DEPARTMENT OF NATURAL RESOURCES

Analysis of Expanded Crossbow Use on Deer and Turkey Populations During Archery Seasons

As required by Minnesota Law 2023, Chapter 60, Article 4, Section 107

10/01/2025

Report to the Minnesota Legislature

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Executive Summary

As an outcome of the 2023 Minnesota legislative session, statute 97B.037 was modified to temporarily allow any deer, bear, or turkey hunters with an archery license to use a crossbow, and the Minnesota Department of Natural Resources (MN DNR) was directed to submit a report by October 1, 2025, assessing the effect of the change on the deer population. Although the statutory language included deer, bear, and turkeys; bears are not addressed in this report because there is no separate bear archery season. We have, however, included information on turkeys, since the statutory change extended crossbow eligibility to turkey hunters with an archery license. Currently, the temporary modification is scheduled to sunset in 2026. This report focuses on the effect of this regulatory change during the first two years of implementation. We used hunter harvest registration and license sales data, and post-season hunter mail surveys in 2025 to inform our assessment.

We found no evidence that the statute changes made to expand crossbow use during archery season have impacted deer or turkey populations thus far. Notably, other states found no effect from similar changes allowing crossbows as archery weapons on deer populations or total harvest as reported in a study led by Wisconsin DNR. If this statute becomes permanent, the MN DNR will continue to monitor the effects of crossbows on populations. If the temporary modification allowing crossbow use is extended for future hunting seasons, antlerless deer harvest in areas designated as antlerless permit lottery, where archery hunters do not need to apply for an antlerless permit, and the deer permit areas in northeast Minnesota will be areas of close monitoring, as these areas have a higher proportion of hunters using crossbows and may be negatively impacted by increased harvest of antlerless deer. We will also closely track spring archery harvest of turkey, as potential increased crossbow effectiveness during the extended turkey archery season could result in harvest levels exceeding management targets. In the event a negative impact on deer or turkey populations is detected, the DNR can change deer and turkey hunting regulations through expedited emergency rulemaking to address those concerns. For example, allowable antlerless deer harvest with an archery license in areas with an antlerless permit lottery could be restricted through annual rulemaking if monitoring indicates a risk of overharvest. Similarly, lotteries could be reinstated in certain turkey permit areas where needed or turkey hunters with an archery license could be required to select a seven-day period in which to hunt.

Expanded crossbow use may have positive benefits to recruitment and retention efforts related to youth, older-aged, and female hunters, particularly for those hunters who lack the time or physical ability required to develop proficiency with a vertical bow. However, crossbows are a contentious issue among archery hunters, and it is possible satisfaction of archery deer and turkey hunters who use vertical bows may decrease if expanded crossbow use continues. Based on trends observed in the initial years of this change, and elsewhere in other Midwest states, we can expect that crossbow use will continue to increase among archery deer and turkey hunters if the statute modification is made permanent. It will likely be several years until the full impact of this change on deer and turkey harvest and populations is fully realized. Continued monitoring will be essential to assess if any future regulatory or legislative changes are necessary.

Key Findings

Deer

- During the first year of implementation (2023), archery deer harvest did not increase. However, 2024 marked the second-highest recorded archery harvest, likely due to increased harvest of adult bucks by both vertical and crossbow hunters, as well as increased harvest opportunity associated with potentially higher deer populations following a mild winter.
- No difference was observed in the sex or age class of deer taken with vertical bows compared to those taken with crossbows in either 2023 or 2024.
- Statewide, the proportion of deer harvested with crossbows increased from 2023 to 2024, indicating growing popularity of crossbows among archery hunters.
- In the northeast, crossbows accounted for most of the archery harvest in both 2023 and 2024, while vertical bows dominated elsewhere. northeast archery hunters are also older on average, suggesting more hunters there may already qualify to use crossbows based on age.
- Crossbow deer harvest was highest among younger (10 – 12 years old), older (55 years and older), and female archery hunters.
- Vertical bows accounted for more harvest in the first half of the deer archery season, while crossbows dominated in the second half.
- In the early 2000s, archery harvest made up about 7% of total deer harvest. By 2024, this had risen to 16% of all deer harvested and 25% of adult doe harvest. This long-term trend predates legalization of crossbows for all hunters, suggesting a general rise in archery hunting popularity over time.
- Antlerless deer harvest in lottery areas did not increase after crossbow use expanded. However, there was a higher percentage of antlerless deer taken by crossbows in lottery areas compared to non-lottery areas, likely driven by harvest patterns in the northeast.
- Archery license sales increased after the expanded use of crossbows, particularly among youth deer hunters.
- Success rates, wounding rates, and hunter effort were similar between crossbow and vertical bow users.
- Based on survey results, an estimated 21% of archery hunters had used crossbows prior to the legislative change, and 11% began archery hunting because of the crossbow expansion.
- Sixty-two percent (62%) of crossbow users who responded to the survey indicated that they are more likely to continue deer hunting because crossbows have been made legal.
- Crossbows are a polarizing issue among archery deer hunters, though most believe they have benefits for recruitment and opportunity.

Turkey

- The proportion of spring turkey harvest from archery rose slightly following the legislative change.
- The proportion of spring turkey harvested with a crossbow was higher for younger (less than 14 years old) and older (55 years and older) hunters.
- All turkey license sales increased after 2023, with the largest relative growth in spring archery sales.
- For turkey hunters, success rates, wounding rates, and accuracy were similar between vertical bows and crossbows.
- There was no evidence of hunters specifically shifting from firearms to archery season after the legislative change.
- Twenty-six percent (26%) of crossbow users reported that crossbow availability was their reason for hunting.
- Among turkey hunters, crossbow users expressed the most favorable attitudes toward crossbows, while vertical bow hunters expressed the least favorable opinions.

Statutory Background

Minnesota Statute 97B.037 describes how crossbows can be used to take certain game animals and fish during archery seasons. In 1986, Minnesota statutes (M.S. 97B.035 Sec. 8 and 97B.315) were amended to allow hunters with a permanent physical disability to obtain a permit to use a crossbow during the archery season. Then in 2014, 97B.037 was amended to allow the use of crossbows by any deer, bear, and turkey hunters that were aged 60 years or older during the respective archery seasons. In 2023, this statute was changed to allow any archery hunter, regardless of age, to use a crossbow during archery seasons, with a sunset date of June 30, 2025. The sunset date was changed to June 30, 2026, during the 2025 legislative session. The 2023 session Law (Chapter 60, Sec. 107) also directed DNR to submit a report to the legislature about the effect of this change on deer populations by October 1, 2025. Although crossbows are legal for hunting deer, bear, and turkey (M.S. 97B.036 - 97B.037), they are not currently legal for elk or moose hunting.

Data Description

The DNR was directed to look at how expanded crossbow use during archery season may have affected deer populations. We have used license and harvest data to make estimates of population impacts. To directly measure the impact, we would need a study that tracked individual deer before and after the change or would need data from monitoring deer populations through aerial or ground surveys before and after the change. Since we haven't typically used these types of surveys on a large scale, we don't have baseline data to compare against the effects of the new regulation, even if we were to conduct such surveys now. Thus, license and harvest data, supplemented with hunter survey data, are the best information we have to assess the population impacts of the expanded use of crossbows.

While the statute specifically directs an evaluation of the effects on the deer population, we have included information on turkeys as well, given that the same statutory change extended crossbow eligibility to turkey hunters with a spring archery license. We have also included information on the effect of the change on the attitudes and experiences of deer and turkey hunters.

Data available for this report include deer and turkey license sales data, deer and turkey harvest data, and results from two representative mail surveys of deer and turkey hunters. Limitations of these data include the short temporal scope (two years) of deer and turkey harvest and license sales data to measure the effects of the change, the lack of detailed information on the number of hunters already using crossbows prior to the change, and the lack of a specific license, validation, or season specific to crossbows; all factors make teasing out the true effect of this change on deer and turkey populations difficult in the short-term, especially given that wildlife harvest fluctuates annually in response to numerous environmental, climate, and social factors.

The 2023 statutory change affected the 2023-2024 and 2024-2025 deer and turkey hunting seasons. Given that the majority of deer and turkey hunters likely learned about this change in August 2023 when hunting regulations are published, approximately one month prior to the beginning of deer archery season, the relative expense of purchasing a crossbow, time needed to learn to operate it, and the uncertainty related to the sunset date language, we can expect that the full effects of the statute change on deer and turkey harvest may take several years to fully realize if the change becomes permanent. Other states that have implemented similar changes to allow crossbow use during archery seasons have observed an inflection point in crossbow adoption

4-6 years after the legislative change, where the percentage of harvested deer taken by crossbows stabilizes. It's possible this inflection point will occur earlier in Minnesota since many hunters were already using crossbows prior to the change.

Prior to the legislative change, hunters aged 60 or older (22% of archery deer hunters in 2023) or hunters that obtained a disability permit (Table 1) were able to use crossbows during the regular deer and turkey archery seasons. Other than disability permit numbers, there was no data collected from archery deer or turkey hunters regarding whether they were using crossbows or vertical bows to hunt. To follow the intent of the 2023 statute language, no validation, stamp, weapon declaration, or specific crossbow season was implemented for hunters intending to use crossbows to hunt deer or turkey. DNR did add a question to harvest registration on deer and turkey archery licenses and permits asking whether the hunter used a vertical bow or crossbow to harvest their deer or turkey.

Table 1. Number of disability permits issued each year to allow archery hunters to use a crossbow during the archery season.

