

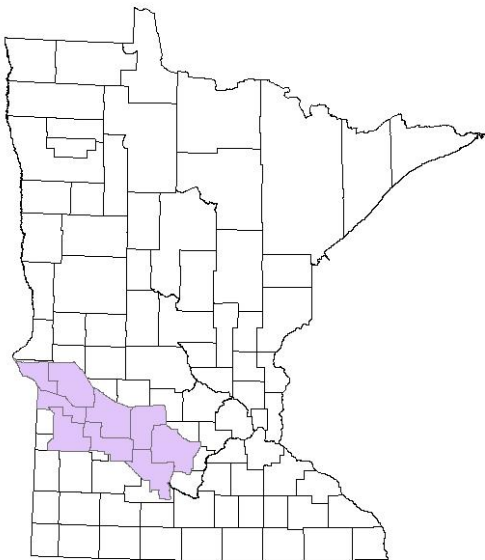


## Fish and Wildlife Division

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# Deer Goal Setting Attitude Survey Report

## Block 10: Minnesota River



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## Statement of Purpose and Scope

The MNDNR sets white-tailed deer (*Odocoileus virginianus*) population goals for Deer Permit Areas (DPAs) in accordance with the [Minnesota Deer Management Plan](#). Deer population [goal setting](#) is a public engagement process that occurs in partnership between MNDNR, individual stakeholders and stakeholder groups, and in consultation with sovereign tribal governments that share a geography with the state. Decisions made about deer population goals dictate the management strategy for DPAs for the goal period. A deer population goal for a DPA may be to increase the population by 25% over 10 years, from the time the goal is set. Annual harvest within a DPA, and estimates derived from the Minnesota Deer Population Model, inform management designation in reference to the population goal over time. Many pieces of information go into decisions about deer population goals, including area wildlife manager's expert opinion, trends in harvest, disease management concerns, and the preferences of stakeholders, among many others.

The MNDNR periodically conducts opinion surveys of deer hunters and landowners to assess preferences for deer populations, experiences with deer hunting, and impacts of deer populations on property to inform the deer population goal setting process. Data presented in this report are of one such investigation. Results of this study directly inform decision making for deer population goals during the winter of 2021.

Results of this study are representative of the populations of deer hunters and landowners surveyed, and may differ substantially from results of self-selected public input processes, as a function of the scientific study design. The values in these reports are the average for all individuals within a given population of interest (e.g., hunters and landowners in a deer permit area), not just respondents to the survey.

## Data Collection Process

We surveyed deer hunters and landowners during the winter and spring of 2020 using a mixed mode design that included two solicitations. Selected participants received a letter directing them to complete a questionnaire online, and non-respondents received 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 and cover a range of topics related to deer populations, deer hunting, property damage from deer, and deer management.

### Deer Hunters

We randomly selected individuals with a valid firearms deer hunting license aged 18 years and older within DPAs to receive a goal setting survey. 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 a given DPA is the primary location where they hunt deer.

## Landowners

We randomly selected individual land parcels within a DPA from all parcels greater than or equal to 2 acres in size to receive a goal setting survey, considering owners of multiple parcels in a DPA. Participant contact information associated with parcel ownership derived from county tax records. 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 10: Minnesota River

Goal setting Block 10 (Minnesota River) includes deer permit areas: 274, 275, 278, 279, 280, 281, 282, 283, 284, and 290 in the southwest part of the state, generally including the Minnesota River Valley (Figure 1).

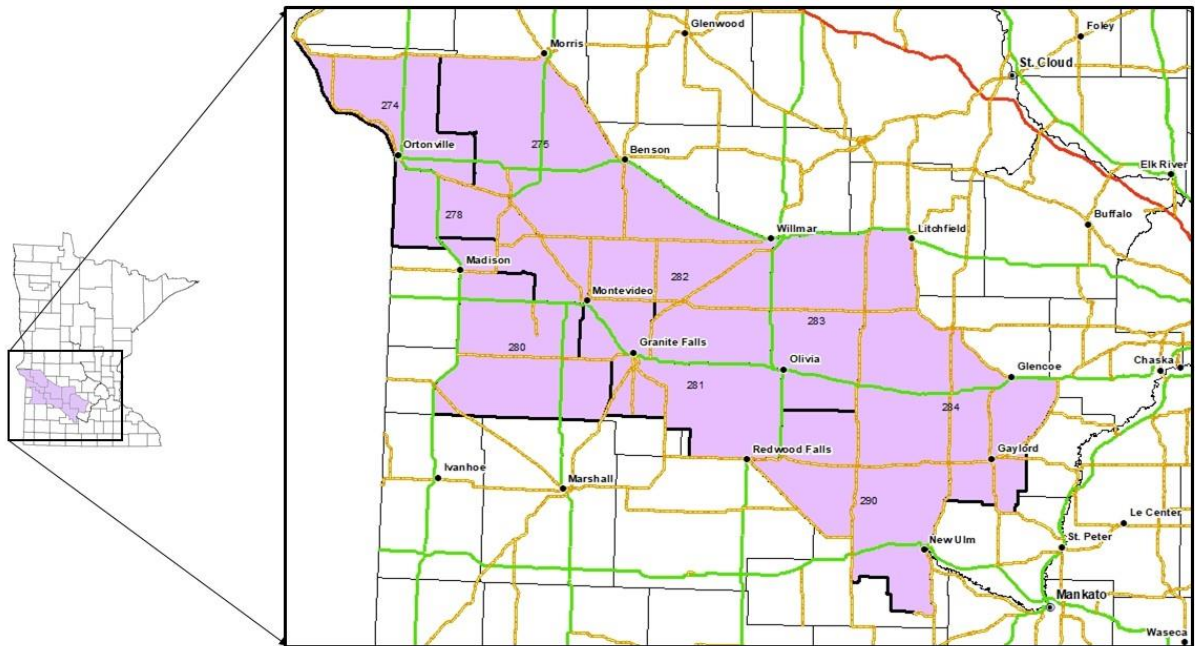


Figure 1. Goal setting Block 10 DPA boundaries



## Response Rates and Weighting

### Hunters

After accounting for undeliverable mail, the adjusted response rate for the Block 10 hunter sample was 41%. Response rates by DPA ranged from a low of 34% for DPA 280, to a higher of 46% for DPA 274. 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 2019 hunting season. Respondents (mean=50) were on average older than the population (mean=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 10 landowner sample was 38%. Response rates by DPA ranged from a low of 34% for DPA 280, to a high of 45% for DPA 284. 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, according to the distribution of parcels by study strata.

Table 1. Response rates for hunter samples, by DPA

DPA	Initial Sample	Undeliverable	Respondents	Adjusted sample	Raw response rate	Adjusted response rate
274	445	17	195	428	0.44	0.46
275	488	12	201	476	0.41	0.42
278	492	14	217	478	0.44	0.45
279	467	19	195	448	0.42	0.44
280	464	11	156	453	0.34	0.34
281	484	15	191	469	0.39	0.41
282	408	13	156	395	0.38	0.39
283	470	16	166	454	0.35	0.37
284	479	8	196	471	0.41	0.42
290	492	8	206	484	0.42	0.43
<b>Block Average</b>	<b>4689</b>	<b>133</b>	<b>1879</b>	<b>4556</b>	<b>0.40</b>	<b>0.41</b>

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

<b>Age Strata</b>	<b>Population proportion</b>	<b>Sample proportion</b>	<b>Weight*</b>
2-32	.25	.16	1.599
33-45	.25	.21	1.204
45-58	.25	.28	0.9019
59+	.25	.36	0.6962

\*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
274	414	4	156	410	0.38	0.38
275	484	11	176	473	0.36	0.37
278	441	34	162	407	0.37	0.40
279	380	26	130	354	0.34	0.37
280	474	24	152	450	0.32	0.34
281	426	17	149	409	0.35	0.36
282	456	14	160	442	0.35	0.36
283	438	24	165	414	0.38	0.40
284	478	13	211	465	0.44	0.45
290	443	16	174	427	0.39	0.41
<b>Block Average</b>	<b>4434</b>	<b>183</b>	<b>1635</b>	<b>4251</b>	<b>0.37</b>	<b>0.38</b>

*Table 4. Population and sample proportions by acres strata, and weights*

<b>Acres strata</b>	<b>Population proportion</b>	<b>Sample proportion</b>	<b>Weight*</b>
2-19	.34	.26	1.324
20-79	.16	.25	0.650
80-319	.35	.25	1.370
320+	.15	.24	0.619

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

## Summary of Deer Population Preferences

On average, and for most DPAs, deer hunters preferred a moderate increase in the deer population, with mean estimates ranging from a 14% increase for DPA 290, to a 25% increase for DPA 282. While landowners, on average, preferred the deer population remain the same. Landowners in DPA 282 preferred a small increase (7%) in the deer population. Conversely, landowners in DPA 290 preferred a small decrease (-7%) in the deer population. Figure 2 contains mean estimates with 95% confidence intervals for hunters' and landowners' preferred percent change in the deer population in the DPA where they hunt or their land is located respectively. We coded individuals that preferred no change in the population with a value of zero for this analysis.

Figures 3 through 12 contain DPA level estimates for the percent of hunters and landowners that preferred to see future deer populations decrease, stay the same, or increase. In most cases, the majority of hunters expressed a preference for an increase in the deer population in the DPA where they hunt, whereas a plurality of landowners expressed a preference for the deer population where their land is located to remain the same.

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

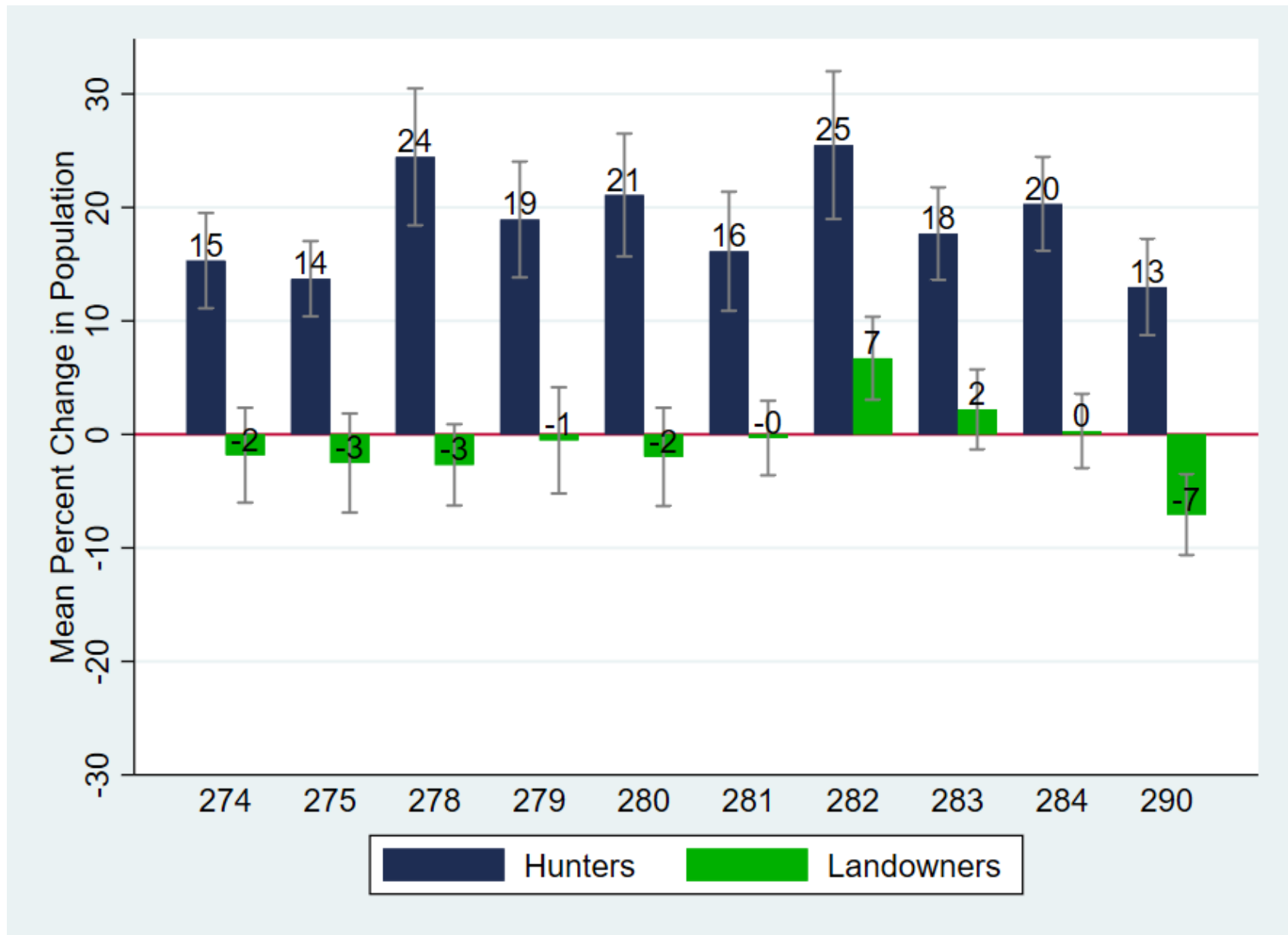


Figure 3. Deer permit area 274 landowners' and hunters' preference for future deer population

