

The 2021 deer season: Survey of Minnesota deer hunters' opinions and activities – Final report

Summer 2022



A cooperative study conducted by the Minnesota Cooperative Fish and Wildlife Research Unit for the Minnesota Department of Natural Resources



Acknowledgements

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Purpose

White-tailed deer (*Odocoileus virginianus*) are important to Minnesotans, and many enjoy deer hunting. Just over 400,000 Minnesotans (aged 18 and over) purchased a deer hunting license in 2021 – or roughly 9% of the state population. Deer hunting connects people to nature and loved ones, and generates myriad other social, psychological, and economic benefits for participants and rural communities alike (Arnett & Southwick, 2015). This is in addition to other non-consumptive benefits deer generate through opportunities for viewing and appreciation among others. Deer also impose economic and ecological costs on landowners, motorists, and other stakeholders.

The Minnesota Department of Natural Resources (MNDNR) is tasked with managing deer populations to ensure the continued flow of benefits people derive from them, while minimizing the potential costs that stem from living with deer. MNDNR recognizes the need to engage stakeholders to help provide direction for deer management, and to attempt to optimize the flows of benefits and costs that deer generate.

The 2019 Minnesota Deer Management Plan articulates numerous goals and objectives for white-tailed deer management, including for engaging stakeholders. Deer hunters are one of many important stakeholders in deer management, and the Minnesota deer management plan makes provision for the periodic assessment of deer hunters' satisfaction with deer hunting, preferences for potential changes to deer management, and trust in the MNDNR, among other topics. This report contains the results of one such investigation in support of Minnesota deer management.

We surveyed 5,500 adult Minnesota resident deer hunters, who possessed a valid deer hunting license for the 2021 seasons. We surveyed both firearms and archery license holders and present estimates of the attitudes and behaviors of both in this report. Data collection for this study occurred in the winter and spring of 2022. Topics assessed included hunters':

- 1) Pattern of deer hunting participation;
- 2) Satisfaction with their deer hunting experience;
- 3) Preferences for changes to deer hunting seasons and regulations;
- 4) Trust in the MNDNR;
- 5) Attitudes toward MNDNR deer management;
- 6) Preferences for public engagement and communication, and;
- 7) Involvement in deer hunting.

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Executive summary

The results presented in the executive summary provide a highlight of the broader study. For more details on the results, please consult the full study report to follow.

Data collection and response rate

We sampled individuals that possessed a 2021 deer hunting license from the Minnesota Electronic Licensing System in two strata; 1) a simple random sample of adult firearm deer hunters ($n = 5,000$), and 2) a simple random sample of adults who possessed an archery license but not a firearms license ($n = 500$). This design allowed us to make estimates for firearm and archery deer hunters' responses to survey questions. Estimates for these groups are not mutually exclusive. The firearms sample contains archery deer hunters. Reported values reflect the average of the populations of those deer hunters with a firearms license, and an archery license respectively.

We used a mixed mode survey design. Participants received 3 solicitations to complete the questionnaire. The first two solicitations asked participants to go to a website and complete the questionnaire online. In the final solicitation, non-respondents received a paper copy of the questionnaire and a postage-paid business reply envelope.

Data collection efforts resulted in 1,662 valid responses, for a 31% response rate. We weighted the data according to the distribution of age within strata relative to the population from which the sample originated to make population estimates and account for potential demographic biases introduced from the collection process.

Satisfaction with deer hunting

Hunters reported their satisfaction with their overall deer hunting experience, specific elements of their deer hunting experience, and their perceptions of crowding during the 2021 deer season. Crowding refers to a hunters' perception of the number of other people encountered while in the field.

- Roughly 75% of firearms and archery hunters reported feeling either slightly, moderately, or very satisfied with their overall deer hunting experience in 2021 (Figure 1).
- Both archery and firearm deer hunters were, on average, satisfied with deer hunting regulations, the total number of deer seen, and the number of antlerless deer seen during the 2021 deer season.
- A majority of archery and firearm deer hunters were dissatisfied with the number and quality of bucks seen during the 2021 deer season.
- Respondents reported experiencing very little feelings of crowding while hunting during the 2021 deer season.

Figure 1. Firearm and archery deer hunters' overall satisfaction or dissatisfaction with their 2021 deer hunting experience in Minnesota



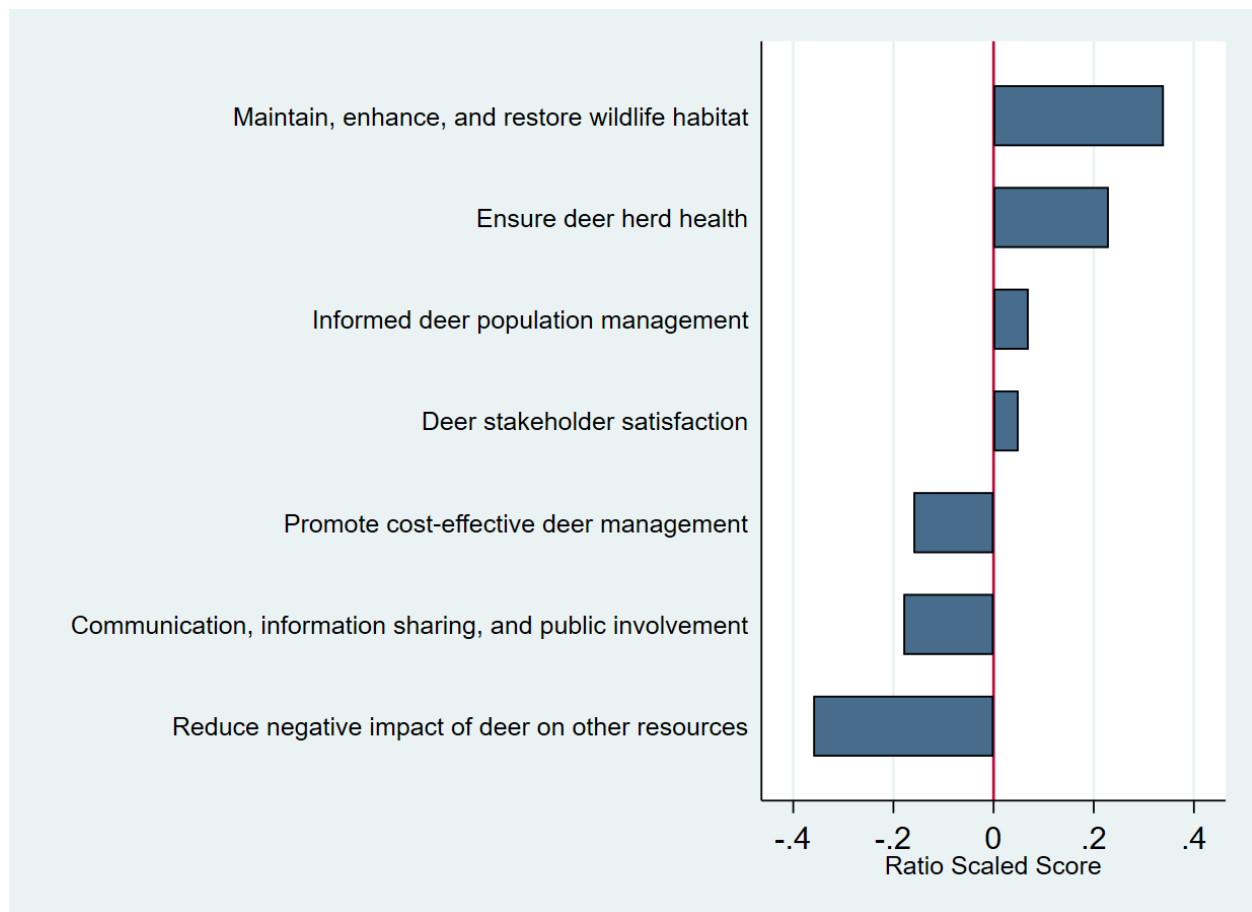
**Each colored box represents the percent of respondents selecting that category, and each row sums to 100%. The red line in the center is for reference at 50%.*

Priorities for deer management

The Minnesota Deer Management Plan establishes goals for deer management in the state. The agency possess limited funds and labor to accomplish these goals. Different individuals and stakeholder groups may prioritize some goals over others. Understanding hunters' priorities for deer management goals can inform the allocation of scarce human and fiscal capital toward those goals in a way that meets their needs, in conjunction with the needs of other stakeholders. We used a Best-Worst Scaling (BWS) choice experiment to elicit hunters' priorities for deer management goals articulated in the Minnesota Deer Management Plan. The exercise asked respondents to make multiple selections of what they believe are the most and least important goals among randomized subsets of the goals in the plan. From the results of this experiment, we determined the relative ranking of hunters' priorities for deer plan goals. Figure 2 is a depiction of estimates of hunters' priorities stemming from the BWS experiment. The goals are ordered from top to bottom by importance.

- Hunters placed the highest priority on “Maintaining, enhancing, and restoring wildlife habitat” and “Ensuring deer herd health” as goals for MNDNR deer management.
- Hunters placed the least priority on “Communication, information sharing, and public involvement,” and “Reducing the negative impact deer have on other resources” as goals for MNDNR deer management.

Figure 2. Minnesota deer hunters' priorities for deer management from best-worst scaling choice experiment



*Ratio scaled score is derived from the aggregate numbers of best and worst selections made by respondents in the BWS experiment, and scales from -1 to +1. Higher values reflect a higher average importance of that attribute to respondents.

Support for hypothetical deer hunting regulation changes

We asked hunters about their support or opposition to several potential changes to deer hunting season dates and regulations including; 1) delaying the firearms season A opening day, 2) increasing the allowable harvest of antlered deer, and 3) banning recreational deer feeding and attractants statewide.

Delaying the firearm season A opening day

The current opening day of the firearm season A is the Saturday nearest November 6th. We asked hunters to evaluate options to delay opening day to the Saturday nearest November 13th (one week), and to the Saturday nearest November 20th (two weeks.) We estimated hunters' attitudes toward these proposals by deer permit area series (100 series, 200 series, and 300 series). We included disease management zone DPAs with the permit area series before they were designated disease management, as deer permit area series' are arranged biogeographically. Figures 3a, 3b, and 3c, contain estimates of hunters' attitudes toward delaying the firearm season A opening day by one week in the 100, 200, and 300 series deer permit areas respectively. Figures 4a, 4b, and 4c contain estimates of firearm and archery deer hunters' attitude toward delaying the firearm season A opening day by two weeks in the 100, 200, and 300 series deer permit areas respectively.

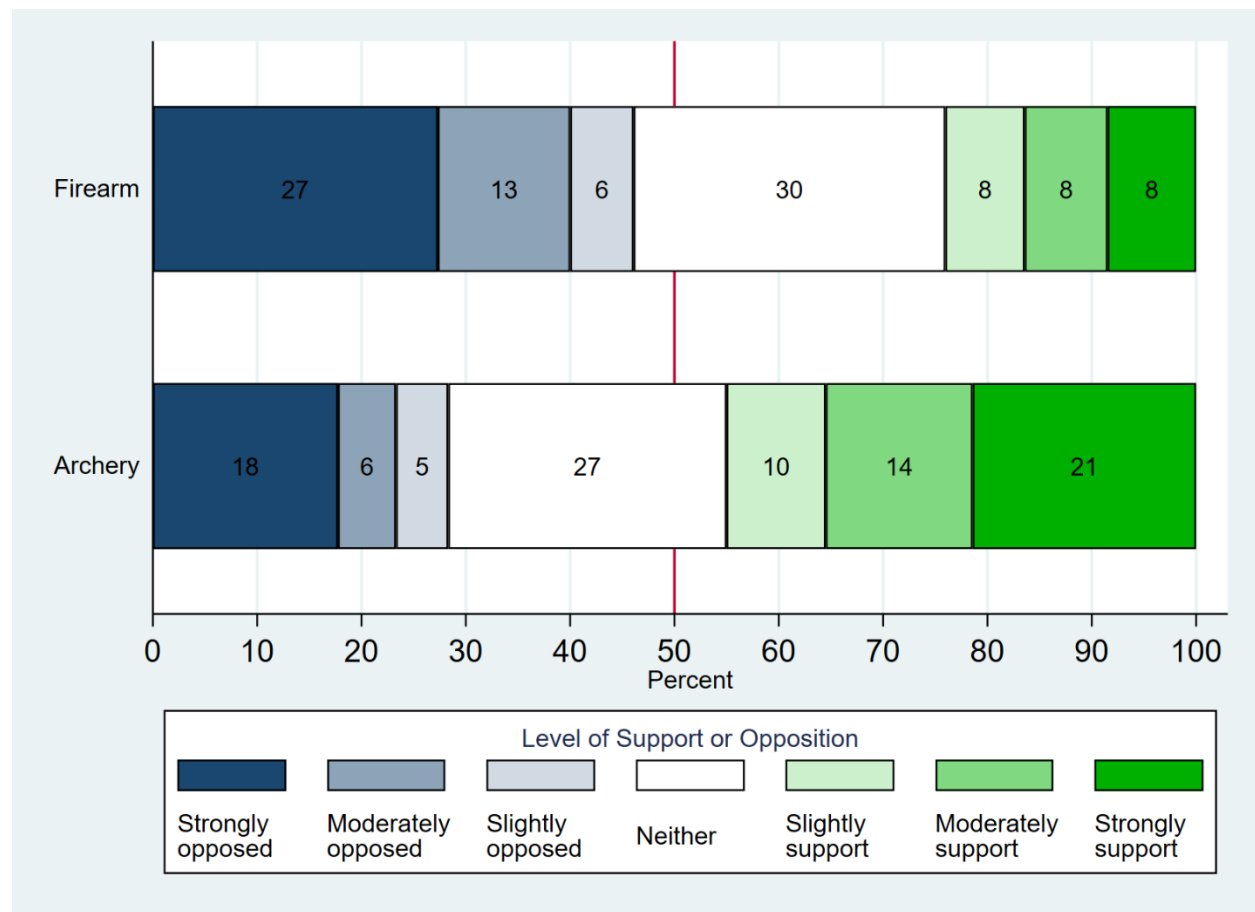
Delaying the firearm season A opening day until Saturday nearest November 13th

- Between 22% and 25% of firearms deer hunters either slightly, moderately, or strongly supported delaying the firearm season A opening day by one week. Conversely, between 39% and 46% of firearm deer hunters either slightly, moderately, or strongly opposed the change depending on the permit area series.
- A larger proportion of archery than firearms hunters supported delaying the firearm season A opening day by one week. Roughly 35%, 47%, and 43% of archery hunters supported delaying the firearm season A opening day by one week, in the 100, 200, and 300 series permit areas respectively.