Calendar Year	Disability Crossbow Permits Issued
2013	1,256
2014	976
2015	876
2016	943
2017	919
2018	840
2019	994
2020	1,076
2021	1,079
2022	1,073
2023	315
2024	11

Annual deer and turkey harvest levels vary in response to weather conditions during hunting seasons, the effects of weather on populations, changes to predator populations, hunter participation, and other various factors unrelated to this legislative change. Thus, conflating factors may mask the actual effect of the legislative change on deer and turkey populations, and conclusions reached in this report should be held in the context of other temporal conditions affecting these populations.

Harvest, License, and Season Data

In Minnesota, all hunters are required to obtain a license to take deer and turkey during each respective season. At the time of purchase, deer and spring turkey season hunters are asked which deer or turkey permit area they intend to hunt most. This hunting location information is not legally binding, and hunters may hunt other permit areas as long as other regulations are followed, but it does allow the DNR to estimate hunter numbers and demographics in each deer and spring turkey permit area by season. It's important to note that not every person that purchases a license participates in hunting for various reasons. Success rate data are possible because Minnesota also requires reporting of any successful harvest. Within 48 hours after successfully harvesting a deer or turkey, the harvest must be registered with the DNR. Harvest registration questions for

archery season include the date of harvest, deer or turkey permit area where the animal was harvested, age and sex class of the animal (deer: antlered buck, female deer, juvenile female, juvenile male; spring turkey: jake, tom, other (bearded hen); fall turkey: jake, tom, hen), and weapon used (vertical bow, crossbow). The weapon question was added to the registration process after the crossbow legislation was passed in 2023.

Hunter Survey Data

We conducted a survey of deer hunters following the close of the 2024 deer hunting season. The survey assessed a variety of topics related to deer management, including the use of crossbows by archery hunters, rates of wounding of deer by various weapon types, and beliefs about the use of crossbows. We randomly selected 7,000 hunters aged 18 and older who possessed a deer hunting license from the Minnesota DNR electronic licensing system for inclusion in the survey. We selected respondents in two samples, 1) a geographically stratified sample of 2024 firearm and archery hunters (survey recipients = 5,000), and 2) a simple random sample of 2023 (survey recipients = 1,000) and 2024 archery license holders (survey recipients = 1,000). We sent letters to participants and asked them to take an online questionnaire. Non-respondents received up to two additional invitations through the mail. The survey yielded 2,388 responses for an adjusted response rate of 35%. We designed the geographic sample to make inferences about all deer hunters and firearms deer hunters within geographic stratum and at the state scale. We designed the simple random sample to make inferences about archery hunters at the state scale only.

In addition to the deer hunter survey, we conducted a survey of turkey hunters following the close of the 2025 spring turkey hunting season. The survey assessed a variety of topics related to turkey management, including the use of crossbows by archery hunters, rates of wounding turkeys by weapon, harvest, and beliefs about the use of crossbows. We randomly selected 7,000 hunters aged 18 and older who possessed a turkey hunting license from the Minnesota DNR electronic licensing system for inclusion in the survey. We selected simple random samples of spring 2025 archery and firearms turkey license holders, and an oversample of fall 2024 license holders sufficient make estimates to the population given known overlap with spring participation and expected response rates. We sent letters to participants and asked them to take an online questionnaire. Non-respondents received up to two additional invitations through the mail. A total of 2,187 turkey hunters completed the questionnaire for an effective response rate of 32%.

Assessing Effects on White-tailed Deer Population and Hunters

To draw conclusions on how deer populations may be affected by expanded crossbow use, our approach was to assess what effect this legislative change had on harvest and hunting license sales. We also used hunter survey data to assess whether deer success rates and wounding loss were affected by the change. Additionally, we were interested in how the legislative change affected hunters. Specifically, if or how hunter recruitment and retention was affected by the change, as well as hunter beliefs about the change. We used license sales data and hunter survey results to assess hunter populations. For harvest comparisons, we used the two years prior to the legislative change as well as the 5-year and 10-year mean (when possible) prior to the change to represent the baseline scenario and data from 2023 and 2024 deer seasons to represent the effect of the change.

Deer Harvest

We examined whether deer harvest changed in the two years after the legislative change, and if so, whether the changes could reasonably be attributed to the statute change. We assessed harvest statewide, by region, and by specific bag limit designations. Deer permit areas designated as antlerless permit lottery are of particular interest given archery hunters are allowed to take either-sex deer in these areas without enrolling in the lottery. If archery hunter participation increased significantly due to the legislative change, it could result in higher than anticipated antlerless deer harvest in these permit areas, potentially reducing deer populations below goal. Permit areas designated as antlerless permit lottery are typically areas where the goal is to increase or stabilize deer populations, meaning that deer populations are vulnerable to increases in antlerless harvest. Other than the change in total deer harvested in certain areas, we were also interested in whether there was a change in the type of deer harvested. We used harvest registration data to assess whether the sex and age classes of deer taken by crossbow hunters differed than the deer taken by vertical bow hunters. For this analysis, we were only able to assess years after the question was added to deer registration asking if hunters used a vertical bow or crossbow (2023 and 2024). However, we can also include data from earlier years as a general comparison in the type of deer taken by archery hunters before and after the legislative change.

Statewide Harvest

Overall, we did not observe a change in total or seasonal statewide deer harvest that could be attributed to expanded crossbow use. During the two years implementing expanded crossbow use, total deer harvest across all seasons was 10% and 3% less than the preceding two year mean in 2023 and 2024, respectively (Figure 1; see also Appendix B). Similarly, archery season harvest decreased slightly (-2%) during the first year but increased (16%) during the second year of implementation (Figure 1; see also Appendix B) compared to the preceding two-year mean. In fact, 2024 archery deer harvest was the second highest archery season harvest recorded, only lower than the record 2020 season. This high 2024 archery harvest was driven by an increase in adult male harvest, which was 32% higher than the preceding two-year-mean while adult female harvest was only 3% higher than the preceding two-year-mean (Figure 1; see also Appendix B). However, the sex and age class of deer taken by vertical bow and crossbow archery hunters was very similar (Table 2), meaning this increase in 2024 total and adult buck archery harvest cannot be primarily attributed to expanded crossbow use. The overall increase in archery buck harvest in 2024 is likely linked to the later opening of the firearms season, which occurred on November 9th in 2024 compared to November 4th in 2023 (Figure 2). Since the deer rut typically occurs in early November, coinciding with an increase in buck movements, archery harvest success of adult bucks generally increases when firearms season opener falls later in the calendar. Consequently, archery hunters appear to have benefited from the extended hunting days coinciding with the rut in 2024. This also contributed to a larger difference in the buck-to-doe harvest ratio in 2024 compared to 2023. Furthermore, two consecutive mild winters in Minnesota likely benefited the state's deer population, leading to higher harvest numbers in 2024.

We did observe a change in the proportion of archery harvest attributed to crossbows, which increased from 43.8% in 2023 to 48.2% in 2024. Other states, such as Missouri and Wisconsin, which have implemented similar changes to their archery seasons by allowing all hunters to use crossbows, have also seen a steady increase in crossbow harvests relative to other archery equipment. If crossbows continue to be available to all archery license holders in Minnesota, a similar upward trend in crossbow harvest would be expected. Further, the

proportion of archery harvest attributed to crossbows and vertical bows shifted throughout the archery season in both 2023 and 2024 (Figure 2). In both years, vertical bow harvest was higher during the first half of the season, but crossbow harvest gradually increased and eventually surpassed vertical bow harvest, particularly in 2024. The increased reliance on crossbows later in the season may reflect their greater effective range and ease of use when targeting deer that have survived the gun season and become more difficult to hunt. It's important to note, however, that although crossbow harvest exceeds vertical bow harvest later in the season, total harvest during that period represents only a small fraction of the overall season harvest.

The expansion of crossbows during archery season was implemented during a time when archery season harvest was already trending upward and may be beneficial in areas where deer populations are over goals. The proportion of Minnesota's total deer harvest taken with archery equipment has been steadily increasing since the early 2000s, when archery accounted for roughly 7% of the total harvest. By 2024, this figure has more than doubled, with 16% of all deer harvested using archery equipment (Figure 3). Of note, 25% of all adult does harvested in 2024 were taken with archery equipment, indicating that archery is playing an increasingly significant role in antlerless deer harvest, a category that many states, including Minnesota, have struggled to increase. This long-term trend predates the legalization of crossbows for all hunters, suggesting a general rise in the popularity of archery deer hunting over time. While the bump observed in 2023 and 2024 may reflect this ongoing growth, survey data show that 11% of archery hunters began hunting with archery equipment for the first time specifically because of the inclusion of crossbows (see Archery License Sales and Participation; page 14). This suggests that the recent increase in archery's share of the total harvest was likely amplified by the expanded availability of crossbows.