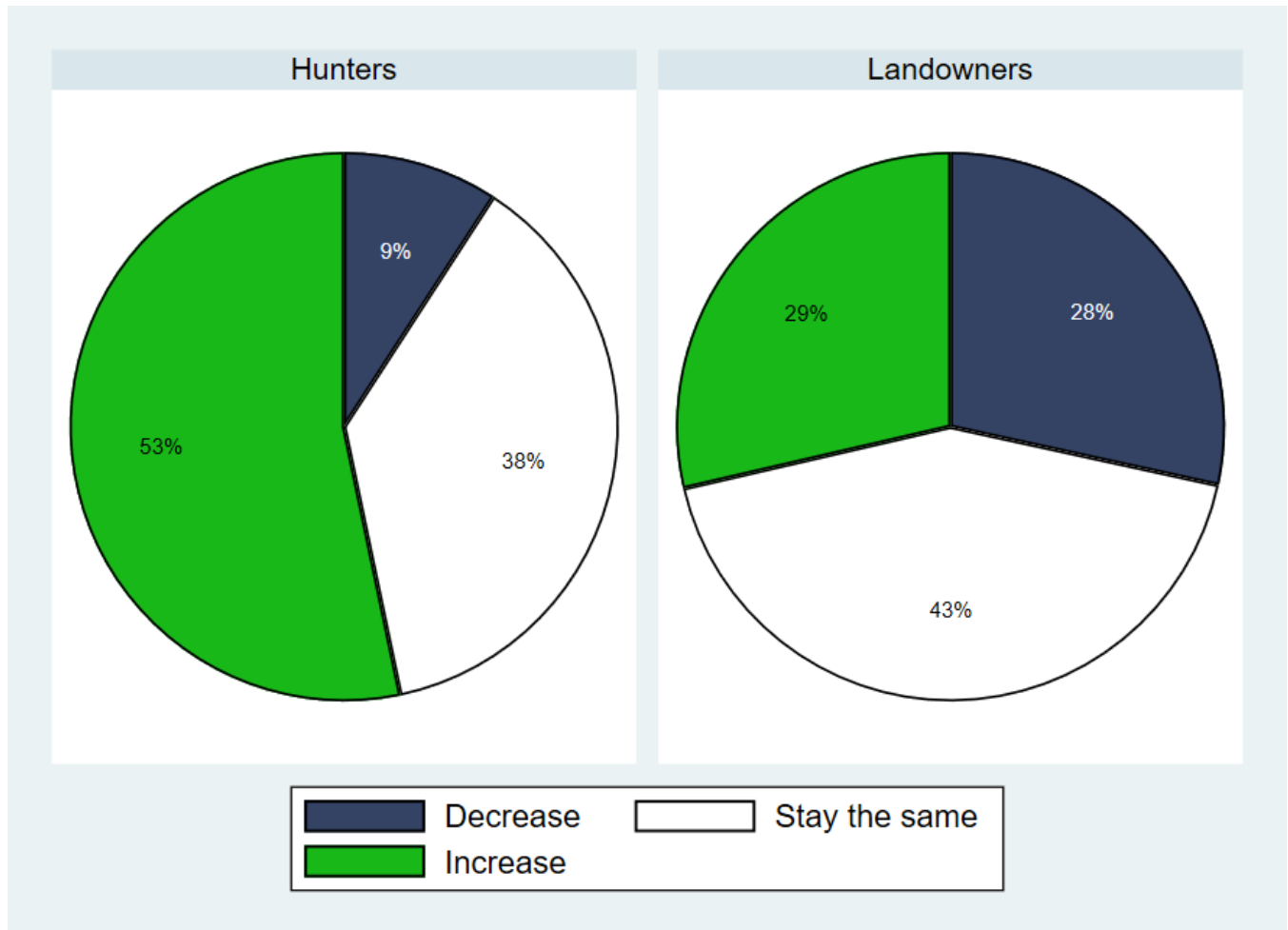




Figure 4. Deer permit area 275 landowners' and hunters' preference for future deer population

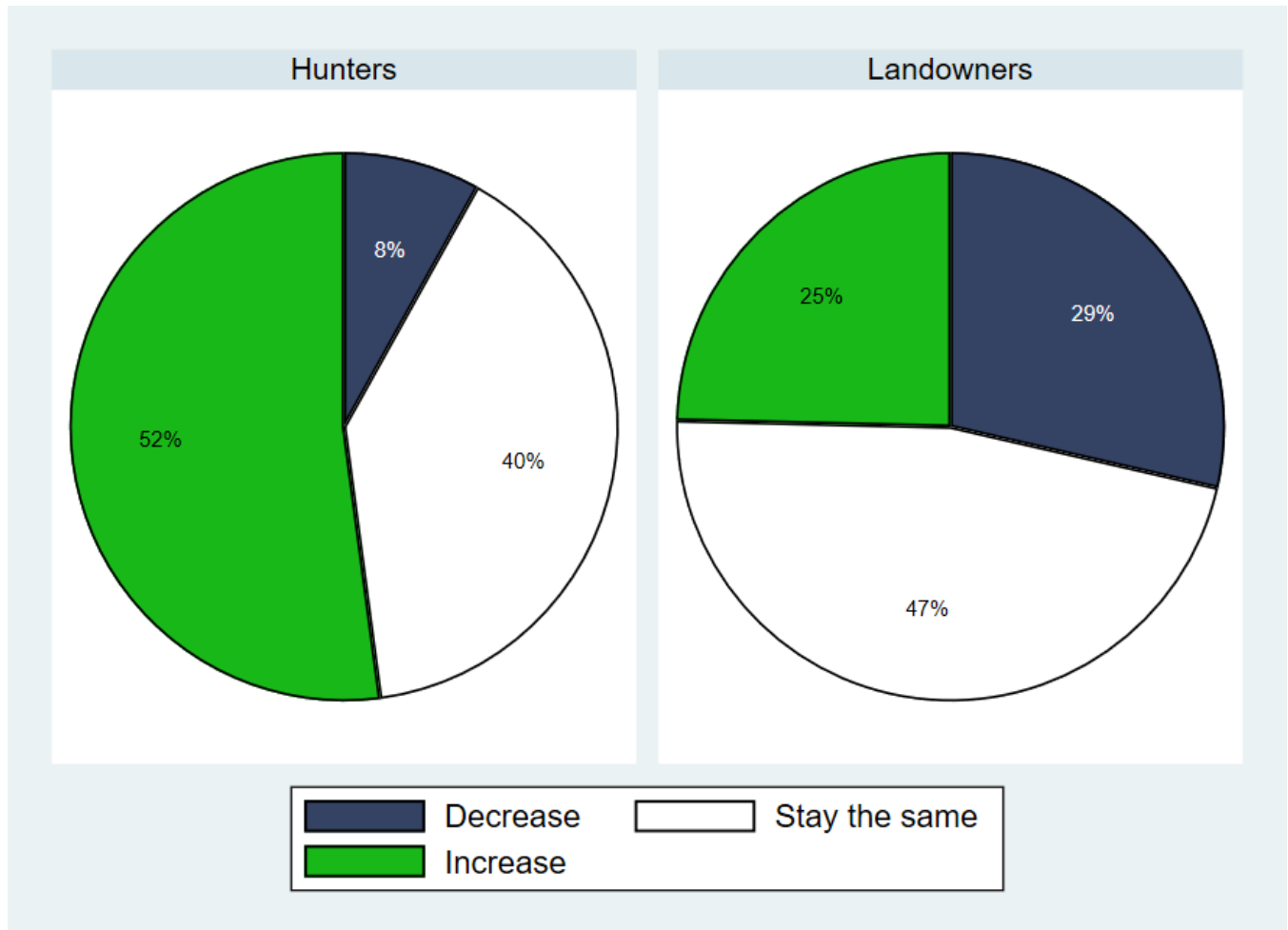


Figure 5. Deer permit area 278 landowners' and hunters' preference for future deer population

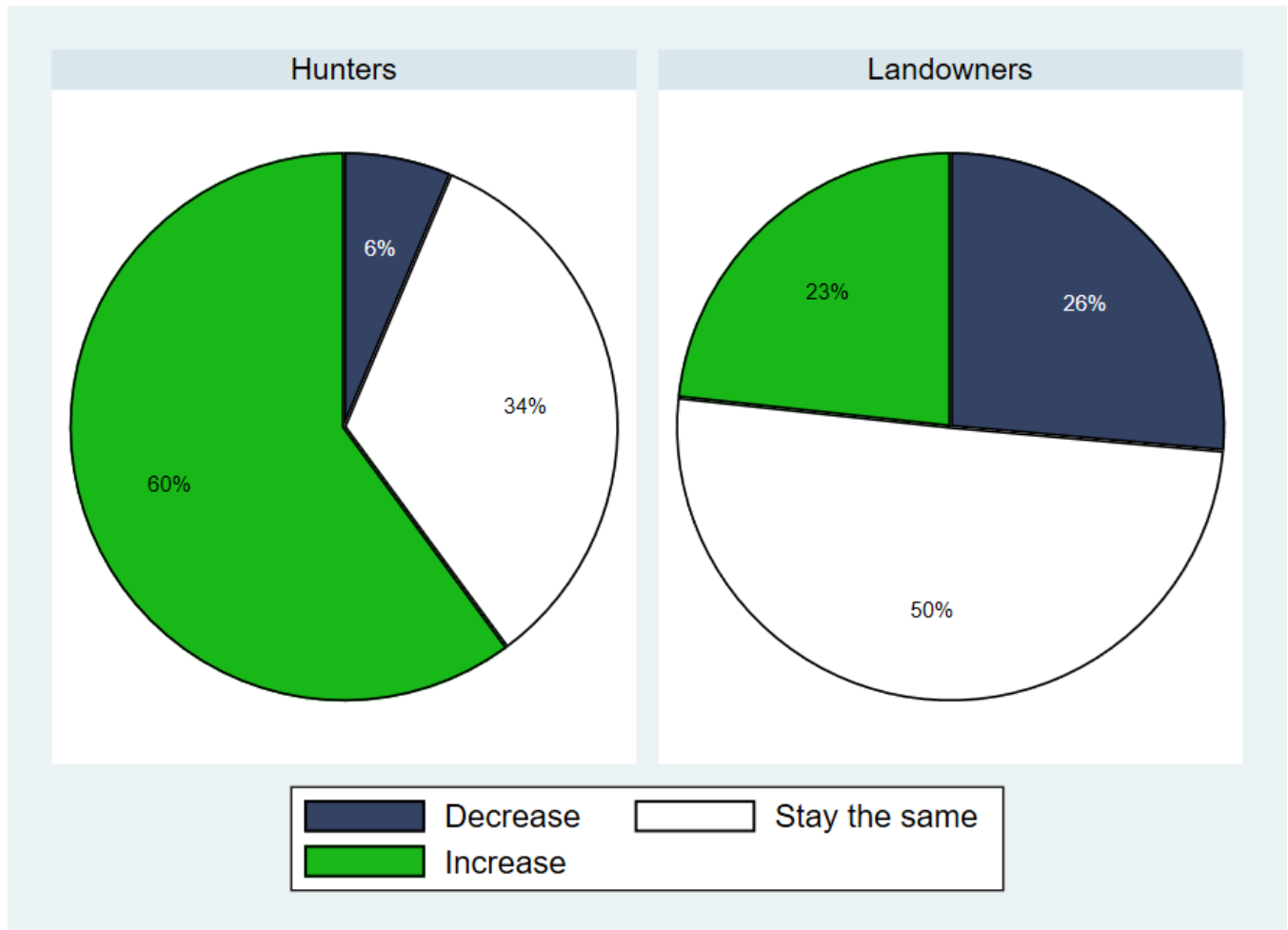


Figure 6. Deer permit area 279 landowners' and hunters' preference for future deer population

