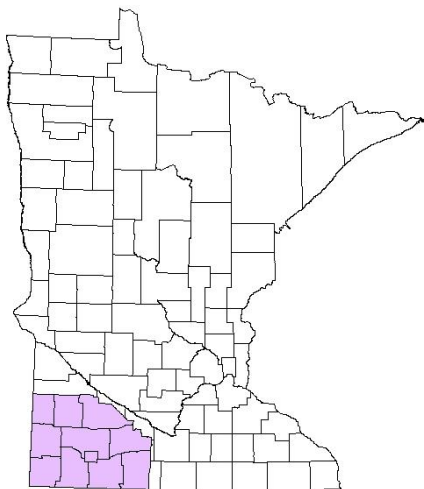




Fish and Wildlife Division

Deer Goal Setting Attitude Survey Report

Block 13: Coteau-Plains



Updated: 2/2/2021

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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 ≥ 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 13: Coteau-Plains

Goal setting Block 13 (Coteau-Plains) includes deer permit areas: 234, 237, 250, 252, 286, 288, 289, 294, 295, and 296 in the southwest part of the state (Figure 1).

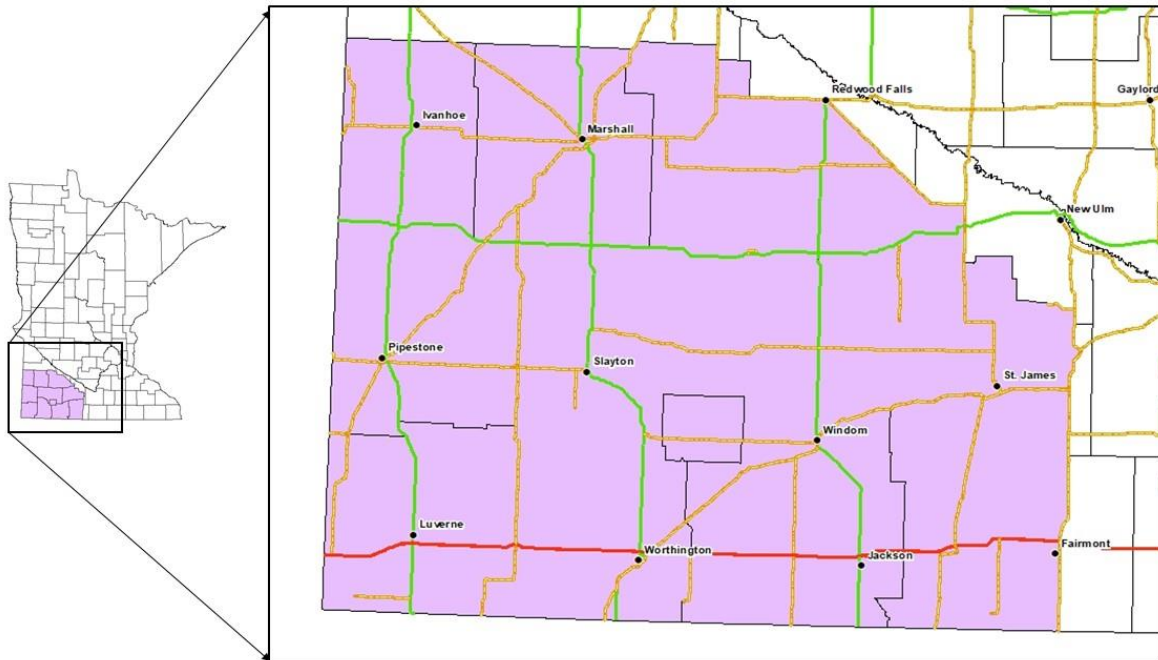


Figure 1. Goal setting Block 13 DPA boundaries

Response Rates and Weighting

Hunters

After accounting for undeliverable mail, the adjusted response rate for the Block 13 hunter sample was 43%. Response rates by DPA ranged from a low of 38% for DPA 238, to a higher of 46% for DPAs 250 and 295. 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 13 landowner sample was 37%. Response rates by DPA ranged from a low of 34% for DPA 234, to a high of 45% for DPA 238. 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

DPA	Initial Sample	Undeliverable	Respondents	Adjusted sample	Raw response rate	Adjusted response rate
234	419	12	177	407	0.42	0.43
237	459	16	182	443	0.40	0.41
238	309	8	115	301	0.37	0.38
250	481	13	215	468	0.45	0.46
252	474	11	195	463	0.41	0.42
286	458	9	204	449	0.45	0.45
288	482	16	201	466	0.42	0.43
289	450	8	187	442	0.42	0.42
294	463	14	201	449	0.43	0.45
295	492	11	219	481	0.45	0.46
296	482	18	205	464	0.43	0.44
Block average	4969	136	2101	4833	0.42	0.43

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

Age Quantile	Population Proportion	Sample Proportion	Weight*
18-32	.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
234	468	23	151	445	0.32	0.34
237	474	38	152	436	0.32	0.35
238	147	9	62	138	0.42	0.45
250	456	34	153	422	0.33	0.36
252	478	22	161	456	0.34	0.35
286	349	28	114	321	0.33	0.35
288	377	14	143	363	0.38	0.39
289	415	26	141	389	0.34	0.36
294	435	32	163	403	0.37	0.40
295	368	14	141	354	0.38	0.40
296	403	13	143	390	0.35	0.37
Block Average	4370	253	1524	4117	0.35	0.37

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

Acres strata	Population proportion	Sample proportion	Weight*
2-19	.33	.24	1.348
20-79	.16	.24	0.676
80-319	.36	.25	1.428
320+	.15	.27	0.561

*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 9% increase for DPA 294, to a 27% increase for DPA 288. Landowners, on average, preferred either a small decrease in the deer population, with estimates ranging from -4% for DPAs 250 and 296 to -17% for DPA 238. Landowners in DPAs 252, 288, and 289 preferred no change in the deer population on and around their land. Figure 2 contains mean estimates with 95% confidence intervals of 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. Majorities of landowners preferred either a decrease in the deer population on their land, or for the deer population to remain the same, depending on DPA.