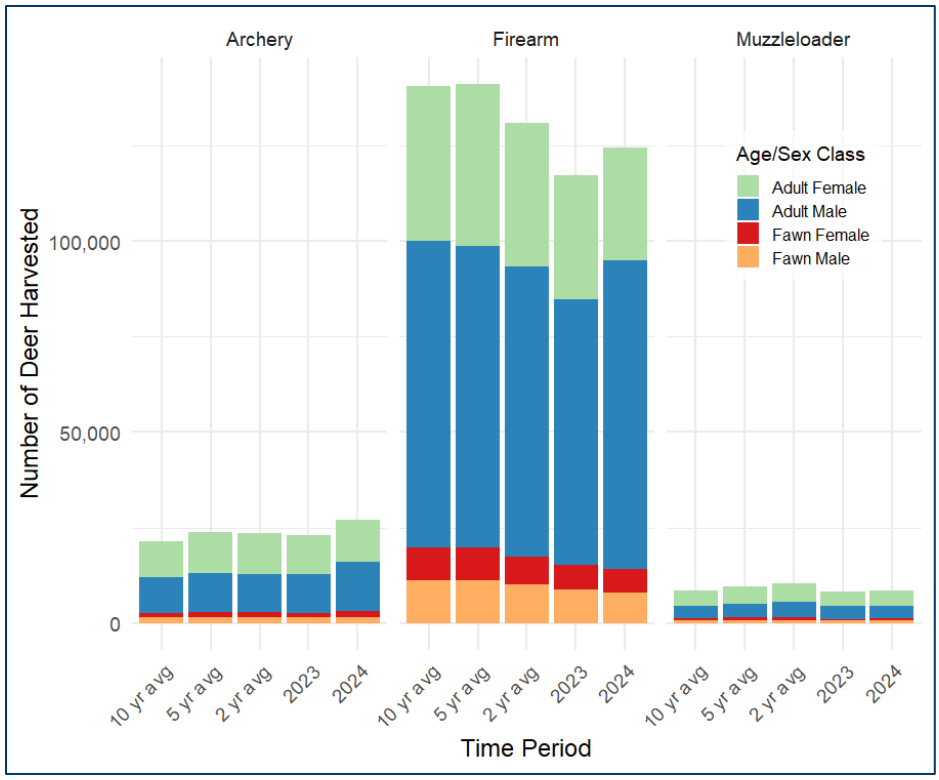

Figure 1. Statewide deer harvest by age/sex class and weapon type, showing 10-year, 5-year, and 2-year averages (2013–2022, 2018–2022, 2021–2022) and annual totals for 2023 and 2024. Averages represent harvests prior to the legislative change allowing all hunters to use crossbows during the archery season.

Table 2. Percentage of deer harvested with archery equipment, categorized by sex and age class. The 10-, 5-, and 2-year averages reflect data from periods prior to the 2023 crossbow regulation change. For 2023 and 2024, harvest data are further broken down by crossbow and vertical bow.

Year	Archery Equipment	Adult Male	Fawn Male	Adult Female	Fawn Female	Total
10-year average (2013 – 2022)		43.7%	7.0%	43.9%	5.4%	
5-year average (2018 – 2022)		42.8%	6.7%	45.3%	5.3%	
2-year average (2021 – 2022)		42.0%	6.6%	46.0%	5.3%	
2023	Crossbow	42.8%	7.0%	45.0%	5.2%	43.8
	Vertical Bow	44.2%	5.9%	44.9%	5.0%	56.2
	All Archery	43.6%	6.4%	44.9%	5.1%	
2024	Crossbow	48.0%	6.7%	40.1%	5.3%	48.2
	Vertical Bow	48.0%	5.4%	41.6%	5.0%	51.8
	All Archery	48.0%	6.0%	40.9%	5.1%	

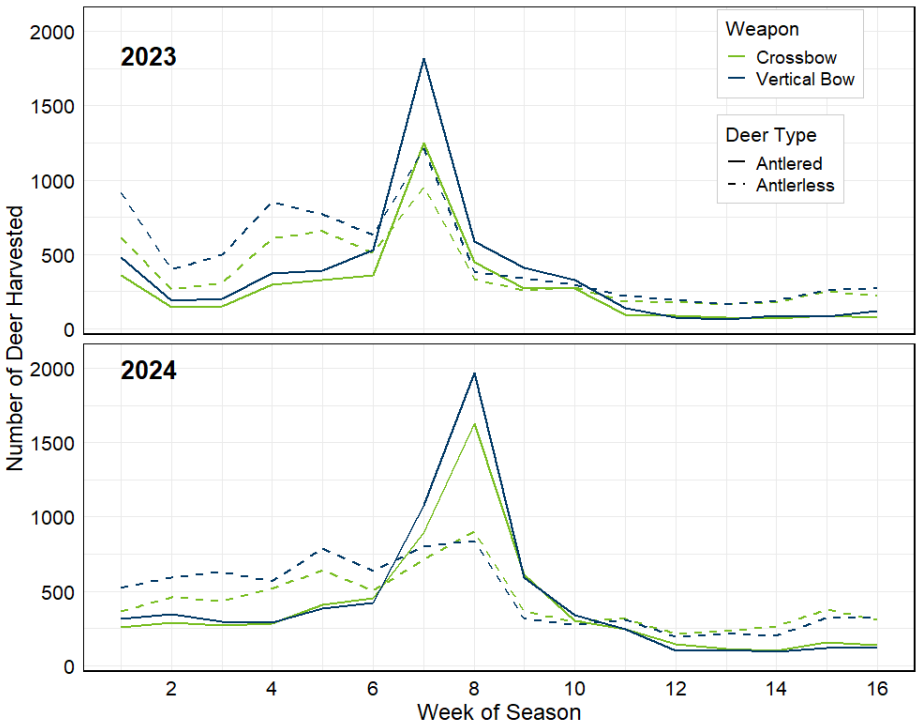

Figure 2. Weekly harvest of antlered and antlerless deer by weapon type (crossbow and vertical bow) during the 2023 and 2024 hunting seasons.

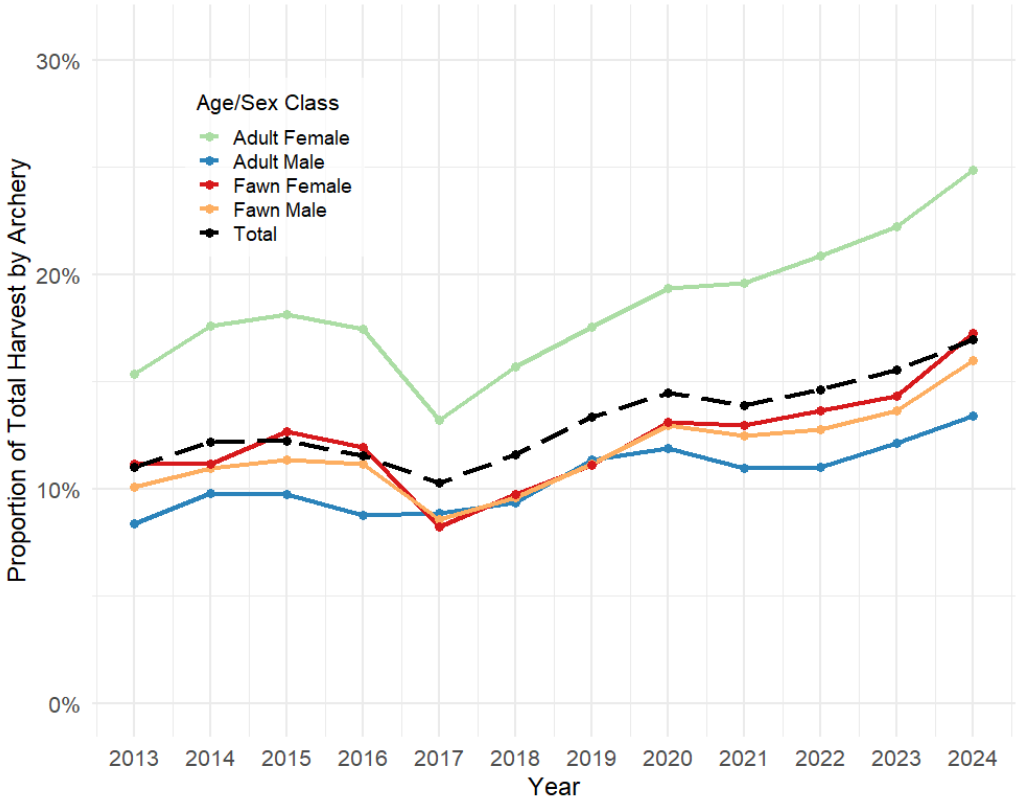

Figure 3. Proportion of total statewide deer harvest taken with archery equipment by age/sex class, 2013–2024.

Regional Harvest

We did observe regional differences in crossbow use and harvest, with the highest crossbow harvest occurring in the northeast, followed by the northwest, south, and central regions (Table 3). The northeast was the only region in which the percent of crossbow harvest was greater than vertical bow harvest in both 2023 and 2024. These differences may be related to demographic patterns among archery hunters across regions, since the mean age of archery deer hunters in the northeast (46 years) was older than all other regions (42 years). The northeast also has the most lottery areas in the state, and averages approximately 650 archery hunters per lottery DPA, whereas other regions average fewer than 400 archery hunters per lottery DPA. Regardless of the cause, these data suggest the northeast region is likely to have more crossbow hunters in the future. Because this area also overlaps with deer populations struggling to recover from several severe winters, it should be a priority for future monitoring efforts, particularly if the statute becomes permanent. Regional harvest data also shows that vertical bow and crossbow hunters are taking the same types of deer across regions as well (Table 3). Thus, although there are proportionally more crossbow hunters in the northeast than elsewhere in the state, currently crossbow hunters in the northeast are not taking proportionally more antlerless deer than vertical bow hunters. As with the statewide archery harvest, the percent of harvest attributed to crossbows increased from 2023 to 2024 across all four regions, with increases ranging from 2.3 percentage points in the northeast to 5.4 percentage points in the southwest (Table 3).

Table 3. Percentage of deer harvested with archery equipment, categorized by sex and age class, broken down by region. The 10-, 5-, and 2-year averages reflect data from periods prior to the 2023 crossbow regulation change. For 2023 and 2024, harvest data are further broken down by crossbow and vertical bow.