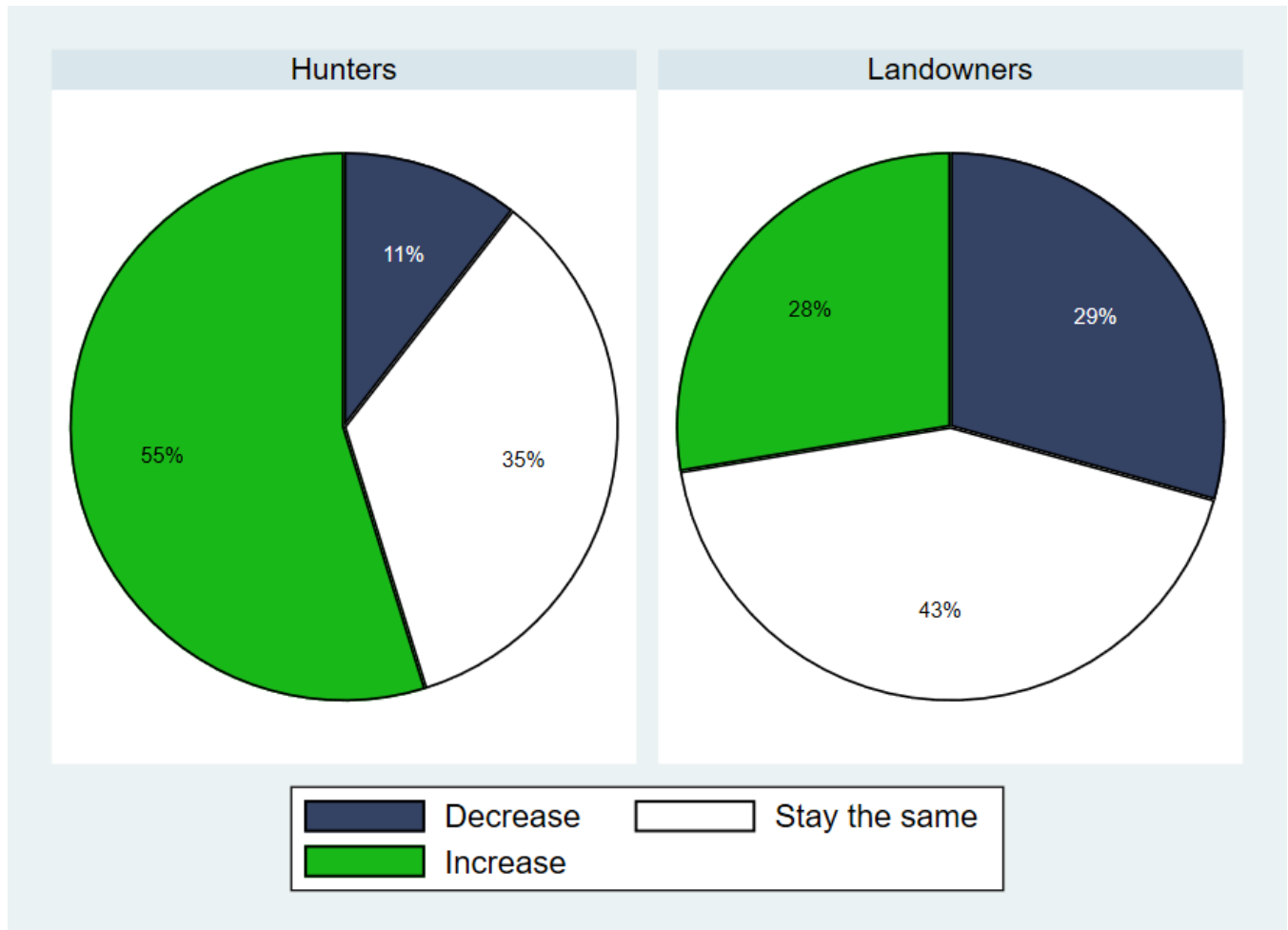


Figure 7. Deer permit area 280 landowners' and hunters' preference for future deer population

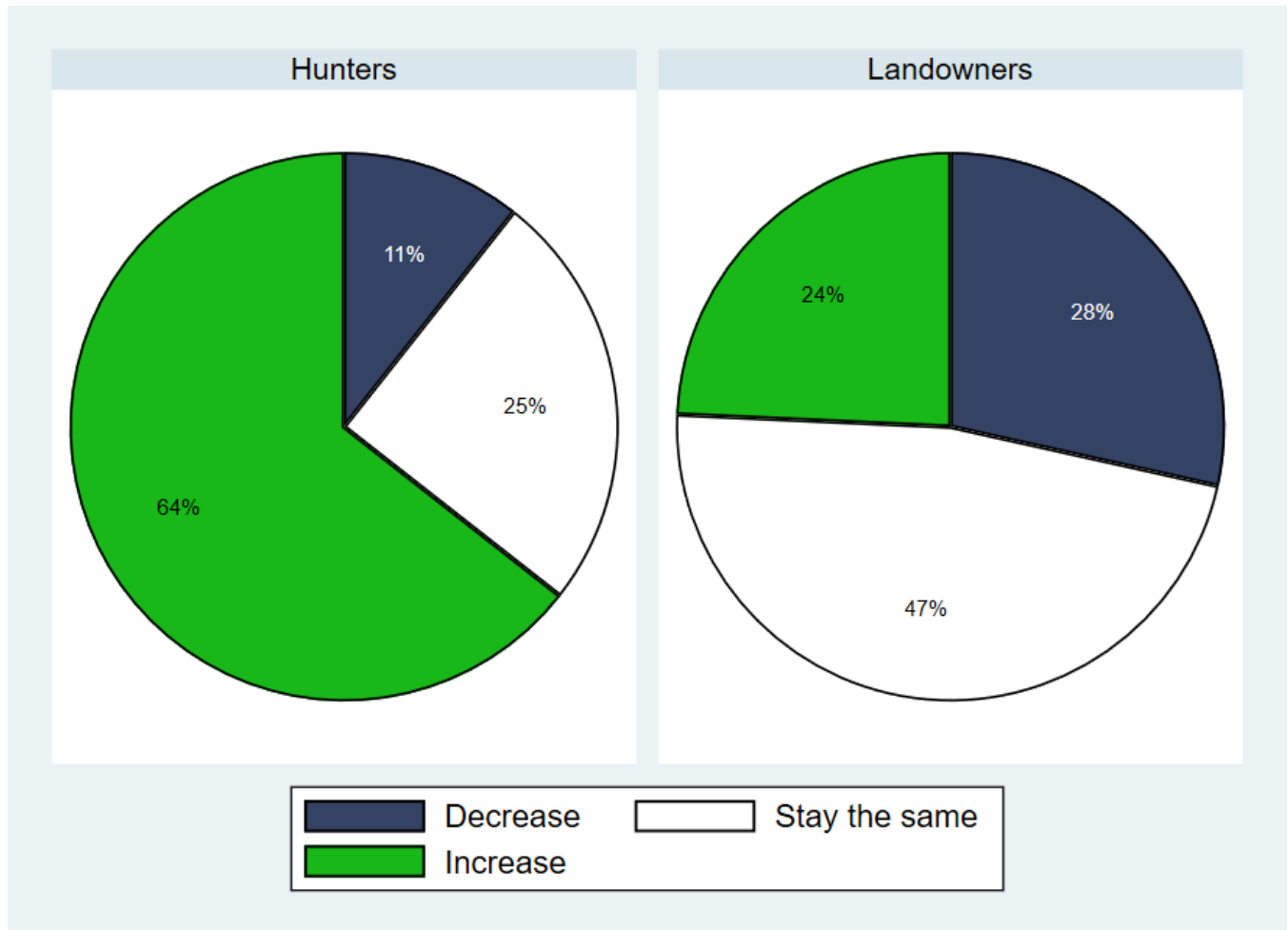


Figure 8. Deer permit area 281 landowners' and hunters' preference for future deer population

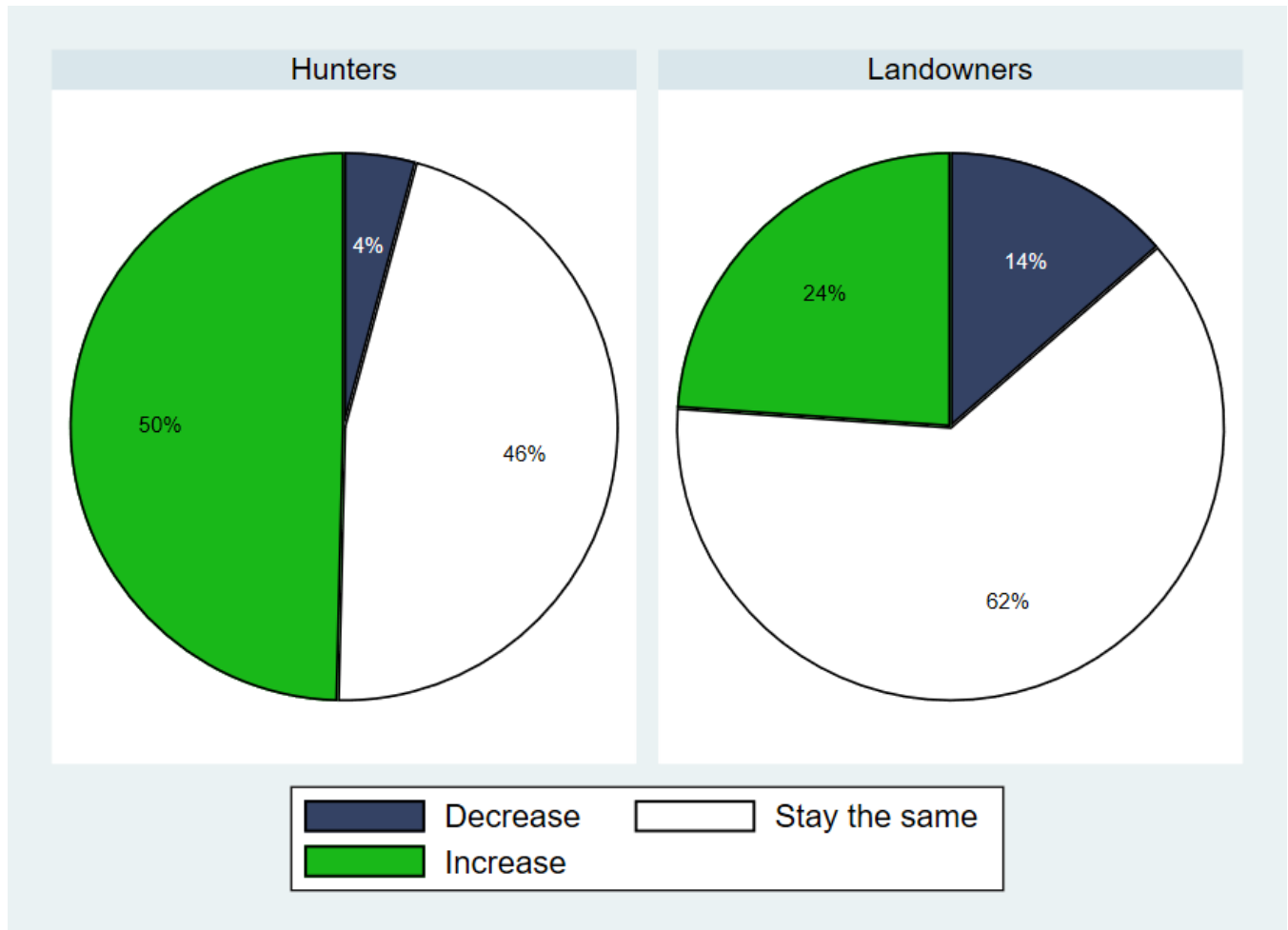


Figure 9. Deer permit area 282 landowners' and hunters' preference for future deer population



