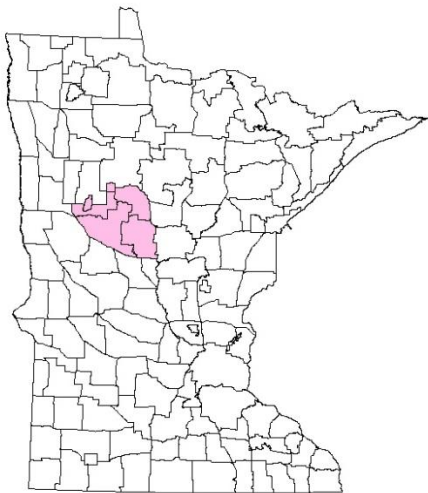


## Fish and Wildlife Division

---

# Deer Goal Setting Attitude Survey Report

## Block 3: Pine Moraines



# Contents

Deer Goal Setting Attitude Survey Report .....	1
Statement of Purpose and Scope of Data .....	6
Data Collection Process .....	6
Hunters .....	6
Landowners .....	6
Block 3: Superior Uplands/Arrowhead.....	7
Figure 1. Goal setting Block 3 DPA boundaries .....	7
Response Rates and Weighting .....	8
Hunters .....	8
Landowners .....	8
Table 1. Response rates for hunter samples, by DPA.....	9
Table 2. Population and sample proportions by age quantile, and weights .....	10
Table 3. Response rates for landowner samples, by DPA .....	11
Table 4. Population and sample proportions by acre strata, and weights.....	12
Summary of Deer Population Preferences.....	13
Figure 2. Landowners’ and hunters’ mean desired percent change in the deer population, by DPA .....	14
Figure 3. Deer permit area 117 deer hunters’ and landowners’ preference for future deer population ..	15
Figure 4. Deer permit area 118 landowners’ and hunters’ preference for future deer population .....	16
Figure 5. Deer permit area 126 landowners’ and hunters’ preference for future deer population .....	17
Figure 6. Deer permit area 130 landowners’ and hunters’ preference for future deer population .....	18
Figure 7. Deer permit area 131 landowners’ and hunters’ preference for future deer population .....	19
Figure 8. Deer permit area 133 landowners’ and hunters’ preference for future deer population .....	20
Hunters .....	21
Table 5. Percent of respondents reporting hunting deer during the last three years, by DPA .....	23

Table 6. Percent of 2019 deer hunters participating in deer hunting seasons, by DPA.....	24
Table 7. Percent of deer hunters' time spent hunting on different land ownership types, by DPA.....	25
Table 8. Deer hunters' satisfaction with their most recent deer hunting season, by DPA .....	26
Table 9. Deer hunters' agreement with elements of their satisfaction with their most recent deer hunting season, by DPA .....	27
Table 9. Continued. ....	28
Table 9. Continued .....	29
Table 10. Deer hunters' perceived change in the deer population over last 5 years, by DPA.....	30
Table 11. Deer hunters' satisfaction with the deer population where they hunt, by DPA.....	31
Table 12. Percent of deer hunters that would shoot an antlerless deer, by DPA.....	32
Table 13. Deer hunters' mean stated importance for factors to consider in making deer population goals, by DPA .....	33
Table 14. Deer hunters' perception of the deer population in the DPA where they hunt, by DPA.....	34
Table 15. Deer hunters' preference for future deer populations, by DPA.....	35
Table 16. Deer hunters' mean preferred percent change in the deer population, by DPA .....	36
Table 17. Deer hunters' support for regulations to increase proportion of antlered bucks in the area they hunt, by DPA.....	37
Table 18. Mean number of years that deer hunters have been hunting deer in Minnesota, by DPA.....	38
Table 19. Percent of deer hunters that set out food for deer to consume, by DPA .....	39
Table 20. Percent of deer hunters that set out minerals for deer to consume, by DPA.....	40
Table 21. Percent of deer hunters that belong to a deer hunting organization, by DPA.....	41
Table 22. Deer hunters' mean level of agreement with statements about the MNDNR, by DPA .....	42
Landowners .....	43
Table 23. Mean acres owned and leased by landowners, by DPA.....	45
Table 24. Percent of landowners with agriculture on their land, percent experiencing damage from deer, and severity of damage, by DPA.....	46

Table 25. Percent of landowners with forest on their land, percent experiencing damage from deer, and severity of damage, by DPA.....	47
Table 26. Percent of landowners with residential land use on their land, percent experiencing damage from deer, and severity of damage, by DPA .....	48
Table 27. Landowners’ perceived trend in damage from deer over 5 years, by DPA.....	49
Table 28. Landowners’ perceived trend in the deer population over the last 5 years, by DPA.....	50
Table 29. Landowners’ satisfaction with the current deer population in the area of their property, by DPA .....	51
Table 30. Landowners’ satisfaction with the deer population on their land, by DPA and hunting status..	52
Table 31. Landowners’ perception of the deer population on their land, by DPA .....	53
Table 32. Landowners’ perception of the deer population on their land, by DPA and hunting status .....	54
Table 33. Landowners’ preference for future deer populations, by DPA .....	55
Table 34. Landowners’ preference for future deer populations, by DPA and hunting status .....	56
Table 35. Landowners’ mean preferred percent change in the deer population, by DPA .....	57
Table 36. Percent of landowners aware that MNDNR offers technical and financial assistance for deer depredation problems, by DPA, and acres owned.....	58
Table 37. Percent of landowners that allow hunting on their property, by DPA, and acres owned .....	59
Table 38. Percent of landowners that leased their property for deer hunting, by DPA. ....	60
Table 39. Percent of landowners imposing different harvest restrictions on their property, by DPA .....	61
Table 40. Percent of landowners reporting hunting deer during the last three years, and those that do not hunt, by DPA .....	62
Table 41. Landowners’ time spent hunting on different land ownership types, by DPA.....	63
Table 42. Percent of hunting landowners that would shoot an antlerless deer, by DPA .....	64
Table 43. Mean number of years that hunting landowners have been hunting deer in Minnesota, by DPA .....	65
Table 44. Landowners’ mean level of agreement with statements about the MNDNR, by DPA.....	66
Table 45. Landowners’ mean stated importance for factors to consider in making deer population goals, by DPA .....	67

Table 46. Percent of landowners that set out food for deer to consume, by DPA ..... 68

Table 47. Percent of landowners that set out minerals for deer to consume, by DPA..... 69

## Statement of Purpose and Scope of Data

The Minnesota Department of Natural Resources (MNDNR) periodically conducts surveys of deer hunters and landowners to assess preferences for deer populations, experiences with deer hunting, and impacts of deer populations on private property to inform the deer population goal setting process. This report details one such effort. Results of this study directly inform decision making for deer populations. We randomly selected landowners and hunters from county tax parcel records, and MNDNR deer license information respectively for participation. Therefore, the results of this study are representative of the stakeholder group, and may differ substantially from results of self-selected public input processes, as a function of the scientific study design. The values in this report are estimates of the average for all individuals within a given population of interest (e.g., hunters in a deer permit area), not just respondents to the survey.

## Data Collection Process

We conducted our surveys of hunters and landowners using a mixed mode design that included three solicitations. We sent selected participants a letter directing them to complete a questionnaire online. Non-respondents received a second letter requesting their participation, followed by a paper copy of the survey with a postage-paid self-addressed return envelope. Copies of these questionnaires are found in Appendices A and B of this report.

### Hunters

Within a deer permit area (DPA), we randomly selected hunters from the list of all firearm deer license holders in the given year to receive a goal setting survey. We only included adults over the age of 18 at the time the sample was drawn. The number of hunters selected in each DPA was determined by estimating the minimum sample size needed to make statistically valid inference about the population at the DPA level at 90% confidence. Participants may not be residents of the DPA, but have indicated that the given DPA is the primary location where they hunt deer.

### Landowners

Within a deer permit area, we randomly selected individual parcels from all parcels greater than or equal to 2 acres in size for inclusion. Stratification occurred by quantiles of parcels by acres to ensure a representative coverage of land use types and interests. Land acres strata were: 2-19, 20-79, 80-319, and  $\geq 320$  acres respectively. Similar to hunters, the number of landowners selected for each DPA was proportional to the total number of landowners in the DPA and after determining, the minimum sample size needed for statistically valid inference at the DPA scale, with 90% confidence.

### Block 3: Pine Moraines

The data presented herein are from a statistically representative survey of Minnesota deer hunters and landowners in goal setting Block 3 (Pine Moraines). This area includes deer permit areas: 241, 246, 251, 258, 259, and 287 in the north central part of the state (Figure 1). Deer permit areas 251 and 287 are the Tamarac National Wildlife Refuge and Itasca State Park respectively. Landowners were not surveyed in these DPAs due to public ownership.

