 | 13.3% | 65.7% | 8.6% | 12.4% |
| NORTH | 395 | 13.7% | 61.0% | 8.1% | 17.2% |
| SOUTH | 414 | 14.5% | 65.9% | 7.5% | 12.1% |
| | | $\chi^2$=15.534 n.s. | | | |
| CRANE | 396 | 11.1% | 55.6% | 9.1% | 24.2% |
| PICTORAL | 406 | 10.6% | 65.0% | 11.1% | 13.3% |
| | | $\chi^2$= 37.676*** V = 0.088 | | | |

[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.
n.s. = not significant, $*p < 0.05$, $**p< 0.01$, $***p< 0.001$

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# Section 4: Opinions on Management and Special Regulations

**Table 4-4: Mean statewide results: Special regulations**.

| Regulation | N | Mean[1,2] |
|---|---|---|
| Using a North, Central, and South duck zone during last year's waterfowl season | 1623 | 3.4 |
| Using a split season in the Central Duck Zone during last year's waterfowl season | 1620 | 3.1 |
| Using a split season in the South Duck Zone during last year's waterfowl season | 1607 | 3.1 |
| Ending shooting hours at 4 pm for the first part of Minnesota's waterfowl season | 1622 | 2.8 |
| Restrictions on open water hunting (must be in concealing vegetation) during the regular waterfowl season | 1623 | 3.1 |
| Allowing open water hunting on a few (5-10) larger lakes or rivers during the regular waterfowl season | 1624 | 3.4 |
| Restricting the use of motorized decoys for the first part of Minnesota's waterfowl season | 1626 | 2.7 |
| Restricting the use of motorized decoys on wildlife management areas (WMAs) for the entire duck season | 1625 | 2.6 |

[1]Grand mean=3.0, F=4295.7***, $\eta^2$=0.097. Mean based on scale: 1=strongly oppose, 2=oppose, 3=neither, 4=support, 5=strongly support.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.

**Table 4-5: Using a North, Central, and South duck zone during last year's waterfowl season.**

| Residence of hunter | n | % of hunters indicating that they _____ with this management strategy: | | | | | | Mean[1] |
|---|---|---|---|---|---|---|---|---|
| | | Strongly oppose | Oppose | Neutral | Support | Strongly support | Don't know | |
| Statewide[2] | 1623 | 2.6% | 4.9% | 41.4% | 33.6% | 7.7% | 9.8% | 3.4 |
| CENTRAL | 392 | 9.5% | 19.4% | 35.8% | 22.5% | 4.9% | 7.9% | 3.3 |
| METRO | 425 | 4.5% | 12.2% | 37.1% | 25.8% | 6.6% | 13.8% | 3.5 |
| NORTH | 393 | 4.6% | 10.5% | 51.2% | 14.8% | 3.1% | 15.9% | 3.4 |
| SOUTH | 411 | 5.4% | 12.9% | 42.4% | 18.5% | 4.1% | 16.6% | 3.5 |
| | | $\chi^2$=21.894 n.s. | | | | | | |
| CRANE | 394 | 3.8% | 3.6% | 37.6% | 31.5% | 6.6% | 17.0% | 3.4 |
| PICTORAL | 404 | 3.2% | 4.7% | 36.9% | 34.4% | 12.1% | 8.7% | 3.5 |
| | | $\chi^2$= 32.347*** V = 0.082 | | | | | | |

[1] F = 3.8* for one-way ANOVA comparing statewide regional means. F = 2.1 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 4: Opinions on Management and Special Regulations

**Table 4-6: Using a split season in the Central Duck Zone during last year's waterfowl season.**

| Residence of hunter | n | % of hunters indicating that they _____ with this management strategy: | | | | | | Mean[1] |
| | | Strongly oppose | Oppose | Neutral | Support | Strongly support | Don't know | |
|---|---|---|---|---|---|---|---|---|
| Statewide[2] | 1620 | 6.1% | 14.0% | 40.7% | 21.2% | 4.9% | 13.1% | 3.1 |
| CENTRAL | 391 | 9.5% | 19.4% | 35.8% | 22.5% | 4.9% | 7.9% | 2.9 |
| METRO | 426 | 4.5% | 12.2% | 37.1% | 25.8% | 6.6% | 13.8% | 3.2 |
| NORTH | 391 | 4.6% | 10.5% | 51.2% | 14.8% | 3.1% | 15.9% | 3.0 |
| SOUTH | 410 | 5.4% | 12.9% | 42.4% | 18.5% | 4.1% | 16.6% | 3.0 |
| | | $\chi^2$= 70.894*** V=0.121 | | | | | | |
| CRANE | 390 | 5.6% | 8.2% | 44.4% | 12.6% | 3.3% | 25.9% | 3.0 |
| PICTORAL | 401 | 5.2% | 14.7% | 40.4% | 21.2% | 6.0% | 12.5% | 3.1 |
| | | $\chi^2$= 62.173*** V = 0.114 | | | | | | |

[1] F = 5.5** for one-way ANOVA comparing statewide regional means. F = 0.9 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 4-7: Using a split season in the South Duck Zone during last year's waterfowl season.**

| Residence of hunter | n | % of hunters indicating that they _____ with this management strategy: | | | | | | Mean[1] |
| | | Strongly oppose | Oppose | Neutral | Support | Strongly support | Don't know | |
|---|---|---|---|---|---|---|---|---|
| Statewide[2] | 1607 | 6.3% | 11.7% | 43.5% | 17.0% | 5.9% | 15.5% | 3.1 |
| CENTRAL | 388 | 7.5% | 11.6% | 49.0% | 13.1% | 2.8% | 16.0% | 2.9 |
| METRO | 421 | 4.0% | 11.9% | 40.9% | 19.0% | 7.6% | 16.6% | 3.2 |
| NORTH | 389 | 3.6% | 7.5% | 54.2% | 12.1% | 3.3% | 19.3% | 3.1 |
| SOUTH | 408 | 12.0% | 16.9% | 26.7% | 25.2% | 11.0% | 8.1% | 3.1 |
| | | $\chi^2$=155.303*** V=0.180 | | | | | | |
| CRANE | 389 | 5.1% | 6.9% | 47.3% | 10.0% | 2.6% | 28.0% | 3.0 |
| PICTORAL | 402 | 4.5% | 13.4% | 40.0% | 20.4% | 6.2% | 15.4% | 3.1 |
| | | $\chi^2$= 63.299*** V = 0.115 | | | | | | |

[1] F = 4.1** for one-way ANOVA comparing statewide regional means. F = 2.0 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 4: Opinions on Management and Special Regulations

**Table 4-8: Ending shooting hours at 4 pm for the first part of Minnesota's waterfowl season.**

| Residence of hunter | n | % of hunters indicating that they _____ with this management strategy: | | | | | | Mean[1] |
|---|---|---|---|---|---|---|---|---|
| | | Strongly oppose | Oppose | Neutral | Support | Strongly support | Don't know | |
| Statewide[2] | 1622 | 17.1% | 25.5% | 21.8% | 23.6% | 8.3% | 3.7% | 2.8 |
| CENTRAL | 391 | 20.7% | 24.0% | 19.7% | 23.8% | 9.2% | 2.6% | 2.8 |
| METRO | 427 | 13.6% | 26.9% | 22.5% | 25.3% | 6.6% | 5.2% | 2.8 |
| NORTH | 392 | 19.4% | 28.8% | 20.2% | 21.4% | 7.7% | 2.6% | 2.7 |
| SOUTH | 409 | 14.7% | 21.3% | 25.9% | 23.0% | 11.0% | 4.2% | 2.9 |
| | | $\chi^2$=30.680* V=0.079 | | | | | | |
| CRANE | 393 | 25.2% | 25.4% | 14.2% | 19.6% | 10.9% | 4.6% | 2.6 |
| PICTORAL | 404 | 15.6% | 23.5% | 16.8% | 27.5% | 13.9% | 2.7% | 3.0 |
| | | $\chi^2$= 43.010*** V = 0.094 | | | | | | |

[1] $F = 3.1$* for one-way ANOVA comparing statewide regional means. $F = 7.9$*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 4-9: Restrictions on open water hunting (must be in concealing vegetation) during the regular waterfowl season.**

| Residence of hunter | n | % of hunters indicating that they _____ with this management strategy: | | | | | | Mean[1] |
|---|---|---|---|---|---|---|---|---|
| | | Strongly oppose | Oppose | Neutral | Support | Strongly support | Don't know | |
| Statewide[2] | 1623 | 8.0% | 17.3% | 33.8% | 25.0% | 10.3% | 5.6% | 3.1 |
| CENTRAL | 392 | 9.2% | 20.2% | 34.4% | 22.7% | 8.7% | 4.8% | 3.0 |
| METRO | 426 | 4.9% | 15.0% | 35.2% | 26.8% | 12.0% | 6.1% | 3.3 |
| NORTH | 393 | 10.9% | 18.3% | 33.8% | 24.7% | 7.4% | 4.8% | 3.0 |
| SOUTH | 410 | 8.0% | 15.4% | 30.2% | 26.1% | 13.2% | 7.1% | 3.2 |
| | | $\chi^2$=28.342* V=0.076 | | | | | | |
| CRANE | 391 | 10.2% | 17.6% | 35.8% | 17.9% | 9.0% | 9.5% | 3.0 |
| PICTORAL | 404 | 7.7% | 19.1% | 29.7% | 25.5% | 12.6% | 5.4% | 3.2 |
| | | $\chi^2$= 22.773* V = 0.069 | | | | | | |

[1] $F = 6.6$*** for one-way ANOVA comparing statewide regional means. $F = 3.6$* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

# Section 4: Opinions on Management and Special Regulations

**Table 4-10: Allowing open water hunting on a few (5-10) larger lakes or rivers during the regular waterfowl season.**

| Residence of hunter | n | % of hunters indicating that they _____ with this management strategy: | | | | | | Mean[1] |
|---|---|---|---|---|---|---|---|---|
| | | Strongly oppose | Oppose | Neutral | Support | Strongly support | Don't know | |
| Statewide[2] | 1624 | 3.1% | 7.6% | 40.0% | 30.8% | 11.0% | 7.6% | 3.4 |
| CENTRAL | 392 | 2.3% | 7.1% | 39.8% | 30.6% | 12.5% | 7.7% | 3.5 |
| METRO | 426 | 2.6% | 8.7% | 38.3% | 32.6% | 10.3% | 7.5% | 3.4 |
| NORTH | 393 | 4.1% | 5.9% | 39.2% | 32.3% | 10.9% | 7.6% | 3.4 |
| SOUTH | 411 | 4.1% | 8.3% | 44.3% | 25.8% | 10.0% | 7.5% | 3.3 |
| | | $\chi^2$= 13.704 n.s. | | | | | | |
| CRANE | 393 | 3.1% | 4.3% | 36.9% | 29.8% | 13.0% | 13.0% | 3.5 |
| PICTORAL | 404 | 4.2% | 7.2% | 34.9% | 32.7% | 14.1% | 6.9% | 3.5 |
| | | $\chi^2$= 24.554** V = 0.071 | | | | | | |

[1] F = 2.0 n.s. for one-way ANOVA comparing statewide regional means. F = 2.0 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 4-11: Restricting the use of motorized decoys for the first part of Minnesota's waterfowl season.**

| Residence of hunter | n | % of hunters indicating that they _____ with this management strategy: | | | | | | Mean[1] |
|---|---|---|---|---|---|---|---|---|
| | | Strongly oppose | Oppose | Neutral | Support | Strongly support | Don't know | |
| Statewide[2] | 1626 | 19.0% | 26.4% | 27.6% | 15.8% | 7.7% | 3.4% | 2.7 |
| CENTRAL | 392 | 21.4% | 27.6% | 28.8% | 14.5% | 5.1% | 2.6% | 2.5 |
| METRO | 427 | 17.1% | 25.5% | 27.9% | 14.1% | 11.5% | 4.0% | 2.8 |
| NORTH | 394 | 20.1% | 26.9% | 24.9% | 18.3% | 6.9% | 3.0% | 2.6 |
| SOUTH | 411 | 17.0% | 25.8% | 28.5% | 18.0% | 6.3% | 4.4% | 2.7 |
| | | $\chi^2$= 24.055 n.s. | | | | | | |
| CRANE | 391 | 20.2% | 22.5% | 24.8% | 16.9% | 10.0% | 5.6% | 2.7 |
| PICTORAL | 404 | 16.6% | 29.0% | 25.5% | 15.6% | 10.1% | 3.2% | 2.7 |
| | | $\chi^2$= 13.969 n.s. | | | | | | |

[1] F = 2.7* for one-way ANOVA comparing statewide regional means. F = 0.8 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 4: Opinions on Management and Special Regulations

**Table 4-12: Restricting the use of motorized decoys on wildlife management areas (WMAs) for the entire duck season.**

| Residence of hunter | n | % of hunters indicating that they _____ with this management strategy: | | | | | | Mean[1] |
|---|---|---|---|---|---|---|---|---|
| | | **Strongly oppose** | **Oppose** | **Neutral** | **Support** | **Strongly support** | **Don't know** | |
| Statewide[2] | 1625 | 20.7% | 25.4% | 28.4% | 11.9% | 8.7% | 4.9% | 2.6 |
| CENTRAL | 391 | 23.5% | 25.8% | 27.6% | 10.5% | 9.0% | 3.6% | 2.5 |
| METRO | 427 | 18.0% | 26.0% | 28.6% | 12.2% | 9.4% | 5.9% | 2.7 |
| NORTH | 394 | 21.1% | 23.6% | 27.9% | 13.5% | 9.1% | 4.8% | 2.6 |
| SOUTH | 411 | 20.7% | 25.5% | 30.2% | 11.7% | 6.6% | 5.4% | 2.6 |
| | | $\chi^2$= 10.419 n.s. | | | | | | |
| CRANE | 393 | 23.7% | 21.9% | 24.9% | 12.7% | 10.4% | 6.4% | 2.6 |
| PICTORAL | 405 | 19.3% | 25.2% | 27.4% | 13.8% | 10.4% | 4.0% | 2.7 |
| | | $\chi^2$= 10.099 n.s. | | | | | | |

[1] $F = 1.1$ n.s. for one-way ANOVA comparing statewide regional means. $F = 0.9$ n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.

n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

# Section 5: Opinions on Season Dates and Zones

**Most Important Area of State for Duck Hunting**

Respondents were asked to select the area of the state where season dates were most important to them using the map shown. The largest proportion (45%) selected the central region, followed by north (24%), and south (21%). Another 10% had no preference (Table 5-1).

**Preference for Season Dates**

Study participants were asked to select between a straight season, one of two split seasons, or no preference for a 60-day duck season in 2015. Statewide, 34% preferred a straight season (Sept. 22 to Nov. 20), 24% preferred a split season (Sept. 22 to Sept. 30, close 5 days and reopen Oct. 6 to Nov. 25), 19% preferred a split season (Sept. 22 to Sept 30, close 11 days and reopen Oct. 13 to Saturday Dec. 2), and 24% had no preference (Table 5-2). A substantially greater proportion of respondents from the North region preferred a straight season (58% compared to 16-30% for other regions). A substantially greater proportion of respondents from the South region preferred the split season with the later season closing dates (about 43% compared to 7-16% for other regions).
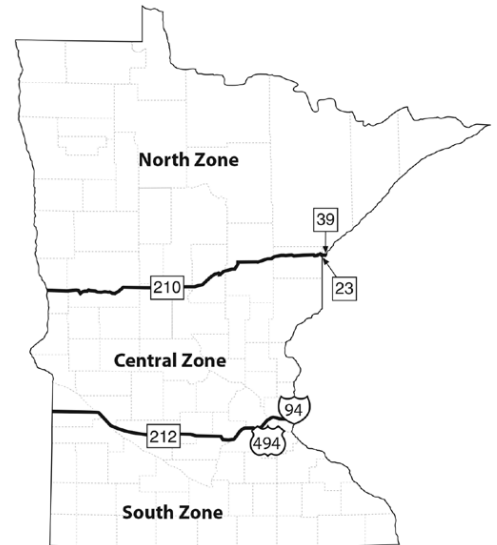
Study participants were asked to select a preferred season opening date. Statewide, respondents were fairly evenly split with 39% favoring the Saturday nearest September 24 and 41% favoring the Saturday nearest October 1, with 20% reporting no preference (Table 5-3). Increased proportions of respondents from the Central and North regions preferred the earlier opening date, while increased proportions of respondents from the Metropolitan and South regions preferred the later opening date. A greater proportion of hunters from the crane sample preferred the earlier opening date, while greater proportions of hunters from the statewide and pictorial samples preferred the later opening date.

**Hunting Participation and Preference for Different Time Periods**

Study participants were asked to report the number of days they hunted waterfowl during different time periods during the 2017 season. Statewide, respondents hunted the most days (3.2 on average) in late October and early October (3.0), compared to 2.5 in late September, 2.0 in early November, and 1.4 in late November/early December (Table 5-4). Respondents from the central and north regions hunted more days in early October, and those from the south region hunted more days in late November/early December. Compared to respondents from the statewide and pictorial samples, respondents from the crane permit sample hunted more days in late September, early October, and late October.

Study participants were asked for their preferred time period to hunt waterfowl in Minnesota. Statewide, early October was the most preferred time period (preferred by 34%), followed by late October (30%),

# Section 5: Opinions on Season Dates and Zones

late September (16%), early November (12%), and late November/early December (8%) (Table 5-5). Preferred time period for waterfowl hunting varied by region of residence and study sample.

**Table 5-1: Area of the state where the timing of open waterfowl hunting and season dates are most important to you.**

| Residence of hunter | n | % of hunters indicating: | | | |
|---|---|---|---|---|---|
| | | North | Central | South | No preference |
| Statewide[1] | 1597 | 23.8% | 44.9% | 21.4% | 9.8% |
| CENTRAL | 382 | 7.9% | 80.4% | 1.3% | 10.5% |
| METRO | 418 | 18.2% | 51.7% | 19.1% | 11.0% |
| NORTH | 390 | 71.3% | 21.0% | 1.3% | 6.4% |
| SOUTH | 408 | 2.0% | 5.6% | 81.6% | 10.8% |
| | | $\chi^2$= 1481.294*** V=0.556 | | | |
| CRANE | 392 | 78.8% | 13.3% | 2.0% | 5.9% |
| PICTORAL | 400 | 25.5% | 46.5% | 20.0% | 8.0% |
| | | $\chi^2$= 452.253*** V = 0.308 | | | |

[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.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 5-2: Preference for season dates for 2018.**

| Residence of hunter | n | % of hunters indicating that they prefer: | | | |
|---|---|---|---|---|---|
| | | Saturday Sept. 22 to Tuesday Nov. 20 (*same season as used last year in North Duck Zone*) | Saturday Sept. 22 to Sunday Sept. 30, close 5 days, reopen Saturday Oct. 6 to Sunday Nov. 25 (*same season as used last year in Central Duck Zone*) | Saturday Sept. 22 to Sunday Sept. 30, close 12 days, reopen Saturday Oct. 13 to Sunday, Dec. 2 (*same season as used last year in South Duck Zone*) | No preference |
| Statewide[1] | 1589 | 33.5% | 23.6% | 18.5% | 24.4% |
| CENTRAL | 380 | 29.5% | 31.6% | 14.7% | 24.2% |
| METRO | 418 | 29.9% | 27.0% | 16.0% | 27.0% |
| NORTH | 388 | 58.0% | 14.7% | 7.0% | 20.4% |
| SOUTH | 402 | 16.4% | 15.4% | 43.0% | 25.1% |
| | | $\chi^2$= 295.920***, Cramer's V=0.249 | | | |
| CRANE | 391 | 64.2% | 13.3% | 6.1% | 16.4% |
| PICTORAL | 390 | 31.3% | 26.4% | 19.5% | 22.8% |
| | | $\chi^2$= 141.706*** V = 0.173 | | | |

[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.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

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**Table 5-3: Preference for opening date.**

| Residence of hunter | n | % of hunters indicating that they prefer: | | No preference |
|---|---|---|---|---|
| | | Saturday nearest Sept. 24 (dates vary from Sept. 21 to Sept. 27); used since 2011. | Saturday nearest Oct. 1 (dates vary from Sept. 28 to Oct. 4); historical opener. | |
| Statewide[1] | 1610 | 38.6% | 41.2% | 20.2% |
| CENTRAL | 385 | 41.0% | 38.2% | 20.8% |
| METRO | 422 | 37.0% | 41.7% | 21.3% |
| NORTH | 394 | 43.9% | 38.1% | 18.0% |
| SOUTH | 409 | 31.1% | 49.1% | 19.8% |
| | | $\chi^2 = 18.878^{**}$ V=0.077 | | |
| CRANE | 391 | 51.9% | 30.9% | 17.1% |
| PICTORAL | 402 | 34.8% | 46.0% | 19.2% |
| | | $\chi^2 = 30.955^{***}$ V = 0.080 | | |

[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.
n.s. = not significant, $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

**Table 5-4: Number of days you hunted waterfowl in Minnesota during each time period for the 2017 season.**

| Residence of hunter | Mean | | | | |
|---|---|---|---|---|---|
| | Late September | Early October | Late October | Early November | Late November/ Early December |
| Statewide[1] | 2.5 | 3.0 | 3.2 | 2.0 | 1.4 |
| CENTRAL | 2.6 | 3.4 | 3.4 | 2.2 | 1.3 |
| METRO | 2.3 | 2.7 | 3.0 | 1.9 | 1.2 |
| NORTH | 2.6 | 3.3 | 3.4 | 1.9 | 1.1 |
| SOUTH | 2.4 | 2.7 | 3.1 | 2.1 | 1.9 |
| | F = 1.5 n.s. | F = 4.7** | F = 1.5 n.s. | F = 0.9 n.s. | F = 3.9** |
| CRANE | 3.7 | 4.3 | 4.2 | 2.0 | 1.0 |
| PICTORAL | 2.2 | 2.7 | 2.9 | 2.2 | 1.5 |
| | F = 38.7*** | F = 23.9*** | F = 10.5*** | F = 0.5 n.s. | F = 1.5 n.s. |

[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.
n.s. = not significant, $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

# Section 5: Opinions on Season Dates and Zones

**Table 5-5: Time period most prefer to hunt ducks in Minnesota.**

| Residence of hunter | n | % of hunters indicating that they prefer: | | | | |
|---|---|---|---|---|---|---|
| | | Late September | Early October | Late October | Early November | Late November/ Early December |
| Statewide[1] | 1385 | 15.5% | 34.3% | 30.1% | 11.8% | 8.3% |
| CENTRAL | 321 | 17.8% | 33.3% | 31.5% | 11.5% | 5.9% |
| METRO | 361 | 16.3% | 37.1% | 27.7% | 10.5% | 8.3% |
| NORTH | 349 | 11.2% | 39.0% | 34.7% | 10.9% | 4.3% |
| SOUTH | 360 | 15.8% | 25.0% | 26.7% | 15.6% | 16.9% |
| | | $\chi^2= 64.714^{***}$ V=0.125 | | | | |
| CRANE | 324 | 15.7% | 42.3% | 29.9% | 7.1% | 4.9% |
| PICTORAL | 343 | 15.7% | 27.4% | 31.5% | 17.8% | 7.6% |
| | | $\chi^2= 30.883^{***}$ V = 0.087 | | | | |

[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.
n.s. = not significant, $*p < 0.05$, $**p< 0.01$, $***p< 0.001$

# Section 6: Opinions on Sandhill Crane Management

**Sandhill Crane Hunting in Minnesota**

Respondents were asked to indicate their level of support for five possible changes to sandhill crane hunting in Minnesota on the scale 1 = strongly oppose, 2 = oppose, 3 = undecided, 4 = support, and 5 = strongly support (Tables 6-1 to 6-6). On average, statewide, respondents were supportive of all five possible changes, with greatest support for expanding the size of the current crane zone and expanding sandhill crane hunting to a new hunting zone in the central/eastern part of the state. Respondents from the central and north regions were somewhat more supportive of changes to sandhill crane hunting, compared to respondents from the metropolitan and south regions. Respondents from the crane permit sample were significantly more supportive of changes compared to the statewide and pictorial samples.

# Section 6: Opinions on Sandhill Crane Management

**Table 6-1: Mean statewide results: Sandhill crane hunting.**

| Regulation | N | Mean[1,2] |
|---|---|---|
| Increase daily bag limit on sandhill cranes from 1/day to 2/day | 1138 | 3.3 |
| Extend the season on sandhill cranes from 37 days to 58 days | 1144 | 3.4 |
| Expand the size of the current crane zone | 1165 | 3.8 |
| Open crane season earlier beginning on the first Saturday in September | 1128 | 3.4 |
| Expand sandhill crane hunting to a new hunting zone in the central/eastern part of the state | 1174 | 3.8 |

[1] Grand mean=3.5, F=6445.7***, $\eta^2$=0.155. Mean based on scale: 1=strongly oppose, 2=oppose, 3=neither, 4=support, 5=strongly support.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.