Figure 10. Deer permit area 283 landowners' and hunters' preference for future deer population

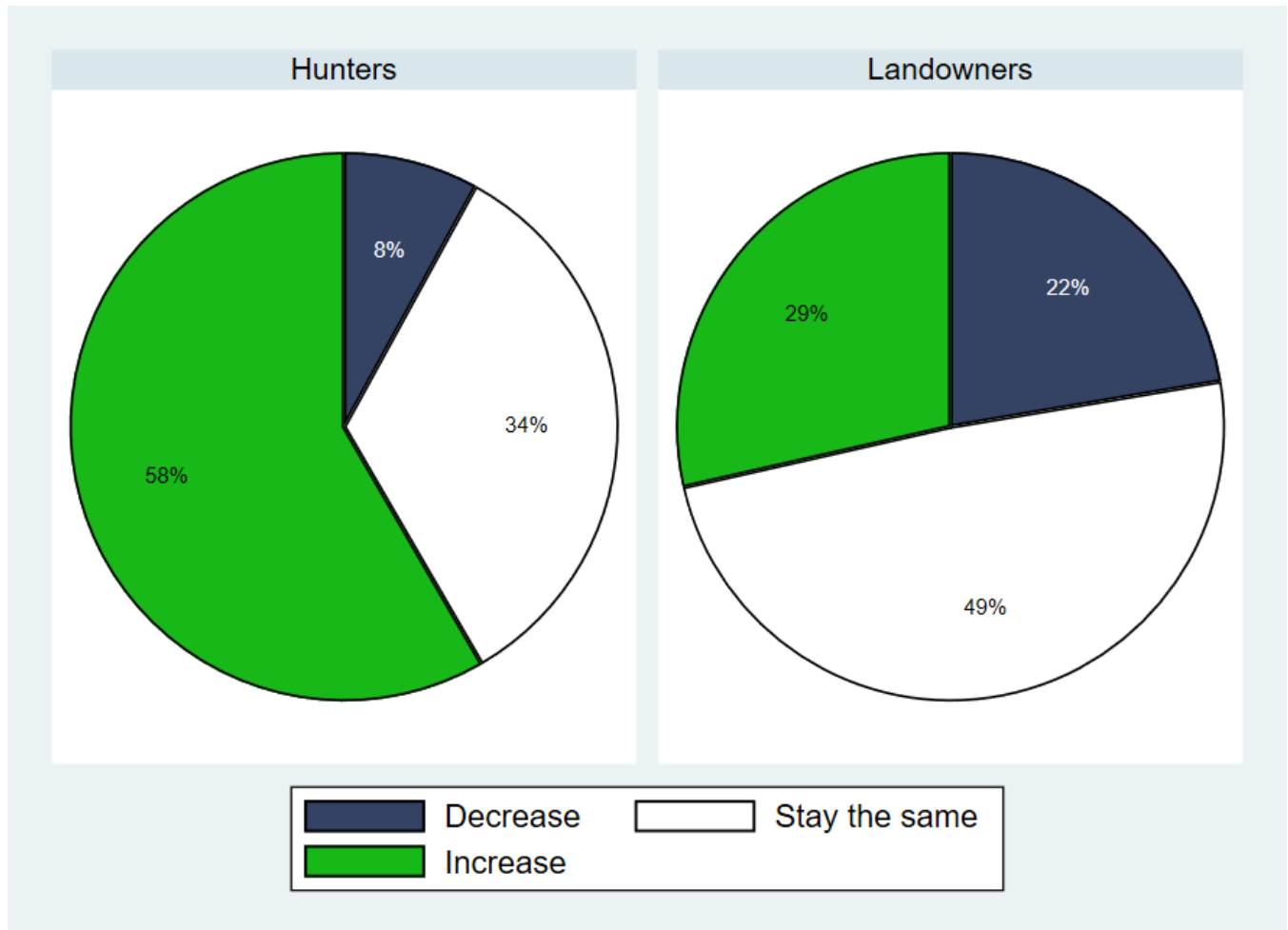


Figure 11. Deer permit area 284 landowners' and hunters' preference for future deer population

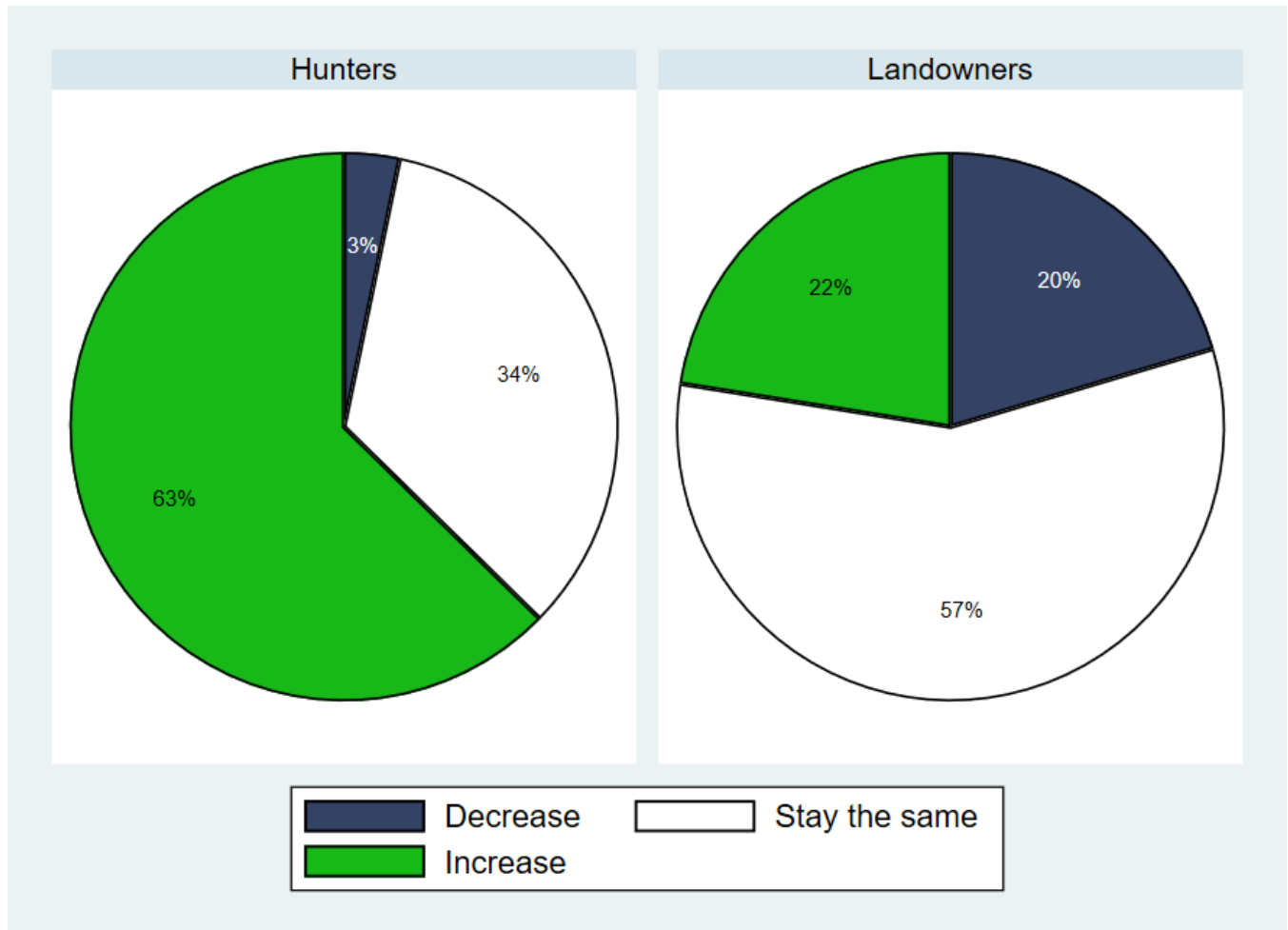
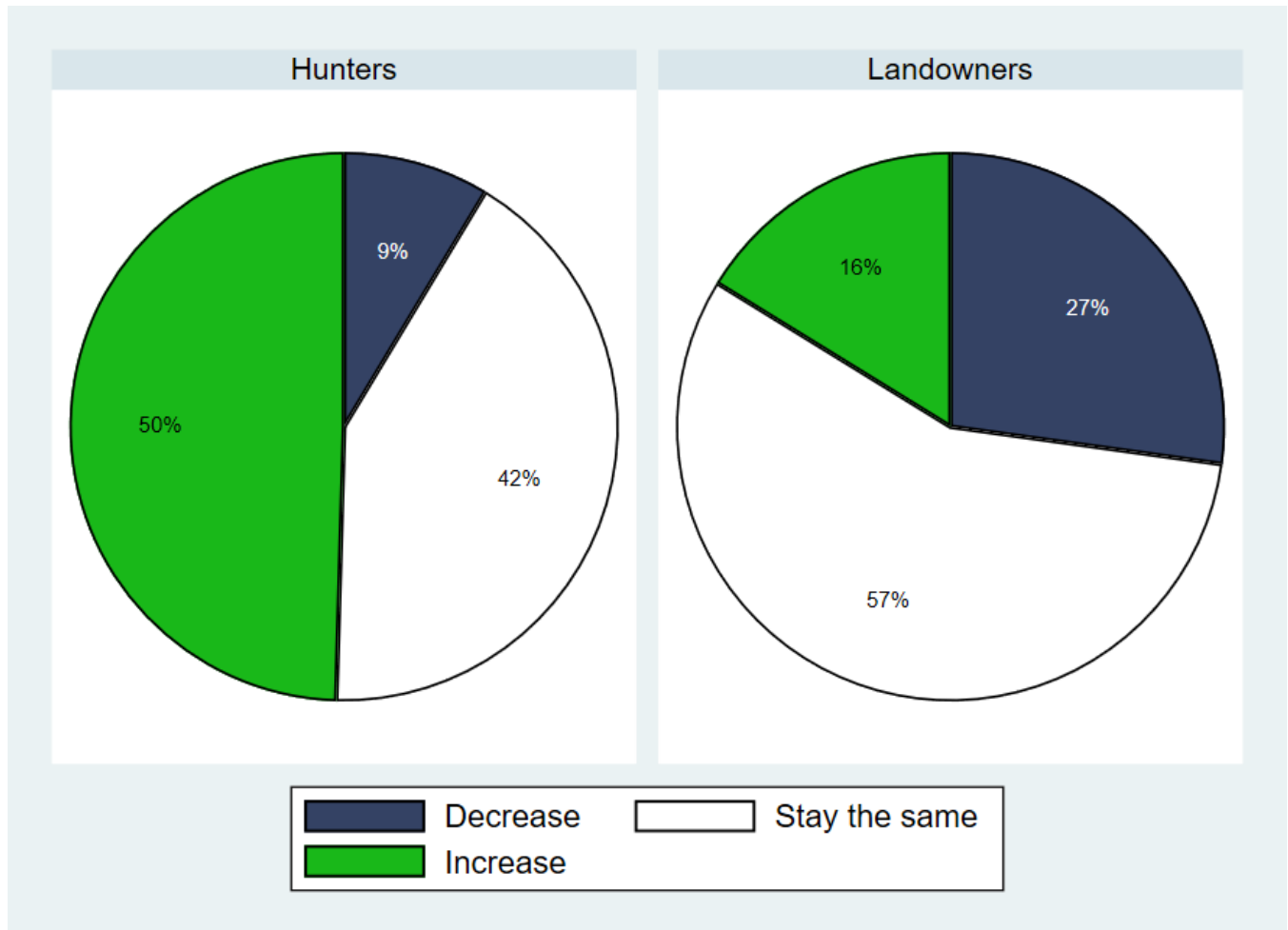




Figure 12. Deer permit area 290 landowners' and hunters' preference for future deer population



## Hunters

We asked hunters to report their recent deer hunting activity. The vast majority (>90%) of hunters reported having hunted in the last three years (Table 5). Among these hunters, around 40% reported having hunted during either the archery or muzzleloader seasons in 2019, while nearly all reported hunting during the firearms season (Table 6). Around a third of hunters reported spending all of their time hunting on private land that they own, while 3%, 36%, and 11% of Block 10 hunters reported spending all of their hunting time on land that they lease, private land that they do not own, and public land respectively (Table 7). A roughly even proportion of hunters reported that there were no harvest restriction in place on land they hunted, or that antlerless harvest was restricted, but they were permitted to take any legal buck (Table 8).