Delaying the firearm season A opening day until Saturday nearest November 20th

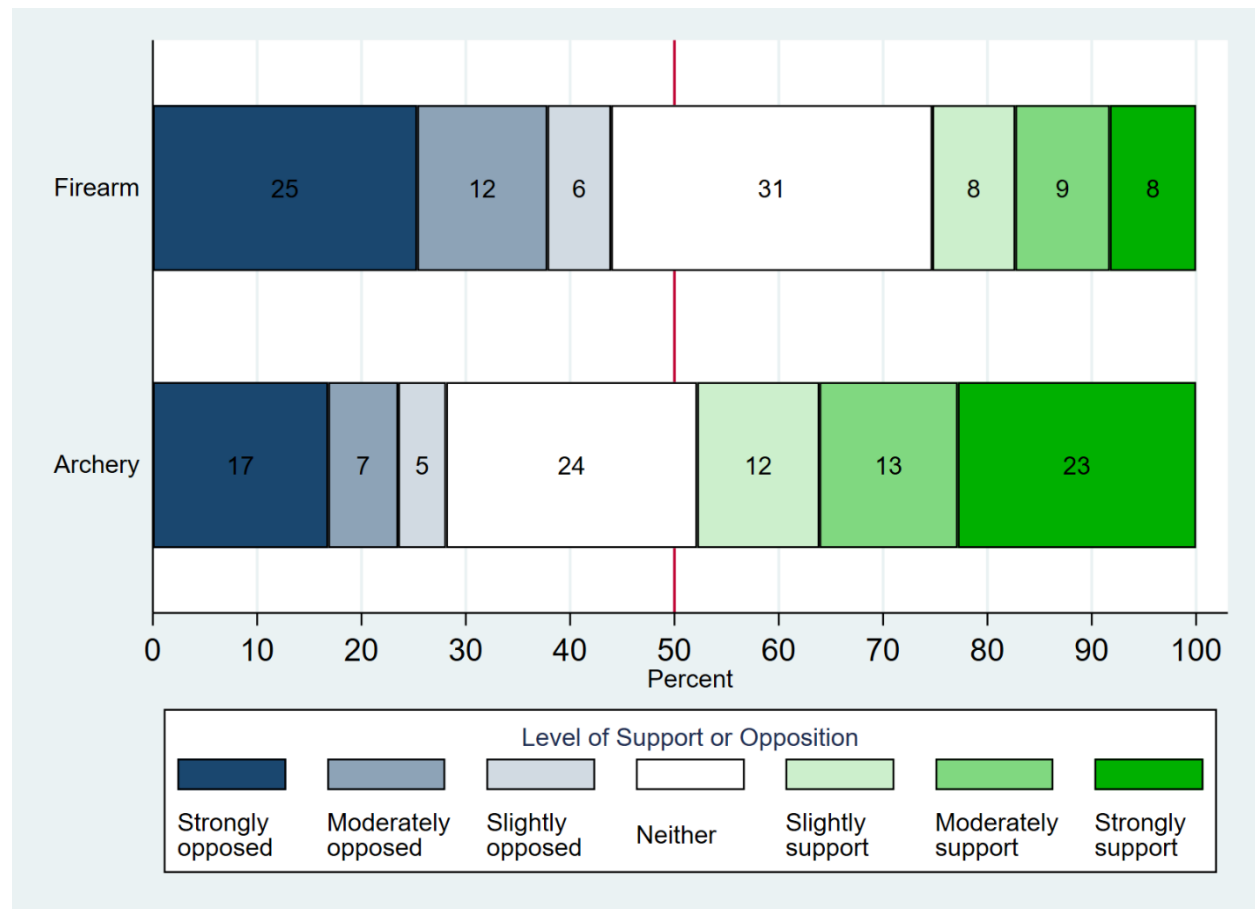
- Approximately 16% of 100 and 200 series firearms hunters, and 14% of 300 series hunters either slightly, moderately, or strongly supported delaying the firearm season A opener by two weeks. Majorities of firearms deer hunters opposed the change regardless of series.
- A larger proportion of archery than firearms hunters supported delaying the firearm season A opening day by two weeks. Approximately 36%, 38%, and 37% of archery license holders supported delaying the firearm season A opening day by two weeks in the 100, 200, and 300 series deer permit areas respectively.

Figure 3a. Firearm and archery deer hunters' support or opposition to delaying the firearm season A opening day to the Saturday nearest November 13th in the 100 series deer permit areas



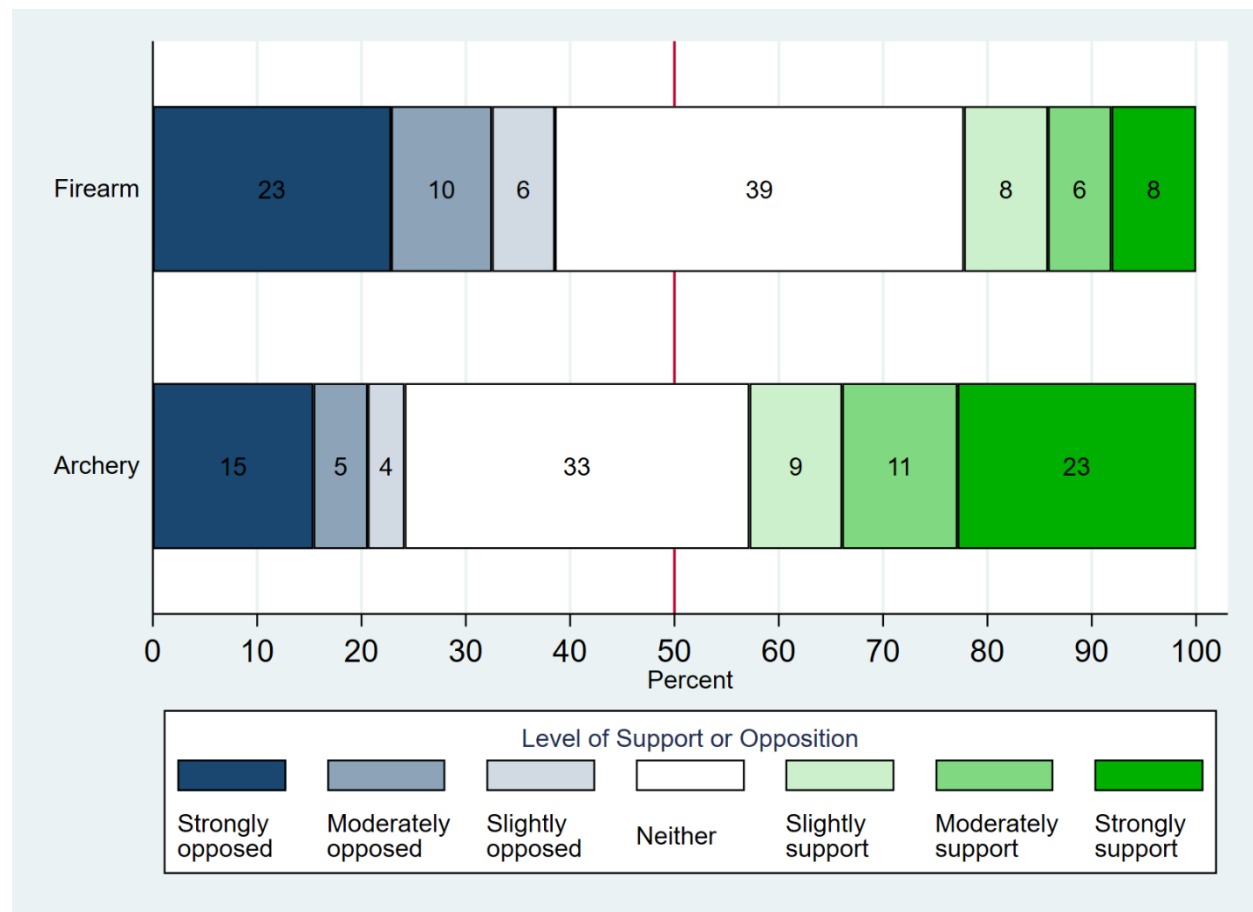
**Each colored box represents the percent of respondents selecting that category, and each row sums to 100%. The red line in the center is for reference at 50%.*

Figure 3b. Firearm and archery deer hunters' support or opposition to delaying the firearm season A opening day to the Saturday nearest November 13th in the 200 series deer permit areas



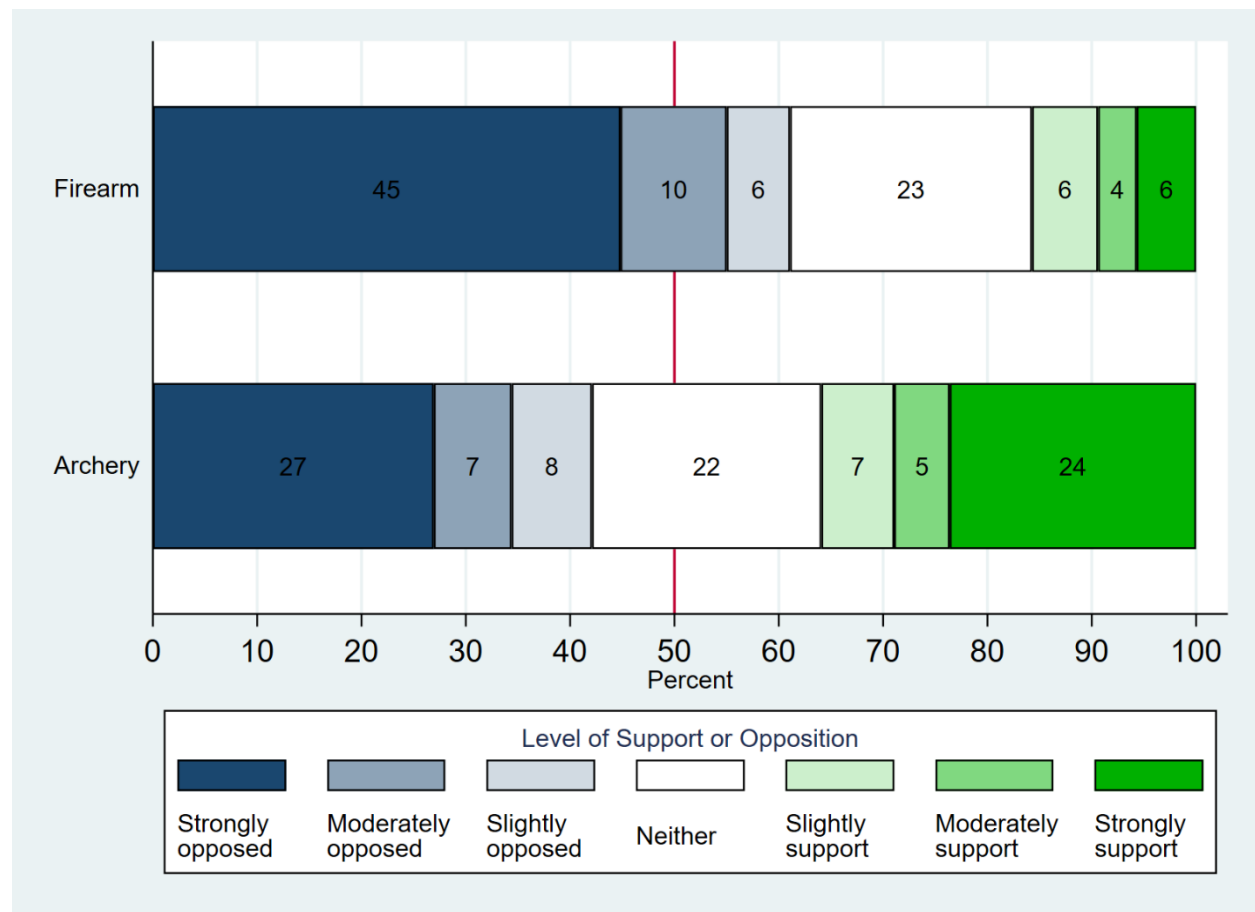
**Each colored box represents the percent of respondents selecting that category, and each row sums to 100%. The red line in the center is for reference at 50%.*

Figure 3c. Firearm and archery deer hunters' support or opposition to delaying the firearm season A opening day to the Saturday nearest November 13th in the 300 series deer permit areas



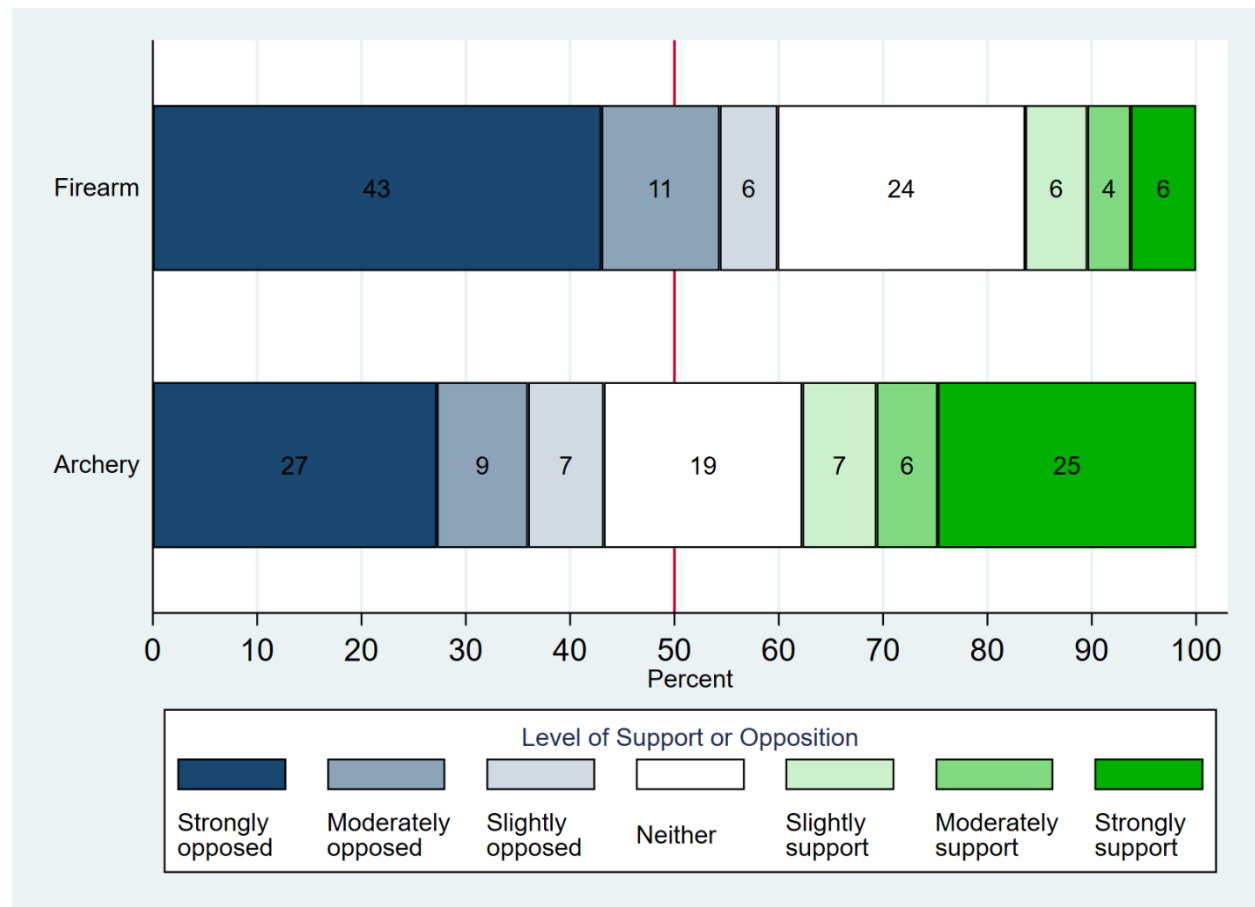
**Each colored box represents the percent of respondents selecting that category, and each row sums to 100%. The red line in the center is for reference at 50%.*

Figure 4a. Firearm and archery deer hunters' support or opposition to delaying the firearm season A opening day to the Saturday nearest November 20th in the 100 series deer permit areas



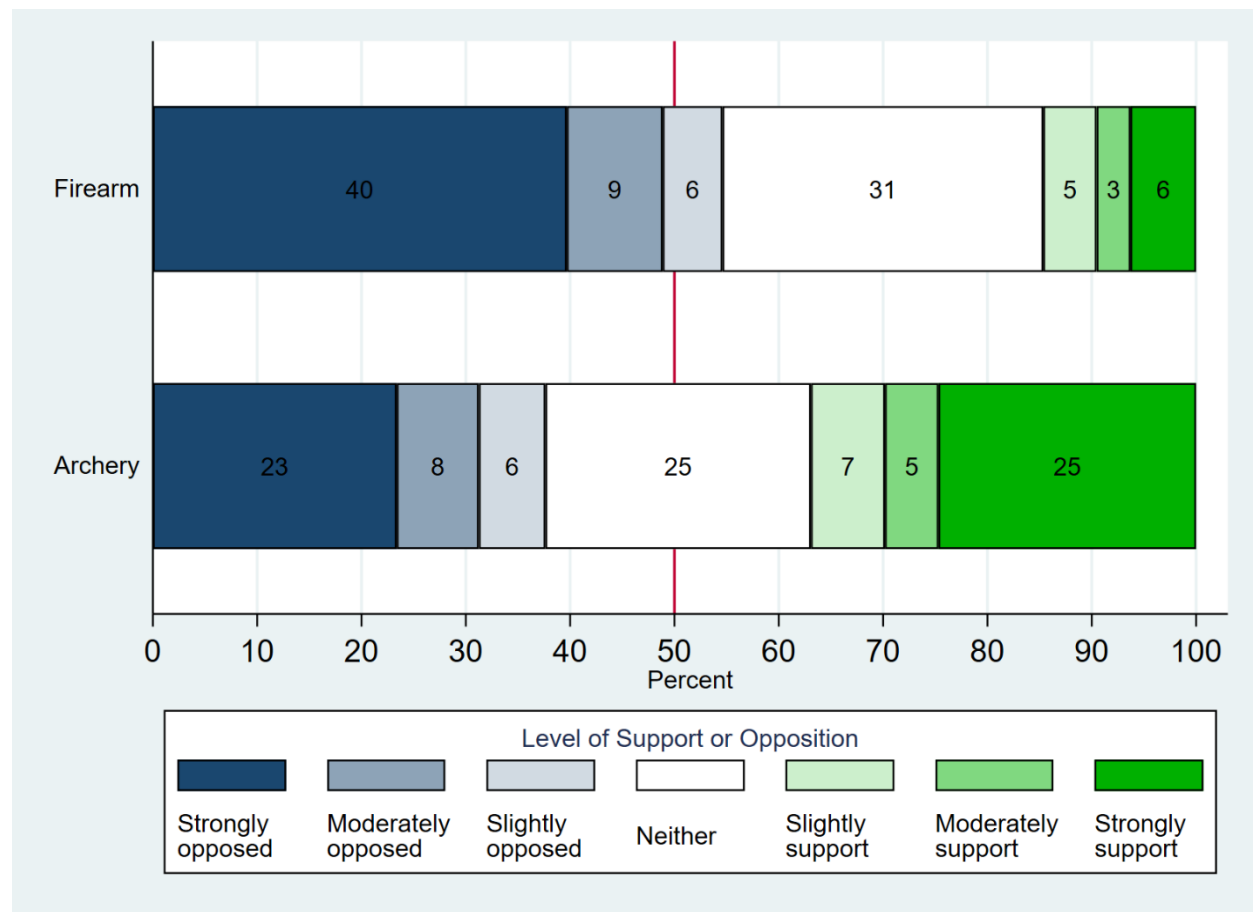
**Each colored box represents the percent of respondents selecting that category, and each row sums to 100%. The red line in the center is for reference at 50%.*

Figure 4b. Firearm and archery deer hunters' support or opposition to delaying the firearm season A opening day to the Saturday nearest November 20th in the 200 series deer permit areas



**Each colored box represents the percent of respondents selecting that category, and each row sums to 100%. The red line in the center is for reference at 50%.*

Figure 4c. Firearm and archery deer hunters' support or opposition to delaying the firearm season A opening day to the Saturday nearest November 20th in the 300 series deer permit areas



**Each colored box represents the percent of respondents selecting that category, and each row sums to 100%. The red line in the center is for reference at 50%.*

Increased opportunity for harvest of antlered deer

In Minnesota, hunters may only harvest one antlered deer per year, except in chronic wasting disease management zones. We asked hunters to evaluate proposed changes to regulations that would allow hunters to take a) two antlered deer per year, but only one per season, and b) to take up to two antlered deer per year in a deer permit area that is above its population density goal, if they first harvest an antlerless deer in that deer permit area.