**Table 6-2: Sandhill crane hunting in Minnesota: Increase daily bag limit on sandhill cranes from 1/day to 2/day.**

| Residence of hunter | n | % of hunters indicating that they _____ this potential change: | | | | | | Mean[1] |
|---|---|---|---|---|---|---|---|---|
| | | Strongly oppose | Oppose | Neutral | Support | Strongly support | Don't know | |
| Statewide[2] | 1569 | 3.5% | 7.2% | 36.7% | 16.0% | 9.1% | 27.4% | 3.3 |
| CENTRAL | 376 | 3.7% | 7.2% | 34.3% | 18.1% | 13.6% | 23.1% | 3.4 |
| METRO | 416 | 3.1% | 7.7% | 36.1% | 14.7% | 6.5% | 32.0% | 3.2 |
| NORTH | 377 | 3.4% | 7.4% | 39.3% | 19.4% | 11.1% | 19.4% | 3.3 |
| SOUTH | 397 | 4.0% | 6.3% | 38.5% | 10.8% | 4.5% | 35.8% | 3.1 |
| | | $\chi^2$=16.175 n.s. | | | | | | |
| CRANE | 395 | 2.5% | 3.8% | 19.7% | 33.2% | 35.4% | 5.3% | 4.0 |
| PICTORAL | 403 | 4.2% | 7.7% | 37.7% | 13.6% | 8.2% | 28.5% | 3.2 |
| | | $\chi^2$= 335.282*** V = 0.266 | | | | | | |

[1] F = 5.8** for one-way ANOVA comparing statewide regional means. F = 87.4*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 6: Opinions on Sandhill Crane Management

**Table 6-3: Sandhill crane hunting in Minnesota: Extend the season on sandhill cranes from 37 days to 58 days.**

| Residence of hunter | n | % of hunters indicating that they _____ this potential change: | | | | | | Mean[1] |
|---|---|---|---|---|---|---|---|---|
| | | Strongly oppose | Oppose | Neutral | Support | Strongly support | Don't know | |
| Statewide[2] | 1570 | 2.1% | 5.8% | 37.3% | 18.5% | 9.3% | 27.1% | 3.4 |
| CENTRAL | 377 | 1.6% | 5.8% | 35.0% | 21.0% | 13.3% | 23.3% | 3.5 |
| METRO | 416 | 2.2% | 7.2% | 35.8% | 16.6% | 7.0% | 31.3% | 3.3 |
| NORTH | 377 | 1.9% | 4.8% | 41.4% | 22.0% | 11.1% | 18.8% | 3.4 |
| SOUTH | 397 | 3.0% | 4.3% | 38.5% | 13.6% | 5.0% | 35.5% | 3.2 |
| | | $\chi^2=60.593^{***}$ V=0.114 | | | | | | |
| CRANE | 396 | 0.5% | 2.3% | 16.2% | 35.1% | 42.2% | 3.8% | 4.2 |
| PICTORAL | 402 | 3.7% | 5.5% | 38.3% | 16.4% | 7.7% | 28.4% | 3.3 |
| | | $\chi^2= 437.739^{***}$ V = 0.304 | | | | | | |

[1] F = 6.6*** for one-way ANOVA comparing statewide regional means. F = 139.2*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 6-4: Sandhill crane hunting in Minnesota: Expand the size of the current crane zone.**

| Residence of hunter | n | % of hunters indicating that they _____ this potential change: | | | | | | Mean[1] |
|---|---|---|---|---|---|---|---|---|
| | | Strongly oppose | Oppose | Neutral | Support | Strongly support | Don't know | |
| Statewide[2] | 1565 | 1.7% | 2.7% | 27.7% | 20.9% | 21.5% | 25.5% | 3.8 |
| CENTRAL | 376 | 1.1% | 2.7% | 24.2% | 18.4% | 33.2% | 20.5% | 4.0 |
| METRO | 415 | 1.9% | 3.1% | 26.5% | 20.5% | 16.9% | 31.1% | 3.7 |
| NORTH | 375 | 1.6% | 2.1% | 30.7% | 27.5% | 21.1% | 17.1% | 3.8 |
| SOUTH | 396 | 2.5% | 2.5% | 32.1% | 17.9% | 11.4% | 33.6% | 3.5 |
| | | $\chi^2=97.000^{***}$ V=0.144 | | | | | | |
| CRANE | 394 | 0.5% | 3.3% | 23.1% | 26.6% | 39.8% | 6.6% | 4.1 |
| PICTORAL | 399 | 3.5% | 2.8% | 24.8% | 24.1% | 19.3% | 25.6% | 3.7 |
| | | $\chi^2= 119.979^{***}$ V = 0.160 | | | | | | |

[1] F = 13.6*** for one-way ANOVA comparing statewide regional means. F =17.0*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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# Section 6: Opinions on Sandhill Crane Management

**Table 6-5: Sandhill crane hunting in Minnesota: Open crane season earlier beginning on the first Saturday in September.**

| Residence of hunter | n | % of hunters indicating that they _____ this potential change: | | | | | | Mean[1] |
| | | Strongly oppose | Oppose | Neutral | Support | Strongly support | Don't know | |
|---|---|---|---|---|---|---|---|---|
| Statewide[2] | 1567 | 2.0% | 4.2% | 40.3% | 15.3% | 10.2% | 28.0% | 3.4 |
| CENTRAL | 377 | 1.6% | 4.8% | 40.3% | 17.2% | 12.7% | 23.3% | 3.5 |
| METRO | 416 | 2.2% | 4.1% | 38.2% | 13.5% | 8.7% | 33.4% | 3.3 |
| NORTH | 375 | 1.9% | 4.3% | 42.4% | 18.9% | 13.3% | 19.2% | 3.5 |
| SOUTH | 395 | 2.8% | 3.3% | 41.5% | 11.4% | 5.1% | 35.9% | 3.2 |
| | | $\chi^2=56.494^{***}$ V=0.110 | | | | | | |
| CRANE | 395 | 1.3% | 6.1% | 19.2% | 28.1% | 41.8% | 3.5% | 4.1 |
| PICTORAL | 400 | 3.5% | 5.0% | 40.5% | 14.3% | 7.0% | 29.8% | 3.2 |
| | | $\chi^2= 395.262^{***}$ V = 0.289 | | | | | | |

[1] F = 5.3** for one-way ANOVA comparing statewide regional means. F = 94.2*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 6-6: Sandhill crane hunting in Minnesota: Expand sandhill crane hunting to a new hunting zone in the central/eastern part of the state.**

| Residence of hunter | n | % of hunters indicating that they _____ this potential change: | | | | | | Mean[1] |
| | | Strongly oppose | Oppose | Neutral | Support | Strongly support | Don't know | |
|---|---|---|---|---|---|---|---|---|
| Statewide[2] | 1568 | 1.8% | 2.7% | 28.1% | 19.3% | 22.9% | 25.1% | 3.8 |
| CENTRAL | 378 | 1.1% | 2.4% | 23.8% | 18.8% | 35.2% | 18.8% | 4.0 |
| METRO | 414 | 1.9% | 3.4% | 25.8% | 18.4% | 19.3% | 31.2% | 3.7 |
| NORTH | 377 | 1.9% | 2.7% | 32.6% | 23.6% | 21.5% | 17.8% | 3.7 |
| SOUTH | 397 | 2.5% | 2.3% | 33.8% | 16.6% | 11.6% | 33.2% | 3.5 |
| | | $\chi^2=100.013^{***}$ V=0.146 | | | | | | |
| CRANE | 397 | 0.8% | 4.0% | 28.5% | 25.2% | 30.0% | 11.6% | 3.9 |
| PICTORAL | 400 | 3.3% | 3.8% | 26.0% | 22.0% | 20.3% | 24.8% | 3.7 |
| | | $\chi^2= 50.556^{***}$ V = 0.103 | | | | | | |

[1] F = 15.7*** for one-way ANOVA comparing statewide regional means. F = 3.4* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. 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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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# Section 7: Motivations for and Importance of Waterfowl Hunting

**Importance and Performance Related to Bagging Waterfowl**

Respondents were asked to report how important 15 aspects of bagging waterfowl hunting were to them using the scale: 1 = not at all important to 5 = extremely important, then rate how much these 15 experiences happened during the 2017 Minnesota waterfowl season.

Results for importance of experiences are presented in Tables 7-1 to 7-16. The most important experiences were: attracting ducks with decoys, seeing ducks in the field, and seeing geese in the field, (Table 7-1). The least important experiences were: bagging diving ducks, bagging a lot of geese over the season, bagging a lot of ducks over the season, and bagging my daily limit (Table 7-1). Over two-thirds of respondents felt that: (a) seeing ducks in the field (73%, Table 7-2), (b) seeing geese in the field (65%, Table 7-3), and (c) attracting ducks with decoys (74%, Table 7-4) were very or extremely important. About 6 in 10 respondents felt that: (a) attracting geese with decoys (61%, Table 7-5), (b) calling ducks in (61%, Table 7-6), (c) calling geese in (56%, Table 7-7), and (d) bagging at least one duck during a day in the field (57%, Table 7-9) were very or extremely important. About 4 or 5 in 10 respondents felt that: (a) bagging drakes (40%, Table 7-10), (b) bagging mallards (48%, Table 7-15) and bagging teal and wood ducks (41%, Table 7-16) were very or extremely important. About one-third of respondents rated: (a) bagging a variety of different duck species (36%, Table 7-13) very or extremely important. Less than one-fourth of respondents rated: (a) bagging my daily limit (18%, Table 7-8), (b) bagging a lot of ducks over the season (22%, Table 7-11), (c) bagging a lot of geese over the season (19%, Table 7-12), or (d) bagging diving ducks (22%, Table 7-14).

An exploratory factor analysis of the importance of aspects of bagging waterfowl found four factors: (a) seeing ducks and geese (M = 3.8), (b) attracting waterfowl with decoys and calls (M = 3.7), (c) bagging a lot of waterfowl (M = 2.5), and (d) specialized aspects of bagging waterfowl (M = 3.1) (Table 7-17).

Results for performance on experiences during the 2017 season are presented in Tables 7-18 to 7-33. None of the experiences were rated as happening largely or very much. The most frequently occurring experiences were: (a) seeing geese in the field  (M = 3.0, Table 7-19); (b) attracting ducks with decoys (M = 2.9, Table 7-21); and (c) bagging at least one duck during a day in the field (M = 2.9, Table 7-26); The least frequently occurring experiences were: (a) bagging a lot of geese over the season (M = 1.8, Table 7-29); (b) bagging diving ducks  (M = 1.9, Table 7-31), (c) bagging a lot of ducks over the season (M = 2.0, Table 7-28), and (d) bagging my daily limit (M = 2.0, Table 7-25).

**Importance of Waterfowl Hunting**

Respondents were asked how important waterfowl hunting was to them. The majority of respondents (49%) indicated that it was "one of my most important recreational activities." Over one-fourth (28%) indicated that it was "no more important than my other recreational activities," while 10% indicated that it was "my most important recreational activity," 11% indicated that it was "less important than my other recreational activities," and 2% indicated that it was "one of my least important recreational activities" (Table 7-34).

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Future Waterfowl Hunting**

Respondents were asked how likely or unlikely it was that they would hunt for waterfowl during the 2018 season. Statewide, 88% said it was likely they would hunt with 69% indicating that it was very likely they would hunt (Table 7-35). Only 6% indicated that it was unlikely that they would hunt waterfowl in 2018. There were no significant differences by region.

**Involvement in Waterfowl Hunting**

Respondents were asked to respond to 15 items addressing their involvement in waterfowl hunting using the scale: 1 = strongly disagree to 5 = strongly agree. Results for items addressing waterfowl hunting involvement presented in Tables 7-36 to 7-51. Respondents agreed most strongly that: (a) waterfowl hunting provides me with the opportunity to be with friends (M=4.1, Table 7-38), (b) waterfowl hunting is one of the most enjoyable things I do (M=4.0, Table 7-37), and (c) I enjoy discussing waterfowl hunting with my friends (M=4.0, Table 7-50). There was less agreement that: (a) a lot of my life is organized around waterfowl hunting (M=2.9, Table 7-40) and (b) waterfowl hunting has a central role in my life (M=2.9, Table 7-41).

**Social Aspects of Waterfowl Hunting**

Respondents responded to two questions addressing who they waterfowl hunt with and how they plan their hunts. Results for these items are presented in Tables 7-52 and 7-53. The largest proportion of respondents indicated that they hunted with a friend or friends (31%), compared to 24% who hunted with family, 21% who hunted with a group of family and friends, 17% who hunted both alone and with others about the same amount of time, and 7% who typically hunted alone (Table 7-52). About 60% of respondents indicated that they typically hunted both when they planned the hunt or when someone else invited them, compared to 28% who typically hunted when they planned the hunt themselves, and 12% who typically hunted when someone else invited them (Table 7-53).

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-1: Motivations for waterfowl hunting: Importance of…**

|  | Mean[2] |
|---|---|
| Seeing ducks in the field | 3.9 |
| Seeing geese in the field | 3.7 |
| Attracting ducks with decoys | 4.0 |
| Attracting geese with decoys | 3.6 |
| Calling ducks in | 3.7 |
| Calling geese in | 3.5 |
| Bagging my daily limit | 2.6 |
| Bagging at least one duck during a day in the field | 3.6 |
| Bagging drakes | 3.1 |
| Bagging a lot of ducks over the season | 2.6 |
| Bagging a lot of geese over the season | 2.4 |
| Bagging a variety of different duck species | 3.0 |
| Bagging diving ducks | 2.5 |
| Bagging mallards | 3.3 |
| Bagging teal and wood ducks | 3.2 |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] Mean is based on the scale: 1 = not at all unimportant, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.

**Table 7-2: Motivations for waterfowl hunting: Importance of… Seeing ducks in the field.**

| Regions | N | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1368 | 5.3% | 4.4% | 17.8% | 38.3% | 34.2% | 3.9 |
| 16.4CENTRAL | 331 | 6.0% | 3.3% | 18.4% | 40.8% | 31.4% | 3.9 |
| METRO | 357 | 6.2% | 3.9% | 17.6% | 33.1% | 39.2% | 4.0 |
| NORTH | 324 | 4.3% | 6.2% | 17.9% | 42.3% | 29.3% | 3.9 |
| SOUTH | 357 | 3.9% | 4.8% | 17.1% | 38.9% | 35.3% | 4.0 |
| $\chi^2$= 16.4, Cramer's V=0.063 | | | | | | | |
| CRANE | 343 | 5.3% | 7.9% | 19.4% | 42.2% | 25.2% | 3.7 |
| PICTORAL | 334 | 2.7% | 5.7% | 14.4% | 44.7% | 32.4% | 4.0 |
| $\chi^2$= 23.336** V = 0.076 | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F=0.8 n.s. for one-way ANOVA comparing regional means. F = 5.2** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p< 0.01$, ***$p< 0.001$

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-3: Motivations for waterfowl hunting: Importance of… Seeing geese in the field.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1345 | 8.2% | 7.2% | 19.1% | 35.1% | 30.3% | 3.7 |
| CENTRAL | 328 | 7.0% | 6.1% | 19.5% | 36.6% | 30.8% | 3.8 |
| METRO | 348 | 12.1% | 7.5% | 19.0% | 30.7% | 30.7% | 3.6 |
| NORTH | 320 | 6.3% | 10.9% | 19.4% | 36.6% | 26.9% | 3.7 |
| SOUTH | 350 | 5.7% | 4.3% | 18.3% | 38.9% | 32.9% | 3.9 |
| | $\chi^2$= 28.1** V = 0.083 | | | | | | |
| CRANE | 343 | 4.1% | 2.0% | 14.6% | 41.1% | 38.2% | 4.1 |
| PICTORAL | 330 | 7.3% | 8.5% | 20.3% | 36.1% | 27.9% | 3.7 |
| | $\chi^2$= 32.911*** V = 0.090 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 3.8* for one-way ANOVA comparing regional means. F = 13.3*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
**[3]** A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-4: Motivations for waterfowl hunting: Importance of… Attracting ducks with decoys.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1350 | 5.0% | 4.2% | 16.5% | 39.1% | 35.2% | 4.0 |
| CENTRAL | 328 | 4.6% | 4.3% | 19.5% | 38.1% | 33.5% | 3.9 |
| METRO | 354 | 4.0% | 4.2% | 13.8% | 39.3% | 38.7% | 4.0 |
| NORTH | 319 | 5.6% | 3.4% | 16.0% | 41.1% | 33.9% | 3.9 |
| SOUTH | 348 | 6.6% | 4.9% | 17.2% | 38.2% | 33.0% | 3.9 |
| | $\chi^2$= 9.6 n.s. | | | | | | |
| CRANE | 341 | 13.5% | 7.6% | 23.1% | 28.4% | 27.5% | 3.5 |
| PICTORAL | 333 | 3.3% | 4.5% | 12.7% | 43.1% | 36.4% | 4.0 |
| | $\chi^2$= 71.558*** V = 0.133 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 1.8 n.s. for one-way ANOVA comparing regional means. F = 27.8*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
**[3]** A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-5: Motivations for waterfowl hunting: Importance of… Attracting geese with decoys.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1332 | 12.3% | 8.3% | 18.1% | 30.5% | 30.9% | 3.6 |
| CENTRAL | 324 | 12.0% | 7.7% | 17.6% | 30.2% | 32.4% | 3.6 |
| METRO | 345 | 13.9% | 8.4% | 19.1% | 29.0% | 29.6% | 3.5 |
| NORTH | 317 | 10.1% | 9.8% | 17.4% | 31.9% | 30.9% | 3.6 |
| SOUTH | 347 | 12.4% | 7.2% | 17.9% | 31.7% | 30.8% | 3.6 |
| $\chi^2 = 4.9$ n.s. | | | | | | | |
| CRANE | 342 | 8.5% | 6.7% | 15.8% | 31.6% | 37.4% | 3.8 |
| PICTORAL | 329 | 12.5% | 7.0% | 17.4% | 34.5% | 28.7% | 3.6 |
| $\chi^2 = 11.686$ n.s. | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] $F = 0.6$ n.s. for one-way ANOVA comparing regional means. $F = 4.6*$ for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$

**Table 7-6: Motivations for waterfowl hunting: Importance of… Calling ducks in.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1354 | 6.9% | 8.4% | 23.3% | 34.6% | 26.8% | 3.7 |
| CENTRAL | 328 | 5.8% | 7.9% | 27.4% | 35.1% | 23.8% | 3.6 |
| METRO | 356 | 5.9% | 8.7% | 18.8% | 36.2% | 30.3% | 3.8 |
| NORTH | 319 | 9.1% | 10.3% | 26.0% | 30.4% | 24.1% | 3.5 |
| SOUTH | 350 | 7.7% | 6.6% | 21.7% | 35.7% | 28.3% | 3.7 |
| $\chi^2 = 19.3$ n.s. | | | | | | | |
| CRANE | 338 | 15.6% | 13.3% | 24.2% | 27.1% | 19.8% | 3.2 |
| PICTORAL | 333 | 6.6% | 7.8% | 20.1% | 38.0% | 27.5% | 3.7 |
| $\chi^2 = 48.004***$ V = 0.109 | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] $F = 3.1*$ for one-way ANOVA comparing regional means. $F = 21.0***$ for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$

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# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-7: Motivations for waterfowl hunting: Importance of… Calling geese in.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1323 | 13.5% | 8.8% | 21.6% | 31.0% | 25.1% | 3.5 |
| CENTRAL | 323 | 13.0% | 9.0% | 22.9% | 31.9% | 23.2% | 3.4 |
| METRO | 343 | 15.5% | 8.7% | 21.6% | 28.9% | 25.4% | 3.4 |
| NORTH | 313 | 11.2% | 9.9% | 22.4% | 31.0% | 25.6% | 3.5 |
| SOUTH | 345 | 13.3% | 7.5% | 18.8% | 33.3% | 27.0% | 3.5 |
| $\chi^2 = 7.0$ n.s. | | | | | | | |
| CRANE | 343 | 8.5% | 6.7% | 21.9% | 30.0% | 32.9% | 3.7 |
| PICTORAL | 325 | 12.7% | 7.1% | 22.5% | 33.6% | 24.1% | 3.5 |
| $\chi^2 = 15.548^*$ V = 0.063 | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 0.7 n.s. for one-way ANOVA comparing regional means. F = 5.9** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
**[3]** A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-8: Motivations for waterfowl hunting: Importance of… Bagging my daily limit.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1359 | 19.9% | 28.1% | 33.9% | 10.8% | 7.3% | 2.6 |
| CENTRAL | 329 | 19.5% | 25.5% | 38.0% | 9.4% | 7.6% | 2.6 |
| METRO | 356 | 18.0% | 33.4% | 29.5% | 12.4% | 6.7% | 2.6 |
| NORTH | 320 | 21.9% | 24.7% | 34.4% | 10.3% | 8.8% | 2.6 |
| SOUTH | 355 | 22.0% | 26.5% | 34.6% | 11.0% | 5.9% | 2.5 |
| $\chi^2 = 15.2$ n.s. | | | | | | | |
| CRANE | 345 | 21.4% | 22.0% | 35.7% | 11.9% | 9.0% | 2.6 |
| PICTORAL | 333 | 18.6% | 28.1% | 33.5% | 13.8% | 6.0% | 2.6 |
| $\chi^2 = 9.050$ n.s. | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 0.3 n.s. for one-way ANOVA comparing regional means. F = 0.6 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
**[3]** A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-9: Motivations for waterfowl hunting: Importance of… Bagging at least one duck during a day in the field.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1362 | 8.2% | 9.6% | 25.4% | 28.2% | 28.6% | 3.6 |
| CENTRAL | 328 | 6.1% | 9.1% | 27.1% | 29.9% | 27.7% | 3.6 |
| METRO | 358 | 7.3% | 7.8% | 21.8% | 27.7% | 35.5% | 3.8 |
| NORTH | 322 | 11.8% | 11.2% | 28.0% | 27.0% | 22.0% | 3.4 |
| SOUTH | 354 | 9.0% | 11.9% | 26.3% | 27.7% | 25.1% | 3.5 |
| | $\chi^2= 26.7^{**}$ V = 0.081 | | | | | | |
| CRANE | 341 | 18.8% | 12.3% | 27.3% | 20.5% | 21.1% | 3.1 |
| PICTORAL | 328 | 9.1% | 10.1% | 23.8% | 29.3% | 27.7% | 3.6 |
| | $\chi^2= 45.181^{***}$ V = 0.105 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F=7.0 for one-way ANOVA comparing regional means. F = 18.8*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-10: Motivations for waterfowl hunting: Importance of… Bagging drakes.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1349 | 14.1% | 14.1% | 31.6% | 25.2% | 15.0% | 3.1 |
| CENTRAL | 324 | 11.1% | 15.4% | 33.3% | 24.7% | 15.4% | 3.2 |
| METRO | 356 | 17.4% | 12.4% | 29.5% | 25.8% | 14.9% | 3.1 |
| NORTH | 319 | 15.0% | 16.0% | 32.9% | 23.2% | 12.9% | 3.0 |
| SOUTH | 350 | 12.0% | 12.9% | 31.1% | 27.1% | 16.9% | 3.2 |
| | $\chi^2= 12.5$ n.s. | | | | | | |
| CRANE | 337 | 25.7% | 12.7% | 25.7% | 24.3% | 11.5% | 2.8 |
| PICTORAL | 326 | 14.4% | 14.7% | 29.4% | 24.5% | 16.9% | 3.1 |
| | $\chi^2= 30.357^{***}$ V = 0.087 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 2.0 n.s. for one-way ANOVA comparing regional means. F = 8.0*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-11: Motivations for waterfowl hunting: Importance of… Bagging a lot of ducks over the season.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1351 | 21.5% | 25.3% | 30.8% | 15.0% | 7.4% | 2.6 |
| CENTRAL | 325 | 18.8% | 25.8% | 31.1% | 15.4% | 8.9% | 2.7 |
| METRO | 357 | 21.6% | 24.1% | 31.9% | 16.8% | 5.6% | 2.6 |
| NORTH | 318 | 22.6% | 24.2% | 32.1% | 13.2% | 7.9% | 2.6 |
| SOUTH | 351 | 24.2% | 27.9% | 27.1% | 13.1% | 7.7% | 2.5 |
| | $\chi^2$= 10.6 n.s. | | | | | | |
| CRANE | 343 | 31.5% | 22.4% | 26.8% | 12.2% | 7.0% | 2.4 |
| PICTORAL | 331 | 22.6% | 25.6% | 29.8% | 14.8% | 7.2% | 2.6 |
| | $\chi^2$= 15.821* V = 0.062 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 1.3 n.s. for one-way ANOVA comparing regional means. F = 4.1* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p< 0.01$, ***$p< 0.001$

