



Survey of Deer Hunters – 2024 Season

09/22/2025

Suggested Citation

Lovelace, S., Landon, A.C., & Keller, B. (2025). Survey of deer hunters – 2024 season. Minnesota Department of Natural Resources. Saint Paul, MN.

Contents

Survey of Deer Hunters – 2024 Season	1
Purpose.....	1
Methods	2
Sampling	2
Data collection.....	4
Response rate	4
Weighting	5
Deer hunting participation	6
Percent of hunters that hunted deer in 2024	6
Percent of hunters that accompanied youth during youth hunt in 2024	7
Participation in party hunting.....	8
<i>Figure 7. Did another member of your hunting party tag a deer that you killed?.....</i>	12
<i>Table 7. Percent of hunters that had a deer they killed tagged by another member of your hunting party by geographic strata.....</i>	12
<i>Table 8. Hunters’ support and opposition to party hunting for antlered and antlerless deer.</i>	12
<i>Table 9. Hunters’ support and opposition to party hunting for antlered deer by strata.....</i>	13
<i>Table 10. Hunters’ support and opposition to party hunting for antlerless deer by strata.....</i>	13
Location of deer hunting and perceptions of deer populations	14
<i>Table 11. Hunters’ perceptions of the deer population in their most hunted DPA.....</i>	14
<i>Table 12. Hunters’ perceptions of the deer population in their most hunted DPA by geographic strata</i>	14
<i>Figure 8. Percent of deer hunting effort across all seasons, spent on public and private land in Minnesota in 2024.....</i>	15
<i>Table 13. Percent of deer hunting effort, across all seasons, spent public and private land in Minnesota in 2024, by geographic strata.....</i>	15
Perception of crowding	15
<i>Figure 9. How crowded did you feel while deer hunting in Minnesota in 2024?</i>	16

<i>Table 14.</i> Crowding level while deer hunting by geographic strata	16
Firearms and muzzleloader participation.....	16
<i>Table 15.</i> In which of the following Minnesota firearm or muzzleloader deer seasons did you participate in 2024?	17
<i>Table 16.</i> How many days did you hunt with a firearm during the firearm deer seasons in Minnesota in 2024?	17
Firearm and muzzleloader participation by geographic strata	17
<i>Table 17.</i> Firearm and muzzleloader season participation by geographic strata	18
Satisfaction with 2024 firearm and muzzleloader season.....	19
<i>Figure 10.</i> Minnesota deer hunters' satisfaction of dissatisfaction with their overall firearm and muzzleloader deer hunting experience in 2024.	19
<i>Figure 11.</i> Reason for dissatisfaction with firearm and muzzleloader season	20
Satisfaction with the firearm and muzzleloader seasons by geographic strata.....	20
<i>Table 18.</i> Satisfaction with the 2024 firearm and muzzleloader season by geographic strata.	21
<i>Table 19.</i> Reasons for dissatisfaction with the 2024 firearm and muzzleloader season by geographic strata.	21
Archery Hunting 2023.....	22
<i>Figure 12.</i> Did you hunt during in the 2023 archery deer season?	22
<i>Figure 13.</i> What weapon type did you use to hunt with during the 2023 archery deer season?.....	23
.....	23
<i>Table 20.</i> Mean days spent hunting with a crossbow and vertical bow in Minnesota in 2024	23
Archery Hunting 2024.....	24
<i>Figure 14.</i> Percent of 2024 Minnesota archery license holders that hunted during the archery season in 2024.	24
<i>Figure 15.</i> Percent of Minnesota archery hunters using a crossbow, vertical bow, and both a crossbow and vertical bow during the 2024 archery season.	25
<i>Table 21.</i> Mean days spent hunting with a crossbow and vertical bow in Minnesota in 2024	25
<i>Table 22.</i> Percent of archery hunters' harvesting a deer by equipment, and success rate by equipment. ..	26
<i>Table 23.</i> 2024 archery deer harvest by weapon.	26

Figure 16. Satisfaction with 2024 deer archery hunting season. 27

Figure 17. Reason for dissatisfaction with 2024 deer archery hunting season. 28

Archery deer wounding..... 29

Table 24. Percent of archery hunters that shot and missed a deer and wounded and did not recover a deer in Minnesota in 2024 by equipment. 29

Impact of crossbow regulation on archery participation 30

Figure 18. Did you hunt deer in the archery season in Minnesota anytime between the years 2018-2022? 30

Figure 19. Did you use a crossbow to hunt deer in Minnesota prior to 2023?..... 31

Figure 20. Was your decision to participate in the archery deer season in Minnesota influenced by the regulation change allowing a crossbow to be used by all during this season?..... 32

Maximum Shooting Distances: Crossbow vs. Vertical Bow..... 32

Table 25. Hunters’ maximum shooting distance by crossbow and vertical bow. 32

2024 Deer Harvest (all seasons) 33

Table 26. Deer harvest across all seasons. 33

Beliefs about crossbows 34

Table 27. Crossbow attitudes. 35

..... 36

Figure 22. Overall, how would you rate the effect of making crossbows available to all archery hunters on your 2024 deer hunting experience? 37

..... 37

Table 28. Geographic strata of the effect of crossbow use on hunters’ deer hunting experience..... 37

Agency Trust 38

Table 29. Agency trust. 38

Agency Trust – Geographic Strata 39

Figure 23. Mean values of trust by sample strata. 40

Table 30. Geographic strata MN DNR does a good job of managing deer in Minnesota. 40

Table 31. Geographic strata MN DNR is open and honest about things they do and say related to deer management. 41

Table 32. Geographic strata MN DNR can be trusted to make decisions about deer management that are good for the resource..... 41

Table 33. Geographic strata MN DNR will make decisions about deer management in a way that is fair..... 41

Table 34. Geographic strata MN DNR has deer managers and biologists who are well-trained for their jobs. 42

Table 35. Geographic strata MN DNR listens to deer hunters’ concerns..... 42

Involvement in deer hunting..... 43

Table 36. Involvement in deer hunting. 43

Involvement in deer hunting – Geographic Strata 44

Table 37. Geographic strata deer hunting is one of the most enjoyable things I do. 44

Table 38. Geographic strata I find a lot of my life is organized around deer hunting..... 44

Table 39. Geographic strata most of my friends and family are in some way connected to deer hunting.... 45

Table 40. Geographic strata participation in deer hunting says a lot about who I am. 45

Appendix A. Questionnaire..... 46

Purpose

The Minnesota Department of Natural Resources (MNDNR) periodically conducts surveys of hunters to understand their preferences for management, and participation and harvest in hunting seasons. This report details the results of one such survey of Minnesota deer license holders following the 2024 deer season.

The Minnesota legislature revised statute to allow all hunters to use crossbows during the archery season regardless of age prior to the 2023 archery season. Concurrent to this change, the MNDNR was directed to estimate potential effects on deer populations. This investigation was in part conducted to generate data to support this effort. Of particular interest were archery hunters' use of crossbows, rates of wounding loss, harvest and effort, and potential changes in archery hunting behavior as a result of the statute change.

Topics examined in this investigation included:

- 1) Participation in deer hunting
- 2) Participation in and attitudes toward party hunting
- 3) Location of deer hunting activity (DPA), and perceptions of the deer population
- 4) Firearm season participation
 - a. Days hunted
 - b. Wounding rate
 - c. Satisfaction
- 5) Archery season participation in 2023 and 2024
 - a. Use of crossbows and vertical bows
 - i. Behavior change, because of crossbow regulation changes
 - b. Days hunted
 - c. Harvest with archery equipment
 - d. Max distances shooting crossbows and vertical bows
 - e. Wounding rate
 - f. Satisfaction
- 6) Total harvest
- 7) Beliefs about crossbows
- 8) Trust in the Minnesota DNR
- 9) Involvement in deer hunting

Methods

Sampling

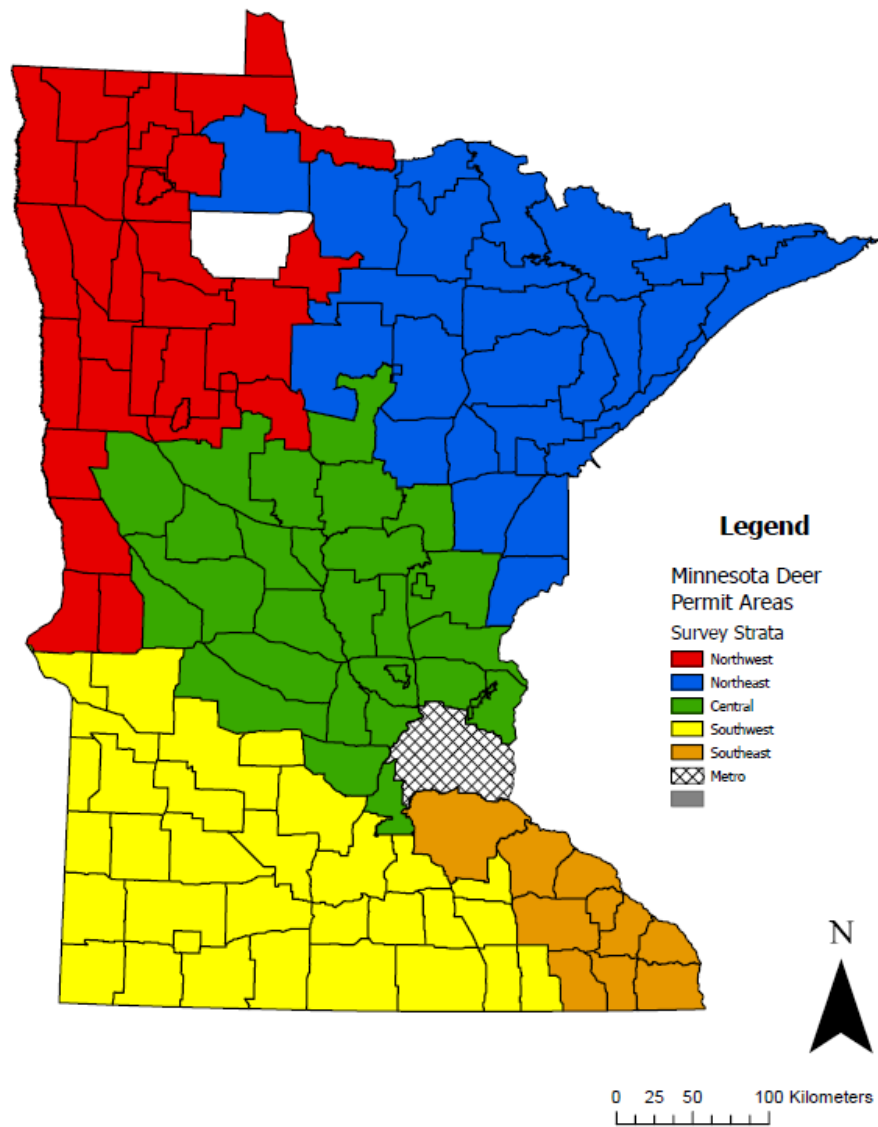
Data were collected in two samples, a geographically stratified sample of firearms and archery deer hunters, and simple random sample of archery deer hunters.

- **Geographic sample.** The geographic sample was designed to generate estimates for select variables within geographic stratum, and to allow for estimation of select variables at the statewide scale. Hunters were selected for inclusion proportional to their representation in the population of all deer hunters according to their possession of a firearms and/or archery deer hunting license in 2024. This sample allows for estimation of all deer hunters', and firearms deer hunters' preferences and behaviors within stratum, but not for archery deer hunters alone. 1,000 hunters were selected within each stratum for a total of 5,000. We selected samples necessary to exceed 90% confidence +/- 5% at the stratum scale, and 95% confidence +/- 5% at the statewide scale.
- **Simple random samples.** The simple random sample was designed to generate estimates of archery hunters' preferences and behaviors at the statewide scale for 2023 and 2024. 1,000 archery hunters were selected for each 2023 and 2024. We selected samples necessary to exceed 95% confidence +/- 5% at the statewide scale for each year.

Prior to selecting deer hunters for this study, we excluded anyone selected for inclusion in a concurrent survey of pheasant hunters (n=4,500) to reduce survey fatigue. We first selected the geographically stratified sample, followed by the 2023 and 2024 simple random samples of archery license holders.

A map of geographic survey strata is found in Figure 1. Strata correspond to groups of Deer Modeling Units (DMUs), which are aggregations of Deer Permit Areas (DPAs). DMUs are used by DNR researchers in the modeling of the deer population. We matched the scale of data collection to DMU boundaries to facilitate future efforts to parameterize an integrated deer population model.

Figure 1. Survey strata



Data collection

Selected participants received a customized letter in the mail inviting them to complete the questionnaire online. Non-respondents received up to two additional letters at roughly 3-week intervals, and mail lists were adjusted between rounds. Invitation letters contained both a QR code respondents could scan on a mobile device to reach the questionnaire, and a web-address that could be typed into any browser. Upon reaching the questionnaire respondents were instructed to enter a numeric PIN used to ensure that only selected respondents completed the questionnaire and to adjust mailing lists between rounds.

Response rate

We sent 7,000 invitations to participants, and 2,388 completed at least some portion of the questionnaire. 173 letters were returned undeliverable. After adjusting for undeliverable mail, the response rate was 35%. This did not vary by strata, with response rates ranging from 32% to 39%.

Table 1. Number of responses and response rate by strata

Strata	Sample	Undeliverable	Adjusted sample	Completed	Response rate	Adjusted response rate
Northeast	1000	35	965	340	0.34	0.35
Northwest	1000	35	965	374	0.37	0.39
Central	1000	18	982	316	0.32	0.32
Southwest	1000	21	979	358	0.36	0.37
Southeast	1000	29	971	325	0.33	0.33
Archery 2024	1000	19	981	337	0.34	0.34
Archery 2023	1000	16	984	338	0.34	0.34
Total	7000	173	6827	2388	0.34	0.35

Weighting

We designed 5 sets of weights to make generalizable estimates at different geographic scales, and for different populations of deer hunters. We created quartiles of age to post-stratify estimates according to the study populations, and account for potential non-response bias. Appendix B. contains a detailed description of weights applied to the data.

- **Statewide all hunters** – Weights account for the sampling design (proportion of all hunters represented by the stratum, and possession of firearm and archery licenses within stratum) and age of the respondents. Estimates derived from the geographic sample.
- **Statewide archery hunters** – Weights account for the age of respondents. Estimates derived from the simple random samples.
- **Within stratum all hunters** - Weights account for the sampling design (possession of firearm and archery licenses within stratum) and age of the respondents, within stratum. Estimates derived from the geographic sample.
- **Within stratum firearm hunters** - Weights account for the age of respondents, within stratum. Estimates derived from the geographic sample.

Deer hunting participation

Percent of hunters that hunted deer in 2024

We asked respondents if they participated in deer hunting in Minnesota in 2024. Most deer license holders (98%) reported that they had, while 2% of deer license holders reported that they did not (Figure 2). Participation across geographic strata was uniform (Table 2).

Figure 2. Percent of deer license holders that participated in deer hunting in Minnesota in 2024.