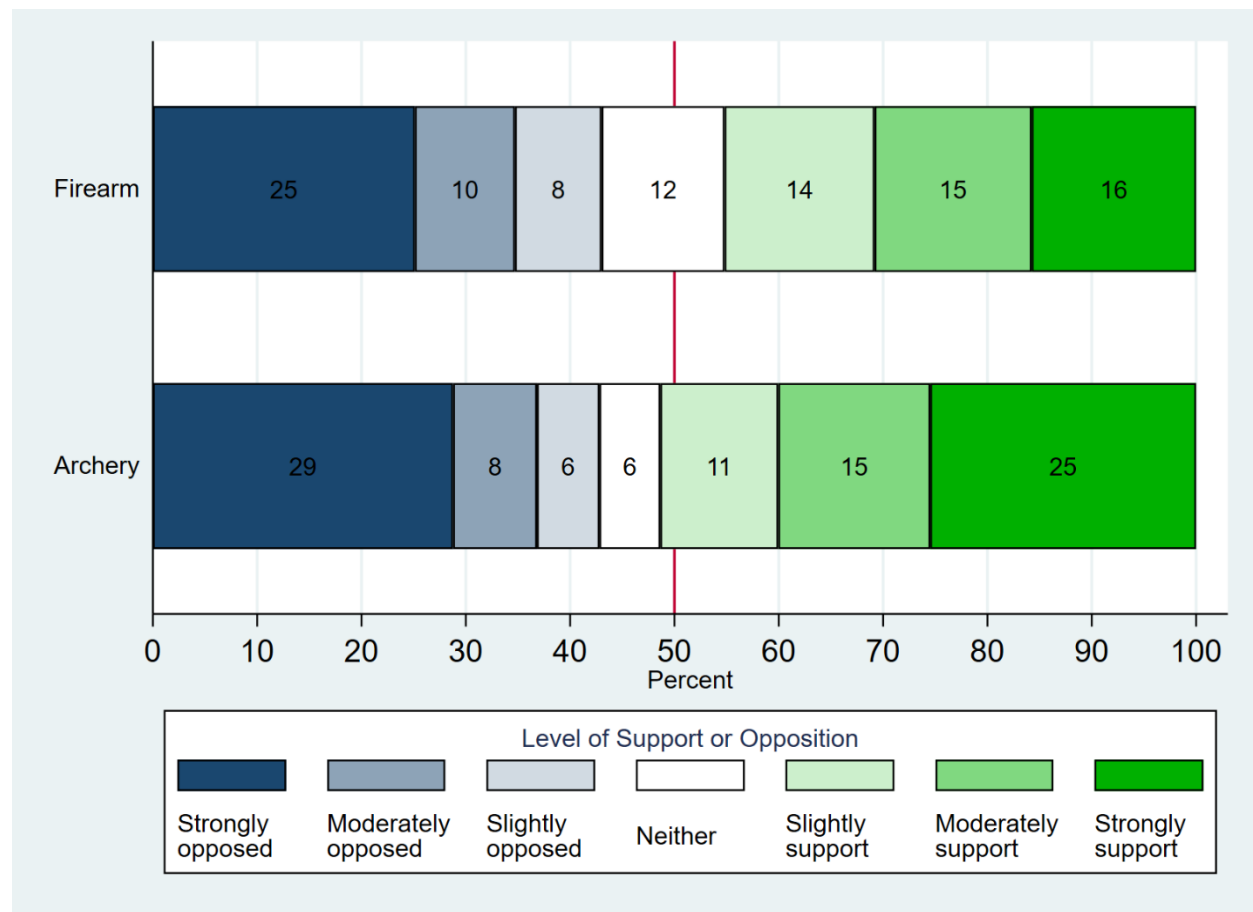
Support for allowing hunters to harvest two antlered bucks per year, but one per license

- Approximately 45% of firearms deer hunters supported allowing hunters to take two bucks per season, but only one per license, while 43% opposed the hypothetical change.
- Roughly half, (51%) of archery license holders supported allowing hunters to take two bucks per year, but only one per license, while 42% opposed the bag limit change.

Support for awarding hunters an additional buck tag in deer permit areas that are above goal if they first harvest an antlerless deer in that deer permit area

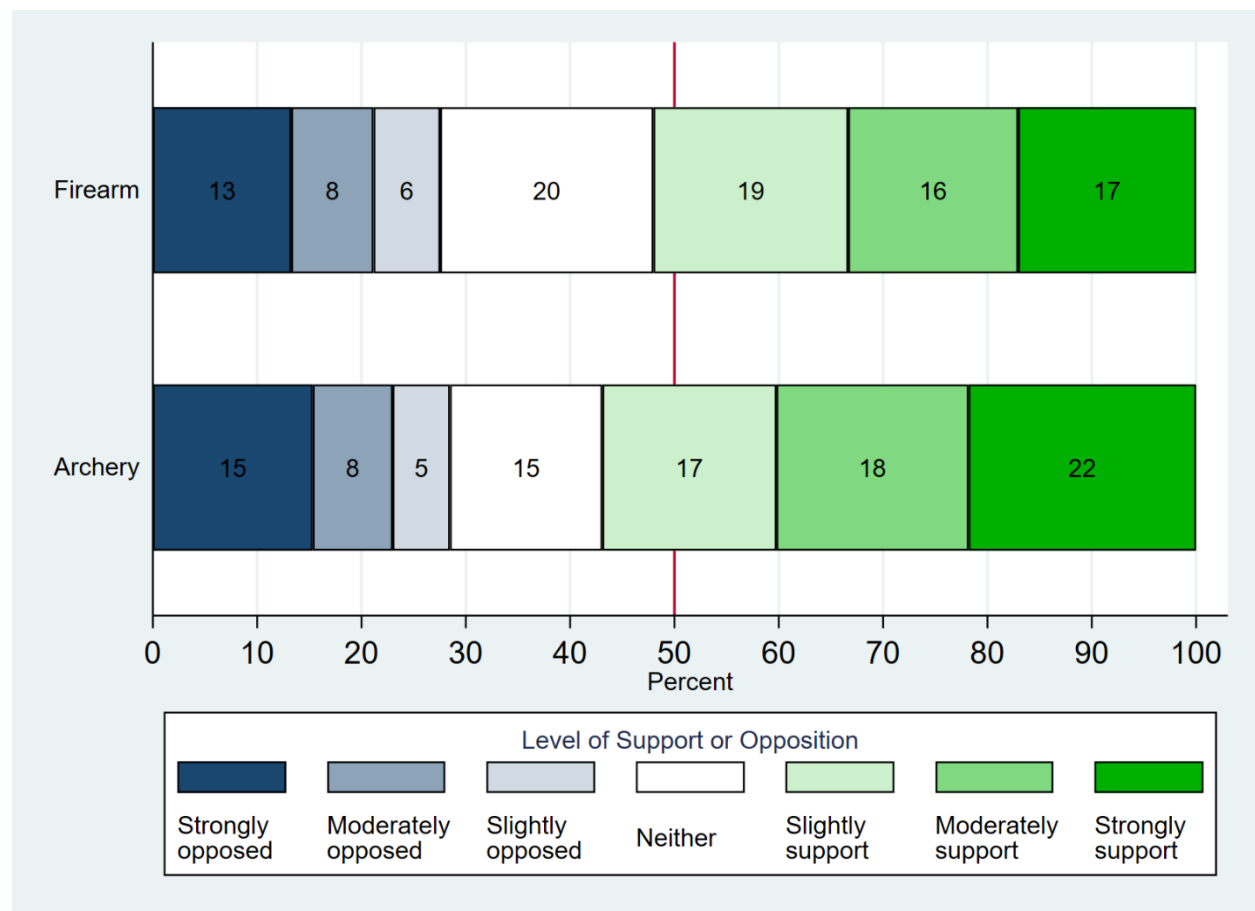
- Approximately 52% of firearms hunters supported allowing the harvest of a second buck in an over goal deer permit area if the hunter first took an antlerless deer, while 27% opposed the change.
- Approximately 57% of archery license holders supported the change, while 28% did not.

Figure 4a. Firearm and archery deer hunters' support or opposition for allowing hunters to harvest two antlered bucks per year, but one per license



**Each colored box represents the percent of respondents selecting that category, and each row sums to 100%. The red line in the center is for reference at 50%.*

Figure 4b. Firearm and archery deer hunters' support or opposition to awarding hunters an additional buck tag in a deer permit area that is over the population goal if they first harvest an antlerless deer in that deer permit area



**Each colored box represents the percent of respondents selecting that category, and each row sums to 100%. The red line in the center is for reference at 50%.*

Statewide bans on recreational deer feeding and attractants

It is lawful in Minnesota to feed deer supplemental food like corn or minerals (i.e., recreational deer feeding), unless while hunting or prohibited in specific locations over concerns about wildlife diseases. Hunters may also use products like deer urine to attract (i.e., attractants) deer while hunting. Feeding deer supplemental food, and using attractants while hunting, have the potential to increase the spread of chronic wasting disease by congregating deer in specific locations where they may exchange saliva containing infectious prion. Recreational deer feeding and attractants are not permitted in disease management zones, which now cover large parts of the state. We asked hunters to evaluate potential regulations to ban recreational deer feeding, and the use of attractants in Minnesota statewide.

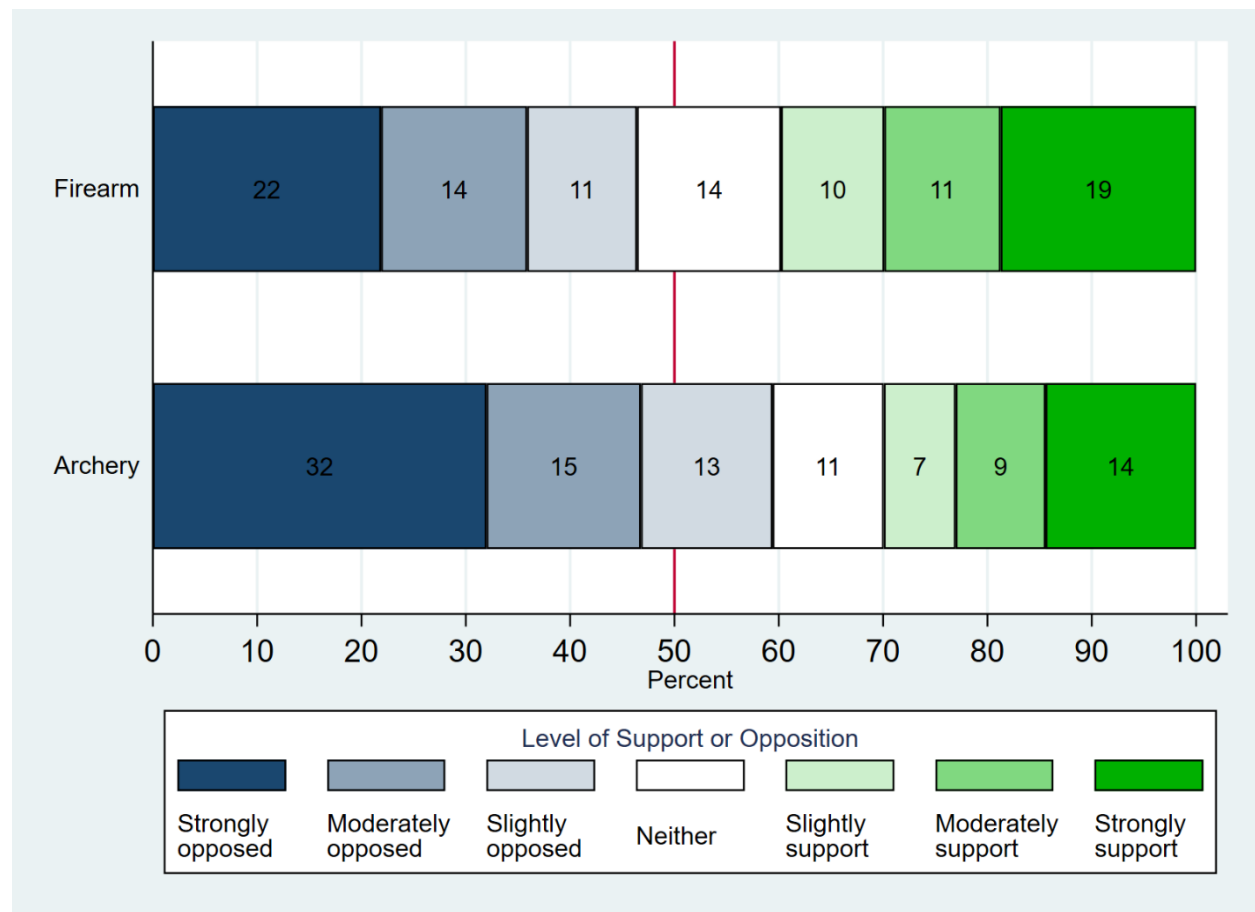
Support for a statewide ban on deer feeding in Minnesota

- Approximately 40% of firearms hunters either slightly, moderately, or strongly supported banning recreational deer feeding statewide, while 47% opposed the proposed change.
- Approximately 30% of archery license holders either slightly, moderately, or strongly supported a statewide ban on recreational deer feeding, while 58% of archery license holders opposed it.