			Adult Male	Fawn Male	Adult Female	Fawn Female	TOTAL
Northwest Region	10-year average		43.0%	6.0%	46.2%	4.8%	
	5-year average		38.5%	6.1%	50.5%	4.9%	
	2-year average		38.7%	5.8%	50.7%	4.8%	
	2023	Crossbow	36.7%	7.2%	51.1%	5.0%	45.4%
		Vertical Bow	41.0%	5.1%	49.4%	4.5%	54.6%
		All Archery	39.0%	6.0%	50.2%	4.7%	
	2024	Crossbow	46.2%	6.1%	43.0%	4.7%	49.6%
		Vertical Bow	50.7%	4.4%	41.0%	3.9%	50.4%
		All Archery	48.5%	5.3%	42.0%	4.3%	
Northeast Region			Adult Male	Fawn Male	Adult Female	Fawn Female	TOTAL
	10-year average		43.7%	6.8%	44.4%	5.0%	
	5-year average		43.3%	6.4%	45.5%	4.8%	
	2-year average		42.6%	6.0%	46.6%	4.8%	
	2023	Crossbow	46.6%	5.0%	44.7%	3.7%	53.5%
		Vertical Bow	49.6%	5.1%	41.9%	3.4%	46.5%
		All Archery	48.0%	5.1%	43.4%	3.5%	
	2024	Crossbow	51.3%	5.9%	39.1%	3.7%	55.8%
		Vertical Bow	53.0%	4.5%	39.0%	3.5%	44.2%
		All Archery	52.0%	5.3%	39.1%	3.6%	
Southeast Region			Adult Male	Fawn Male	Adult Female	Fawn Female	TOTAL
	10-year average		41.1%	8.0%	44.5%	6.4%	
	5-year average		41.5%	7.5%	44.8%	6.1%	
	2-year average		40.6%	7.7%	45.6%	6.2%	
	2023	Crossbow	41.9%	8.0%	43.8%	6.3%	42.0%
		Vertical Bow	42.4%	6.8%	44.9%	5.9%	58.0%
		All Archery	42.2%	7.3%	44.4%	6.0%	
	2024	Crossbow	45.8%	7.6%	40.2%	6.4%	46.5%
		Vertical Bow	44.4%	6.3%	43.3%	5.9%	53.5%
		All Archery	45.1%	6.9%	41.8%	6.2%	
Southwest Region			Adult Male	Fawn Male	Adult Female	Fawn Female	TOTAL
	10-year average		53.2%	4.9%	38.5%	3.4%	
	5-year average		51.7%	4.8%	40.2%	3.3%	
	2-year average		49.6%	4.6%	42.1%	3.7%	
	2023	Crossbow	48.6%	5.1%	43.3%	3.0%	42.8%
		Vertical Bow	49.9%	3.9%	42.5%	3.6%	57.2%
		All Archery	49.4%	4.4%	42.9%	3.4%	
	2024	Crossbow	54.5%	4.6%	37.7%	3.1%	48.2%
		Vertical Bow	54.9%	3.9%	37.9%	3.4%	51.8%
		All Archery	54.7%	4.2%	37.8%	3.3%	

Antlerless Lottery DPAs

Although it may be too soon to fully realize the effect of expanded crossbow use on antlerless deer harvest in permit areas designated as antlerless permit lottery, we did not observe any concerning trends in the two years of implementation. However, it does appear that a higher proportion of antlerless deer are taken with archery equipment in lottery areas. For this comparison, we only included DPAs that were designated as antlerless permit lottery two years before and after the change, which included 31 DPAs during 2021-2024. For each DPA, we calculated the average number of antlerless deer harvested per archery hunter over the timeframe (Figure 4) and pooled the DPAs into a 'before' and 'after' group to assess whether antlerless harvest significantly increased after the crossbow expansion. We were also interested in how harvest patterns by archery weapon differed between lottery and non-lottery areas, particularly given the additional management concern in lottery DPAs. The average number of antlerless deer harvested per archery hunter in those 31 lottery DPAs was 0.058 in 2021, 0.066 in 2022, 0.054 in 2023, and 0.056 in 2024 (Figure 4). On average, antlerless deer harvest per lottery permit area decreased slightly following the expanded crossbow use, with a mean change of −0.6 deer per lottery DPA (±4.3 SD). However, the direction and magnitude of change varied. Antlerless harvest in some DPAs decreased as much as 10 deer, while harvest in other permit areas increased by up to 8 deer.

Although the total number of antlerless deer harvested in lottery areas before and after expanded crossbow use did not increase, we observed a higher percentage of antlerless harvest with crossbows in lottery areas compared to non-lottery areas in both years (Table 4). From 2023 to 2024, the percentage of antlerless deer harvested with crossbows increased in both lottery and non-lottery DPAs (Table 4), indicating growing use of crossbows among archery hunters. This trend may reflect increasing hunter preference for crossbows due to their slightly higher success rates (32% vs. 28% for vertical bows; see Table 5). Further, in lottery DPAs, the percent of antlerless deer harvest attributed to crossbows was higher than vertical bows both years and increased from 56% in 2023 to 62% in 2024. Antlerless harvest opportunities are more limited in lottery areas and hunters may be choosing crossbows to maximize their chances of success. Alternatively, some of these hunters may have already been using crossbows under previous exemptions (e.g., due to age or medical conditions) before they were legalized for all archery hunters.

It is important to note that we currently have only two years of data since crossbows were legalized for all archery hunters. If crossbows are permanently allowed for all and popularity continues to grow, it could eventually lead to increased antlerless harvest in lottery DPAs, where archery hunters are not subject to the same permit restrictions. We will continue to monitor these trends, specifically in lottery areas, and make management adjustments as needed to ensure sustainable harvest levels. Adjustment of firearms antlerless quotas or additional regulations placed on archery harvest in permit areas may be explored if trends continue or increase and can be implemented by DNR through expedited emergency rulemaking.

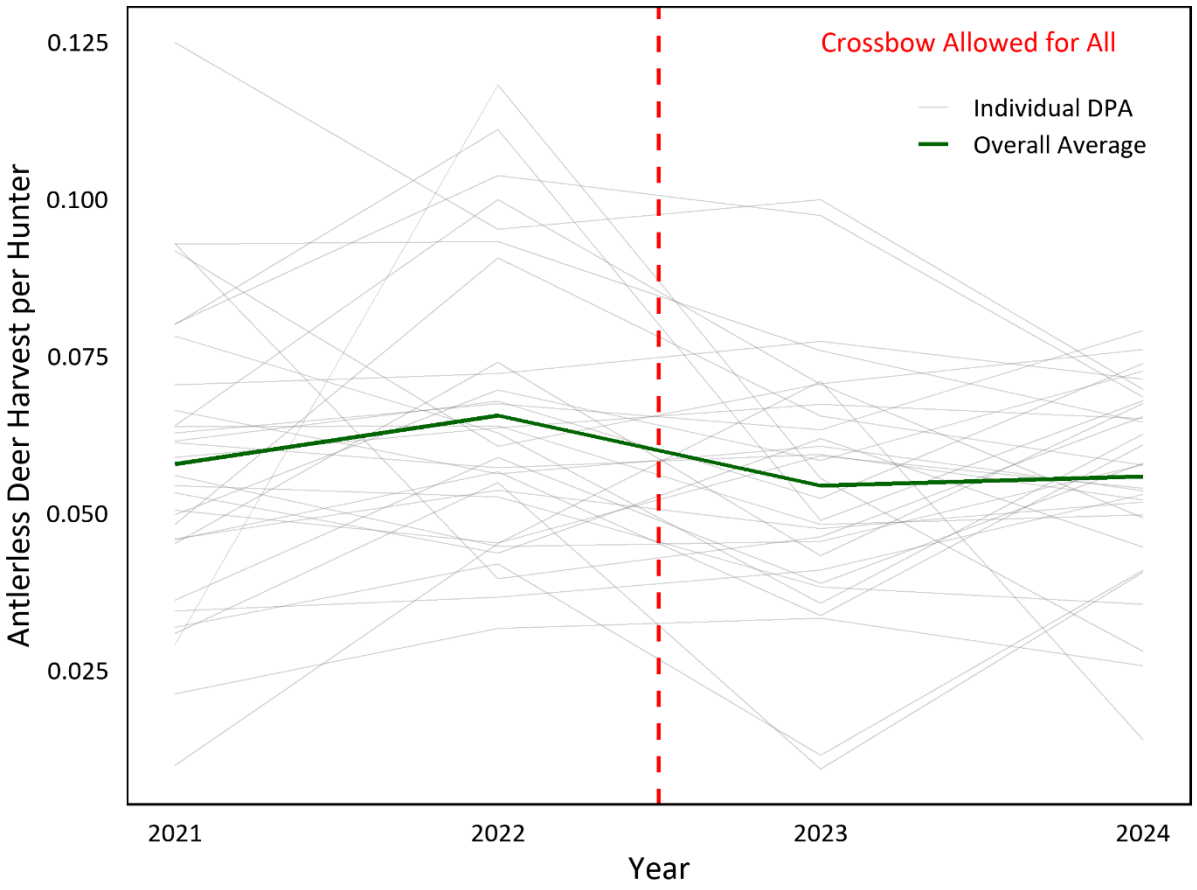

Figure 4. Number of antlerless deer harvested per hunter in lottery-designated Deer Permit Areas (DPAs) from 2021 to 2024. The vertical dashed line marks the 2023 regulatory change allowing broader crossbow use. Light gray lines show individual trends for each of the 31 lottery DPAs. The thick green line represents the overall average which indicates that, across lottery DPAs we do not see a noticeable change in antlerless harvest per hunter after the expanded use of crossbows.