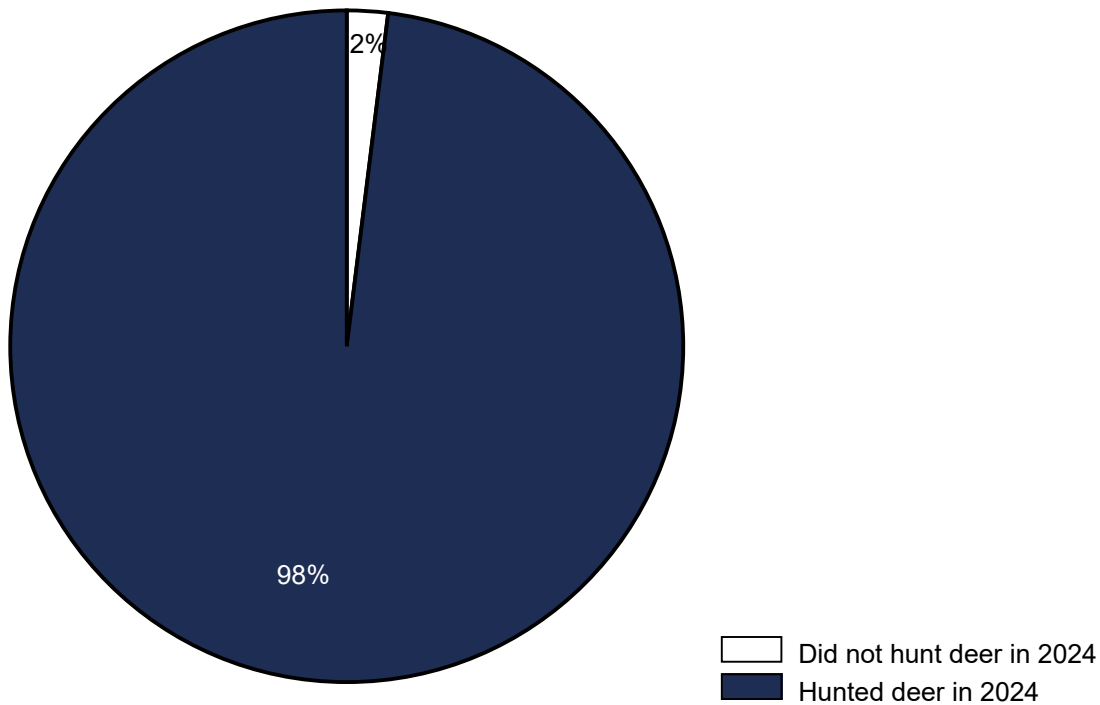


Table 2. Percent of deer license holders that participated in deer hunting in Minnesota in 2024 by geographic strata

Northwest	Northeast	Central	Southwest	Southeast	Northwest
98%	98%	98%	98%	98%	99%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Percent of hunters that accompanied youth during youth hunt in 2024

We asked respondents if they had participated in a youth hunt as a mentor in Minnesota in 2024. 13% of adult deer hunters accompanied a youth during the 2024 youth hunt (Figure 3). The Southeast region of the state had the highest participation (17%) while the Northeast region had the lowest participation rate (9%) (Table 3).

Figure 3. Percentage of deer license holders who accompanied a youth on the 2024 youth hunt.

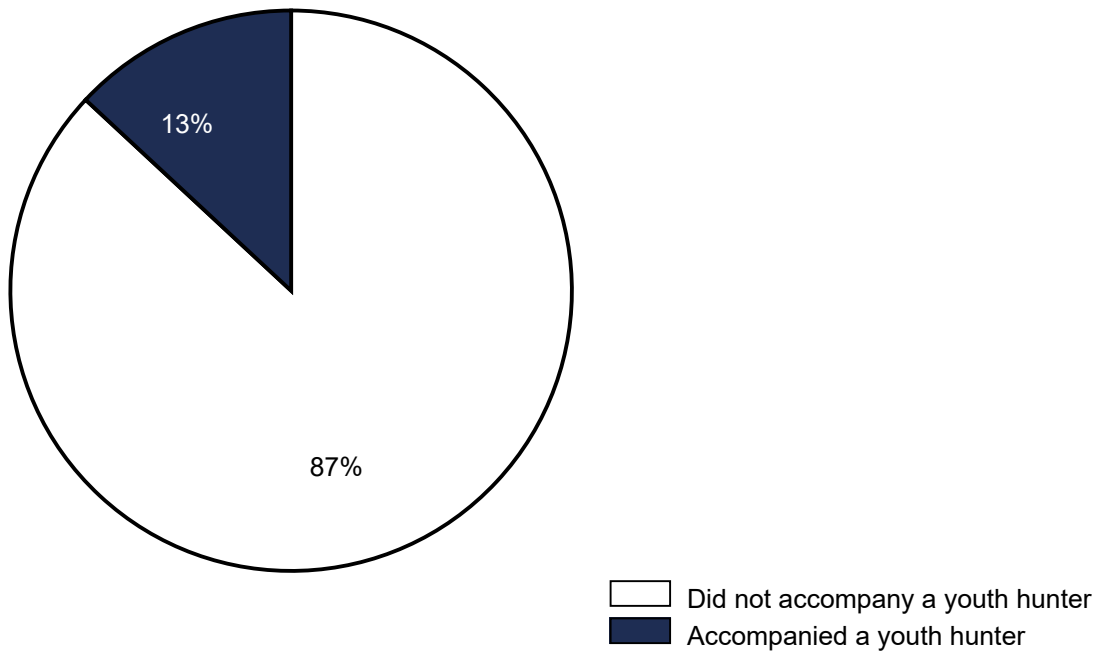


Table 3. Percent of hunters who accompanied a youth hunter during the 2024 youth hunt (October 17-October 20, 2024) by geographic strata.

Northwest	Northeast	Central	Southwest	Southeast
12%	9%	14%	15%	17%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Participation in party hunting

We asked respondents if they participated in party hunting, and whether they, or a member of their party, tagged a deer while party hunting. Party hunting is defined as the following: where a hunter may use another hunter's license to tag a deer they killed (or vice versa) as long as all hunters are hunting a field together and have legal licenses or a permit. Statewide, 46% of deer hunters participated in party hunting, while 54% did not (Figure 4). Regionally, party hunting was highest in the Southwest region of the state (52%) and lowest in the Southeast region (41%) (Table 4).

Among those that harvested a deer while party hunting, we asked respondents to indicate what type of deer they harvested. Statewide, 35% indicated they harvested an antlerless deer, 26% indicated they harvested an antlered deer, and 42% indicated they harvested both an antlered and antlerless deer while party hunting in 2024 (Figure 5).

We asked hunters if they tagged, antlered, antlerless, or both antlered and antlerless deer while party hunting. Likely owing to differences in deer management designations, the percent of hunters tagging antlered and antlerless deer while party hunting varied by region. In the Northeast, hunters were most likely to tag only antlered deer (70%), while in the Southeast, they were most likely to tag only antlerless deer (41%). In contrast, tagging both an antlered and antlerless deer was most common in the Central (47%) and Southwest (46%) regions. Among those that tagged deer while party hunting in the Northwest, 43% reported tagging antlered deer only and 39% tagged both antlered and antlerless deer (Table 5). These differences likely reflect regional variation in deer populations, management goals, hunter preferences, and rates of participation in party hunting.

Figure 4. Percent of deer hunters who participated in party hunting in 2024.

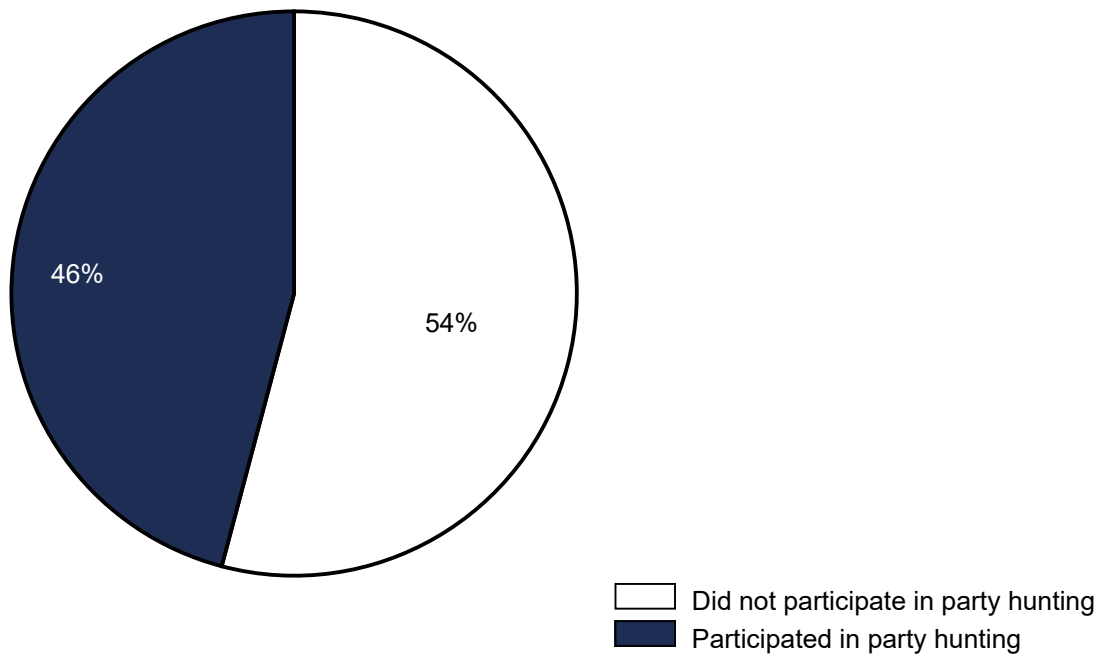


Table 4. Percent of deer hunters who participated in party hunting in Minnesota in 2024 by geographic strata.

Northwest	Northeast	Central	Southwest	Southeast
45%	47%	45%	52%	41%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Figure 5. Percent of deer hunters who tagged antlered and antlerless deer while party hunting, among those who harvested a deer while party hunting.

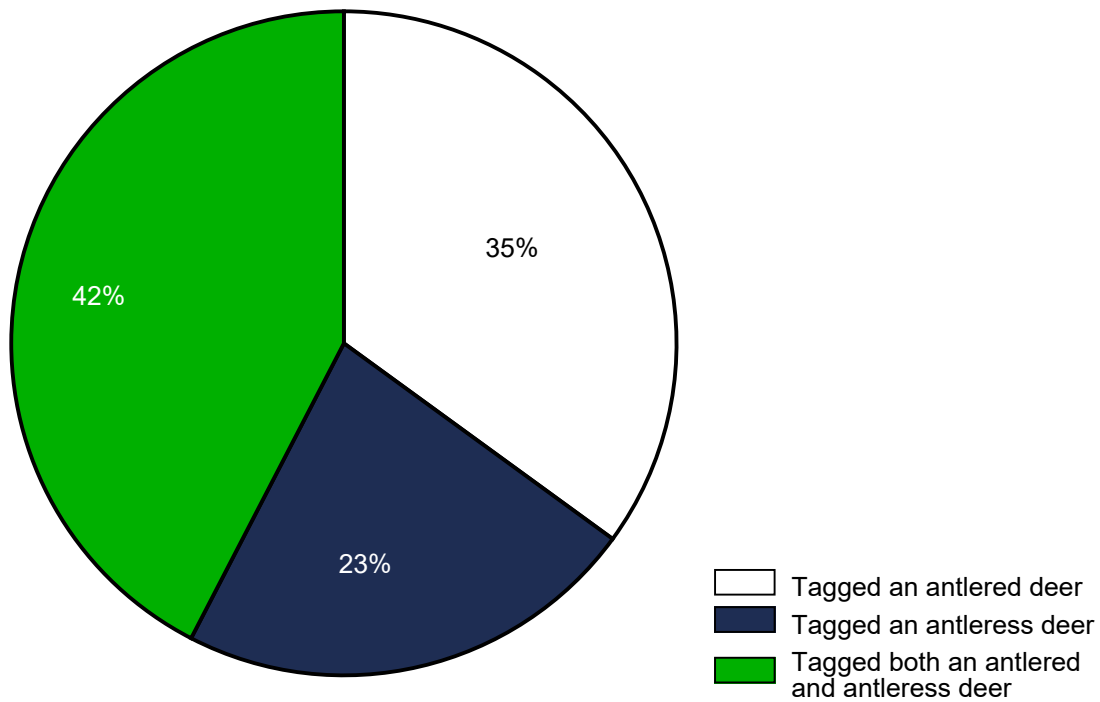


Table 5. Percent of deer hunters who tagged antlered and antlerless deer by strata, among those who harvested a deer while party hunting

	Northwest	Northeast	Central	Southwest	Southeast
Tag an antlered deer	43%	70%	26%	37%	17%
Tag an antlerless deer	18%	11%	27%	17%	41%
Tag both an antlered and antlerless deer	39%	19%	47%	46%	42%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

On average, 11% of hunters that participated in party hunting in Minnesota in 2024 tagged a deer killed by another party member (Figure 6). The Southwest region had the highest percent of party hunters who tagged a deer that was killed by another party member (16%), while the northeast had the lowest at an estimated 8% (Table 6.)

Conversely, an estimated 13% of hunters reported that another member of their party tagged a deer that they killed while party hunting in Minnesota in 2024 (Figure 7.) The Southeast region had the highest percentage (20%) of deer party hunters who reported that another member of their party tagged a deer that they killed, while 5% of party hunters in the Northeast reported the same (Table 7.)

Figure 6. Did you tag a deer that was killed by another member of your hunting party?

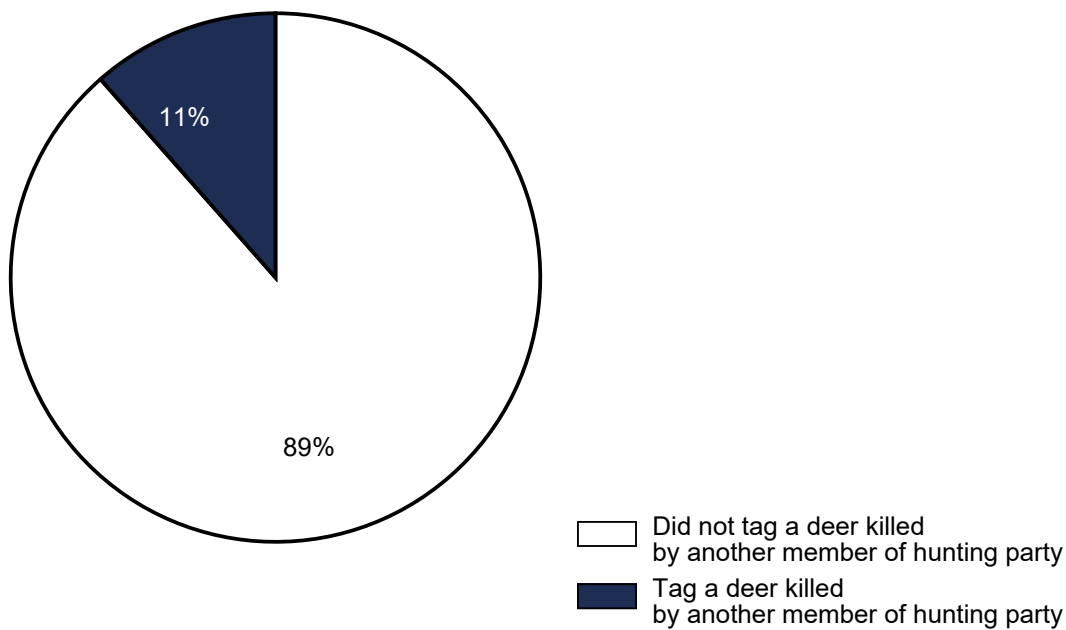


Table 6. Percent of hunters that tagged a deer that was killed by another member of their hunting party by strata.

Northwest	Northeast	Central	Southwest	Southeast
10%	8%	13%	12%	16%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Figure 7. Did another member of your hunting party tag a deer that you killed?