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

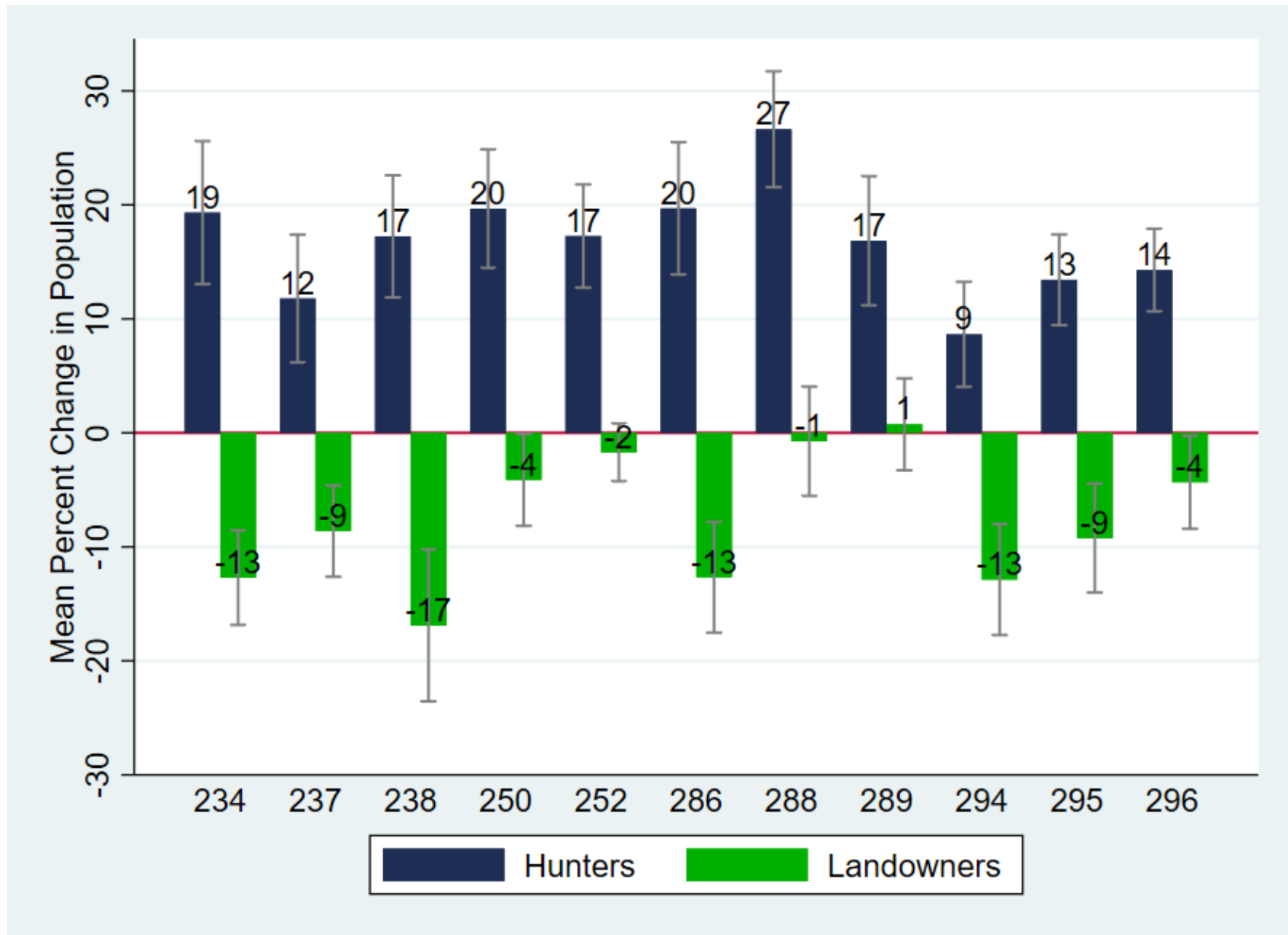


Figure 3. Deer permit area 234 landowners' and hunters' preference for future deer population

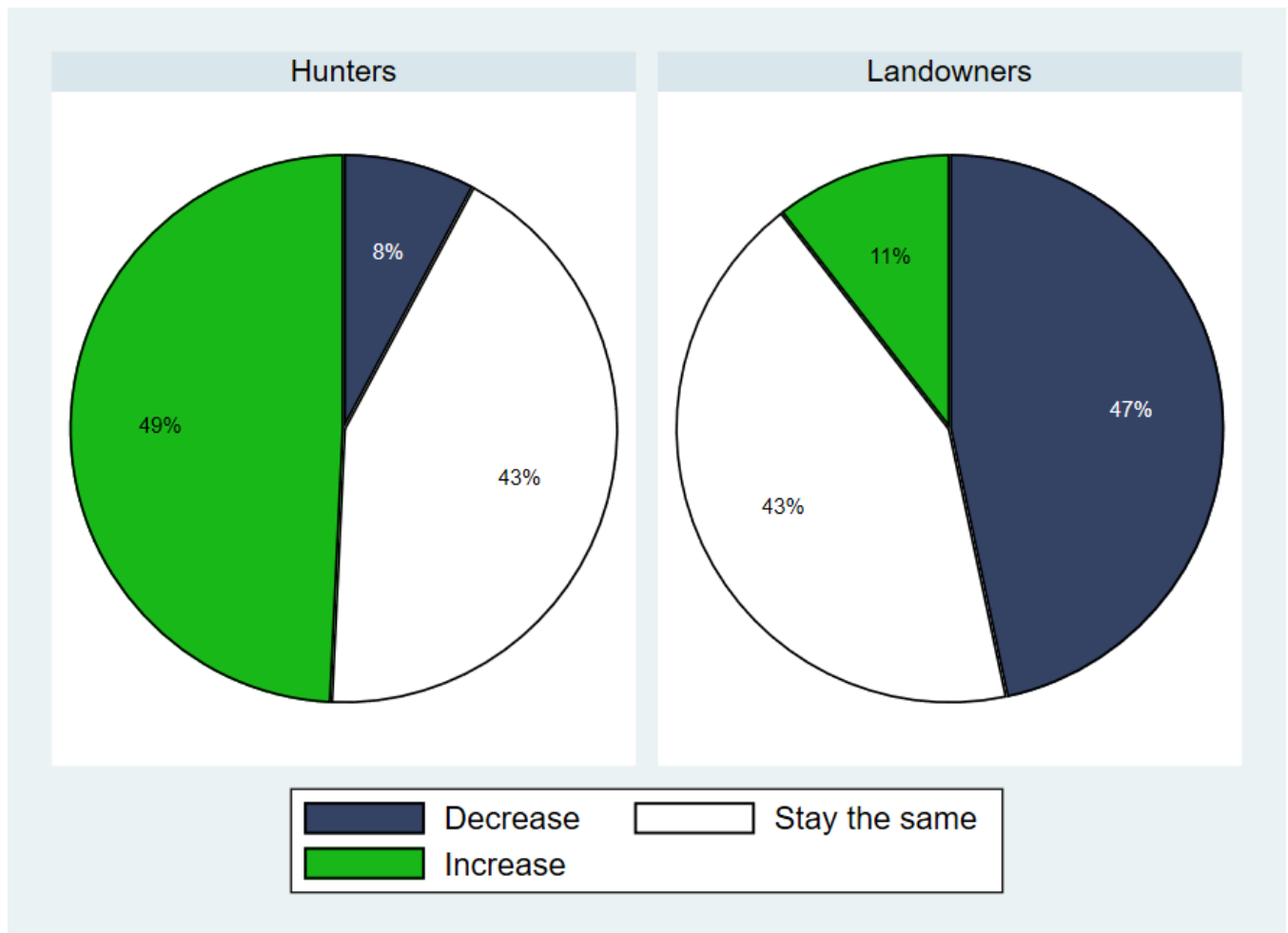


Figure 4. Deer permit area 237 landowners' and hunters' preference for future deer population