A majority (61%) of hunters reported they were either slightly satisfied, or very satisfied with their most recent deer hunting season in Minnesota (Table 9). This value did not vary substantial by DPA. A majority of hunters either slightly disagreed or strongly disagreed that they were satisfied with the number and quality of bucks in the DPA where they hunt. Conversely, majorities of hunters reported agreement with statements about their satisfaction with the total number of deer they saw, number of antlerless deer they saw, and whether or not they heard about or saw legal bucks while hunting (Table 10).

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 one-third of hunters reported seeing few, about the same number, and more deer in the DPA where they hunt, compared to 5 years ago (Table 11). A slight majority (51%) of Block 10 hunters reported feeling either slightly satisfied or very satisfied with the deer population in the DPA where they hunt (Table 12). A clear majority (84%) of hunters reported that they would shoot an antlerless deer given the opportunity (Table 13).

We asked hunters to rate the importance of several competing priorities MNDNR could consider when setting deer population goals. Among these priorities, Block 10 hunters rated deer mortality during a severe winter, herd health, and deer hunting heritage and tradition the highest (Table 14).

Hunters evaluated the current deer population in the DPA where they hunt, on a scale of much too low to much too high. Around half of hunters felt that the current population where they hunt is “about right,” while, on average, 37% of Block 10 hunters felt it was too low or much too low (Table 15).

When asked if hunters prefer to see the deer population decrease, stay the same, or increase, a majority of hunter indicated a preference for increase (Table 16). On average, hunters in Block 10 wish to see an 18% increase in the deer population (Table 17). Outliers in open-ended responses to the question measuring preferred percent change in the deer population (e.g., +10,000%) were excluded from analysis if they were  $\pm 3$  standard deviations from the grand mean for the block, corresponding to a 99.7% confidence interval around the point estimate. A majority of hunters in Block 10 (65%) supported establishing regulations to increase the proportion of adult bucks in the DPA where they hunt (Table 18).

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 10 deer hunters have been hunting in Minnesota for 26 years (Table 19). Roughly, 92% of hunters reported that they do

not set out feed for deer (Table 20), while 27% reported placing minerals for deer to consume (Table 21). Around 7% of Block 10 hunters reported that they belong to a deer hunting organization (Table 22).

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 3.1 and 3.5 (Table 23).

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

<b>DPA</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>Did not hunt</b>
274	93	89	96	0
275	87	93	98	1
278	91	93	98	0
279	95	92	98	1
280	93	93	96	3
281	88	88	98	0
282	86	87	96	2
283	91	90	96	2
284	90	94	96	2
290	91	94	98	1
<b>Block Average</b>	<b>91</b>	<b>91</b>	<b>97</b>	<b>1</b>

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

<b>DPA</b>	<b>Archery</b>	<b>Firearm</b>	<b>Muzzleloader</b>
274	39	93	31
275	32	96	40
278	34	98	39
279	33	96	49
280	37	93	39
281	46	89	49
282	49	93	40
283	38	96	29
284	43	97	42
290	36	94	34
<b>Block Average</b>	<b>39</b>	<b>95</b>	<b>40</b>

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

Question	Response	274	275	278	279	280	281	282	283	284	290	Avg.
Private land that I own	None	34	39	51	38	42	48	43	39	41	44	42
	Some	11	13	11	15	13	10	16	11	8	11	12
	Most	23	17	13	17	22	6	16	19	22	11	17
	All	33	31	25	29	24	36	25	31	29	34	30
Private land that I lease for hunting	None	93	92	93	91	88	86	84	94	92	91	91
	Some	3	4	5	4	7	0	13	4	3	1	4
	Most	2	3	1	4	2	3	2	0	1	3	2
	All	3	1	2	1	3	10	1	2	4	5	3
Private land that I do not own or lease	None	31	15	25	15	16	22	20	21	20	18	20
	Some	20	26	23	26	24	13	22	22	18	16	21
	Most	20	30	17	30	32	15	29	21	22	13	23
	All	30	29	35	29	29	50	30	37	40	53	36
Public land	None	32	34	31	35	29	49	34	41	47	59	39
	Some	35	48	27	44	54	34	41	36	35	23	37
	Most	9	12	21	14	9	7	20	13	10	11	13
	All	24	6	22	7	8	11	5	10	9	7	11

values are the percent of respondents reporting each category

Table 8. Percent of deer hunters hunting on properties with different harvest restrictions above and beyond state regulations, 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
274	50	2	4	42	2
275	51	2	3	42	2
278	49	2	1	42	5
279	46	7	1	46	0
280	43	6	2	48	2
281	12	4	1	81	2
282	51	2	2	39	5
283	50	4	1	39	5
284	53	2	2	43	0
290	7	7	1	81	4
<b>Block Average</b>	<b>41</b>	<b>4</b>	<b>2</b>	<b>51</b>	<b>3</b>

values are the percent of respondents reporting each category

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

DPA	Very dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Very satisfied
274	10	17	12	31	31
275	9	18	15	36	23
278	10	17	14	32	28
279	12	18	13	36	21
280	10	27	15	26	22
281	3	16	9	33	39
282	11	21	13	28	27
283	6	16	16	38	23
284	10	15	18	35	23
290	6	12	9	33	40
<b>Block Average</b>	<b>9</b>	<b>17</b>	<b>13</b>	<b>33</b>	<b>28</b>

values are the percent of respondents reporting each category



*Table 10. Deer hunters' agreement with elements of their satisfaction with their most recent deer hunting season, by DPA*

I was satisfied with the...	Response	274	275	278	279	280	281	282	283	284	290	Avg.
Number of legal bucks	Strongly disagree	22	20	22	29	26	20	25	25	25	19	23
	Slightly disagree	29	27	26	30	34	23	22	22	30	26	28
	Neither	12	9	10	12	12	9	14	14	11	14	11
	Slightly agree	25	36	32	23	21	31	29	29	23	27	28
	Strongly agree	12	8	10	5	6	17	10	10	12	14	10
Quality of bucks	Strongly disagree	21	27	26	28	33	19	34	26	28	23	25
	Slightly disagree	24	24	21	31	31	27	27	23	27	30	26
	Neither	14	13	12	17	14	11	14	16	18	11	14
	Slightly agree	31	28	27	18	15	32	27	29	19	23	25
	Strongly agree	10	8	14	7	7	11	9	6	8	13	9

Table 10. Continued.

I was satisfied with the...	Response	274	275	278	279	280	281	282	283	284	290	Avg.
I heard about or saw legal bucks while hunting	Strongly disagree	8	7	9	9	10	7	9	14	8	11	9
	Slightly disagree	12	10	10	16	10	9	16	6	13	8	11
	Neither	6	11	11	12	19	13	13	20	17	13	13
	Slightly agree	45	42	34	41	38	34	38	31	35	38	38
	Strongly agree	29	29	36	23	23	37	25	29	27	30	29
The number of antlerless deer I saw	Strongly disagree	7	10	9	8	7	5	7	7	7	5	7
	Slightly disagree	9	11	15	17	16	15	16	10	12	8	13
	Neither	9	6	9	8	10	11	10	6	11	10	9
	Slightly agree	32	30	30	29	30	28	30	30	33	27	30
	Strongly agree	42	43	36	39	38	41	37	47	37	50	41

Table 10. Continued

I was satisfied with the...	Response	274	275	278	279	280	281	282	283	284	290	Avg.
The number of deer I saw while hunting	Strongly disagree	8	10	13	10	12	9	15	12	10	8	11
	Slightly disagree	15	15	22	24	21	13	19	13	21	15	18
	Neither	16	12	14	13	18	14	14	12	16	12	14
	Slightly agree	36	41	28	33	29	33	33	34	33	32	33
	Strongly agree	26	23	24	20	20	31	19	29	20	33	25

values are the percent of respondents reporting each category

*Table 11. 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
274	9	18	38	20	14
275	7	29	31	16	7
278	17	25	35	16	7
279	15	26	29	17	13
280	16	28	29	15	12
281	6	20	37	25	12
282	15	26	31	18	10
283	4	19	40	27	10
284	14	18	37	22	10
290	5	14	37	28	16
<b>Block Average</b>	<b>11</b>	<b>22</b>	<b>34</b>	<b>21</b>	<b>12</b>

values are the percent of respondents reporting each category

Table 12. Deer hunters' satisfaction with the deer population where they hunt, by DPA

DPA	Very dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Very satisfied
274	8	22	17	31	22
275	10	21	17	37	15
278	11	32	15	26	16
279	14	25	13	35	14
280	13	30	20	25	14
281	6	16	11	42	25
282	15	31	11	29	15
283	7	23	15	41	15
284	10	27	16	33	14
290	5	18	14	34	29
<b>Block Average</b>	<b>10</b>	<b>24</b>	<b>15</b>	<b>33</b>	<b>18</b>

values are the percent of respondents reporting each category

*Table 13. Percent of deer hunters that would shoot an antlerless deer, by DPA*

<b>DPA</b>	<b>Yes</b>	<b>No</b>
274	79	21
275	81	19
278	85	15
279	90	10
280	84	16
281	82	18
282	82	18
283	86	14
284	88	12
290	84	16
<b>Block Average</b>	<b>84</b>	<b>16</b>

values are the percent of respondents reporting each category

*Table 14. Deer hunters' mean stated importance for factors to consider in making deer population goals, by DPA*

<b>Item</b>	<b>274</b>	<b>275</b>	<b>278</b>	<b>279</b>	<b>280</b>	<b>281</b>	<b>282</b>	<b>283</b>	<b>284</b>	<b>290</b>	<b>Avg.</b>
Amount of deer mortality during an average winter	3.6	3.5	3.5	3.5	3.4	3.6	3.5	3.4	3.5	3.5	3.5
Amount of deer mortality during a severe winter	4.0	3.9	3.9	3.9	3.8	3.9	3.8	3.8	3.8	4.0	3.9
Potential health risks to the deer herd	3.9	3.8	3.8	3.9	3.8	3.9	3.9	3.9	3.9	4.0	3.9
Public health (human-deer diseases)	3.5	3.4	3.5	3.5	3.5	3.5	3.5	3.6	3.7	3.6	3.5
Amount of crop damage from deer	2.8	2.6	2.6	3.0	2.8	2.6	2.6	2.7	2.9	2.8	2.7
Number of deer vehicle collisions	3.3	3.2	3.1	3.4	3.4	3.1	3.3	3.3	3.2	3.3	3.2
Deer over-browsing of forests	2.6	2.8	2.7	2.6	2.6	2.7	2.6	2.7	2.7	2.7	2.7
Impacts of deer on other wildlife species	2.5	2.7	2.6	2.6	2.6	2.6	2.7	2.6	2.8	2.7	2.6
Deer hunting heritage and tradition	4.0	3.9	3.9	3.9	4.0	4.0	3.8	3.9	4.0	4.0	3.9
Hunter satisfaction with deer numbers	3.6	3.8	3.8	3.8	3.7	3.7	3.5	3.8	3.7	3.7	3.7
*Public satisfaction with deer numbers	2.9	3.3	3.5	3.3	2.9	3.4	2.9	3.2	3.1	3.1	3.2
Impact of deer hunting on the local economy	3.4	3.4	3.5	3.4	3.4	3.3	3.2	3.4	3.3	3.5	3.4
Quality of bucks (antler size)	3.6	3.8	3.6	3.7	3.8	3.9	3.4	3.8	3.7	3.8	3.7
Damage to gardens and landscaping	2.3	2.2	2.2	2.3	2.2	2.3	2.3	2.3	2.3	2.4	2.3
The ratio of bucks to does	3.6	3.7	3.6	3.8	3.8	3.8	3.5	3.8	3.6	3.8	3.7

\*this item was accidentally omitted from the online version, results are for mailed responses only  
responses measured on a unipolar scale, where 1 = not at all important, and 5 = very important