Support for a statewide ban on deer attractants

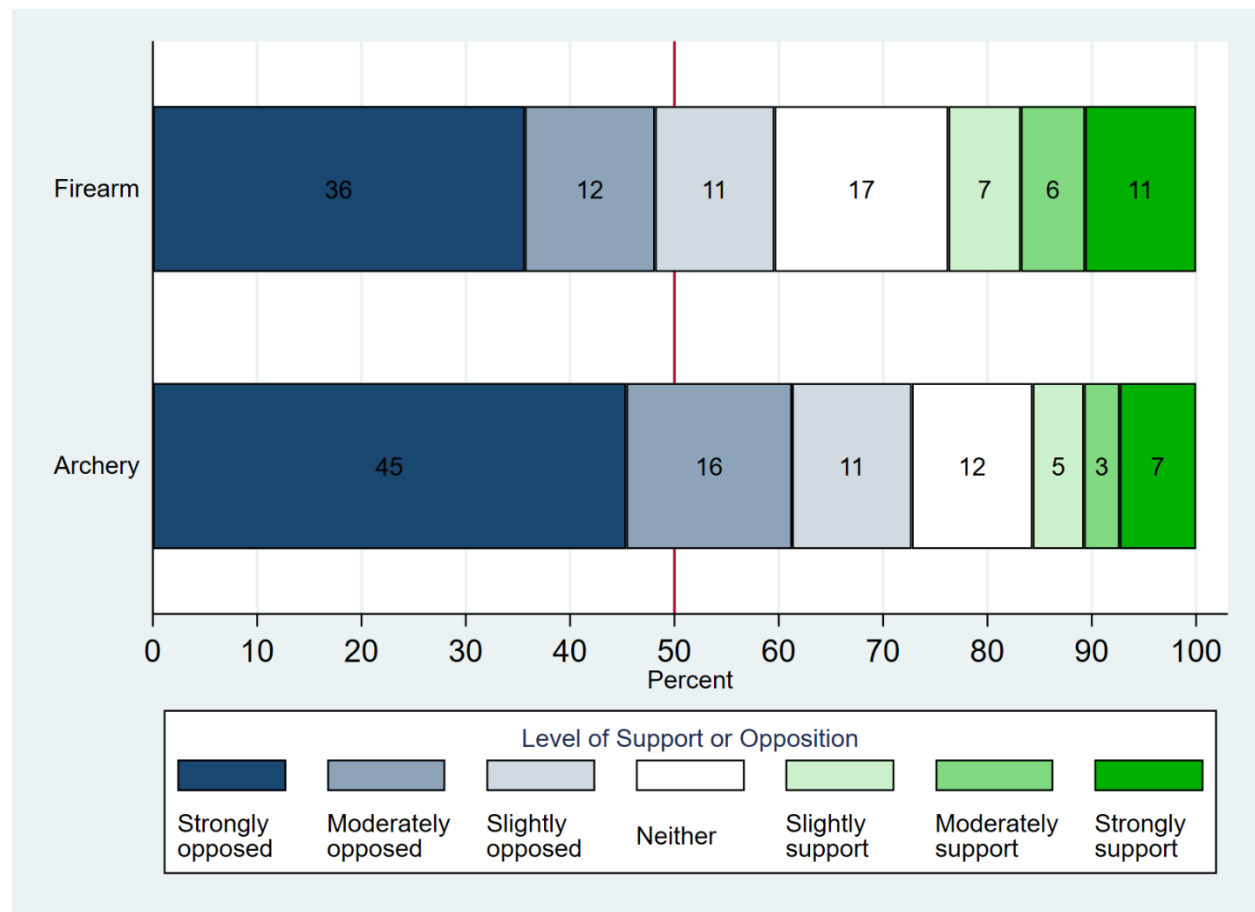
- Approximately 24% of firearms hunters either slightly, moderately, or strongly supported a statewide ban on attractants, while 59% opposed the proposed change.
- Approximately 15% of archery license holders either slightly, moderately, or strongly supported a statewide ban on attractants, while 72% opposed the proposed change.

Figure 5a. Firearm and archery deer hunters' support or opposition to a statewide ban on recreational deer feeding in Minnesota



**Each colored box represents the percent of respondents selecting that category, and each row sums to 100%. The red line in the center is for reference at 50%.*

Figure 5b. Firearm and archery deer hunters' support or opposition to a statewide ban on deer attractants in Minnesota



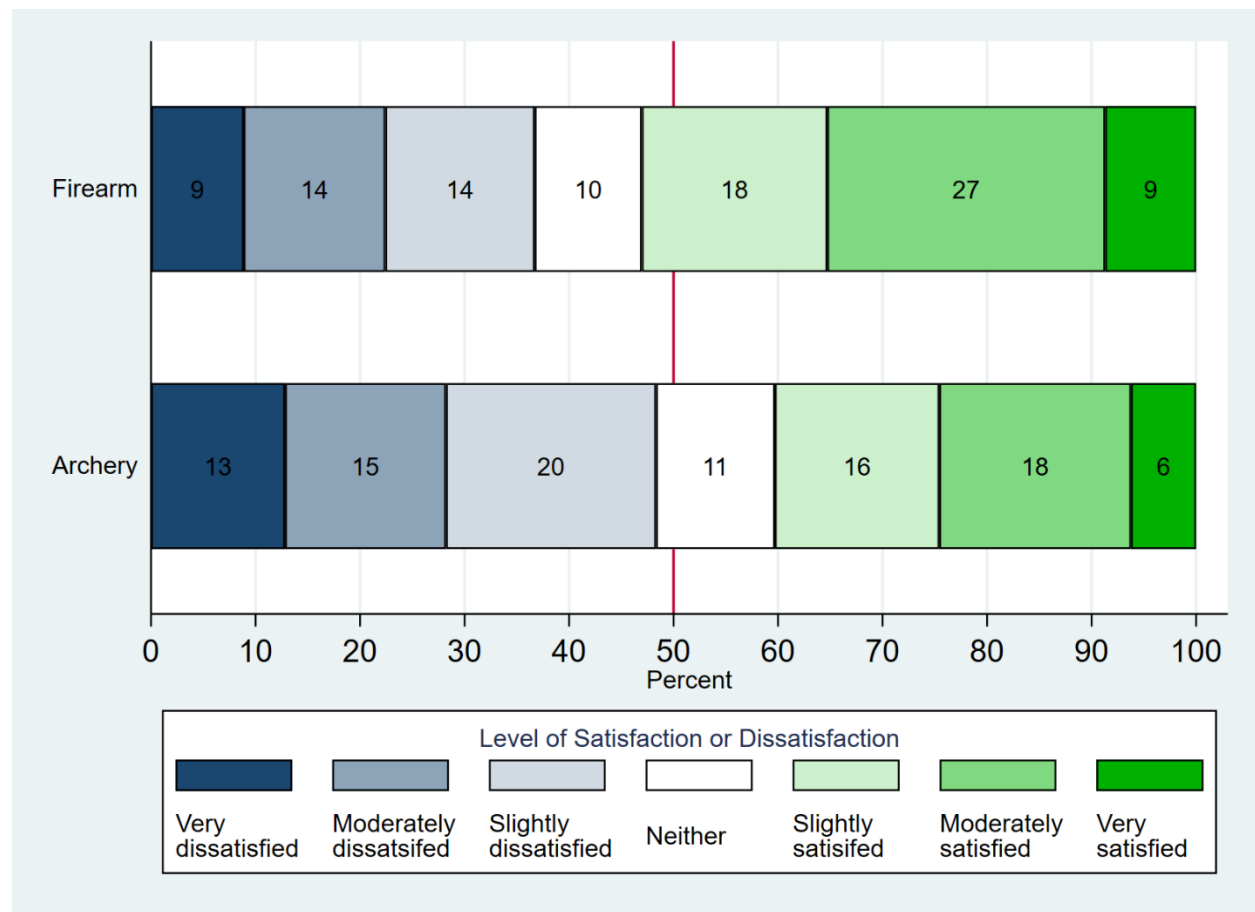
**Each colored box represents the percent of respondents selecting that category, and each row sums to 100%. The red line in the center is for reference at 50%.*

Overall satisfaction with MNDNR deer management, and trust in the MNDNR

We asked hunters about their overall satisfaction with MNDNR's deer management (Figure 6), and their trust in the MNDNR. We measured trust in the MNDNR with 8 items, and hunters' reported their agreement with statements about their beliefs about the MNDNR. The Minnesota deer plan establishes a goal to increase trust among deer stakeholders and to maintain a value greater than neutral on a bipolar measurement scale. Items measuring trust in the MNDNR are located in tables 5-1 through 5-8 of this report. Figure 7 contains an estimate of the average response to items measuring trust in the MNDNR for firearm and archery deer hunters.

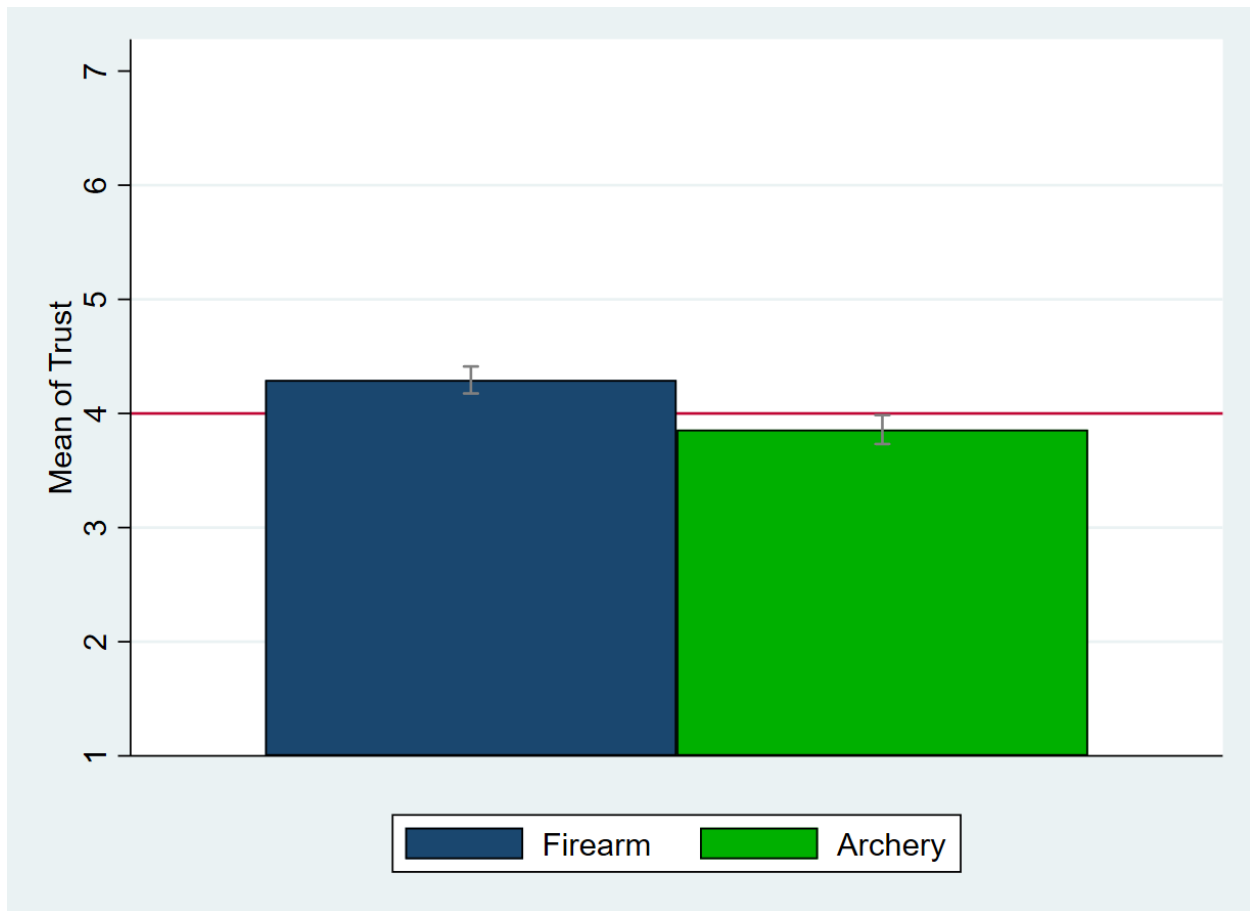
- Slightly more than half (54%) of firearms deer hunters reported that they were either slightly, moderately, or very satisfied with MNDNR deer management, while 37% were either slightly, moderately, or very dissatisfied.
- Roughly 40% of archery deer hunters reported feeling either slightly, moderately, or very satisfied with MNDNR deer management, while close to half (48%) were dissatisfied.
- Firearm hunters, on average, reported slight agreement with items measuring trust in the MNDNR. Archery hunters, on average, reported slight disagreement with items measuring trust in the MNDNR.

Figure 6. Firearm and archery deer hunters' overall satisfaction with Minnesota DNR deer management



**Each colored box represents the percent of respondents selecting that category, and each row sums to 100%. The red line in the center is for reference at 50%.*

Figure 7. Firearm and archery deer hunters' trust in the MNDNR



**Mean of scale measuring trust in the MNDNR. Measured on a bi-polar scale where 1=strongly disagree, 2=moderately disagree, 3=slightly disagree, 4=neither, 5=slightly agree, 6=moderately agree, and 7=strongly agree. The red line represents a neutral value.*

Introduction

Data collection

We drew a stratified random sample of 5,500 deer hunters from the MNDNR electronic licensing system to participate in this study. The sample was made up of individuals that had purchased a deer hunting license in 2021. This included 5,000 individuals that had purchased a firearm deer hunting license and 500 individuals that had purchased only an archery license (and did not hunt during a firearm, muzzleloader, or any special firearm season). We surveyed participants using a mixed mode design with three solicitations. We sent all study participants a letter describing the study and asking them to complete a questionnaire online. The online questionnaire was created on the Qualtrics platform. Non-respondents received a second letter inviting them to complete the questionnaire online, roughly two weeks after the first letter. In the third and final solicitation, we sent non-respondents a letter describing the study, a paper copy of the questionnaire, and a postage paid self-addressed reply envelope.

Data entry and analysis

Data were keypunched and data analyses were performed in program R (R Core Team, 2020). We made weighted estimates using the *survey* package (Lumley, 2020). Basic descriptive statistics and analysis were performed using the *psych* (Revelle, 2021) and *likert* packages (Breyer & Speerschneider, 2016). We created figures for categorical variables using *catplot* (Cox, 2003) in Stata version 16.0 (StataCorp, 2019).

Response rate

We removed 147 of the original 5,500 cases from the survey sample owing to either a bad address or the respondent having passed away. Survey efforts yielded 1,662 useable responses. The adjusted response rate was 31%.

Population estimates and non-response bias

We addressed non-response bias using post-stratification weights by respondent age within strata. We created age classes (18-33, 34-46, 47-59, and 60+) according to equal quantiles in the population, and calculated weights as $1/(\text{sample proportion}/\text{population proportion})$ within age class and strata and applied them to the data.

Estimates reported for firearm hunters are for those that possessed a firearm hunting license in 2021. Similarly, estimates of archery license holders are for those that possessed an archery hunting license in 2021. The groups are not mutually exclusive but represent alternative frames of the same overall population of deer hunters. For instance, estimates presented for firearm hunters may include hunters that also possessed archery and muzzleloader licenses, and estimates presented for archery hunters may include hunters that also possessed a firearm or muzzleloader license.

Section I: Deer hunting background

Results for Part I of the survey of Minnesota deer hunters are summarized below. This section focused on respondents' background in deer hunting, how long they have participated in deer hunting in Minnesota, their active participation in deer hunting over the past 5 years, and their participation in deer hunting during the 2021 deer season.

Firearm deer hunters reported having hunted deer in Minnesota for an average of 27 years, and archery deer hunters an average of 25 (Table 1-1). Nearly 90% of hunters reported hunting in firearm and archery season each year over the period 2016 to 2020 (Table 1-2).

Table 1-1. Average length of participation in deer hunting in Minnesota

	Firearm M (SE)	Archery M (SE)
How many years have you hunted for deer in Minnesota?	26.9 (0.47)	25.2 (0.63)

Table 1-2. Minnesota firearm and archery deer hunters' participation in deer hunting by year

Year	Firearm (%)	Archery (%)
2020	94	93
2019	91	90
2018	90	90
2017	90	89
2016	88	88

Section II: 2021 deer hunting season

Results for Part II of the survey are summarized below. This section details the respondent's participation in the 2021 deer hunting season. This included the season(s) they participated in, the number of days they hunted, the number of deer harvested, and where they hunted.

2021 Deer hunting season participation

All respondents reported that they participated in some form of deer hunting (archery, firearm, muzzleloader, special hunt) during the 2021 deer season. All firearms license holders reported that they participated in firearms deer hunting in 2021, while 32%, 24%, and 6% participated in archery, muzzleloader, and special season respectively. Like firearms license holders, all archery license respondents reported participating in archery hunting in 2021, while 64%, 25%, and 8% participated in firearms, muzzleloader, and special seasons respectively (Table 2-1).

Number of days hunted

Firearms license holders spent an average of 6 days in the field during the 2021 firearms deer season, 15 days in the field during the archery season, 5 days in the field during the muzzleloader season, and 4 days afield during special hunts. Archery license holders spent an average of 6 days in the field during the 2021 firearm deer season, 15 days in the field during the archery season, 6 days in the field during muzzleloader season, and 5 days in the field during special hunts. Estimates are for those that spent at least one day hunting during the respective season (Table 2-2).