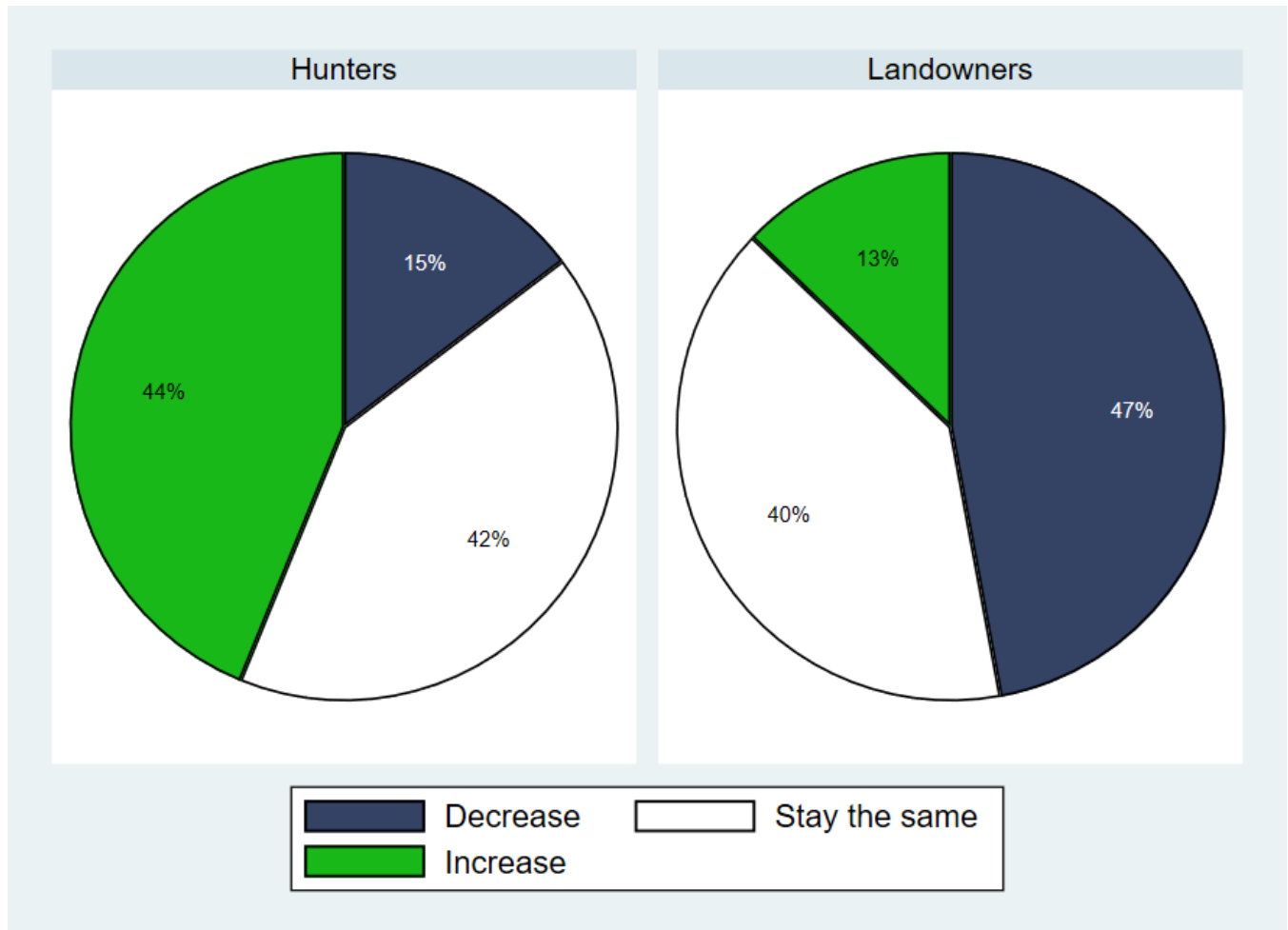


Figure 5. Deer permit area 238 landowners' and hunters' preference for future deer population



Figure 6. Deer permit area 250 landowners' and hunters' preference for future deer population

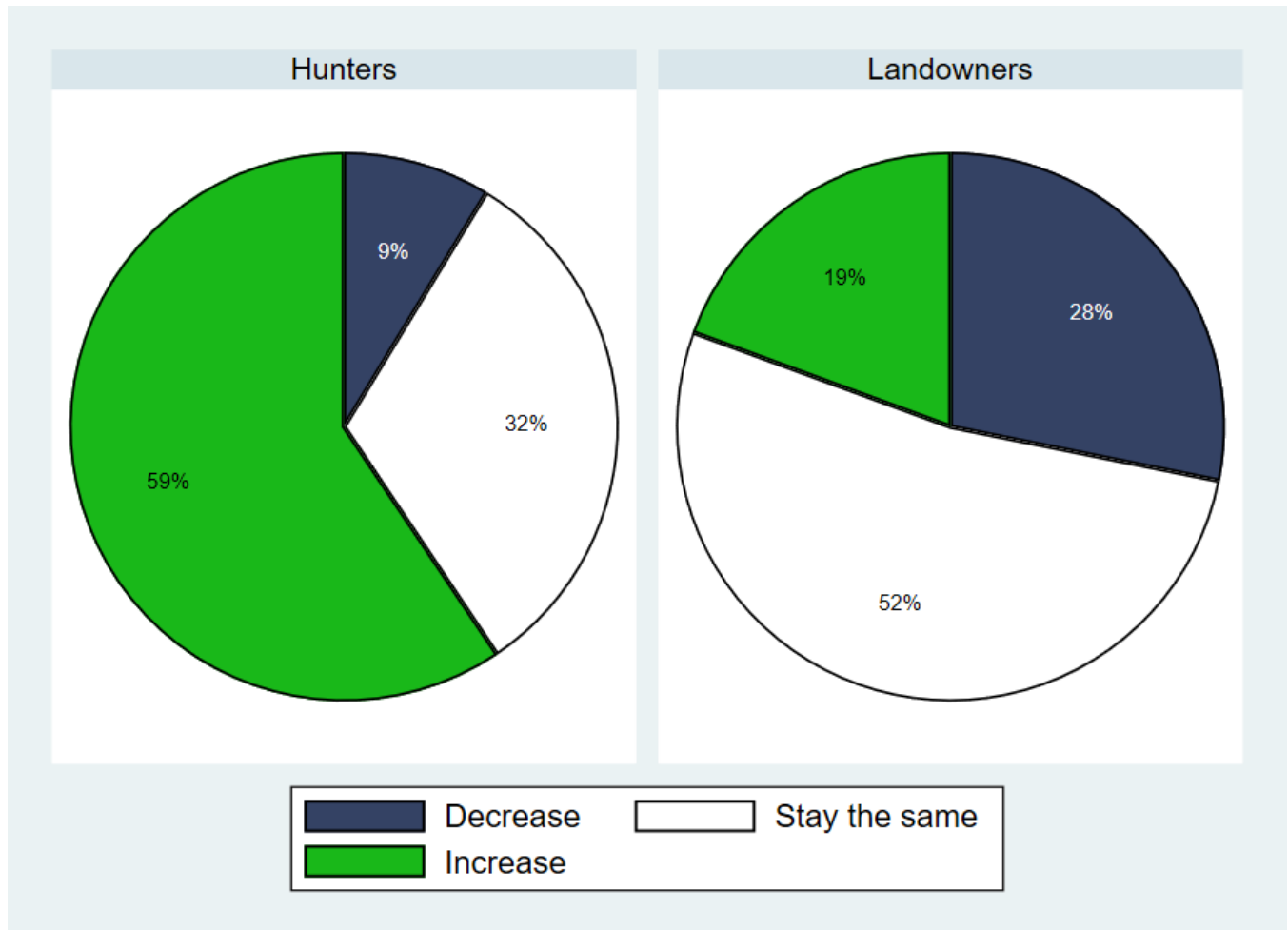


Figure 7. Deer permit area 252 landowners' and hunters' preference for future deer population

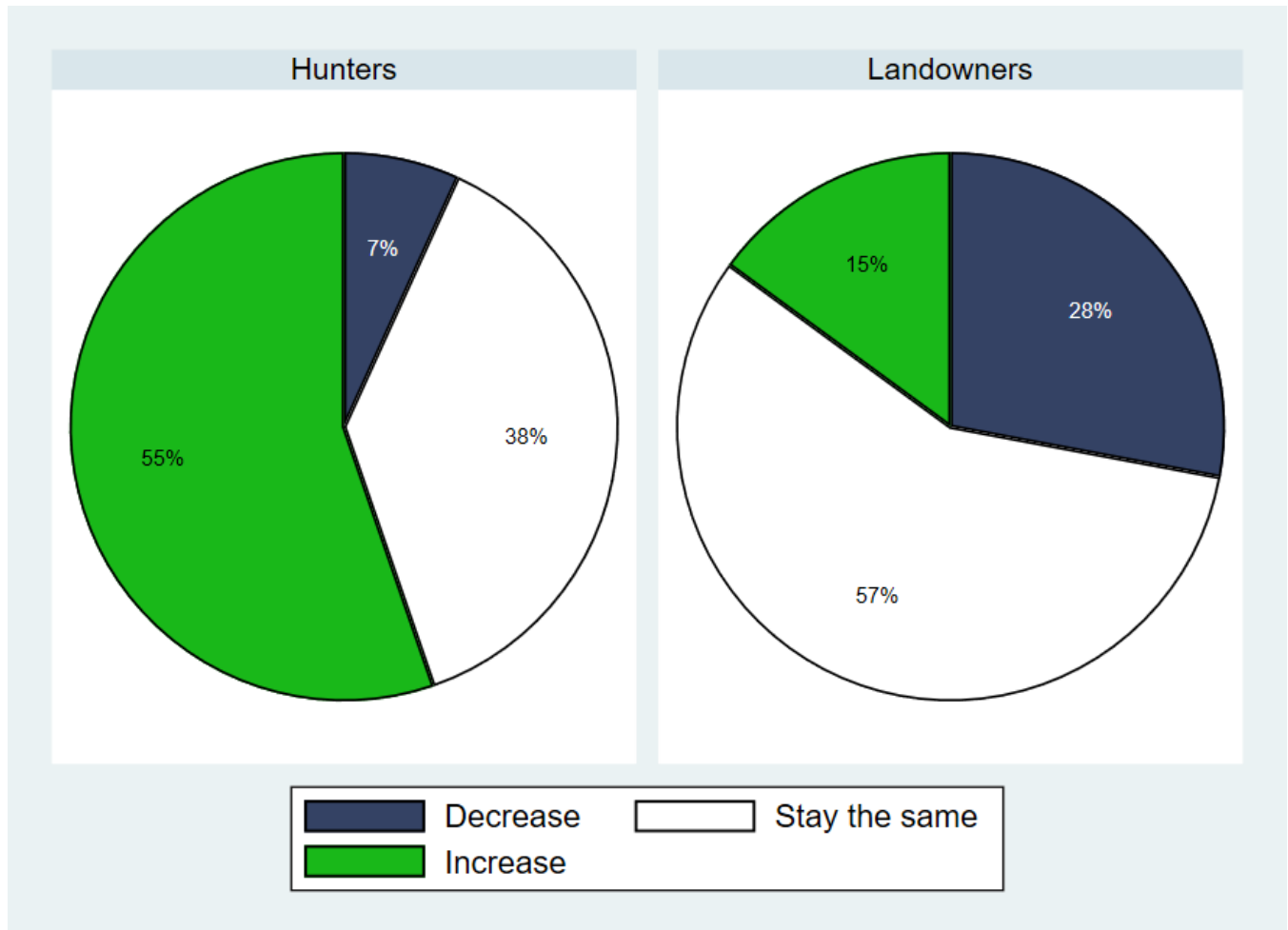


Figure 8. Deer permit area 286 landowners' and hunters' preference for future deer population