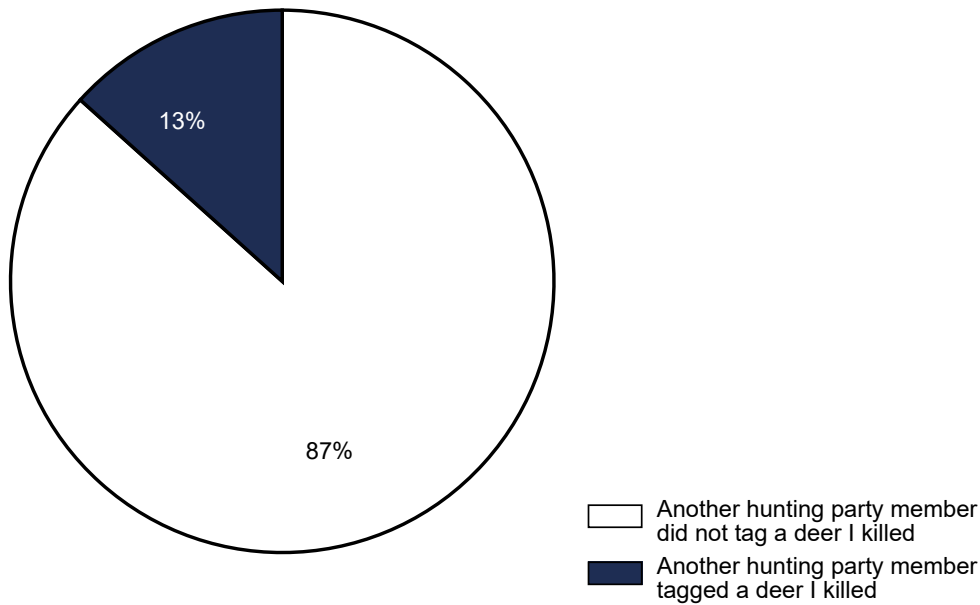


Table 7. Percent of hunters that had a deer they killed tagged by another member of your hunting party by geographic strata.

Northwest	Northeast	Central	Southwest	Southeast
14%	5%	16%	14%	20%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Respondents were asked to indicate their support or opposition to party hunting for antlered and antlerless deer. Most (57%) hunters indicated strong support for party hunting of both antlered and antlerless deer (Table 8).

Table 8. Hunters' support and opposition to party hunting for antlered and antlerless deer.

	Strongly oppose	Somewhat oppose	Neither support nor oppose	Somewhat support	Strongly support
Party hunting for antlered deer	7%	7%	14%	16%	57%
Party hunting for antlerless deer	6%	5%	15%	17%	57%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) statewide, and age of respondents.

Support for party hunting for antlered deer was high across all strata, although some differences were observed. For antlered deer, the highest support (combined "somewhat" and "strongly" support) was observed in the Northeast (81%) and Northwest (74%), while support was lower in the Southeast (66%) and Southwest (69%), where opposition was also more pronounced (20–23%) (Table 9).

In contrast, support for party hunting antlerless deer was more uniform, ranging from 69% to 77% across regions. The Northeast, Southeast, and Central regions each showed 75–77% support, and opposition levels were lower and more consistent than for antlered deer (Table 10).

Table 9. Hunters’ support and opposition to party hunting for antlered deer by strata.

	Strongly oppose	Somewhat oppose	Neither support nor oppose	Somewhat support	Strongly support
Northwest	4%	9%	14%	14%	60%
Northeast	5%	4%	10%	16%	65%
Central	6%	7%	16%	17%	55%
Southwest	11%	7%	13%	18%	51%
Southeast	12%	8%	15%	17%	49%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Table 10. Hunters’ support and opposition to party hunting for antlerless deer by strata.

	Strongly oppose	Somewhat oppose	Neither support nor oppose	Somewhat support	Strongly support
Northwest	4%	6%	16%	15%	58%
Northeast	7%	6%	11%	19%	58%
Central	4%	5%	18%	17%	56%
Southwest	10%	6%	15%	15%	54%
Southeast	6%	6%	11%	19%	58%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Location of deer hunting and perceptions of deer populations

We asked hunters to report which DPA they hunted most often in 2024. DPAs reported were spread uniformly across the state. Statewide, a plurality of hunters (45%) indicated that the deer population in their most hunted DPA is about right. While just under a third viewed the population as too low (28%), and 17% felt the population was much too low. Very few indicated deer populations were too high (7%) or much too high (2%) (Table 11). Perceptions of deer population levels varied by strata. Hunters in the Northeast were the most dissatisfied, with 79% reporting that deer populations were too low or much too low, and only 19% believing the numbers were about right. In contrast, the Central, Southwest, and Southeast regions had a more positive outlook, with 50% or more of hunters in each saying the population was “about right.” The Northwest was more mixed, with 43% satisfied and another 50% feeling the population was too low or much too low (Table 12).

Table 11. Hunters’ perceptions of the deer population in their most hunted DPA

Much too low	Too low	About right	Too high	Much too high
17%	28%	45%	7%	2%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) statewide, and age of respondents.

Table 12. Hunters’ perceptions of the deer population in their most hunted DPA by geographic strata

	Much too low	Too low	About right	Too high	Much too high
Northwest	17%	33%	43%	6%	2%
Northeast	43%	36%	19%	2%	<1%
Central	10%	24%	56%	8%	2%
Southwest	7%	23%	50%	15%	6%
Southeast	7%	24%	51%	11%	3%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Statewide, 64% of hunters hunted exclusively on private land. 24% hunted on a mixture of both public and private land, and 11% hunted on exclusively public land (Figure 8). In 2024, most deer hunting in Minnesota occurred on private land, though the extent varied by region.

Hunters in the Central and Southeast regions were most likely to hunt exclusively on private land (both 74%), followed closely by the Southwest (68%). The Northwest and Northeast showed more mixed land use. In the Northeast, 21% of hunters reported hunting exclusively on public land—the highest of any region—while 32% used both public and private land. The Northwest also had a notable proportion of mixed land users (33%) and 13% hunting only on public land (Table 13)

Figure 8. Percent of deer hunting effort across all seasons, spent on public and private land in Minnesota in 2024.

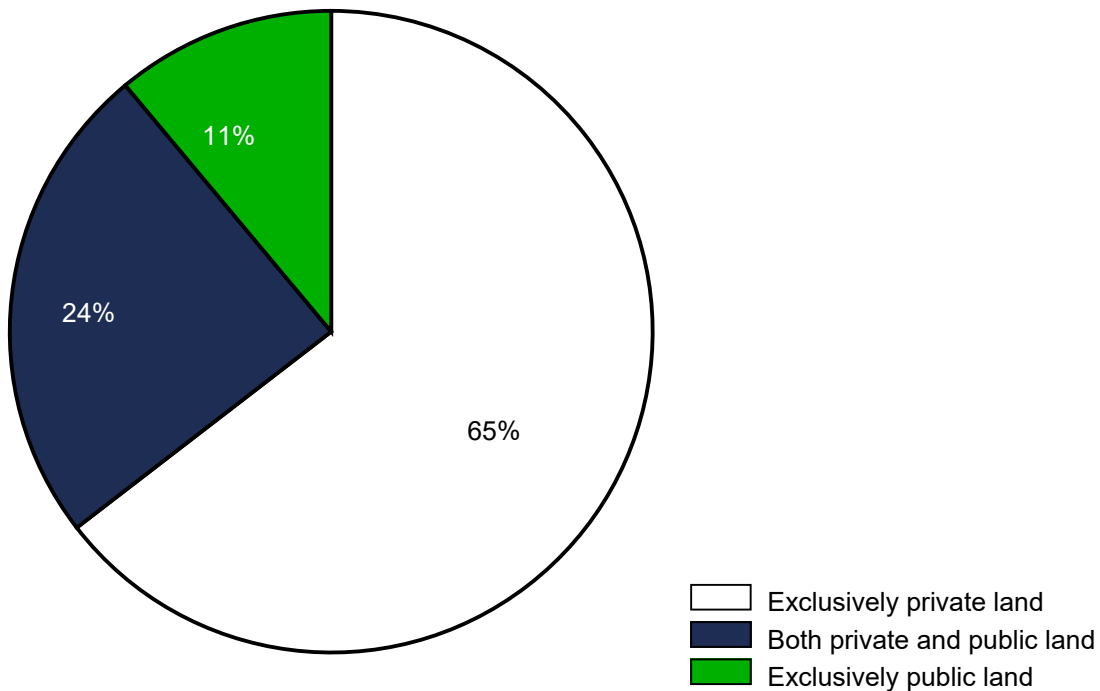


Table 13. Percent of deer hunting effort, across all seasons, spent public and private land in Minnesota in 2024, by geographic strata.

	Northwest	Northeast	Central	Southwest	Southeast
Exclusively private land	54%	47%	74%	68%	74%
Both private and public land	34%	32%	19%	24%	17%
Exclusively public land	13%	21%	7%	8%	8%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Perception of crowding

Crowding is defined as a negative evaluation of the setting density, or simply how one feels about the number of other people encountered while recreating. While deer hunting in Minnesota in 2024, 78% of respondents indicated that they felt or experienced very little crowding (Figure 9). Overall, crowding was not widely reported as a major issue in any region, with most hunters experiencing low to moderate pressure afield (Table 14).

Figure 9. How crowded did you feel while deer hunting in Minnesota in 2024?

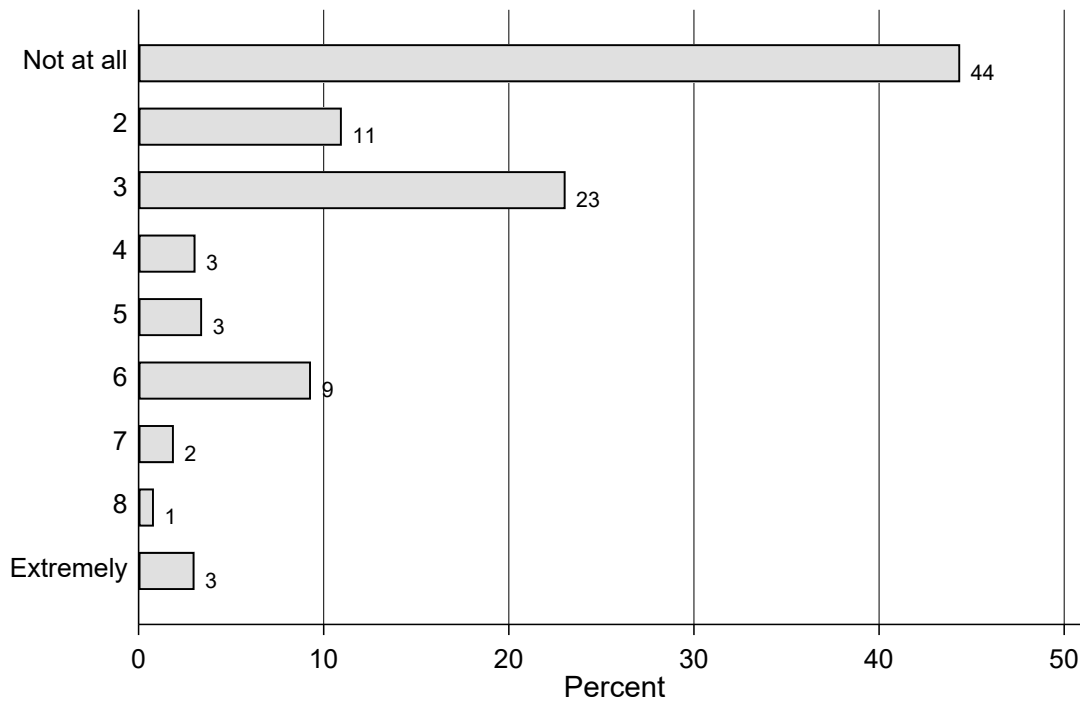


Table 14. Crowding level while deer hunting by geographic strata.

Strata	Level of crowding								
	Not at all	2	3	4	5	6	7	8	Extremely
Northwest	45%	13%	20%	2%	5%	11%	2%	1%	1%
Northeast	50%	11%	21%	3%	2%	9%	1%	1%	2%
Central	41%	11%	26%	4%	3%	8%	2%	1%	4%
Southwest	47%	12%	20%	1%	3%	9%	2%	1%	5%
Southeast	42%	10%	23%	3%	4%	12%	2%	2%	3%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Firearms and muzzleloader participation

Participants reported which firearm seasons (if any) they participated in. Most deer hunters (91%) participated in regular firearm season A. The second most popular season to participate in was muzzleloader (13%). Less than 1% of respondents participated in the metro season, and only 2% participated in the late CWD hunt (Table 15).

Hunters spent an average of 5.6 days hunting with a firearm, and 6.4 days hunting with a muzzleloader (Table 16).

83% of firearms and muzzleloader participants did not shoot at and miss a deer during the hunting season. Of the 17% that did shoot at and miss a deer using a firearm or muzzleloader, the average number of deer shot at and missed was 1 deer. Only 2% of firearm and muzzleloader hunters indicated that they wounded and did not recover a deer they shot at. The average number of deer wounded and not recovered was 1 deer.

Table 15. In which of the following Minnesota firearm or muzzleloader deer seasons did you participate in 2024?

Participation	Early antlerless	Metro	Regular Firearm Season A	Regular Firearm Season B	Muzzleloader	Late CWD	Did not hunt using a firearm
Yes	5%	<1%	91%	6%	13%	2%	6%
No	95%	100%	9%	94%	87%	98%	94%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) statewide, and age of respondents.

Table 16. How many days did you hunt with a firearm during the firearm deer seasons in Minnesota in 2024?

	Observations	Mean	SD	Minimum	Maximum
Firearm	1434	5.6	3.2	1	30
Muzzleloader	175	6.4	3.6	1	16

*Estimates are weighted to account for the proportion of firearm deer license holders statewide, and age of respondents.

Firearm and muzzleloader participation by geographic strata

Not all geographic strata possess the same offering of seasons. This is reflected in a higher participation rate in the Firearms B season, Late CWD, and Early Antlerless seasons in the Southeast than other locations around the state. Roughly 7% of hunters in the Central, Southwest, and Southeast did not participate in either firearm or muzzleloader seasons, while 3% of Northwest and Northeast hunters reported the same (Table 17).

Table 17. Firearm and muzzleloader season participation by geographic strata

Season	Northwest	Northeast	Central	Southwest	Southeast
Early antlerless	2%	1%	7%	4%	10%
Metro	0%	0%	0%	0%	2%
Firearm A	96%	97%	90%	89%	79%
Firearm B	2%	1%	3%	3%	35%
Muzzleloader	14%	6%	16%	16%	14%
Late CWD	1%	<1%	1%	<1%	14%
Did not hunt	3%	3%	7%	7%	7%

*Estimates are weighted to account for the proportion of firearm deer license holders within stratum, and age of respondents.

Satisfaction with 2024 firearm and muzzleloader season

We asked respondents to indicate their satisfaction or dissatisfaction with the 2024 firearm and muzzleloader season. Responses were relatively evenly distributed between all available options from very satisfied to very dissatisfied (Figure 10). There was slightly more overall satisfaction than dissatisfaction with a mean value of 4.2 on a 7-point scale where 4 is neutral.

If hunters indicated that they were any level of dissatisfied, they were prompted to choose the primary reason for their dissatisfaction. Almost half (49%) of hunters who were dissatisfied with the firearm and muzzleloader season indicated it was because of low deer numbers. Following with 18% of responses was a tie between lack of quality bucks and “other”, also at 18% (Figure 11).

Figure 10. Minnesota deer hunters’ satisfaction of dissatisfaction with their overall firearm and muzzleloader deer hunting experience in 2024.