**Table 7-12: Motivations for waterfowl hunting: Bagging a lot of geese over the season.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1330 | 29.8% | 25.9% | 25.8% | 11.0% | 7.5% | 2.4 |
| CENTRAL | 326 | 27.3% | 27.0% | 25.5% | 11.0% | 9.2% | 2.5 |
| METRO | 345 | 33.6% | 24.3% | 25.8% | 11.3% | 4.9% | 2.3 |
| NORTH | 314 | 28.0% | 26.4% | 24.8% | 11.1% | 9.6% | 2.5 |
| SOUTH | 345 | 29.3% | 26.4% | 27.2% | 10.1% | 7.0% | 2.4 |
| | $\chi^2$= 10.0 n.s. | | | | | | |
| CRANE | 344 | 23.3% | 19.2% | 31.7% | 17.7% | 8.1% | 2.7 |
| PICTORAL | 330 | 33.3% | 26.1% | 22.1% | 10.9% | 7.6% | 2.3 |
| | $\chi^2$= 28.593*** V = 0.084 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 1.9 n.s. for one-way ANOVA comparing regional means. F = 8.7*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p< 0.01$, ***$p< 0.001$

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# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-13: Motivations for waterfowl hunting: Importance of… Bagging a variety of different duck species.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1360 | 14.9% | 15.7% | 33.6% | 25.8% | 10.0% | 3.0 |
| CENTRAL | 330 | 14.2% | 12.7% | 36.1% | 27.3% | 9.7% | 3.1 |
| METRO | 357 | 14.3% | 17.6% | 30.8% | 26.1% | 11.2% | 3.0 |
| NORTH | 320 | 16.9% | 18.8% | 30.9% | 24.7% | 8.8% | 2.9 |
| SOUTH | 353 | 14.7% | 13.3% | 37.7% | 24.4% | 9.9% | 3.0 |
| | $\chi^2= 12.5$ n.s. | | | | | | |
| CRANE | 343 | 25.9% | 15.5% | 28.3% | 21.9% | 8.5% | 2.7 |
| PICTORAL | 331 | 11.8% | 15.2% | 33.0% | 25.5% | 14.5% | 3.2 |
| | $\chi^2= 36.269^{***}$ V = 0.094 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 1.1 n.s. for one-way ANOVA comparing regional means. F = 12.2*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-14: Motivations for waterfowl hunting: Importance of… Bagging diving ducks.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1356 | 29.1% | 23.0% | 25.7% | 15.0% | 7.3% | 2.5 |
| CENTRAL | 329 | 26.1% | 24.6% | 25.2% | 15.5% | 8.5% | 2.6 |
| METRO | 357 | 32.8% | 21.0% | 25.8% | 12.0% | 8.4% | 2.4 |
| NORTH | 319 | 26.0% | 22.6% | 26.0% | 20.1% | 5.3% | 2.6 |
| SOUTH | 350 | 30.9% | 24.3% | 26.0% | 13.4% | 5.4% | 2.4 |
| | $\chi^2=18.1$ n.s. | | | | | | |
| CRANE | 342 | 42.4% | 18.1% | 22.2% | 11.7% | 5.6% | 2.2 |
| PICTORAL | 328 | 22.9% | 22.9% | 26.3% | 16.2% | 11.6% | 2.7 |
| | $\chi^2= 39.100^{***}$ V = 0.098 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 1.8 n.s. for one-way ANOVA comparing regional means. F = 13.6*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-15: Motivations for waterfowl hunting: Importance of… Bagging mallards.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1366 | 9.4% | 10.9% | 32.1% | 31.1% | 16.4% | 3.3 |
| CENTRAL | 332 | 7.8% | 12.3% | 32.2% | 29.5% | 18.1% | 3.4 |
| METRO | 359 | 10.6% | 7.5% | 30.9% | 35.4% | 15.6% | 3.4 |
| NORTH | 320 | 9.4% | 12.2% | 35.0% | 29.7% | 13.8% | 3.3 |
| SOUTH | 354 | 9.9% | 13.3% | 30.8% | 27.7% | 18.4% | 3.3 |
| | $\chi^2 = 15.7$ n.s. | | | | | | |
| CRANE | 344 | 20.6% | 13.0% | 24.9% | 29.3% | 12.2% | 3.0 |
| PICTORAL | 328 | 6.1% | 16.5% | 31.1% | 29.3% | 17.1% | 3.4 |
| | $\chi^2 = 55.301^{***}$ V = 0.116 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 0.8 n.s. for one-way ANOVA comparing regional means. F = 12.6*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-16: Motivations for waterfowl hunting: Importance of… Bagging teal and wood ducks.**

| Regions | n | Not at all | Slightly | Somewhat | Very | Extremely | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1364 | 10.4% | 13.4% | 35.6% | 27.3% | 13.2% | 3.2 |
| CENTRAL | 332 | 6.9% | 15.4% | 39.8% | 22.9% | 15.1% | 3.2 |
| METRO | 358 | 10.6% | 11.2% | 31.8% | 33.0% | 13.4% | 3.3 |
| NORTH | 319 | 15.0% | 13.8% | 35.4% | 24.8% | 11.0% | 3.0 |
| SOUTH | 354 | 10.5% | 13.8% | 35.9% | 27.4% | 12.4% | 3.2 |
| | $\chi^2 = 25.0^*$ V = 0.135 | | | | | | |
| CRANE | 344 | 23.5% | 12.8% | 33.3% | 22.3% | 8.1% | 2.8 |
| PICTORAL | 330 | 9.1% | 14.2% | 32.9% | 32.0% | 11.8% | 3.2 |
| | $\chi^2 = 54.300^{***}$ V = 0.115 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 2.9* for one-way ANOVA comparing regional means. F = 18.7*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-17: Factor analysis of importance of experiences related to bagging waterfowl.**

| | Mean[2] |
|---|---|
| **Seeing ducks and geese ($r_{sb}$ = 0.642)** | 3.8 |
| - Seeing ducks in the field | 3.9 |
| - Seeing geese in the field | 3.7 |
| **Attracting waterfowl ($\alpha$ = 0.831)** | 3.7 |
| - Attracting ducks with decoys | 4.0 |
| - Calling ducks in | 3.6 |
| - Attracting geese with decoys | 3.7 |
| - Calling geese in | 3.5 |
| **Bagging a lot of waterfowl ($\alpha$ = 0.831)** | 2.5 |
| - Bagging a lot of ducks over the season | 2.6 |
| - Bagging my daily limit | 2.6 |
| - Bagging a lot of geese over the season | 2.4 |
| **Specialized aspects of bagging waterfowl ($\alpha$ = 0.824)** | 3.1 |
| - Bagging at least one duck during a day in the field | 3.6 |
| - Bagging mallards | 3.3 |
| - Bagging drakes | 3.1 |
| - Bagging teal and wood ducks | 3.2 |
| - Bagging a variety of different duck species | 3.0 |
| - Bagging diving ducks | 2.5 |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] Mean is based on the scale: 1 = not at all unimportant, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.

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**Table 7-18: Experiences during 2017 Minnesota waterfowl hunting season.**

|  | Mean[2] |
|---|---|
| Seeing ducks in the field | 2.7 |
| Seeing geese in the field | 3.0 |
| Attracting ducks with decoys | 2.9 |
| Attracting geese with decoys | 2.6 |
| Calling ducks in | 2.7 |
| Calling geese in | 2.6 |
| Bagging my daily limit | 2.0 |
| Bagging at least one duck during a day in the field | 2.9 |
| Bagging drakes | 2.6 |
| Bagging a lot of ducks over the season | 2.0 |
| Bagging a lot of geese over the season | 1.8 |
| Bagging a variety of different duck species | 2.2 |
| Bagging diving ducks | 1.9 |
| Bagging mallards | 2.3 |
| Bagging teal and wood ducks | 2.7 |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] Mean is based on the scale for "did it happen:" 1 = not at all, 2 = slightly, 3 = somewhat, 4= largely, 5 = very much.

**Table 7-19: Experiences during the 2017 season: Seeing ducks in the field.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1327 | 11.7% | 29.5% | 38.8% | 15.2% | 4.8% | 2.7 |
| CENTRAL | 320 | 10.9% | 36.6% | 35.9% | 12.5% | 4.1% | 2.6 |
| METRO | 345 | 12.8% | 26.7% | 38.3% | 18.0% | 4.3% | 2.7 |
| NORTH | 312 | 11.5% | 27.9% | 39.4% | 15.7% | 5.4% | 2.8 |
| SOUTH | 353 | 11.0% | 25.2% | 43.3% | 14.2% | 6.2% | 2.8 |
| $\chi^2$= 17.6 n.s. | | | | | | | |
| CRANE | 324 | 12.3% | 31.8% | 34.6% | 14.8% | 6.5% | 2.7 |
| PICTORAL | 322 | 9.7% | 29.0% | 37.1% | 18.4% | 5.9% | 2.8 |
| $\chi^2$= 6.526 n.s. | | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 1.8 n.s. for one-way ANOVA comparing regional means. F = 1.3 n.s.for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale for "did it happen:" 1 = not at all, 2 = slightly, 3 = somewhat, 4= largely, 5 = very much.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 7-20: Experiences during the 2017 season: Seeing geese in the field.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---------|---|-----------|----------|----------|---------|-----------|---------|
| Statewide[3] | 1298 | 9.5% | 24.5% | 34.6% | 21.3% | 10.1% | 3.0 |
| CENTRAL | 314 | 8.3% | 25.5% | 36.0% | 19.1% | 11.1% | 3.0 |
| METRO | 334 | 13.2% | 25.7% | 32.6% | 19.5% | 9.0% | 2.9 |
| NORTH | 308 | 6.5% | 22.1% | 36.0% | 24.0% | 11.4% | 3.1 |
| SOUTH | 346 | 8.7% | 23.7% | 34.1% | 24.6% | 9.0% | 3.0 |
| | $\chi^2$= 15.9 n.s. | | | | | | |
| CRANE | 327 | 5.5% | 16.0% | 29.4% | 33.1% | 16.0% | 3.4 |
| PICTORAL | 320 | 9.7% | 24.3% | 36.8% | 20.2% | 9.0% | 2.9 |
| | $\chi^2$= 43.037*** V = 0.105 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F=3.1* for one-way ANOVA comparing regional means. F = 18.4*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-21: Experiences during the 2017 season: Attracting ducks with decoys.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---------|---|-----------|----------|----------|---------|-----------|---------|
| Statewide[3] | 1306 | 12.6% | 21.9% | 38.3% | 20.7% | 6.6% | 2.9 |
| CENTRAL | 316 | 11.7% | 23.1% | 37.0% | 21.5% | 6.6% | 2.9 |
| METRO | 338 | 12.1% | 22.2% | 37.0% | 21.6% | 7.1% | 2.9 |
| NORTH | 310 | 11.3% | 20.3% | 40.6% | 20.6% | 7.1% | 2.9 |
| SOUTH | 345 | 16.2% | 21.2% | 39.7% | 18.0% | 4.9% | 2.7 |
| | $\chi^2$= 8.7 n.s. | | | | | | |
| CRANE | 319 | 22.2% | 17.2% | 31.9% | 20.0% | 8.8% | 2.8 |
| PICTORAL | 321 | 12.4% | 20.8% | 37.0% | 21.7% | 8.1% | 2.9 |
| | $\chi^2$= 25.592** V= 0.081 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 1.8 n.s. for one-way ANOVA comparing regional means. F = 1.9 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 7-22: Experiences during the 2017 season: Attracting geese with decoys.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1284 | 27.5% | 21.6% | 27.1% | 15.2% | 8.4% | 2.6 |
| CENTRAL | 311 | 27.3% | 17.7% | 27.3% | 18.6% | 9.0% | 2.6 |
| METRO | 328 | 30.2% | 23.8% | 26.5% | 12.2% | 7.3% | 2.4 |
| NORTH | 311 | 22.8% | 23.2% | 27.0% | 15.8% | 11.3% | 2.7 |
| SOUTH | 339 | 28.9% | 22.4% | 28.0% | 14.5% | 6.2% | 2.5 |
| | | | $\chi^2$= 17.2 n.s. | | | | |
| CRANE | 322 | 17.3% | 15.2% | 26.6% | 28.5% | 12.4% | 3.0 |
| PICTORAL | 319 | 28.9% | 24.5% | 26.4% | 14.8% | 5.3% | 2.4 |
| | | | $\chi^2$= 55.796*** V = 0.120 | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 3.5* for one-way ANOVA comparing regional means. F = 22.8*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-23: Experiences during the 2017 season: Calling ducks in.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1308 | 16.2% | 23.8% | 36.6% | 18.1% | 5.2% | 2.7 |
| CENTRAL | 318 | 16.4% | 25.5% | 34.9% | 19.2% | 4.1% | 2.7 |
| METRO | 339 | 14.7% | 23.6% | 37.8% | 18.6% | 5.3% | 2.8 |
| NORTH | 307 | 18.2% | 21.5% | 36.8% | 17.3% | 6.2% | 2.7 |
| SOUTH | 346 | 16.2% | 24.3% | 37.3% | 16.8% | 5.5% | 2.7 |
| | | | $\chi^2$= 4.8 n.s. | | | | |
| CRANE | 322 | 24.3% | 23.4% | 27.1% | 18.4% | 6.9% | 2.6 |
| PICTORAL | 322 | 14.9% | 25.8% | 35.1% | 16.8% | 7.5% | 2.8 |
| | | | $\chi^2$= 21.463** V = 0.074 | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 0.2 n.s. for one-way ANOVA comparing regional means. F = 1.7 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 7-24: Experiences during the 2017 season: Calling geese in.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1278 | 26.7% | 22.4% | 26.3% | 16.8% | 7.8% | 2.6 |
| CENTRAL | 309 | 26.2% | 21.7% | 23.6% | 20.4% | 8.1% | 2.6 |
| METRO | 330 | 29.4% | 23.3% | 28.2% | 12.1% | 7.0% | 2.4 |
| NORTH | 302 | 23.2% | 22.2% | 25.2% | 19.5% | 9.9% | 2.7 |
| SOUTH | 341 | 27.0% | 22.3% | 28.4% | 16.1% | 6.2% | 2.5 |
| | $\chi^2$= 15.9 n.s. | | | | | | |
| CRANE | 325 | 15.7% | 14.8% | 30.5% | 24.6% | 14.5% | 3.1 |
| PICTORAL | 318 | 30.2% | 25.5% | 23.6% | 14.5% | 6.3% | 2.4 |
| | $\chi^2$= 55.584*** V = 0.120 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 2.8* for one-way ANOVA comparing regional means. F = 27.0*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-25: Experiences during the 2017 season: Bagging my daily limit.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1316 | 44.1% | 24.9% | 22.3% | 6.5% | 2.2% | 2.0 |
| CENTRAL | 317 | 47.0% | 24.0% | 20.8% | 6.3% | 1.9% | 1.9 |
| METRO | 341 | 48.4% | 24.9% | 19.1% | 6.2% | 1.5% | 1.9 |
| NORTH | 314 | 35.7% | 25.5% | 27.4% | 8.0% | 3.5% | 2.2 |
| SOUTH | 348 | 41.7% | 25.9% | 24.4% | 5.7% | 2.3% | 2.0 |
| | $\chi^2$= 18.3 n.s. | | | | | | |
| CRANE | 328 | 29.9% | 19.2% | 30.5% | 12.8% | 7.6% | 2.5 |
| PICTORAL | 317 | 40.9% | 26.7% | 18.9% | 11.3% | 2.2% | 2.1 |
| | $\chi^2$= 70.026*** V = 0.134 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 5.3** for one-way ANOVA comparing regional means. F = 28.2*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-26: Experiences during the 2017 season: Bagging at least one duck during a day in the field.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1319 | 20.0% | 20.8% | 23.3% | 21.7% | 14.2% | 2.9 |
| CENTRAL | 317 | 20.5% | 18.9% | 25.2% | 19.6% | 15.8% | 2.9 |
| METRO | 344 | 20.1% | 21.8% | 18.3% | 25.0% | 14.8% | 2.9 |
| NORTH | 313 | 20.4% | 19.8% | 24.3% | 23.6% | 11.8% | 2.9 |
| SOUTH | 347 | 18.7% | 23.1% | 27.7% | 17.3% | 13.3% | 2.8 |
| | $\chi^2 = 17.0$ n.s. | | | | | | |
| CRANE | 323 | 28.8% | 20.7% | 18.0% | 15.2% | 17.3% | 2.7 |
| PICTORAL | 316 | 21.5% | 17.7% | 21.2% | 20.3% | 19.3% | 3.0 |
| | $\chi^2 = 24.533^{**}$ V = 0.079 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 0.4 n.s. for one-way ANOVA comparing regional means. F = 3.3* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-27: Experiences during the 2017 season: Bagging drakes.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1307 | 21.5% | 26.1% | 32.4% | 15.5% | 4.5% | 2.6 |
| CENTRAL | 317 | 19.9% | 27.1% | 35.0% | 15.1% | 2.8% | 2.5 |
| METRO | 338 | 23.1% | 26.3% | 30.5% | 15.1% | 5.0% | 2.5 |
| NORTH | 308 | 20.1% | 26.6% | 30.8% | 16.9% | 5.5% | 2.6 |
| SOUTH | 347 | 22.8% | 23.6% | 33.4% | 15.3% | 4.9% | 2.6 |
| | $\chi^2 = 7.0$ n.s. | | | | | | |
| CRANE | 322 | 32.4% | 22.7% | 23.1% | 16.5% | 5.3% | 2.4 |
| PICTORAL | 316 | 19.0% | 24.4% | 34.2% | 17.4% | 5.1% | 2.7 |
| | $\chi^2 = 26.579^{**}$ V = 0.083 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 0.3 n.s. for one-way ANOVA comparing regional means. F = 4.0* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-28: Experiences during the 2017 season: Bagging a lot of ducks over the season.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---------|---|-----------|----------|----------|---------|-----------|------|
| Statewide[3] | 1309 | 44.4% | 27.0% | 20.3% | 5.6% | 2.7% | 2.0 |
| CENTRAL | 314 | 46.8% | 24.8% | 18.2% | 6.7% | 3.5% | 2.0 |
| METRO | 343 | 44.6% | 28.0% | 21.0% | 5.0% | 1.5% | 1.9 |
| NORTH | 311 | 40.5% | 27.0% | 22.2% | 6.4% | 3.9% | 2.1 |
| SOUTH | 343 | 44.9% | 28.6% | 20.1% | 4.1% | 2.3% | 1.9 |
| | $\chi^2$= 10.9 n.s. | | | | | | |
| CRANE | 325 | 44.3% | 22.2% | 22.2% | 7.7% | 3.7% | 2.0 |
| PICTORAL | 318 | 42.8% | 28.0% | 19.2% | 6.6% | 3.5% | 2.0 |
| | $\chi^2$= 6.873 n.s. | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 1.6 n.s. for one-way ANOVA comparing regional means. F = 1.1 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-29: Experiences during the 2017 season: Bagging a lot of geese over the season.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---------|---|-----------|----------|----------|---------|-----------|------|
| Statewide[3] | 1290 | 51.6% | 25.0% | 15.7% | 4.9% | 2.8% | 1.8 |
| CENTRAL | 316 | 54.1% | 21.5% | 16.8% | 3.8% | 3.8% | 1.8 |
| METRO | 330 | 57.3% | 23.3% | 12.4% | 5.5% | 1.5% | 1.7 |
| NORTH | 308 | 42.9% | 27.6% | 19.8% | 6.2% | 3.6% | 2.0 |
| SOUTH | 339 | 47.8% | 30.4% | 15.0% | 4.1% | 2.7% | 1.8 |
| | $\chi^2$= 25.9* V=0.141 | | | | | | |
| CRANE | 327 | 31.8% | 25.7% | 23.9% | 12.5% | 6.1% | 2.4 |
| PICTORAL | 317 | 62.8% | 16.4% | 13.9% | 3.8% | 3.2% | 1.7 |
| | $\chi^2$= 90.478*** V = 0.153 | | | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F=4.3** for one-way ANOVA comparing regional means. F = 38.1*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-30: Experiences during the 2017 season: Bagging a variety of different duck species.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1313 | 30.9% | 29.6% | 26.1% | 10.5% | 2.9% | 2.2 |
| CENTRAL | 318 | 31.1% | 32.1% | 25.5% | 8.8% | 2.5% | 2.2 |
| METRO | 340 | 32.1% | 27.6% | 23.8% | 12.9% | 3.5% | 2.3 |
| NORTH | 311 | 28.3% | 28.9% | 28.0% | 12.5% | 2.3% | 2.3 |
| SOUTH | 347 | 31.4% | 29.7% | 29.1% | 6.6% | 3.2% | 2.2 |
| | | | | $\chi^2 = 14.5$ n.s. | | | |
| CRANE | 328 | 38.1% | 22.3% | 22.3% | 14.0% | 3.4% | 2.2 |
| PICTORAL | 320 | 32.2% | 20.6% | 27.8% | 15.3% | 4.1% | 2.4 |
| | | | $\chi^2 = 24.864^{**}$ V = 0.080 | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F=0.9 n.s. for one-way ANOVA comparing regional means. F = 2.2 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-31: Experiences during the 2017 season: Bagging diving ducks.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---|---|---|---|---|---|---|---|
| Statewide[3] | 1309 | 48.0% | 24.5% | 18.3% | 7.7% | 1.5% | 1.9 |
| CENTRAL | 319 | 50.8% | 21.6% | 19.1% | 7.2% | 1.3% | 1.9 |
| METRO | 339 | 50.1% | 25.1% | 14.7% | 7.4% | 2.7% | 1.9 |
| NORTH | 308 | 39.9% | 26.0% | 22.4% | 11.0% | 0.6% | 2.1 |
| SOUTH | 345 | 49.0% | 26.4% | 18.3% | 5.5% | 0.9% | 1.8 |
| | | | | $\chi^2 = 24.7^{*}$ V = 0.079 | | | |
| CRANE | 327 | 48.8% | 18.1% | 19.3% | 7.7% | 6.1% | 2.0 |
| PICTORAL | 319 | 47.6% | 23.5% | 18.8% | 8.2% | 1.9% | 1.9 |
| | | | $\chi^2 = 28.822^{***}$ V = 0.086 | | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F=3.3* for one-way ANOVA comparing regional means. F = 2.3 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 7-32: Experiences during the 2017 season: Bagging mallards.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---------|---|-----------|----------|----------|---------|-----------|---------|
| Statewide[3] | 1322 | 28.2% | 29.3% | 27.1% | 11.3% | 4.1% | 2.3 |
| CENTRAL | 320 | 28.4% | 29.7% | 27.5% | 10.9% | 3.4% | 2.3 |
| METRO | 343 | 28.9% | 30.3% | 23.6% | 11.7% | 5.5% | 2.3 |
| NORTH | 314 | 26.8% | 27.4% | 29.3% | 12.4% | 4.1% | 2.4 |
| SOUTH | 347 | 28.2% | 29.4% | 30.0% | 9.8% | 2.6% | 2.3 |
| | | | | $\chi^2$= 9.0 n.s. | | | |
| CRANE | 327 | 29.4% | 24.2% | 32.5% | 8.9% | 4.9% | 2.4 |
| PICTORAL | 320 | 26.8% | 29.0% | 24.9% | 15.9% | 3.4% | 2.4 |
| | | | | $\chi^2$= 14.773 n.s. | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F= 0.6 n.s. for one-way ANOVA comparing regional means. F = 0.4 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-33: Experiences during the 2017 season: Bagging teal and wood ducks.**

| Regions | n | Not at all | Slightly | Somewhat | Largely | Very much | Mean[2] |
|---------|---|-----------|----------|----------|---------|-----------|---------|
| Statewide[3] | 1321 | 21.8% | 23.3% | 29.2% | 18.4% | 7.3% | 2.7 |
| CENTRAL | 321 | 20.9% | 24.3% | 29.9% | 17.4% | 7.5% | 2.7 |
| METRO | 341 | 20.8% | 24.0% | 26.1% | 19.9% | 9.1% | 2.7 |
| NORTH | 313 | 25.9% | 20.4% | 33.5% | 15.3% | 4.8% | 2.5 |
| SOUTH | 349 | 20.3% | 23.5% | 28.7% | 20.6% | 6.9% | 2.7 |
| | | | | $\chi^2$= 14.9 n.s. | | | |
| CRANE | 328 | 36.5% | 22.2% | 27.4% | 10.3% | 3.6% | 2.2 |
| PICTORAL | 321 | 22.2% | 17.8% | 32.5% | 22.2% | 5.3% | 2.7 |
| | | | | $\chi^2$= 49.416*** V = 0.112 | | | |