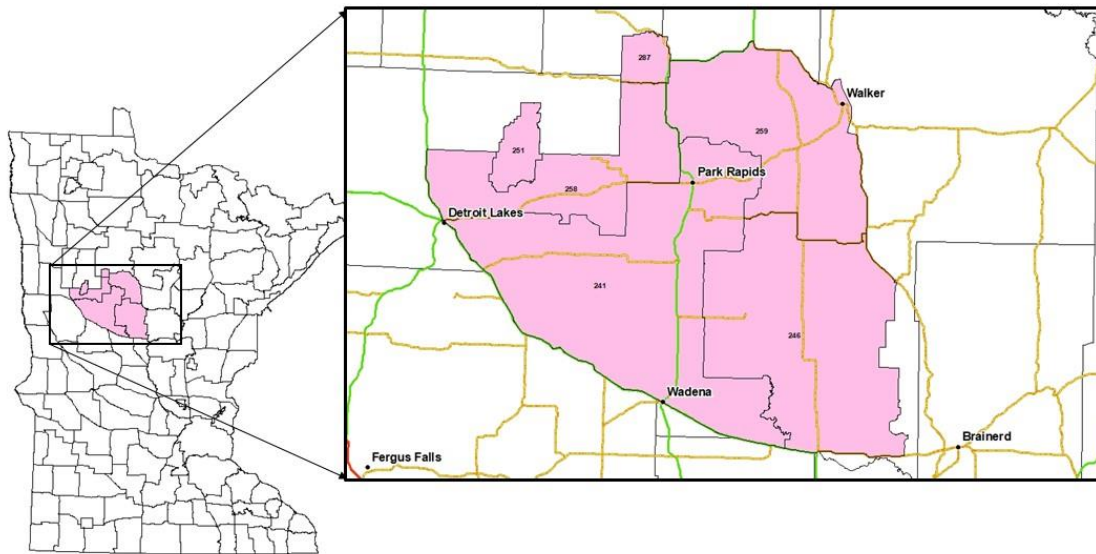


Figure 1. Goal setting Block 3 DPA boundaries

## **Response Rates and Weighting**

### **Hunters**

After accounting for undeliverable mail, the adjusted response rate for the Block 3 hunter sample was 44%. Response rates by DPA ranged from a low of 41% for DPA 241, to a high of 46% for DPAs 251 and 258. A summary of response rates by DPA is located in Table 1.

We weighted responses in proportion to quantiles derived from the population of aged 18+ firearms deer hunters in Minnesota, during the 2020 hunting season. Respondents (M=52) were on average older than the population (M=46) from which the sample was drawn. To attend to this, we estimated population estimates according to the weight schedule presented in Table 2. Weights apply to the population rather than the block level, under an assumption that there is no correlation between age and preferred hunt location.

### **Landowners**

After accounting for undeliverable mail, the adjusted response rate for the Block 3 landowner sample was 45%. Response rates by DPA ranged from a low of 41% for DPA 246, to a high of 53% for DPA 259. A summary of response rates by DPA is located in Table 3.

We drew samples of landowners equally within four strata (2-19, 20-70, 80-319, and 320+) corresponding to parcel acres to ensure representation of small, medium, and large landholders, and thus, the potential array of interests associated with different land uses. We calculated weights within Block to generate estimates representative of the population according to the schedule presented in Table 4.



*Table 1. Response rates for hunter samples, by DPA*

<b>DPA</b>	<b>Initial Sample</b>	<b>Undeliverable</b>	<b>Respondents</b>	<b>Adjusted sample</b>	<b>Raw response rate</b>	<b>Adjusted response rate</b>
241	538	20	518	210	0.39	0.41
246	544	11	533	236	0.43	0.44
251	363	23	340	158	0.44	0.46
258	511	18	493	226	0.44	0.46
259	526	13	513	231	0.44	0.45
287	275	7	268	116	0.42	0.43
<b>Block Average</b>	2757	92	2665	1177	0.43	0.44

Table 2. Population and sample proportions by age quantile, and weights

Age Quantile	Population Proportion	Sample Proportion	Weight*
18-32	0.2423	0.1365	1.7751
33-45	0.2553	0.2098	1.2169
45-58	0.2543	0.2887	0.8801
59+	0.2481	0.3650	0.6797

\*Weight =  $1/(\text{Sample Proportion}/\text{Population Proportion})$

Table 3. Response rates for landowner samples, by DPA

DPA	Initial Sample	Undeliverable	Respondents	Adjusted sample	Raw response rate	Adjusted response rate
241	483	4	479	214	0.44	0.45
246	516	10	506	208	0.40	0.41
251	-	-	-	-	-	-
258	384	8	376	157	0.41	0.42
259	517	14	503	267	0.52	0.53
287	-	-	-	-	-	-
<b>Block average</b>	1900	36	1864	846	0.45	0.45

Table 4. Population and sample proportions by acre strata, and weights

Acres strata	Population proportion	Sample proportion	Weight*
2-19	.5060	.2861	1.7681
20-79	.2758	.3026	0.9114
80-319	.1806	.2577	0.7008
320+	.0375	.1537	0.2440

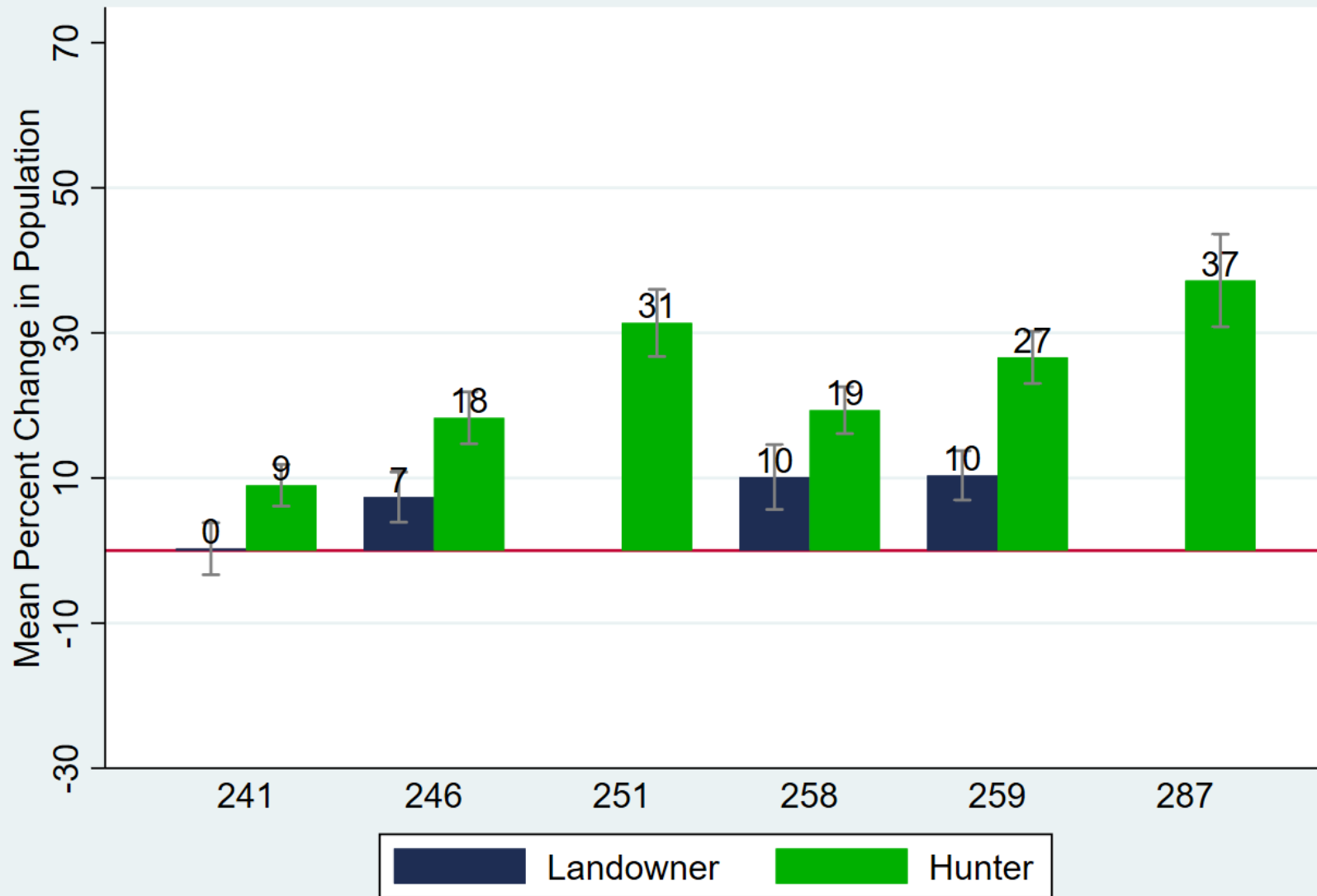
\*Weight = 1/(Sample Proportion/Population Proportion)

## Summary of Deer Population Preferences

Figure 2 contains estimates of Goal Block 3 deer hunter and landowner preferences for change in the deer population where they hunt or their property is located respectively. Values are an estimate of the mean preferred percent change to the deer population by DPA, and its 95% confidence interval. Landowners reported deer population preferences ranging from no change for DPA 241, to small increase (+10%) for DPAs 258 and 259. Deer hunters, on average, and regardless of DPA preferred an increase in the deer population. Estimates for deer hunters' preference for change to the deer population ranged from +9% for DPA 241 to +37% for DPA 287.

Figures 3 through 8 contain DPA level estimates for the percent of hunters and landowners that preferred to see the deer population either decrease, stay the same, or increase. A majority of deer hunters expressed a preference for an increase in the deer population in all DPAs except 241. In DPA 241, more than half (54%) of hunters reported a desire to see the deer population stay the same. A near majority of landowners in Block 3 DPAs expressed a preference for stability in future deer populations.