Table 4. Percent of antlerless deer harvested in lottery and non-lottery Deer Permit Areas (DPAs) during the 2023 and 2024 archery hunting seasons by archery equipment.

	2023			2024		
Weapon	Non-Lottery DPAs (n = 88)	Lottery DPAs (n = 41)	Total	Non-Lottery DPAs (n = 88)	Lottery DPAs (n = 41)	Total
Crossbow	43.4%	56.0%	44.4%	47.1%	62.2%	48.2%
Vertical Bow	56.6%	44.0%	55.6%	52.9%	37.8%	51.8%

Success and Wounding Rates by Archery Equipment

We used the results of the deer hunter mail survey to assess differences in weapon success and wounding rates. Although we are able to estimate the number and types of deer taken by vertical bows and crossbows during

the deer registration process, hunters are not required to indicate whether they intend to use either weapon when purchasing their license, so we are not able to estimate weapon-specific success rates with registration data and therefore used the hunter mail survey to address this question. However, we can use license and registration data to estimate overall archery success, which was 22% in 2024, compared to 28% based on survey responses. This discrepancy is likely due to survey bias. Although our survey methods follow best practices to reduce errors, some bias may still occur. For example, successful hunters may be more likely to respond, and hunters may underreport wounding loss because it could be viewed negatively by others. However, any such biases in estimates of effort, success, and wounding loss are consistent across weapon types. We found the success rate was 3% higher and wounding rates were 3% lower for crossbow hunters compared to vertical bow hunters. Two percent of firearms hunters indicated that they shot and wounded a deer compared to 5% of all archery hunters combined, 4% of crossbow-only hunters, and 7% of vertical bow-only hunters. These findings are similar to reported higher success rates for crossbows in other Midwest states, particularly in Maryland, Missouri and Wisconsin that reported success rates for crossbows ranged 4 to 8.5% higher than vertical bows. Fourteen percent of all archery respondents shot at and missed a deer (16% crossbow hunters, 12% vertical bow hunters). This accuracy rate for crossbow hunters was the same as reported for firearms hunters. On average, vertical bow hunters hunted three days longer than crossbow hunters (Table 6).

Table 5. Success rates of 2024 archery deer hunters by equipment, based on hunter survey responses.

	n	Percent
Archery[1]	526	28
Harvested a deer with a crossbow		12
Harvested a deer with a crossbow and a vertical bow		<1
Harvested a deer with a vertical bow		16
Did not harvest a deer with archery equipment		72
Percent of hunters that reported hunting exclusively with a crossbow that harvested a deer with a crossbow in 2024		30
Percent of hunters that reported hunting exclusively with a vertical bow that harvested a deer with a vertical bow in 2024		27

Estimates based on simple random sample of 2024 and 2023 archery license holders, if the respondent reported archery hunting in Minnesota in 2024. Estimates weighted for age compared to the population of hunters in 2024.

Table 6. Mean days hunted with a crossbow and a vertical bow during the 2024 archery season in Minnesota

	n	Mean (SD)
Crossbow	258	13.4 (15.2)
Vertical bow	311	16.4 (14.1)

Archery License Sales and Hunter Demographics

Our data indicate the crossbow expansion may produce benefits related to recruitment and retention of youth, older-aged, and female archery hunters. License sales data indicate a slight increase (6.5%) in total archery license sales since the expanded use of crossbows, particularly among the youngest archery hunters (14% increase; Table 7). When comparing regional archery license sales from before (2021 – 2022) and after (2023 – 2024) the crossbow expansion, southern Minnesota shows the largest increases with a 7% boost in the southeast and 10% in the southwest. The northwest increased by 4%, while the northeast saw a slight decline of 0.8%. This pattern isn't surprising given our earlier discussion that northeast archery hunters tend to be older on average, and that crossbow harvests are already outpacing vertical bow harvests there. This suggests many archery hunters in the northeast may have already been using crossbows, so the expansion of crossbow use to all did not significantly boost license sales there. The highest relative growth was among female youth hunters, whose license sales rose by 43%, while sales for male youth hunters increased by 10%. Like other states, Minnesota experienced a "COVID bump" in archery license sales in 2020, particularly among hunters aged 18–59. However, the long-term trend for this age group has been a decline in license sales, while sales to hunters aged 60 and older have increased as many in the middle-age group moved into the older bracket (Figure 5). This pattern is consistent across all regions of Minnesota. Eleven percent of archery deer hunters indicated they would not have participated in the archery deer season if the legislative change had not occurred, which indicates a moderate positive effect on recruitment to archery deer hunting, although 21% of archery hunters were already using crossbow under the current regulations (Table 8). Regarding retention, 62% of crossbow users who responded to the survey indicated that they are more likely to continue deer hunting because crossbows have been made legal. Although crossbows may represent an easier entry point to archery hunting (e.g., they don't require the same level of physical strength), youth were not surveyed for this study, so that statistic is likely an underestimate of the true effect on Recruitment, Retention and Reactivation (R3) efforts.

When examining hunter age and archery equipment use, youth, female and older hunters harvested deer with crossbows at a proportionally higher rate than with vertical bows (Figure 6). Of the female hunters who harvested a deer with archery equipment during 2023–2024, 64% did so with a crossbow, compared to 46% of male hunters. This supports the idea that crossbows may help reduce some of the barriers associated with entering archery hunting with a vertical bow, such as higher draw weight requirements, physical limitations, and the need for greater shooting proficiency. Although we did not specifically ask archery hunters that previously obtained a disability permit to use crossbows about the effect of this legislative change on the likelihood that they will continue to hunt during the archery season, it will certainly make it easier for those hunters to continue to participate, likely benefiting hunter retention.

Table 7. Average number of deer hunting licenses sold during time periods before the allowance of crossbows for all (pre-2023) and after (2023 and 2024).

	Total Archery License	Youth Archery License	Firearm License	Muzzleloader License
10-year mean (2013 – 2022)	104,095	10,049	436,142	49,676
5-year mean (2018 – 2022)	102,324	8,721	421,972	49,297
2-year mean (2021 – 2022)	103,108	8,487	416,198	49,624
2023	108,013	9,466	398,695	49,779
2024	109,788	9,884	403,390	44,194

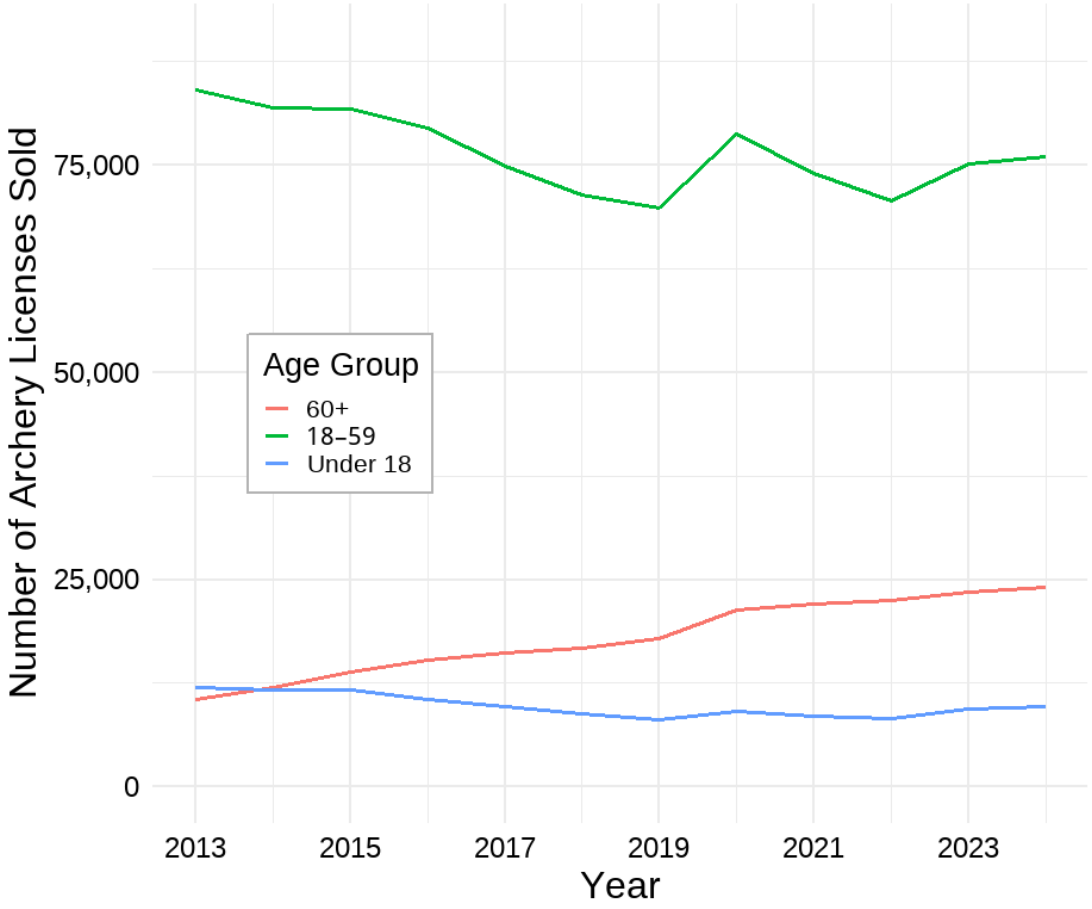

Figure 5. The number of archery licenses sold from 2013 to 2023 by age of hunter.