[1] Table includes only respondents who actually hunted waterfowl during 2017.
[2] F=1.7 n.s. for one-way ANOVA comparing regional means. F = 19.0*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = not at all important, 2 = slightly important, 3 = somewhat important, 4= very important, 5 = extremely important.
[3] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-34: How important is waterfowl hunting to you?**

| Residence of hunter | N | ...my most important recreational activity | ...one of my most important recreational activities | ...no more important than my other recreational activities | ...less important than my other recreational activities | ...one of my least important recreational activities. | Mean[1] |
|---|---|---|---|---|---|---|---|
| | | | | **% of hunters indicating...** | | | |
| Statewide[2] | 1608 | 10.4% | 48.6% | 27.8% | 10.9% | 2.4% | 2.5 |
| CENTRAL | 387 | 10.3% | 48.6% | 25.1% | 12.4% | 3.6% | 2.5 |
| METRO | 421 | 9.7% | 49.9% | 28.3% | 10.2% | 1.9% | 2.4 |
| NORTH | 390 | 10.8% | 46.2% | 31.5% | 9.2% | 2.3% | 2.5 |
| SOUTH | 409 | 11.0% | 49.1% | 26.7% | 11.5% | 1.7% | 2.4 |
| | | $\chi^2$= 10.0 n.s. | | | | | |
| CRANE | 389 | 14.1% | 53.7% | 21.3% | 8.7% | 2.1% | 2.3 |
| PICTORAL | 405 | 16.6% | 52.7% | 21.3% | 7.2% | 2.2% | 2.3 |
| | | $\chi^2$= 28.218*** V = 0.077 | | | | | |

[1] F=0.4 n.s. for one-way ANOVA comparing regional means. F = 10.9*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the following scale: 1= my most important recreational activity, 2= one of my most important recreational activities, 3= no more important than my other recreational activities, 4= less important than my other recreational activities, 5= one of my least important recreational activities.
[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.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 7-35: Likelihood of hunting for ducks or geese during the 2018 Minnesota waterfowl season.**

| Regions | N | Very unlikely | Somewhat unlikely | Slightly unlikely | Undecided | Slightly likely | Somewhat likely | Very likely | Mean[1] |
|---|---|---|---|---|---|---|---|---|---|
| Statewide[2] | 1574 | 2.8% | 2.3% | 0.9% | 5.9% | 5.5% | 13.4% | 69.3% | 6.3 |
| CENTRAL | 380 | 4.5% | 2.4% | 0.8% | 7.9% | 5.8% | 14.2% | 64.5% | 6.1 |
| METRO | 411 | 2.4% | 2.2% | 0.7% | 3.4% | 6.1% | 13.6% | 71.5% | 6.4 |
| NORTH | 383 | 1.8% | 1.8% | 1.0% | 5.0% | 4.4% | 12.5% | 73.4% | 6.4 |
| SOUTH | 399 | 2.0% | 2.8% | 1.0% | 8.3% | 5.3% | 12.5% | 68.2% | 6.2 |
| | | $\chi^2$= 22.6 n.s. | | | | | | | |
| CRANE | 384 | 2.1% | 1.6% | | 5.5% | 4.7% | 8.6% | 77.6% | 6.4 |
| PICTORAL | 396 | 3.3% | 1.5% | 0.8% | 5.3% | 4.0% | 11.8% | 73.3% | 6.3 |
| | | $\chi^2$= 16.668 n.s. | | | | | | | |

[1] F= 3.7* for one-way ANOVA comparing regional means. F = 2.9 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: 1 = very unlikely, 2 = somewhat unlikely, 3 = slightly unlikely, 4= undecided, 5 = slightly likely, 6 = somewhat likely, 7= very likely.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-36: Mean statewide results: Involvement in waterfowl hunting.**

| Involvement item | N | Mean[1,2] |
|---|---|---|
| Waterfowl hunting is one of the most enjoyable things I do. | 1623 | 4.0 |
| Waterfowl hunting provides me with the opportunity to be with friends. | 1616 | 4.1 |
| To change my preference from waterfowl hunting to another recreation activity would require major rethinking. | 1624 | 3.5 |
| A lot of my life is organized around waterfowl hunting. | 1616 | 2.9 |
| Waterfowl hunting has a central role in my life. | 1598 | 2.9 |
| Most of my friends are in some way connected with waterfowl hunting. | 1624 | 3.1 |
| When I am waterfowl hunting, others see me the way I want them to see me. | 1621 | 3.6 |
| I identify with the people and image associated with waterfowl hunting. | 1617 | 3.5 |
| Waterfowl hunting is one of the most satisfying things I do. | 1622 | 3.6 |
| Participating in waterfowl hunting says a lot about who I am. | 1617 | 3.3 |
| Waterfowl hunting is very important to me. | 1619 | 3.8 |
| You can tell a lot about a person when you see them waterfowl hunting. | 1619 | 3.2 |
| When I am waterfowl hunting I can really be myself. | 1617 | 3.6 |
| I enjoy discussing waterfowl hunting with my friends. | 1613 | 4.0 |
| When I am waterfowl hunting, I don't have to be concerned about what other people think of me. | 1616 | 3.5 |

[1] Grand mean=3.5, F=12568.7***, $\eta^2$=0.199. 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. Data in this table is weighted to reflect regional proportions in the population.

**Table 7-37: Involvement in waterfowl hunting: Agreement/disagreement that... Waterfowl hunting is one of the most enjoyable things I do.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1623 | 1.1% | 3.7% | 22.2% | 43.1% | 29.8% | 4.0 |
| CENTRAL | 392 | 1.0% | 5.1% | 23.2% | 41.1% | 29.6% | 3.9 |
| METRO | 425 | 1.2% | 3.1% | 21.4% | 45.9% | 28.5% | 4.0 |
| NORTH | 393 | 1.5% | 2.3% | 21.6% | 41.2% | 33.3% | 4.0 |
| SOUTH | 411 | 0.7% | 4.1% | 22.9% | 43.8% | 28.5% | 4.0 |
| | | | | $\chi^2$= 10.2 n.s. | | | |
| CRANE | 395 | 1.5% | 4.8% | 17.8% | 39.8% | 36.0% | 4.0 |
| PICTORAL | 403 | 0.7% | 3.2% | 16.3% | 41.8% | 37.9% | 4.1 |
| | | | | $\chi^2$= 19.364* V = 0.063 | | | |

[1] F=0.8 n.s. for one-way ANOVA comparing regional means. F = 6.1** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-38: Involvement in waterfowl hunting: Agreement/disagreement that… Waterfowl hunting provides me with the opportunity to be with friends.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1616 | 0.7% | 2.5% | 15.1% | 52.6% | 29.3% | 4.1 |
| CENTRAL | 389 | 1.0% | 2.1% | 14.1% | 54.5% | 28.3% | 4.1 |
| METRO | 425 | 0.0% | 2.4% | 11.5% | 51.1% | 35.1% | 4.2 |
| NORTH | 390 | 0.3% | 3.1% | 20.5% | 50.8% | 25.4% | 4.0 |
| SOUTH | 411 | 1.7% | 2.7% | 16.3% | 54.3% | 25.1% | 4.0 |
| | $\chi^2$= 32.4** V = 0.082 | | | | | | |
| CRANE | 393 | 1.5% | 3.3% | 14.0% | 47.2% | 34.0% | 4.1 |
| PICTORAL | 403 | 1.0% | 1.5% | 17.0% | 46.9% | 33.7% | 4.1 |
| | $\chi^2$= 13.360 n.s. | | | | | | |

[1] F=6.7*** for one-way ANOVA comparing regional means. F = 0.2 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-39: Involvement in waterfowl hunting: Agreement/disagreement that… To change my preference from waterfowl hunting to another recreation activity would require major rethinking.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1624 | 3.7% | 16.9% | 31.0% | 27.0% | 21.4% | 3.5 |
| CENTRAL | 392 | 2.6% | 16.1% | 33.2% | 27.0% | 21.2% | 3.5 |
| METRO | 426 | 3.5% | 18.5% | 31.2% | 24.2% | 22.5% | 3.4 |
| NORTH | 393 | 3.8% | 16.0% | 28.2% | 29.5% | 22.4% | 3.5 |
| SOUTH | 411 | 5.8% | 16.1% | 30.7% | 29.0% | 18.5% | 3.4 |
| | $\chi^2$= 13.3 n.s. | | | | | | |
| CRANE | 391 | 4.6% | 13.3% | 22.7% | 32.1% | 27.3% | 3.6 |
| PICTORAL | 404 | 2.7% | 12.2% | 31.0% | 25.6% | 28.5% | 3.6 |
| | $\chi^2$= 29.341*** V = 0.078 | | | | | | |

[1] F=1.0 n.s. for one-way ANOVA comparing regional means. F = 7.7*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 7-40: Involvement in waterfowl hunting: Agreement/disagreement that… A lot of my life is organized around waterfowl hunting.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1616 | 9.7% | 29.6% | 32.1% | 19.5% | 9.1% | 2.9 |
| CENTRAL | 388 | 12.1% | 28.4% | 32.2% | 19.1% | 8.2% | 2.8 |
| METRO | 426 | 6.8% | 32.2% | 31.9% | 21.1% | 8.0% | 2.9 |
| NORTH | 391 | 9.2% | 29.9% | 30.4% | 18.7% | 11.8% | 2.9 |
| SOUTH | 409 | 11.7% | 26.7% | 34.2% | 18.1% | 9.3% | 2.9 |
| | $\chi^2$= 15.8 n.s. | | | | | | |
| CRANE | 393 | 10.2% | 22.8% | 28.6% | 23.3% | 15.1% | 3.1 |
| PICTORAL | 404 | 9.4% | 23.3% | 31.3% | 21.6% | 14.4% | 3.1 |
| | $\chi^2$= 27.849** V = 0.076 | | | | | | |

[1] F=0.7 n.s. for one-way ANOVA comparing regional means. F = 8.7*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-41: Involvement in waterfowl hunting: Agreement/disagreement that… Waterfowl hunting has a central role in my life.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1598 | 12.5% | 27.2% | 29.9% | 21.0% | 9.4% | 2.9 |
| CENTRAL | 387 | 12.4% | 27.1% | 30.5% | 21.2% | 8.8% | 2.9 |
| METRO | 418 | 14.4% | 26.1% | 30.4% | 20.8% | 8.4% | 2.8 |
| NORTH | 386 | 10.4% | 29.8% | 28.2% | 18.7% | 13.0% | 2.9 |
| SOUTH | 406 | 12.1% | 26.4% | 29.8% | 23.9% | 7.9% | 2.9 |
| | $\chi^2$= 13.7 n.s. | | | | | | |
| CRANE | 390 | 10.5% | 21.1% | 31.6% | 24.4% | 12.3% | 3.1 |
| PICTORAL | 397 | 8.8% | 19.9% | 25.8% | 30.8% | 14.6% | 3.2 |
| | $\chi^2$= 38.921*** V = 0.090 | | | | | | |

[1] F=0.7 n.s. for one-way ANOVA comparing regional means. F = 15.9*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-42: Involvement in waterfowl hunting: Agreement/disagreement that… Most of my friends are in some way connected with waterfowl hunting.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1624 | 7.3% | 24.8% | 28.5% | 31.3% | 8.1% | 3.1 |
| CENTRAL | 391 | 7.4% | 20.5% | 29.9% | 33.2% | 9.0% | 3.2 |
| METRO | 427 | 7.0% | 29.7% | 26.2% | 29.3% | 7.7% | 3.0 |
| NORTH | 392 | 6.6% | 24.0% | 31.6% | 29.3% | 8.4% | 3.1 |
| SOUTH | 412 | 8.3% | 24.0% | 26.7% | 34.0% | 7.0% | 3.1 |
| | | | | $\chi^2$= 14.6 n.s. | | | |
| CRANE | 395 | 6.3% | 22.0% | 28.8% | 32.6% | 10.4% | 3.2 |
| PICTORAL | 406 | 8.4% | 24.7% | 29.1% | 29.4% | 8.4% | 3.0 |
| | | | | $\chi^2$= 4.860 n.s. | | | |

[1] F=1.3 n.s. for one-way ANOVA comparing regional means. F = 2.0 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-43: Involvement in waterfowl hunting: Agreement/disagreement that… When I am waterfowl hunting, others see me the way I want them to see me.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1621 | 3.0% | 6.1% | 35.4% | 40.6% | 14.9% | 3.6 |
| CENTRAL | 391 | 3.8% | 3.8% | 36.1% | 41.2% | 15.1% | 3.6 |
| METRO | 426 | 2.8% | 7.7% | 35.0% | 39.9% | 14.6% | 3.6 |
| NORTH | 390 | 2.3% | 6.7% | 34.9% | 41.0% | 15.1% | 3.6 |
| SOUTH | 412 | 2.9% | 5.8% | 35.7% | 40.5% | 15.0% | 3.6 |
| | | | | $\chi^2$= 7.3 n.s. | | | |
| CRANE | 394 | 3.8% | 7.1% | 31.0% | 41.5% | 16.5% | 3.6 |
| PICTORAL | 403 | 4.0% | 5.2% | 36.1% | 38.3% | 16.4% | 3.6 |
| | | | | $\chi^2$= 5.792 n.s. | | | |

[1] F=0.2 n.s. for one-way ANOVA comparing regional means. F = 0.0 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-44: Involvement in waterfowl hunting: Agreement/disagreement that… I identify with the people and image associated with waterfowl hunting.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1617 | 3.2% | 10.1% | 34.8% | 40.3% | 11.5% | 3.5 |
| CENTRAL | 390 | 3.3% | 10.5% | 35.9% | 39.2% | 11.0% | 3.4 |
| METRO | 424 | 3.5% | 11.6% | 32.1% | 40.3% | 12.5% | 3.5 |
| NORTH | 391 | 2.3% | 8.7% | 36.6% | 40.7% | 11.8% | 3.5 |
| SOUTH | 411 | 3.6% | 8.8% | 35.8% | 41.6% | 10.2% | 3.5 |
| | $\chi^2$= 6.6 n.s. | | | | | | |
| CRANE | 394 | 4.3% | 8.1% | 30.6% | 43.5% | 13.4% | 3.5 |
| PICTORAL | 404 | 2.2% | 6.2% | 30.0% | 49.3% | 12.4% | 3.6 |
| | $\chi^2$= 19.379* V = 0.63 | | | | | | |

[1] F=0.4 n.s. for one-way ANOVA comparing regional means. F = 5.3** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p< 0.01$, ***$p< 0.001$

**Table 7-45: Involvement in waterfowl hunting: Agreement/disagreement that… Waterfowl hunting is one of the most satisfying things I do.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1622 | 3.0% | 12.3% | 29.0% | 37.7% | 18.1% | 3.6 |
| CENTRAL | 390 | 2.8% | 14.1% | 30.0% | 36.7% | 16.4% | 3.5 |
| METRO | 426 | 3.5% | 12.2% | 24.4% | 41.1% | 18.8% | 3.6 |
| NORTH | 393 | 1.8% | 10.2% | 31.8% | 37.7% | 18.6% | 3.6 |
| SOUTH | 412 | 3.9% | 11.9% | 32.0% | 33.3% | 18.9% | 3.5 |
| | $\chi^2$= 15.7 n.s. | | | | | | |
| CRANE | 394 | 4.3% | 9.9% | 23.1% | 40.6% | 22.1% | 3.7 |
| PICTORAL | 404 | 2.7% | 10.1% | 23.2% | 37.5% | 26.4% | 3.8 |
| | $\chi^2$= 23.996** V = 0.070 | | | | | | |

[1] F=1.2 n.s. for one-way ANOVA comparing regional means. F = 6.6** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p< 0.01$, ***$p< 0.001$

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-46: Involvement in waterfowl hunting: Agreement/disagreement that… Participating in waterfowl hunting says a lot about who I am.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1617 | 4.3% | 15.2% | 34.3% | 33.6% | 12.6% | 3.3 |
| CENTRAL | 389 | 3.6% | 17.0% | 36.8% | 29.3% | 13.4% | 3.3 |
| METRO | 425 | 5.6% | 16.9% | 31.3% | 35.3% | 10.8% | 3.3 |
| NORTH | 390 | 3.1% | 11.8% | 33.6% | 36.7% | 14.9% | 3.5 |
| SOUTH | 412 | 4.6% | 13.1% | 36.9% | 33.7% | 11.7% | 3.3 |
| | | | $\chi^2$= 18.8 n.s. | | | | |
| CRANE | 391 | 6.1% | 10.0% | 34.3% | 34.5% | 15.1% | 3.4 |
| PICTORAL | 403 | 4.2% | 12.4% | 32.7% | 35.6% | 15.1% | 3.5 |
| | | | $\chi^2$= 12.517 n.s. | | | | |

[1] F=2.9* n.s. for one-way ANOVA comparing regional means. F = 2.1 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-47: Involvement in waterfowl hunting: Agreement/disagreement that… Waterfowl hunting is very important to me.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1619 | 2.2% | 7.9% | 25.8% | 39.6% | 24.4% | 3.8 |
| CENTRAL | 389 | 2.3% | 8.5% | 28.5% | 36.8% | 23.9% | 3.7 |
| METRO | 426 | 2.3% | 9.2% | 23.7% | 40.6% | 24.2% | 3.8 |
| NORTH | 392 | 1.3% | 5.9% | 25.5% | 41.3% | 26.0% | 3.8 |
| SOUTH | 410 | 2.9% | 7.3% | 25.6% | 40.5% | 23.7% | 3.7 |
| | | | $\chi^2$= 9.5 n.s. | | | | |
| CRANE | 393 | 4.6% | 6.6% | 17.3% | 42.2% | 29.3% | 3.8 |
| PICTORAL | 405 | 2.5% | 5.9% | 18.5% | 38.3% | 34.8% | 4.0 |
| | | | $\chi^2$= 38.096*** V = 0.089 | | | | |

[1] F=1.4 n.s. for one-way ANOVA comparing regional means. F = 7.6** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-48: Involvement in waterfowl hunting: Agreement/disagreement that… You can tell a lot about a person when you see them waterfowl hunting.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1619 | 5.4% | 14.9% | 39.3% | 30.5% | 9.9% | 3.2 |
| CENTRAL | 389 | 6.9% | 13.1% | 39.6% | 32.4% | 8.0% | 3.2 |
| METRO | 425 | 4.5% | 16.7% | 40.2% | 28.2% | 10.4% | 3.2 |
| NORTH | 392 | 4.6% | 15.1% | 39.3% | 29.6% | 11.5% | 3.3 |
| SOUTH | 412 | 5.6% | 14.1% | 37.4% | 32.5% | 10.4% | 3.3 |
| $\chi^2 = 9.7$ n.s. | | | | | | | |
| CRANE | 394 | 4.3% | 16.0% | 36.6% | 32.6% | 10.4% | 3.3 |
| PICTORAL | 405 | 5.7% | 11.6% | 43.1% | 30.7% | 8.9% | 3.3 |
| $\chi^2 = 6.977$ n.s. | | | | | | | |

[1] F=0.5 n.s. for one-way ANOVA comparing regional means. F = 0.3 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-49: Involvement in waterfowl hunting: Agreement/disagreement that… When I am waterfowl hunting I can really be myself.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1617 | 2.4% | 6.2% | 33.5% | 41.9% | 16.0% | 3.6 |
| CENTRAL | 389 | 3.1% | 5.1% | 36.0% | 40.9% | 14.9% | 3.6 |
| METRO | 425 | 2.4% | 7.8% | 30.8% | 44.9% | 14.1% | 3.6 |
| NORTH | 390 | 1.5% | 6.2% | 32.3% | 40.8% | 19.2% | 3.7 |
| SOUTH | 412 | 2.4% | 4.9% | 35.7% | 39.6% | 17.5% | 3.6 |
| $\chi^2 = 13.7$ n.s. | | | | | | | |
| CRANE | 394 | 4.1% | 7.4% | 29.2% | 40.9% | 18.5% | 3.6 |
| PICTORAL | 403 | 3.2% | 5.0% | 31.3% | 44.2% | 16.4% | 3.7 |
| $\chi^2 = 8.962$ n.s. | | | | | | | |

[1] F=1.1 n.s. for one-way ANOVA comparing regional means. F = 0.1 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-50: Involvement in waterfowl hunting: Agreement/disagreement that… I enjoy discussing waterfowl hunting with my friends.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1613 | 0.9% | 2.5% | 18.2% | 54.8% | 23.5% | 4.0 |
| CENTRAL | 388 | 1.5% | 2.6% | 19.3% | 54.4% | 22.2% | 3.9 |
| METRO | 424 | 0.5% | 3.1% | 17.0% | 54.0% | 25.5% | 4.0 |
| NORTH | 390 | 0.5% | 2.1% | 18.5% | 54.6% | 24.4% | 4.0 |
| SOUTH | 410 | 1.2% | 2.0% | 18.5% | 57.3% | 21.0% | 3.9 |
| $\chi^2$= 8.4 n.s. | | | | | | | |
| CRANE | 393 | 2.0% | 4.3% | 15.3% | 52.4% | 26.0% | 4.0 |
| PICTORAL | 403 | 0.7% | 2.7% | 15.2% | 55.5% | 25.9% | 4.0 |
| $\chi^2$= 12.395 n.s. | | | | | | | |

[1] F=1.0 n.s. for one-way ANOVA comparing regional means. F = 0.9 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 7-51: Involvement in waterfowl hunting: Agreement/disagreement that… When I am waterfowl hunting, I don't have to be concerned about what other people think of me.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1616 | 5.4% | 9.9% | 29.0% | 37.3% | 18.3% | 3.5 |
| CENTRAL | 389 | 4.9% | 9.5% | 32.1% | 36.5% | 17.0% | 3.5 |
| METRO | 425 | 5.6% | 8.9% | 28.0% | 38.8% | 18.6% | 3.6 |
| NORTH | 390 | 5.4% | 10.8% | 28.2% | 36.7% | 19.0% | 3.5 |
| SOUTH | 411 | 5.6% | 11.4% | 27.0% | 36.7% | 19.2% | 3.5 |
| $\chi^2$= 5.0 n.s. | | | | | | | |
| CRANE | 391 | 8.1% | 14.0% | 24.7% | 29.8% | 23.4% | 3.5 |
| PICTORAL | 404 | 6.9% | 12.4% | 28.2% | 32.2% | 20.3% | 3.5 |
| $\chi^2$= 22.916** V = 0.069 | | | | | | | |

[1] F=0.1 n.s. for one-way ANOVA comparing regional means. F = 1.1 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 7: Motivations for and Importance of Waterfowl Hunting

**Table 7-52: When you hunt waterfowl in Minnesota, do you <u>typically</u> hunt…**

| Regions | N | Alone | With a friend or friends | With family | With a group of family and friends | Both alone and with others about the same amount of time |
|---|---|---|---|---|---|---|
| Statewide[2] | 1563 | 7.3% | 31.0% | 23.9% | 21.2% | 16.6% |
| CENTRAL | 368 | 7.1% | 30.2% | 29.6% | 18.2% | 14.9% |
| METRO | 414 | 5.3% | 35.7% | 18.6% | 26.1% | 14.3% |
| NORTH | 387 | 8.0% | 26.1% | 25.3% | 20.2% | 20.4% |
| SOUTH | 394 | 10.2% | 29.7% | 22.8% | 18.3% | 19.0% |
| | $\chi^2$= 37.5*** V = 0.089 | | | | | |
| CRANE | 383 | 8.4% | 26.6% | 15.7% | 28.7% | 20.6% |
| PICTORAL | 391 | 8.7% | 30.4% | 18.9% | 23.3% | 18.7% |
| | $\chi^2$= 25.326** V = 0.074 | | | | | |

[1] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 7-53: When you hunt waterfowl in Minnesota, do you typically hunt…**

| Regions | N | When I plan the hunt myself | When someone else invites me on a hunt they plan | Both when I plan the hunt or someone else invites me |
|---|---|---|---|---|
| Statewide[2] | 1611 | 28.2% | 11.6% | 60.2% |
| CENTRAL | 384 | 27.6% | 11.2% | 61.2% |
| METRO | 427 | 23.9% | 13.8% | 62.3% |
| NORTH | 390 | 33.1% | 9.7% | 57.2% |
| SOUTH | 409 | 31.1% | 10.3% | 58.7% |
| | $\chi^2$= 11.7 n.s. | | | |
| CRANE | 391 | 25.1% | 6.6% | 68.3% |
| PICTORAL | 399 | 29.8% | 8.3% | 61.9% |
| | $\chi^2$= 14.109** V = 0.054 | | | |

[1] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

# Section 8: Trust in Minnesota Department of Natural Resources

**Trust in and Desire for Voice with the Minnesota Department of Natural Resources**

Respondents were asked to rate their agreement with 14 items addressing their trust in and desire for voice with the Minnesota Department of Natural Resources (MNDNR) using the scale 1 (strongly disagree) to 5 (strongly agree). Respondents agreed most strongly with items related to having opportunity to voice opinions to the MNDNR about management, and about willingness to accept decisions made by the DNR about waterfowl management (Table 8-1). Means and frequencies for the 14 trust statements strategies are presented in Tables 8-2 through 8-15. Differences among regions and study samples were minimal. Where differences existed among regions, respondents from the metropolitan region were slightly more likely to agree with items addressing trust in the MNDNR.