Figure 2. Landowners' and hunters' mean desired percent change in the deer population, by DPA



\*Landowners not surveyed in DPAs 251 and 287

Figure 3. Deer permit area 241 deer hunters' and landowners' preference for future deer population

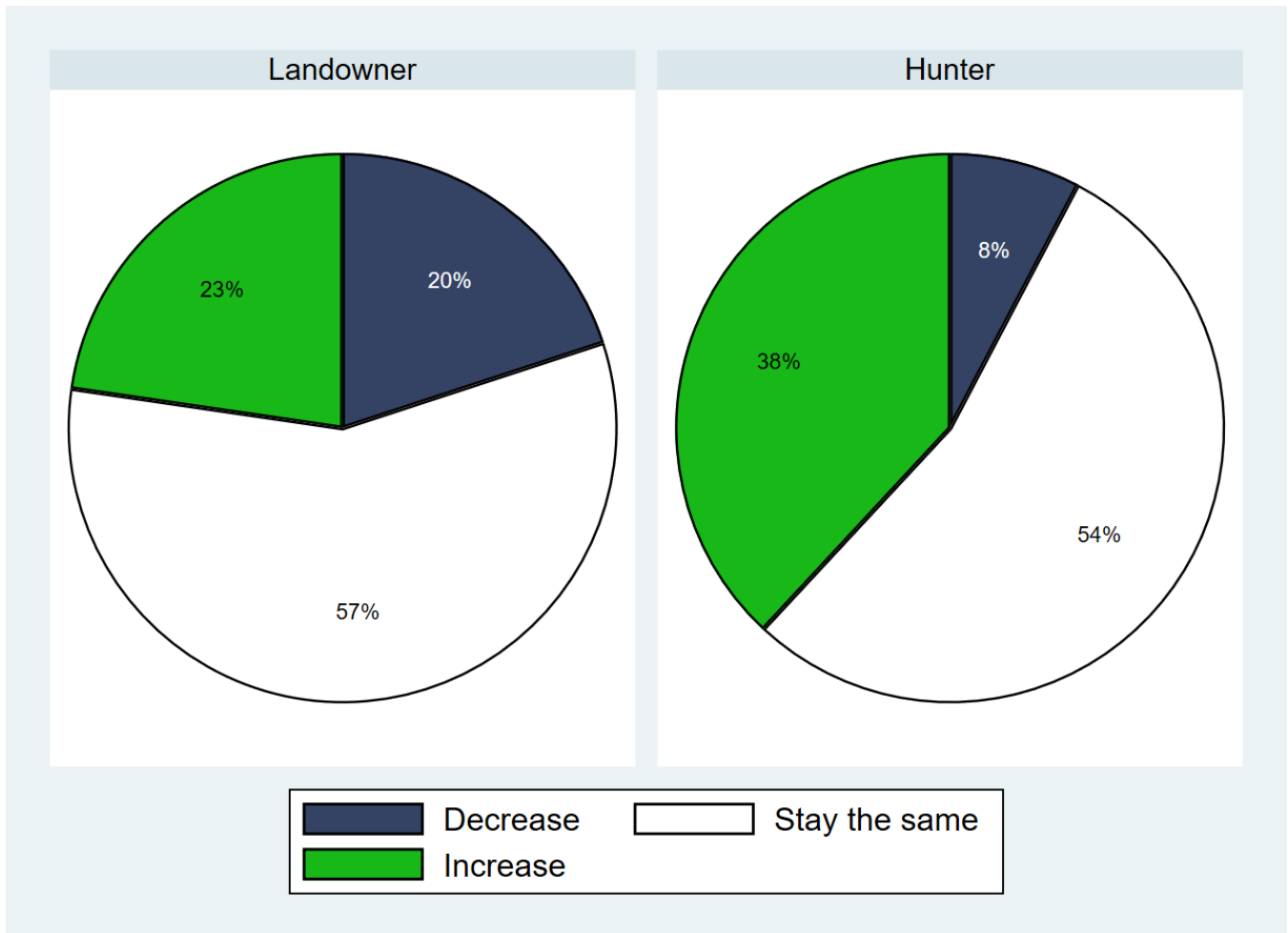


Figure 4. Deer permit area 246 landowners' and hunters' preference for future deer population