Table 8. Percent of Minnesota archery hunters from 2023 and 2024 that archery hunted in Minnesota between 2018 and 2022; Percent of archery hunters in 2023 and 2024 that used a crossbow prior to 2023; Percent of archery hunters in 2023 and 2024 that started archery hunting because they could use a crossbow.

	N	Percent
Hunted archery in MN 2018-2022	588	77
Used a crossbow prior to 2023	462	21
Would not have archery hunted in 2023 or 2024 absent regulation change allowing crossbows for all	588	11

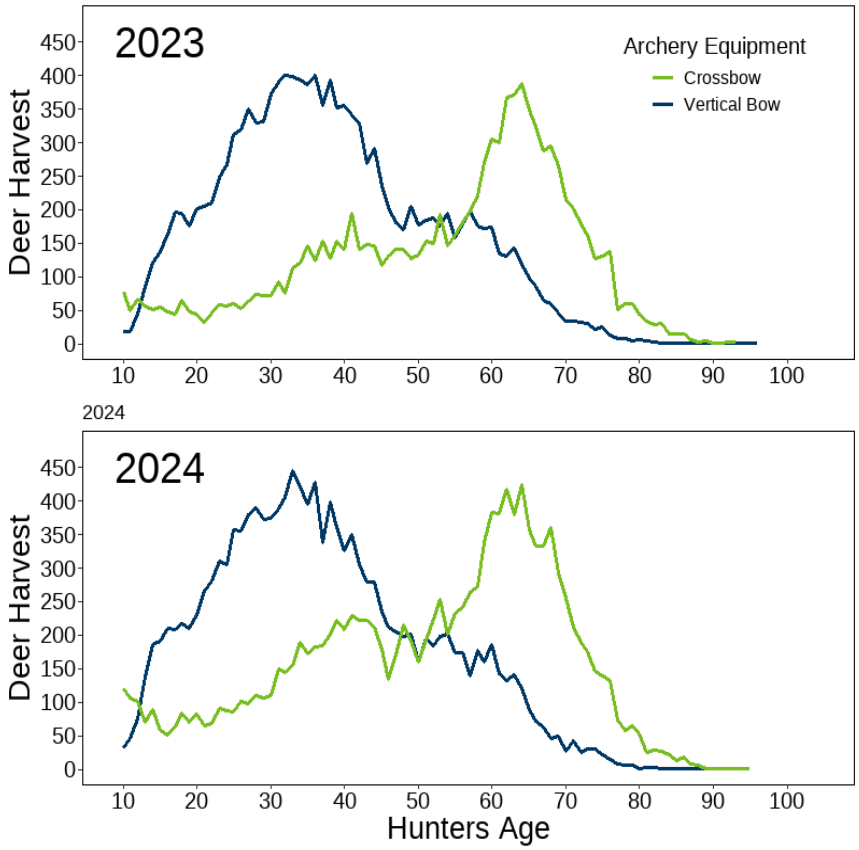

Figure 6. Deer harvested with archery equipment compared to hunters age during the 2023 and 2024 hunting season, broken down by crossbow and vertical bow.

Deer Hunter Beliefs about Crossbows

Crossbows are a polarizing issue among archery deer hunters - nearly as many archery hunters agreed with the premise that crossbows were negatively affecting the quality of archery deer season (39%), as disagreed (42%, Table 9). Despite the polarizing nature of the topic, many archery hunters (49-72%) thought that crossbows attract new hunters, allow more hunters to take advantage of hunting opportunities, and are beneficial to youth

recruitment (Table 9). This may indicate that archery hunters would be less opposed to crossbows if more restrictions (timing of use, permits required) were placed on their use than are currently being implemented. Forty-one percent of all archery hunters and 57% of vertical bow hunters that responded indicated that there was more hunting pressure during archery season due to the expanded use of crossbows.

Table 9. Minnesota deer hunters' beliefs about crossbows.

	All Archery[1]			**Crossbow only**			**Vertical bow only**			**Firearms**		
	Disagree	Neither	Agree	Disagree	Neither	Agree	Disagree	Neither	Agree	Disagree	Neither	Agree
Hunters using a crossbow are negatively affecting the quality of the deer archery season.	42	19	39	57	17	26	27	23	50	40	31	30
Being able to use a crossbow is attracting new hunters that would not hunt otherwise.	16	14	70	11	12	77	20	14	66	15	26	59
Being able to use a crossbow allows more people to take advantage of hunting opportunities.	16	12	72	8	15	77	21	11	68	13	19	69
Crossbow hunters are likely to negatively impact the deer population by harvesting more deer during archery season.	36	21	42	60	18	22	20	22	59	38	27	34
Crossbows are a good way to introduce youth to hunting during the bow season.	36	15	49	23	20	57	49	10	41	33	24	44
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.	42	23	35	16	21	62	62	24	14	36	37	28
There was more hunting pressure during the 2024 Minnesota deer season because more hunters can use a crossbow.	29	30	41	47	28	25	17	26	57	33	43	24

Estimates based on simple random sample of 2024 and 2023 archery license holders who reported archery hunting in Minnesota in 2024. Estimates weighted for age compared to the population of hunters in 2024.

Assessing Effects on the Turkey Population and Hunters

To draw conclusions on how turkey populations may be affected by the crossbow expansion our approach was to assess what effect this legislative change has had on harvest and hunting license sales. We also used hunter survey data to assess whether turkey hunter success rates and wounding loss could be affected by the change. Additionally, we were interested in how the change affected hunters; specifically, if or how hunter recruitment and retention was affected by the change, as well as archery hunter perceptions of hunt quality. We used license sales data and hunter survey results to assess hunter populations. For harvest comparisons, we used the two years prior to crossbow expansion to represent the baseline scenario and data from fall 2023 and 2024, and spring 2024 and 2025 turkey seasons to represent the effect of the change.

Turkey Harvest

Spring turkey harvest increased by approximately 22–23% between 2023 and 2024/2025 (Table 10). In contrast, fall harvest remained consistent from 2022 to 2023 and then increased by 21% in 2024 (Table 11). The proportion of spring harvest taken with archery equipment was 14% in both 2022 and 2023, rising to 17% in 2024 before declining slightly to 16% in 2025 (Table 11). While these increases may be partially associated with greater crossbow participation, the underlying causes are uncertain. Crossbow use was not tracked prior to 2024 and increases in turkey abundance during this period may also explain the higher harvest totals.

Table 10. Spring Turkey Harvest from 2022-2025 by weapon type.

	Firearm		Archery		Vertical		Crossbow		Total
Year	Total	Proportion	Total	Proportion	Total	Proportion	Total	Proportion	
2022	10,546	86%	1,763	14%					12,309
2023	11,740	86%	1,948	14%					13,688
2024	13,961	83%	2,765	17%	1,579	9%	1,186	7%	16,726
2025	14,137	84%	2,766	16%	1,540	9%	1,226	7%	16,903

Vertical bow and crossbow totals in 2024 and 2025 are split from the archery total and not additional.

Table 11. Fall Turkey Harvest from 2021-2024 by weapon type.

	Firearm		Archery		Vertical		Crossbow		Total
Year	Total	Proportion	Total	Proportion	Total	Proportion	Total	Proportion	
2021	1,070	86%	168	14%					1,238
2022	1,107	86%	178	14%					1,285
2023	1,007	82%	217	18%	106	9%	111	9%	1,224
2024	1,232	84%	243	16%	102	7%	141	10%	1,475

Vertical bow and crossbow totals in 2023 and 2024 are split from the archery total and not additional.

Success and Wounding Rates by Archery Equipment

Survey data indicated that hunter success rates were similar across archery equipment types, with 37% of crossbow hunters and 35% of vertical bow hunters reporting success in the spring season (Table 12).

Spring archery hunters were asked whether they had shot at and missed a turkey. Crossbow hunters reported a slightly higher rate of missed shots (26%) compared to vertical bow hunters (20%) (Table 13). When asked whether they had shot at and wounded a turkey, crossbow hunters again reported a slightly higher rate (8%) relative to vertical bow hunters (5%) (Table 14).

Table 12. Percent of spring firearm and spring archery hunters that successfully harvested a turkey in Minnesota in 2025.

	N	Percent harvested a turkey
Spring firearm	1027	53
Spring archery	810	36
Spring archery - crossbow	367	37
Spring archery - vertical bow	445	35

Table 13. Percent of spring archery hunters, and crossbow and vertical bow hunters, that shot at and missed a turkey during the 2025 archery season.

	N	Percent shot at and missed a turkey
Spring archery	789	22
Spring archery - crossbow	366	26
Spring archery - vertical bow	438	20

Table 14. Percent of spring archery hunters, and crossbow and vertical bow hunters, that shot at and wounded a turkey during the 2025 archery season.

	N	Percent shot at and wounded a turkey
Spring archery	799	6
Spring archery - crossbow	364	8
Spring archery - vertical bow	437	5

Archery License Sales and Hunter Demographics

Spring turkey license sales increased in 2024 and remained at that level in 2025, with the largest relative increase in archery license sales. Similarly fall license sales increased in 2023 and stabilized in 2024. The distribution of hunters among firearm, youth, and archery licenses remained largely stable (Tables 15 and 16).

Despite the expanded eligibility for crossbows, there was no substantial migration of hunters from firearms to archery licenses. The number of hunters who had previously purchased a firearm license the year prior, but then switched to archery were:

- 2023 (Prior to Change): 3,610
- 2024: 3,864
- 2025: 3,014

The similarity in values across years suggests this is likely part of normal annual churn between license types rather than a policy-driven behavioral shift.

We asked fall and spring turkey archery license holders if they hunted with a crossbow during the 2024 and 2025 turkey hunting seasons respectively. Eighteen percent (18%) of fall turkey license holders, and 43% of spring archery license holders reported using a crossbow.