Table 15. 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
274	4	37	45	12	2
275	2	34	50	9	5
278	7	35	47	8	2
279	8	29	48	10	4
280	11	38	37	9	5
281	4	23	64	6	3
282	10	37	46	4	3
283	4	27	56	10	2
284	5	38	51	4	1
290	3	25	62	7	2
<b>Block Average</b>	<b>6</b>	<b>32</b>	<b>51</b>	<b>8</b>	<b>3</b>

values are the percent of respondents reporting each category



Table 16. Deer hunters' preference for future deer populations, by DPA

DPA	Decrease	Stay the Same	Increase
274	9	38	53
275	8	40	52
278	6	34	60
279	11	35	55
280	11	25	64
281	4	46	50
282	4	33	64
283	8	34	58
284	3	34	63
290	9	42	50
<b>Block Average</b>	<b>7</b>	<b>36</b>	<b>57</b>

values are the percent of respondents reporting each category

Table 17. Deer hunters' mean preferred percent change in the deer population, by DPA

DPA	Mean percent change	Median percent change	Minimum	Maximum
274	15	10	-50	200
275	14	10	-75	100
278	24	20	-60	333
279	19	10	-50	200
280	21	20	-75	150
281	16	0	-50	300
282	25	20	-37	300
283	18	15	-50	100
284	20	20	-50	250
290	13	0	-250	100
<b>Block Average</b>	<b>18</b>	<b>15</b>	<b>-250</b>	<b>333</b>

*Table 18. Deer hunters' support for regulations to increase proportion of antlered bucks in the area they hunt, by DPA*

<b>DPA</b>	<b>Strongly oppose</b>	<b>Slightly oppose</b>	<b>Neither</b>	<b>Slightly support</b>	<b>Strongly support</b>
274	4	11	28	27	31
275	4	7	21	34	34
278	4	8	23	35	30
279	8	8	19	25	41
280	5	6	16	36	37
281	4	10	19	34	33
282	4	8	26	26	36
283	5	8	23	29	34
284	6	5	25	36	28
290	5	9	17	28	41
<b>Block Average</b>	<b>5</b>	<b>8</b>	<b>22</b>	<b>31</b>	<b>34</b>

values are the percent of respondents reporting each category

*Table 19. Mean number of years that deer hunters have been hunting deer in Minnesota, by DPA*

<b>DPA</b>	<b>Mean</b>
274	28
275	26
278	26
279	26
280	27
281	26
282	25
283	27
284	26
290	26
<b>Block Average</b>	<b>26</b>

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

DPA	Yes	No
274	3	97
275	10	90
278	5	95
279	11	89
280	11	89
281	8	92
282	6	94
283	8	92
284	9	91
290	13	87
<b>Block Average</b>	<b>8</b>	<b>92</b>

values are the percent of respondents reporting each category

*Table 21. Percent of deer hunters that set out minerals for deer to consume, by DPA*

<b>DPA</b>	<b>Yes</b>	<b>No</b>
274	21	79
275	38	62
278	21	79
279	29	71
280	26	74
281	30	70
282	24	76
283	19	81
284	24	76
290	31	68
<b>Block Average</b>	<b>27</b>	<b>73</b>

values are the percent of respondents reporting each category

*Table 22. Percent of deer hunters that belong to a deer hunting organization, by DPA*

<b>DPA</b>	<b>Yes</b>	<b>No</b>
274	7	93
275	15	85
278	4	96
279	4	96
280	5	95
281	4	96
282	3	96
283	10	90
284	8	92
290	8	92
<b>Block Average</b>	<b>7</b>	<b>93</b>

values are the percent of respondents reporting each category

*Table 23. Deer hunters' mean level of agreement with statements about the MNDNR, by DPA*

	<b>274</b>	<b>275</b>	<b>278</b>	<b>279</b>	<b>280</b>	<b>281</b>	<b>282</b>	<b>283</b>	<b>284</b>	<b>290</b>	<b>Avg.</b>
The MNDNR does a good job managing deer in MN	3.1	2.9	3.1	2.8	3.0	3.3	3.1	3.3	3.2	3.5	3.1
When deciding about deer management in MN, the MNDNR will be open and honest in the things they say and do	3.2	3.0	3.2	2.9	3.1	3.4	3.3	3.3	3.3	3.5	3.2
The MNDNR can be trusted to make decisions about deer management that are good for the resource	3.0	3.0	3.2	3.0	3.2	3.4	3.3	3.4	3.4	3.5	3.2
The MNDNR will make decisions about deer management in a way that is fair	3.2	3.0	3.3	3.1	3.3	3.5	3.4	3.5	3.4	3.6	3.3
The MNDNR has deer managers and biologists who are well-trained for their jobs	3.4	3.3	3.5	3.3	3.5	3.6	3.6	3.6	3.5	3.7	3.5
The MNDNR listens to the concerns of deer hunters	3.1	2.8	3.0	2.8	2.9	3.3	3.1	3.3	3.1	3.4	3.1

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 10 landowners reported owning 218 acres and leasing 340 (Table 24). Roughly, 77% of landowners reported having agricultural land use on their property. Of these landowners, 32% reported experiencing damage from deer. An equal proportion of landowners that experienced damage to agriculture reported that the severity of damage they experienced was minor/negligible, or moderate and severe/very severe (Table 25). A minority, 32% of landowners, reported having forest land use on their property. Of these individuals, 7% reported having experienced damage from deer. Too few landowners experienced damage to forest land use to estimate severity (Table 26). Nearly three-quarters of landowners reported having residential land use on their property, and 26% experienced damage from deer. Landowners experiencing damage from deer to residential land use reported damage that was minor/negligible (41%), moderate (38%), and severe/very severe (21%) (Table 27).

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 (61%) indicated that the amount of damage they have experienced from deer has remained about the same. The remainder split between experiencing more or less damage from deer over the last five years (Table 28). A plurality of landowners (39%) reported seeing more deer on their property compared to five years ago, and 37% reported seeing about the same number of deer (Table 29).

A plurality (45%) of landowners were neither satisfied nor dissatisfied with the current deer population on their property, while 28% and 30% were dissatisfied and satisfied respectively (Table 30). Hunting landowners reported higher levels of dissatisfaction (34%) than non-hunting landowners (25%) with the deer population on their land (Table 31). A near majority (46%) of landowners indicated that the population of deer on their land was “about right,” compared to too low or too high (Table 32). Non-hunting landowners (63%) were more likely to hold a belief that the current population on their property was “about right” than hunting landowners (48%). Similarly, a higher percentage of hunting landowners (30%) than non-hunting landowners (11%) expressed a belief that the current deer population on their property was too low (Table 33).

When asked what they would like to see happen with future deer populations on their land, a majority (51%) of Block 10 landowners preferred to see it stay the same, compared to 25% that would like to see an increase, and 24% a decrease (Table 34). A higher proportion of non-hunting landowners preferred stability in the deer population (61%) than hunting landowners (43%). Conversely, more hunting landowners indicated a preference for increase (37%) than non-hunting landowners (11%) (Table 35). Landowners mean preferred change in the deer population ranged from a decrease of 7% to an increase of 7% depending on the DPA, but most estimates were close to 0 (Table 36). Outliers in open-ended responses to the question measuring preferred percent change in the deer population (e.g., +10,000%) were excluded from analysis if they were  $\pm 3$  standard deviations from the grand mean for the block, corresponding to a 99.7% confidence interval around the point estimate.

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. Regardless of the number of acres a landowner owned,

roughly 30% were aware of MNDNR technical assistance (Table 37). The proportion of landowners allowing hunting on their property increased with the amount of land they owned, where roughly half of landowners with 2-19 acres allowed hunting on their property. This is compared to 82% who own 320 acres or more (Table 38). Very few (~2%) of landowners lease their land for deer hunting (Table 39). The majority of landowners (79%) did not impose any restrictions on the deer that hunters could take on their property (Table 40).

We asked landowners several questions about their deer hunting activity. Around 40% of Block 10 landowners reported hunting deer in each of 2017, 2018, and 2019 respectively. Roughly, 8% indicated that they hunt deer but did not hunt during one of those three years, and around 44% indicated that they do not hunt deer at all (Table 41). Among deer hunting landowners, 47% reported doing all of their hunting on private land that they own, while 3%, 13% and 5% 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 42). Around three-quarters of landowners indicated that they would shoot an antlerless deer given the opportunity (Table 43), and landowners have been hunting deer in Minnesota for an average of 34 years (Table 44).

Landowners rated their agreement with five statements about their trust in the MNDNR on scale from 1 = strongly disagree, to strongly agree, and a mid-point of neither. Landowners, on average, were neutral regarding their trust in the MNDNR. Mean values ranged from 3.2 to 3.5 for trust items (Table 45).

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 deer herd health, public health, and deer-vehicle collisions as issues to consider when setting deer population goals (Table 46).

We asked landowners if they place food or minerals out for deer to consume. A small number of landowners (8%) reported feeding deer (Table 47). However, a larger proportion (16%) of landowner indicated that they place minerals out for deer to consume (Table 48).

Table 24. Mean acres owned and leased by landowners, by DPA

DPA	Acres Owned			Acres Leased		
	Mean	Min	Max	Mean	Min	Max
274	229	2	2400	359	21	2000
275	340	2	6400	813	23	4800
278	287	2	1730	577	15	3300
279	273	3	1400	503	2	1800
280	282	2	1800	444	3	1600
281	240	3	1700	591	80	2660
282	230	3	1147	522	4	2300
283	252	3	5000	401	5	2250
284	207	2	1200	354	1	2000
290	215	3	2020	271	7	1100
<b>Block Average</b>	<b>218</b>	<b>2</b>	<b>6400</b>	<b>340</b>	<b>1</b>	<b>4800</b>

Table 25. 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		
DPA	Yes	No	Yes	No	Minor/ Negligible	Moderate	Severe/Very Severe
274	72	28	36	64	42	33	25
275	86	14	43	58	52	28	20
278	78	22	40	60	41	35	24
279	85	15	35	65	51	29	20
280	80	20	31	69	59	31	11
281	76	24	32	69	51	28	21
282	70	30	19	81	78	11	11
283	72	28	27	73	36	47	17
284	77	23	23	77	50	42	8
290	76	24	37	63	54	36	10
<b>Block Average</b>	<b>77</b>	<b>23</b>	<b>32</b>	<b>68</b>	<b>50</b>	<b>33</b>	<b>17</b>

values are the percent of respondents reporting each category

Table 26. 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
274	28	72	6	94			
275	27	73	9	91			
278	33	67	10	90			
279	16	84	4	96			
280	22	78	3	97			
281	37	63	6	94			
282	19	81	8	92			
283	36	64	17	83			
284	34	66	4	96			
290	53	47	7	93			
<b>Block Average</b>	<b>32</b>	<b>68</b>	<b>7</b>	<b>93</b>			

values are the percent of respondents reporting each category

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

*Table 27. 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
274	68	32	28	72	35	30	35
275	71	29	28	72	36	49	15
278	68	32	26	74	31	34	36
279	68	32	35	65	44	38	18
280	74	26	21	79	41	26	33
281	74	26	28	72	41	32	27
282	65	35	17	83	37	43	20
283	80	20	27	73	40	48	12
284	75	25	21	79	49	37	14
290	65	35	31	69	54	38	8
<b>Block Average</b>	<b>71</b>	<b>29</b>	<b>26</b>	<b>74</b>	<b>41</b>	<b>38</b>	<b>21</b>

values are the percent of respondents reporting each category

Table 28. 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
274	12	6	62	12	8
275	7	6	62	15	10
278	12	9	58	15	7
279	6	8	71	9	7
280	21	10	53	10	8
281	15	6	62	11	6
282	17	8	64	8	4
283	17	4	58	15	5
284	20	7	56	11	5
290	6	10	65	12	7
<b>Block Average</b>	<b>14</b>	<b>7</b>	<b>61</b>	<b>12</b>	<b>7</b>

values are the percent of respondents reporting each category

Table 29. 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
274	12	10	35	23	19
275	6	14	33	24	23
278	5	14	35	27	19
279	11	19	35	18	17
280	10	18	38	17	17
281	10	13	41	25	12
282	16	19	41	17	7
283	9	19	33	27	12
284	9	16	38	22	15
290	0	12	42	27	19
<b>Block Average</b>	<b>9</b>	<b>15</b>	<b>37</b>	<b>23</b>	<b>16</b>

values are the percent of respondents reporting each category



*Table 30. Landowners' satisfaction with the current deer population in the area of their property, by DPA*