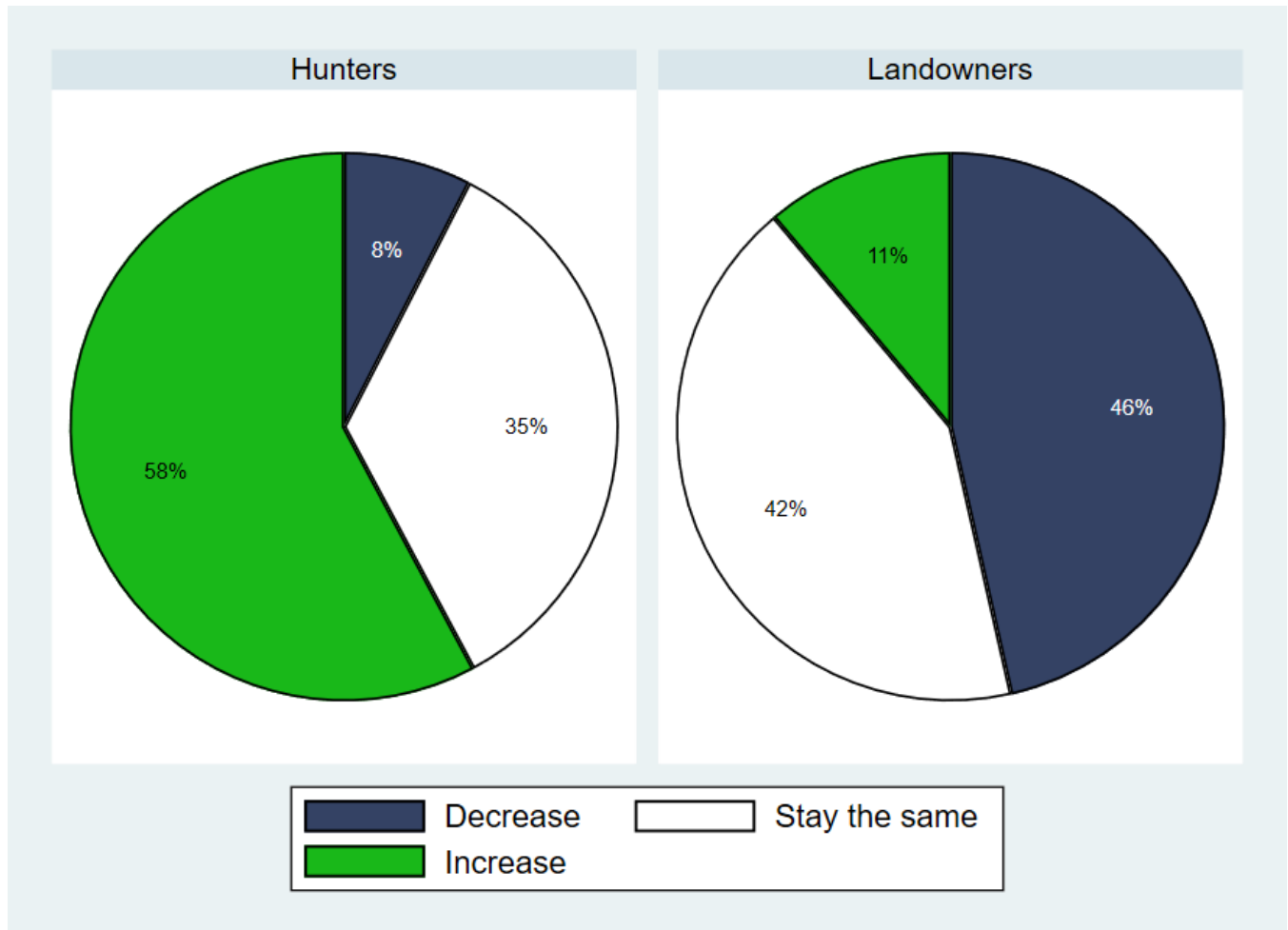


Figure 9. Deer permit area 288 landowners' and hunters' preference for future deer population

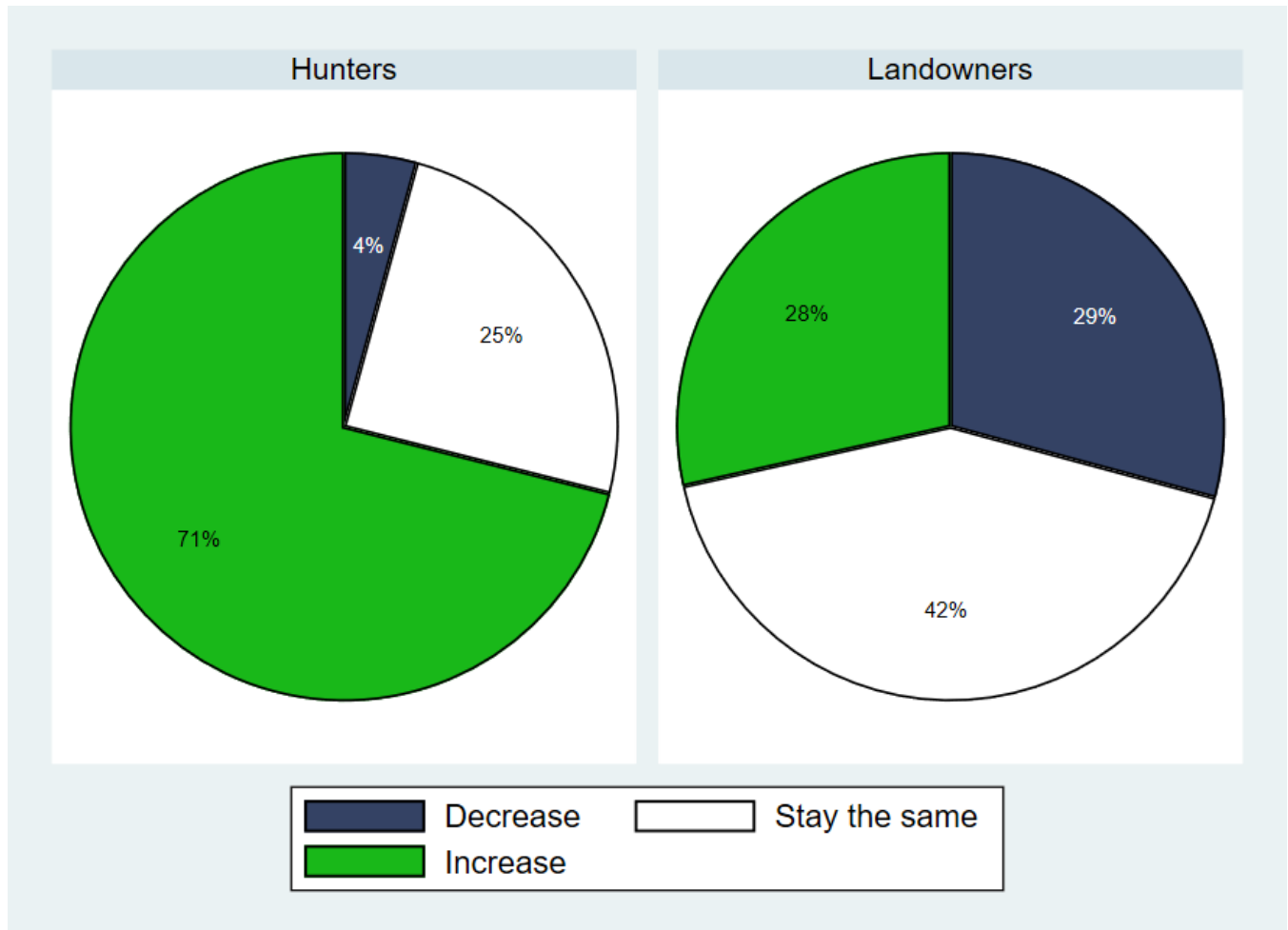


Figure 10. Deer permit area 289 landowners' and hunters' preference for future deer population