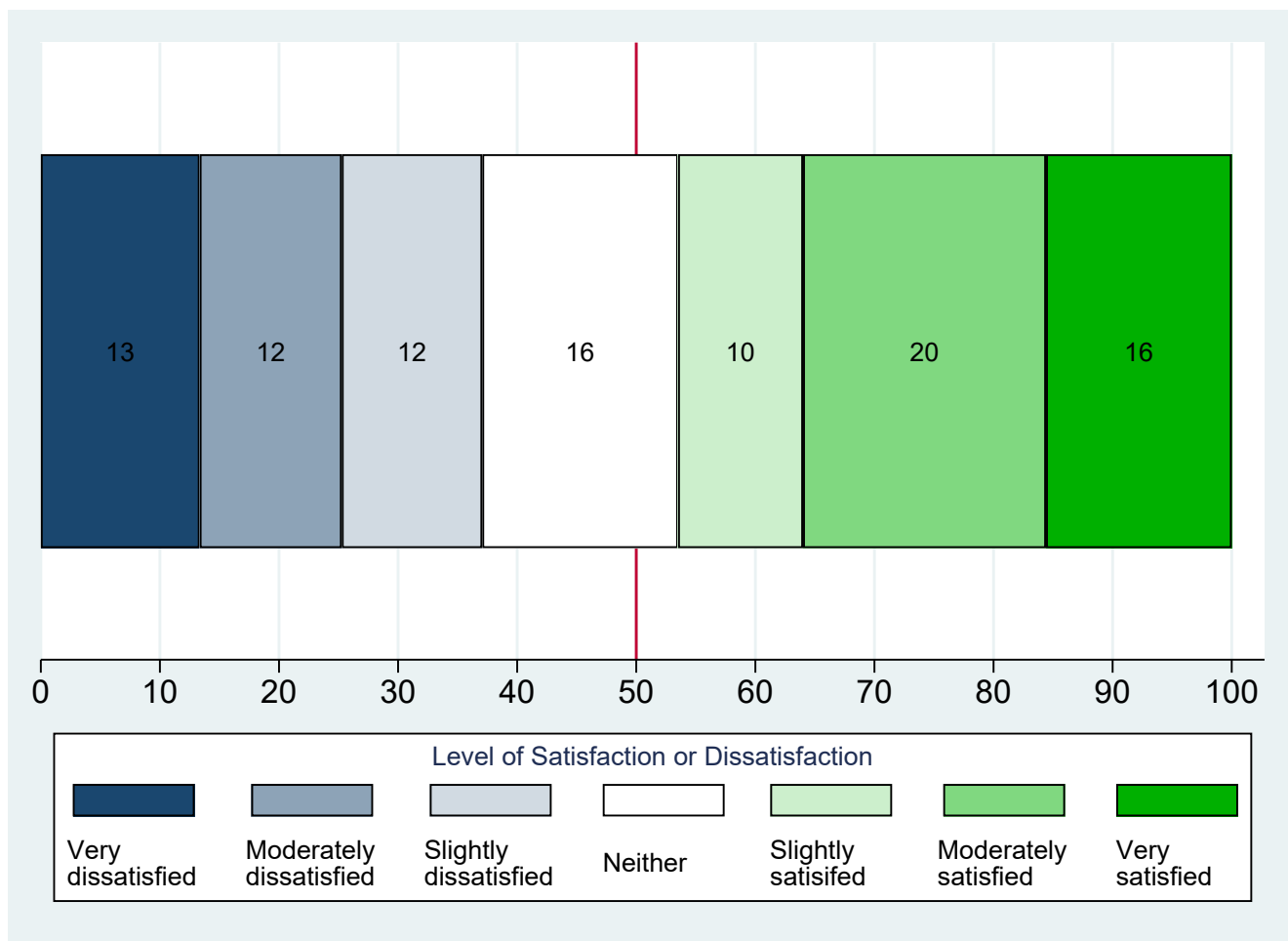
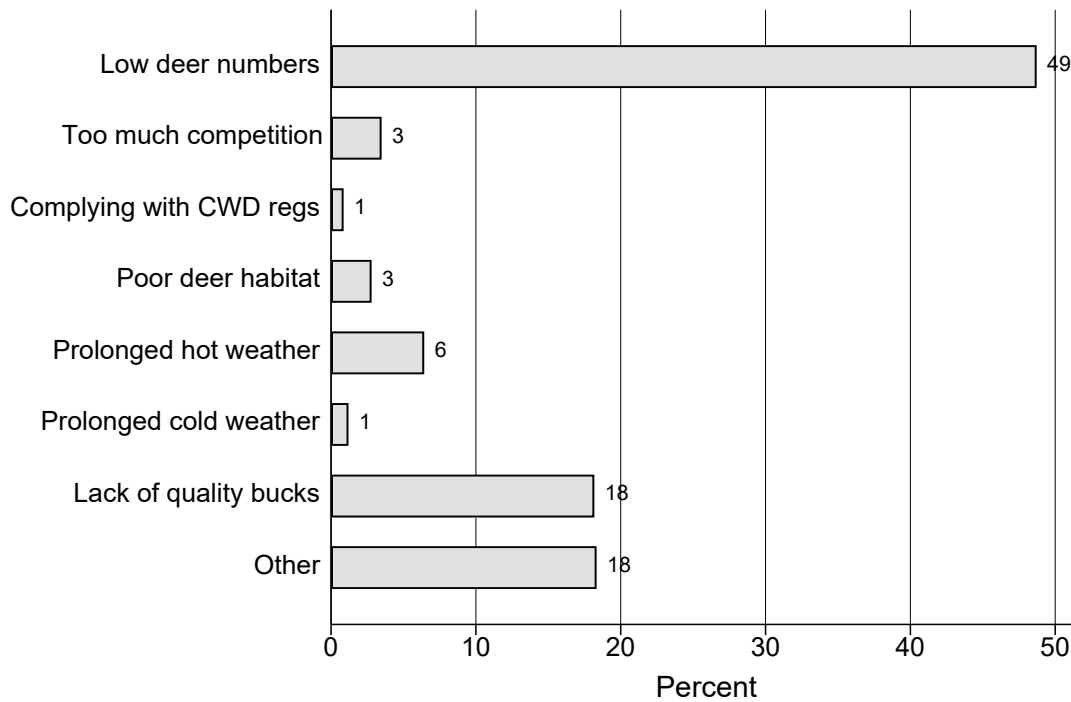


Figure 11. Reason for dissatisfaction with firearm and muzzleloader season



Satisfaction with the firearm and muzzleloader seasons by geographic strata

Satisfaction with the firearm and muzzleloader deer seasons in Minnesota varied notably by region. Hunters in the Central, Southwest, and Southeast regions reported the highest satisfaction, with over 40% in each reporting feeling either moderately or very satisfied. Hunters in the Northwest expressed closer to equal levels of satisfaction (47%) and dissatisfaction (37%), with most hunters in the Northeast (61%) reported feeling dissatisfied with their overall firearms deer hunting experience in 2024 (Table 18).

Across all regions, low deer numbers were the most commonly cited reason for hunter dissatisfaction, especially in the Northeast (63%) and Northwest (48%). The Central and Southeast regions also reflected this concern, though to a slightly lesser extent. A lack of quality bucks was another frequent concern, particularly in the Southeast (25%) and Southwest (23%). The Southwest also had the highest proportion of hunters selecting “Other” (28%), indicating a broader range of localized issues. Weather-related factors such as prolonged hot weather was mentioned most in the Southwest (11%) and Central (9%), while CWD regulations and cold weather were generally minor concerns statewide (Table 19).

Table 18. Satisfaction with the 2024 firearm and muzzleloader season by geographic strata.

	Very dissatisfied	Moderately dissatisfied	Slightly Dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied
Northwest	10%	11%	16%	16%	13%	22%	12%
Northeast	28%	20%	13%	16%	8%	9%	6%
Central	9%	10%	11%	17%	10%	23%	21%
Southwest	7%	8%	10%	17%	16%	21%	21%
Southeast	10%	10%	9%	15%	14%	24%	18%

*Estimates are weighted to account for the proportion of firearm deer license holders within stratum, and age of respondents.

Table 19. Reasons for dissatisfaction with the 2024 firearm and muzzleloader season by geographic strata.

	Low deer numbers	Too much competition	Complying with CWD regulation	Poor deer habitat	Prolonged hot weather	Sustained cold weather	A lack of quality bucks	Other
Northwest	48%	2%	2%	3%	5%	1%	21%	18%
Northeast	63%	1%	<1%	1%	3%	0%	12%	21%
Central	45%	5%	<1%	5%	9%	2%	20%	14%
Southwest	25%	7%	1%	4%	11%	1%	23%	28%
Southeast	42%	6%	5%	0%	5%	3%	25%	15%

*Estimates are weighted to account for the proportion of firearm deer license holders within stratum, and age of respondents.

Archery Hunting 2023

81% of 2023 archery license holder reported participating in the 2023 archery season in Minnesota (Figure 12). A majority of 2023 archery hunters (63%) used only a vertical bow to hunt. 31% used only a crossbow, and a small subset (6%) used both types of bows to hunt (Figure 13).

Minnesota archery hunters spent an average of 14.5 days hunting (SD = 16.8) with a crossbow, and vertical bow 16.4 days hunting (SD = 13.5) with a vertical bow in 2024 (Table 20).

Figure 12. Did you hunt during in the 2023 archery deer season?

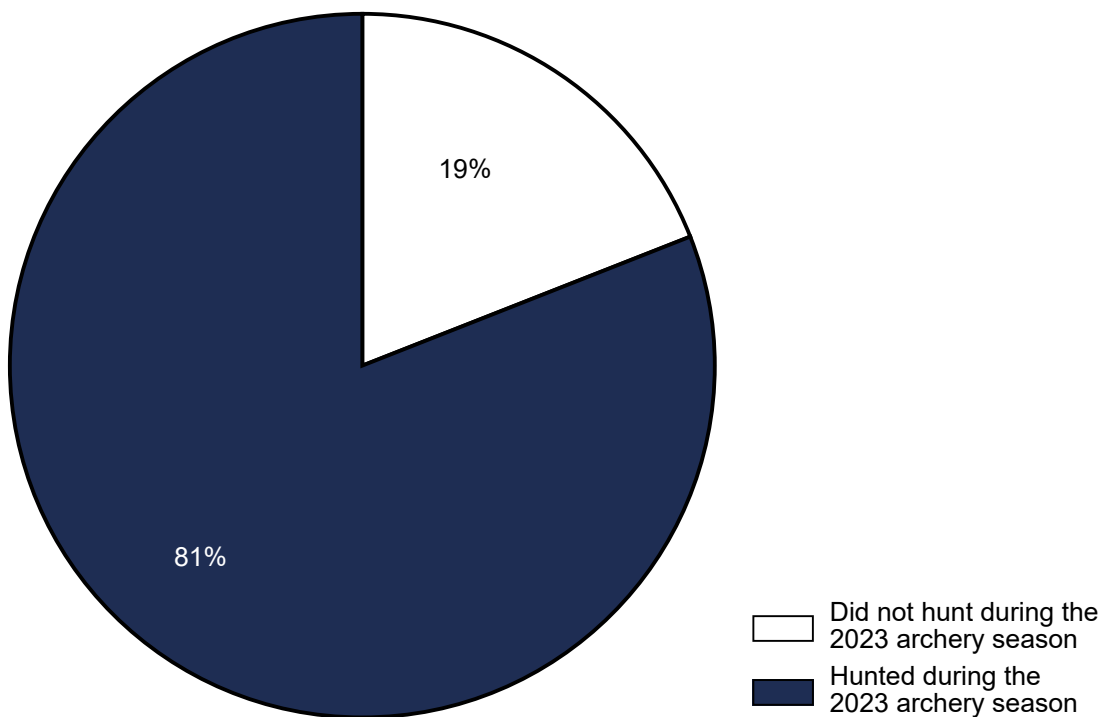


Figure 13. What weapon type did you use to hunt with during the 2023 archery deer season?

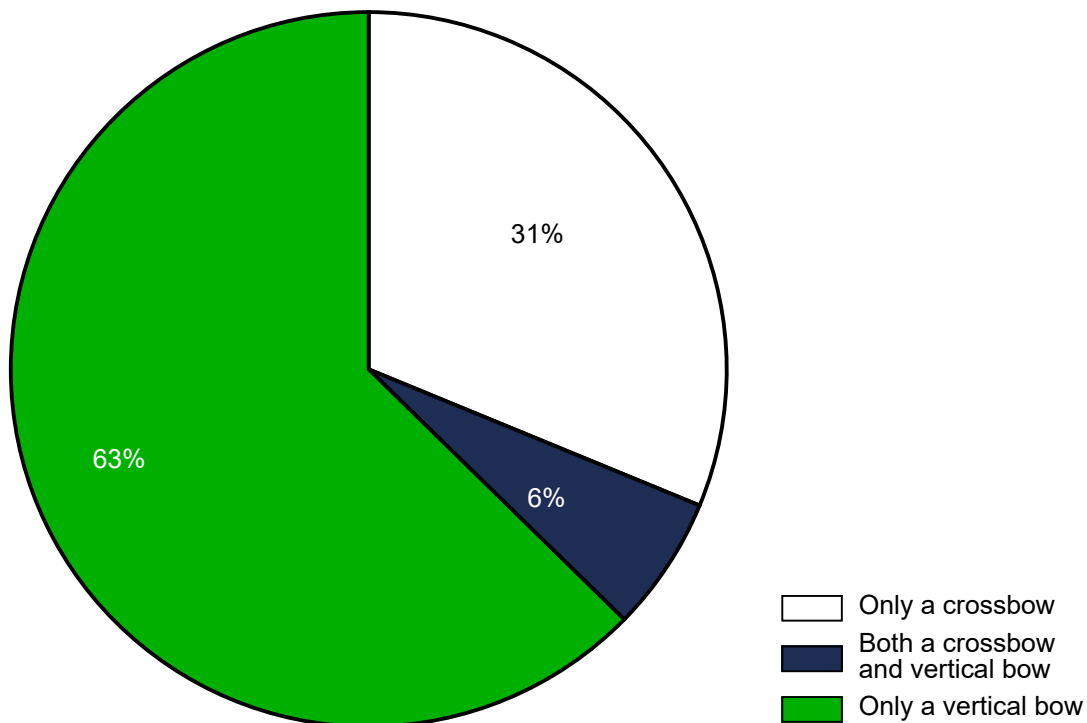


Table 20. Mean days spent hunting with a crossbow and vertical bow in Minnesota in 2024

	Observations	Mean	SD	Minimum	Maximum
Crossbow	114	14.5	16.8	1	110
Vertical bow	154	16.4	13.5	1	75
Those that exclusively used a crossbow	100	15.7	17.9	1	110
Those that exclusively used a vertical bow	140	17.1	13.9	1	75

*Estimates are weighted to account for the proportion of archery deer license holders statewide, and age of respondents.

Archery Hunting 2024

66% of 2024 archery license holders reported hunting during the archery season in Minnesota in 2024. This estimate is 15% lower than the estimated participation rate from 2023 (81%). We attribute this disparity to random sampling but have no reason to suspect that among those that participated in 2024, that the sample is not representative. We limited the population for estimation of the participation rate in 2024 to only those sampled from the population of 2024 license holders, but include those hunters sampled from the population of 2023 license holders if they reported archery hunting in 2024 in subsequent analysis of 2024 archery participation to increase statistical power.

A majority (60%) of 2024 archery hunters used only a vertical bow to hunt. This is a 3% decrease from 2023. Conversely, 33% of archery hunters used a crossbow only during 2024, which is an estimated 2% increase from 2023 (Figure 15).

Crossbow hunters spent an average of 13.4 days hunting (SD = 15.3) with a crossbow. Vertical bow users spent an average of 16.4 days hunting (SD = 14.1) with a vertical bow (Table 21).