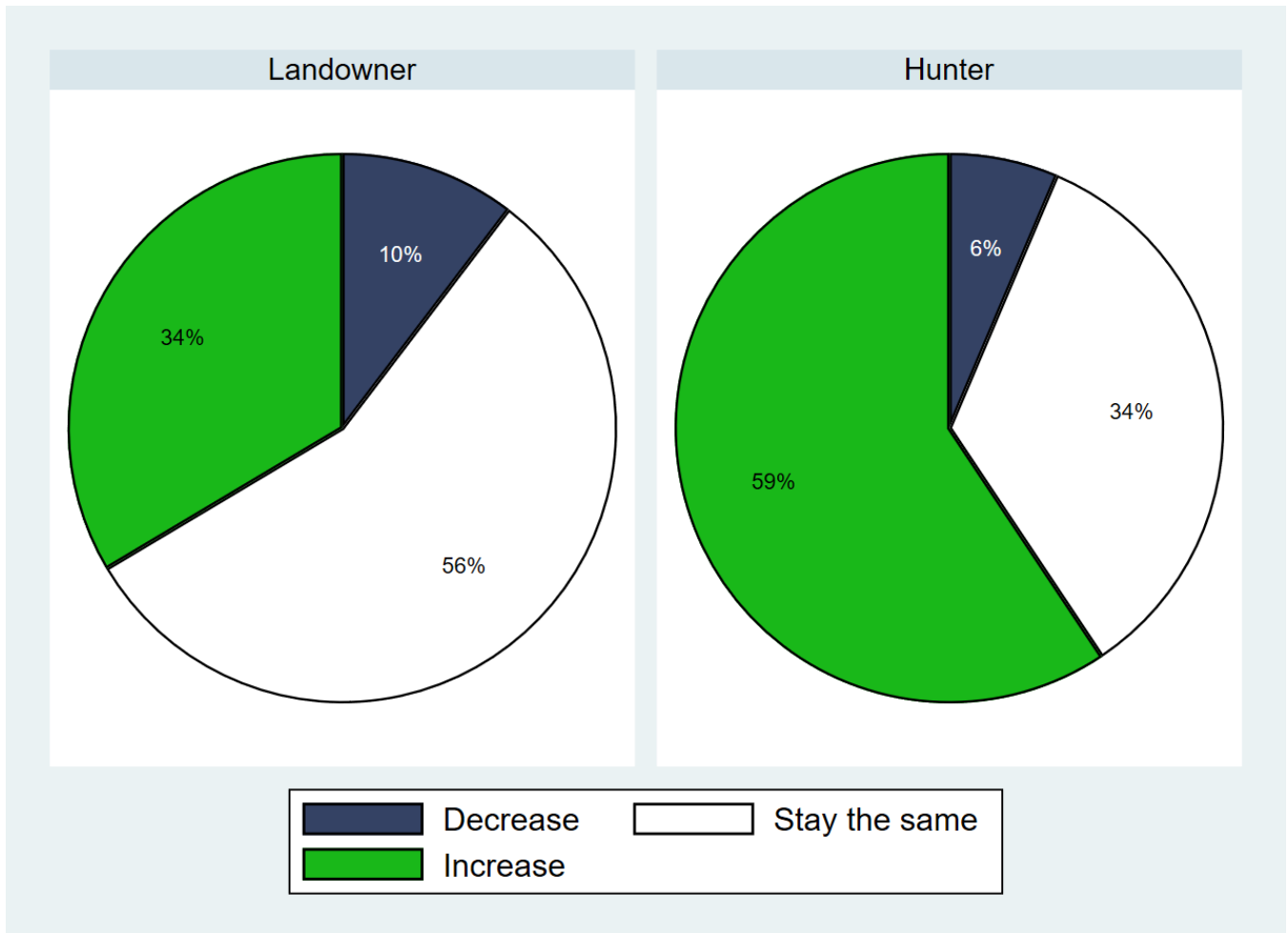




Figure 5. Deer permit area 251 hunters' preference for future deer population

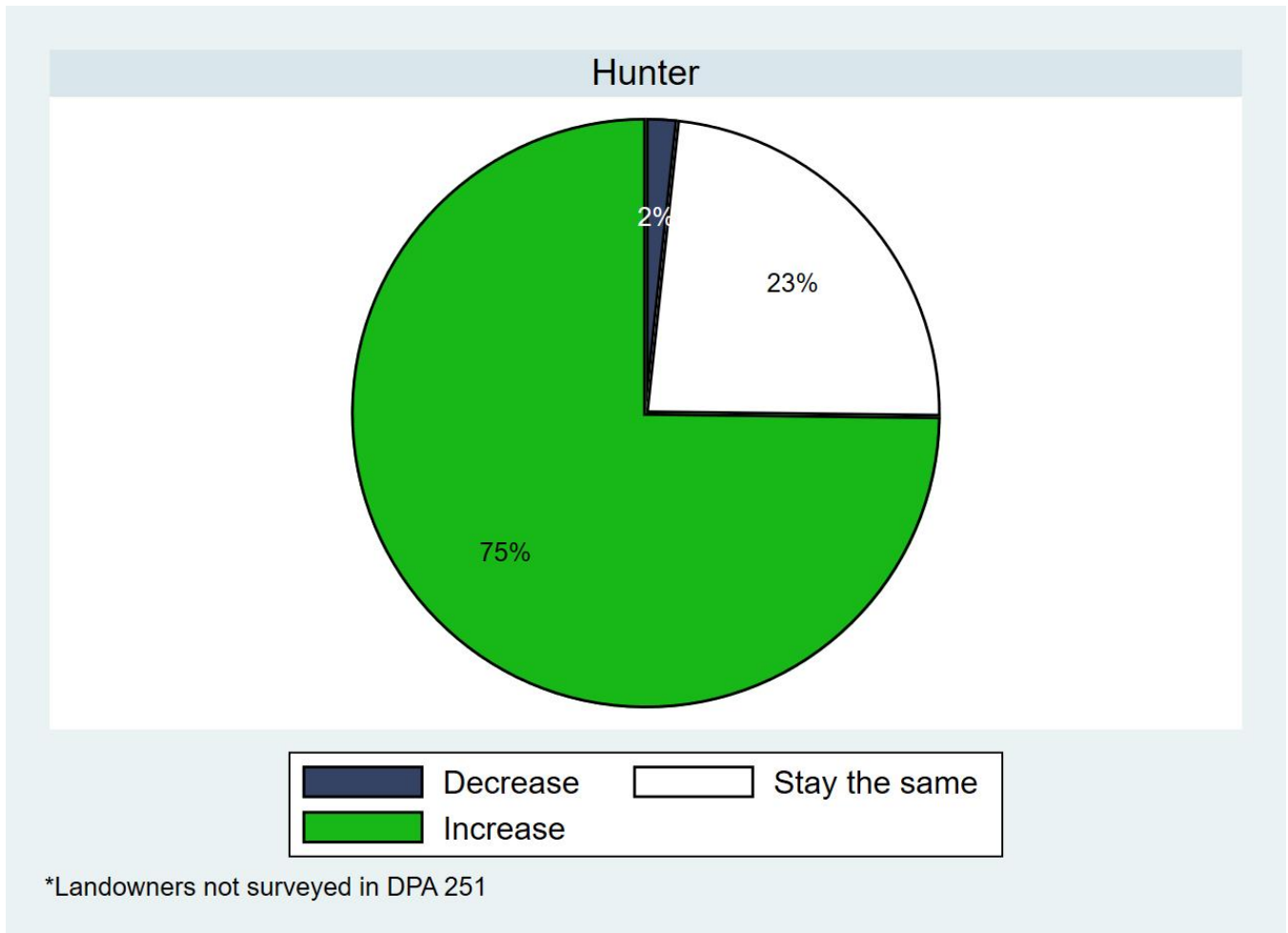


Figure 6. Deer permit area 258 landowners' and hunters' preference for future deer population

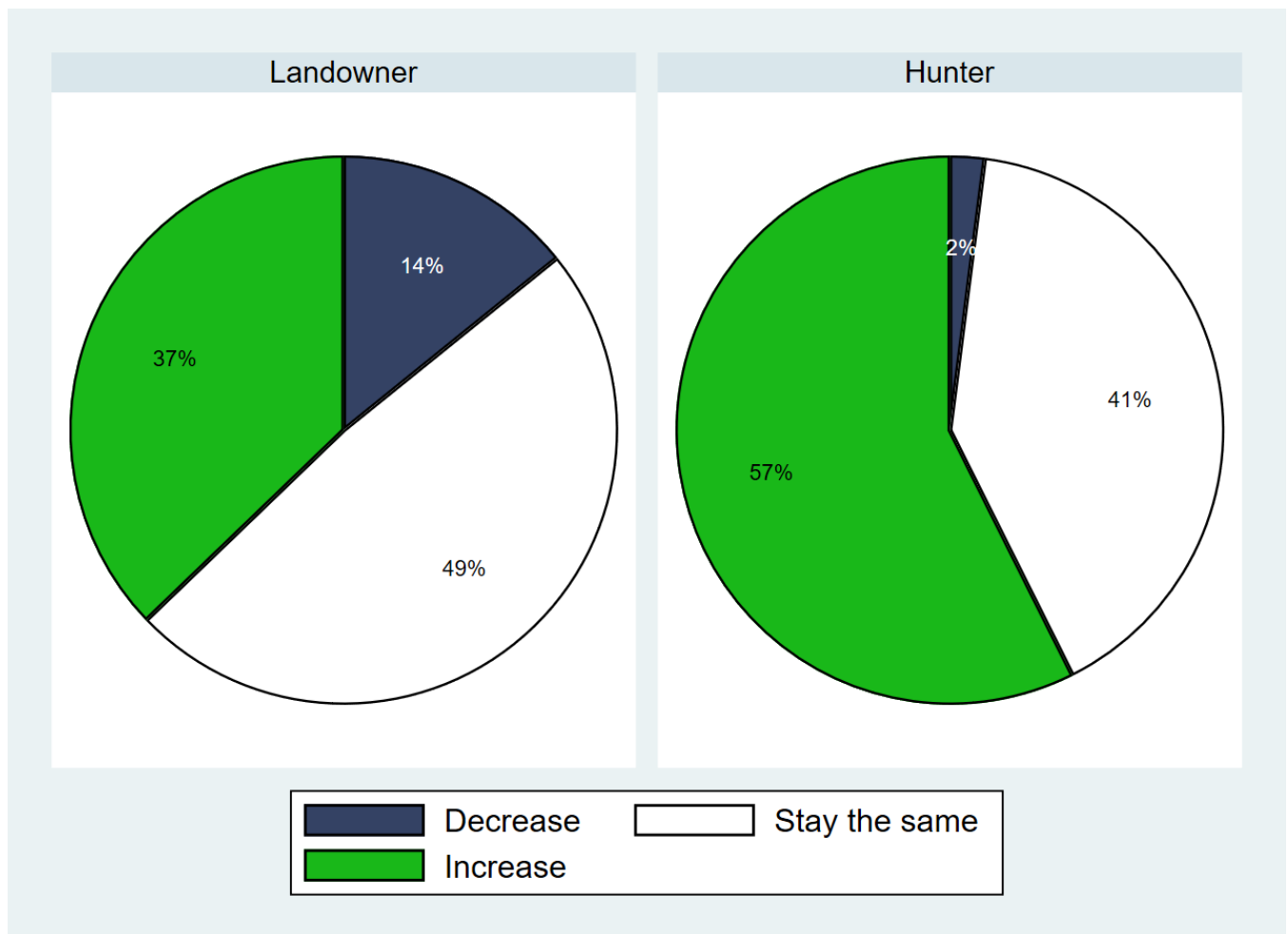


Figure 7. Deer permit area 259 landowners' and hunters' preference for future deer population

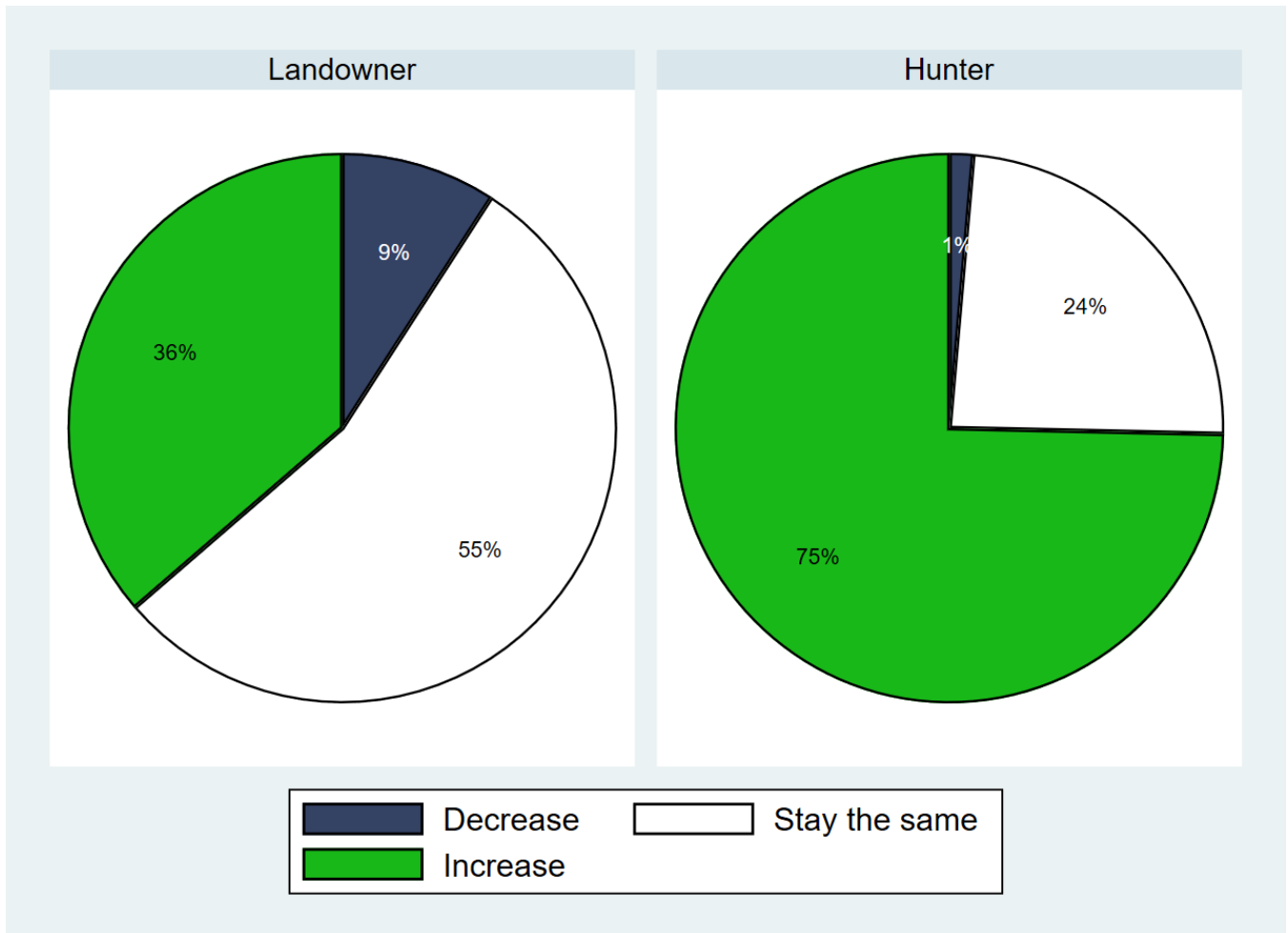
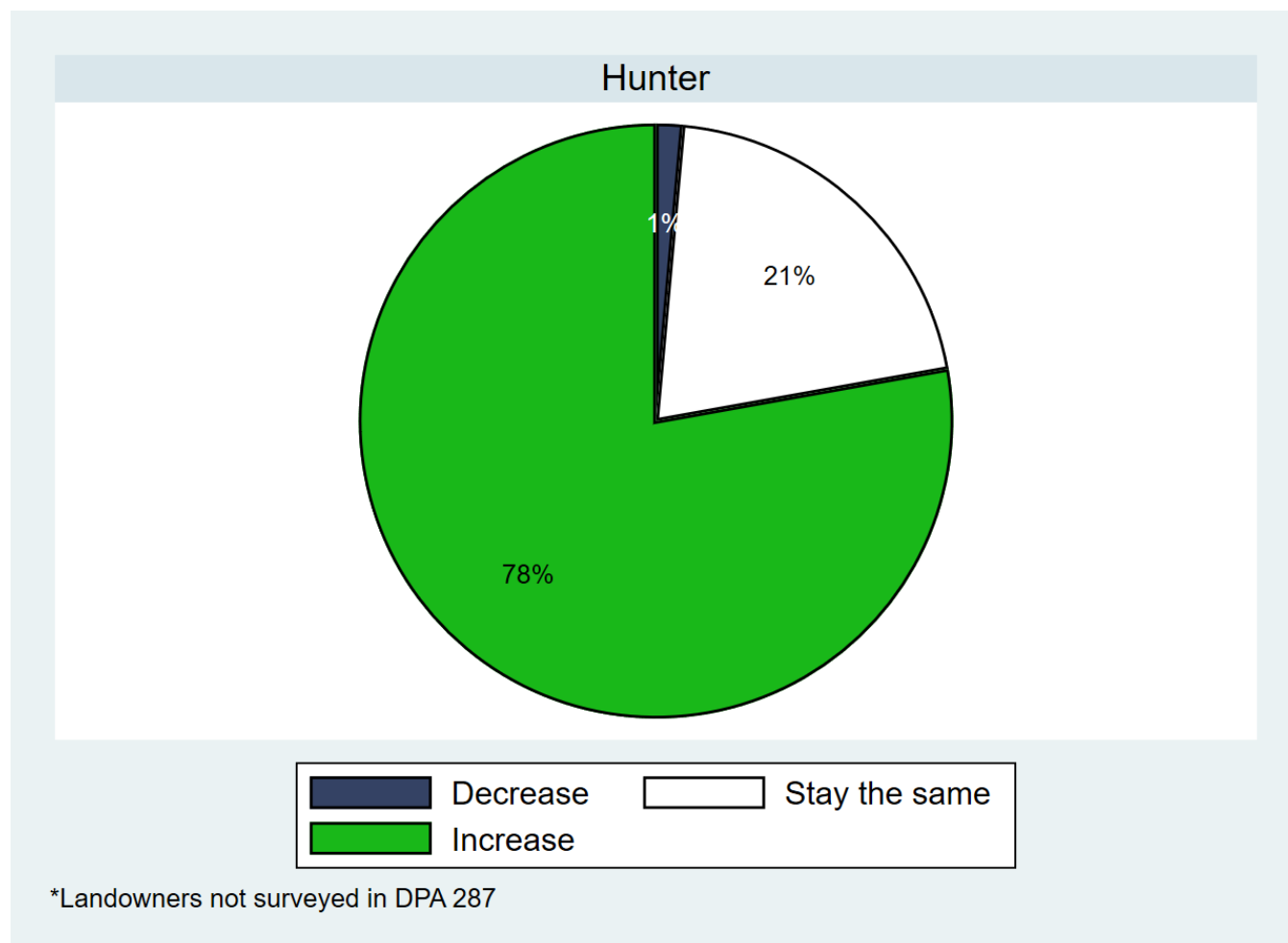