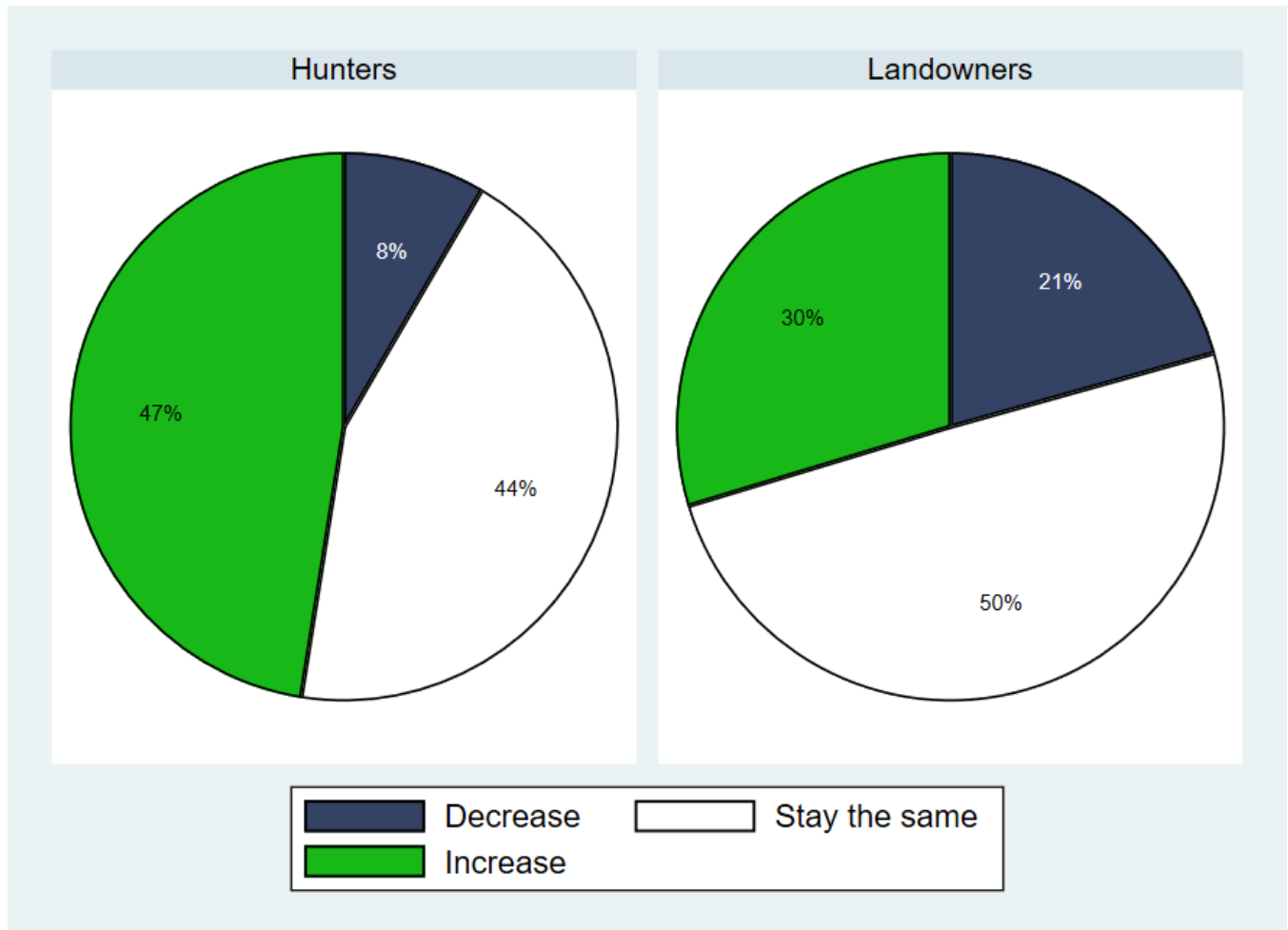


Figure 11. Deer permit area 294 landowners' and hunters' preference for future deer population



Figure 12. Deer permit area 295 landowners' and hunters' preference for future deer population

