



THE 2017 WATERFOWL HUNTING SEASON IN MINNESOTA: A STUDY OF HUNTERS' OPINIONS AND ACTIVITIES

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SUMMARY OF FINDINGS

The Section of Wildlife in the Minnesota Department of Natural Resources in collaboration with the Cooperative Fish and Wildlife Research Unit at the University of Minnesota conducted a survey of waterfowl hunters' participation and harvest, motivations, involvement, satisfaction, and opinions about bag limits, season dates, and youth waterfowl opportunities. This study was conducted in an effort to obtain information on hunters' preferences relative to management alternatives associated with season dates and bag limits for waterfowl in the state. Variation in satisfaction with waterfowl hunting opportunity by geographic region and species was also of substantive interest in the study; as were preferences for potential changes to sandhill crane hunting regulations.

Ducks were revealed to be the most commonly sought waterfowl among Minnesota hunters. More hunters hunted the Central zone than the North or South zones during the 2017 season. The majority of duck hunters (71%) and goose hunters (63%) were satisfied with their hunting experience. Hunters were supportive of the Youth Waterfowl Hunting Day. Roughly two-thirds of hunters indicated that the 6-duck overall, 2-hen mallard, and 3-wood duck bag limits were "about right." A minority in each instance believed that the limits were either too high, too low, or did not have an opinion. Around 10% of respondents reported that waterfowl hunting was their "most important recreational activity." Social aspects of waterfowling were found to be most important attributes of involvement in the activity. Hunters were supportive of allowing open water hunting on large water bodies, but opposed restricting the use of motorized decoys. North zone duck hunters preferred a straight 60 day season, compared to Central and South. While South zone hunters preferred a split season with a later end date, compared to Central and North. Hunters, on average, supported amendments to Sandhill crane hunting in Minnesota, including an expanded hunt boundary.

INTRODUCTION

Obtaining information on hunters' preferences for aspects of hunting activities can inform season setting, regulations, and resource management decisions that optimize opportunities for hunters to have preferred experiences (Schroeder et al., 2019; Schroeder et al., 2006; Vaske, Fedler, and Graefe, 1986). The Minnesota Department of Natural Resources (MNDNR) regularly conducts assessments of the attitudes, opinions, and behaviors of hunters and other stakeholders to achieve these goals. The number of registered waterfowl hunters in the state has fallen by one-third since 2000. Waterfowl hunting generates substantive economic (Grado et al., 2011) and social benefits (Arnett and Southwick, 2015), in addition to contributing to wildlife conservation (Vrtiska et al., 2013). Therefore, declining waterfowl hunter numbers are a cause for concern for MNDNR as the trustee of waterfowl in the state, and the agent responsible for facilitating citizens' connection to wildlife resources.

Objectives

This study was undertaken with the following objectives:

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 experiences 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 on 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.

METHODS

Sampling

The primary sample frame consisted of Minnesota residents aged 18 and older that purchased a state waterfowl stamp for the 2017 season. 3,600 individuals were randomly selected to participate, stratified by 4 geographic regions corresponding to waterfowl hunt zones (North, Central, South) and the Minneapolis-Saint Paul metropolitan region, by zip code of residence (900 hunters per strata). Additional samples of 900 pictorial waterfowl stamp purchasers, and 900 Sandhill crane permit holders were randomly selected for participation.

Data Collection

Data were collected using a repeat-mail design. Participants were sent a survey packet with a cover letter, questionnaire, and self-addressed, postage-paid return envelope. Mailing lists were adjusted between rounds. Non-respondents were sent 3 additional survey packets. In the fourth mailing, participants were also provided a \$1 incentive in an effort to increase response rate. A 1 page survey was sent to non-respondents after the fourth round in order to quantify non-response bias. Data collection occurred between January and May, 2018.

Data Entry and Analysis

Data were entered and analysis was conducted using the Statistical Program for the Social Sciences (SPSS for Windows 21). Basic descriptive statistics and frequencies were calculated for the statewide, pictorial, and crane permit holder samples. The 3 research strata and regional results were compared using one-way analysis of variance (ANOVA) and cross-tabulations. Frequency weights were applied to calculate statewide estimates based on the proportion of hunters that reside in each of the geographic strata in the sample.

RESULTS

Response Rate and Respondent Demographic Characteristics

Collection efforts yielded an overall response rate of 48.6% 134 of the original 3,600 addresses were undeliverable or otherwise invalid resulting in an adjusted sample of 3,466 individuals. Response rates ranged from 50.3% to 45.8% by strata. A non-response bias was detected when respondents were compared to the population of hunters; where respondents tended to be older. However, when analytical weights were applied to the data no meaningful differences in estimates were detected when compared to the unweighted results. Therefore, the data were not weighted by age.

Respondents were on average 44.5 years old, and had lived in Minnesota for an average of 41 years. On average, respondents possessed an annual household income of approximately \$113,000. Roughly 39% of respondents had completed a 4-year college degree or greater.