Figure 8. Deer permit area 287 hunters' preference for future deer population



## Hunters

We asked hunters to report their recent deer hunting activity. The vast majority (>90%) of hunters reported having hunted deer during the last three years (Table 5). Among these hunters, around 19% reported that they hunted during the archery season in 2020, while 10% participated in muzzleloader season, and 89% reported hunting during the firearms season A (Table 6). Fewer Block 3 hunters reported hunting during firearm season B (15%), and very few participated in the early antlerless season (1%). Around a third (32%) of Block 3 hunters reported spending all of their time hunting on private land that they own, while 12% reported spending most of their time hunting on private land that they own, 11% some of their time, and 45% reporting none. Hardly any Block 3 hunters reported spending any time hunting on land that they lease. Just under a third of hunters (29%) spent all of their time hunting on private land that they did not own. Slightly more than a third (40%) of Block 3 hunters reported spending all of their deer hunting time on private land (Table 7).

On average, 59% of Block 3 hunters reported feeling either “very satisfied” or “slightly satisfied” with their most recent deer hunting season. Conversely, around a third (31%) reported feeling either “slightly dissatisfied” or “very dissatisfied” (Table 8). Hunters also reported their agreement with statements about their satisfaction elements of their most recent deer hunting season (Table 9). Respondents reported the greatest disagreement with “the number of legal bucks” (56% strongly disagree) and “the quality of bucks” (54% strongly disagree). A majority of hunters agreed that they were satisfied with “the number of deer I saw while hunting” (56% strongly disagree), and “I heard about or saw legal bucks while hunting.” (Table 9).

Hunters evaluated the trend in the deer population over the last 5 years in the DPA where they hunt, their satisfaction with the deer population in the DPA where they hunt, and their likelihood to harvest an antlerless deer given the opportunity. Roughly, half (48%) of hunters reported seeing fewer deer compared to 5 years ago (Table 10). Forty-two percent of Block 3 hunters reported feeling either “slightly dissatisfied” or “very dissatisfied” with the deer population in the DPA where they hunt (Table 11). A clear majority (89%) of hunters reported that they would shoot an antlerless deer given the opportunity (Table 12).

Hunters rated the importance of several competing priorities MNDNR could consider when setting deer population goals on scale where 1= not at all important and 5 = very important. Among these priorities, Block 3 hunters rated “deer hunting heritage and tradition” (M = 4.0), “the amount of deer mortality during a severe winter” (M = 3.9), and “the amount of deer mortality during a normal winter” (M=3.9) the highest (Table 13).

Hunters evaluated the current deer population in the DPA where they hunt, on a scale of much too low to much too high. Nearly half of hunters (48%) felt that the current population where they hunt is about right, while 47% believed it was either too low, or much too low. A small number of hunters (5%) believed the deer population was either too high or much too high (Table 14).

When asked if hunters prefer to see the deer population decrease, stay the same, or increase, 62% reported a preference for an increase (Table 15). Slightly more than a third of hunters (36%) expressed a preference for stability in the deer population, and 4% preferred a decrease. On average, hunters in Block 3 wish to see a 22% increase in the deer population (Table 16). A majority of hunters in Block 3 (60%) supported establishing regulations to increase the proportion of adult bucks in the DPA where they hunt (Table 17).

We asked hunters how long they have been hunting deer in Minnesota, whether they place feed or minerals out for deer to consume, and if they belong to a deer hunting organization. On average, Block 3 deer hunters have been hunting in Minnesota for 29 years (Table 18). Roughly, 6% of hunters reported that they set out feed for deer (Table 19), while 20% reported placing minerals for deer to consume (Table 20). Around 7% of Block 3 hunters reported that they belong to a deer hunting organization (Table 21).

Hunters reported their agreement with statements about their trust in the MNDNR on a scale where 1 = strongly disagree, 3 = neither, and 5 = strongly agree. On average, hunters reported moderate amounts of trust with mean values falling between 3.3 and 3.6 (Table 22).

Table 5. Percent of respondents reporting hunting deer during the last three years, by DPA

<b>DPA</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Did not hunt</b>
241	89	90	96	1
246	89	91	99	0
251	97	95	98	0
258	91	92	98	1
259	90	94	99	0
287	90	91	98	0
<b>Block average</b>	<b>91</b>	<b>92</b>	<b>98</b>	<b>1</b>

Table 6. Percent of 2019 deer hunters participating in deer hunting seasons, by DPA

DPA	Archery	Firearm A	Firearm B	Muzzleloader	Early Antlerless
241	32	85	14	15	1
246	22	87	16	8	1
251	12	91	21	6	0
258	13	93	13	9	0
259	18	87	13	10	1
287	10	91	14	17	3
<b>Block average</b>	<b>19</b>	<b>89</b>	<b>15</b>	<b>10</b>	<b>1</b>



Table 7. Percent of deer hunters' time spent hunting on different land ownership types, by DPA

Question	Response	241	246	251	258	259	287	Avg.
Private land that I own	None	32	33	73	32	48	84	45
	Some	12	11	14	11	11	10	11
	Most	10	12	5	20	13	2	12
	All	46	44	8	37	29	4	32
Private land that I lease for hunting	None	94	92	97	89	87	99	92
	Some	3	4	2	3	1	1	3
	Most	2	1	0	4	8	0	3
	All	1	3	1	5	4	0	3
Private land that I do not own or lease	None	27	39	57	37	50	67	43
	Some	12	21	26	17	14	15	17
	Most	12	9	2	15	10	9	10
	All	49	31	14	31	26	9	29
Public land	None	64	33	4	26	18	8	26
	Some	22	23	11	31	25	6	20
	Most	7	12	18	20	14	14	14
	All	7	32	67	24	42	72	40

values are the percent of respondents reporting each category

*Table 8. Deer hunters' satisfaction with their most recent deer hunting season, by DPA*

<b>DPA</b>	<b>Very dissatisfied</b>	<b>Slightly dissatisfied</b>	<b>Neither</b>	<b>Slightly satisfied</b>	<b>Very satisfied</b>
241	6	11	8	30	44
246	13	18	8	29	33
251	13	15	13	32	28
258	11	17	11	29	32
259	15	22	11	30	22
287	33	16	11	18	23
<b>Block average</b>	<b>14</b>	<b>17</b>	<b>10</b>	<b>28</b>	<b>31</b>

values are the percent of respondents reporting each category

*Table 9. Deer hunters' agreement with elements of their satisfaction with their most recent deer hunting season, by DPA*

<b>I was satisfied with the...</b>	<b>Response</b>	<b>241</b>	<b>246</b>	<b>251</b>	<b>258</b>	<b>259</b>	<b>287</b>	<b>Avg.</b>
Number of legal bucks	Strongly disagree	16	30	34	27	41	56	32
	Slightly disagree	20	24	25	25	30	18	24
	Neither	13	15	17	16	8	6	13
	Slightly agree	32	26	17	22	15	13	22
	Strongly agree	19	6	7	10	6	6	9
Quality of bucks	Strongly disagree	21	35	32	27	37	52	33
	Slightly disagree	19	19	20	24	28	16	21
	Neither	12	17	20	20	13	13	16
	Slightly agree	32	24	21	18	14	11	21
	Strongly agree	16	6	8	10	8	8	9

Table 9. Continued.