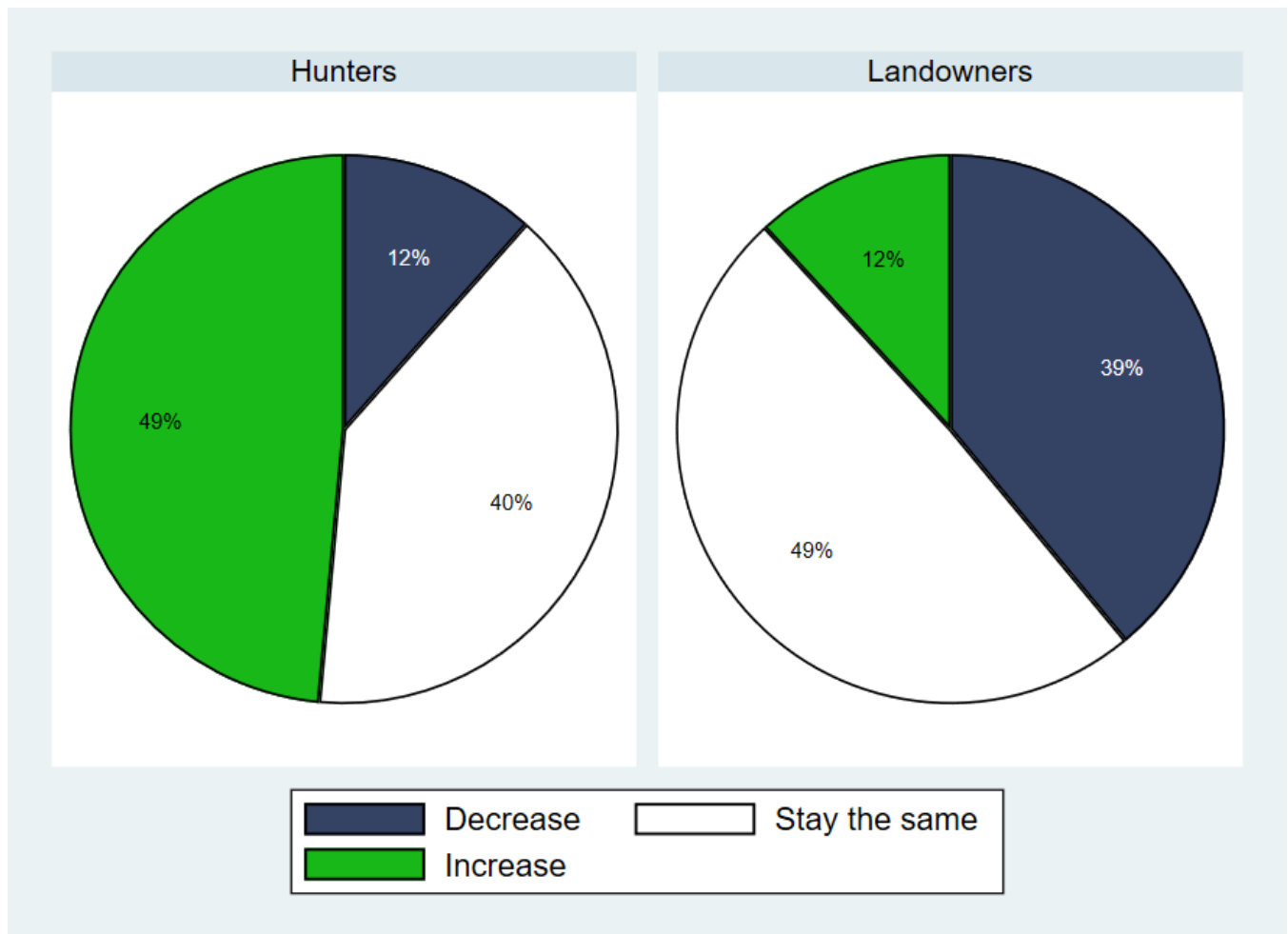
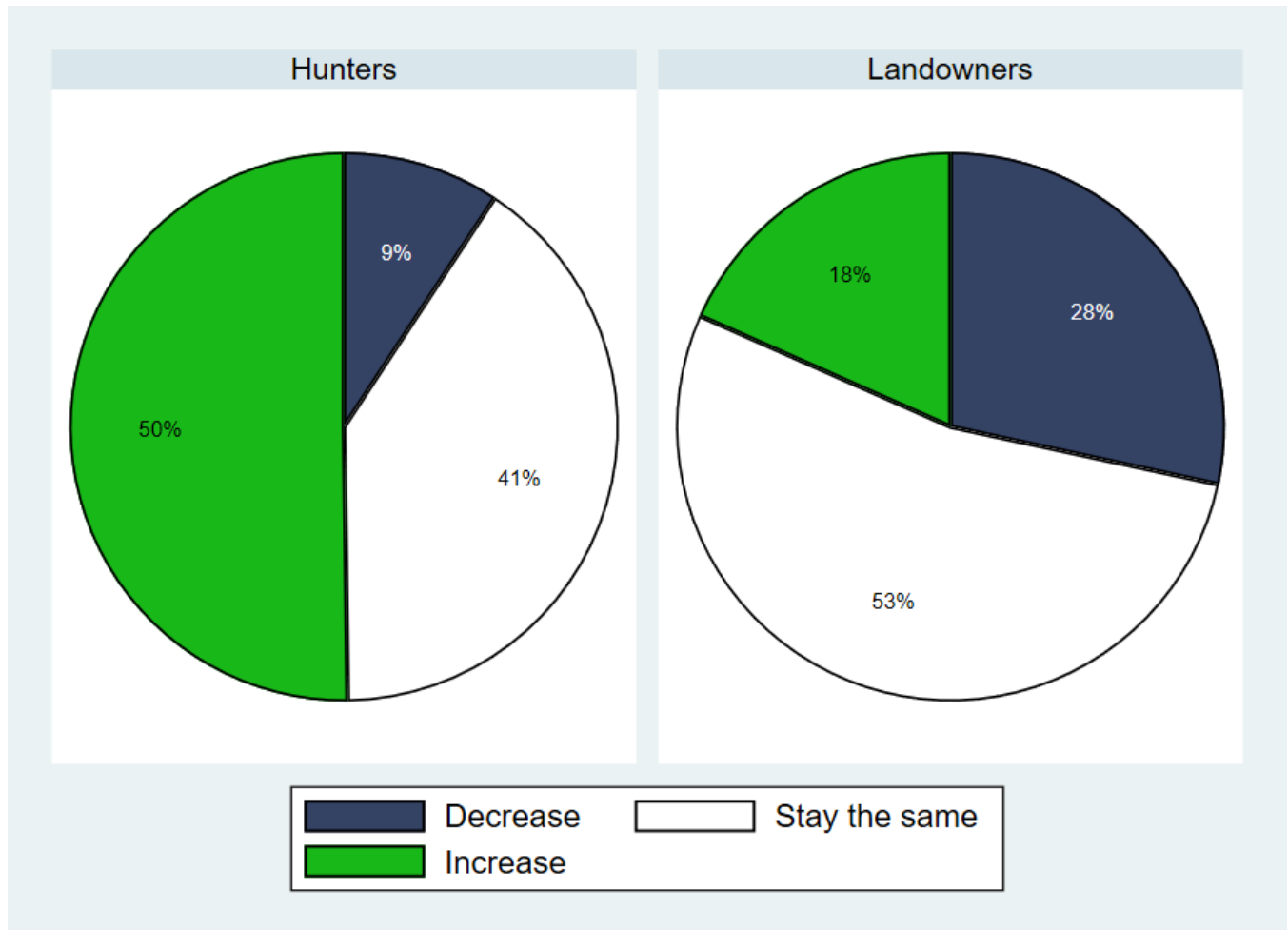


Figure 13. Deer permit area 296 landowners' and hunters' preference for future deer population



Hunters

We asked hunters to report their recent deer hunting activity. The vast majority (>90%) of hunters reported having hunted deer during the last three years (Table 5). Among these hunters, around 40% reported that they hunted during the archery season in 2019, while 40% participated in muzzleloader season, and nearly all reported hunting during the firearms season (Table 6). Around a quarter of hunters reported spending all of their time hunting on private land that they own, while 3%, 34%, and 10% of Block 13 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). Roughly half of hunters reported that there were no harvest restriction in place on land they hunted in 2019 (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. On average, hunters disagreed with statements about their satisfaction with the number and quality of bucks. Majorities of hunters reported agreement with statements about their satisfaction with the total number of deer they saw, the number of antlerless deer they saw, and whether 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, 36% of hunters reported seeing about the same number of deer, whereas 29% and 35% of hunters reported seeing more and fewer deer compared to 5 years ago, respectively (Table 11). Nearly half (47%) of Block 13 hunters reported feeling either slightly satisfied or very satisfied with the deer population in the DPA where they hunt (Table 12). A clear majority (86%) 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 13 hunters rated herd health, deer hunting heritage and tradition, and the quality of bucks 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. Nearly half (49%) of hunters felt that the current population where they hunt is “about right,” while, on average, 36% of Block 13 hunters felt it was too low or much too low, and 15% felt it was too high or much too high (Table 15).

We asked if hunters would prefer to see the deer population decrease, stay the same, or increase. Roughly, half of hunters indicated a preference for increase, while 37% preferred stability, and 9% preferred decrease (Table 16). On average, hunters in Block 13 wish to see a 17% 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 ± 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 13 (68%) 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 13 deer hunters have been hunting in Minnesota for 24 years (Table 19). Roughly, 92% of hunters reported that they do not set out feed for deer (Table 20), while 29% reported placing minerals for deer to consume (Table 21). Around 9% of Block 13 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

DPA	2017	2018	2019	Did not hunt
234	85	90	97	2
237	89	91	98	0
238	90	89	96	2
250	92	92	96	1
252	88	90	95	3
286	91	92	98	2
288	90	91	97	1
289	93	94	98	1
294	87	90	96	1
295	89	90	97	1
296	92	92	98	1
Block Average	90	91	97	1

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

DPA	Archery	Firearm	Muzzleloader
234	42	92	41
237	46	91	44
238	50	91	29
250	30	91	41
252	46	88	35
286	38	97	42
288	42	94	40
289	33	97	39
294	27	90	34
295	42	92	48
296	41	95	32
Block Average	39	93	39

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

Question	Response	234	237	238	250	252	286	288	289	294	295	296	Avg.
Private land that I own	None	49	45	54	41	43	45	37	47	44	38	37	43
	Some	21	20	14	10	15	16	17	13	26	19	14	17
	Most	19	19	14	14	15	22	21	17	16	22	19	18
	All	11	16	18	34	27	17	25	23	14	22	30	22
Private land that I lease for hunting	None	95	89	82	92	91	89	92	89	88	83	83	88
	Some	3	7	9	3	3	2	2	5	8	9	9	5
	Most	1	1	5	1	1	3	4	2	3	5	3	3
	All	1	3	4	4	4	6	3	3	1	4	6	3
Private land that I do not own or lease	None	5	14	28	28	17	11	18	16	11	17	17	16
	Some	19	22	32	19	15	21	20	18	20	21	19	20
	Most	37	40	17	20	20	37	29	25	38	33	21	29
	All	38	24	23	33	48	31	33	40	30	28	42	34
Public land	None	33	24	15	35	46	25	43	42	24	30	54	34
	Some	44	52	22	36	37	55	35	35	46	43	37	41
	Most	17	16	33	14	9	13	13	14	18	16	4	15
	All	6	8	29	15	8	7	8	10	11	11	5	10

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
234	45	2	1	49	3
237	46	2	1	49	2
238	52	4	3	40	2
250	41	4	3	51	1
252	35	1	1	62	1
286	52	3	1	41	2
288	47	2	1	48	2
289	42	1	3	49	4
294	37	4	3	52	4
295	44	4	3	48	2
296	46	4	3	42	6
Block Average	44	3	2	49	3