Number of deer harvested

Firearms license holders harvested an average of 0.34 antlered bucks, and 0.29 antlerless deer per person during the 2021 seasons. Archery license holders reported slightly higher harvest rates, with an average of 0.39 antlered deer and 0.45 antlerless deer per person (Table 2-3).

Hunt locations

We asked hunters to report their frequency of use of public and private land while hunting deer in 2021. Potential responses included "none," "some," "most," and "all." Around half of firearms license holders reported spending "none" of their time hunting deer on public land, while 24%, 8%, and 15% reported spending "some," "most," and "all" of their time hunting on public land respectively. Archery license holders exhibited similar pattern, where 50%, 28%, 9%, and 11% reported spending "none," "some," "most," and "all" of their time hunting on public land respectively (Table 2-4a). Majorities of both firearm (62%) and archery (58%) of license holders reported spending "all" of their time deer hunting on private land (Table 2-4b).

Table 2-1. Percent of firearm and archery hunters participating in 2021 deer hunting seasons

	Firearm (%)	Archery (%)
Hunted deer in 2021	100	100
Firearm	100	64
Archery	32	100
Muzzleloader	25	25
Special hunts (e.g., early antlerless, disease management)	6	8

Table 2-2. Mean and median number of days hunted by firearm and archery hunters during 2021 deer hunting seasons in Minnesota

	Firearm		Archery	
	M (SE)	Median	M (SE)	Median
Firearm	5.9 (0.11)	5	6.1 (0.18)	5
Archery	15.0 (0.62)	12	15.4 (0.58)	12
Muzzleloader	5.4 (0.22)	5	5.9 (0.33)	5
Special hunts (e.g., early antlerless, disease management)	3.9 (0.66)	2	4.7 (0.83)	2

Table 2-3. Mean harvest of antlered bucks and antlerless deer by firearm and archery hunters during 2021 deer hunting seasons in Minnesota

	Firearm M (SE)	Archery M (SE)
Antlered Bucks per person per year	0.34 (0.02)	0.39 (0.03)
Antlerless Deer per person per year	0.29 (0.02)	0.45 (0.04)

Table 2-4a. Firearm and archery hunters' frequency of use of public land while deer hunting in Minnesota during 2021 season

	None	Some	Most	All	M (SE)
Firearm	53	24	8	15	1.83 (0.04)
Archery	50	28	9	11	1.81 (0.05)

Table 2-4b. Firearm and archery hunters' frequency of use of private land while deer hunting in Minnesota during 2021 season

	None	Some	Most	All	M (SE)
Firearm	8	11	19	62	3.35 (0.04)
Archery	7	12	23	58	3.29 (0.07)

Section III: Satisfaction with deer hunting and perception of crowding

Results for Part III of the survey of Minnesota deer hunters are summarized below. We asked hunters to report their satisfaction with their overall deer hunting experience during 2021, and with elements of the deer hunting experience including harvest, regulations, the total number of deer they saw while hunting, the number of bucks they saw while hunting, the number of antlerless deer they saw while hunting, and the quality of the bucks they saw while hunting. We also asked hunters to report their perception of crowding during the 2021 deer hunting seasons. Crowding refers to a negative evaluation of the setting density of the context of recreation (Vaske & Shelby, 2008); or how one feels about the number of other people they encounter during a recreational experience.

Overall deer hunting experience

A majority of firearm license holders and archery license holders reported that they were satisfied with their overall deer hunting experience. Approximately 73% of firearm license holders and 76% of archery license holders reported feeling either slightly, moderately, or very satisfied with their 2021 deer hunting experience, while 19% of firearm license holders and 18% of archery license holders reported feeling dissatisfied (Table 3-1).

Deer hunting harvest

Roughly half of firearm (49%) and archery (51%) license holders reported feeling either slightly, moderately, or very satisfied with their 2021 deer hunting harvest. About 36% of firearm license holders and 29% of archery license holders reported dissatisfaction with their harvest (Table 3-2).

Deer hunting regulations

Most firearm (59%) and archery (50%) license holders reported feeling either slightly, moderately, or very satisfied with the deer hunting regulations in 2021. While 23% of firearm license holders and 30% of archery license holders reported feeling dissatisfied (Table 3-3).

Total number of deer seen

Most firearm (54%) and archery license holders (58%) reported feeling either slightly, moderately, or very satisfied with the total number of deer they saw in 2021. In contrast, 40% of firearm license holders and 34% archery license holders were dissatisfied (Table 3-4).

Number of bucks seen

A majority of firearm (55%) and archery (50%) license holders were either slightly, moderately, or very dissatisfied with the number of bucks they saw in 2021. Conversely, 34% of firearms license holders, and 43% of archery license holders reported feeling either slightly, moderately, or very satisfied (Table 3-5).

Number of antlerless deer seen

Respondents were, on average, satisfied with the number of antlerless deer seen during the 2021 seasons. Approximately 54% of firearm license holders and 63% of archery license holders reported feeling satisfied with the number of antlerless deer seen (Table 3-6).

Quality of bucks seen

Respondents were, on average, dissatisfied with the quality of bucks seen during the 2021 seasons. Around one-third of firearm (32%) and archery (34%) license holders reported they were either slightly, moderately, or very satisfied with the quality of bucks seen. Conversely, 52% of firearm and 57% of archery license holders were either slightly, moderately, or very dissatisfied with the quality of bucks seen in 2021 (Table 3-7).

Perceptions of crowding

Respondents, on average, did not perceive high levels of crowding while deer hunting in 2021, regardless of license type. On a scale where 1=not at all crowded, and 9=extremely crowded, firearm license holders reported a mean of 2.6 (SE = 0.08) and archery hunters a mean of 3.1 (SE = 0.10) (Table 3-8).

Table 3-1. Firearm and archery hunters' satisfaction with overall deer hunting experience in Minnesota in 2021

%	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	M (SE)
Firearm	6	6	7	7	14	30	29	5.23(0.07)
Archery	4	6	8	6	18	31	27	5.31(0.07)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on the following scale: 1 = Very dissatisfied; 2 = Moderately dissatisfied; 3 = Slightly dissatisfied, 4 = Neither; 5 = Slightly satisfied; 6 = Moderately satisfied; 7 = Very satisfied.

Table 3-2. Firearm and archery hunters' satisfaction with deer hunting harvest in Minnesota in 2021

%	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	M (SE)
Firearm	14	10	12	15	11	18	20	4.33(0.07)
Archery	10	9	10	20	11	20	20	4.51(0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on the following scale: 1 = Very dissatisfied; 2 = Moderately dissatisfied; 3 = Slightly dissatisfied, 4 = Neither; 5 = Slightly satisfied; 6 = Moderately satisfied; 7 = Very satisfied.

Table 3-3. Firearm and archery hunters' satisfaction with deer hunting regulations in Minnesota in 2021

%	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	M (SE)
Firearm	6	8	9	19	15	26	18	4.79(0.07)
Archery	9	10	11	18	13	24	13	4.46(0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on the following scale: 1 = Very dissatisfied; 2 = Moderately dissatisfied; 3 = Slightly dissatisfied, 4 = Neither; 5 = Slightly satisfied; 6 = Moderately satisfied; 7 = Very satisfied.

Table 3-4. Firearm and archery hunters' satisfaction with total number of deer seen in Minnesota in 2021

%	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	M (SE)
Firearm	17	11	13	6	17	20	17	4.19(0.08)
Archery	10	11	13	6	18	22	18	4.48(0.07)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on the following scale: 1 = Very dissatisfied; 2 = Moderately dissatisfied; 3 = Slightly dissatisfied, 4 = Neither; 5 = Slightly satisfied; 6 = Moderately satisfied; 7 = Very satisfied.

Table 3-5. Firearm and archery hunters' satisfaction with number of bucks seen in Minnesota in 2021

%	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	M (SE)
Firearm	27	11	17	10	15	11	8	3.42(0.07)
Archery	19	13	17	7	19	17	7	3.70(0.09)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on the following scale: 1 = Very dissatisfied; 2 = Moderately dissatisfied; 3 = Slightly dissatisfied, 4 = Neither; 5 = Slightly satisfied; 6 = Moderately satisfied; 7 = Very satisfied.

Table 3-6. Firearm and archery hunters' satisfaction with number of antlerless deer seen in Minnesota in 2021

%	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	M (SE)
Firearm	13	11	13	9	16	20	18	4.38(0.08)
Archery	7	9	11	9	21	20	22	4.79(0.09)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on the following scale: 1 = Very dissatisfied; 2 = Moderately dissatisfied; 3 = Slightly dissatisfied, 4 = Neither; 5 = Slightly satisfied; 6 = Moderately satisfied; 7 = Very satisfied.

Table 3-7. Firearm and archery hunters' satisfaction with quality of bucks seen in Minnesota in 2021

%	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	M (SE)
Firearm	29	11	12	14	14	10	8	3.36(0.08)
Archery	24	17	16	9	15	13	6	3.38(0.10)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on the following scale: 1 = Very dissatisfied; 2 = Moderately dissatisfied; 3 = Slightly dissatisfied, 4 = Neither; 5 = Slightly satisfied; 6 = Moderately satisfied; 7 = Very satisfied.

Table 3-8. Firearm and archery hunters' perceptions of crowding while deer hunting during the 2021 season in Minnesota

	Not at all crowded		Slightly crowded		Moderately crowded		Extremely crowded			
%	1	2	3	4	5	6	7	8	9	M (SE)
Firearm	50	12	10	11	4	7	2	1	2	2.58(0.08)
Archery	36	13	9	15	5	10	5	2	3	3.10(0.09)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on the following scale: 1 = Not at all crowded, and 9 = Extremely crowded.

Section IV: Attitudes toward deer hunting regulation changes

Results for Part IV of the survey of Minnesota deer hunters are summarized below. This section focused on respondents' support or opposition to hypothetical changes to deer hunting season dates and regulations. We asked respondents their opinions regarding a) moving the opening day of the firearm A season back one and two weeks, b) increasing opportunity for harvest of antlered deer, and c) banning recreational deer feeding and attractants statewide.

Delaying the firearm season opening day

Shifting the opening day of firearms deer Season A has been suggested by some stakeholders as a way to increase deer hunter satisfaction over the long term. Moving the Season A opening day to a later date may increase the survival of young bucks, ultimately increasing the proportion of adult bucks in the population. The current firearm deer Season A opening day is the Saturday nearest to November 6th. Delaying the firearm Season A opening day would also delay the opening day of firearm Season B, and muzzleloader season.

Delaying the firearm season A opening day to the Saturday nearest November 13th (one week)

We asked respondents to indicate their level of support for delaying the firearm season A opening day to the Saturday November 13th in the 100 series, 200 series, and 300 series deer permit areas (DPAs). Firearms license holders did not support delaying the firearm season A opening day regardless of the permit series. Around a quarter of firearms license holders supported delaying the season A opening day by one week in the 100 (Table 4-1), 200 (Table 4-2) and 300 (Table 4-3) series DPAs. A greater proportion of archery license holders expressed either slight, moderate, or strong support (43% - 100 series, 48% - 200 series, 43% - 300 series) for delaying the firearm season A opening day by one week than firearm license holders.

Delaying season A opening day to the Saturday nearest November 20th (two weeks)

We asked respondents to indicate their level of support for delaying the firearm season A opening day to the Saturday November 20th in the 100 series, 200 series, and 300 series deer permit areas (DPAs). Firearms license holders did not support delaying the firearm season A opening day regardless of the permit series. Less than 20% of firearms license holders supported delaying the season A opening day by two weeks in the 100 (Table 4-4), 200 (Table 4-5) and 300 (Table 4-6) series DPAs. A greater proportion of archery license holders expressed either slight, moderate, or strong support (36% - 100 series, 38% - 200 series, 37% - 300 series) for delaying the firearm season A opening day by two weeks than firearm license holders.

Increasing opportunity for harvest of antlered deer

Currently, Minnesota deer hunters may only take one legal buck per year, except in disease management zones where they may take one legal buck per license. Harvest data from disease management zones shows that very few hunters take more than one legal buck per year despite the opportunity. Similarly, many DPAs are well above goal population densities.

Allowing hunters to harvest two antlered bucks per year, but 1 per license.

We asked respondents to indicate their support or opposition to allowing hunters to harvest 2 antlered deer per year, but only one per license (archery, firearm, muzzleloader). Around 45% of firearms license holders, and 51% of archery license holders reported that they either slightly, moderately, or strongly supported the change. While 43% of firearms, and 43% of archery license holders either slightly, moderately, or strongly opposed (Table 4-7).

Awarding hunters an additional buck tag for a DPA that is above goal, if they first harvest an antlerless deer in that DPA

We asked respondents to indicate their support or opposition to awarding a hunter a second buck tag for an above goal DPA, if they first harvested an antlerless deer in that DPA. More than half of firearm (52%) and archery (57%) license holders either slightly, moderately, or strongly supported the change. While 27% of firearms, and 28% of archery license holders either slightly, moderately, or strongly opposed (Table 4-8).

Statewide bans recreational deer feeding and the use of attractants

It is lawful to place food or minerals on the landscape (e.g., recreational deer feeding) to attract and/or provide supplemental nutrition to deer in Minnesota, unless in the act of hunting. Recreational deer feeding can congregate deer at high density and increase the risk of disease transmission. Recreational deer feeding is not permitted in locations where chronic wasting disease is known to exist in wild or captive deer herds. Deer hunters are also permitted to use attractants like deer urine while in the act of hunting. Attractants, like recreational deer feeding, have the potential to increase risks of disease transmission, and are not permitted for use in areas where CWD is found in wild deer.

Since CWD was first detected in wild deer in southeast Minnesota, the disease has spread to several locations around the state. In response, recreational deer feeding and attracts are now illegal in a large proportion of Minnesota. We asked deer hunters their level of support or opposition to banning recreational deer feeding and attractants statewide.

Statewide ban of recreational deer feeding

Around 40% of firearms license holders either slightly, moderately, or strongly supported banning recreational deer feeding statewide, while 47% opposed the ban. Greater than half (60%) of archery license holders either slightly, moderately, or strongly opposed banning recreational deer feeding statewide, while 30% supported the ban (Table 4-9).

Statewide ban of deer attractants

Majorities of both firearm (59%) and archery (72%) license holders either slightly, moderately, or strongly opposed banning deer attractants statewide. Minorities of firearm (24%) and archery (15%) license holders supported the ban (Table 4-10).

Table 4-1. 100 series DPA firearm and archery hunters' support or opposition to delaying the season A opening day to November 13th

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support	M (SE)
Firearm	27	13	6	30	8	8	8	3.35 (0.07)
Archery	18	6	5	27	10	14	21	4.32 (0.09)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly oppose, 2=Moderately oppose, 3=Slightly oppose, 4=Neither, 5=Slightly support, 6=Moderately support, 7=Strongly support

Table 4-2. 200 series DPA firearm and archery hunters' support or opposition to delaying the season A opening day to November 13th

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support	M (SE)
Firearm	25	12	6	31	8	9	8	3.43(0.08)
Archery	17	7	5	24	12	13	23	4.38(0.07)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly oppose, 2=Moderately oppose, 3=Slightly oppose, 4=Neither, 5=Slightly support, 6=Moderately support, 7=Strongly support

Table 4-3. 300 series DPA firearm and archery hunters' support or opposition to delaying the season A opening day to November 13th

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support	M (SE)
Firearm	23	10	6	39	8	6	8	3.50(0.07)
Archery	15	5	4	33	9	11	23	4.40(0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly oppose, 2=Moderately oppose, 3=Slightly oppose, 4=Neither, 5=Slightly support, 6=Moderately support, 7=Strongly support

Table 4-4. 100 series DPA firearm and archery hunters' support or opposition to delaying the season A opening day to November 20th

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support	M (SE)
Firearm	45	10	6	23	6	4	6	2.70(0.08)
Archery	27	7	8	22	7	5	24	3.85(0.10)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly oppose, 2=Moderately oppose, 3=Slightly oppose, 4=Neither, 5=Slightly support, 6=Moderately support, 7=Strongly support

Table 4-5. 200 series DPA firearm and archery hunters' support or opposition to delaying the season A opening day to November 20th

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support	M (SE)
Firearm	43	11	6	24	6	4	6	2.76(0.08)
Archery	27	9	7	19	7	6	25	3.86(0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly oppose, 2=Moderately oppose, 3=Slightly oppose, 4=Neither, 5=Slightly support, 6=Moderately support, 7=Strongly support

Table 4-6. 300 series DPA firearm and archery hunters' support or opposition to delaying the season A opening day to November 20th

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support	M (SE)
Firearm	40	9	6	31	5	3	6	2.87(0.07)
Archery	23	8	6	25	7	5	25	3.99(0.07)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly oppose, 2=Moderately oppose, 3=Slightly oppose, 4=Neither, 5=Slightly support, 6=Moderately support, 7=Strongly support

Table 4-7. Firearm and archery hunters' support or opposition to allowing hunters to harvest 2 antlered bucks per year, but 1 per license.