I was satisfied with the...	Response	241	246	251	258	259	287	Avg.
I heard about or saw legal bucks while hunting	Strongly disagree	9	18	20	21	28	46	22
	Slightly disagree	10	12	11	11	13	13	12
	Neither	11	14	13	9	11	7	11
	Slightly agree	35	33	39	33	27	20	32
	Strongly agree	34	23	16	26	21	14	23
The number of antlerless deer I saw	Strongly disagree	7	14	21	14	22	48	18
	Slightly disagree	11	17	15	17	19	13	16
	Neither	6	6	18	12	11	8	10
	Slightly agree	27	36	28	34	29	22	30
	Strongly agree	49	27	18	23	19	9	26

Table 9. Continued

I was satisfied with the...	Response	241	246	251	258	259	287	Avg.
The number of deer I saw while hunting	Strongly disagree	7	20	26	24	29	51	24
	Slightly disagree	14	21	26	15	24	13	19
	Neither	9	9	14	13	12	10	11
	Slightly agree	31	33	21	28	20	16	26
	Strongly agree	40	17	12	20	15	9	20

values are the percent of respondents reporting each category

Table 10. Deer hunters' perceived change in the deer population over last 5 years, by DPA

DPA	Many fewer deer	Slightly fewer deer	About the same	Slightly more deer	Many more deer
241	6	24	36	23	10
246	19	20	38	17	6
251	31	26	26	15	2
258	18	22	33	22	5
259	29	29	26	13	3
287	57	21	16	5	1
<b>Block average</b>	<b>24</b>	<b>24</b>	<b>30</b>	<b>17</b>	<b>5</b>

values are the percent of respondents reporting each category

Table 11. Deer hunters' satisfaction with the deer population where they hunt, by DPA

DPA	Very dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Very satisfied
241	5	18	13	29	36
246	14	24	17	33	12
251	26	23	18	25	7
258	15	22	16	29	18
259	22	30	9	28	11
287	47	20	10	15	7
<b>Block average</b>	<b>19</b>	<b>23</b>	<b>14</b>	<b>28</b>	<b>17</b>

values are the percent of respondents reporting each category

Table 12. Percent of deer hunters that would shoot an antlerless deer, by DPA

<b>DPA</b>	<b>Yes</b>	<b>No</b>
241	92	8
246	91	9
251	89	11
258	86	14
259	85	15
287	95	5
<b>Block average</b>	<b>89</b>	<b>11</b>

values are the percent of respondents reporting each category



*Table 13. Deer hunters' mean stated importance for factors to consider in making deer population goals, by DPA*

<b>Item</b>	<b>241</b>	<b>246</b>	<b>251</b>	<b>258</b>	<b>259</b>	<b>287</b>	<b>Avg.</b>
Amount of deer mortality during an average winter	3.7	3.5	3.5	3.6	3.6	3.7	3.6
Amount of deer mortality during a severe winter	4.1	3.8	3.9	4.0	4.0	4.0	3.9
Potential health risks to the deer herd	4.0	3.8	3.8	4.0	3.9	3.7	3.9
Public health (human-deer diseases)	3.5	3.5	3.3	3.6	3.4	3.3	3.5
Amount of crop damage from deer	2.8	2.5	2.5	2.6	2.4	2.5	2.5
Number of deer vehicle collisions	3.3	3.1	3.0	3.1	3.1	3.0	3.1
Deer over-browsing of forests	3.0	2.8	2.8	2.8	2.8	2.8	2.8
Impacts of deer on other wildlife species	2.9	2.7	2.5	2.8	2.6	2.8	2.7
Deer hunting heritage and tradition	4.1	4.1	4.0	4.0	4.0	4.1	4.0
Hunter satisfaction with deer numbers	3.8	3.8	3.5	3.6	3.7	3.8	3.7
Public satisfaction with deer numbers	3.1	3.1	2.9	3.0	3.0	2.9	3.0
Impact of deer hunting on the local economy	3.6	3.6	3.4	3.6	3.6	3.6	3.6
Quality of bucks (antler size)	3.6	3.5	3.2	3.4	3.5	3.0	3.4
Damage to gardens and landscaping	2.5	2.3	2.2	2.4	2.0	2.0	2.2
The ratio of bucks to does	3.6	3.6	3.3	3.5	3.4	3.2	3.5

responses measured on a unipolar scale, where 1 = not at all important, and 5 = very important

Table 14. Deer hunters' perception of the deer population in the DPA where they hunt, by DPA

DPA	Much too low	Too low	About right	Too high	Much too high
241	3	21	65	10	3
246	11	37	46	4	2
251	17	40	40	3	0
258	7	37	52	4	1
259	18	34	44	3	1
287	32	41	25	1	0
<b>Block average</b>	<b>13</b>	<b>34</b>	<b>48</b>	<b>4</b>	<b>1</b>

values are the percent of respondents reporting each category

Table 15. Deer hunters' preference for future deer populations, by DPA

DPA	Decrease	Stay the Same	Increase
241	8	54	38
246	6	34	59
251	2	23	75
258	2	41	54
259	1	24	75
287	1	21	78
<b>Block average</b>	<b>4</b>	<b>36</b>	<b>62</b>

values are the percent of respondents reporting each category

Table 16. Deer hunters' mean preferred percent change in the deer population, by DPA

DPA	Mean percent change	Median percent change	Minimum	Maximum
241	9.0	0	-50	100
246	18.3	20	-50	100
251	31.4	25	-10	100
258	19.3	15	-25	100
259	26.6	25	-50	150
287	37.2	30	-50	100
<b>Block average</b>	<b>21.7</b>	<b>20</b>	<b>-50</b>	<b>150</b>

Table 17. Deer hunters' support for regulations to increase proportion of antlered bucks in the area they hunt, by DPA

DPA	Strongly oppose	Slightly oppose	Neither	Slightly support	Strongly support
241	7	7	26	33	27
246	6	3	26	37	28
251	5	11	22	33	28
258	7	9	26	33	25
259	4	8	26	32	30
287	10	5	35	20	29
<b>Block average</b>	<b>6</b>	<b>7</b>	<b>26</b>	<b>32</b>	<b>28</b>

values are the percent of respondents reporting each category

*Table 18. Mean number of years that deer hunters have been hunting deer in Minnesota, by DPA*

<b>DPA</b>	<b>Mean</b>
241	25.9
246	29.9
251	35.8
258	29.7
259	25.8
287	27.3
<b>Block average</b>	<b>28.8</b>

Table 19. Percent of deer hunters that set out food for deer to consume, by DPA

DPA	Yes	No	Live in CWD management or control zone
241	8	88	4
246	5	87	8
251	5	92	3
258	9	91	1
259	6	82	12
287	1	98	2
<b>Block average</b>	<b>6</b>	<b>88</b>	<b>6</b>

values are the percent of respondents reporting each category

Table 20. Percent of deer hunters that set out minerals for deer to consume, by DPA

DPA	Yes	No	Live in CWD management or control zone
241	28	69	3
246	15	76	9
251	14	83	3
258	34	66	1
259	13	75	12
287	9	90	2
<b>Block average</b>	<b>20</b>	<b>75</b>	<b>6</b>

values are the percent of respondents reporting each category



Table 21. Percent of deer hunters that belong to a deer hunting organization, by DPA

<b>DPA</b>	<b>Yes</b>	<b>No</b>
241	8	92
246	6	94
251	7	93
258	9	91
259	9	91
287	3	97
<b>Block average</b>	<b>7</b>	<b>93</b>

values are the percent of respondents reporting each category

Table 22. Deer hunters' mean level of agreement with statements about the MNDNR, by DPA

	241	246	251	258	259	287	Avg.
The MNDNR does a good job managing deer in MN	3.6	3.2	3.4	3.5	3.3	3.2	3.4
When deciding about deer management in MN, the MNDNR will be open and honest in the things they say and do	3.5	3.2	3.3	3.5	3.3	3.4	3.4
The MNDNR can be trusted to make decisions about deer management that are good for the resource	3.5	3.3	3.4	3.6	3.4	3.4	3.4
The MNDNR will make decisions about deer management in a way that is fair	3.6	3.3	3.4	3.7	3.4	3.4	3.5
The MNDNR has deer managers and biologists who are well-trained for their jobs	3.7	3.6	3.6	3.7	3.6	3.5	3.6
The MNDNR listens to the concerns of deer hunters	3.4	3.2	3.4	3.4	3.1	3.2	3.3

responses measured on a bipolar scale, where 1 = strongly disagree, 3=neither, and 5 = strongly agree

## Landowners

Landowners reported the number of acres that they own or lease within a DPA. On average, Block 3 landowners reported owning 89 acres. Among those that reported leasing land, the average lease was 96 acres (Table 23). More than a third (38%) of landowners reported having agricultural land use on their property. Of these landowners, 24% reported experiencing damage from deer. Among those experiencing damage to agricultural land they own or lease, 32% reported the damage was minor or negligible, 55% reported it was moderate, and 13% reported it was either severe or very severe (Table 24). Most landowners (70%) reported owning land in forest. Of these individuals, 10% reported having experienced damage from deer. Too few landowners experienced damage to forest land use to estimate severity (Table 25). Around 73% of landowners reported having residential land use on their property, and 24% experienced damage from deer. Landowners experiencing damage from deer to residential land use reported damage that was minor/negligible (54%), moderate (37%), and severe/very severe (9%) (Table 26).