<b>DPA</b>	<b>Very dissatisfied</b>	<b>Slightly dissatisfied</b>	<b>Neutral</b>	<b>Slightly satisfied</b>	<b>Very satisfied</b>
274	16	20	41	13	10
275	14	19	44	10	13
278	10	23	38	14	15
279	14	23	42	11	10
280	16	18	46	12	7
281	10	15	48	11	16
282	14	17	44	11	14
283	9	18	41	15	16
284	9	14	49	12	17
290	6	18	51	12	12
<b>Block Average</b>	<b>12</b>	<b>18</b>	<b>45</b>	<b>12</b>	<b>13</b>

values are the percent of respondents reporting each category

Table 31. 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
274	25	54	22	42	35	23
275	33	50	17	35	51	24
278	35	45	20	32	32	36
279	31	46	23	41	41	18
280	31	53	16	37	40	23
281	14	70	16	31	36	33
282	23	56	21	40	34	26
283	19	56	25	34	29	37
284	21	56	23	23	42	35
290	25	57	18	23	46	31
<b>Block Average</b>	<b>25</b>	<b>54</b>	<b>20</b>	<b>34</b>	<b>37</b>	<b>29</b>

values are the percent of respondents reporting each category

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

DPA	Much too low	Too low	About right	Too high	Much too high
274	6	18	43	25	7
275	4	21	49	19	8
278	2	28	48	17	5
279	11	19	42	20	8
280	10	20	37	27	5
281	3	22	54	17	4
282	13	36	39	9	4
283	11	32	38	16	3
284	7	24	52	12	5
290	0	16	63	14	7
<b>Block Average</b>	<b>7</b>	<b>24</b>	<b>46</b>	<b>18</b>	<b>6</b>

values are the percent of respondents reporting each category

Table 33. 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
274	15	54	31	25	43	32
275	7	57	36	24	49	27
278	6	59	35	30	48	22
279	13	49	38	30	42	28
280	12	66	22	31	37	32
281	5	82	13	25	54	21
282	11	73	16	49	39	13
283	8	62	30	42	38	19
284	19	61	20	31	52	17
290	7	65	28	16	63	21
<b>Block Average</b>	<b>11</b>	<b>63</b>	<b>26</b>	<b>30</b>	<b>47</b>	<b>23</b>

values are the percent of respondents reporting each category

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

DPA	Decrease	Stay the Same	Increase
274	28	43	29
275	29	47	25
278	26	50	23
279	29	43	28
280	28	47	24
281	14	63	23
282	15	51	34
283	22	49	29
284	20	57	22
290	27	57	16
<b>Block Average</b>	<b>24</b>	<b>51</b>	<b>25</b>

values are the percent of respondents reporting each category

Table 35. 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
274	33	46	21	27	42	31
275	40	55	5	22	42	36
278	35	59	6	18	43	39
279	38	37	25	24	47	30
280	28	59	13	27	36	37
281	16	78	6	13	52	35
282	16	73	10	14	31	55
283	29	58	13	16	41	42
284	23	65	13	18	48	34
290	31	62	7	21	51	28
<b>Block Average</b>	<b>28</b>	<b>61</b>	<b>11</b>	<b>20</b>	<b>43</b>	<b>37</b>

values are the percent of respondents reporting each category

Table 36. Landowners' mean preferred percent change in the deer population, by DPA

DPA	Mean percent change	Median percent change	Minimum	Maximum
274	-2	0	-95	100
275	-3	0	-100	100
278	-3	0	-100	63
279	-1	0	-65	100
280	-2	0	-100	75
281	0	0	-100	75
282	7	0	-75	100
283	2	0	-95	100
284	0	0	-100	100
290	-7	0	-100	50
<b>Block Average</b>	<b>0</b>	<b>0</b>	<b>-100</b>	<b>100</b>

*Table 37. Percent of landowners aware that MNDNR offers technical and financial assistance for deer depredation problems, by DPA, and acres owned*

<b>DPA</b>	<b>2-19 acres</b>	<b>20-79 acres</b>	<b>80-319 acres</b>	<b>320+ acres</b>	<b>Average</b>
274	24	32	40	42	33
275	18	24	29	32	25
278	32	33	26	44	32
279	54	28	35	43	41
280	27	18	29	30	27
281	17	19	25	31	23
282	27	23	32	31	28
283	30	42	37	27	34
284	15	15	25	30	21
290	30	39	25	20	28
<b>Block Average</b>	<b>26</b>	<b>27</b>	<b>30</b>	<b>33</b>	<b>29</b>

values are the percent of respondents reporting each category



Table 38. 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
274	46	82	93	88	73
275	59	68	89	87	75
278	66	78	81	93	78
279	69	61	79	93	75
280	59	68	80	85	71
281	44	63	65	80	60
282	40	73	63	72	58
283	39	74	55	79	56
284	40	59	48	65	50
290	57	75	59	83	64
<b>Block Average</b>	<b>51</b>	<b>70</b>	<b>70</b>	<b>82</b>	<b>65</b>

values are the percent of respondents reporting each category

*Table 39. Percent of landowners that leased their property for deer hunting, by DPA.*

<b>DPA</b>	<b>Yes</b>	<b>No</b>
274	3	97
275	4	96
278	3	97
279	2	98
280	0	100
281	1	99
282	3	97
283	1	99
284	0	100
290	3	97
<b>Block Average</b>	<b>2</b>	<b>98</b>

values are the percent of respondents reporting each category

Table 40. 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
274	5	5	3	78	11
275	4	8	5	77	5
278	3	13	10	70	5
279	5	3	6	80	7
280	2	2	1	91	3
281	2	13	4	73	8
282	6	6	3	81	5
283	7	3	5	78	7
284	8	3	3	79	6
290	1	9	1	87	4
<b>Block Average</b>	<b>4</b>	<b>7</b>	<b>4</b>	<b>79</b>	<b>6</b>

values are the percent of respondents reporting each category

*Table 41. Percent of landowners reporting hunting deer during the last three years, and those that do not hunt, by DPA*

<b>DPA</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>Did not hunt these years</b>	<b>Do not hunt</b>
274	56	51	52	6	32
275	48	48	45	8	37
278	46	44	42	5	45
279	41	42	42	13	37
280	32	33	33	13	48
281	41	39	39	13	39
282	41	39	37	7	47
283	46	46	42	5	43
284	31	29	27	8	57
290	38	38	38	5	52
<b>Block Average</b>	<b>42</b>	<b>40</b>	<b>39</b>	<b>8</b>	<b>44</b>

values are the percent of respondents reporting each category

Table 42. Landowners' time spent hunting on different land ownership types, by DPA

	Response	274	275	278	279	280	281	282	283	284	290	Avg.
Private land that I own	None	10	13	3	15	14	14	32	18	24	17	16
	Some	15	19	16	15	31	12	17	18	19	15	18
	Most	31	20	19	30	20	13	18	16	17	14	20
	All	44	49	61	40	35	61	34	49	41	53	47
Private land that I lease for hunting	None	86	93	78	84	99	95	92	89	86	91	89
	Some	10	3	12	3	1	3	0	4	7	6	5
	Most	2	1	4	8	0	0	4	3	3	0	3
	All	2	2	7	5	0	2	4	3	4	4	3
Private land that I do not own or lease	None	42	46	49	46	30	49	39	45	51	44	44
	Some	38	31	39	29	33	15	17	20	20	21	27
	Most	12	15	9	13	27	10	22	23	11	18	16
	All	8	8	2	13	10	26	22	12	18	18	13
Public land	None	55	61	52	62	52	71	46	62	51	76	58
	Some	36	29	36	26	33	24	34	27	15	17	28
	Most	4	7	13	10	9	3	14	4	19	4	9
	All	5	3	0	3	7	1	6	7	14	4	5

values are the percent of respondents reporting each category

Table 43. Percent of hunting landowners that would shoot an antlerless deer, by DPA

DPA	Yes	No
274	83	17
275	74	27
278	69	31
279	81	19
280	75	25
281	69	31
282	73	27
283	74	26
284	65	35
290	78	22
<b>Block Average</b>	<b>74</b>	<b>26</b>

values are the percent of respondents reporting each category

*Table 44. Mean number of years that hunting landowners have been hunting deer in Minnesota, by DPA*

<b>DPA</b>	<b>Mean</b>
274	34
275	33
278	40
279	34
280	30
281	36
282	34
283	32
284	32
290	37
<b>Block Average</b>	<b>34</b>

*Table 45. Landowners' mean level of agreement with statements about the MNDNR, by DPA*

	<b>274</b>	<b>275</b>	<b>278</b>	<b>279</b>	<b>280</b>	<b>281</b>	<b>282</b>	<b>283</b>	<b>284</b>	<b>290</b>	<b>Avg.</b>
The MNDNR does a good job managing deer in MN	2.9	3.0	3.1	2.9	3.0	3.2	3.4	3.3	3.4	3.4	3.2
When deciding about deer management in MN, the MNDNR will be open and honest in the things they say and do	3.0	3.1	3.1	3.1	3.2	3.3	3.5	3.4	3.4	3.4	3.3
The MNDNR can be trusted to make decisions about deer management that are good for the resource	2.9	3.0	3.2	3.0	3.3	3.3	3.6	3.4	3.4	3.4	3.3
The MNDNR will make decisions about deer management in a way that is fair	3.0	3.1	3.2	3.1	3.3	3.3	3.6	3.4	3.5	3.5	3.3
The MNDNR has deer managers and biologists who are well-trained for their jobs	3.3	3.3	3.5	3.3	3.4	3.4	3.8	3.6	3.5	3.6	3.5
The MNDNR listens to the concerns of landowners	2.8	2.8	3.0	2.8	3.1	3.0	3.3	3.2	3.2	3.3	3.1

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



*Table 46. Landowners' mean stated importance for factors to consider in making deer population goals, by DPA*

	274	275	278	279	280	281	282	283	284	290	Avg.
Amount of deer mortality during an average winter	3.4	3.4	3.3	3.2	3.4	3.4	3.5	3.4	3.4	3.4	3.4
Amount of deer mortality during a severe winter	3.8	3.6	3.47	3.6	3.7	3.9	3.7	3.7	3.7	3.7	3.7
Potential health risks to the deer herd	3.8	3.7	3.8	3.7	3.7	4.0	3.9	3.8	3.8	3.9	3.8
Public health (human-deer diseases)	3.7	3.8	3.9	3.9	3.7	3.9	3.9	3.9	3.8	4.0	3.8
Amount of crop damage from deer	3.3	3.5	3.4	3.4	3.2	3.2	3.2	3.3	3.3	3.6	3.3
Number of deer vehicle collisions	3.7	3.9	3.8	3.9	3.7	3.7	3.6	3.7	3.8	3.9	3.8
Deer over-browsing of forests	2.9	3.1	3.1	3.1	2.8	3.1	3.2	3.2	3.1	3.3	3.1
Impacts of deer on other wildlife species	2.9	3.0	3.0	3.1	2.7	2.9	3.0	3.0	2.9	3.1	3.0
Deer hunting heritage and tradition	3.7	3.4	3.6	3.6	3.2	3.4	3.6	3.5	3.4	3.4	3.5
Hunter satisfaction with deer numbers	3.5	3.4	3.4	3.4	3.2	3.3	3.4	3.3	3.3	3.3	3.4
Public satisfaction with deer numbers	3.2	3.2	3.1	3.3	3.1	3.0	3.2	3.1	3.0	3.2	3.1
Impact of deer hunting on the local economy	3.2	3.3	3.3	3.1	3.1	3.2	3.3	3.2	3.0	3.2	3.2
Quality of bucks (antler size)	3.1	3.2	3.4	3.1	3.0	3.3	3.2	3.1	2.9	3.0	3.1
Damage to gardens and landscaping	2.9	3.1	3.1	3.1	3.0	3.0	3.0	3.0	3.1	3.3	3.1
The ratio of bucks to does	3.3	3.4	3.5	3.4	3.2	3.5	3.3	3.4	3.1	3.4	3.4

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

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

<b>DPA</b>	<b>Yes</b>	<b>No</b>
274	6	94
275	10	90
278	9	91
279	3	97
280	5	95
281	10	90
282	5	95
283	7	93
284	9	91
290	14	86
<b>Block Average</b>	<b>8</b>	<b>92</b>

values are the percent of respondents reporting each category

*Table 48. Percent of landowners that set out minerals for deer to consume, by DPA*