We estimated that 28% of archery hunters in 2024 successfully harvested a deer. Hunters that exclusively used a crossbow during the 2024 archery season (30%) reported a similar success rate to those that exclusively used a vertical bow (27%) (Table 22).

Figure 14. Percent of 2024 Minnesota archery license holders that hunted during the archery season in 2024.

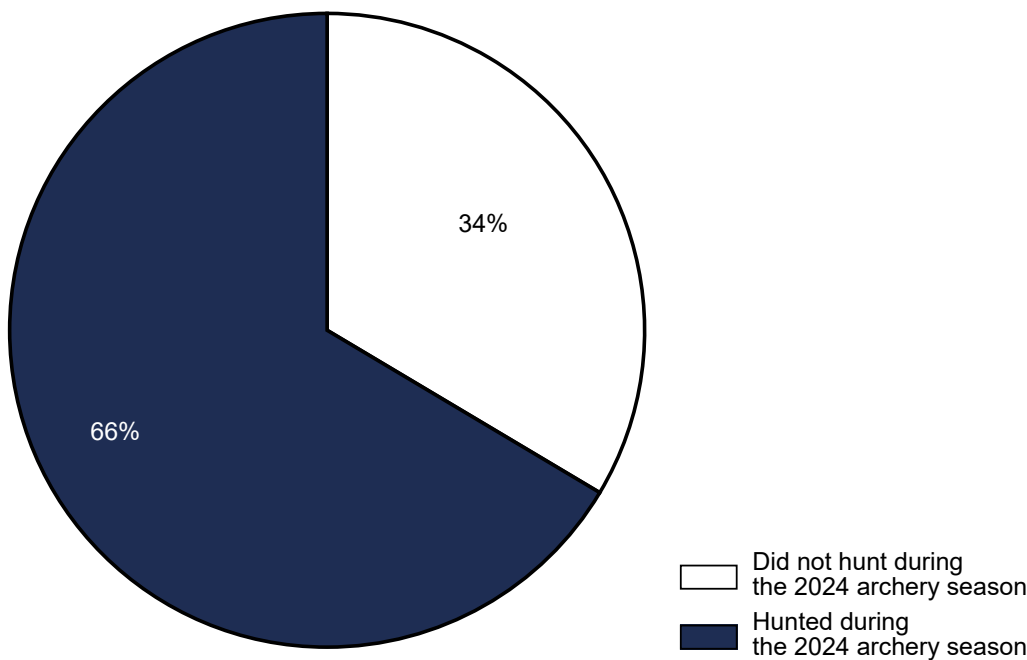


Figure 15. Percent of Minnesota archery hunters using a crossbow, vertical bow, and both a crossbow and vertical bow during the 2024 archery season.

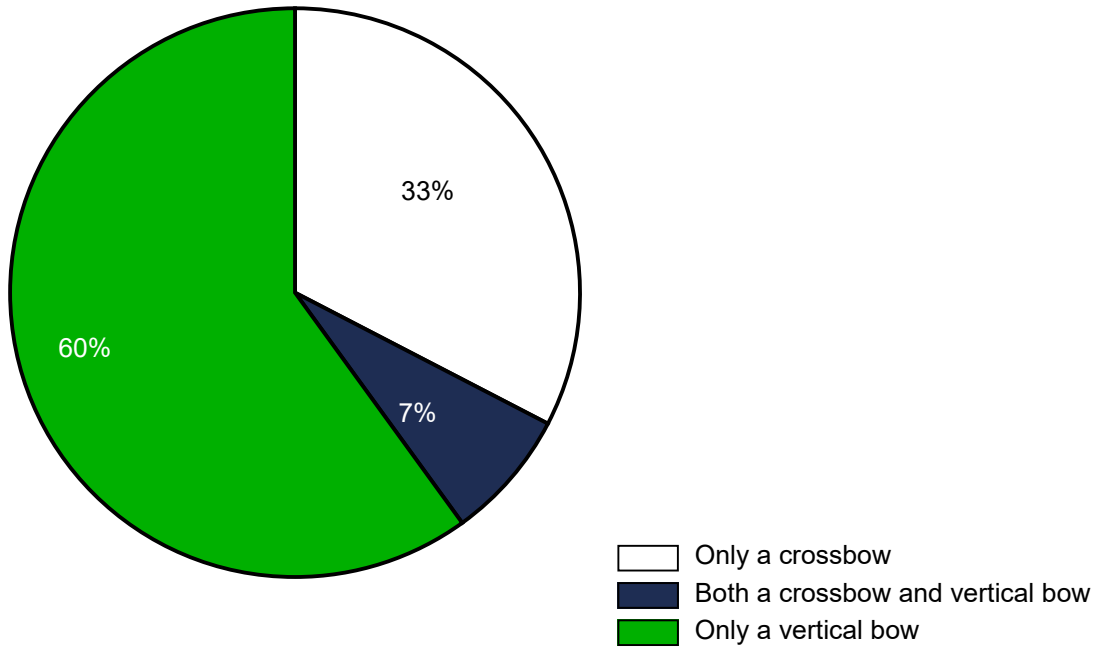


Table 21. Mean days spent hunting with a crossbow and vertical bow in Minnesota in 2024

	Observations	Mean	SD	Minimum	Maximum
Crossbow	258	13.4	15.3	1	110
Vertical bow	311	16.4	14.1	1	92
Those that exclusively used a crossbow	221	14.6	16.2	1	110
Those that exclusively used a vertical bow	274	16.9	14.4	1	92

*Estimates are weighted to account for the proportion of archery deer license holders statewide, and age of respondents.

Table 22. Percent of archery hunters’ harvesting a deer by equipment, and success rate by equipment.

	Percent
Percent of archery hunters that harvested a deer with a crossbow	12
Percent of archery hunters that harvested a deer with a vertical bow	16
Percent archery hunters that harvested a deer with any equipment	28
Success rate among those hunting exclusively with a crossbow	30
Success rate among those hunting exclusively with a crossbow	27

*Estimates are weighted to account for the proportion of archery deer license holders statewide, and age of respondents.

Most hunters using either crossbows or vertical bows harvested just one deer. Among crossbow users that successfully harvested deer, 81% took one deer, 16% took two, and 3% took three, with an average of 1.2 deer harvested. Vertical bow users that successfully harvested a deer had a similar pattern, with 86% harvesting one deer and 14% harvesting two, averaging 1.1 deer (Table 23).

Table 23. 2024 archery deer harvest by weapon.

	1 deer	2 deer	3 deer	Mean (SD)
Crossbow	81%	16%	3%	1.2 (0.48)
Vertical bow	86%	14%	-	1.1 (0.35)

*Estimates are weighted to account for the proportion of archery deer license holders statewide, and age of respondents.

Satisfaction with the archery season was mixed, though generally positive. About 49% of respondents reported some level of satisfaction, with 21% moderately satisfied and 16% very satisfied. Meanwhile, 36% reported some level of dissatisfaction, and 15% were neutral (Figure 16).

Hunters were asked to indicate why they were dissatisfied with the archery season if they selected some level of dissatisfaction. Among hunters who were dissatisfied with the archery deer season, the most commonly cited reason was low deer numbers (37%), followed by a lack of quality bucks (29%). Other reasons included prolonged hot weather (9%) and competition with other hunters (5%). Less frequently mentioned concerns included poor habitat, cold weather, and issues with CWD management regulations. About 17% selected "other" reasons, indicating a range of additional factors affecting satisfaction (Figure 17).

Figure 16. Satisfaction with 2024 deer archery hunting season.

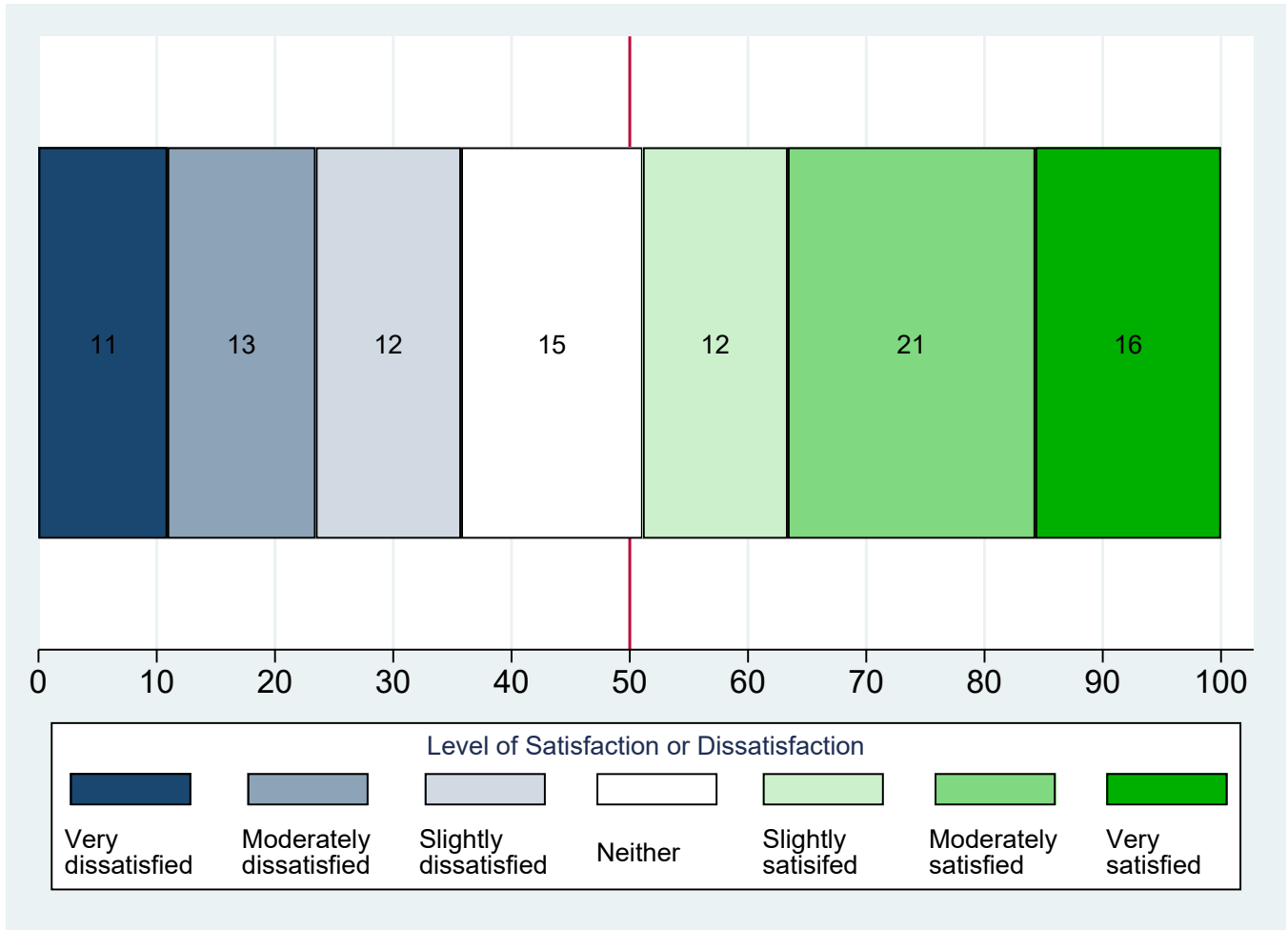
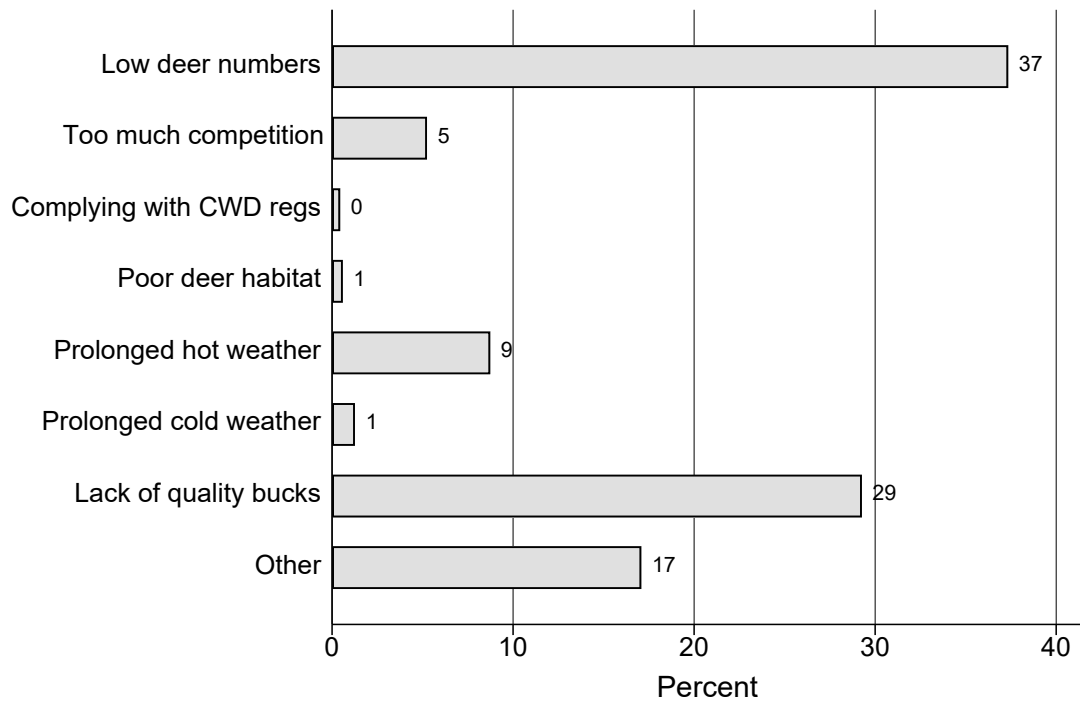


Figure 17. Reason for dissatisfaction with 2024 deer archery hunting season.



Archery deer wounding

14% of archery hunters shot at and missed a deer with archery equipment during the 2024 season. Among those hunters, the average number of deer shot and missed was 1.2. We did not observe a meaningful difference in the percent of hunter that shot at and missed a deer among those that reported hunting exclusively with a crossbow (16%) and those reporting that they hunted exclusively with a vertical bow (13%). We estimated that 5% of archery hunters shot, wounded, and did not recover a deer with archery equipment during the 2024 season (Figure 22). Of those 5%, the average number of deer wounded was 1.0. Wounding rates were similar between exclusively crossbow (4%) and exclusively vertical bow hunters (6%) (Table 24).

Table 24. Percent of archery hunters that shot and missed a deer and wounded and did not recover a deer in Minnesota in 2024 by equipment.

	Percent	Mean (SD)
Shot at and missed a deer while archery hunting in 2024	14	1.2 (0.42)
Shot at and missed a deer while archery hunting in 2024 – among those that exclusively used a crossbow	16	-
Shot at and missed a deer while archery hunting in 2024 – among those that exclusively used a crossbow	13	-
Wounded and did not recover a deer while archery hunting in 2024	5	1.0 (0.15)
Wounded and did not recover a deer while archery hunting in 2024 – among those that exclusively used a crossbow	4	
Wounded and did not recover a deer while archery hunting in 2024 – among those that exclusively used a crossbow	6	

*Estimates are weighted to account for the proportion of archery deer license holders statewide, and age of respondents.