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support	M (SE)
Firearm	25	10	8	12	14	15	16	3.88(0.08)
Archery	29	8	6	6	11	15	25	4.08(0.10)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly oppose, 2=Moderately oppose, 3=Slightly oppose, 4=Neither, 5=Slightly support, 6=Moderately support, 7=Strongly support

Table 4-8. Firearm and archery hunters' support or opposition to awarding hunters an additional buck tag for a DPA that is above goal, if they first harvest an antlerless deer in that DPA.

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support	M (SE)
Firearm	13	8	6	20	19	16	17	4.40(0.07)
Archery	15	8	5	15	17	18	22	4.52(0.09)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly oppose, 2=Moderately oppose, 3=Slightly oppose, 4=Neither, 5=Slightly support, 6=Moderately support, 7=Strongly support

Table 4-9. Firearm and archery hunters' support or opposition to a statewide ban on recreational deer feeding

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support	M (SE)
Firearm	22	14	11	14	10	11	19	3.84(0.08)
Archery	32	15	13	11	7	9	14	3.29(0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly oppose, 2=Moderately oppose, 3=Slightly oppose, 4=Neither, 5=Slightly support, 6=Moderately support, 7=Strongly support

Table 4-10. Firearm and archery hunters' support or opposition to a statewide ban on the use of deer attractants

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support	M (SE)
Firearm	36	12	11	17	7	6	11	3.07(0.08)
Archery	45	16	11	12	5	3	7	2.54(0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly oppose, 2=Moderately oppose, 3=Slightly oppose, 4=Neither, 5=Slightly support, 6=Moderately support, 7=Strongly support

Section V: Trust in the MNDNR

Results for Part V of the survey of Minnesota deer hunters are summarized below. This section focused on respondents' trust in MNDNR's management of deer. We presented respondents with 8 items reflecting beliefs about MNDNR deer management processes, outcomes, responsiveness, and competence of staff entrusted to manage deer for the people of the state. The table below contains item wording and mean estimates and standard errors for firearms and archery license holders. Responses were recorded on a 7-pt bipolar scale where 1 = strongly disagree, 4=neither, and 7 = strongly agree. Mean values greater than 4 represent mean agreement with that item among respondents, while values less than 4 represent mean disagreement. Mean estimates ranged from a low of 3.6 to high of 4.44. Respondents had the highest agreement with the item "the MNDNR has deer managers and biologists that are good at their jobs," and the lowest agreement with the item "the MNDNR listens to deer hunters' concerns" for both firearm and archery. ON average, archery license holders had lower trust in the MNDNR than did firearm license holders.

Table 5-1. Summary of firearm and archery license holders' agreement with items measuring trust in the Minnesota Department of Natural Resources deer management.

	Firearm M (SE)	Archery M(SE)
The MNDNR does a good job managing deer	3.97 (0.05)	3.74 (0.08)
When deciding about deer management in Minnesota, the MNDNR is open and honest about the things they do and say	4.13 (0.05)	3.87 (0.07)
The MNDNR can be trusted to make decisions about deer management that are good for the resource	4.07 (0.08)	3.80 (0.07)
The MNDNR will make decisions about deer management in a way that is fair.	4.19 (0.07)	3.98 (0.07)
The MNDNR has deer managers and biologists that are good at their jobs	4.44 (0.07)	4.22 (0.07)
The MNDNR listens to deer hunters' concerns	3.87 (0.07)	3.61 (0.08)
I trust the MNDNR to make good deer management decisions regarding deer management issues	4.08(0.05)	3.80 (0.07)
I trust MNDNR to follow the best available science in managing deer	4.28 (0.07)	4.01 (0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Table 5-2. Firearm and archery hunters' agreement or disagreement with the statement: The MNDNR does a good job managing deer in Minnesota.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree	M (SE)
Firearm	12	15	16	13	18	21	5	3.97 (0.05)
Archery	14	18	17	13	16	17	6	3.74 (0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Table 5-3. Firearm and archery hunters' agreement or disagreement with the statement: When deciding about deer management in Minnesota, the MNDNR is open and honest about the things they do and say.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree	M (SE)
Firearm	9	12	12	24	19	19	6	4.13 (0.05)
Archery	12	14	12	27	15	15	6	3.87 (0.07)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Table 5-4. Firearm and archery hunters' agreement or disagreement with the statement: The MNDNR 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	M (SE)
Firearm	12	12	15	16	17	12	16	4.07 (0.08)
Archery	15	13	16	18	16	14	8	3.80 (0.07)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Table 5-5. Firearm and archery hunters' agreement or disagreement with the statement: The MNDNR 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	M (SE)
Firearm	9	10	13	21	20	21	6	4.19 (0.07)
Archery	11	12	14	22	18	16	6	3.98 (0.07)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Table 5-6. Firearm and archery hunters' agreement or disagreement with the statement: The MNDNR has deer managers and biologists that are good at their jobs.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree	M (SE)
Firearm	7	7	8	30	16	21	10	4.44 (0.07)
Archery	8	8	11	31	16	16	9	4.22 (0.07)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Table 5-7. Firearm and archery hunters' agreement or disagreement with the statement: The MNDNR listens to deer hunters' concerns.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree	M (SE)
Firearm	13	12	15	22	17	16	6	3.87 (0.07)
Archery	19	11	16	21	15	10	7	3.61 (0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Table 5-8. Firearm and archery hunters' agreement or disagreement with the statement: I trust the MNDNR to make good deer management decisions regarding deer management issues.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree	M (SE)
Firearm	12	11	15	16	19	20	7	4.08(0.05)
Archery	16	13	16	16	17	15	7	3.80 (0.07)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Table 5-9. Firearm and archery hunters' agreement or disagreement with the statement: I trust MNDNR to follow the best available science in managing deer.

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree	M (SE)
Firearm	11	8	13	17	20	21	8	4.28 (0.07)
Archery	13	11	13	21	17	17	8	4.01 (0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Section VI: Overall satisfaction with MNDNR deer management

Results for Part VI of the survey of Minnesota deer hunters are summarized below. This section focused on respondents' overall satisfaction with MNDNR management of deer in Minnesota (Table 6-1). Slightly more than half (54%) of firearm license holders reported feeling either slightly, moderately, or very satisfied with MNDNR deer management, while 37% were dissatisfied. Fewer archery (40%) than firearms license holders were either slightly, moderately, or very satisfied with MNDNR deer management, while a greater proportion (48%) were dissatisfied (Table 6-1).

Table 6-1. Firearm and archery hunters' overall satisfaction or dissatisfaction with MNDNR deer management.

	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied	Mean (SE)
Firearm	9	14	14	10	18	27	9	4.08 (0.07)
Archery	13	15	20	11	16	18	6	3.81 (0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very dissatisfied, 2=Moderately dissatisfied, 3=Slightly dissatisfied, 4=Neither, 5=Slightly satisfied, 6=Moderately satisfied, 7=Strongly satisfied

Section VII: Wildlife governance principles

Results for Part VII of the survey of Minnesota deer hunters are summarized below. Wildlife management agencies continually update and adopt their strategic approach to wildlife management to address contemporary social values relative for wildlife and changes in land use and ecological conditions. Decker et al. (2015) combined elements of public trust thinking and good governance to produce a set of principles that represent guidance for ecologically and socially responsible wildlife management.

We operationalized these principles as statements about the MNDNR, and asked respondents to report their perception of the importance that the MNDNR uphold that principle and how successful the MNDNR is in achieving that principle. This is referred to as an importance/performance analysis, and can help direct efforts for continuous improvement to areas where stakeholders place value and see room for improvement for the agency. Table 7-1 contains the wildlife governance principles presented to respondents, and mean estimates of firearm and archery license holders' perception of the importance of that principle, and MNDNR's performance.

Firearm and archery license holders both placed the highest importance on the principle that "MNDNR is responsible for sustaining the quality and quantity of benefits people get from deer for present and future generations." Both firearm and archery license holders, on average, believed that the MNDNR is slightly successful in upholding this principle. Mean values for importance exceeded 4 on a 5 pt scale for all principles, except the principle that "MNDNR seeks out and incorporates diverse perspectives in decisions." Deer hunters' perceptions of success were greater than 3 for all item except "MNDNR is accountable for decisions." Results demonstrated that deer hunters, regardless of firearm or archery, placed importance on each of the governance principles they were presented. Yet, opportunities to improve MNDNR performance exist, especially regarding MNDNR's accountability for deer management decisions.

Table 7-1. Summary of firearm and archery license holders' perceptions of the importance of governance principles, and MNDNR's success in implementing that principle in deer management.

Governance principle	Firearm		Archery	
	Importance M (SE)	Success M (SE)	Importance M (SE)	Success M (SE)
MNDNR management is adaptable and responsive to current needs, while considering how decisions affect future Minnesotans	4.08 (0.07)	3.25 (0.03)	4.22 (0.08)	3.12 (0.04)
MNDNR seeks out and incorporates diverse perspectives in decisions	3.83 (0.03)	3.20 (0.03)	3.78 (0.05)	3.06 (0.05)
MNDNR draws on multiple forms of knowledge, including ecological, social, and local expertise to inform management decisions	4.11 (0.03)	3.27 (0.03)	4.06 (0.05)	3.13 (0.05)
MNDNR makes decisions that produce multiple, sustained benefits for all	4.17 (0.03)	3.22 (0.03)	4.20 (0.05)	3.07 (0.05)
MNDNR is responsible for sustaining the quality and quantity of benefits people get from deer for present and future generations	4.43 (0.03)	3.25 (0.04)	4.45 (0.05)	3.12 (0.05)
MNDNR is publicly accessible and transparent.	4.26 (0.04)	3.25 (0.04)	4.28 (0.05)	3.12 (0.05)
MNDNR is accountable for decisions	4.37 (0.04)	3.01 (0.04)	4.41 (0.05)	2.98 (0.04)
MNDNR informs and engages the public in decisions	4.33 (0.02)	3.13 (0.03)	4.34 (0.05)	3.01 (0.06)
MNDNR partners with others to meet goals	4.03 (0.03)	3.18 (0.02)	4.05 (0.05)	3.08 (0.06)
MNDNR coordinates across ecological, governmental, and ownership boundaries	4.09 (0.04)	3.27 (0.04)	4.11 (0.04)	3.17 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unimportant, 2=Slightly unimportant, 3=Neither, 4=Slightly important, 5=Very important

⁴ Mean based on scale: 1=Very unsuccessful, 2=Slightly unsuccessful, 3=Neither, 4=Slightly successful, 5=Very successful

Table 7-2a. Firearm and archery hunters' perceived importance that: MNDNR management is adaptable and responsive to current needs, while considering how decisions affect future Minnesotans.

%	Very unimportant	Slightly unimportant	Neither	Slightly important	Very important	M (SE)
Firearm	4	4	10	32	50	4.08 (0.07)
Archery	4	3	12	30	51	4.22 (0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unimportant, 2=Slightly unimportant, 3=Neither, 4=Slightly important, 5=Very important

Table 7-2b. Firearm and archery hunters' perception of the success of MNDNR at implementing the principle: MNDNR management is adaptable and responsive to current needs, while considering how decisions affect future Minnesotans.

%	Very unsuccessful	Slightly unsuccessful	Neither	Slightly successful	Very successful	M (SE)
Firearm	6	19	24	44	7	3.25 (0.03)
Archery	9	21	23	40	6	3.12 (0.04)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unsuccessful, 2=Slightly unsuccessful, 3=Neither, 4=Slightly successful, 5=Very successful

Table 7-3a. Firearm and archery hunters' perceived importance that: MNDNR seeks out and incorporates diverse perspectives in decisions.

%	Very unimportant	Slightly unimportant	Neither	Slightly important	Very important	M (SE)
Firearm	4	6	22	39	29	3.83 (0.03)
Archery	4	7	22	39	28	3.78 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unimportant, 2=Slightly unimportant, 3=Neither, 4=Slightly important, 5=Very important

Table 7-3b. Firearm and archery hunters' perception of the success of MNDNR at implementing the principle: MNDNR seeks out and incorporates diverse perspectives in decisions.

%	Very unsuccessful	Slightly unsuccessful	Neither	Slightly successful	Very successful	M (SE)
Firearm	6	15	40	36	6	3.20 (0.03)
Archery	8	17	38	31	5	3.06 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unsuccessful, 2=Slightly unsuccessful, 3=Neither, 4=Slightly successful, 5=Very successful

Table 7-4a. Firearm and archery hunters' perceived importance that: MNDNR draws on multiple forms of knowledge, including ecological, social, and local expertise to inform management decisions.

%	Very unimportant	Slightly unimportant	Neither	Slightly important	Very important	M (SE)
Firearm	3	3	15	37	42	4.11 (0.03)
Archery	4	3	13	39	39	4.06 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unimportant, 2=Slightly unimportant, 3=Neither, 4=Slightly important, 5=Very important

Table 7-4b. Firearm and archery hunters' perception of the success of MNDNR at implementing the principle: MNDNR draws on multiple forms of knowledge, including ecological, social, and local expertise to inform management decisions.

%	Very unsuccessful	Slightly unsuccessful	Neither	Slightly successful	Very successful	M (SE)
Firearm	6	17	30	39	9	3.27 (0.03)
Archery	8	18	32	36	6	3.13 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unsuccessful, 2=Slightly unsuccessful, 3=Neither, 4=Slightly successful, 5=Very successful

Table 7-5a. Firearm and archery hunters' perceived importance that: MNDNR makes decisions that produce multiple, sustained benefits for all.

%	Very unimportant	Slightly unimportant	Neither	Slightly important	Very important	M (SE)
Firearm	3	3	14	35	45	4.17 (0.03)
Archery	3	3	12	34	48	4.20 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unimportant, 2=Slightly unimportant, 3=Neither, 4=Slightly important, 5=Very important

Table 7-5b. Firearm and archery hunters' perception of the success of MNDNR at implementing the principle: MNDNR makes decisions that produce multiple, sustained benefits for all.

%	Very unsuccessful	Slightly unsuccessful	Neither	Slightly successful	Very successful	M (SE)
Firearm	8	17	30	38	8	3.22 (0.03)
Archery	9	21	30	33	7	3.07 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unsuccessful, 2=Slightly unsuccessful, 3=Neither, 4=Slightly successful, 5=Very successful

Table 7-6a. Firearm and archery hunters' perceived importance that: MNDNR is responsible for sustaining the quality and quantity of benefits people get from deer for present and future generations

%	Very unimportant	Slightly unimportant	Neither	Slightly important	Very important	M (SE)
Firearm	3	2	9	4	63	4.43 (0.03)
Archery	4	2	6	22	66	4.45 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unimportant, 2=Slightly unimportant, 3=Neither, 4=Slightly important, 5=Very important

Table 7-6b. Firearm and archery hunters' perception of the success of MNDNR at implementing the principle: MNDNR is responsible for sustaining the quality and quantity of benefits people get from deer for present and future generations

%	Very unsuccessful	Slightly unsuccessful	Neither	Slightly successful	Very successful	M (SE)
Firearm	8	19	24	39	10	3.25 (0.04)
Archery	10	22	23	35	10	3.12 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unsuccessful, 2=Slightly unsuccessful, 3=Neither, 4=Slightly successful, 5=Very successful

Table 7-7a. Firearm and archery hunters' perceived importance that: MNDNR is publicly accessible and transparent.

%	Very unimportant	Slightly unimportant	Neither	Slightly important	Very important	M (SE)
Firearm	2	2	14	31	50	4.26 (0.04)
Archery	3	2	12	30	54	4.28 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unimportant, 2=Slightly unimportant, 3=Neither, 4=Slightly important, 5=Very important

Table 7-7b. Firearm and archery hunters' perception of the success of MNDNR at implementing the principle: MNDNR is publicly accessible and transparent.