We asked spring turkey hunters who reported using a crossbow if the ability to use a crossbow was their reason for hunting. Twenty seven percent (27%) of those people using crossbows reported that being able to use a crossbow was their reason for hunting.

Table 15. Spring Turkey License Sales from 2022-2025 by type.

	Firearm		Archery		Youth		Total
Year	Total	Proportion	Total	Proportion	Total	Proportion	
2022	29,749	54%	12,346	23%	12,552	23%	54,647
2023	29,643	55%	11,691	22%	12,343	23%	53,677
2024	31,375	53%	14,498	24%	13,771	23%	59,644
2025	33,044	53%	14,473	23%	14,404	23%	61,921

Table 16. Fall Turkey License Sales from 2021-2024 by type.

	Firearm		Youth		Total
Year	Total	Proportion	Total	Proportion	
2021	7,037	78%	1,989	22%	9,026
2022	6,934	77%	2,065	23%	8,999
2023	7,399	76%	2,314	24%	9,713
2024	7,440	75%	2,467	25%	9,907

Analysis of harvest data indicates that hunters using crossbows in both the spring and fall turkey seasons are, on average, approximately 15 years older than hunters using vertical bows (Tables 17 and 18). In both seasons, the largest proportion of crossbow users are over the age of 60. This pattern may be associated with the previous regulation that allowed this age group to use crossbows, as well as the relative ease of operating crossbows compared to vertical bows. During the spring season, crossbows comprised most of the archery harvest for both youth and older hunters (Figure 7).

Table 17. Average age of successful spring turkey hunters by weapon type.

Year	Firearm	Archery	Vertical	Crossbow	Overall
2022	40.3	44.6			40.9
2023	40.1	45.1			40.8
2024	39.6	44.9	38.4	53.5	40.4
2025	39.3	44.7	38.3	52.8	40.2

Table 18. Average age of successful fall turkey hunters by weapon type.

Year	Firearm	Archery	Vertical	Crossbow	Overall
2021	44.4	49.0			45.1
2022	44.0	47.3			44.4
2023	45.3	45.1	38.5	51.4	45.3
2024	45.1	47.2	37.9	53.9	45.4

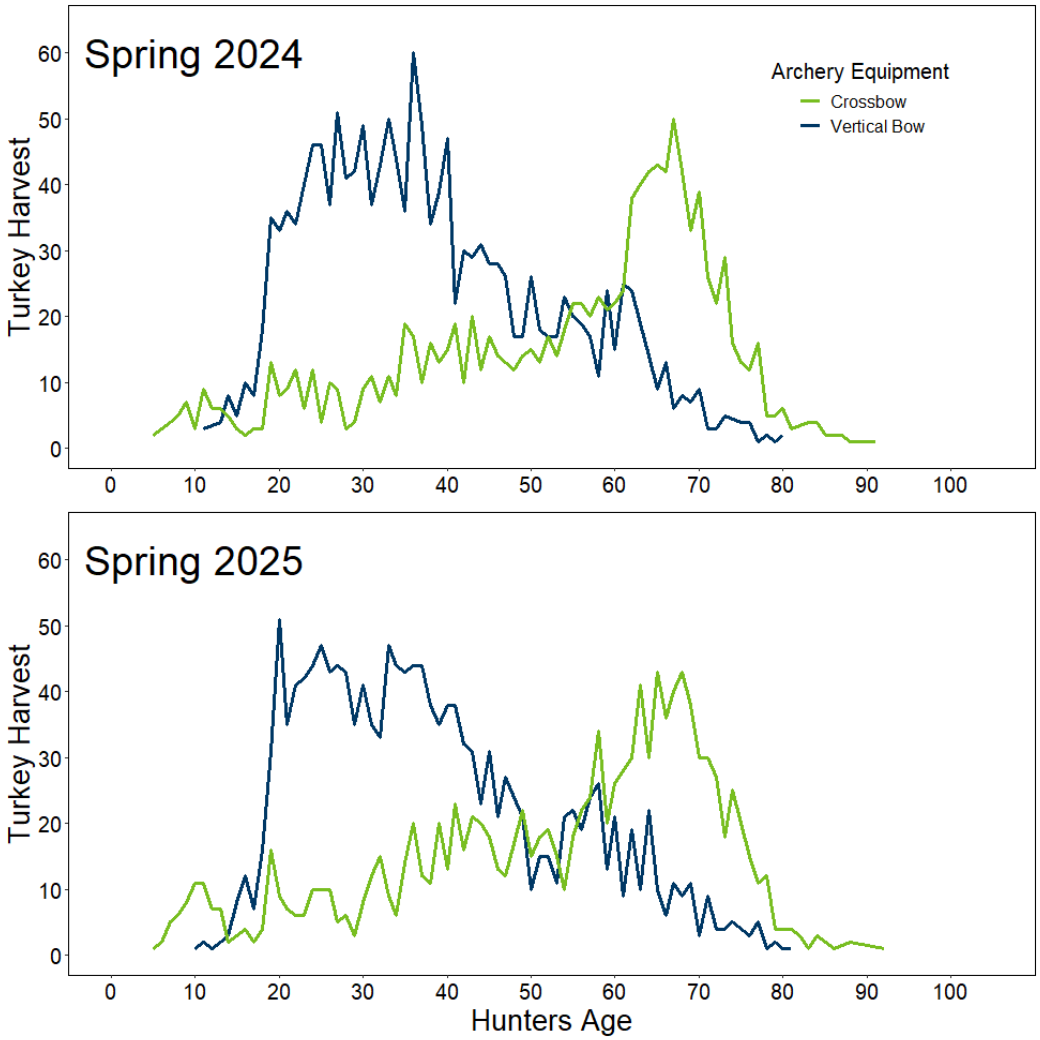

Figure 7. Turkey harvested with archery equipment by hunters age during the 2023 and 2024 spring turkey hunting season, broken down by crossbow and vertical bow.

Turkey Hunter Beliefs about Crossbows

Crossbow usage among turkey hunters is generally not contentious, but their use is viewed more negatively by firearm hunters as opposed to archers. Crossbow users were consistently the most supportive of crossbows' role in enhancing participation. Sixty-seven percent of crossbow hunters agreed that crossbows are attracting new hunters, and 62% said they are more likely to continue turkey hunting because of them. In contrast, only 56% of archery hunters and 44% of firearm hunters agreed with the recruitment statement, while agreement on the retention question dropped to 37% among archery hunters and just 20% among firearm hunters (Table 19).

When asked whether crossbows are a good way to introduce youth to turkey hunting, 58% of crossbow hunters and 52% of archery hunters agreed, while firearm hunters were less convinced, with only 38% in agreement. Similarly, the belief that hunters participated more days during the 2025 season due to crossbow availability was shared by 65% of crossbow users and 50% of archery hunters, but just 33% of firearm hunters (Table 19).

Overall, the data suggest that attitudes toward crossbows are most favorable among those who use them and least favorable among vertical bow hunters (Table 20).

Table 19. Turkey hunters' agreement or disagreement with statements about the use of crossbows by weapon type used.

	All archery[1]			Vertical only			Crossbow only			Firearms		
	Disagree	Neither	Agree	Disagree	Neither	Agree	Disagree	Neither	Agree	Disagree	Neither	Agree
Being able to use a crossbow is attracting new hunters that would not hunt turkey otherwise.	28	16	56	39	14	47	15	18	67	30	26	44
Crossbows are a good way to introduce youth to turkey hunting.	34	15	52	43	11	46	24	18	58	39	23	35
I am more likely to continue turkey hunting in the future because crossbows have been made legal to use for all hunters.	42	21	37	62	21	16	18	20	62	47	33	19
Hunters hunted more days during the 2025 Minnesota spring turkey season because they can use a crossbow.	22	28	50	29	32	39	13	22	65	25	42	33

Table 20. Turkey hunters' opinions on the impacts of crossbows on spring turkey season.

	All archery[1]			Vertical only			Crossbow only			Firearms		
	Negative	Neutral	Positive	Negative	Neutral	Positive	Negative	Neutral	Positive	Negative	Neutral	Positive
Overall impact of crossbows on spring turkey season.	20	42	38	33	58	10	4	23	73	16	76	8

Next Steps

We found no evidence that the expanded crossbow allowance negatively affected deer or turkey populations. However, we only have two years of data since the change was made which may be too early to draw final conclusions. If crossbow use continues to grow, it could lead to changes in harvest patterns, particularly in areas where deer or turkey populations are more sensitive. If negative trends emerge, the DNR can implement adjustments or additional regulations through expedited emergency rulemaking.

If the current sunset date is removed and crossbows remain legal for all deer and turkey archery hunters, DNR will continue to:

- Collect information on archery equipment used at time of harvest registration.
- Monitor archery harvest trends, particularly in sensitive areas (e.g., lottery areas).
- Examine the age and sex of deer harvested by archery equipment.
- Monitor license sales, hunter participation, and hunter demographics in archery seasons.

Creation of a free crossbow endorsement at the time of archery license purchase should be considered to more accurately track the number of hunters using crossbows versus vertical bows.

Appendix A – Deer and Turkey Season Structures

Deer Season Structures

Deer hunting seasons are prescribed in statute (97B.311) and rule. The archery deer season provides the longest hunting opportunity for Minnesota deer hunters at 104-110 days, statewide, and opens the Saturday nearest to September 16 (M.R. 6232.0600). Firearms deer season consists of varying season lengths throughout the state, including a 16-day, 9-day, two split 9-day (18-day cumulative) and 23-day options (Figure A-1). The opening day of firearms season is set in rule to occur on the Saturday nearest to November 6 (M.R. 6232.1300), and in statute to occur between November 1 and December 1 (97B.311). The muzzleloader deer season is open statewide on the Saturday nearest November 27 and is a 16-day season and is restricted in statute to occur between September 1 and December 31.