# Section 8: Trust in the Minnesota Department of Natural Resources

**Table 8-1: Mean statewide results: Trust in the Minnesota Department of Natural Resources.**

| Trust item | N | Mean[1,2] |
|---|---|---|
| The MNDNR does a good job of managing waterfowl. | 1616 | 3.1 |
| When deciding about waterfowl management in Minnesota, the MNDNR will be open and honest in the things they do and say. | 1610 | 3.1 |
| The MNDNR can be trusted to make decisions about waterfowl management that are good for the resource. | 1611 | 3.1 |
| The MNDNR will make decisions about waterfowl management in a way that is fair. | 1614 | 3.2 |
| The MNDNR has waterfowl managers and biologists who are well-trained for their jobs. | 1611 | 3.4 |
| The MNDNR listens to waterfowl hunters' concerns. | 1606 | 3.0 |
| I consider an opportunity to voice opinions to MNDNR waterfowl management desirable. | 1613 | 3.6 |
| I intend to respect MNDNR waterfowl management's future management decisions. | 1616 | 3.7 |
| I accept the decisions of MNDNR waterfowl management. | 1615 | 3.7 |
| I consider an opportunity to voice opinions to MNDNR about waterfowl management important. | 1614 | 3.8 |
| I think Minnesotans should have the right to voice opinions about waterfowl management to the MNDNR. | 1617 | 4.2 |
| I am willing to accept the decisions of MNDNR waterfowl management. | 1617 | 3.7 |
| I think MNDNR waterfowl management uses the best available science when making management decisions. | 1618 | 3.2 |
| I consider MNDNR decision-making about waterfowl management fair | 1617 | 3.3 |

[1]Grand mean=3.4, F=14625.7***, $\eta^2$=0.223. Mean based on scale: 1=strongly disagree, 2=disagree, 3=neither, 4=agree, 5=strongly agree.

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

# Section 8: Trust in the Minnesota Department of Natural Resources

**Table 8-2: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that…**
**The Minnesota DNR does a good job of managing waterfowl in Minnesota.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1616 | 6.9% | 16.8% | 40.2% | 33.0% | 3.1% | 3.1 |
| CENTRAL | 390 | 7.4% | 17.9% | 43.8% | 29.2% | 1.5% | 3.0 |
| METRO | 423 | 6.6% | 16.3% | 35.7% | 36.9% | 4.5% | 3.2 |
| NORTH | 390 | 7.9% | 16.2% | 40.5% | 32.3% | 3.1% | 3.1 |
| SOUTH | 413 | 5.3% | 16.5% | 42.1% | 32.7% | 3.4% | 3.1 |
| $\chi^2$= 16.0 n.s. | | | | | | | |
| CRANE | 391 | 7.9% | 17.3% | 36.0% | 32.9% | 5.9% | 3.1 |
| PICTORAL | 398 | 4.8% | 17.1% | 39.7% | 32.7% | 5.8% | 3.2 |
| $\chi^2$= 14.069 n.s. | | | | | | | |

[1] F= 2.5 n.s. for one-way ANOVA comparing regional means. F = 1.5 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 8-3: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that…**
**When deciding about waterfowl management in Minnesota, the Minnesota DNR will be open and honest in the things they do and say.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1610 | 4.7% | 15.5% | 47.5% | 28.0% | 4.3% | 3.1 |
| CENTRAL | 388 | 5.2% | 16.2% | 49.2% | 26.5% | 2.8% | 3.1 |
| METRO | 422 | 4.0% | 14.0% | 46.4% | 28.9% | 6.6% | 3.2 |
| NORTH | 388 | 5.4% | 16.5% | 46.9% | 27.8% | 3.4% | 3.1 |
| SOUTH | 412 | 4.4% | 15.8% | 47.6% | 28.6% | 3.6% | 3.1 |
| $\chi^2$= 11.7 Cramer's V=0. | | | | | | | |
| CRANE | 389 | 5.9% | 20.6% | 42.4% | 25.2% | 5.9% | 3.0 |
| PICTORAL | 401 | 5.5% | 12.7% | 43.1% | 31.7% | 7.0% | 3.2 |
| $\chi^2$= 20.280** V = 0.065 | | | | | | | |

[1] F=2.2 n.s. for one-way ANOVA comparing regional means. F = 3.6* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

*2017 Minnesota Waterfowl Hunting*

# Section 8: Trust in the Minnesota Department of Natural Resources

**Table 8-4: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… The Minnesota DNR can be trusted to make decisions about waterfowl management that are good for the resource.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1611 | 6.0% | 17.2% | 39.3% | 33.5% | 4.0% | 3.1 |
| CENTRAL | 389 | 5.9% | 17.0% | 42.9% | 31.4% | 2.8% | 3.1 |
| METRO | 421 | 5.7% | 15.2% | 39.2% | 34.0% | 5.9% | 3.2 |
| NORTH | 389 | 7.7% | 20.1% | 35.7% | 34.4% | 2.1% | 3.0 |
| SOUTH | 412 | 4.4% | 17.5% | 38.1% | 35.2% | 4.9% | 3.2 |
| $\chi^2 = 20.1$ n.s. | | | | | | | |
| CRANE | 390 | 6.1% | 18.4% | 35.8% | 33.8% | 5.9% | 3.1 |
| PICTORAL | 402 | 5.5% | 15.9% | 39.7% | 31.8% | 7.2% | 3.2 |
| $\chi^2 = 9.987$ n.s. | | | | | | | |

[1] $F = 2.9^*$ for one-way ANOVA comparing regional means. $F = 0.9$ n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

**Table 8-5: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… The Minnesota DNR will make decisions about waterfowl management in a way that is fair.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1614 | 3.4% | 13.3% | 44.1% | 35.2% | 4.0% | 3.2 |
| CENTRAL | 389 | 4.1% | 13.9% | 45.8% | 33.9% | 2.3% | 3.2 |
| METRO | 423 | 2.6% | 11.3% | 43.5% | 36.4% | 6.1% | 3.3 |
| NORTH | 390 | 4.4% | 15.1% | 41.0% | 37.2% | 2.3% | 3.2 |
| SOUTH | 411 | 2.7% | 13.9% | 46.0% | 32.6% | 4.9% | 3.2 |
| $\chi^2 = 19.7$ n.s. | | | | | | | |
| CRANE | 390 | 5.4% | 13.6% | 41.0% | 34.4% | 5.6% | 3.2 |
| PICTORAL | 400 | 3.5% | 14.0% | 39.5% | 35.5% | 7.5% | 3.3 |
| $\chi^2 = 13.964$ n.s. | | | | | | | |

[1] $F = 2.8^*$ for one-way ANOVA comparing regional means. $F = 1.0$ n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

# Section 8: Trust in the Minnesota Department of Natural Resources

**Table 8-6: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that…**
**The Minnesota DNR has waterfowl managers and biologists who are well-trained for their jobs.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1611 | 3.0% | 5.2% | 49.5% | 36.5% | 5.9% | 3.4 |
| CENTRAL | 387 | 4.1% | 5.4% | 54.0% | 32.6% | 3.9% | 3.3 |
| METRO | 422 | 2.8% | 4.5% | 46.7% | 38.4% | 7.6% | 3.4 |
| NORTH | 390 | 3.1% | 7.9% | 46.9% | 37.4% | 4.6% | 3.3 |
| SOUTH | 412 | 1.2% | 2.9% | 50.2% | 38.1% | 7.5% | 3.5 |
| | $\chi^2$= 29.4** V = 0.078 | | | | | | |
| CRANE | 388 | 2.8% | 7.0% | 46.3% | 34.1% | 9.8% | 3.4 |
| PICTORAL | 401 | 2.2% | 5.2% | 46.4% | 36.2% | 10.0% | 3.5 |
| | $\chi^2$= 15.778* V = 0.057 | | | | | | |

[1] F= 6.1*** for one-way ANOVA comparing regional means. F = 2.2 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 8-7: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that…**
**The Minnesota DNR listens to waterfowl hunters' concerns.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1606 | 7.0% | 18.8% | 47.0% | 23.6% | 3.5% | 3.0 |
| CENTRAL | 387 | 7.2% | 18.9% | 48.3% | 23.3% | 2.3% | 2.9 |
| METRO | 421 | 6.2% | 18.8% | 46.8% | 23.5% | 4.8% | 3.0 |
| NORTH | 384 | 8.3% | 18.0% | 47.4% | 23.7% | 2.6% | 2.9 |
| SOUTH | 414 | 6.5% | 19.8% | 44.9% | 24.4% | 4.3% | 3.0 |
| | $\chi^2$= 7.6 n.s. | | | | | | |
| CRANE | 389 | 8.2% | 20.3% | 44.7% | 22.9% | 3.9% | 2.9 |
| PICTORAL | 400 | 6.5% | 16.2% | 44.9% | 26.7% | 5.7% | 3.1 |
| | $\chi^2$= 8.740 n.s. | | | | | | |

[1] F=0.7 n.s. for one-way ANOVA comparing regional means. F = 2.8 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 8: Trust in the Minnesota Department of Natural Resources

**Table 8-8: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… I consider an opportunity to voice opinions to MNDNR waterfowl management desirable.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1613 | 1.2% | 4.2% | 41.0% | 41.5% | 12.1% | 3.6 |
| CENTRAL | 389 | 1.5% | 4.1% | 47.6% | 37.5% | 9.3% | 3.5 |
| METRO | 423 | 0.5% | 3.8% | 38.5% | 41.4% | 15.8% | 3.7 |
| NORTH | 389 | 1.8% | 5.1% | 34.2% | 46.5% | 12.3% | 3.6 |
| SOUTH | 411 | 1.2% | 4.1% | 42.8% | 42.1% | 9.7% | 3.5 |
| | $\chi^2= 27.0^{**}$ V=0.075 | | | | | | |
| CRANE | 387 | 1.8% | 5.4% | 41.1% | 39.3% | 12.4% | 3.6 |
| PICTORAL | 400 | 0.8% | 2.3% | 34.1% | 46.6% | 16.3% | 3.8 |
| | $\chi^2= 18.161^*$ V = 0.062 | | | | | | |

[1] F=4.6** for one-way ANOVA comparing regional means. F = 7.6** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 8-9: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… I intend to respect MNDNR waterfowl management's future management decisions.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1616 | 1.2% | 3.3% | 29.9% | 50.9% | 14.6% | 3.7 |
| CENTRAL | 390 | 2.3% | 3.6% | 29.7% | 51.8% | 12.6% | 3.7 |
| METRO | 422 | 0.7% | 4.0% | 26.8% | 51.7% | 16.8% | 3.8 |
| NORTH | 391 | 1.0% | 2.8% | 33.2% | 48.8% | 14.1% | 3.7 |
| SOUTH | 413 | 0.7% | 1.9% | 31.7% | 50.8% | 14.8% | 3.8 |
| | $\chi^2= 15.4$ n.s. | | | | | | |
| CRANE | 389 | 2.1% | 3.6% | 30.1% | 48.8% | 15.4% | 3.7 |
| PICTORAL | 401 | 1.8% | 1.5% | 29.0% | 51.3% | 16.5% | 3.8 |
| | $\chi^2= 6.714$ n.s. | | | | | | |

[1] F=1.6 n.s. for one-way ANOVA comparing regional means. F = 0.8 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 8: Trust in the Minnesota Department of Natural Resources

**Table 8-10: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that…**
**I accept the decisions of MNDNR waterfowl management.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---------|---|-------------------|----------|---------|-------|----------------|---------|
| Statewide[2] | 1615 | 1.6% | 5.2% | 31.5% | 49.4% | 12.2% | 3.7 |
| CENTRAL | 390 | 2.8% | 4.9% | 31.5% | 50.8% | 10.0% | 3.6 |
| METRO | 423 | 0.7% | 5.7% | 28.1% | 50.6% | 14.9% | 3.7 |
| NORTH | 390 | 1.5% | 4.9% | 35.4% | 47.4% | 10.8% | 3.6 |
| SOUTH | 411 | 1.5% | 5.4% | 33.1% | 47.4% | 12.7% | 3.6 |
| $\chi^2$= 15.3 n.s. | | | | | | | |
| CRANE | 388 | 1.8% | 5.7% | 32.8% | 48.8% | 10.9% | 3.6 |
| PICTORAL | 401 | 2.8% | 2.8% | 28.0% | 52.3% | 14.3% | 3.7 |
| $\chi^2$= 11.078 n.s. | | | | | | | |

[1] F=2.2 n.s. for one-way ANOVA comparing regional means. F = 1.9 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 8-11: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that…**
**I consider an opportunity to voice opinions to MNDNR about waterfowl management important.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---------|---|-------------------|----------|---------|-------|----------------|---------|
| Statewide[2] | 1614 | 0.8% | 2.0% | 33.5% | 46.4% | 17.3% | 3.8 |
| CENTRAL | 390 | 1.0% | 2.1% | 37.2% | 43.3% | 16.4% | 3.7 |
| METRO | 422 | 0.2% | 2.1% | 30.6% | 46.9% | 20.1% | 3.8 |
| NORTH | 390 | 1.3% | 1.8% | 30.8% | 49.5% | 16.7% | 3.8 |
| SOUTH | 411 | 1.0% | 1.7% | 36.0% | 47.0% | 14.4% | 3.7 |
| $\chi^2$= 13.3 n.s. | | | | | | | |
| CRANE | 387 | 0.5% | 3.4% | 32.0% | 45.5% | 18.6% | 3.8 |
| PICTORAL | 402 | 1.0% | 0.7% | 25.7% | 52.4% | 20.2% | 3.9 |
| $\chi^2$= 17.691* V = 0.061 | | | | | | | |

[1] F=2.5 n.s. for one-way ANOVA comparing regional means. F = 3.9* for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 8: Trust in the Minnesota Department of Natural Resources

**Table 8-12: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… I think Minnesotans should have the right to voice opinions about waterfowl management to the MNDNR.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1617 | 0.2% | 0.9% | 14.2% | 53.1% | 31.6% | 4.2 |
| CENTRAL | 390 | 0.3% | 0.5% | 15.9% | 51.5% | 31.8% | 4.1 |
| METRO | 422 | 0.0% | 1.9% | 12.3% | 52.1% | 33.6% | 4.2 |
| NORTH | 391 | 0.3% | 0.5% | 13.6% | 56.0% | 29.7% | 4.1 |
| SOUTH | 414 | 0.5% | 0.0% | 15.7% | 53.9% | 30.0% | 4.1 |
| | $\chi^2 = 18.0$ n.s. | | | | | | |
| CRANE | 387 | 0.3% | 1.0% | 15.7% | 49.5% | 33.5% | 4.1 |
| PICTORAL | 401 | 0.2% | 0.5% | 11.7% | 52.7% | 34.8% | 4.2 |
| | $\chi^2 = 5.252$ n.s. | | | | | | |

[1] $F = 0.3$ n.s. for one-way ANOVA comparing regional means. $F = 1.5$ n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$

**Table 8-13: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… I am willing to accept the decisions of MNDNR waterfowl management.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1617 | 1.5% | 3.1% | 28.9% | 53.3% | 13.2% | 3.7 |
| CENTRAL | 391 | 2.6% | 2.6% | 29.4% | 54.7% | 10.7% | 3.7 |
| METRO | 422 | 0.9% | 3.6% | 25.6% | 54.3% | 15.6% | 3.8 |
| NORTH | 391 | 1.5% | 3.8% | 31.2% | 51.9% | 11.5% | 3.7 |
| SOUTH | 412 | 0.5% | 2.4% | 31.3% | 51.0% | 14.8% | 3.8 |
| | $\chi^2 = 18.1$ n.s. | | | | | | |
| CRANE | 388 | 1.0% | 3.6% | 35.2% | 49.1% | 11.1% | 3.7 |
| PICTORAL | 400 | 1.8% | 1.5% | 29.0% | 53.3% | 14.5% | 3.8 |
| | $\chi^2 = 11.647$ n.s. | | | | | | |

[1] $F = 2.5$ n.s. for one-way ANOVA comparing regional means. $F = 2.4$ n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, $*p < 0.05$, $**p < 0.01$, $***p < 0.001$

# Section 8: Trust in the Minnesota Department of Natural Resources

**Table 8-14: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… I think MNDNR waterfowl management uses the best available science when making management decisions.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1618 | 4.9% | 10.9% | 47.2% | 30.7% | 6.3% | 3.2 |
| CENTRAL | 390 | 6.4% | 9.2% | 50.3% | 30.0% | 4.1% | 3.2 |
| METRO | 423 | 3.8% | 10.6% | 47.5% | 30.3% | 7.8% | 3.3 |
| NORTH | 391 | 5.1% | 14.1% | 43.5% | 32.0% | 5.4% | 3.2 |
| SOUTH | 414 | 4.1% | 10.4% | 46.1% | 30.9% | 8.5% | 3.3 |
| | $\chi^2$= 18.2 n.s. | | | | | | |
| CRANE | 389 | 4.6% | 14.3% | 45.8% | 26.9% | 8.4% | 3.2 |
| PICTORAL | 402 | 3.5% | 10.0% | 46.3% | 31.6% | 8.7% | 3.3 |
| | $\chi^2$= 11.031 n.s. | | | | | | |

[1] F= 2.1 n.s. for one-way ANOVA comparing regional means. F = 2.0 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 8-15: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… I consider MNDNR decision-making about waterfowl management fair.**

| Regions | N | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1617 | 3.2% | 9.7% | 47.6% | 33.8% | 5.7% | 3.3 |
| CENTRAL | 390 | 4.9% | 9.0% | 50.3% | 31.8% | 4.1% | 3.2 |
| METRO | 422 | 2.6% | 8.3% | 48.3% | 33.6% | 7.1% | 3.3 |
| NORTH | 391 | 3.8% | 11.8% | 44.2% | 35.3% | 4.9% | 3.3 |
| SOUTH | 414 | 1.0% | 11.1% | 45.9% | 35.5% | 6.5% | 3.4 |
| | $\chi^2$= 21.6* V = 0.067 | | | | | | |
| CRANE | 389 | 5.1% | 11.1% | 41.9% | 35.5% | 6.4% | 3.3 |
| PICTORAL | 401 | 3.2% | 9.5% | 45.3% | 32.8% | 9.2% | 3.4 |
| | $\chi^2$= 12.987 n.s. | | | | | | |

[1] F= 2.7* for one-way ANOVA comparing regional means. F = 1.4 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4= agree, 5 = strongly agree.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 9: Characteristics of Waterfowl Hunters in Minnesota

Information from the Electronic Licensing System database indicates that one-third (32%) of the Minnesota residents who purchased a state duck stamp live in the Twin Cities Metropolitan area. See Table 9-1.

**Hunter Age**

The mean age of the study population of Minnesota duck stamp purchasers was 39.7 years. The mean age of 44.5 years for study respondents was higher than the age of the population (Table 9-2.)

**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 2012 that they hunted for waterfowl in the state.

Table 9-3 presents the proportion of respondents who hunted waterfowl in 2017 by age group. The results suggest that the proportion of stamp buyers who actually hunted during the season declined from 100% among 18-19 year olds to 71% among respondents over age 65.

Statewide, about 30% of respondents began hunting waterfowl in 2000 or more recently (Table 9-4). On average, waterfowl hunters in Minnesota have been hunting in the state for 24.2 years (Table 9-5). The median of 22.0 indicates that half of the hunters have hunted 22 or more years in the state (Table 9-5). Across the regions, hunters in the north region ($\bar{x} = 25.7$; median = 25.0) tended to have slightly more years of hunting experience in Minnesota, while hunters from the central region had fewer years of experience ($\bar{x} = 23.1$; median = 20.0).

Statewide 65% of the waterfowl hunters hunted for waterfowl in Minnesota every year during the past 5 years (Table 9-6). Of the 9.8% of respondents who did not hunt waterfowl during any of the years between 2012 and 2016, approximately two-thirds (69%) hunted waterfowl during 2017. This would be expected because we drew a sample of those who purchased duck stamps in 2017.

**Conservation and Hunting Memberships and Activities**

More than half (53.7%) of the respondents reported that they belonged to a conservation/hunting organization. Nearly four of ten (37%) of respondents reported membership in Ducks Unlimited and 4% reported membership in Minnesota Waterfowl Association. About one-fifth (20%) of respondents indicated that they had a membership in a local sportsmen's club. Respondents from the south region reported a significantly higher rate of membership in local sportsmen's clubs (Table 9-7).

Respondents were asked to indicate how often they did four conservation and hunting activities including: a) recruiting others to go hunting, b) donating money to wildlife conservation organizations, c)

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volunteering to improve wildlife habitat in my area, and d) voting to support policies or regulations that affect the local environment. Response was on the scale 1 (never), 2 (rarely), 3 (sometimes), 4 (often), and 5 (very often). Respondents most frequently reported voting for policies or regulations that affect the local environment (Table 9-8). Means and frequencies for the 4 activities are presented in Tables 9-9 through 9-12.

### Hunting Outside of Minnesota

Approximately one in five (23%) Minnesota waterfowl hunters hunted outside the state in 2017 (Table 9-13). There was no significant difference be region of residence in the proportion of respondents who had hunted outside the state. A greater proportion of respondents from the pictorial sample reported hunting outside the state.

### Years Living in Minnesota, and on a Farm or Ranch

Respondents had lived in Minnesota an average of 41 years or 93% of their lives (Table 9-14). There was no difference by region in length of time residing in Minnesota. Slightly more than half of respondents (55%) had lived on a farm, ranch, or in a non-suburban rural area from birth through age 17. On average, these respondents had lived 8 years from birth through age 17 on a farm, ranch, or in a non-suburban rural area (Table 9-15). More than half (57%) of respondents had lived on a farm, ranch, or in a non-suburban rural area after age 18. These respondents had lived an average of 10.2 years on a farm, ranch, or in a non-suburban rural area. (Table 9-16). These values varied by region of residence.

### Income and Education

Statewide, respondents had a mean annual household income of approximately $113,000 (Table 9-17). Respondents from the metropolitan region had a significantly higher mean income than respondents from the other three regions. About four in ten respondents (39%) had completed a 4-year degree or higher level of education. Less than 2% had not completed a high school degree (Table 9-18). Respondents from the metropolitan region had significantly higher levels of education.

### Late Respondents

We compared respondents who responded to the full-length surveys to those who responded to shortened surveys used to gauge nonresponse. For the statewide sample, we found that late respondents had been waterfowl hunting in Minnesota for somewhat fewer years (M = 17.6 years) than early respondents had (M = 24.2 years) (t = 6.253***). Late respondents had hunted an average of 3.5 of the previous 5 years compared to 3.9 years for early respondents (t = 2.526*). However, the mean numbers of weekend, weekday, or total days hunted during the 2017 season did not differ significantly between early and late respondents. On average, early respondents also rated waterfowl as being significantly more important to them (M = 3.5), compared to late respondents (M = 3.3) (t = 3.259**). Despite these noted differences, there were few differences between early and late respondents in attitudinal measures related to satisfaction.

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**Table 9-1: Residence of waterfowl stamp buyers**

| Region of residence | Proportion of state waterfowl stamp purchasers in each region age 18-64 | |
| --- | --- | --- |
| | # of licensed MN waterfowl hunters[1] | % of all MN waterfowl hunters |
| CENTRAL | 22993 | 28.2% |
| METRO | 26207 | 32.2% |
| NORTH | 17704 | 21.7% |
| SOUTH | 14516 | 17.8% |
| Statewide[2] | 81420 | |

[1] Source: DNR license database
[2] The statewide total is not equal to the total number of waterfowl stamps sold. The number reflects the sample population for the study, which excluded nonresident stamp buyers and individuals less than 18 years of age. This number reflects the customer count rather than the stamp count. Customers can purchase more than one stamp.