<b>DPA</b>	<b>Yes</b>	<b>No</b>
274	16	84
275	20	80
278	25	75
279	10	90
280	10	90
281	24	76
282	11	89
283	18	82
284	13	87
290	12	88
<b>Block Average</b>	<b>16</b>	<b>84</b>

values are the percent of respondents reporting each category

## APPENDIX A. Hunter Questionnaire

**Q1.** For each of the last three years, please check the years that you hunted deer in Minnesota, or if you did not hunt deer during these years. *(Check all that apply).*

\_\_\_\_\_2017 \_\_\_\_\_2018 \_\_\_\_\_2019 \_\_\_\_\_ I hunt deer, but didn't hunt these years *(Please skip to Q9).*

**Q2.** Which of the following seasons did you hunt in Minnesota in 2019? *(Check all that apply).*

\_\_\_\_\_Archery \_\_\_\_\_Firearm \_\_\_\_\_Muzzleloader

**Q3.** How much of your deer hunting did you do on each of the following types of land during your most recent deer hunting season? *(Circle one number for each).*

	None	Some	Most	All
Private land that I own	1	2	3	4
Private land that I lease for hunting	1	2	3	4
Private land that I do not own or lease	1	2	3	4
Public land	1	2	3	4

**Q4.** Were there any deer harvest restrictions, other than state regulations, on the property you hunted during your most recent deer hunting season? *(Check only one)*

- ☐ 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 (please explain): \_\_\_\_\_

**Q5.** Overall, how satisfied were you with your most recent deer hunting season? *(Circle one number).*

Very dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Very satisfied
1	2	3	4	5

**Q6.** How much do you agree or disagree with the following statements about your most recent deer hunting season? *(Circle one number for each).*

	Strongly disagree	Slightly disagree	Neither	Slightly agree	Strongly agree
I was satisfied with the number of legal bucks I saw	1	2	3	4	5
I was satisfied with the quality of bucks I saw	1	2	3	4	5
I heard about or saw legal bucks while hunting	1	2	3	4	5
I was satisfied with the number of antlerless deer I saw	1	2	3	4	5
I was satisfied with the number of deer I saw while hunting	1	2	3	4	5

**Q7.** Compared to 5 years ago, what trend have you seen in the deer population in the permit area where you hunt most often? (Circle one number). *If you weren't hunting this area 5 years ago, please skip to Q8.*

Many fewer deer	Slightly fewer deer	About the same number of deer	Slightly more deer	Many more deer
1	2	3	4	5

**Q8.** Overall, how satisfied are you with the current deer population in the permit area where you hunt most often? (Circle one number).

Very dissatisfied	Slightly dissatisfied	Neither	Slightly satisfied	Very satisfied
1	2	3	4	5

**Q9.** Will you shoot an antlerless deer given the opportunity?

\_\_\_\_\_ Yes      \_\_\_\_\_ No

**Q10.** Please rate the importance of the following factors used in making deer population goals. (Circle one number for each).

	Not at all important	A little important	Moderately important	Important	Very important
Amount of deer mortality during an <u>average</u> winter	1	2	3	4	5
Amount of deer mortality during a <u>severe</u> winter	1	2	3	4	5
Potential health risks to the deer herd	1	2	3	4	5
Public health (human-deer diseases)	1	2	3	4	5
Amount of crop damage from deer	1	2	3	4	5
Number of deer-vehicle collisions	1	2	3	4	5
Deer-over browsing of forests	1	2	3	4	5
Impacts of deer on other wildlife species	1	2	3	4	5
Deer hunting heritage and tradition	1	2	3	4	5
Hunter satisfaction with deer numbers	1	2	3	4	5
Public satisfaction with deer numbers	1	2	3	4	5
Impact of deer hunting on the local economy	1	2	3	4	5
Quality of bucks (e.g., Antler size)	1	2	3	4	5
Damage to gardens and landscaping	1	2	3	4	5
The ratio of bucks to does	1	2	3	4	5
Other (please specify):	1	2	3	4	5

**Q11.** Do you think the deer population where you hunt most often is: (Circle one number)

Much too low	Too low	About right	Too high	Much too high
1	2	3	4	5

**Q12.** What would you like to happen to deer population levels in the area where you hunt most often in the next 5 years? (*Check one*).

\_\_\_\_\_ **Decrease**      \_\_\_\_\_ **Stay the same**      \_\_\_\_\_ **Increase**

**Q12a.** If you would like the deer population in the area you hunt most often to increase or decrease, what percent would you like it to change? (e.g., 25%) →

**Increase or Decrease by** \_\_\_\_\_ %

**Q13.** How much would you support or oppose a regulation that would increase the proportion of antlered bucks in the deer permit area where you hunt most often? (*Circle one number*)

<b>Strongly oppose</b>	<b>Slightly oppose</b>	<b>Neither</b>	<b>Slightly support</b>	<b>Strongly support</b>
1	2	3	4	5

**Q14.** Including 2019, how many years have you been hunting deer in Minnesota? \_\_\_\_\_ **Years**

**Q15.** Do you deliberately set out food for wild deer to consume (e.g., deer feeder)? ***Do not report food plots.***

\_\_\_\_\_ **Yes**      \_\_\_\_\_ **No**

**Q16.** Do you deliberately set out minerals for wild deer to consume (e.g., salt blocks)?

\_\_\_\_\_ **Yes**      \_\_\_\_\_ **No**

**Q17.** Are you a member of a deer hunting organization (e.g., Minnesota Deer Hunters Association)?

\_\_\_\_\_ **Yes**      \_\_\_\_\_ **No**

**Q18.** How much do you agree or disagree with the following statements about the Minnesota Department of Natural Resources (MNDNR)? (*Circle one number for each*).

	<b>Strongly disagree</b>	<b>Slightly disagree</b>	<b>Neither</b>	<b>Slightly agree</b>	<b>Strongly agree</b>
The MNDNR does a good job of managing deer in Minnesota	1	2	3	4	5
When deciding about deer management in MN, the MNDNR will be open and honest in the things they say and do	1	2	3	4	5
The MNDNR can be trusted to make decisions about deer management that are good for the resource	1	2	3	4	5
The MNDNR will make decisions about deer management in a way that is fair	1	2	3	4	5
The MNDNR has deer managers and biologists who are well-trained for their jobs	1	2	3	4	5
The MNDNR listens to the concerns of deer hunters	1	2	3	4	5

## APPENDIX B. Landowner Questionnaire

**Q1.** How many total acres did you own and/or lease at the end of 2019?

\_\_\_\_\_ **Acres owned**      \_\_\_\_\_ **Acres leased**

**Q2.** Did you own or lease any land that was in the following land uses in 2019, and did deer cause any damage to those land uses in 2019? (*Check all that apply*).

Land use	Owned or leased		Experienced damage	
<b>Agriculture</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>Forest</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<b>Residential</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

← If you did not own or lease any of the following in 2019 please skip to Q6.

**Q3.** How would you describe the total amount of damage from deer that you experienced in 2019? (*Circle one*).

Negligible	Minor	Moderate	Severe	Very Severe
1	2	3	4	5

**Q4.** How would you compare the total amount of damage from deer you experienced in 2019 to what you experienced 5 years ago? (*Circle one*). If you did not own or lease land 5 years ago, please skip to Q6.

Much less damage	Slightly less damage	About the same damage	Slightly more damage	Much more damage
1	2	3	4	5

**Q5.** Over the past 5 years, what trend have you seen in the deer population in the area of your property? (*Circle one*).

Many fewer deer	Slightly fewer deer	About the same number of deer	Slightly more deer	Many more deer
1	2	3	4	5

**Q6.** How satisfied are you with the current deer population in the area of your property? (*Circle one*).

Very dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Very satisfied
1	2	3	4	5

**Q7.** Do you think the deer population where you own land is: (*Circle one*)

Much too low	Too low	About right	Too high	Much too high
1	2	3	4	5

**Q8.** What would you like to happen to deer population levels in the area of your property in the next 5 years? (*Check one*).

\_\_\_\_\_ **Decrease**      \_\_\_\_\_ **Stay the same**      \_\_\_\_\_ **Increase**

**Q8a.** If you would like the deer population in the area of your property to increase or decrease, what percent would you like it to change? (e.g., 25%) →

**Increase or Decrease by** \_\_\_\_\_ %

**Q9.** Are you aware that MNDNR offers technical and financial assistance to landowners for deer depredation problems?

\_\_\_\_\_ **Yes**      \_\_\_\_\_ **No**

**Q10.** Did you allow hunting on your property during the 2019 deer seasons?

\_\_\_\_\_ **Yes**      \_\_\_\_\_ **No (Please skip to Q13).**

**Q11.** Do you lease any of your property for deer hunting?

\_\_\_\_\_ **Yes**      \_\_\_\_\_ **No**

**Q12.** Did you personally impose any deer harvest restrictions, other than state regulations on your property in 2019? *(Check one).*

- ☐ 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 (please explain): \_\_\_\_\_

**Q13.** For each of the last three years, please check the years that you hunted deer in Minnesota, or indicate if you are not a deer hunter. *(Check all that apply).*

\_\_\_\_\_ **2017**      \_\_\_\_\_ **2018**      \_\_\_\_\_ **2019**      \_\_\_\_\_ I hunt deer, but didn't hunt these years **(Please skip to Q15).**

\_\_\_\_\_ I do not hunt deer at all **(Please skip to Q17).**

**Q14.** How much of your deer hunting did you do on each of the following types of land during your most recent deer hunting season? *(Circle one for each).*

	None	Some	Most	All
Private land that I own	1	2	3	4
Private land that I lease for hunting	1	2	3	4
Private land that I do not own or lease	1	2	3	4
Public land	1	2	3	4

**Q15.** Will you shoot an antlerless deer given the opportunity?      \_\_\_\_\_ **Yes**      \_\_\_\_\_ **No**

**Q16.** Including 2019, how many years have you been hunting deer in Minnesota? \_\_\_\_\_ **Years**



**Q17.** How much do you agree or disagree with the following statements about the Minnesota Department of Natural Resources (MNDNR)? (*Circle one for each*).

	Strongly disagree	Slightly disagree	Neither	Slightly agree	Strongly agree
The MNDNR does a good job of managing deer in Minnesota	1	2	3	4	5
When deciding about deer management in MN, the MNDNR will be open and honest in the things they say and do	1	2	3	4	5
The MNDNR can be trusted to make decisions about deer management that are good for the resource	1	2	3	4	5
The MNDNR will make decisions about deer management in a way that is fair	1	2	3	4	5
The MNDNR has deer managers and biologists who are well-trained for their jobs	1	2	3	4	5
The MNDNR listens to the concerns of landowners	1	2	3	4	5

**Q18.** Please rate the importance of the following factors used in making deer population goals. (*Circle one number for each*).

	Not at all important	A little important	Moderately important	Important	Very important
Amount of deer mortality during an <b>average</b> winter	1	2	3	4	5
Amount of deer mortality during a <b>severe</b> winter	1	2	3	4	5
Potential health risks to the deer herd	1	2	3	4	5
Public health (human-deer diseases)	1	2	3	4	5
Amount of crop damage from deer	1	2	3	4	5
Number of deer-vehicle collisions	1	2	3	4	5
Deer over-browsing of forests	1	2	3	4	5
Impacts of deer on other wildlife species	1	2	3	4	5
Deer hunting heritage and tradition	1	2	3	4	5
Hunter satisfaction with deer numbers	1	2	3	4	5
Public satisfaction with deer numbers	1	2	3	4	5
Impact of deer hunting on the local economy	1	2	3	4	5
Quality of bucks (e.g., Antler size)	1	2	3	4	5
Damage to gardens and landscaping	1	2	3	4	5
The ratio of bucks to does	1	2	3	4	5
Other (please specify):	1	2	3	4	5

**Q19.** Do you deliberately set out food for wild deer to consume (e.g., deer feeder)? ***Do not report food plots.***

\_\_\_\_\_ Yes      \_\_\_\_\_ No

**Q20.** Do you deliberately set out minerals for wild deer to consume (e.g., salt blocks)?

\_\_\_\_\_ Yes      \_\_\_\_\_ No