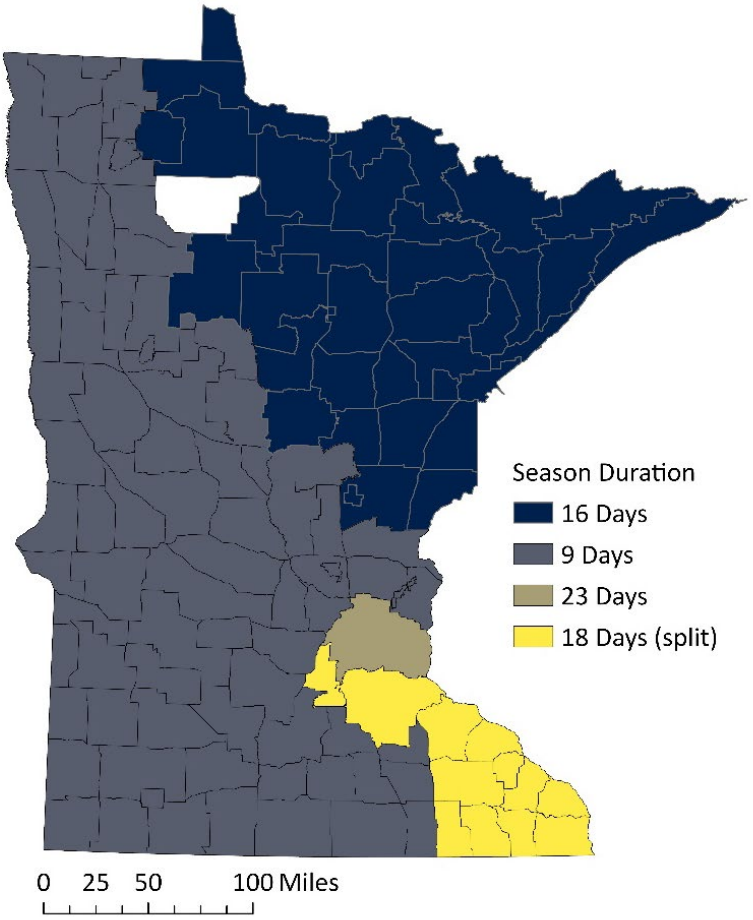

Figure A-1: Duration of firearms deer season by permit area, 2023.

Deer hunters in Minnesota must comply with deer bag limits set in each respective deer permit area. The statewide cumulative deer bag limit for deer hunters is five deer, one of which may be an antlered buck[1]. Deer permit area bag limits in Minnesota vary from 1-deer limit (bucks-only, antlerless permit lottery, and either-sex) to a 2-deer, 3-deer and 5-deer limit (Figure A-2). In bucks-only areas, only one deer may be harvested that must be an adult buck and there are no exceptions for archery deer hunters. In antlerless permit lottery areas, a set quota of either-sex permits is available for firearms or muzzleloader deer hunters that are distributed via a lottery. If hunters are not selected in the lottery they are restricted to harvesting only antlered bucks in antlerless permit lottery areas. However, archery hunters can take an either-sex deer in antlerless permit lottery areas without enrolling in the lottery. In either-sex designated areas, all hunters (archery, firearms, muzzleloader seasons) may take one deer of either sex. These bag limits are cumulative among seasons within a permit area and once the bag limit in one permit area is filled, hunters can only continue to hunt in a permit area with a different bag limit designation (if they are still within the statewide limit)[2].

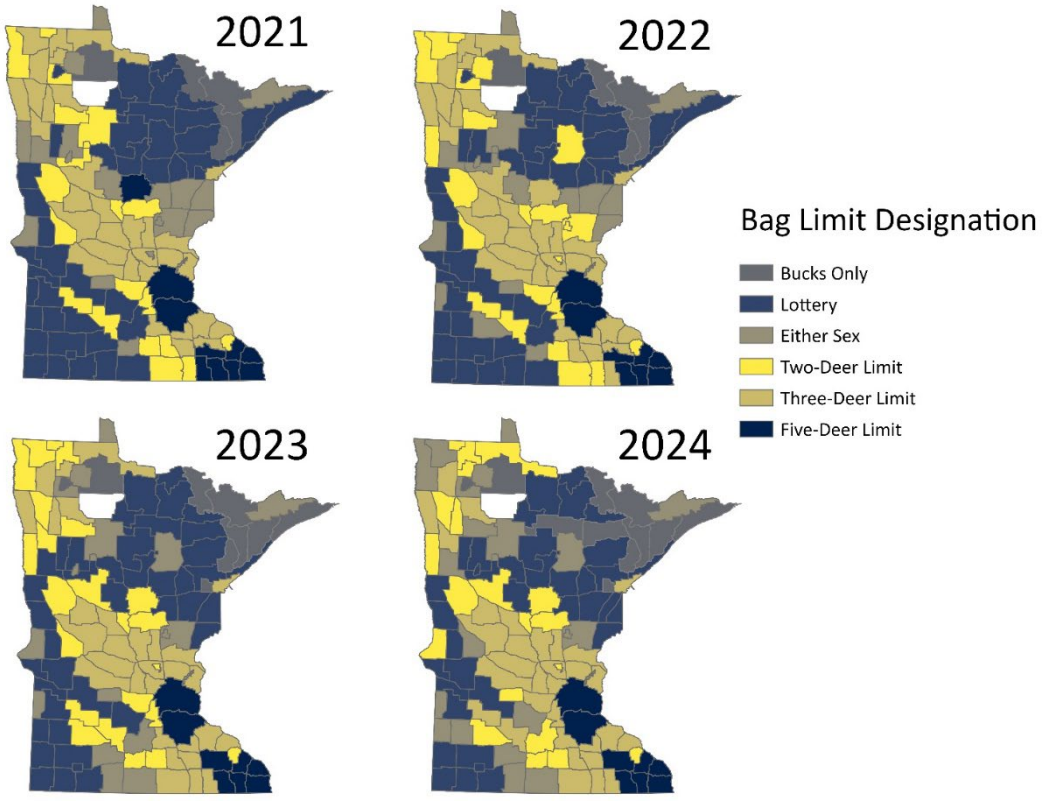

Figure A-2. Deer season bag limit designations, 2021-2024.

[1] In seven deer permit areas in southeastern Minnesota deer hunters may take up to three antlered bucks (one on each season license [archery, firearms, and muzzleloader]) for disease management purposes.

[2] An early-antlerless season and late CWD season also provide additional harvest opportunities in select permit areas that do not apply to the statewide or permit area bag limits.

Turkey Season Structures

The fall turkey season opens on the Saturday nearest October 1 for 30 days (M.R. 6236.0700). The bag limit during the fall season is one bird of any age or sex. Legal firearms or archery equipment may be used during this season with the fall turkey license. The spring turkey season opens the Wednesday nearest April 15th (M.R. 6236.0600). The season consists of five consecutive 7-day time periods and a sixth time period that begins after the fifth time period and runs until May 31st. The bag limit during the spring season is one bearded bird. Firearm license holders may choose any single time period to hunt and may also hunt the sixth time period if they are not successful during their chosen time period. Beginning in 2025, firearm hunters may use any legal weapon including vertical bows and crossbows; previously only firearms were allowed. Archery permit holders may hunt the entirety of the season and can only use vertical bows and crossbows.

Appendix B – Supplementary Table: Statewide Deer Harvest by Age/Sex Class and Weapon Type

Statewide deer harvest by age/sex class and weapon type. The 10-year, 5-year, and 2-year averages (2013–2022, 2018–2022, 2021–2022) reflect harvests prior to the legislative change allowing all hunters to use crossbows during the archery season. Annual totals are shown for 2023 and 2024, after the regulation change. Data does not include special hunts.

		Adult Male	Fawn Male	Adult Female	Fawn Female	Total
Firearms	10-year average (2013-2022)	80,323	11,252	40,722	8,403	140,700
	5-year average (2018-2022)	79,102	11,127	42,428	8,513	141,171
	2-year average (2021-2022)	75,896	9,975	37,590	7,504	130,963
	2023	69,547	8,641	32,385	6,569	117,142
	2024	80,931	8,009	29,417	6,105	124,462
Archery	10-year average (2013-2022)	9,298	1,481	9,383	1,157	21,319
	5-year average (2018-2022)	10,146	1,580	10,708	1,250	23,684
	2-year average (2021-2022)	9,866	1,556	10,799	1,254	23,475
	2023	10,044	1,468	10,355	1,175	23,042
	2024	13,016	1,638	11,088	1,386	27,128
Muzzleloader	10-year average (2013-2022)	3,218	711	3,981	560	8,470
	5-year average (2018-2022)	3,606	769	4,690	634	9,699
	2-year average (2021-2022)	3,959	802	4,967	656	10,383
	2023	3,244	626	3,785	463	8,118
	2024	3,263	597	4,080	540	8,480
Total Harvest	10-year average (2013-2022)	92,839	13,444	54,085	10,120	170,489
	5-year average (2018-2022)	92,854	13,475	57,827	10,397	174,554
	2-year average (2021-2022)	89,720	12332	53,355	9,412	164,820
	2023	82,835	10,735	46,525	8,207	148,302
	2024	97,210	10,244	44,585	8,031	160,070