**Table 9-2: Age of study population and survey respondents**

| Residence of hunter | n | 18-19 | 20 – 29 | 30 – 39 | 40 – 49 | 50 - 59 | 60 - 64 | 65 + | Mean age |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Population[1] | 81,750 | 5.2% | 26.5% | 22.2% | 16.3% | 17.9% | 7.1% | 4.9% | 39.7 |
| Statewide | 1620 | 2.9% | 16.5% | 21.5% | 16.2% | 23.7% | 11.2% | 8.1% | 44.5 |
| CENTRAL | 390 | 3.9% | 17.8% | 22.7% | 17.8% | 21.9% | 9.8% | 6.2% | 42.9 |
| METRO | 424 | 1.7% | 15.9% | 23.5% | 15.2% | 26.3% | 10.0% | 7.6% | 44.6 |
| NORTH | 393 | 4.1% | 15.1% | 18.4% | 15.3% | 23.5% | 13.8% | 9.9% | 45.9 |
| SOUTH | 413 | 2.2% | 17.7% | 19.9% | 16.5% | 21.8% | 12.3% | 9.7% | 45.3 |
| | $\chi^2 = 22.558$ n.s. | | | | | | | | F=2.9* |
| CRANE | 394 | 3.3% | 18.4% | 16.1% | 10.2% | 20.9% | 11.5% | 19.6% | 47.2 |
| PICTORAL | 402 | 2.0% | 12.7% | 13.5% | 16.5% | 26.7% | 13.5% | 15.2% | 48.9 |
| | $\chi^2 = 76.184$*** V = 0.126 | | | | | | | | F=15.6*** |

[1] Source: DNR license database
[2] The population total is not equal to the total number of waterfowl stamps sold. The number reflects the sample population for the study, which excluded nonresident stamp buyers, individuals less than 18 years of age, and individuals with invalid ZIP codes. This number reflects the customer count rather than the stamp count. Customers can purchase more than one stamp.

**Table 9-3: Proportion of respondents from different age categories who actually hunted waterfowl in Minnesota in the year 2017**

| Age category | N | % Yes |
| --- | --- | --- |
| 18-19 | 46 | 100.0% |
| 20-29 | 265 | 94.7% |
| 30-39 | 348 | 91.4% |
| 40-49 | 260 | 89.6% |
| 50-59 | 380 | 82.9% |
| 60-64 | 180 | 82.8% |
| 65+ | 129 | 71.3% |
| | | $\chi^2 = 66.072$***, V= 0.203 |

Data includes only respondents for the statewide sample.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 9-4: 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] | CENTRAL | METRO | NORTH | SOUTH |
| N | 1583 | 450 | 515 | 339 | 277 |
| 2017 | 3.0% | 2.9% | 4.0% | 1.8% | 2.5% |
| 2010-2016 | 10.7% | 11.1% | 12.6% | 8.9% | 8.9% |
| 2000-2009 | 16.1% | 17.4% | 15.7% | 15.6% | 15.4% |
| 1990's | 19.5% | 22.4% | 18.5% | 17.7% | 18.5% |
| 1980's | 15.0% | 14.0% | 14.0% | 15.6% | 17.5% |
| 1970's | 21.8% | 19.8% | 23.5% | 22.4% | 21.3% |
| 1960's | 12.2% | 10.8% | 10.2% | 15.1% | 14.4% |
| 1950's | 1.6% | 1.3% | 1.2% | 2.6% | 1.5% |
| 1940's | 0.2% | 0.3% | 0.2% | 0.3% | 0.0% |

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

**Table 9-5: 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] | CENTRAL | METRO | NORTH | SOUTH |
| N | 1605 | 384 | 425 | 390 | 403 |
| 1 | 3.2 | 3.1% | 4.2% | 2.1% | 2.7% |
| 2 | 2.6 | 2.6% | 2.6% | 2.6% | 2.7% |
| 3 | 3.5 | 4.2% | 3.8% | 3.6% | 1.7% |
| 4 | 3.0 | 2.9% | 3.5% | 2.8% | 2.2% |
| 5 | 2.8 | 2.1% | 3.8% | 2.8% | 2.2% |
| 6 | 2.5 | 3.4% | 2.4% | 2.6% | 1.2% |
| 7 | 1.4 | 1.0% | 1.2% | 1.8% | 1.7% |
| 8 | 2.6 | 3.4% | 2.4% | 2.3% | 2.2% |
| 9 | 1.2 | 1.3% | 1.2% | 1.0% | 1.2% |
| 10 – 19 | 20.3 | 20.8% | 21.4% | 18.2% | 19.9% |
| 20 – 29 | 18.1 | 20.8% | 16.2% | 16.4% | 19.1% |
| 30 – 39 | 14.6 | 12.5% | 14.4% | 16.2% | 16.4% |
| 40 – 49 | 16.4 | 15.1% | 16.2% | 17.7% | 17.1% |
| 50 – 59 | 7.1 | 6.3% | 6.1% | 8.2% | 8.9% |
| 60+ | .9 | 0.5% | 0.7% | 1.8% | 0.5% |
| **Mean** | 24.2 | 23.1 | 23.3 | 25.7 | 25.7 |
| **Median** | 22.0 | 20.0 | 20.0 | 25.0 | 24.0 |

[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 and age proportions in the population.

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**Table 9-6: Hunting in the last five years**

| Residence of hunter | % of hunters who hunted that particular year: | | | | | | |
|---|---|---|---|---|---|---|---|
| | **2016** | **2015** | **2014** | **2013** | **2012** | **Hunted every year** | **Did not hunt during any of these years** |
| Statewide[1] | 82.3% | 80.6% | 76.0% | 74.7% | 72.9% | 65.1% | 9.8% |
| CENTRAL | 82.0% | 79.5% | 75.5% | 74.3% | 71.3% | 63.0% | 10.3% |
| METRO | 81.7% | 81.7% | 75.9% | 75.0% | 73.6% | 64.7% | 10.8% |
| NORTH | 81.1% | 79.6% | 74.7% | 73.5% | 71.3% | 64.1% | 8.6% |
| SOUTH | 85.2% | 81.9% | 78.6% | 76.5% | 76.2% | 70.4% | 8.7% |
| | $\chi^2 = 2.962$ n.s. | $\chi^2 = 1.317$ n.s. | $\chi^2 = 1.974$ n.s. | $\chi^2 = 1.088$ n.s. | $\chi^2 = 3.590$ n.s. | $\chi^2 = 6.006$ n.s. | $\chi^2 = 1.756$ n.s. |
| CRANE | 84.5% | 84.0% | 79.2% | 76.5% | 74.6% | 76.5% | 8.5% |
| PICTORAL | 83.7% | 82.3% | 81.3% | 79.6% | 77.7% | 79.6% | 9.4% |
| | $\chi^2 = 1.421$ n.s. | $\chi^2 = 2.717$ n.s. | $\chi^2 = 6.184^*$ $V = 0.050$ | $\chi^2 = 4.527$ n.s. | $\chi^2 = 4.078$ n.s. | $\chi^2 = 4.527$ n.s. | $\chi^2 = 6.187^*$ $V = 0.050$ |

[1] A stratified sample based on region of residence was drawn. Statewide data in this table is weighted to reflect regional and age proportions in the population.
n.s. = not significant, $^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

**Table 9-7: Membership in hunting-related groups**

| Residence of hunter | % of hunters indicating membership in that group: | | | | | |
|---|---|---|---|---|---|---|
| | **No Groups[1]** | **Ducks Unlimited** | **Delta Waterfowl** | **MN Waterfowl Assn.** | **Local sportsmen's club** | **Other** |
| Statewide[2] | 46.3% | 37.2% | 5.8% | 4.3% | 19.5% | 13.8% |
| CENTRAL | 32.3% | 32.3% | 6.5% | 3.8% | 19.0% | 11.3% |
| METRO | 40.4% | 40.4% | 4.6% | 4.4% | 11.9% | 14.0% |
| NORTH | 34.6% | 34.6% | 6.6% | 3.7% | 20.1% | 16.0% |
| SOUTH | 42.4% | 42.4% | 5.9% | 5.6% | 33.2% | 15.1% |
| | $\chi^2 = 11.916^{**}$ $V = 0.085$ | $\chi^2 = 11.916^{**}$ $V = 0.085$ | $\chi^2 = 2.014$ n.s. | $\chi^2 = 2.479$ n.s. | $\chi^2 = 60.668^{***}$ $V = 0.191$ | $\chi^2 = 4.188$ n.s. |
| CRANE | 44.3% | 38.7% | 5.8% | 3.6% | 19.6% | 15.3% |
| PICTORAL | 39.3% | 45.3% | 11.5% | 7.2% | 17.5% | 22.1% |
| | $\chi^2 = 6.572^*$ $V = 0.051$ | $\chi^2 = 9.341^{**}$ $V = 0.061$ | $\chi^2 = 17.870^{***}$ $V = 0.085$ | $\chi^2 = 7.645^*$ $V = 0.055$ | $\chi^2 = 0.943$ n.s. | $\chi^2 = 17.241^{***}$ $V = 0.083$ |

[1] "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.
[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 9-8: Mean statewide results: Conservation and hunting activities.**

| Activity | N | Mean[1,2] |
|---|---|---|
| Recruit others to go hunting. | 1616 | 3.0 |
| Donate money to wildlife conservation organizations. | 1612 | 3.0 |
| Volunteer to improve wildlife habitat in my area. | 1604 | 2.5 |
| Vote to support policies or regulations that affect the local environment. | 1614 | 3.2 |

[1]Grand mean=2.9, F=6812.9***, $\eta^2$=0.116. Mean based on scale: 1=strongly disagree, 2=disagree, 3=neither, 4=agree, 5=strongly agree.
[2] A stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population.

**Table 9-9: Conservation and hunting activities: Recruit others to go hunting.**

| Regions | N | Never | Rarely | Sometimes | Often | Very often | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1617 | 7.6% | 15.2% | 51.3% | 20.1% | 5.9% | 3.0 |
| CENTRAL | 390 | 8.5% | 15.4% | 49.0% | 20.3% | 6.9% | 3.0 |
| METRO | 423 | 8.5% | 15.4% | 52.2% | 18.2% | 5.7% | 3.0 |
| NORTH | 389 | 5.9% | 14.4% | 53.0% | 21.1% | 5.7% | 3.1 |
| SOUTH | 414 | 6.8% | 15.2% | 51.2% | 22.0% | 4.8% | 3.0 |
| | $\chi^2$= 6.694 n.s. | | | | | | |
| CRANE | 392 | 8.4% | 12.0% | 47.4% | 24.5% | 7.7% | 3.1 |
| PICTORAL | 405 | 8.9% | 15.8% | 49.4% | 18.3% | 7.7% | 3.0 |
| | $\chi^2$= 4.527 n.s. | | | | | | |

[1] F= 0.6 n.s. for one-way ANOVA comparing regional means. F = 1.8 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = never, 2 = rarely, 3 = sometimes, 4= often, 5 = very often.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 9-10: Conservation and hunting activities: Donate money to wildlife conservation organizations.**

| Regions | N | Never | Rarely | Sometimes | Often | Very often | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1612 | 9.9% | 16.4% | 42.6% | 22.6% | 8.6% | 3.0 |
| CENTRAL | 389 | 11.8% | 17.7% | 44.2% | 19.3% | 6.9% | 2.9 |
| METRO | 423 | 9.2% | 15.1% | 42.3% | 23.2% | 10.2% | 3.1 |
| NORTH | 389 | 9.3% | 19.0% | 41.9% | 22.9% | 6.9% | 3.0 |
| SOUTH | 410 | 8.5% | 13.2% | 41.2% | 26.8% | 10.2% | 3.2 |
| | $\chi^2$= 18.033 n.s. | | | | | | |
| CRANE | 388 | 12.9% | 19.3% | 40.2% | 18.3% | 9.3% | 2.9 |
| PICTORAL | 401 | 6.0% | 13.0% | 38.4% | 25.7% | 17.0% | 3.3 |
| | $\chi^2$= 73.883*** V = 0.096 | | | | | | |

[1] F= 4.5** for one-way ANOVA comparing regional means. F = 17.8*** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = never, 2 = rarely, 3 = sometimes, 4= often, 5 = very often.
[2] A stratified sample based on region was drawn. Statewide data is weighted to reflect regional proportions in the population.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 9-11: Conservation and hunting activities: Volunteer to improve wildlife habitat in my area.**

| Regions | N | Never | Rarely | Sometimes | Often | Very often | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1604 | 22.3% | 30.3% | 31.0% | 10.1% | 6.3% | 2.5 |
| CENTRAL | 389 | 20.6% | 27.8% | 35.5% | 9.3% | 6.9% | 2.5 |
| METRO | 417 | 26.9% | 34.5% | 25.9% | 7.0% | 5.8% | 2.3 |
| NORTH | 386 | 20.5% | 28.2% | 33.2% | 13.0% | 5.2% | 2.5 |
| SOUTH | 412 | 18.9% | 29.4% | 30.6% | 13.6% | 7.5% | 2.6 |
| | $\chi^2 = 31.051^{**}$ | | | | | | |
| CRANE | 389 | 20.3% | 31.9% | 29.8% | 11.8% | 6.2% | 2.5 |
| PICTORAL | 402 | 23.9% | 26.9% | 31.3% | 10.9% | 7.0% | 2.5 |
| | $\chi^2 = 4.373$ n.s. | | | | | | |

[1] F= 6.1*** for one-way ANOVA comparing regional means. F = 0.2 n.s. for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = never, 2 = rarely, 3 = sometimes, 4= often, 5 = very often.

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

n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 9-12: Conservation and hunting activities: Vote to support policies or regulations that affect the local environment.**

| Regions | N | Never | Rarely | Sometimes | Often | Very often | Mean[1] |
|---|---|---|---|---|---|---|---|
| Statewide[2] | 1614 | 11.2% | 14.1% | 31.4% | 28.8% | 14.5% | 3.2 |
| CENTRAL | 390 | 12.1% | 16.9% | 32.1% | 27.4% | 11.5% | 3.1 |
| METRO | 423 | 11.1% | 13.0% | 31.2% | 28.6% | 16.1% | 3.3 |
| NORTH | 386 | 7.8% | 12.7% | 34.2% | 30.1% | 15.3% | 3.3 |
| SOUTH | 414 | 13.8% | 13.3% | 27.5% | 30.0% | 15.5% | 3.2 |
| | $\chi^2 = 17.112$ n.s. | | | | | | |
| CRANE | 390 | 11.3% | 14.1% | 33.8% | 27.7% | 13.1% | 3.2 |
| PICTORAL | 405 | 8.9% | 10.9% | 30.4% | 27.9% | 22.0% | 3.4 |
| | $\chi^2 = 18.757^*$ V = 0.062 | | | | | | |

[1] F= 2.5 n.s. for one-way ANOVA comparing regional means. F = 6.3** for one-way ANOVA comparing means for statewide, crane, and pictoral samples. Mean is based on the scale: Mean is based on the scale: 1 = never, 2 = rarely, 3 = sometimes, 4= often, 5 = very often.

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

n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 9-13: Did you hunt for waterfowl in a state or province other than Minnesota in 2017?**

| Residence of hunter | n | Yes |
|---|---|---|
| Statewide[1] | 1626 | 22.5% |
| CENTRAL | 392 | 22.2% |
| METRO | 424 | 21.7% |
| NORTH | 394 | 22.3% |
| SOUTH | 415 | 24.6% |
| | | $\chi^2 = 1.164$ n.s. |
| CRANE | 397 | 17.1% |
| PICTORAL | 405 | 25.4% |
| | | $\chi^2 = 8.5^*$ V = 0.059 |

[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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 9-14: Number of years living in Minnesota**

| Residence of hunter | n | Mean number of years | % of life |
|---|---|---|---|
| Statewide[1] | 1621 | 41.1 | 92.7% |
| CENTRAL | 390 | 40.3 | 94.0% |
| METRO | 424 | 40.4 | 91.3% |
| NORTH | 392 | 42.2 | 92.7% |
| SOUTH | 413 | 42.1 | 93.1% |
| | | F=1.6 n.s. | F = 1.5 n.s. |
| CRANE | 394 | 44.0 | 93.1% |
| PICTORAL | 403 | 45.3 | 92.8% |
| | | F=13.2*** | F=0.1 n.s. |

[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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 9-15: Percent of respondents who had lived on a farm or ranch, or in a non-suburban rural area from birth until age 17, and mean number of years and percent of youth for those who did.**

| Residence of hunter | N | % who lived | Mean number of years | % of years |
|---|---|---|---|---|
| Statewide[1] | 1589 | 54.7% | 7.9 | 46.5% |
| CENTRAL | 381 | 65.3% | 9.6 | 56.5% |
| METRO | 419 | 34.4% | 4.6 | 27.3% |
| NORTH | 385 | 65.5% | 9.8 | 57.5% |
| SOUTH | 403 | 61.1% | 8.9 | 52.3% |
| | | $\chi^2 = 111.236^{***}$ V=0.263 | F=40.7*** | F=40.7*** |
| CRANE | 384 | 67.7% | 10.2 | 59.9% |
| PICTORAL | 399 | 50.1% | 6.9 | 40.4% |
| | | $\chi^2 = 28.3^{***}$ v = 0.109 | F=18.6*** | F=18.6*** |

[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.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 9-16: Percent of respondents who had lived on a farm or ranch, or in a non-suburban rural area from age 18 on, and mean number of years and percent of adult life for those who did.**

| Residence of hunter | n | % who lived | Mean number of years | % of years |
|---|---|---|---|---|
| Statewide[1] | 1599 | 57.4% | 10.2 | 36.5% |
| CENTRAL | 379 | 64.9% | 11.7 | .430 |
| METRO | 421 | 30.9% | 3.7 | .140 |
| NORTH | 388 | 79.4% | 15.7 | .542 |
| SOUTH | 412 | 66.5% | 13.2 | .451 |
| | | $\chi^2$=220.318*** V=0.371 | F= *59.6*** | F=86.5*** |
| CRANE | 383 | 72.4% | 15.5 | 50.5% |
| PICTORAL | 403 | 57.6% | 11.3 | 35.5% |
| | | $\chi^2$= 29.905*** v = 0.112 | F=19.0*** | F=19.8*** |

[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.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 9-17: Mean income**

| Residence of hunter | n | Mean income |
|---|---|---|
| Statewide[1] | 1262 | $112,959.50 |
| CENTRAL | 297 | $102,690.24 |
| METRO | 335 | $137,039.40 |
| NORTH | 315 | $97,022.44 |
| SOUTH | 313 | $104,773.50 |
| | | F=44.9*** |
| CRANE | 292 | $93,223.28 |
| PICTORAL | 336 | $118,402.60 |
| | | F = 6.5** |

[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.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 9-18: Highest Level of Education.**

| Regions | Percent of respondents whose highest level of education was… | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Grade school | Some high school | High school diploma (or GED) | Some vocational or technical school | Associate's degree | Some college | 4-year college degree | Some graduate school | Graduate degree |
| Statewide[1] | 0.2% | 1.2% | 15.4% | 8.9% | 19.9% | 15.7% | 27.7% | 2.5% | 8.4% |
| CENTRAL | 0.3% | 0.8% | 20.0% | 10.8% | 23.3% | 13.3% | 22.6% | 2.8% | 6.2% |
| METRO | 0.2% | 1.2% | 11.6% | 4.7% | 14.2% | 18.4% | 35.2% | 3.3% | 11.1% |
| NORTH | 0.3% | 2.0% | 14.5% | 10.7% | 20.7% | 15.3% | 26.8% | 1.8% | 7.9% |
| SOUTH | 0.2% | 1.0% | 15.7% | 11.1% | 23.9% | 15.2% | 23.4% | 1.7% | 7.7% |
| | $\chi^2$= 66.005*** V = 0.117 | | | | | | | | |
| CRANE | 0.8% | 2.8% | 21.7% | 8.4% | 16.1% | 15.9% | 22.5% | 4.1% | 7.7% |
| PICTORAL | 0.7% | 1.0% | 14.4% | 6.0% | 22.3% | 15.1% | 25.8% | 3.0% | 11.7% |
| | $\chi^2$= 36.3** V = 0.087 | | | | | | | | |

[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.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

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# Section 10: Comparison of 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 Minnesota Waterfowl Hunter Survey Findings

In this section, we compare results from this 2017 waterfowl hunter survey to previous studies of Minnesota waterfowl hunters. In 2000, 2002, 2005, 2007, 2010, 2011, and 2014 similar studies of Minnesota waterfowl hunters were completed (Fulton et al. 2002; Schroeder et al., 2004, Schroeder et al., 2006, Schroeder et al., 2008, Schroeder et al., 2012a, Schroeder et al., 2012b, Schroeder et al., 2015). Some of the questions asked in these previous surveys are either identical or similar to questions asked in the 2017 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 2017 survey (44.6 years) was significantly higher than the average age of respondents in 2000 (41.4 years), 2005 (43.2 years), and 2007 (42.3 years) surveys, and significantly lower than the average age of respondents to the 2002 survey (45.3 years). The average age of 2017 respondents was not significantly different from respondents to the 2010 survey (45.2 years), the 2011 survey (45.1 years), or the 2014 survey (44.6 years) (Table 10-1). There were also significant differences between the 2017 data and the earlier sets of data concerning the average number years hunting waterfowl (Table 10-2). Respondents for the 2017 season report hunting waterfowl an average of 29.5 years compared to 22.5 in 2000, 26.9 in 2002, 23.1 in 2005, 25.1 in 2007, 27.7 in 2010, 29.7 in 2011, and 29.0 in 2014. The differences in age and years hunting waterfowl may reflect differences in sampling. The samples for the 2000 and 2002 seasons included both Minnesota duck stamp purchasers and individuals 16-18 and over 64 years of age who were not required to purchase a duck stamp but registered through the harvest information program (HIP). The sample from the 2005 season did not include HIP registrants, and the samples for the 2010, 2011, 2014, and 2017 seasons excluded both HIP registrants and license buyers less than 18 years of age (Table 10-3).

The average number of days spent hunting waterfowl also differed significantly when comparing 2017 results to some earlier surveys. Respondents reported hunting an average of 10.0 days in 2017, compared to an average of 10.0 in 2014, 10.3 in 2011, 10.7 in 2010, 10.2 in 2007, 10.2 in 2005, 9.7 in 2002, 11.5 in 2000 (Table 10-4). The difference between the average number of days hunting waterfowl in 2017 and previous studies was statistically significant when comparing 2017 to 2000 and 2010.

**Waterfowl Harvest**

Reported number of ducks bagged per hunter in 2017 varied significantly from 2014, 2011, 2010, 2007, 2005, 2002, and 2000 (Table 10-5). Looking at the proportions of hunters who: bagged zero ducks, 1-10 ducks, or 11 or more ducks, results largely parallel those from the 2007 season.

## Section 10: Comparison of 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 Minnesota Waterfowl Hunter Survey Findings

**Hunting Participation and Satisfaction**

There were some statistically significant differences in participation in the different waterfowl hunts, but differences do not appear substantive (Table 10-6). Similarly, differences in hunting on opening Saturday over the years are subtle (Table 10-7).

The proportion of respondents who hunted for waterfowl outside the state of Minnesota in 2017 (21.9%) was greater than in 2002, 2005, 2010, 2011, and 2014 (Table 10-9). The proportion hunting outside the state was not significantly different than in 2000 (24.7%). It must be noted that question phrasing may have caused higher reporting of out-of-state hunting for the 2000 survey. The 2002, 2005, 2010, 2011, 2014, and 2017 surveys specified hunting out of state during that season. 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.

Respondents reported significantly higher mean satisfaction levels for the 2017 season than for the 2000, 2005, 2007, 2010, 2011, and 2014 seasons. Satisfaction was not significantly different from the 2002 season (Table 10-10).

**Youth Waterfowl Hunting Day**

Based on a scale of 1 (strongly oppose) to 5 (strongly support), support for Youth Waterfowl Hunting Day in 2017 ($\bar{x} = 3.9$) was higher than in previous seasons (Table 10-11).

**Group Membership**

Reported memberships in Ducks Unlimited, Delta Waterfowl, the Minnesota Waterfowl Association, and local sportsmen's clubs were lower in 2017 than in 2014, but similar to levels seen in previous study years. See Table 10-12.

**Agency Trust**

Six identical measures of trust in the Minnesota Department of Natural Resources were asked in 2010, 2011, 2014, and 2017, and two identical measures were also asked in 2002. Although there were some significant differences in average trust ratings, differences were not substantive (Tables 10-13 to 10-18).