%	Very unsuccessful	Slightly unsuccessful	Neither	Slightly successful	Very successful	M (SE)
Firearm	8	19	24	39	10	3.25 (0.04)
Archery	10	22	23	35	10	3.12 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unsuccessful, 2=Slightly unsuccessful, 3=Neither, 4=Slightly successful, 5=Very successful

Table 7-8a. Firearm and archery hunters' perceived importance that: MNDNR is accountable for decisions

%	Very unimportant	Slightly unimportant	Neither	Slightly important	Very important	M (SE)
Firearm	2	2	10	26	58	4.37 (0.04)
Archery	3	2	8	25	62	4.41 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unimportant, 2=Slightly unimportant, 3=Neither, 4=Slightly important, 5=Very important

Table 7-8b. Firearm and archery hunters' perception of the success of MNDNR at implementing the principle: MNDNR is accountable for decisions

%	Very unsuccessful	Slightly unsuccessful	Neither	Slightly successful	Very successful	M (SE)
Firearm	13	20	29	31	8	3.01 (0.04)
Archery	16	21	30	25	7	2.98 (0.04)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unsuccessful, 2=Slightly unsuccessful, 3=Neither, 4=Slightly successful, 5=Very successful

Table 7-9a. Firearm and archery hunters' perceived importance that: MNDNR informs and engages the public in decisions.

%	Very unimportant	Slightly unimportant	Neither	Slightly important	Very important	M (SE)
Firearm	3	1	11	33	53	4.33 (0.02)
Archery	3	1	8	33	54	4.34 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unimportant, 2=Slightly unimportant, 3=Neither, 4=Slightly important, 5=Very important

Table 7-9b. Firearm and archery hunters' perception of the success of MNDNR at implementing the principle: MNDNR informs and engages the public in decisions.

%	Very unsuccessful	Slightly unsuccessful	Neither	Slightly successful	Very successful	M (SE)
Firearm	9	22	25	35	9	3.13 (0.03)
Archery	11	24	25	31	8	3.01 (0.06)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unsuccessful, 2=Slightly unsuccessful, 3=Neither, 4=Slightly successful, 5=Very successful

Table 7-10a. Firearm and archery hunters' perceived importance that: MNDNR partners with others to meet goals.

%	Very unimportant	Slightly unimportant	Neither	Slightly important	Very important	M (SE)
Firearm	2	3	20	39	36	4.03 (0.03)
Archery	3	4	18	35	40	4.05 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unimportant, 2=Slightly unimportant, 3=Neither, 4=Slightly important, 5=Very important

Table 7-10b. Firearm and archery hunters' perception of the success of MNDNR at implementing the principle: MNDNR partners with others to meet goals.

%	Very unsuccessful	Slightly unsuccessful	Neither	Slightly successful	Very successful	M (SE)
Firearm	6	14	42	41	7	3.18 (0.02)
Archery	8	17	41	28	7	3.08 (0.06)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unsuccessful, 2=Slightly unsuccessful, 3=Neither, 4=Slightly successful, 5=Very successful

Table 7-11a. Firearm and archery hunters' perceived importance that: MNDNR coordinates across ecological, governmental, and ownership boundaries.

%	Very unimportant	Slightly unimportant	Neither	Slightly important	Very important	M (SE)
Firearm	2	4	19	36	40	4.09 (0.04)
Archery	2	3	19	34	43	4.11 (0.04)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unimportant, 2=Slightly unimportant, 3=Neither, 4=Slightly important, 5=Very important

Table 7-11b. Firearm and archery hunters' perception of the success of MNDNR at implementing the principle: MNDNR coordinates across ecological, governmental, and ownership boundaries.

%	Very unsuccessful	Slightly unsuccessful	Neither	Slightly successful	Very successful	M (SE)
Firearm	5	13	40	34	8	3.27 (0.04)
Archery	7	14	39	30	8	3.17 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unsuccessful, 2=Slightly unsuccessful, 3=Neither, 4=Slightly successful, 5=Very successful

Section VIII: Hunters’ priorities for MNDNR deer management goals

The 2019 Minnesota deer management plan articulates several goals for deer management, strategies for achieving those goals, and indicators of performance. The MNDNR possess limited fiscal and human resources to direct toward goal achievement at any one time, and stakeholders possess diverse and often conflicting priorities for the importance of certain goals over others. Knowledge of stakeholders’ beliefs about the importance of deer management goals can aid the MNDNR in allocating resources to the goals that matter most to stakeholders, and weigh tradeoffs in management priorities.

We designed an exercise to elicit deer hunters’ priorities for several goals articulated in the Minnesota deer management plan. Table 8-1 contains a description of deer management goals presented to respondents for prioritization. The exercise is known as a best-worst scaling choice experiment. We asked respondents to complete 7 tasks where they made selections for what they perceived to be the most and least important deer management goals, among experimentally derived subsets of the deer management goals described in Table 8-1.

From the results of this exercise, we can estimate the relative importance that deer hunters place on the deer management goals they evaluated. Table 8-2 contains estimates of the importance hunters’ placed on deer management goals. The goals in Table 8-2 are arranged in order of importance from top to bottom.

Deer hunters placed the greatest importance on “maintain, enhance, and restore wildlife habitat” and “Ensure deer herd health” as goals for the MNDNR to pursue. Hunters place the least importance on “Reduce negative impact of deer on other resources,” and “Communication, information sharing, and public involvement” relative to the other goals evaluated.

Table 8-1. Minnesota DNR deer management goals, descriptions, and labels used in presentation of model results.

Goal	Description	Label
Communication, information sharing, and public involvement	Fostering trusting, respectful, and effective two-way communication between DNR and the public regarding deer management	Communication
Deer stakeholder satisfaction	Build and maintain broad support of deer stakeholders for DNR deer management and encourage new participation that build upon Minnesota's strong deer hunting traditions	Satisfaction
Informed deer population management	Use of both data about deer biology and the preferences of stakeholders to inform deer population goals and management, and adjust management as necessary to meet these goals	Inform
Ensure deer herd health	Support deer herd health by aggressively managing CWD and other cervid disease in endemic areas and minimizing risk of new introductions across the state	Health
Maintain, enhance, and restore wildlife habitat	Increase the amount and quality of wildlife habitat and maintain an appropriate number of deer	Habitat
Reduce negative impact of deer on other resources	Reduce negative impacts of deer to the land, resources, and other species, including people	Impact
Promote cost-effective deer management	Sustain and broaden the funding sources that support deer research and management, taking into account the diversity of stakeholder interests, to provide long-term social, ecological and economic benefits	Cost

Table 8-2. Best-worst scaling model results including counts of Minnesota deer hunters' choice of most and least important goals for MNDNR deer management, aggregated choice counts, relative rank of goals, and standard ratio scores

Object	Best	Worst	Aggregated	Rank	Standard ratio scores ¹
Habitat	1721	319	1402	1	.34
Health	1470	493	977	2	.23
Inform	1033	732	301	3	.07
Satisfaction	984	793	191	4	.05
Cost	605	1242	-637	5	-.16
Communication	528	1269	-741	6	-.18
Impact	309	1802	-1493	7	-.36

¹Difference between total count of best scores and total count of worst scores, divided by the number of times attribute was available to be selected per experimental design (for this design, 3 * number of respondents). Standardized scores indicate the salience of an attribute on a scale from -1.0 to +1.0.

Section IX: Hunters' preferences for engaging with MNDNR

Results for Part IX of the survey of Minnesota deer hunters are summarized below. This section focused on respondents' preferences for engagement with the MNDNR. We asked respondents to indicate how likely they are to engage with the MNDNR given different types of engagement opportunities.

Respondents, regardless of firearm or archery, reported they were most likely to take advantage of online engagement opportunities including online questionnaires. Respondents reported they were least likely to attend deer related meetings in-person or to contact the MNDNR through social media.

Table 9-1 contains a summary of mean estimates of the likelihood of firearm and archery license holders taking advantage of MNDNR engagement opportunities.

Table 9-1. Summary of firearm and archery deer license holders likelihood of engaging with the MNDNR using different opportunities

Engagement opportunity	Firearm M (SE)	Archery M (SE)
Attend local deer open house meetings in-person	3.07 (0.08)	2.20 (0.07)
Attend local deer open house meeting virtually	3.20 (0.09)	3.30 (0.08)
Respond to the post-season online questionnaire	5.07 (0.07)	5.20 (0.08)
Provide input on deer population goals via online questionnaire	4.97 (0.08)	5.12 (0.06)
Contact MNDNR through social media	2.92 (0.07)	2.97 (0.06)
Contact your local wildlife manager (telephone or email).	3.27 (0.07)	3.35 (0.06)
Contact big game program staff (telephone or email).	3.11 (0.07)	3.19 (0.08)
Attend statewide deer management meetings	2.85 (0.07)	2.92 (0.06)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unlikely, 2=Moderately unlikely, 3=Slightly unlikely, 4=Neither, 5=Slightly likely, 6=Moderately likely, 7=Very likely

Table 9-2. Firearm and archery hunters' likelihood to: Attend local deer open house meetings in-person.

%	Very unlikely	Moderately unlikely	Slightly unlikely	Neither	Slightly likely	Moderately likely	Very likely	M (SE)
Firearm	34	13	11	11	15	11	3	3.07 (0.08)
Archery	32	13	11	11	17	11	5	2.20 (0.07)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unlikely, 2=Moderately unlikely, 3=Slightly unlikely, 4=Neither, 5=Slightly likely, 6=Moderately likely, 7=Very likely

Table 9-3. Firearm and archery hunters' likelihood to: Attend local deer open house meeting virtually.

%	Very unlikely	Moderately unlikely	Slightly unlikely	Neither	Slightly likely	Moderately likely	Very likely	M (SE)
Firearm	34	11	10	13	18	9	6	3.20 (0.09)
Archery	32	11	10	12	19	11	6	3.30 (0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unlikely, 2=Moderately unlikely, 3=Slightly unlikely, 4=Neither, 5=Slightly likely, 6=Moderately likely, 7=Very likely

Table 9-4. Firearm and archery hunters' likelihood to: Respond to the post-season online questionnaire

%	Very unlikely	Moderately unlikely	Slightly unlikely	Neither	Slightly likely	Moderately likely	Very likely	M (SE)
Firearm	9	4	7	8	21	22	29	5.07 (0.07)
Archery	9	3	6	8	21	23	31	5.20 (0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unlikely, 2=Moderately unlikely, 3=Slightly unlikely, 4=Neither, 5=Slightly likely, 6=Moderately likely, 7=Very likely

Table 9-5. Firearm and archery hunters' likelihood to: Provide input on deer population goals via online questionnaire

%	Very unlikely	Moderately unlikely	Slightly unlikely	Neither	Slightly likely	Moderately likely	Very likely	M (SE)
Firearm	11	3	7	10	20	23	26	4.97 (0.08)
Archery	10	2	6	9	20	24	28	5.12 (0.06)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unlikely, 2=Moderately unlikely, 3=Slightly unlikely, 4=Neither, 5=Slightly likely, 6=Moderately likely, 7=Very likely

Table 9-5. Firearm and archery hunters' likelihood to: Contact MNDNR through social media

%	Very unlikely	Moderately unlikely	Slightly unlikely	Neither	Slightly likely	Moderately likely	Very likely	M (SE)
Firearm	34	13	11	19	12	7	3	2.92 (0.07)
Archery	34	13	12	18	13	6	3	2.97 (0.06)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unlikely, 2=Moderately unlikely, 3=Slightly unlikely, 4=Neither, 5=Slightly likely, 6=Moderately likely, 7=Very likely

Table 9-7. Firearm and archery hunters' likelihood to: Contact your local wildlife manager (telephone or email).

%	Very unlikely	Moderately unlikely	Slightly unlikely	Neither	Slightly likely	Moderately likely	Very likely	M (SE)
Firearm	28	11	13	19	17	9	4	3.27 (0.07)
Archery	27	11	13	19	16	9	5	3.35 (0.06)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unlikely, 2=Moderately unlikely, 3=Slightly unlikely, 4=Neither, 5=Slightly likely, 6=Moderately likely, 7=Very likely

Table 9-8. Firearm and archery hunters' likelihood to: Contact big game program staff (telephone or email).

%	Very unlikely	Moderately unlikely	Slightly unlikely	Neither	Slightly likely	Moderately likely	Very likely	M (SE)
Firearm	29	12	16	20	14	7	3	3.11 (0.07)
Archery	27	12	16	21	13	7	4	3.19 (0.08)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unlikely, 2=Moderately unlikely, 3=Slightly unlikely, 4=Neither, 5=Slightly likely, 6=Moderately likely, 7=Very likely

Table 9-9. Firearm and archery hunters' likelihood to: Attend statewide deer management meetings.

%	Very unlikely	Moderately unlikely	Slightly unlikely	Neither	Slightly likely	Moderately likely	Very likely	M (SE)
Firearm	32	12	12	15	15	7	2	2.85 (0.07)
Archery	34	14	13	15	15	6	3	2.92 (0.06)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Very unlikely, 2=Moderately unlikely, 3=Slightly unlikely, 4=Neither, 5=Slightly likely, 6=Moderately likely, 7=Very likely

Section X: Identification with deer hunting

Results for Part VI of the survey of Minnesota deer hunters are summarized below. This section focused on respondents' identification with deer hunting. We adapted items measuring identity from Callero et al. (1985). Both firearm and archery license holders expressed high agreement with items reflecting their identification with deer hunting.

Table 10-1. Firearm and archery hunters' agreement or disagreement with the statement: Being a deer hunter is an important part of who I am.

%	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree	M (SE)
Firearm	1	2	2	8	19	23	46	5.92 (0.06)
Archery	1	1	2	6	17	21	52	6.09 (0.04)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Table 10-2. Firearm and archery hunters' agreement or disagreement with the statement: Deer hunting is something I rarely think about. (Reverse Coded)

%	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree	M (SE)
Firearm	43	26	17	6	5	2	1	2.11 (0.08)
Archery	52	24	14	4	4	1	1	1.90 (0.04)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Table 10-3. Firearm and archery hunters' agreement or disagreement with the statement: I would be at a loss if I was forced to give up deer hunting

%	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree	M (SE)
Firearm	3	7	5	7	12	18	47	5.61 (0.07)
Archery	3	5	4	6	11	17	54	5.80 (0.05)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Table 10-4. Firearm and archery hunters' agreement or disagreement with the statement: Being a deer hunter is about more than just hunting.

%	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree	M (SE)
Firearm	<1	<1	1	3	5	15	75	6.60 (0.03)
Archery	<1	<1	<1	2	5	14	78	6.65 (0.03)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

Table 10-5. Firearm and archery hunters' agreement or disagreement with the statement: I have no clear feelings about deer hunting. (Reverse Coded)

%	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree	M (SE)
Firearm	65	16	8	7	1	1	1	1.72 (0.05)
Archery	70	15	6	6	1	1	1	1.59 (0.04)

¹ This table does not include those respondents who did not hunt during the 2021 firearm deer season.

² We drew a simple random sample based on firearm season participation and a subsample for archery season participation only. Both samples were weighted for age.

³ Mean based on scale: 1=Strongly disagree, 2=Moderately disagree, 3=Slightly disagree, 4=Neither, 5=Slightly agree, 6=Moderately agree 7=Strongly agree

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Appendix A. Questionnaire

SURVEY OF MINNESOTA DEER HUNTERS



Copyright MNDNR: Mitch Kezar

A cooperative study conducted by the University of Minnesota for the Minnesota Department of Natural Resources

Your help on this study is greatly appreciated!

Please return your completed questionnaire in the enclosed envelope. The envelope is self-addressed and no postage is required. Thanks!



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PIN

Thank you for providing your opinions about your current involvement in deer hunting in Minnesota. Deer hunting is an important tradition and holds critical social, economic, and cultural value in Minnesota. Your opinions will help DNR develop plans to recruit future hunters and provide quality deer hunting opportunities for hunters in Minnesota.

For more information about Minnesota's deer management plan please visit: <http://www.mndnr.gov/deerplan>

We provide some information about MNDNR's deer management plan below. Please feel free to look back at this as you complete the questions that follow.

Part I: Your Minnesota Deer Hunting Background

Q1. How many years have you hunted for deer in Minnesota? (If uncertain, please estimate.)

_____ Years

Q2. Of the 5 years before the 2021 deer season, which years did you hunt deer in Minnesota? (Check all that apply.)

☐ 2020 ☐ 2019 ☐ 2018 ☐ 2017 ☐ 2016 ☐ I did not hunt deer during any of these years.

Q3. Did you hunt during the 2021 deer seasons? If so, which seasons and how many days did you hunt during each? (Please check all that apply.)