Participation and Waterfowl Hunting Activities

The vast majority (87%) of waterfowl permit holders reported that they went waterfowl hunting during the 2017 season. Of those that reported hunting, 94% hunted ducks and a majority of goose hunters hunted Canada Geese during the regular season. Early season goose hunting, other geese, and sandhill crane were less commonly sought targets. Average season bags for ducks, Canada geese, and other geese were 11.0, 6.4, and 1.6 respectively.

Satisfaction

Overall, (71%) respondents were satisfied with their duck hunting experience. Forty-nine percent of duck hunters reported that they were satisfied with harvest, and more than 50% were satisfied with duck hunting regulations. A slightly lower plurality of goose hunters (63%) reported that they were satisfied overall, while a similar pattern to duck hunters was observed for satisfaction with harvest and regulations.

Importance, Motivation, and Involvement in Waterfowl Hunting

Around half of respondents said that waterfowl hunting was one of their most important recreational activities, while 28% reported that waterfowl hunting was no more important than others. Ten-percent indicated that waterfowl hunting was their most important recreational activity, and 11% indicated that it was less important than other activities. Respondents agreed that waterfowl hunting provided an opportunity to be with family and friends, and that it is one the most enjoyable things that they do. Fewer respondents indicated that waterfowl hunting was a central part of their life. Four dimensions were identified among factors that influence hunters' satisfaction with waterfowl hunting; seeing ducks and geese, attracting waterfowl with decoys and calls, bagging a lot of waterfowl, and other specialized aspects of bagging waterfowl. On average, respondents rated seeing ducks and geese as the most important determinant of their satisfaction, and bagging a lot of waterfowl as the least.

Opinions about Youth Waterfowl Hunting Day

A majority (73%) of respondents supported the Youth Waterfowl Hunting Day, and 46% strongly supported it. Twelve-percent of respondents reported participating in the Youth Waterfowl Hunting Day, escorting an estimated 18,027 youth hunters to the field in 2017.

Opinions about Waterfowl Regulations

Respondents' opinions about current duck bag limits were queried. The majority (~two-thirds) indicated that the 6-duck, 2-hen mallard, and 3-wood duck bag limits were "about right." Minorities in each instance reported that they felt the bag limits were either too high, too low, or

did not have an opinion on the matter. Respondents indicated preference for the current 3 zone (North, Central, and South) configuration. Support was also expressed for the potential to allow open water hunting on a select number of large water bodies. Respondents, on average, expressed the least support for restricting the use of motorized decoys.

Opinions about Season Dates and Splits

Respondents were asked to indicate their preference for alternative configurations of season dates and splits. An option for a continuous 60 day season, and 2 different split seasons were presented, as was a “no preference” alternative. Fifty-eight percent of respondents in the North zone preferred a continuous season, while 43% of South zone hunters preferred the split season with the latest end date. A similar pattern was observed with respect to season opening dates, with North zone hunters preferring an early start date and Central and South zone hunters preferring a later one.

Opinions about Sandhill Crane Hunting in Minnesota

Five potential changes to sandhill crane hunting regulations were presented to participants for evaluation. Respondents, on average, supported a) expanding the crane hunting area, b) moving the opening day to an earlier date, c) expanding the size of the current zone, d) increasing the season length from 37 to 58 days, and e) increasing the daily bag limit from 1 to 2 birds. Mean values ranged from 3.8 (a) to 3.3 (e), where 1 = strongly oppose, 3 = neutral, and 5 = strongly support.

Comparisons to Previous Assessments

Satisfaction with waterfowl hunting in 2017 was higher than in several previously studied years including 2000, 2005, 2007, 2010, 2011, and 2014 (but not 2002). Support for the Youth Waterfowl Hunting Day was also higher than in years where it was examined.

LITERATURE CITED

- Arnett, E.B., and Southwick, R. 2015. Economic and social benefits of hunting in North America. *International Journal of Environmental Studies*, 72(5), 734-745.
- Grado, S.C., Hunt, K.M., Hutt, C.P., Santos, X.T., and Kaminski, R.M. 2011. Economic impacts of waterfowl hunting in Mississippi derived from a state-based mail survey. *Human Dimensions of Wildlife*, 16, 100-113.
- Schroeder, S., Fulton, D., and Lawrence, J.S. (2006). Managing for preferred hunting experience: A typology of Minnesota waterfowl hunters. *Wildlife Society Bulletin*, 34(2), 380-387.
- Schroeder, S., Cornicelli, L., Fulton, D., and Merchant. 2019. The influence of motivation versus experience on recreation satisfaction: How appreciative- versus achievement orientated – recreation experience preferences relate to hunter satisfaction. *Journal of Leisure Research*, DOI: 10.1080/0222216.2018.1557502.
- Vrtiska, M.P., Gammonley, J.H., Naylor, L.W., and Raedke, A.H. 2013. Economic and conservation ramifications from the decline of waterfowl hunters. *Wildlife Society Bulletin*, 37(2), 380-388.