# Section 10: Comparison of 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 Minnesota Waterfowl Hunter Survey Findings

**Table 10-1: Age of respondents: 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 findings**

| Study year | N[1] | Average age (years) | Range (years) | t-test, average compared to 2017 |
|---|---|---|---|---|
| 2000 hunters | 2,454 | 41.4 | 16 - 88 | t = 8.542*** |
| 2002 hunters | 3,109 | 45.3 | 14 - 88 | t = 2.012* |
| 2005 hunters | 2,568 | 43.2 | 16 – 90 | t = 3.671*** |
| 2007 hunters | 469 | 42.3 | 17 - 76 | t = 6.107*** |
| 2010 hunters | 1,932 | 45.2 | 20 - 87 | t = 1.741 n.s. |
| 2011 hunters | 1,780 | 45.1 | 19 - 87 | t = 1.471 n.s. |
| 2014 hunters | 1,665 | 44.6 | 18 - 83 | t = 0.118 n.s. |
| 2017 hunters | 1,619 | 44.6 | 14 - 89 | |

[1] In 2000, 2002, and 2005, a stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population. Respondents from 2000 and 2002 include duck stamp buyers and individuals aged 16-18 or over 64 years who are not required to purchase duck stamps but registered through the hunter information program (HIP). The 2005 and 2007 samples did not include individuals from the HIP. The 2010, 2011, 2014, and 2017 samples includes duck stamp buyers 18 years of age and older.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 10-2: Number of years hunting ducks/waterfowl: 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 findings**

| Study year | N[1] | Average number of years hunting ducks/waterfowl[1] | t-test, average compared to 2017 |
|---|---|---|---|
| 2000 hunters | 2,376 | 22.5 | t = 16.676 |
| 2002 hunters | 3,034 | 26.9 | t = 6.130*** |
| 2005 hunters | 2,295 | 23.1 | t = 15.238*** |
| 2007 hunters | 461 | 25.1 | t = 10.444*** |
| 2010 hunters | 1,845 | 27.7 | t = 4.213*** |
| 2011 hunters | 1,702 | 29.7 | t = 0.581 n.s. |
| 2014 hunters | 1,652 | 29.0 | t = 1.097 n.s. |
| 2017 hunters | 1,583 | 29.5 | |

[1] In 2000, 2002, and 2005, a stratified sample based on region of residence was drawn. Data in this table is weighted to reflect regional proportions in the population. Respondents from 2000 and 2002 include duck stamp buyers and individuals aged 16-18 or over 64 years who are not required to purchase duck stamps but registered through the hunter information program (HIP). The 2005 and 2007 samples did not include individuals from the HIP. The 2010, 2011, 2014, and 2017 samples includes duck stamp buyers 18 years of age and older.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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**Table 10-3: Frequency distributions of HIP registrants in sample and age of respondents: 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 findings**

| Study year | Sample | | | | Respondents | | | | | | | |
| | HIP registrants | | Stamp buyers | | <18 years | | >64 years | | 18-64 years | | Total | |
| | n | % | n | % | n | % | n | % | n | % | n | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2000 hunters | 199 | 14.2% | 1,207 | 85.8% | 131 | 5.4% | 207 | 8.5% | 2,100 | 86.1% | 2,438 | 100% |
| 2002 hunters | 824 | 17.2% | 3,976 | 82.8% | 103 | 3.3% | 599 | 19.3% | 2,407 | 77.4% | 3,109 | 100% |
| 2005 hunters | 0 | 0% | 4,000 | 100% | 33 | 1.3% | 257 | 10.0% | 2,278 | 88.7% | 2,568 | 100% |
| 2007 hunters | 0 | 0% | 800 | 100% | 2 | 1.0% | 14 | 2.5% | 479 | 96.8% | 495 | 100% |
| 2010 hunters | 0 | 0% | 4,000 | 100% | 0 | 0.0% | 93 | 4.8% | 1,839 | 95.2% | 1,932 | 100% |
| 2011 hunters | 0 | 0% | 3,600 | 100% | 0 | 0.0% | 99 | 5.6% | 1,681 | 94.4% | 1,780 | 100% |
| 2014 hunters | 0 | 0% | 3,600 | 100% | 0 | 0.0% | 120 | 7.2% | 1,552 | 92.8% | 1,672 | 100% |
| 2017 hunters | 0 | 0% | 3,600 | 100% | 0 | 0.0% | 130 | 8.1% | 1,485 | 91.9% | 1,615 | 100% |

n.a. = not available

**Table 10-4 Number of days hunting waterfowl: 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 findings**

| Study year | n | Average number of days hunting waterfowl | t-test, average compared to 2017 |
|---|---|---|---|
| 2000 hunters | 2,120 | 11.5 | t = 6.391*** |
| 2002 hunters | 3,113 | 9.7 | t = 0.987 n.s. |
| 2005 hunters | 2,137 | 10.2 | t = 1.062 n.s. |
| 2007 hunters | 419 | 10.2 | t = 1.062 n.s. |
| 2010 hunters | 1,678 | 10.7 | t = 3.112** |
| 2011 hunters | 1,537 | 10.3 | t = 1.472 n.s. |
| 2014 hunters | 1,504 | 10.0 | t = 0.243 n.s. |
| 2017 hunters | 1,413 | 9.9 | |

n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 10-5: Number of ducks bagged: 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 findings**

| Number bagged | 2000 hunters (%) | 2002 hunters (%) | 2005 hunters (%) | 2007 hunters (%) | 2010 hunters (%) | 2011 hunters (%) | 2014 hunters (%) | 2017 hunters (%) |
|---|---|---|---|---|---|---|---|---|
| N | 1,959 | 2,027 | 1,960 | 370 | 1,514 | 1,407 | 1,311 | 1,143 |
| Bagged none | 14.7% | 16.2% | 17.1% | 6.8% | 13.5% | 12.1% | 11.2% | 5.0% |
| Bagged 1 – 10 | 53.4% | 50.9% | 59.8% | 51.2% | 56.1% | 55.4% | 54.3% | 55.8% |
| Bagged > 10 | 31.9% | 32.9% | 23.1% | 42.1% | 30.4% | 32.5% | 34.5% | 39.2% |
| Chi-square analysis[1] | $\chi^2$=98.439*** | $\chi^2$=112.203*** | $\chi^2$=239.265*** | $\chi^2$=12.705** | $\chi^2$=95.916*** | $\chi^2$=68.019*** | $\chi^2$=50.708*** | |

[1]Compares year in column to 2017 results.
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

# Section 10: Comparison of 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 Minnesota Waterfowl Hunter Survey Findings

**Table 10-6: Waterfowl Hunting Activity: 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 findings**

| Study year | Hunt ducks | Hunt Canada geese regular season | Hunt Canada geese—early season | Hunt Canada geese—late season | Hunt geese--other |
|---|---|---|---|---|---|
| 2000 hunters | 92.6% [a] | 72.3% [a] | 38.5% [a] | 9.0% | 6.9% [a] |
| 2002 hunters | 93.5% [b] | 73.1% [b] | 41.9% [b] | 13.9% | 7.8% [b] |
| 2005 hunters | 92.5% [c] | 72.9% [c] | 43.6% [c] | 13.4% | 4.3% [c] |
| 2007 hunters | 90.4% [d] | 69.2% [d] | 38.0% [d] | 10.1% | 2.6% [d] |
| 2010 hunters | 91.8% [e] | 71.1% [e] | 40.9% [e] | | 6.4% [e] |
| 2011 hunters | 93.4% [f] | 73.3% [f] | 43.0% [f] | | 6.5% [f] |
| 2014 hunters | 90.8% [g] | 67.2% [g] | 32.1% [g] | | 4.4% [g] |
| 2017 hunters | 93.8% | 71.4% | 35.3% | | 4.4% |
| Chi-square analysis[1] | [a] $\chi^2$=1.195 n.s. <br> [b] $\chi^2$=0.048 n.s. <br> [c] $\chi^2$=1.513 n.s. <br> [d] $\chi^2$=14.404*** <br> [e] $\chi^2$=4.603* <br> [f] $\chi^2$=0.004 n.s. <br> [g] $\chi^2$=11.189** | [a] $\chi^2$=0.559 n.s. <br> [b] $\chi^2$=2.026 n.s. <br> [c] $\chi^2$=1.570 n.s. <br> [d] $\chi^2$=3.113 n.s. <br> [e] $\chi^2$=0.059 n.s. <br> [f] $\chi^2$=2.541 n.s. <br> [g] $\chi^2$=10.982** | [a] $\chi^2$=3.485 n.s. <br> [b] $\chi^2$=19.116*** <br> [c] $\chi^2$=31.464*** <br> [d] $\chi^2$=2.230 n.s. <br> [e] $\chi^2$=13.254*** <br> [f] $\chi^2$=26.764*** <br> [g] $\chi^2$=9.543** | | [a] $\chi^2$=10.661** <br> [b] $\chi^2$=18.395*** <br> [c] $\chi^2$=0.265 n.s. <br> [d] $\chi^2$=20.124*** <br> [e] $\chi^2$=7.016** <br> [f] $\chi^2$= 7.702** <br> [g] $\chi^2$=0.112 |

[1]Chi-square test[a] compares 2000 to 2017 and [b] compares 2002 to 2017 and [c] compares 2005 to 2017, [d] compares 2007 to 2017, [e]compares 2010 to 2017 and [f]compares 2011 to 2017.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 10-7: Waterfowl Hunting, Opening Saturday: 2000, 2002, 2005, 2010, 2011, 2014, and 2017 findings**

| Study year | N | Hunt opening Saturday | Chi-square analysis, proportion compared to 2017 |
|---|---|---|---|
| 2000 hunters | 2,191 | 63.2% | $\chi^2$=0.012 n.s. |
| 2002 hunters | 2,745 | 64.4% | $\chi^2$=0.704 n.s. |
| 2005 hunters | 2,118 | 63.0% | $\chi^2$=0.070 n.s. |
| 2010 hunters | 1,690 | 60.1% | $\chi^2$=6.261* |
| 2011 hunters | 1,534 | 64.7% | $\chi^2$=1.163 n.s. |
| 2014 hunters | 1,499 | 66.3% | $\chi^2$=5.623* |
| 2017 hunters | 1,668 | 63.9% | |

n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

# Section 10: Comparison of 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 Minnesota Waterfowl Hunter Survey Findings

**Table 10-8: Waterfowl Hunting, Opening Sunday: 2000, 2002, 2005, 2010, 2014, and 2011 findings**

| Study year | N | Hunt opening Sunday | Chi-square analysis, proportion compared to 2011 |
|---|---|---|---|
| 2000 hunters | 2,191 | 69.7% | $\chi^2$=63.124*** |
| 2002 hunters | 2,745 | 67.4% | $\chi^2$=34.339*** |
| 2005 hunters | 2,120 | 64.9% | $\chi^2$=13.658*** |
| 2010 hunters | 1,689 | 62.3% | $\chi^2$=2.341 n.s. |
| 2011 hunters | 1,543 | 60.4% | |
| 2014 hunters | | Question not asked | |
| 2017 hunters | | Question not asked | |

n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

**Table 10-9: Hunt Outside Minnesota: 2000, 2002, 2005, 2010, 2011, 2014, and 2017 findings**

| Study year | N | Hunt Outside Minnesota | Chi-square analysis, proportion compared to 2017 |
|---|---|---|---|
| 2000 hunters | 2,399 | 24.7% | $\chi^2$=3.468 n.s. |
| 2002 hunters | 3,035 | 18.6% | $\chi^2$=18.110*** |
| 2005 hunters | 2,378 | 17.3% | $\chi^2$=33.124*** |
| 2010 hunters | 1,662 | 18.0% | $\chi^2$=24.400*** |
| 2011 hunters | 1,745 | 20.5% | $\chi^2$=4.860* |
| 2014 hunters | 1,677 | 20.5% | $\chi^2$=4.860* |
| 2017 hunters | 1,625 | 22.5% | |

2000 study asked: "Did you waterfowl hunt in a state or province other than MN?"
Other surveys asked: "Did you hunt for waterfowl in a state or province other than MN in (year)?"
n.s. = not significant, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

# Section 10: Comparison of 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 Minnesota Waterfowl Hunter Survey Findings

**Table 10-10: Overall Satisfaction with Waterfowl Hunting: 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 findings**

| Study year | N | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neutral | Slightly satisfied | Moderately satisfied | Very satisfied | Chi-square analysis[1] | Means |
|---|---|---|---|---|---|---|---|---|---|---|
| 2000 hunters | 1,788 | 8.8% | 10.3% | 11.4% | 4.0% | 15.3% | 30.8% | 19.5% | $\chi^2$=42.395*** | 4.8[1] |
| 2002 hunters | 2,604 | 7.0% | 8.9% | 10.4% | 5.5% | 16.0% | 35.0% | 17.1% | $\chi^2$=8.666 n.s. | 4.9[2] |
| 2005 hunters | 1,997 | 14.1% | 14.2% | 12.5% | 6.1% | 16.8% | 24.6% | 11.7% | $\chi^2$=190.286*** | 4.2[3] |
| 2007 hunters | 417 | 9.4% | 8.6% | 12.5% | 6.0% | 18.5% | 34.5% | 10.6% | $\chi^2$=98.543*** | 4.6[4] |
| 2010 hunters | 1,535 | 11.4% | 12.0% | 11.9% | 6.5% | 17.7% | 28.3% | 12.2% | $\chi^2$=103.331*** | 4.4[5] |
| 2011 hunters | 1,401 | 8.5% | 8.8% | 9.2% | 5.4% | 18.4% | 32.7% | 17.0% | $\chi^2$=9.689 n.s. | 4.8[6] |
| 2014 hunters | 1,394 | 7.9% | 8.7% | 10.4% | 8.0% | 20.3% | 30.6% | 14.1% | $\chi^2$=42.818*** | 4.8[7] |
| 2017 hunters | 1,328 | 7.9% | 8.3% | 8.7% | 6.1% | 16.2% | 34.5% | 18.4% | | 4.9 |

[1] 2000 compared to 2017, t=2.221*
[2] 2002 compared to 2017, t=0.271 n.s.
[3] 2005 compared to 2017, t=13.923***
[4] 2007 compared to 2017, t=6.122***
[5] 2010 compared to 2017, t=10.023***
[6] 2011 compared to 2017, t=2.221*
[7] 2014 compared to 2017, t=2.221*
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 10-11 Support for Youth Waterfowl Hunting Day: 2000, 2002, 2005, 2010, 2011, 2014, and 2017 findings**

| Study year | n | Strongly oppose | Oppose | Neutral | Support | Strongly support | Chi-square analysis[1] | Means |
|---|---|---|---|---|---|---|---|---|
| 2000 hunters | 2,432 | 11.7% | 9.4% | 13.0% | 21.7% | 44.1% | $\chi^2$=48.292*** | 3.8[1] |
| 2002 hunters | 3,027 | 17.0% | 9.3% | 12.7% | 25.2% | 35.8% | $\chi^2$=125.858*** | 3.5[2] |
| 2005 hunters | 2,357 | 17.3% | 9.5% | 10.5% | 24.7% | 37.9% | $\chi^2$=101.711 | 3.6[3] |
| 2010 hunters | 1,655 | 16.6% | 9.7% | 11.9% | 23.9% | 37.9% | $\chi^2$=103.119*** | 3.6[4] |
| 2011 hunters | 1,744 | 15.1% | 10.0% | 11.7% | 24.4% | 38.8% | $\chi^2$=80.000*** | 3.6[5] |
| 2014 hunters | 1,638 | 10.7% | 8.7% | 11.5% | 27.7% | 41.4% | $\chi^2$=21.083*** | 3.8[6] |
| 2017 hunters | 1,611 | 9.7% | 7.3% | 10.0% | 26.8% | 46.2% | | 3.9 |

[1] 2000 compared to 2017, t=3.845***
[2] 2002 compared to 2017, t=13.024***
[3] 2005 compared to 2017, t=9.964***
[4] 2010 compared to 2017, t=9.964***
[5] 2011 compared to 2017, t=9.964***
[6] 2014 compared to 2017, t=3.845***
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

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# Section 10: Comparison of 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 Minnesota Waterfowl Hunter Survey Findings

**Table 10-12 Group Membership: 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 findings**

| Study year | Ducks Unlimited | Delta Waterfowl | Minnesota Waterfowl Association | Local sportsman's club | No memberships[1] |
|---|---|---|---|---|---|
| 2000 hunters | 35.6%[a] | Not asked | 11.0%[a] | 16.0%[a] | 46.4%[a] |
| 2002 hunters | 36.8%[b] | 2.9%[b] | 10.5%[b] | 22.3%[b] | 43.9%[b] |
| 2005 hunters | 37.1%[c] | 3.5%[c] | 7.8%[c] | 20.3%[c] | 42.9%[c] |
| 2007 hunters | 37.5%[d] | 3.2%[d] | 6.1%[d] | 25.8%[d] | 41.8%[d] |
| 2010 hunters | 40.1%[e] | 5.4%[e] | 6.1%[e] | 21.2%[e] | 46.6%[e] |
| 2011 hunters | 46.4%[f] | 6.9%[f] | 8.7%[f] | 26.7%[f] | 41.0%[f] |
| 2014 hunters | 39.4%[g] | 6.2%[g] | 6.2%[g] | 21.2%[g] | 42.4%[g] |
| 2017 hunters | 37.2% | 5.8% | 4.3% | 19.5% | 46.3% |
| Chi-square analysis[2] | [a] $\chi^2$=2.710 <br> [b] $\chi^2$=0.382 n.s. <br> [c] $\chi^2$=0.132 n.s. <br> [d] $\chi^2$=0.011 n.s. <br> [e] $\chi^2$=4.587* <br> [f] $\chi^2$=52.767*** <br> [g] $\chi^2$=2.443 n.s. | [b] $\chi^2$=52.437*** <br> [c] $\chi^2$=27.864*** <br> [d] $\chi^2$=38.540*** <br> [e] $\chi^2$=0.738 n.s. <br> [f] $\chi^2$=2.726 n.s. <br> [g] $\chi^2$=0.302 n.s. | [a] $\chi^2$=74.746*** <br> [b] $\chi^2$=66.555*** <br> [c] $\chi^2$=27.184*** <br> [d] $\chi^2$=8.650** <br> [e] $\chi^2$=8.650** <br> [f] $\chi^2$=39.253*** <br> [g] $\chi^2$=9.537** | [a] $\chi^2$=31.565*** <br> [b] $\chi^2$=1.521 n.s. <br> [c] $\chi^2$=0.569 n.s. <br> [d] $\chi^2$=19.716*** <br> [e] $\chi^2$=0.025 n.s. <br> [f] $\chi^2$=27.273*** <br> [g] $\chi^2$=0.025 n.s. | [a] $\chi^2$=0.539 n.s. <br> [b] $\chi^2$=1.742 n.s. <br> [c] $\chi^2$=4.616* <br> [d] $\chi^2$=9.405** <br> [e] $\chi^2$=0.806 n.s. <br> [f] $\chi^2$=13.986*** <br> [g] $\chi^2$=6.579* |

[1]"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.

[2]Chi-square test[a] compares 2000 to 2017, [b] compares 2002 to 2017. [c] compares 2005 to 2017, [d] compares 2007 to 2017, [e] compares 2010 to 2017, [f] compares 2011 to 2017, [g] compares 2014 to 2017.

n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

*2017 Minnesota Waterfowl Hunting*

**Table 10-13: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… The Minnesota DNR does a good job of managing waterfowl in Minnesota.**

| Study year | n | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Chi-square analysis[1] | Means |
|---|---|---|---|---|---|---|---|---|
| 2010 hunters | 1873 | 11.4% | 22.9% | 33.4% | 28.7% | 3.5% | $\chi^2$=91.341*** | 2.9[1] |
| 2011 hunters | 1665 | 9.0% | 19.9% | 34.7% | 33.0% | 3.4% | $\chi^2$=32.709*** | 3.0[2] |
| 2014 hunters | 1642 | 7.9% | 17.7% | 37.0% | 33.8% | 3.7% | $\chi^2$=10.327* | 3.1[3] |
| 2017 hunters | 1616 | 6.9% | 16.8% | 40.2% | 33.0% | 3.1% | | 3.1 |

[1] 2010 compared to 2017, t=7.943***
[2] 2011 compared to 2017, t=3.688***
[3] 2014 compared to 2017, t=0.568 n.s.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 10-14: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… When deciding about waterfowl management in Minnesota, the Minnesota DNR will be open and honest in the things they do and say.**

| Study year | n | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Chi-square analysis[1] | Means |
|---|---|---|---|---|---|---|---|---|
| 2010 hunters | 1869 | 5.9% | 16.4% | 40.9% | 32.5% | 4.5% | $\chi^2$=32.112*** | 3.1[1] |
| 2011 hunters | 1667 | 6.6% | 14.7% | 40.5% | 33.8% | 4.4% | $\chi^2$=45.214*** | 3.2[2] |
| 2014 hunters | 1638 | 6.2% | 17.7% | 41.0% | 30.6% | 4.4% | $\chi^2$=30.103*** | 3.2[3] |
| 2017 hunters | 1668 | 4.7% | 15.5% | 47.5% | 28.0% | 4.3% | | 3.1 |

[1] 2010 compared to 2017, t=0.759 n.s.
[2] 2011 compared to 2017, t=3.779***
[3] 2014 compared to 2017, t=3.779***
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 10-15: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… The Minnesota DNR can be trusted to make decisions about waterfowl management that are good for the resource.**

| Study year | n | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Chi-square analysis[1] | Means |
|---|---|---|---|---|---|---|---|---|
| 2010 hunters | 1865 | 6.6% | 19.7% | 33.9% | 34.9% | 4.9% | $\chi^2$=21.298*** | 3.1[1] |
| 2011 hunters | 1668 | 8.0% | 16.6% | 33.2% | 37.6% | 4.7% | $\chi^2$=33.857*** | 3.2[2] |
| 2014 hunters | 1643 | 6.3% | 17.2% | 34.8% | 37.5% | 4.2% | $\chi^2$=14.724** | 3.2[3] |
| 2017 hunters | 1611 | 6.0% | 17.2% | 39.3% | 33.5% | 4.0% | | 3.1 |

[1] 2010 compared to 2017, t=1.074 n.s.
[2] 2011 compared to 2017, t=3.179**
[3] 2014 compared to 2017, t=3.179**
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

## Section 10: Comparison of 2000, 2002, 2005, 2007, 2010, 2011, 2014, and 2017 Minnesota Waterfowl Hunter Survey Findings

**Table 10-16: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… The Minnesota DNR will make decisions about waterfowl management in a way that is fair.**

| Study year | n | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Chi-square analysis[1] | Means |
|---|---|---|---|---|---|---|---|---|
| 2010 hunters | 1860 | 5.1% | 16.9% | 38.0% | 35.5% | 4.4% | $\chi^2$=36.406*** | 3.2[1] |
| 2011 hunters | 1666 | 6.1% | 12.4% | 37.9% | 38.8% | 4.8% | $\chi^2$=45.249*** | 3.2[2] |
| 2014 hunters | 1641 | 4.9% | 13.8% | 39.7% | 38.0% | 3.6% | $\chi^2$=19.553** | 3.2[3] |
| 2017 hunters | 1614 | 3.4% | 13.3% | 44.1% | 35.2% | 4.0% | | 3.2 |

[1] 2010 compared to 2017, t=1.411 n.s.
[2] 2011 compared to 2017, t=1.411 n.s.
[3] 2014 compared to 2017, t=1.411 n.s.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 10-17: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… The Minnesota DNR has waterfowl managers and biologists who are well-trained for their jobs.**

| Study year | n | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Chi-square analysis[1] | Means |
|---|---|---|---|---|---|---|---|---|
| 2002 hunters | 2556 | 3.6% | 7.6% | 32.3% | 46.4% | 10.0% | $\chi^2$=220.484*** | 3.5[1] |
| 2010 hunters | 1865 | 2.5% | 5.3% | 45.4% | 38.8% | 8.0% | $\chi^2$=16.573** | 3.4[2] |
| 2011 hunters | 1664 | 3.5% | 5.5% | 44.0% | 39.2% | 7.8% | $\chi^2$=22.969*** | 3.4[3] |
| 2014 hunters | 1641 | 2.8% | 5.3% | 45.0% | 40.6% | 6.4% | $\chi^2$=13.613** | 3.4[4] |
| 2017 hunters | 1611 | 3.0% | 5.2% | 49.5% | 36.5% | 5.9% | | 3.4 |

[1] 2002 compared to 2017, t=6.520***
[2] 2010 compared to 2017, t=1.478 n.s.
[3] 2011 compared to 2017, t=1.478 n.s.
[4] 2014 compared to 2017, t=1.478 n.s.
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

**Table 10-18: Trust in Minnesota Department of Natural Resources: Agreement/disagreement that… The Minnesota DNR listens to waterfowl hunters' concerns.**

| Study year | n | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Chi-square analysis[1] | Means |
|---|---|---|---|---|---|---|---|---|
| 2002 hunters | 2665 | 7.4% | 19.1% | 30.2% | 36.8% | 6.6% | $\chi^2$=244.819*** | 3.2[1] |
| 2010 hunters | 1867 | 9.1% | 22.3% | 38.5% | 26.5% | 3.6% | $\chi^2$=49.596*** | 2.9[2] |
| 2011 hunters | 1664 | 9.1% | 17.3% | 39.1% | 30.0% | 4.5% | $\chi^2$=58.619*** | 3.0[3] |
| 2014 hunters | 1636 | 6.8% | 17.3% | 43.2% | 29.1% | 3.5% | $\chi^2$=23.233*** | 3.1[4] |
| 2017 hunters | 1606 | 6.7% | 18.1% | 45.3% | 22.8% | 3.4% | | 3.0 |

[1] 2002 compared to 2017, t=9.636***
[2] 2010 compared to 2017, t=3.436**
[3] 2011 compared to 2017, t=0.921 n.s.
[4] 2014 compared to 2017, t=5.279***
n.s. = not significant, *p < 0.05, **p< 0.01, ***p< 0.001

*2017 Minnesota Waterfowl Hunting*

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# Appendix A: Survey Instrument

# THE 2017 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!*

## Part I. Your Waterfowl Hunting Background

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

_____ year (*If you have never hunted waterfowl, please enter '0' here, and return your survey*.)

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

_____ years

**Q3**. **For the 5 years <u>prior to last year's waterfowl season</u>, indicate which years you hunted waterfowl <u>in Minnesota</u>? (***Check <u>all</u> that apply***.)**

- ❑ 2016
- ❑ 2015
- ❑ 2014
- ❑ 2013
- ❑ 2012
- ❑ I did not hunt during any of these years.