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
234	9	19	10	37	26
237	16	19	12	28	25
238	7	25	9	36	23
250	7	15	13	35	30
252	5	20	11	30	34
286	6	19	9	44	22
288	9	23	13	33	22
289	9	16	10	33	33
294	8	20	10	30	32
295	11	18	18	25	28
296	11	15	14	31	29
Block Average	9	19	12	33	28

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	234	237	238	250	252	286	288	289	294	295	296	Avg.
Number of legal bucks	Strongly disagree	28	29	19	17	22	24	33	27	24	20	28	25
	Slightly disagree	27	26	29	27	24	29	29	25	25	32	34	28
	Neither	9	9	11	14	11	11	11	15	9	11	6	11
	Slightly agree	27	25	35	28	30	23	23	21	27	26	24	26
	Strongly agree	10	10	6	11	13	5	13	13	16	11	8	10
Quality of bucks	Strongly disagree	30	34	23	19	24	36	40	31	26	23	26	29
	Slightly disagree	29	22	18	27	20	29	27	25	28	31	28	26
	Neither	11	11	15	18	12	12	11	15	9	14	12	13
	Slightly agree	22	27	37	25	34	17	18	24	24	21	25	24
	Strongly agree	7	5	6	12	10	6	4	5	13	10	9	8

Table 10. Continued.

I was satisfied with the...	Response	234	237	238	250	252	286	288	289	294	295	296	Avg.
I heard about or saw legal bucks while hunting	Strongly disagree	8	6	7	8	10	4	11	9	5	5	8	7
	Slightly disagree	8	12	9	6	10	14	16	16	12	15	15	13
	Neither	10	13	9	17	13	9	14	10	6	13	10	11
	Slightly agree	47	39	47	38	39	48	40	37	42	37	39	41
	Strongly agree	27	30	28	32	28	25	19	28	35	29	28	28
The number of antlerless deer I saw	Strongly disagree	6	7	8	9	6	4	5	6	6	6	8	6
	Slightly disagree	12	10	14	11	13	10	14	14	13	10	13	12
	Neither	9	10	7	11	4	7	12	11	7	11	6	9
	Slightly agree	27	25	36	29	34	37	35	32	28	32	32	31
	Strongly agree	45	48	35	39	43	43	35	37	46	41	41	41

Table 10. Continued

I was satisfied with the...	Response	234	237	238	250	252	286	288	289	294	295	296	Avg.
The number of deer I saw while hunting	Strongly disagree	9	8	12	11	8	8	11	12	7	7	11	9
	Slightly disagree	17	17	14	15	18	21	24	19	18	20	18	18
	Neither	12	13	13	12	13	10	16	13	8	15	12	13
	Slightly agree	37	34	37	39	34	38	36	32	31	33	35	35
	Strongly agree	25	28	24	23	27	23	13	24	35	26	24	25

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
234	8	24	38	18	12
237	4	19	46	15	16
238	15	22	33	18	11
250	13	30	30	22	5
252	10	20	40	24	6
286	9	29	37	14	11
288	19	33	32	11	5
289	13	20	32	15	19
294	11	23	35	15	19
295	8	19	43	17	13
296	9	22	32	23	14
Block Average	11	24	36	18	11

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
234	12	25	15	34	14
237	10	22	21	33	15
238	9	27	13	30	20
250	7	31	14	31	17
252	8	23	20	36	12
286	8	31	15	35	11
288	16	32	16	29	7
289	10	23	20	34	13
294	11	26	14	30	19
295	8	22	20	31	19
296	6	28	16	30	19
Block Average	10	26	17	32	15

values are the percent of respondents reporting each category

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

DPA	Yes	No
234	89	11
237	82	18
238	79	21
250	85	15
252	84	16
286	88	12
288	82	18
289	86	14
294	91	9
295	87	13
296	89	11
Block Average	86	14

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

Item	234	237	238	250	252	286	288	289	294	295	296	Avg.
Amount of deer mortality during an average winter	3.4	3.3	3.4	3.5	3.5	3.5	3.6	3.3	3.4	3.4	3.4	3.4
Amount of deer mortality during a severe winter	3.7	3.6	3.7	4.0	3.9	3.9	3.8	3.7	3.7	3.8	3.8	3.8
Potential health risks to the deer herd	3.8	3.9	4.0	3.9	4.0	3.9	3.9	3.8	3.8	3.8	3.9	3.9
Public health (human-deer diseases)	3.5	3.5	3.7	3.6	3.6	3.5	3.5	3.4	3.4	3.4	3.6	3.5
Amount of crop damage from deer	2.9	2.8	2.8	2.7	2.7	2.8	2.7	2.7	3.1	2.8	2.9	2.9
Number of deer vehicle collisions	3.4	3.5	3.3	3.3	3.4	3.4	3.3	3.4	3.5	3.3	3.5	3.4
Deer over-browsing of forests	2.6	2.7	2.7	2.5	2.7	2.6	2.7	2.5	2.6	2.7	2.7	2.6
Impacts of deer on other wildlife species	2.7	2.7	2.6	2.7	2.6	2.7	2.7	2.6	2.6	2.7	2.7	2.7
Deer hunting heritage and tradition	3.9	3.8	3.9	4.0	4.0	4.0	3.6	3.9	3.7	3.9	3.8	3.9
Hunter satisfaction with deer numbers	3.8	3.7	3.7	3.8	3.8	3.8	3.7	3.8	3.7	3.7	3.6	3.7
*Public satisfaction with deer numbers	3.2	3.2	2.9	3.3	3.4	3.1	3.1	3.0	3.4	3.2	3.1	3.2
Impact of deer hunting on the local economy	3.3	3.4	3.3	3.3	3.3	3.5	3.3	3.3	3.3	3.4	3.2	3.4
Quality of bucks (antler size)	3.9	3.8	3.7	3.6	3.8	3.9	4.0	3.7	3.9	3.8	3.6	3.9
Damage to gardens and landscaping	2.4	2.5	2.2	2.4	2.3	2.4	2.2	2.3	2.4	2.4	2.4	2.5
The ratio of bucks to does	3.9	3.8	3.5	3.5	3.8	3.8	3.9	3.6	3.9	4.0	3.6	3.8

*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
234	4	36	43	13	4
237	6	24	49	15	5
238	3	35	47	14	1
250	6	34	51	8	2
252	6	32	51	10	1
286	4	31	54	10	2
288	9	42	40	7	2
289	4	31	53	10	3
294	3	31	44	12	10
295	3	24	54	14	5
296	3	27	57	9	4
Block Average	5	31	49	11	4

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
234	8	43	49
237	15	42	44
238	10	36	54
250	9	32	59
252	7	38	55
286	8	35	58
288	4	25	71
289	8	44	48
294	15	38	47
295	12	40	49
296	9	41	50
Block Average	9	37	53

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
234	19	0	-60	300
237	12	0	-75	400
238	17	15	-40	200
250	20	15	-50	300
252	17	10	-40	300
286	20	15	-75	333
288	27	25	-35	250
289	17	0	-50	350
294	9	0	-300	100
295	13	0	-90	150
296	14	0	-55	125
Block Average	17	10	-300	400

Table 18. 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
234	5	8	13	26	48
237	8	7	19	22	44
238	10	1	24	42	23
250	4	7	24	31	34
252	5	7	22	28	38
286	8	7	16	28	41
288	5	5	17	25	47
289	6	5	15	28	42
294	9	5	15	28	42
295	5	6	17	27	45
296	9	7	19	33	32
Block Average	7	6	19	29	39

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

DPA	Mean
234	24
237	23
238	25
250	26
252	24
286	26
288	22
289	23
294	23
295	25
296	24
Block Average	24

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

DPA	Yes	No
234	4	96
237	9	91
238	4	96
250	3	97
252	9	91
286	10	90
288	14	86
289	10	90
294	6	94
295	7	93
296	11	89
Block Average	8	92