	Check all that apply	Number of Days
<i>I did not hunt deer in Minnesota in 2021</i>	<input type="checkbox"/> → skip to Part III	
Archery	<input type="checkbox"/>	_____
Firearm (Season A or B)	<input type="checkbox"/>	_____
Muzzleloader	<input type="checkbox"/>	_____
Special (e.g., early antlerless, disease management hunt), please explain:	<input type="checkbox"/>	_____

Q4. How many antlered bucks and antlerless deer did you personally kill during the 2021 deer seasons (archery, firearm, muzzleloader, special) in Minnesota?

_____ Antlered Bucks _____ Antlerless Deer ☐ I did not kill any deer in Minnesota in 2021

Q5. How much of your deer hunting in Minnesota did you do on public or private land in 2021? (Please circle one response for each.)

	None	Some	Most	All
Public land (e.g., wildlife management area, national forest)	1	2	3	4
Private land (e.g., land you own or lease, or land owned by another person where you have permission to hunt).	1	2	3	4

Part II: Your 2021 Deer Hunting Experience

Q6. How satisfied or dissatisfied were you with each of the following elements of deer hunting during the 2021 seasons in Minnesota? (Please circle one response for each.)

	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied
Overall deer hunting experience.	1	2	3	4	5	6	7
Deer hunting harvest.	1	2	3	4	5	6	7
Deer hunting regulations.	1	2	3	4	5	6	7
Total number of deer seen.	1	2	3	4	5	6	7
Number of bucks seen.	1	2	3	4	5	6	7
Number of antlerless deer seen.	1	2	3	4	5	6	7
Quality of bucks seen.	1	2	3	4	5	6	7

Q7. Crowding refers to the negative feelings you may have experienced while encountering other people, including other hunters, while hunting. Thinking about your deer hunting experience in 2021 as whole, how crowded did you feel while deer hunting? (Please circle one response that best matches how you felt).

Not at all crowded		Slightly crowded			Moderately crowded		Extremely crowded	
1	2	3	4	5	6	7	8	9

Part III: Deer and Deer Hunting Regulations We are interested in learning more about your preferences for potential changes to regulations about deer and deer hunting. For each question below, how much do you support or oppose the potential change? Please note, these are hypothetical scenarios, and any data collected on these scenarios is for information purposes only. Collecting data on these issues does not necessarily mean that MNDNR plans to make this change in the near future.

Q8. Some hunters would like to see the opening day of the firearms deer Season A moved to a later date. Moving the Season A opening day to a later date may increase the survival of young bucks, ultimately increasing the proportion of adult bucks in the population long-term. The current firearm deer Season A opening day is the Saturday nearest to November 6th. Delaying the firearm Season A opening day would also delay the opening day of firearm Season B, and muzzleloader season.

Q8a. How much do you support or oppose moving the firearm Season A opening day to the Saturday nearest November 13th in the 100, 200 (including 604) and 300/600 (former 300 series in the southeast) series deer permit areas? (Please choose one response for each.)

Series	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support
100 Series	1	2	3	4	5	6	7
200 series (including 604)	1	2	3	4	5	6	7
300 series (including 600 series DPAs formerly 300 series)	1	2	3	4	5	6	7

Q8b. How much do you support or oppose moving the firearm Season A opening day to the Saturday nearest November 20th (2 weeks later)? (Please choose one response for each.)

Series	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support
100 Series	1	2	3	4	5	6	7
200 series (including 604)	1	2	3	4	5	6	7
300 series (including 600 series DPAs formerly 300 series)	1	2	3	4	5	6	7

Q9. Currently, Minnesota deer hunters may only take one legal buck per year, except in disease management zones where they may take one legal buck per license. Harvest data from disease management zones shows that very few hunters take more than one legal buck per year despite the opportunity. Similarly, many DPAs are well above goal population densities. Increasing the antlerless harvest may help reduce population densities in DPAs above goal. How much do you support or oppose the following regulation changes related to buck harvest? (Please choose one response for each.)

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support
Allowing hunters to harvest up to 2 antlered bucks per year, but only one per license (e.g., archery and/or firearm, and/or muzzleloader).	1	2	3	4	5	6	7

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support
Awarding hunters an additional buck tag for a DPA that is above goal, if they first harvest an antlerless deer in that DPA.	1	2	3	4	5	6	7

Q10. The Minnesota DNR prohibits people from feeding deer recreationally in areas where Chronic Wasting Disease (CWD) exists in wild or captive deer. The use of attractants like deer urine are also restricted in areas where CWD exists in wild deer (but not captive deer). These rules limit the chances of CWD spreading as feed and attractants congregate deer in small areas where they may exchange saliva and potentially the disease. Currently, deer feeding and attractant bans are in place in large proportions of the state. How much do you support or oppose a statewide ban on 1) recreational deer feeding (e.g., food and minerals), and 2) the use of attractants like deer urine? (Please choose one response for each.)

	Strongly oppose	Moderately oppose	Slightly oppose	Neither	Slightly support	Moderately support	Strongly support
Statewide ban on recreational deer feeding.	1	2	3	4	5	6	7
Statewide ban on deer attractants (e.g., urine).	1	2	3	4	5	6	7

Q11. How much do you agree or disagree with the following statements about the Minnesota DNR? (Please circle one response for each.)

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly Agree	Moderately agree	Strongly agree
The MNDNR does a good job managing deer in Minnesota.	1	2	3	4	5	6	7
When deciding about deer management in Minnesota, the MNDNR will be open and honest about the things they do and say.	1	2	3	4	5	6	7
The MNDNR can be trusted to make decisions about deer management that are good for the resource.	1	2	3	4	5	6	7
The MNDNR will make decisions about deer management in a way that is fair.	1	2	3	4	5	6	7
The MNDNR has deer managers and biologists that are good at their jobs.	1	2	3	4	5	6	7
The MNDNR listens to deer hunters' concerns.	1	2	3	4	5	6	7
I trust the MNDNR to make <u>good deer management decisions</u> regarding deer management issues.	1	2	3	4	5	6	7
I trust MNDNR to follow the <u>best available science</u> in managing deer.	1	2	3	4	5	6	7

Q12. How satisfied or dissatisfied are you with MNDNR deer management?

Very dissatisfied	Moderately Dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Moderately satisfied	Very satisfied
1	2	3	4	5	6	7

Q13. The MNDNR is committed to socially and ecologically responsible wildlife management. We would like to know more about how successful you think the MNDNR is at upholding principles of responsible wildlife management with respect to deer, and how important those principles are to you. For each of the principles below, please indicate how important that principles is to you, and how successful MNDNR deer management is at upholding it. (Circle one importance and one success rating for each principle related to MNDNR deer management.)

MNDNR ...	<u>How IMPORTANT is this principle to you?</u>					<u>How SUCCESSFUL is DNR upholding the principle?</u>				
	<u>Unimportant</u>		\leftrightarrow	<u>Important</u>		<u>Unsuccessful</u>		\leftrightarrow	<u>Successful</u>	
	Very	Somewhat		Somewhat	Very	Very	Somewhat		Somewhat	Very
...management is <u>adaptable</u> and <u>responsive</u> to current needs, while considering how decisions affect future Minnesotans.	1	2	3	4	5	1	2	3	4	5
...seeks out and incorporates diverse perspectives in decisions.	1	2	3	4	5	1	2	3	4	5
...draws <u>on multiple forms of knowledge</u> , including ecological, social, and local expertise to inform decisions.	1	2	3	4	5	1	2	3	4	5
...makes decisions that produce multiple, sustained benefits for all.	1	2	3	4	5	1	2	3	4	5
...is responsible for sustaining the <u>quality and quantity of benefits</u> people get from deer for present and future generations.	1	2	3	4	5	1	2	3	4	5
...is publicly accessible and transparent.	1	2	3	4	5	1	2	3	4	5
...is accountable for decisions.	1	2	3	4	5	1	2	3	4	5
...informs and engages the public in decisions.	1	2	3	4	5	1	2	3	4	5
...partners with others to meet goals.	1	2	3	4	5	1	2	3	4	5
...coordinates across ecological, governmental, and ownership boundaries.	1	2	3	4	5	1	2	3	4	5

Part V: Priorities for Deer Management Goals

Q14. The Minnesota Deer Management Plan establishes goals that inform deer management in the state. The table below contains descriptions of these goals. In making deer management decisions, it is important that MNDNR prioritize funding and staffing in a way that reflects the goals established in the deer management plan, while considering stakeholders' preferences. Different stakeholders may place higher priorities on some of the goals than others, with implications for the allocation of management resources.

In this section you will be presented with 7 scenarios that contain 3 goals from the table below. For each scenario, please **check one box for the goal that you consider most important, and one box for the goal you consider least important**. Results of this exercise will reveal Minnesota deer hunters' priorities for the goals guiding deer management in the state.

For more information on the Minnesota Deer Management Plan, please visit the webpage below.

<http://www.mndnr.gov/deerplan>

Deer Management Plan Goals

Goal	Description
Communication, information Sharing, and public involvement	Foster trusting, respectful, and effective two-way communication between DNR and the public regarding deer management.
Deer stakeholder satisfaction	Build and maintain broad support of deer stakeholders for DNR deer management and encourage new participation that builds upon Minnesota's strong deer hunting traditions.
Informed deer population management	Use of both data about deer biology and the preferences of stakeholders to inform deer population goals and management and adjust management as necessary to meet these goals.
Ensure deer herd health	Support deer herd health by aggressively managing CWD and other cervid diseases in endemic areas and minimizing risk of new introductions across the state.
Maintain, enhance, and restore wildlife habitat	Increase the amount and quality of wildlife habitat and maintain an appropriate number of deer.
Reduce negative impact of deer on other resources	Reduce negative impacts of deer to the land, resources and other species, including people.
Promote cost-effective deer management	Sustain and broaden the funding sources that support deer research and management, taking into account the diversity of stakeholder interests, to provide long-term social, ecological and economic benefits.

For each scenario, please check one box for the goal you consider most important and one box for the goal you consider least important

Scenario 1. Please check the one goal you think is most important and the one goal that is least important.

Most important	Goals	Least important
<input type="checkbox"/>	Informed deer population management: Use of both data about deer biology and the preferences of stakeholders to inform deer population goals and management and adjust management as necessary to meet these goals	<input type="checkbox"/>
<input type="checkbox"/>	Maintain, enhance, and restore wildlife habitat: Increase the amount and quality of wildlife habitat and maintain an appropriate number of deer.	<input type="checkbox"/>
<input type="checkbox"/>	Communication, information sharing, and public involvement: Foster trusting, respectful, and effective two-way communication between DNR and the public regarding deer management.	<input type="checkbox"/>

Scenario 2. Please check the one goal you think is most important and the one goal that is least important.

Most important	Goals	Least important
<input type="checkbox"/>	Deer stakeholder satisfaction: Build and maintain broad support of deer stakeholders for DNR deer management and encourage new participation that builds upon Minnesota's strong deer hunting traditions.	<input type="checkbox"/>
<input type="checkbox"/>	Promote cost-effective deer management: Sustain and broaden the funding sources that support deer research and management, taking into account the diversity of stakeholder interests, to provide long-term social, ecological and economic benefits	<input type="checkbox"/>
<input type="checkbox"/>	Reduce negative impact of deer on other resources: Reduce negative impacts of deer to the land, resources and other species, including people.	<input type="checkbox"/>

Scenario 3. Please check the one goal you think is most important and the one goal that is least important.

Most important	Goals	Least important
<input type="checkbox"/>	Ensure deer herd health: Support deer herd health by aggressively managing CWD and other cervid diseases in endemic areas and minimizing risk of new introductions across the state.	<input type="checkbox"/>
<input type="checkbox"/>	Informed deer population management: Use of both data about deer biology and the preferences of stakeholders to inform deer population goals and management and adjust management as necessary to meet these goals.	<input type="checkbox"/>
<input type="checkbox"/>	Reduce negative impact of deer on other resources: Reduce negative impacts of deer to the land, resources and other species, including people.	<input type="checkbox"/>

Scenario 4. Please check the one goal you think is most important and the one goal that is least important.

Most important	Goals	Least important
<input type="checkbox"/>	Ensure deer herd health: Support deer herd health by aggressively managing CWD and other cervid diseases in endemic areas and minimizing risk of new introductions across the state.	<input type="checkbox"/>
<input type="checkbox"/>	Communication, information sharing, and public involvement: Foster trusting, respectful, and effective two-way communication between DNR and the public regarding deer management.	<input type="checkbox"/>
<input type="checkbox"/>	Deer stakeholder satisfaction: Build and maintain broad support of deer stakeholders for DNR deer management and encourage new participation that builds upon Minnesota's strong deer hunting traditions.	<input type="checkbox"/>

Scenario 5. Please check the one goal you think is most important and the one goal that is least important.

Most important	Goals	Least important
<input type="checkbox"/>	Promote cost-effective deer management: Sustain and broaden the funding sources that support deer research and management, taking into account the diversity of stakeholder interests, to provide long-term social, ecological and economic benefits	<input type="checkbox"/>
<input type="checkbox"/>	Maintain, enhance, and restore wildlife habitat: Increase the amount and quality of wildlife habitat and maintain an appropriate number of deer.	<input type="checkbox"/>
<input type="checkbox"/>	Ensure deer herd health: Support deer herd health by aggressively managing CWD and other cervid diseases in endemic areas and minimizing risk of new introductions across the state.	<input type="checkbox"/>

Scenario 6. Please check the one goal you think is most important and the one goal that is least important.

Most important	Goals	Least important
<input type="checkbox"/>	Communication, information sharing, and public involvement: Foster trusting, respectful, and effective two-way communication between DNR and the public regarding deer management.	<input type="checkbox"/>
<input type="checkbox"/>	Promote cost-effective deer management: Sustain and broaden the funding sources that support deer research and management, taking into account the diversity of stakeholder interests, to provide long-term social, ecological and economic benefits	<input type="checkbox"/>
<input type="checkbox"/>	Informed deer population management: Use of both data about deer biology and the preferences of stakeholders to inform deer population goals and management and adjust management as necessary to meet these goals.	<input type="checkbox"/>

Scenario 7. Please check the one goal you think is most important and the one goal that is least important.

Most important	Goals	Least important
<input type="checkbox"/>	Deer stakeholder satisfaction: Build and maintain broad support of deer stakeholders for DNR deer management and encourage new participation that builds upon Minnesota's strong deer hunting traditions.	<input type="checkbox"/>
<input type="checkbox"/>	Maintain, enhance, and restore wildlife habitat: Increase the amount and quality of wildlife habitat and maintain an appropriate number of deer.	<input type="checkbox"/>
<input type="checkbox"/>	Reduce negative impact of deer on other resources: Reduce negative impacts of deer to the land, resources and other species, including people.	<input type="checkbox"/>

Part VI. MNDNR Outreach and Involvement

Q15. We are interested in learning more about your preferences engaging with the DNR about deer. How likely are you to do the following in the next year? (Circle one response for each.)

	Very unlikely	Moderately unlikely	Slightly unlikely	Neither	Slightly likely	Moderately Likely	Very Likely
Attend local deer open house meetings <u>in-person</u> .	1	2	3	4	5	6	7
Attend local deer open house meeting <u>virtually</u> .	1	2	3	4	5	6	7
Respond to the post-season online questionnaire.	1	2	3	4	5	6	7
Provide input on deer population goals via online questionnaire.	1	2	3	4	5	6	7
Contact MNDNR through social media.	1	2	3	4	5	6	7
Contact your local wildlife manager (telephone or email).	1	2	3	4	5	6	7
Contact big game program staff (telephone or email).	1	2	3	4	5	6	7
Attend statewide deer management meetings.	1	2	3	4	5	6	7

Part VI. Involvement in Deer Hunting in Minnesota

Hunters in Minnesota view the importance of hunting in their life in different ways. While some participants view hunting as a central part of their lives, others view hunting as simply one of many activities they are interested in. Understanding the importance of hunting to Minnesotans will help us better understand why hunters choose to hunt and what factors keep them interested in the sport.

Q16. We are interested in learning about how important deer hunting is to you. For each statement, please indicate your level of agreement. (Circle one response for each.)

	Strongly disagree	Moderately disagree	Slightly disagree	Neither	Slightly agree	Moderately agree	Strongly agree
Being a deer hunter is an important part of who I am.	1	2	3	4	5	6	7
Deer hunting is something I rarely think about.	1	2	3	4	5	6	7
I would be at a loss if I was forced to give up deer hunting.	1	2	3	4	5	6	7
Being a deer hunter is about more than just hunting.	1	2	3	4	5	6	7
I have no clear feelings about deer hunting.	1	2	3	4	5	6	7

Part VIII. Additional Information

Q17. Is there anything else that you would like to share with us about deer hunting in Minnesota?

Thank You!
Please return your completed survey in the envelope provided.