Impact of crossbow regulation on archery participation

We asked archery respondents to indicate whether they had hunted deer in the archery season in Minnesota anytime between the years 2018-2022. 77% of archery hunters did archery hunt at some point between the years 2018-2022 (Figure 18). We then asked respondents to indicate whether they used a crossbow to hunt prior to the 2023 season. 20% of respondents used a crossbow to hunt prior to 2023 and 80% did not (Figure 19). Finally, we asked respondents who indicated they did not use a crossbow to hunt prior to 2023 if their decision to start using a crossbow was influenced by the 2023 crossbow regulation change allowing everyone to use a crossbow during the archery season. 11% indicated yes and 89% indicated no (Figure 20). The increase in archery participation did not vary significantly regionally (Table 29).

Figure 18. Did you hunt deer in the archery season in Minnesota anytime between the years 2018-2022?

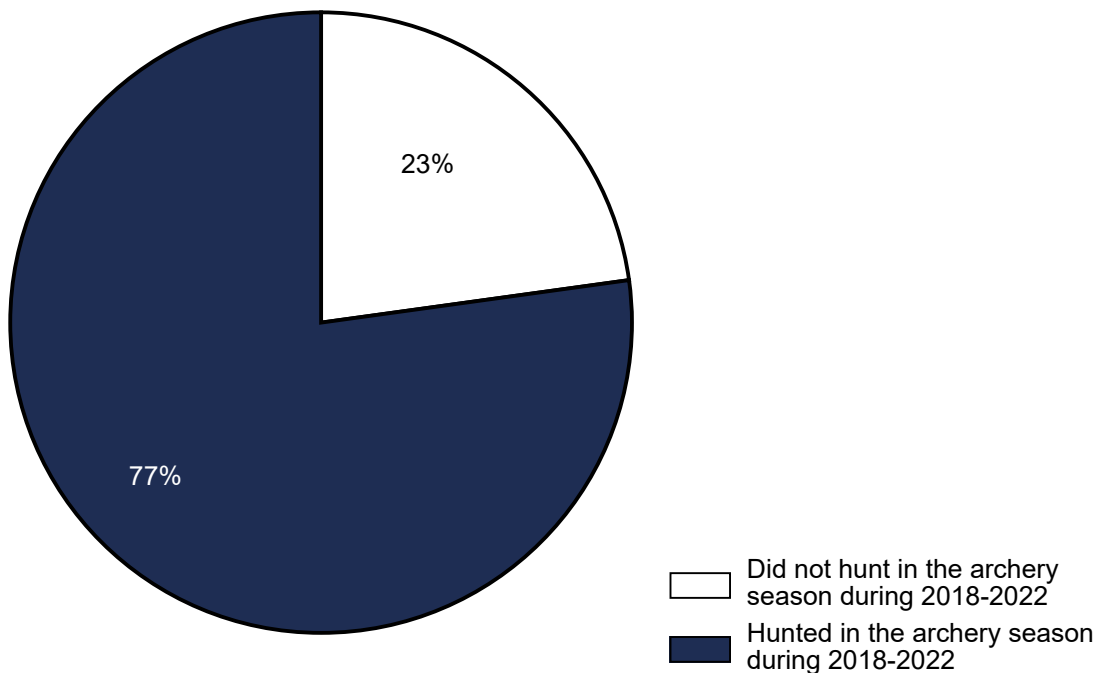


Figure 19. Did you use a crossbow to hunt deer in Minnesota prior to 2023?

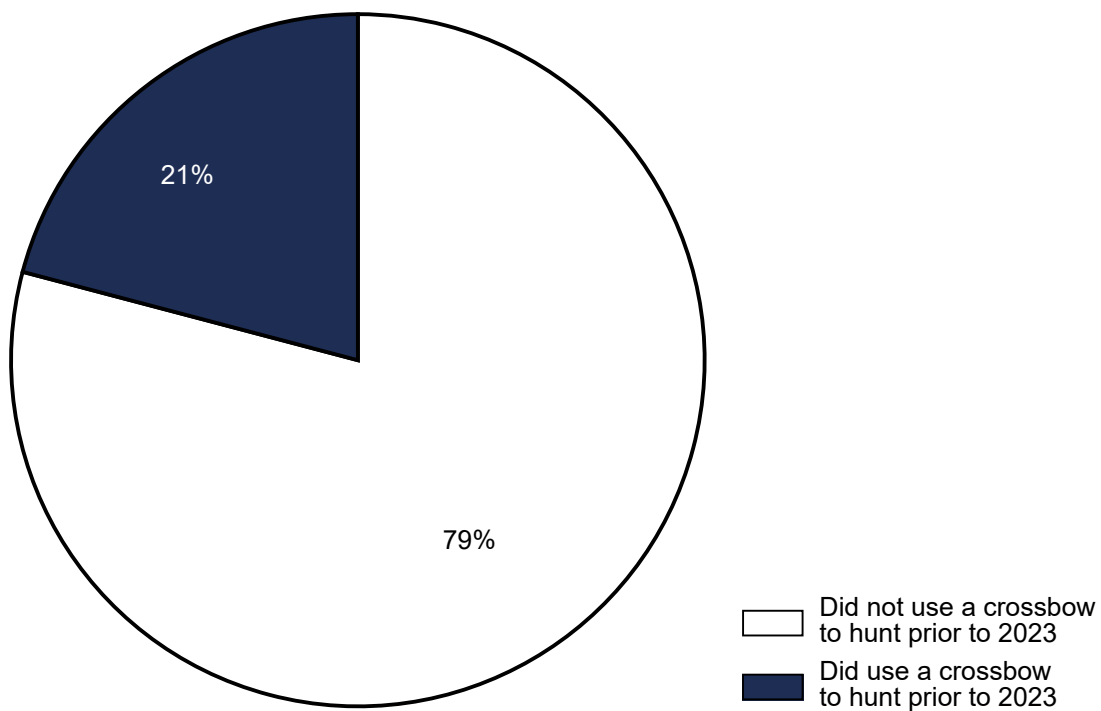
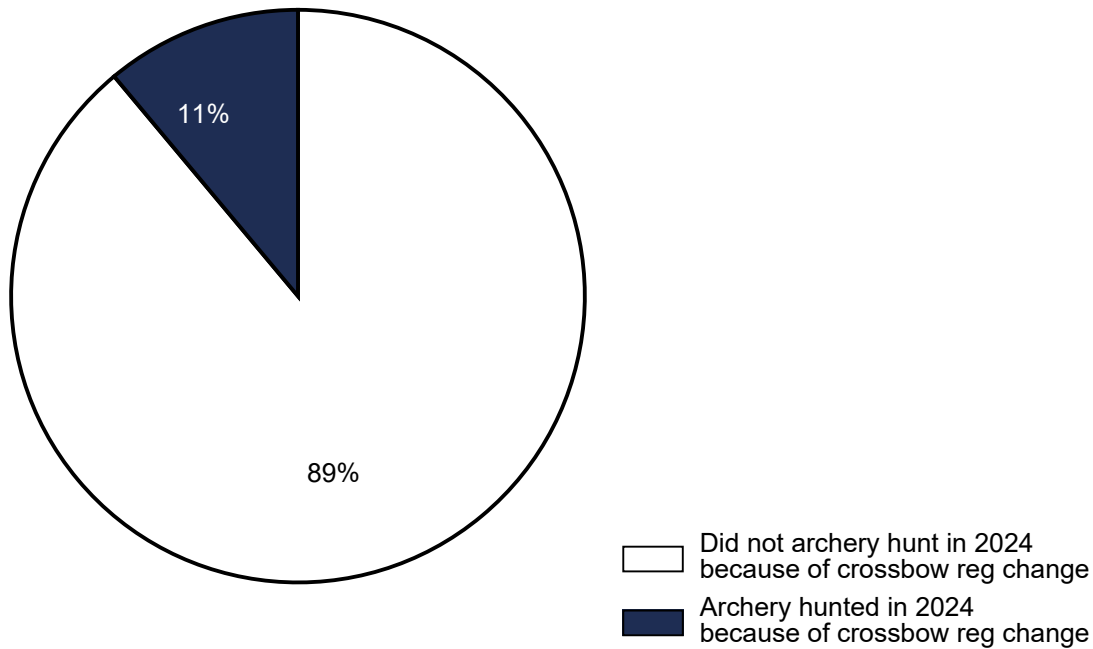


Figure 20. Was your decision to participate in the archery deer season in Minnesota influenced by the regulation change allowing a crossbow to be used by all during this season?



Maximum Shooting Distances: Crossbow vs. Vertical Bow

Archery hunters were asked to indicate the maximum distance they are comfortable shooting a vertical bow and a crossbow. On average, hunters are comfortable shooting a crossbow 45 yards. Vertical bow hunters have a shorter average distance of 37 yards (Table 25).

Table 25. Hunters’ maximum shooting distance by crossbow and vertical bow.

	Observations	Mean (yds)	SD (yds)	Range option (yds)
Crossbow	315	45.0	15.3	0-100
Vertical bow	477	37.0	11.6	0-100

*Estimates are weighted to account for the proportion of archery deer license holders statewide, and age of respondents.

2024 Deer Harvest (all seasons)

46% of deer hunters across all types (firearm, muzzleloader, archery) harvested a deer during the 2024 deer season. 30% harvested antlered deer only and 11% harvested antlerless deer only. 5% harvested both an antlered and antlerless deer (Table 26). Of the 35% of hunters that harvested an antlered deer, 94% harvested 1 antlered deer. 5% harvested 2 antlered deer. The remaining 1% harvested between 3-10 antlered deer. Of the 16% of hunters that harvested an antlerless deer, 75% harvested 1 antlerless deer. 19% harvested 2 antlerless deer. 5% harvested 3 antlerless deer. The remaining 1% harvested between 4-7 antlerless deer.

Table 26. Deer harvest across all seasons.

Antlered deer only	Antlerless deer only	Both an antlerless and antlered deer	Did not harvest a deer
30%	11%	5%	54%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) statewide, and age of respondents.

Beliefs about crossbows

Since 2023, all archery hunters in Minnesota have been allowed to use crossbows for deer hunting. Prior to this change, crossbow use was limited to certain groups of hunters including those with a documented disability, and those 65 years of age and older. To understand public sentiment around this new regulation, we surveyed deer hunters, asking them to respond to a series of statements designed to gauge their beliefs about expanded crossbow use during the archery season.

Among all deer hunters, results show a range of opinions regarding the impacts of the liberalization of crossbows during the archery season. A plurality (39%) of hunters disagreed, to some extent, that crossbows are negatively affecting the archery season's quality, while 31% agreed. Notably, 30% were neutral. A majority of respondents (60%) agreed that legalizing crossbows attracts new hunters who might not otherwise participate. Strong support emerged on the increase of hunting opportunity, with 68% agreeing that crossbows allow more people to take advantage of hunting opportunities. Concerns about crossbows leading to increased deer harvests were relatively balanced. Around 35% agreed that crossbow hunters may negatively impact the deer population, while 39% disagreed. A significant 26% were neutral. On youth engagement in hunting, opinions were mixed: 45% agreed crossbows are a good way to introduce youth to bow hunting, 33% disagreed, and 23% remained neutral. Only 28% said they are more likely to continue hunting because of legalized crossbow use, while 36% disagreed. Over one-third (35%) were neutral, suggesting uncertainty or lack of direct impact. Finally, just 25% agreed that hunting pressure increased in 2024 due to expanded crossbow access, while 32% disagreed. The largest share—42%—were neutral, indicating that many hunters may not have noticed or were unsure about changes in pressure (Table 27).

Figure 21 shows mean values for belief statements by the type of equipment used by archery hunters in 2024. On average, crossbow hunters disagreed ($M = 3.0$) that crossbows are negatively impacting the quality of the archery season, while vertical bow hunters slightly agreed ($M=4.5$). This pattern held for most statements where those that used crossbows to hunt in 2024 held a more positive set of beliefs about crossbows, and those that used vertical bows held more negative ones.

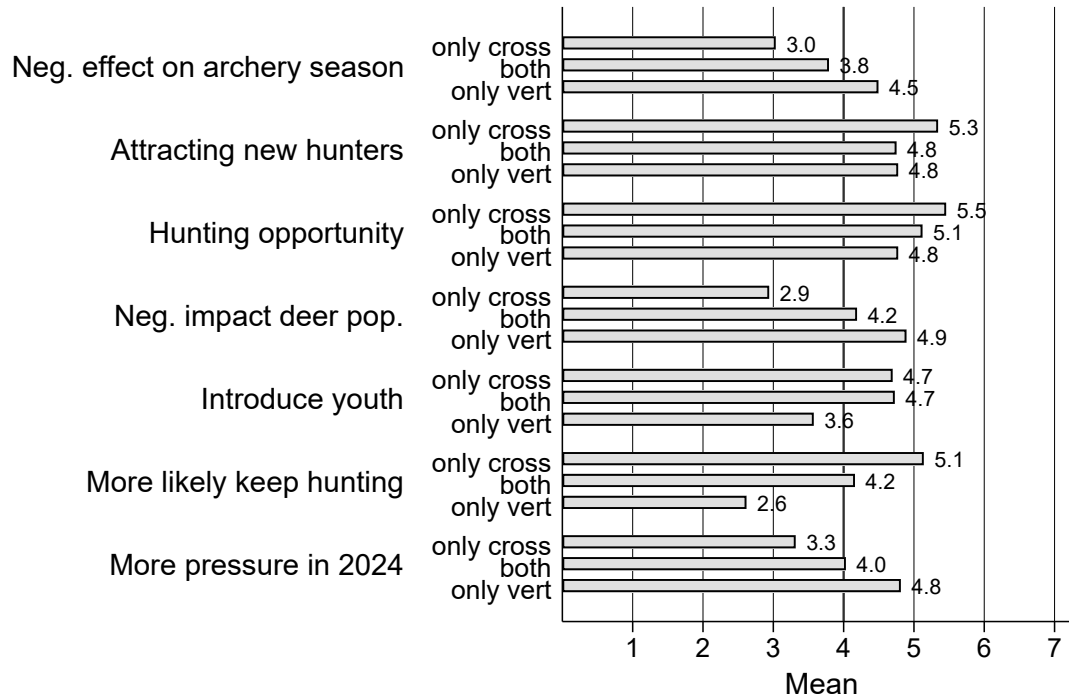
Respondents were asked to rate the impact of making crossbows available to all on their 2024 deer hunting experience. A plurality of all hunters was neutral (47%) regarding the impact of crossbows on the deer hunting experience. 26% felt some level of negative impact on their 2024 deer season, while 27% found the regulation change positively impact their deer season. Across all geographic regions, most hunters perceived the effect of crossbow use on their deer hunting experience as neutral, with around 46%–50% in each region selecting this option (Figure 22). Beliefs about the overall effects of crossbows on the deer hunting experiences did not substantively differ by region (Table 28).

Table 27. Crossbow attitudes.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Hunters using a crossbow are negatively affecting the quality of the archery deer season.	24%	8%	7%	30%	9%	7%	15%
Being able to use a crossbow is attracting new hunters that would not hunt otherwise.	6%	5%	5%	25%	28%	13%	19%
Being able to use a crossbow allows more people to take advantage of hunting opportunities.	6%	4%	4%	18%	26%	18%	24%
Crossbow hunters are likely to negatively impact the deer population by harvesting more deer during archery season.	17%	11%	11%	26%	15%	8%	12%
Crossbows are a good way to introduce youth to hunting during the bow season.	14%	8%	11%	23%	18%	12%	15%
I am more likely to continue deer hunting in the future because crossbows have been made legal to use for all hunters during the archery season.	23%	8%	5%	35%	7%	8%	13%
There was more hunting pressure during the 2024 Minnesota deer season because more hunters can use a crossbow.	15%	9%	8%	42%	11%	5%	9%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) statewide, and age of respondents.

Figure 21. Mean values of beliefs about crossbows by equipment used among 2024 archery hunters. ¹



¹ Only cross = Exclusively used a crossbow to archery hunt in 2024; Both = Used a crossbow and a vertical bow to archery hunt in 2024; Vert only = Exclusively used a vertical bow to archery hunt in 2024.