**Q4. Did you hunt waterfowl in Minnesota during the 2017 season? (***Please check <u>one</u>.)*

- ❑ No ⟶ (*Skip to Part V, question Q16.*)
- ❑ Yes (*Please continue with Part II, Q5.*)lines

## Part II.  Your 2017 Minnesota Waterfowl Hunting Season

Next, we have a few questions about your hunting experiences during the 2017 Minnesota waterfowl-hunting season. (*If you <u>did not</u> hunt waterfowl in Minnesota in 2017 please skip to question Q16.*)

**Q5. Please indicate whether you hunted for the following kinds of waterfowl <u>in Minnesota in 2017</u>. If you did hunt, estimate the <u>total</u> number of that kind of waterfowl you bagged (shot and retrieved).**

| During the 2017 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 | no | yes | _____geese |
| **Other Geese** (Snow Geese, etc.) | no | yes | _____geese |
| **Sandhill cranes** | no | yes | _____cranes |

**Q6. During the <u>2017 Minnesota waterfowl season</u>, about how many days did you hunt on…**

Weekend days or holidays: _____days

Weekdays (Monday-Friday): _____days

**Q7.  Did you hunt the <u>opening Saturday</u> (September 23) of the 2017 Minnesota Season? (***Please check <u>one</u>.***)**

- ❑ No
- ❑ Yes

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**Q8. During the 2017 Minnesota waterfowl-hunting season, how many days did you hunt in each zone?** (*See map.*) *Do not include days hunted during the September goose seasons.*

| Region | Number of Days |
|---|---|
| North Zone | days |
| Central Zone | days |
| South Zone | days |
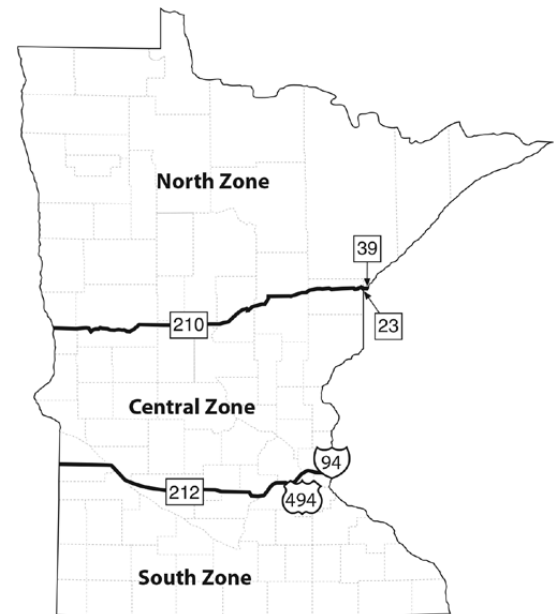
**Q9. During the 2017 Minnesota waterfowl-hunting season, did you hunt…** (*Please check one.*)

- ❑ Mostly on privately owned areas
- ❑ Mostly on public access areas (Wildlife Management Areas, Waterfowl Production Areas, public access waters)
- ❑ Public and private about the same



**Q10**. **During the 2017 waterfowl season, how often did you use the following techniques?** (*Circle one 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 NON-motorized watercraft. | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Hunting from motorized watercraft with a mud motor. | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Hunting from motorized watercraft without a mud motor. | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Using duck/ goose calls. | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Hunt with a retrieving dog. | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Hunt with a paid guide. | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |

**Q11. During the 2017 Minnesota waterfowl hunting season, how satisfied or dissatisfied were you with the following?** (*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 |

**Q12. During the 2017 Minnesota waterfowl hunting season, how satisfied or dissatisfied were you with the waterfowl habitat in the areas you hunted most?** (*Please circle one response.*)

| | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | Did not hunt |
|---|---|---|---|---|---|---|---|---|
| Waterfowl habitat | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |

**Q13. During the 2017 Minnesota waterfowl hunting season, how satisfied or dissatisfied were you with the number of ducks and geese you saw in the field?** (*Please circle one response for each.*)

| | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied | Did not hunt |
|---|---|---|---|---|---|---|---|---|
| Number of **ducks seen** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |
| Number of **geese seen** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 |

**Q14. Indicate how much you feel each of the following was a problem for you when you were waterfowl hunting in Minnesota during the 2017 season.** (*Please circle one response for each.*)

| | Never | Rarely | Sometimes | Often | Very often | Don't know |
|---|---|---|---|---|---|---|
| Crowding at hunting areas | 1 | 2 | 3 | 4 | 5 | 9 |
| Hunting pressure | 1 | 2 | 3 | 4 | 5 | 9 |
| Waterfowl unable to find rest areas | 1 | 2 | 3 | 4 | 5 | 9 |
| Shifting waterfowl migration routes | 1 | 2 | 3 | 4 | 5 | 9 |
| Interference from other hunters | 1 | 2 | 3 | 4 | 5 | 9 |
| Waterfowl arriving after the season is closed | 1 | 2 | 3 | 4 | 5 | 9 |
| Waterfowl concentrating on fewer areas | 1 | 2 | 3 | 4 | 5 | 9 |
| Waterfowl numbers on opening weekend | 1 | 2 | 3 | 4 | 5 | 9 |
| Finding someone to hunt with | 1 | 2 | 3 | 4 | 5 | 9 |
| Finding a place to hunt | 1 | 2 | 3 | 4 | 5 | 9 |

## Part IV. Waterfowl Hunting Motivations and Experiences

**Q15. How important are the following experiences to your Minnesota waterfowl hunting satisfaction?**
   **For each:**
   - **First, tell us <u>how important</u> it is to your waterfowl hunting satisfaction.**
   - **Next, tell us to what extent it happened <u>during your 2017 Minnesota waterfowl hunting season</u>.**

| | HOW IMPORTANT TO YOU? | | | | | DID IT HAPPEN? | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Not at all | Slightly | Somewhat | Very | Extremely | Not at all | Slightly | Somewhat | Largely | Very much |
| Seeing ducks in the field | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Seeing geese in the field | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Attracting ducks with decoys | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Attracting geese with decoys | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Calling ducks in | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Calling geese in | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Bagging my daily limit | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Bagging at least one duck during a day in the field | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Bagging drakes | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Bagging a lot of ducks over the season | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Bagging a lot of geese over the season | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Bagging a variety of different duck species | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Bagging diving ducks | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Bagging mallards | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |
| Bagging teal and wood ducks | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |

## Part V. Waterfowl Hunting Involvement

Next, we have a few general questions about waterfowl hunting. *Please respond to these questions <u>even if you did not hunt waterfowl in Minnesota in 2017</u>.*

**Q16.  When you hunt waterfowl in Minnesota, do you <u>typically</u> hunt…** (*Please check <u>one</u>.*)

- ❑ Alone
- ❑ With a friend or friends
- ❑ With family
- ❑ With a group of family and friends
- ❑ <u>Both</u> alone and with others <u>about the same amount of time</u>

**Q17.   When you hunt waterfowl in Minnesota, do you typically hunt… (*Please check <u>one</u>.*)**

- ❑ When I plan the hunt myself
- ❑ When someone else invites me on a hunt they plan
- ❑ Both when I plan the hunt or someone else invites me

**Q18. How important is waterfowl hunting to you?** (*Please check one.*)

- ❑ It is my most important recreational activity.
- ❑ It is one of my most important recreational activities.
- ❑ It is no more important than my other recreational activities.
- ❑ It is less important than my other recreational activities.
- ❑ It is one of my least important recreational activities.

**Q19. Please indicate how much you agree or disagree with the following statements about your involvement in waterfowl hunting in Minnesota.** (*Please circle one response for each*):

| | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|---|
| Waterfowl hunting is one of the most enjoyable things I do. | 1 | 2 | 3 | 4 | 5 |
| Waterfowl hunting provides me with the opportunity to be with friends. | 1 | 2 | 3 | 4 | 5 |
| To change my preference from waterfowl hunting to another recreation activity would require major rethinking. | 1 | 2 | 3 | 4 | 5 |
| A lot of my life is organized around waterfowl hunting. | 1 | 2 | 3 | 4 | 5 |
| Waterfowl hunting has a central role in my life. | 1 | 2 | 3 | 4 | 5 |
| Most of my friends are in some way connected with waterfowl hunting. | 1 | 2 | 3 | 4 | 5 |
| When I am waterfowl hunting, others see me the way I want them to see me. | 1 | 2 | 3 | 4 | 5 |
| I identify with the people and image associated with waterfowl hunting. | 1 | 2 | 3 | 4 | 5 |
| Waterfowl hunting is one of the most satisfying things I do. | 1 | 2 | 3 | 4 | 5 |
| Participating in waterfowl hunting says a lot about who I am. | 1 | 2 | 3 | 4 | 5 |
| Waterfowl hunting is very important to me. | 1 | 2 | 3 | 4 | 5 |
| You can tell a lot about a person when you see them waterfowl hunting. | 1 | 2 | 3 | 4 | 5 |
| When I am waterfowl hunting I can really be myself. | 1 | 2 | 3 | 4 | 5 |
| I enjoy discussing waterfowl hunting with my friends. | 1 | 2 | 3 | 4 | 5 |
| When I am waterfowl hunting, I don't have to be concerned about what other people think of me. | 1 | 2 | 3 | 4 | 5 |

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**Part VI. General Waterfowl Hunting Information**

**Q20. Please indicate how likely it is you will hunt ducks or geese during the 2018 Minnesota waterfowl season.** (*Circle one response.*)

| Very Unlikely | Somewhat Unlikely | Slightly Unlikely | Undecided | Slightly Likely | Somewhat Likely | Very Likely |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Q21. The U.S. Fish and Wildlife Service allowed states to have a 6-duck daily bag limit in 2017. Which one statement best describes how you feel about the total daily duck bag limit in Minnesota (6 ducks)?** (*Check one.*)

- ❑ The daily limit was too low.
- ❑ The daily limit was about right.
- ❑ The daily limit was too high.
- ❑ No opinion.

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**Q22. The U.S. Fish and Wildlife Service allowed states to have a 2-hen mallard daily bag limit in 2017. Which one statement best describes how you feel about the hen mallard daily bag limit in Minnesota (2 hen mallards)?** (*Please check one.*)

- ❑ The daily limit was too low.
- ❑ The daily limit was about right.
- ❑ The daily limit was too high.
- ❑ No opinion.

**Q23. The U.S. Fish and Wildlife Service allowed states to have a 3-wood duck daily bag limit in 2017. Which one statement best describes how you feel about the wood duck daily bag limit in Minnesota (3 wood ducks)?** (*Please check one.*)

- ❑ The daily limit was too low.
- ❑ The daily limit was about right.
- ❑ The daily limit was too high.
- ❑ No opinion.

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**Part VII. Waterfowl Management and Special Regulations**

**Q24. We would like to know if you <u>oppose or support</u> each of these different strategies: (*Circle <u>one for each</u>.*)**

|  | Strongly oppose | Oppose | Neither support nor oppose | Support | Strongly support | Don't know |
|---|---|---|---|---|---|---|
| Using a North, Central, and South duck zone during last year's waterfowl season | 1 | 2 | 3 | 4 | 5 | 9 |
| Using a split season in the Central Duck Zone during last year's waterfowl season | 1 | 2 | 3 | 4 | 5 | 9 |
| Using a split season in the South Duck Zone during last year's waterfowl season | 1 | 2 | 3 | 4 | 5 | 9 |
| Ending shooting hours at 4 pm for the first part of Minnesota's waterfowl season | 1 | 2 | 3 | 4 | 5 | 9 |
| Restrictions on open water hunting (must be in concealing vegetation) during the regular waterfowl season | 1 | 2 | 3 | 4 | 5 | 9 |
| Allowing open water hunting on a few (5-10) larger lakes or rivers during the regular waterfowl season | 1 | 2 | 3 | 4 | 5 | 9 |
| Restricting the use of motorized decoys for the first part of Minnesota's waterfowl season | 1 | 2 | 3 | 4 | 5 | 9 |
| Restricting the use of motorized decoys on wildlife management areas (WMAs) for the entire duck season | 1 | 2 | 3 | 4 | 5 | 9 |

Sandhill Crane Zone

2017 Minnesota Waterfowl Hunting
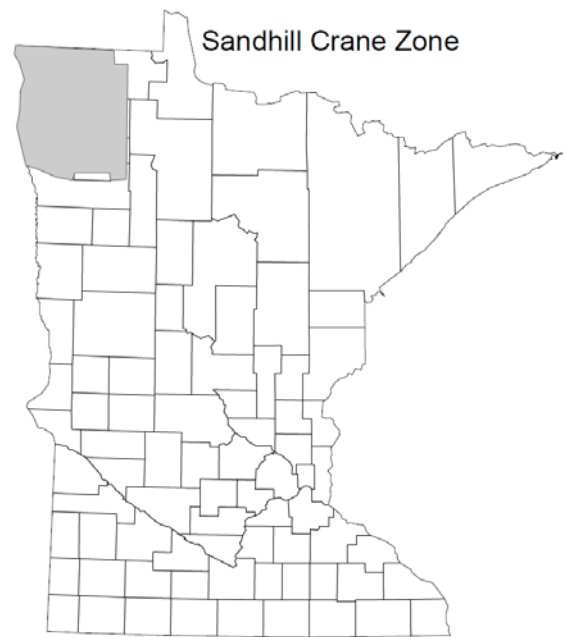
### Sandhill crane hunting in Minnesota

In 2017, hunters could pursue sandhill cranes from <u>September 16 to October 22</u> in the <u>northwest crane zone (see map)</u>, with a <u>bag limit of 1 crane</u> and a 3-crane possession limit. We would like to know if you <u>oppose or support</u> the management actions related to crane hunting in Minnesota.

**Q25. Would you oppose or support the following changes to crane hunting in Minnesota…** (*Circle <u>one for each</u>.*)

|  | Strongly oppose | Oppose | Neither support nor oppose | Support | Strongly support | Don't know |
|---|---|---|---|---|---|---|
| Increase daily bag limit on sandhill cranes from 1/day to 2/day | 1 | 2 | 3 | 4 | 5 | 9 |
| Extend the season on sandhill cranes from 37 days to 58 days | 1 | 2 | 3 | 4 | 5 | 9 |
| Expand the size of the current crane zone | 1 | 2 | 3 | 4 | 5 | 9 |
| Open crane season earlier beginning on the first Saturday in September | 1 | 2 | 3 | 4 | 5 | 9 |
| Expand sandhill crane hunting to a new hunting zone in the central/eastern part of the state | 1 | 2 | 3 | 4 | 5 | 9 |

### Part VIII. Waterfowl Hunting Season Dates

**Q26. Please write in the <u>number of </u>days you hunted waterfowl in Minnesota during each time period for the 2017 season.**

| Late September | Early October | Late October | Early November | Late November/ Early December |
|---|---|---|---|---|
| Day(s) | Day(s) | Day(s) | Day(s) | Day(s) |

**Q27. Please mark the period that you most <u>prefer</u> to hunt <u>ducks</u> in Minnesota.** (*Please put an X in the <u>one box</u> below the period you <u>most</u> prefer.*)

| Late September | Early October | Late October | Early November | Late November/ **Early December** |
|---|---|---|---|---|
|  |  |  |  |  |

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**Q28. Which opening date do you prefer? (Please check one.)**
- ❑ Saturday nearest Sept. 24 (dates vary from Sept. 21 to Sept. 27); used since 2011.
- ❑ Saturday nearest Oct. 1 (dates vary from Sept. 28 to Oct. 4); historical opener.
- ❑ No preference.

## Minnesota waterfowl zones

Three waterfowl zones (North, Central and South) were used in Minnesota during the 2017 season. Waterfowl zones allow states to set different season dates in different regions of the state to match waterfowl migration patterns, freeze-up dates, and hunter preferences.

**Q29. In which area of the state is the timing of open waterfowl hunting and season dates most important to you?** (*See Map. Please select only one area.*)

- ❑ North
- ❑ Central
- ❑ South
- ❑ No preference

**Q30. For the area <u>you selected above</u>, what is your preference for season dates in 2018?** (*Please check <u>one</u>.*)
- ❑ Saturday Sept. 22 to Tuesday Nov. 20 (*same season as used last year in <u>North Duck Zone</u>*)
- ❑ Saturday Sept. 22 to Sunday Sept. 30, close 5 days, reopen Saturday Oct. 6 to Sunday Nov. 25 (*same season as used last year in <u>Central Duck Zone</u>*)
- ❑ Saturday Sept. 22 to Sunday Sept. 30, close 12 days, reopen Saturday Oct. 13 to Sunday, Dec. 2 (*; same season as used last year in <u>South Duck Zone</u>*)
- ❑ No preference

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## Part IX. Youth Waterfowl Hunting Day

Since 1996, the U.S. Fish and Wildlife Service has allowed states to select Youth Waterfowl Hunting days outside the regular waterfowl season for youth age 15 and younger to take ducks and geese. During this event adults accompany youth, but may not hunt waterfowl themselves. Because of the season structure in Minnesota, Youth Waterfowl Hunting Day is held before the regular waterfowl season opening. Minnesota has offered a one-day Youth Waterfowl Hunt since 1996.

**Q31. Do you support or oppose the concept of Youth Waterfowl Hunting Day?** (*Please check <u>one</u>.*)

- ❑ Strongly oppose
- ❑ Oppose
- ❑ Undecided or neutral
- ❑ Support
- ❑ Strongly support

**Q32. Last September (2017), did you take any youth hunting on Youth Waterfowl Hunting Day?** (*Please check <u>one</u>.*)
- ❑ No ⟶ (*Skip to Q34*).
- ❑ Yes (*Please answer question Q33*.)

**Q33. If yes, how many youths did you take?** _____ youths

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## Part X. Battery-Operated Spinning-Wing Decoys

**Q34. Do you <u>own a battery-operated, spinning-wing decoy</u>?** (*Please check <u>one</u>.*)
- ❑ No
- ❑ Yes

**Q35. Did you <u>use battery-operated, spinning-wing decoys</u> when hunting in Minnesota during the 2017 waterfowl season?** (*Please check <u>one</u>.*)

- ❑ No
- ❑ Yes

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## Part XI. Minnesota DNR Waterfowl Management

**Q36. How do you feel about the Minnesota Department of Natural Resources (MNDNR)?** *Please circle one response for each of the following statements:*

|  | Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
|---|---|---|---|---|---|
| The MNDNR does a good job of managing waterfowl. | 1 | 2 | 3 | 4 | 5 |
| When deciding about waterfowl management in Minnesota, the MNDNR will be open and honest in the things they do and say. | 1 | 2 | 3 | 4 | 5 |
| The MNDNR can be trusted to make decisions about waterfowl management that are good for the resource. | 1 | 2 | 3 | 4 | 5 |
| The MNDNR will make decisions about waterfowl management in a way that is fair. | 1 | 2 | 3 | 4 | 5 |
| The MNDNR has waterfowl managers and biologists who are well-trained for their jobs. | 1 | 2 | 3 | 4 | 5 |
| The MNDNR listens to waterfowl hunters' concerns. | 1 | 2 | 3 | 4 | 5 |
| I consider an opportunity to voice opinions to MNDNR waterfowl management desirable. | 1 | 2 | 3 | 4 | 5 |
| I intend to respect MNDNR waterfowl management's future management decisions. | 1 | 2 | 3 | 4 | 5 |
| I accept the decisions of MNDNR waterfowl management. | 1 | 2 | 3 | 4 | 5 |
| I consider an opportunity to voice opinions to MNDNR about waterfowl management important. | 1 | 2 | 3 | 4 | 5 |
| I think Minnesotans should have the right to voice opinions about waterfowl management to the MNDNR. | 1 | 2 | 3 | 4 | 5 |
| I am willing to accept the decisions of MNDNR waterfowl management. | 1 | 2 | 3 | 4 | 5 |
| I think MNDNR waterfowl management uses the best available science when making management decisions. | 1 | 2 | 3 | 4 | 5 |
| I consider MNDNR decision-making about waterfowl management fair | 1 | 2 | 3 | 4 | 5 |

## Part XII. Conservation/Hunting Activities

**Q37. Are you currently a member of: (*Check all that apply*.)**
- ❑ Ducks Unlimited
- ❑ Delta Waterfowl
- ❑ Minnesota Waterfowl Association
- ❑ Local sportsman's club
- ❑ Other national/statewide conservation/hunting organization(s) *Please specify*: ——————————————

**Q38. How often do you do the following conservation or hunting activities?** *Please circle one response for each of the following statements:*

|  | Never | Rarely | Sometimes | Often | Very often |
|---|---|---|---|---|---|
| Recruit others to go hunting. | 1 | 2 | 3 | 4 | 5 |
| Donate money to wildlife conservation organizations. | 1 | 2 | 3 | 4 | 5 |
| Volunteer to improve wildlife habitat in my area. | 1 | 2 | 3 | 4 | 5 |
| Vote to support policies or regulations that affect the local environment. | 1 | 2 | 3 | 4 | 5 |

*2017 Minnesota Waterfowl Hunting*

**Part XIII. About You**

**Q39. Did you hunt for waterfowl in a state or province other than Minnesota in 2017?** (*Please check <u>one</u>.*)

❑ No.
❑ Yes. *If yes, how many <u>days</u> did you hunt for waterfowl outside Minnesota?* _____

**Q40. What is your age?**

_____ years

**Q41. How many years have you lived in Minnesota?**

_____ years

**Q42. How many years did you live on a farm or ranch, or in a non-suburban rural area from birth until age 17?**

_____ years

**Q43. How many years have you lived on a farm or ranch, or in a non-suburban rural area from age 18 until now?**

_____ years

**Q44. What is the highest level of education you have completed?** *(Check one.)*

❑ Grade school
❑ Some high school
❑ High school diploma or GED
❑ Some vocational or technical school
❑ Vocational or technical school (associate's) degree

❑ Some college
❑ Four-year college (bachelor's) degree
❑ Some graduate school
❑ Graduate (master's or doctoral) degree

**Q45. What was your annual household income from all sources, before taxes, in 2017?**

<u>$</u> _____

**Please write any comments below or email them to sas@umn.edu. Survey results will be available in the summer of 2018 on the Minnesota Department of Natural Resources Web site, www.dnr.state.mn.us. If you have a question about the survey, email it to sas@umn.edu. If you have a specific <u>question about waterfowl management</u> that you want answered, please contact the Minnesota DNR at 1-888-MINNDNR.**

_____

## THANK YOU FOR YOUR HELP!
Please return the completed questionnaire in the enclosed self-addressed, stamped envelope.

*2017 Minnesota Waterfowl Hunting*