Landowners assessed the damage they have experienced from deer compared to five years ago, and the change they have observed in the deer population on their property. Of landowners that have owned their property for five years or longer, the majority (63%) indicated that the amount of damage they have experienced from deer has remained about the same (Table 27). Around a third of landowners (35%) reported seeing either “many fewer” or “slightly fewer” deer on their property compared to five years ago, while 38% reported seeing about the same number, and 28% reported seeing more (Table 28).

Only 31% of landowners reported feeling satisfied or very satisfied with the deer population on their land, while 38% were neutral, and 30% either dissatisfied or very dissatisfied (Table 29). Hunting landowners reported higher levels dissatisfaction (37%) than non-hunting landowners (15%), while non-hunters were more likely to report neutrality regarding their satisfaction with the deer population on their land (Table 30). More than half (58%) of landowners indicated that the population of deer on their land was “about right,” compared to too low (28%) or too high (14%) (Table 31). Non-hunting landowners (67%) were more likely to hold a belief that the current population on their property was “about right” than hunting landowners. Similarly, a higher percentage of hunting landowners (35%) than non-hunting landowners (12%) expressed a belief that the current deer population on their property was too low (Table 32).

When asked what they would like to see happen with future deer populations on their land, a majority (54%) of Block 3 landowners preferred to see the deer population stay the same, compared to 33% that would like to see the deer population increase, and 13% a decrease (Table 33). A higher proportion of non-hunting landowners preferred stability in the deer population (65%) than hunting landowners (49%). Conversely, more hunting landowners indicated a preference for increase (41%) than non-hunting landowners (15%) (Table 34). Landowners mean preferred change in the deer population was an 8% increase (Table 35).

We asked landowners if they were aware that MNDNR offers technical assistance for deer damage issues, if they allow hunting on their property, if they lease any of their property for deer hunting, and if they impose any deer harvest restrictions on their property. Around a quarter of landowners (28%) were aware that MNDNR offers technical assistance for deer depredation issues (Table 36). The proportion of landowners

allowing hunting on their property increased with the amount of land they owned, where roughly 43% of landowners with 2-19 acres allowed hunting on their property. This is compared to 92% of those who own 320+ acres (Table 37). Very few (2%) of landowners lease their land for deer hunting (Table 38), and this did not vary by DPA. The majority of landowners (74%) did not impose any restrictions on the deer that hunters could take on their property (Table 39).

We asked landowners several questions about their deer hunting activity. Between 43% and 45% of Block 3 landowners reported hunting deer in each of 2018, 2019, and 2020 respectively. Roughly, 9% indicated that they hunt deer but did not hunt during one of those three years, and 29% indicated that they do not hunt deer at all (Table 40). Among deer hunting landowners, 54% reported doing all of their hunting on private land that they own, while 3%, 12% and 8% of landowners reported doing all of their hunting on land that they lease, private land that they do not own, and public land, respectively (Table 41). Around 83% of landowners indicated that they would shoot an antlerless deer given the opportunity (Table 42), and landowners have been hunting deer in Minnesota for an average of 38 years (Table 43).

Landowners rated their agreement with five statements about their trust in the MNDNR on scale from 1 = strongly disagree, to 5 = strongly agree, and a mid-point of neither. Landowners, on average, were neutral regarding their trust in the MNDNR. Mean values ranged from 3.4 to 3.6 for trust items (Table 44).

Respondents were asked to rate the importance of several priorities MNDNR could consider when setting deer population goals. Responses were recorded on a scale where 1 = not at all important, and 5 = very important. Among the items evaluated, landowners placed the highest importance on the “amount of deer mortality during a severe winter” (M = 4.0), the “amount of deer mortality during an average winter” (M = 4.0), and “deer hunting heritage and tradition” (M=3.8), as issues to consider when setting deer population goals (Table 45).

We asked landowners if they place food or minerals out for deer to consume. A small number of landowners (8%) reported feeding deer (Table 46), or placing minerals out for deer to consume (21%) (Table 47).

Table 23. Mean acres owned and leased by landowners, by DPA

Acres Owned				Acres Leased		
DPA	Mean	Min	Max	Mean	Min	Max
241	105	3	1490	42	0	250
246	103	3	1400	187	0	3500
251	-	-	-	-	-	-
258	69	3	560	22	0	200
259	81	2	1400	120	0	1000
287	-	-	-	-	-	-
<b>Block average</b>	<b>89</b>	<b>2</b>	<b>1490</b>	<b>96</b>	<b>0</b>	<b>3500</b>

Table 24. Percent of landowners with agriculture on their land, percent experiencing damage from deer, and severity of damage, by DPA

Agriculture	Own or lease		Experience damage		Severity of Damage*		
	Yes	No	Yes	No	Minor/ Negligible	Moderate	Severe/Very Severe
241	49	51	39	61	35	42	23
246	41	59	26	74	27	65	8
251	-	-	-	-	-	-	-
258	46	54	31	69	36	59	5
259	26	71	17	83	25	66	8
287	-	-	-	-	-	-	-
<b>Block average</b>	<b>38</b>	<b>62</b>	<b>29</b>	<b>71</b>	<b>32</b>	<b>55</b>	<b>13</b>

values are the percent of respondents reporting each category

\*too few respondents reported experiencing damage, and prevented analysis of this question

Table 25. Percent of landowners with forest on their land, percent experiencing damage from deer, and severity of damage, by DPA

Forest DPA	Own or lease		Experience damage		Severity of Damage*		
	Yes	No	Yes	No	Minor/ Negligible	Moderate	Severe/Very Severe
241	62	38	16	84			
246	77	23	11	89			
251	-	-	-	-	-	-	-
258	72	28	8	6			
259	67	33	6	94			
287	-	-	-	-	-	-	-
<b>Block average</b>	<b>70</b>	<b>30</b>	<b>10</b>	<b>90</b>			

values are the percent of respondents reporting each category

\*too few respondents reported experiencing damage, and prevented analysis of this question

Table 26. Percent of landowners with residential land use on their land, percent experiencing damage from deer, and severity of damage, by DPA

Residential DPA	Own or lease		Experience damage		Severity of Damage		
	Yes	No	Yes	No	Minor/ Negligible	Moderate	Severe/Very Severe
241	74	26	29	71	46	35	19
246	69	31	28	72	57	42	1
251	-	-	-	-	-	-	-
258	75	25	22	78	50	46	4
259	74	26	20	80	62	31	7
287	-	-	-	-	-	-	-
<b>Block average</b>	<b>73</b>	<b>27</b>	<b>24</b>	<b>76</b>	<b>54</b>	<b>37</b>	<b>9</b>

values are the percent of respondents reporting each category



Table 27. Landowners' perceived trend in damage from deer over 5 years, by DPA

DPA	Much less damage	Slightly less damage	About the same damage	Slightly more damage	Much more damage
241	19	6	59	11	5
246	14	7	67	9	3
251	-	-	-	-	-
258	21	5	64	9	1
259	21	10	64	4	1
287	-	-	-	-	-
<b>Block average</b>	<b>19</b>	<b>8</b>	<b>63</b>	<b>8</b>	<b>2</b>

values are the percent of respondents reporting each category

Table 28. Landowners' perceived trend in the deer population over the last 5 years, by DPA

DPA	Many fewer deer	Slightly fewer deer	About the same number of deer	Slightly more deer	Many more deer
241	11	17	32	26	15
246	9	25	37	20	9
251	-	-	-	-	-
258	16	17	41	18	8
259	20	19	40	16	5
287	-	-	-	-	-
<b>Block average</b>	<b>15</b>	<b>20</b>	<b>38</b>	<b>19</b>	<b>9</b>

values are the percent of respondents reporting each category

Table 29. Landowners' satisfaction with the current deer population in the area of their property, by DPA

DPA	Very dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Very satisfied
241	12	18	37	17	15
246	9	22	38	16	15
251	-	-	-	-	-
258	12	21	37	10	20
259	13	15	38	14	19
287	-	-	-	-	-
<b>Block average</b>	<b>12</b>	<b>18</b>	<b>38</b>	<b>14</b>	<b>17</b>

values are the percent of respondents reporting each category

Table 30. Landowners' satisfaction with the deer population on their land, by DPA and hunting status

DPA	Non-hunting Landowners			Hunting Landowners		
	Dissatisfied	Neutral	Satisfied	Dissatisfied	Neutral	Satisfied
241	28	43	29	31	34	35
246	9	63	28	38	30	32
251	-	-	-	-	-	-
258	23	47	29	37	33	30
259	7	51	41	41	30	29
287	-	-	-	-	-	-
<b>Block average</b>	<b>15</b>	<b>51</b>	<b>34</b>	<b>37</b>	<b>31</b>	<b>31</b>

values are the percent of respondents reporting each category

Table 31. Landowners' perception of the deer population on their land, by DPA

DPA	Much too low	Too low	About right	Too high	Much too high
241	3	14	60	17	6
246	5	26	56	11	2
251	-	-	-	-	-
258	7	24	55	12	2
259	9	22	59	8	1
287	-	-	-	-	-
<b>Block average</b>	<b>6</b>	<b>22</b>	<b>58</b>	<b>11</b>	<b>3</b>

values are the percent of respondents reporting each category

Table 32. Landowners' perception of the deer population on their land, by DPA and hunting status