Neg. effect on archery season = “Hunters using a crossbow are negatively affecting the quality of the archery deer season.”; Attracting new hunters = “Being able to use a crossbow is attracting new hunters that would not hunt otherwise.”; Hunting opportunity = “Being able to use a crossbow allows more people to take advantage of hunting opportunities.”; Neg. impact deer pop = “Crossbow hunters are likely to negatively impact the deer population by harvesting more deer during archery season.”; Introduce youth = “Crossbows are a good way to introduce youth to hunting during the bow season.”; More likely keep hunting = “I am more likely to continue deer hunting in the future because crossbows have been made legal to use for all hunters during the archery season.”; More pressure 2024 = “There was more hunting pressure during the 2024 Minnesota deer season because more hunters can use a crossbow.”

Figure 22. Overall, how would you rate the effect of making crossbows available to all archery hunters on your 2024 deer hunting experience?

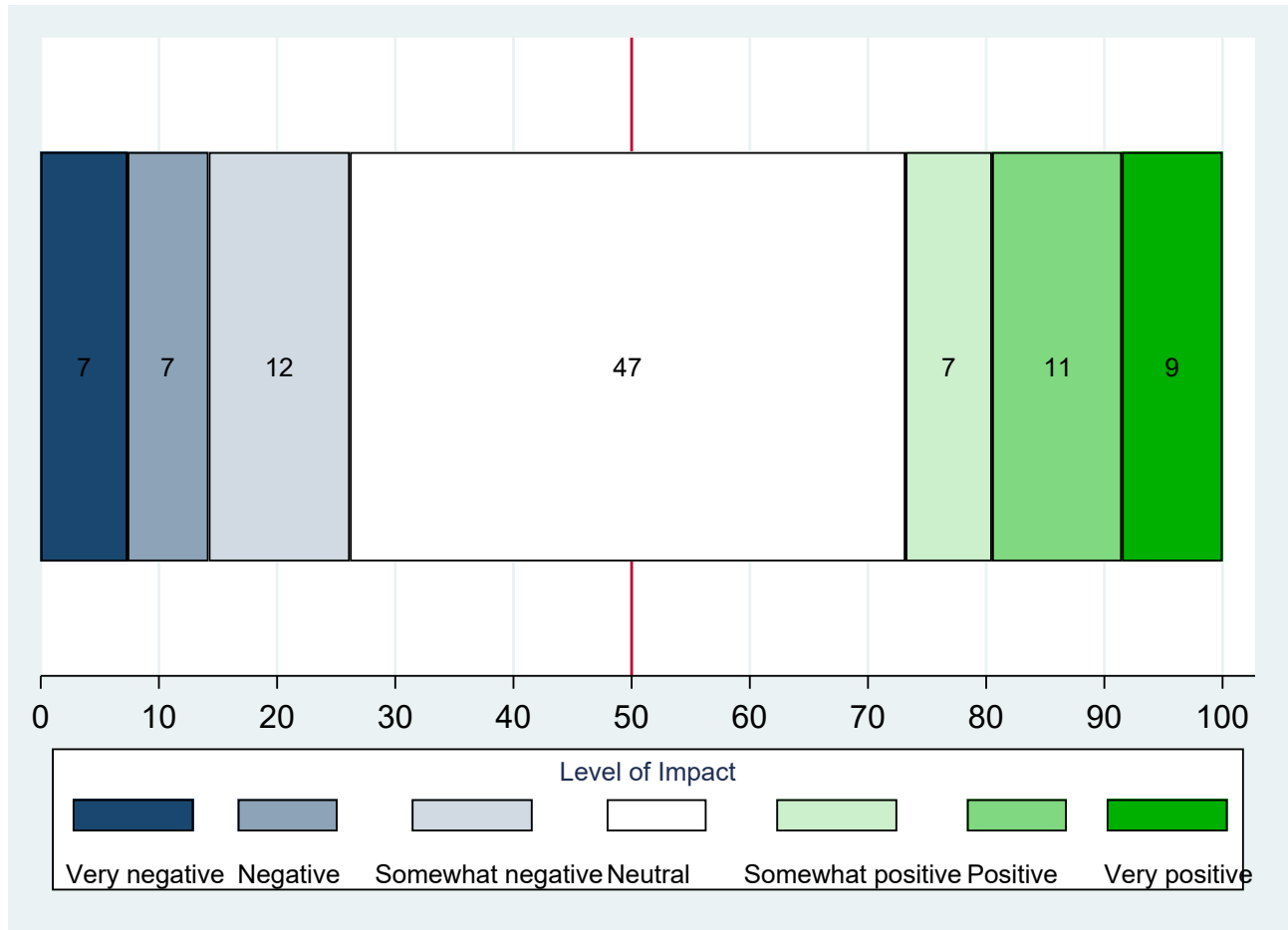


Table 28. Geographic strata of the effect of crossbow use on hunters’ deer hunting experience

	Very negative	Negative	Somewhat negative	Neutral	Somewhat positive	Positive	Very positive
Northwest	7%	7%	12%	50%	7%	9%	9%
Northeast	7%	8%	10%	47%	8%	14%	6%
Central	8%	7%	12%	46%	7%	11%	9%
Southwest	7%	5%	12%	46%	9%	11%	9%
Southeast	7%	8%	13%	48%	7%	9%	8%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Agency Trust

Hunters were asked questions regarding their trust in the DNR as a governing agency for Minnesota deer. Minnesota deer hunters expressed a range of opinions about the MN DNR’s performance in deer management, with responses showing cautious trust, moderate satisfaction, and notable skepticism in some areas. Opinions were mixed on the DNR’s effectiveness in managing deer: 43% of respondents agreed (slightly to strongly) that the DNR does a good job. 41% disagreed. 17% were neutral. Trust in the DNR’s transparency was less favorable. 39% agreed the DNR is open and honest and 31% disagreed. A notable 28% remained neutral, indicating uncertainty or ambivalence. Just over 43% of hunters expressed some level of trust in the DNR’s ability to make good decisions for deer conservation. 44% agreed that the DNR makes fair decisions about deer management. Confidence in DNR staff was more positive. 43% agreed that deer managers and biologists are well-trained, and only 17% disagreed. The largest segment—40%—were neutral, possibly reflecting limited familiarity with staff qualifications. Responses suggested skepticism about how well the DNR listens to hunters: Just 37% agreed that the DNR listens to deer hunter concerns while 37% disagreed. 26% were neutral (Table 29). These results suggest that while there is some confidence in the DNR’s technical capabilities, concerns remain about transparency, fairness, and responsiveness to hunters.

Table 29. Agency trust.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
The MN DNR does a good job of managing deer in Minnesota.	16%	11%	14%	17%	19%	17%	7%
The MN DNR is open and honest about things they do and say related to deer management.	12%	8%	11%	28%	16%	14%	9%
The MN DNR can be trusted to make decisions about deer management that are good for the resource.	14%	8%	14%	21%	17%	16%	10%
The MN DNR will make decisions about deer management in a way that is fair.	12%	8%	12%	25%	19%	16%	9%
The MN DNR has deer managers and biologists	7%	4%	6%	40%	15%	14%	14%

who are well-trained for their jobs.

The MN DNR listens to deer hunters' concerns.	16%	9%	12%	26%	18%	11%	8%
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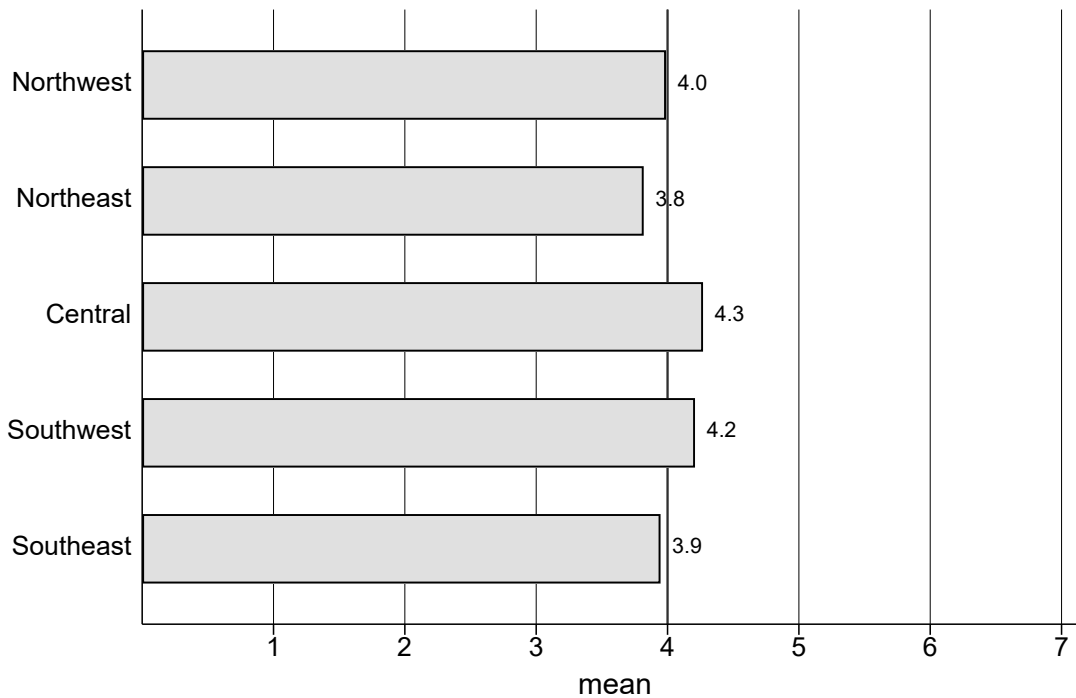
*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) statewide, and age of respondents.

Agency Trust – Geographic Strata

The Central and Southwest regions expressed the highest agreement that the DNR does a good job at managing deer in Minnesota, with over 50% agreeing to some extent. The Northeast region indicated less agreement, with over 50% either neutral or disagreeing (Table 30). All regions had a high percentage of neutral responses when asked if the DNR is open and honest about its actions. Disagreement was again highest in the Northeast region (40%) (Table 31). The Southwest and Central regions have more agreement than the Northeast and Southeast regions when asked if the DNR can be trusted to make decisions (Table 32). When asked if the DNR will make fair decisions about deer management, the Southwest region showed the strongest agreement, and the Southeast showed less agreement (Table 33). Responses were relatively consistent across all regions when asked if the DNR staff are well-trained (Table 34). The Northeast region again stands out with greater disagreement when asked if the DNR listens to deer hunters' concerns, while the Central and Southeast regions have relatively higher agreement (Table 35).

Overall patterns include the following: The Northeast region consistently expresses lower trust and satisfaction across several dimensions. The Central region generally shows more confidence in DNR performance, fairness, and communication. The Southwest also tends to be more supportive, particularly on fairness and trust-related items (Figure 23).

Figure 23. Mean values of trust by sample strata.



4 represents neutral values on 7-point scale.

Table 30. Geographic strata MN DNR does a good job of managing deer in Minnesota.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Northwest	15%	12%	15%	19%	17%	17%	5%
Northeast	24%	13%	17%	15%	12%	15%	4%
Central	13%	11%	11%	17%	22%	18%	8%
Southwest	13%	9%	17%	18%	21%	14%	8%
Southeast	18%	10%	10%	20%	20%	16%	5%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Table 31. Geographic strata MN DNR is open and honest about things they do and say related to deer management.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Northwest	12%	11%	12%	28%	14%	17%	7%
Northeast	16%	13%	11%	24%	11%	15%	10%
Central	11%	5%	10%	30%	20%	18%	11%
Southwest	9%	9%	9%	30%	16%	14%	7%
Southeast	16%	6%	11%	30%	17%	16%	8%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Table 32. Geographic strata MN DNR can be trusted to make decisions about deer management that are good for the resource.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Northwest	13%	12%	16%	18%	17%	14%	9%
Northeast	17%	11%	13%	21%	12%	17%	9%
Central	13%	5%	13%	22%	19%	17%	11%
Southwest	8%	8%	17%	23%	19%	17%	8%
Southeast	19%	7%	12%	21%	22%	13%	6%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Table 33. Geographic strata MN DNR will make decisions about deer management in a way that is fair.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Northwest	11%	9%	16%	26%	17%	15%	7%
Northeast	13%	12%	14%	24%	14%	15%	8%

Central	12%	5%	10%	24%	23%	16%	11%
Southwest	7%	7%	11%	27%	18%	21%	7%
Southeast	15%	8%	8%	26%	21%	13%	7%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Table 34. Geographic strata MN DNR has deer managers and biologists who are well-trained for their jobs.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Northwest	7%	5%	7%	42%	13%	16%	10%
Northeast	8%	4%	8%	38%	13%	14%	14%
Central	8%	2%	6%	37%	16%	13%	18%
Southwest	6%	4%	6%	44%	13%	14%	13%
Southeast	7%	4%	4%	46%	16%	15%	8%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Table 35. Geographic strata MN DNR listens to deer hunters' concerns.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Northwest	15%	8%	17%	28%	14%	11%	7%
Northeast	22%	13%	11%	23%	13%	11%	7%
Central	14%	8%	10%	26%	21%	10%	10%
Southwest	13%	12%	9%	26%	19%	13%	8%
Southeast	16%	9%	12%	26%	20%	12%	4%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Involvement in deer hunting

We asked hunters to indicate their level of involvement in deer hunting through a series of questions. Most respondents strongly enjoy deer hunting, with 48% strongly agreeing that it is one of the most enjoyable activities they do and another 24% moderately agreeing. Many hunters also organize a significant part of their lives around deer hunting, though responses here are more varied: 20% strongly agree, 18% moderately agree, and 24% slightly agree, but a notable portion (18%) neither agree nor disagree (Table 36).

Regarding social connections, a majority feel their friends and family are connected to deer hunting, with 34% strongly agreeing and 24% moderately agreeing. Fewer respondents disagree with this statement, indicating a generally strong social link to hunting (Table 36).

When asked whether participation in deer hunting says a lot about who they are, opinions are more mixed. While 25% strongly agree and 19% moderately agree, a sizeable 21% neither agree nor disagree, showing some ambivalence about identity being tied to hunting (Table 36).

Overall, the data suggests that deer hunting is an important and enjoyable activity for many, often integrated into social circles and personal identity, but with some variation in how strongly individuals connect their sense of self to hunting (Table 36).

Table 36. Involvement in deer hunting.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Deer hunting is one of the most enjoyable things I do.	1%	1%	2%	6%	18%	24%	48%
I find a lot of my life is organized around deer hunting.	5%	6%	10%	18%	24%	18%	20%
Most of my friends and family are in some way connected to deer hunting.	2%	4%	5%	8%	23%	24%	34%
Participation in deer hunting says a lot about who I am.	3%	3%	5%	21%	24%	19%	25%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) statewide, and age of respondents.

Involvement in deer hunting – Geographic Strata

All regions are overwhelmingly positive when asked if deer hunting is one of the most enjoyable things they do (Table 37). The Northwest and Southeast regions had slightly more agreement when asked if they find a lot of their life is organized around deer hunting (Table 38). When asked whether most of their friends and family are in some way connected to deer hunting, the Northwest had the strongest agreement (40%), although all regions had strong overall agreement (Table 39). When asked if participation in deer hunting says a lot about who I am, the Northwest region had the highest strong agreement. However, all regions had high overall agreement (Table 40). The key takeaways include the following: The Northwest consistently stands out as the region where deer hunting is most deeply integrated into personal identity, lifestyle, and social networks. Southeast shows strong enjoyment and moderate-to-strong identity alignment. The Southwest and Central are engaged, but slightly more neutral on identity- and lifestyle-related measures. Across all regions, deer hunting is widely seen as enjoyable and socially important, but its centrality to life and identity varies.

Table 37. Geographic strata deer hunting is one of the most enjoyable things I do.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Northwest	1%	1%	1%	4%	18%	21%	53%
Northeast	1%	1%	3%	6%	17%	24%	49%
Central	1%	1%	2%	9%	18%	25%	44%
Southwest	1%	1%	1%	5%	18%	25%	49%
Southeast	2%	2%	1%	5%	16%	22%	52%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Table 38. Geographic strata I find a lot of my life is organized around deer hunting.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Northwest	6%	3%	11%	15%	22%	19%	24%
Northeast	4%	4%	11%	18%	27%	16%	20%
Central	5%	8%	9%	18%	24%	17%	18%
Southwest	6%	6%	9%	22%	21%	18%	18%
Southeast	5%	9%	9%	13%	21%	19%	24%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Table 39. Geographic strata most of my friends and family are in some way connected to deer hunting.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Northwest	2%	4%	4%	7%	18%	24%	40%
Northeast	1%	3%	7%	6%	21%	25%	35%
Central	3%	4%	5%	9%	24%	23%	32%
Southwest	2%	4%	3%	8%	27%	24%	31%
Southeast	2%	5%	5%	7%	25%	23%	32%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Table 40. Geographic strata participation in deer hunting says a lot about who I am.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Northwest	3%	4%	5%	19%	23%	18%	29%
Northeast	3%	4%	5%	21%	22%	20%	24%
Central	3%	2%	7%	21%	26%	18%	23%
Southwest	4%	3%	3%	22%	24%	21%	24%
Southeast	4%	5%	3%	21%	19%	22%	26%

*Estimates are weighted to account for the proportion of deer hunting license holders (all seasons) within stratum, and age of respondents.

Appendix A. Questionnaire

2024 Minnesota Deer Hunter Annual Survey

Dear Deer Hunter,

Thank you for your help with this important study. Results of this effort will inform decisions about deer management in Minnesota, and your voice matters. The survey should take roughly 15 minutes to complete. Your participation is voluntary, and you may stop at any time. Thank you for your time!

Please enter the PIN you received on your contact letter or email.

Tennessee notice: In accordance with the Minnesota Government Data Practices Act, you are being informed of the following: The information you provide in this survey is being collected for research into deer management in Minnesota. Your participation is voluntary, and you have the right to refuse to answer any questions or to stop completing the survey at any time. The data collected will be used solely for understanding Minnesota deer harvest and hunter preferences. Under the Minnesota Government Data Practices Act, the information you provide is classified as private. If you have any questions regarding the use of your information or your rights under this Act, you can contact Shanell Lovelace (Shanell.lovelace@state.mn.us). Providing the requested information is not required by law; however, if you choose not to provide the data, it may affect the completion of a study. Thank you for your cooperation! Please advance forward if you consent or stop the survey if you do not.

Deer Hunting in 2024

Q. Did you accompany a youth hunter during the 2024 youth hunt (October 17-October 20, 2024)? *(Select one.)*

- Yes
- No

Q. Did you hunt deer in Minnesota in 2024? *(Select one.)*

- Yes
- No

Q. Party hunting, where a hunter may use another hunter's license to tag a deer they killed (or vice versa) as long as all hunters are hunting a field together and have legal licenses or a permit, is legal in Minnesota.

How much do you support or oppose deer party hunting for antlered deer in Minnesota? *(Select one.)*

- Strongly oppose
- Somewhat oppose
- Neither support nor oppose
- Somewhat support
- Strongly support

Q. How much do you support or oppose deer party hunting for antlerless deer in Minnesota? *(Select one.)*

- Strongly oppose

- Somewhat oppose
- Neither support nor oppose
- Somewhat support
- Strongly support

Q. Did you participate in party hunting for deer in Minnesota in 2024? (Select one.)

- Yes
- No

Q. Did you tag a deer that was killed by another member of your hunting party? (Select one.)

- Yes
- No

Q. Did another member of your hunting party tag a deer that you killed? (Select one.)

- Yes
- No

Q. What type of deer were taken when you participated in party hunting in 2024? (Select one.)

- We used party hunting to tag antlered deer.
- We used party hunting to tag antlerless deer.
- We used party hunting to tag both antlerless and antlered deer.

Section 1: Location of deer hunting and perceptions of population

Q. What deer permit area (DPA) did you hunt most often in 2024 in Minnesota? (*Select one.*) Drop down

Q. In thinking about the deer permit area (DPA) you hunt most often, what would you say about the size of the deer population? (*Select one.*)

- Much too low
- Too low
- About right
- Too high
- Much too high

Q. How much of your deer hunting, across all seasons, did you do on public and private land in Minnesota in 2024? (Select one.)

- I hunted exclusively on private land.
- I hunted on a mix of public and private land.
- I hunted exclusively on public land.

Q. How crowded by other hunters did you feel while deer hunting in Minnesota in 2024? (Select one.)

- 1 2 3 4 5 6 7 8 9

Not at all crowded

Slightly Crowded

Moderately Crowded

Extremely Crowded

Section 2: Firearms Participation

Q. In which of the following Minnesota firearm or muzzleloader deer seasons did you participate in 2024? (*Select all that apply.*)

- Early antlerless: October 17–20, 2024
- Metro: November 9-December 1, 2024
- Regular firearm season A: November 9-November 17, 2024
- Regular firearm season B: November 23-December 1, 2024
- Muzzleloader: November 30–December 15, 2024
- Late CWD hunt: December 20–22, 2024
- I did not hunt using a firearm during the deer season in 2024.

Q. How many days did you hunt with a firearm during the firearm deer seasons in Minnesota in 2024?

Days hunted with a firearm ____ days

Q. How many days did you hunt with a muzzleloader during the muzzleloader deer season in Minnesota in 2024?

Days hunted with a muzzleloader ____ days

Q. Did you shoot at and miss any deer during the firearm and muzzleloader season in Minnesota in 2024? (*Select one.*)

- Yes
- No

Q. How many deer did you shoot at and miss during the firearm or muzzleloader season in Minnesota in 2024?

____ deer

Q. Did you wound and not recover any deer during the firearm and muzzleloader season in Minnesota in 2024? (*Select one.*)

- Yes
- No

Q. How many deer did you wound and not recover during the firearm and muzzleloader season in Minnesota in 2024?

____ deer

Section 4: Satisfaction

Q. Overall, how satisfied or dissatisfied were you with your 2024 firearm and muzzleloader season deer hunting experience? *(Select one.)*

- Very Dissatisfied
- Moderately Dissatisfied
- Slightly Dissatisfied
- Neither Satisfied nor Dissatisfied
- Slightly Satisfied
- Moderately Satisfied
- Very Satisfied

Q. Which of the following reasons most contributed to your dissatisfaction with the Minnesota deer firearm and muzzleloader hunting seasons in 2024? If your primary reason is not listed, please select other and write it in. *(Select one.)*

- Low deer numbers
- Too much competition from other hunters
- Complying with CWD management regulations
- Poor deer habitat
- Prolonged hot weather (poor hunting conditions)
- Sustained cold weather (poor hunting conditions)
- A lack of quality bucks
- Other (text box entry)

Section 5: Archery

Q. Did you hunt during the 2023 or 2024 archery season in Minnesota? *(Select all that apply.)*

- I hunted during the 2023 archery season in Minnesota.
- I hunted during the 2024 archery season in Minnesota.
- I did not hunt during the 2023 or 2024 archery season in Minnesota.

Q. You indicated you hunted during the **2023** archery deer season in Minnesota. While hunting during the 2023 archery season, did you use a crossbow? *(Select one.)*

- Yes, I hunted exclusively with a crossbow.
- Yes, I used both a crossbow and a vertical bow to hunt during the archery season.
- No, I hunted exclusively using a vertical bow.

Q. How many days did you hunt with a crossbow during the **2023** archery deer season? *(Select the number of days.)*

_____ Days hunting with crossbow archery equipment

Q. How many days did you hunt with a vertical archery equipment during the **2023** archery deer season? *(Select the number of days.) *Only seen if selected yes on Q3**

_____ Days hunting with vertical archery equipment

Q. You indicated you hunted during the 2024 archery deer season in Minnesota. While hunting during the **2024** archery season, did you use a crossbow? (*Select one.*)

- Yes, I hunted exclusively with a crossbow.
- Yes, I used both a crossbow and a vertical bow to hunt during the archery season.
- No, I hunted exclusively using a vertical bow.

Q3a. How many days did you hunt with a crossbow during the **2024** archery deer season? (Select the number of days.)

_____ Days hunting with crossbow archery equipment

Q3a. How many days did you hunt with a vertical archery equipment during the **2024** archery deer season? (Select the number of days.)

_____ Days hunting with vertical archery equipment

Q. Did you hunt deer in the archery season in Minnesota anytime between the years 2018 to 2022? (Select one.)

- Yes
- No

Q. Prior to the legislative change in 2023, archery hunters could use a crossbow during archery season only if they were aged 60 or older or had obtained a disability permit. Did you use a crossbow during the archery season to hunt prior to the **2023** Minnesota deer archery season? (Select one.)

- Yes
- No

Q. Was your decision to participate in the archery deer season in Minnesota influenced by the regulation change allowing a crossbow to be used by all during this season? (Select one.)

- Yes, I would not have participated in the absence of this change.
- No, it did not affect my decision to participate in the archery deer season.

Q. What is the maximum distance you are comfortable shooting at a deer with a crossbow? *Drop down menu with 10-yard increments of 0-100, with I do not use this weapon as an option.*

- Crossbow _____ yards
- I do not use a crossbow to hunt.

Q. What is the maximum distance you are comfortable shooting at a deer with a vertical bow? *Drop down menu with 10-yard increments of 0-100, with I do not use this weapon as an option.*

- Vertical bow _____ yards
- I do not use a vertical bow to hunt.

Q. Did you harvest any deer with a crossbow or vertical bow in Minnesota in 2024? (Select all that apply.)

- Yes, I harvested a deer with a crossbow in Minnesota in 2024.
- Yes, I harvested a deer with a vertical bow in Minnesota in 2024.
- No, I did not harvest a deer with a deer during archery season in Minnesota in 2024.

Q. You indicated you harvested deer during the 2024 Minnesota archery season with a vertical bow. How many deer did you harvest with a vertical bow? (Select one number.)

Deer harvested with a vertical bow _____

Q. You indicated you harvested deer during the 2024 Minnesota archery season with a crossbow. How many deer did you harvest with a crossbow? (Select one number.)

Deer harvested with a crossbow _____

Q. Did you shoot at and miss any deer during the archery season in Minnesota in 2024? (Select one.)

- Yes
- No

Q. How many deer did you shoot at and miss during the 2024 deer archery season? (Select one.)

____ deer

Q. Did you wound and not recover any deer during the archery season in Minnesota in 2024? (Select one.)

- Yes
- No

Q. How many deer did you wound and not recover during the archery season in Minnesota in 2024? (Select one.)

____ deer

Q. Overall, how satisfied or dissatisfied were you with your 2024 deer hunting experience during the archery season? (Select one.)

- Very Dissatisfied
- Moderately Dissatisfied
- Slightly Dissatisfied
- Neither Satisfied nor Dissatisfied
- Slightly Satisfied
- Moderately Satisfied
- Very Satisfied

Q. Which of the following reasons most contributed to your dissatisfaction with the Minnesota deer archery hunting season in 2024? If your primary reason is not listed, please select other and write it in. (Select one.)

- Low deer numbers
- Too much competition from other hunters
- Complying with CWD management regulations
- Poor deer habitat
- Prolonged hot weather (poor hunting conditions)
- Sustained cold weather (poor hunting conditions)
- A lack of quality bucks
- Other (text box entry)

Section 6: Deer harvest and crowding

Q. Did you harvest any deer in Minnesota in 2024 (across all seasons: firearm, muzzleloader, archery)? Please report both deer that you killed and registered with a tag in your name and deer that a member of your party killed but that you tagged and registered in your name. (Select all that apply.)

- Yes, I harvested an antlered deer.
- Yes, I harvested an antlerless deer.
- No, I did not harvest any deer.

Q. How many antlered deer did you harvest across all seasons in Minnesota in 2024? Please report both deer that you killed and registered with a tag in your name and deer that a member of your party killed but that you tagged and registered in your name. (Select one.) Drop Down

Q. How many antlerless deer did you harvest across all seasons in Minnesota in 2024? Please report both deer that you killed and registered with a tag in your name and deer that a member of your party killed but that you tagged and registered in your name. (Select one.) Drop Down

Section 7: Crossbow Attitudes

Q. The Minnesota legislature recently passed a law allowing crossbows to be used by all hunters during archery deer season. To what extent do you agree or disagree with the following statements regarding crossbow use in deer hunting? (Select one for each statement.)

	Strongly Disagree	Moderately Disagree	Somewhat disagree	Neither	Somewhat agree	Moderately Agree	Strongly Agree
	1	2	3	4	5	6	7
Hunters using a crossbow are negatively affecting the quality of the archery deer season.	1	2	3	4	5	6	7
Being able to use a crossbow is attracting new hunters that would not hunt otherwise.	1	2	3	4	5	6	7
Being able to use a crossbow allows more people to take advantage of hunting opportunities.	1	2	3	4	5	6	7
Crossbow hunters are likely to negatively impact the deer population by harvesting more deer during archery season.	1	2	3	4	5	6	7
Crossbows are a good way to introduce youth to hunting during the bow season.	1	2	3	4	5	6	7
I am more likely to continue deer hunting in the future because crossbows have been made legal to use for all hunters during the archery season.	1	2	3	4	5	6	7
There was more hunting pressure during the 2024 Minnesota deer season because more hunters can use a crossbow.	1	2	3	4	5	6	7

Q. Overall, how would you rate the effect of making crossbows available to all archery hunters on your 2024 deer hunting experience? *(Select one.)*

- Very negative
- Negative
- Somewhat negative
- Neutral
- Somewhat positive
- Positive
- Very positive

Section 8: Agency Trust

Q. To what extent do you agree or disagree with the following statements regarding the Minnesota DNR? *(Select one for each statement.)*

	Strongly Disagree	Moderately Disagree	Somewhat disagree	Neither	Somewhat agree	Moderately Agree	Strongly Agree
	1	2	3	4	5	6	7
The MN DNR does a good job of managing deer in Minnesota.	1	2	3	4	5	6	7
The MN DNR is open and honest about things they do and say related to deer management.	1	2	3	4	5	6	7
The MN DNR can be trusted to make decisions about deer management that are good for the resource.	1	2	3	4	5	6	7
The MN DNR will make decisions about deer management in a way that is fair.	1	2	3	4	5	6	7
The MN DNR has deer managers and biologists who are well-trained for their jobs.	1	2	3	4	5	6	7
The MN DNR listens to deer hunters' concerns.	1	2	3	4	5	6	7

Section 9: Involvement in Deer Hunting

Q. To what extent do you agree or disagree with the following statement about your deer hunting involvement? *(Select one for each statement.)*

	Strongly Disagree	Moderately Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Moderately Agree	Strongly Agree
Deer hunting is one of the most enjoyable things I do.	1	2	3	4	5	6	7
I find a lot of my life is organized around deer hunting.	1	2	3	4	5	6	7
Most of my friends and family are in some way connected to deer hunting.	1	2	3	4	5	6	7
Participation in deer hunting says a lot about who I am.	1	2	3	4	5	6	7

Q. Is this survey being completed by the person it was addressed to? *(Select one.)*

- Yes
- No

Thank you for your participation!