DPA	Non-hunting Landowners			Hunting Landowners		
	Too low/much too low	About right	Too high/much too high	Too low/much too low	About right	Too high/much too high
241	5	61	33	23	59	17
246	22	55	23	33	56	11
251	-	-	-	-	-	-
258	15	62	23	37	53	10
259	10	77	13	44	49	8
287	-	-	-	-	-	-
<b>Block average</b>	<b>12</b>	<b>67</b>	<b>21</b>	<b>35</b>	<b>54</b>	<b>11</b>

values are the percent of respondents reporting each category

*Table 33. Landowners' preference for future deer populations, by DPA*

<b>DPA</b>	<b>Decrease</b>	<b>Stay the Same</b>	<b>Increase</b>
241	20	57	23
246	10	56	34
251	-	-	-
258	14	49	37
259	9	55	36
287	-	-	-
<b>Block average</b>	<b>13</b>	<b>54</b>	<b>33</b>

values are the percent of respondents reporting each category

Table 34. Landowners' preference for future deer populations, by DPA and hunting status

DPA	Non-hunting Landowners			Hunting Landowners		
	Decrease	Stay the same	Increase	Decrease	Stay the same	Increase
241	36	58	6	13	57	30
246	14	66	20	9	53	38
251	-	-	-	-	-	-
258	25	54	22	10	47	43
259	13	73	14	7	44	49
287	-	-	-	-	-	-
<b>Block average</b>	<b>20</b>	<b>65</b>	<b>15</b>	<b>10</b>	<b>49</b>	<b>41</b>

values are the percent of respondents reporting each category



Table 35. Landowners' mean preferred percent change in the deer population, by DPA

DPA	Mean percent change	Median percent change	Minimum	Maximum
241	0.3	0	-90	100
246	7.4	0	-75	100
251	-	-	-	-
258	10.1	0	-75	100
259	10.4		-90	100
287	-	-	-	-
<b>Block average</b>	<b>7.5</b>	<b>0</b>	<b>-90</b>	<b>100</b>

Table 36. Percent of landowners aware that MNDNR offers technical and financial assistance for deer depredation problems, by DPA, and acres owned

DPA	2-19 acres	20-79 acres	80-319 acres	320+ acres*	Average
241	30	28	33	42	31
246	36	25	38	22	32
251	-	-	-	-	-
258	24	29	27	64	27
259	22	28	31	55	26
287	-	-	-	-	-
<b>Block average</b>	<b>27</b>	<b>28</b>	<b>32</b>	<b>38</b>	<b>28</b>

values are the percent of respondents reporting each category

\*too few respondents in the 320+ strata to calculate

Table 37. Percent of landowners that allow hunting on their property, by DPA, and acres owned

DPA	2-19 acres	20-79 acres	80-319 acres	320+ acres	Average
241	55	68	87	95	63
246	51	76	87	92	68
251	-	-	-	-	-
258	46	70	78	73	58
259	37	68	94	100	55
287	-	-	-	-	-
<b>Block average</b>	<b>43</b>	<b>70</b>	<b>87</b>	<b>92</b>	<b>60</b>

values are the percent of respondents reporting each category

\*too few respondents in the 320+ strata to calculate

Table 38. Percent of landowners that leased their property for deer hunting, by DPA.

<b>DPA</b>	<b>Yes</b>	<b>No</b>
241	3	97
246	1	99
251	-	-
258	5	95
259	1	99
287	-	-
<b>Block average</b>	<b>2</b>	<b>98</b>

values are the percent of respondents reporting each category

Table 39. Percent of landowners imposing different harvest restrictions on their property, by DPA

DPA	Antlerless harvest is restricted, but hunters can take any legal buck	Buck harvest is restricted to large antlered bucks, but hunters can take any antlerless deer	Buck harvest is restricted to large antlered bucks, and antlerless harvest is also restricted	No restrictions on the type of deer that can be harvested	Other
241	1	13	3	76	7
246	3	12	4	73	8
251	-	-	-	-	-
258	2	9	6	79	4
259	10	9	4	70	8
287	-	-	-	-	-
<b>Block average</b>	<b>4</b>	<b>11</b>	<b>4</b>	<b>74</b>	<b>7</b>

values are the percent of respondents reporting each category

Table 40. Percent of landowners reporting hunting deer during the last three years, and those that do not hunt, by DPA

DPA	2018	2019	2020	Did not hunt these years	Do not hunt
241	55	35	45	8	29
246	65	65	41	8	21
251	-	-	-	-	-
258	35	39	39	5	27
259	51	54	52	11	35
287	-	-	-	-	-
<b>Block average</b>	<b>43</b>	<b>45</b>	<b>45</b>	<b>9</b>	<b>29</b>

values are the percent of respondents reporting each category

Table 41. Landowners' time spent hunting on different land ownership types, by DPA

	Response	241	246	251	258	259	287	Avg.
Private land that I own	None	14	9	-	13	17	-	13
	Some	6	8	-	14	17	-	12
	Most	15	25	-	22	20	-	21
	All	66	58	-	51	46	-	54
Private land that I lease for hunting	None	91	94	-	89	92	-	92
	Some	4	0	-	11	2	-	4
	Most	1	1	-	0	2	-	1
	All	4	4	-	0	3	-	3
Private land that I do not own or lease	None	73	55	-	63	64	-	64
	Some	19	25	-	14	17	-	19
	Most	4	4	-	6	9	-	6
	All	5	16	-	16	11	-	12
Public land	None	70	52	-	45	47	-	52
	Some	15	29	-	32	38	-	30
	Most	9	11	-	14	8	-	10
	All	6	8	-	9	7	-	8

values are the percent of respondents reporting each category

Table 42. Percent of hunting landowners that would shoot an antlerless deer, by DPA

<b>DPA</b>	<b>Yes</b>	<b>No</b>
241	85	15
246	89	11
251	-	-
258	79	21
259	79	21
287	-	-
<b>Block average</b>	<b>83</b>	<b>17</b>

values are the percent of respondents reporting each category



Table 43. Mean number of years that hunting landowners have been hunting deer in Minnesota, by DPA

DPA	Mean
241	35.6
246	37.2
251	-
258	37.7
259	40.3
287	-
<b>Block average</b>	<b>38.0</b>

Table 44. Landowners' mean level of agreement with statements about the MNDNR, by DPA

	241	246	251	258	259	287	Avg.
The MNDNR does a good job managing deer in MN	3.3	3.4	-	3.6	3.5	-	3.5
When deciding about deer management in MN, the MNDNR will be open and honest in the things they say and do	3.3	3.4	-	3.7	3.5	-	3.5
The MNDNR can be trusted to make decisions about deer management that are good for the resource	3.4	3.4	-	3.6	3.5	-	3.5
The MNDNR will make decisions about deer management in a way that is fair	3.4	3.4	-	3.6	3.5	-	3.5
The MNDNR has deer managers and biologists who are well-trained for their jobs	3.4	3.4	-	3.8	3.7	-	3.6
The MNDNR listens to the concerns of landowners	3.2	3.3	-	3.5	3.5	-	3.4

responses measured on a bipolar scale, where 1 = strongly disagree, 3=neither, and 5 = strongly agree

Table 45. Landowners' mean stated importance for factors to consider in making deer population goals, by DPA

	241	246	251	258	259	287	Avg.
Amount of deer mortality during an average winter	3.7	3.5	-	3.7	3.7	-	3.7
Amount of deer mortality during a severe winter	3.9	4.0	-	4.0	4.1	-	4.0
Potential health risks to the deer herd	4.0	3.9	-	3.9	4.0	-	4.0
Public health (human-deer diseases)	3.8	3.7	-	3.8	3.7	-	3.7
Amount of crop damage from deer	3.3	3.2	-	3.0	3.1	-	3.2
Number of deer vehicle collisions	3.7	3.5	-	3.5	3.6	-	3.6
Deer over-browsing of forests	3.3	3.1	-	3.1	3.1	-	3.1
Impacts of deer on other wildlife species	3.0	2.8	-	3.1	3.0	-	3.0
Deer hunting heritage and tradition	3.7	3.9	-	3.8	3.7	-	3.8
Hunter satisfaction with deer numbers	3.5	3.5	-	3.5	3.4	-	3.5
Public satisfaction with deer numbers	3.2	3.1	-	3.2	3.0	-	3.1
Impact of deer hunting on the local economy	3.7	3.4	-	3.6	3.4	-	3.5
Quality of bucks (antler size)	3.1	3.3	-	3.3	3.1	-	3.1
Damage to gardens and landscaping	3.0	2.9	-	2.9	2.8	-	2.9
The ratio of bucks to does	3.5	3.4	-	3.4	3.5	-	3.5

responses measured on a unipolar scale, where 1 = not at all important, and 5 = very important

Table 46. Percent of landowners that set out food for deer to consume, by DPA

DPA	Yes	No	Live in CWD management or control zone
241	8	85	7
246	5	87	8
251	-	-	-
258	13	87	0
259	8	85	7
287	-	-	-
<b>Block average</b>	<b>8</b>	<b>86</b>	<b>6</b>

values are the percent of respondents reporting each category

Table 47. Percent of landowners that set out minerals for deer to consume, by DPA

DPA	Yes	No	Live in CWD management or control zone
241	22	71	7
246	16	76	8
251	-	-	-
258	30	69	1
259	17	76	7
287	-	-	-
<b>Block average</b>	<b>21</b>	<b>73</b>	<b>6</b>

values are the percent of respondents reporting each category