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

DPA	Yes	No
234	18	82
237	29	71
238	20	80
250	26	74
252	31	69
286	32	68
288	35	65
289	32	68
294	26	74
295	33	67
296	36	64
Block Average	29	71

values are the percent of respondents reporting each category

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

DPA	Yes	No
234	2	98
237	6	94
238	13	87
250	14	86
252	6	94
286	5	95
288	8	92
289	10	90
294	7	93
295	12	88
296	11	89
Block Average	9	91

values are the percent of respondents reporting each category

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

	234	237	238	250	252	286	288	289	294	295	296	Avg.
The MNDNR does a good job managing deer in MN	3.0	3.0	3.2	3.1	3.6	3.0	2.9	3.2	2.9	3.0	3.3	3.1
When deciding about deer management in MN, the MNDNR will be open and honest in the things they say and do	3.3	3.2	3.2	3.2	3.5	3.2	3.1	3.2	3.2	3.3	3.4	3.3
The MNDNR can be trusted to make decisions about deer management that are good for the resource	3.2	3.2	3.2	3.3	3.5	3.2	3.1	3.2	3.1	3.2	3.4	3.2
The MNDNR will make decisions about deer management in a way that is fair	3.2	3.2	3.2	3.2	3.6	3.3	3.2	3.3	3.2	3.2	3.4	3.3
The MNDNR has deer managers and biologists who are well-trained for their jobs	3.4	3.4	3.6	3.6	3.7	3.6	3.4	3.4	3.4	3.4	3.6	3.5
The MNDNR listens to the concerns of deer hunters	3.0	2.8	3.2	3.1	3.4	3.1	2.8	3.1	2.9	3.0	3.3	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 13 landowners reported owning 266 acres and leasing 476 (Table 24). Roughly, 82% of landowners reported having agricultural land use on their property. Of these landowners, 41% reported experiencing damage from deer. Landowners experiencing damage to agriculture reported experiencing minor/negligible (42%), moderate (38%), and severe/very severe (20%) damage (Table 25). Less than a quarter (21%) 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). Around 70% of landowners reported having residential land use on their property, and 31% experienced damage from deer. Landowners experiencing damage from deer to residential land use reported damage that was minor/negligible (37%), moderate (37%), and severe/very severe (25%) (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 (58%) 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 (44%) reported seeing more deer on their property compared to five years ago, while 39% reported seeing about the same number, and 20% reported seeing fewer (Table 29).

Only 19% of landowners reported feeling satisfied or very satisfied with the deer population on their land, while 42% were neutral, and 39% either dissatisfied or very dissatisfied (Table 30). Hunting landowners reported higher levels dissatisfaction (43%) than non-hunting landowners (36%), while non-hunters were more likely to report neutrality regarding their satisfaction with the deer population on their land (Table 31). Half of landowners indicated that the population of deer on their land was “about right,” compared to too low (13%) or too high (37%) (Table 32). Non-hunting landowners (53%) were more likely to hold a belief that the current population on their property was “about right” than hunting landowners (45%). Similarly, a higher percentage of hunting landowners (26%) than non-hunting landowners (5%) 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 plurality (46%) of Block 13 landowners preferred to see it stay the same, compared to 17% that would like to see an increase, and 36% a decrease (Table 34). A higher proportion of non-hunting landowners preferred stability in the deer population (50%) than hunting landowners (40%). Conversely, more hunting landowners indicated a preference for increase (30%) than non-hunting landowners (7%) (Table 35). Landowners mean preferred change in the deer population was -7% (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 ± 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 a quarter were aware of DNR technical assistance (Table 37). The proportion of landowners allowing hunting on their property increased with the amount of land they owned, where roughly 53% of landowners with 2-19 acres allowed hunting on their property. This is compared to 85% 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 (85%) 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. Slightly less than a third of Block 13 landowners reported hunting deer in each of 2017, 2018, and 2019 respectively. Roughly, 9% indicated that they hunt deer but did not hunt during one of those three years, and 58% indicated that they do not hunt deer at all (Table 41). Among deer hunting landowners, 35% reported doing all of their hunting on private land that they own, while 4%, 11% 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 31 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 3.1 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 (6%) reported feeding deer (Table 47). However, a larger proportion (12%) 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
234	247	3	2500	574	6	4400
237	140	3	4000	541	18	3150
238	69	3	1850	407	80	1200
250	135	3	16000	384	2	1400
252	156	2	20000	534	10	3392
286	280	2	2550	366	10	1600
288	145	3	3900	335	5	1600
289	212	2	2500	582	2	3300
294	212	3	2500	424	25	2500
295	247	2	2000	475	13	1500
296	200	3	2577	534	4	5000
Block Average	266	2	20000	476	2	5000

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
234	85	15	46	54	35	47	18
237	84	16	41	59	46	31	23
238	85	15	64	36	35	55	10
250	78	22	42	58	51	30	19
252	86	14	30	70	47	43	10
286	86	14	52	48	36	42	22
288	74	26	36	64	42	38	20
289	81	19	27	73	57	26	17
294	83	17	49	51	45	28	27
295	84	16	38	62	29	45	26
296	78	22	36	64	47	33	19
Block Average	82	18	41	59	42	38	20

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	Own or lease		Experience damage		Severity of Damage*		
DPA	Yes	No	Yes	No	Minor/ Negligible	Moderate	Severe/Very Severe
234	11	89	3	97			
237	8	92	8	93			
238	17	84	13	87			
250	11	89	3	97			
252	35	65	6	94			
286	17	83	14	86			
288	33	67	12	88			
289	19	81	4	96			
294	14	86	8	92			
295	24	76	4	96			
296	38	62	7	93			
Block Average	21	79	7	93			

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	Own or lease		Experience damage		Severity of Damage		
DPA	Yes	No	Yes	No	Minor/ Negligible	Moderate	Severe/Very Severe
234	72	28	31	69	52	25	23
237	56	44	33	67	24	45	31
238	81	19	50	50	45	42	13
250	76	24	38	62	51	31	18
252	77	23	20	80	33	51	16
286	71	29	39	61	27	46	27
288	71	29	28	72	36	35	29
289	58	42	19	81	49	21	30
294	71	29	32	68	22	39	40
295	76	25	38	62	39	40	21
296	71	29	25	75	30	37	33
Block Average	70	30	31	69	37	37	25

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
234	13	9	57	13	8
237	14	5	59	9	13
238	3	4	54	22	16
250	15	5	59	11	10
252	18	5	58	15	4
286	10	8	52	19	11
288	12	10	59	11	9
289	14	5	65	7	9
294	12	7	52	14	15
295	9	4	62	15	10
296	16	6	51	10	6
Block Average	13	6	58	13	10

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
234	3	7	44	24	21
237	9	10	32	20	28
238	4	5	32	32	27
250	8	16	36	26	14
252	5	15	38	56	16
286	6	11	34	28	21
288	15	20	33	17	15
289	9	17	39	21	14
294	5	8	33	22	32
295	3	9	43	20	25
296	9	15	38	20	18
Block Average	7	13	39	23	21

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

DPA	Very dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Very satisfied
234	17	23	39	9	13
237	19	22	42	11	6
238	24	21	46	65	3
250	14	20	47	13	5
252	9	20	49	15	8
286	21	26	33	10	9
288	18	22	43	8	9
289	9	21	49	10	11
294	24	23	37	8	7
295	16	26	36	10	12
296	14	24	40	11	12
Block Average	16	23	42	10	9

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
234	41	40	19	35	35	30
237	37	50	13	48	27	25
238	50	45	5	39	47	14
250	25	54	20	43	40	16
252	25	52	22	35	43	22
286	50	41	9	47	21	32
288	34	52	13	45	34	22
289	23	61	16	38	35	27
294	52	34	14	40	42	19
295	35	45	21	53	21	26
296	29	50	21	49	26	25
Block Average	36	47	17	43	34	23

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
234	0	7	48	33	12
237	1	11	43	29	17
238	2	5	41	30	22
250	3	10	61	16	9
252	3	11	54	25	7
286	0	9	44	32	15
288	7	16	51	18	8
289	5	19	54	16	6
294	1	10	42	28	19
295	3	11	45	31	10
296	1	13	57	20	9
Block Average	2	11	50	25	12

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
234	4	50	46	15	43	42
237	4	45	50	27	37	36
238	0	42	58	17	41	42
250	5	66	30	24	55	21
252	8	60	31	24	42	33
286	5	40	55	15	46	39
288	8	54	38	37	49	14
289	9	65	26	42	42	16
294	3	40	57	22	48	30
295	8	49	42	22	42	38
296	5	69	27	28	42	30
Block Average	5	53	41	26	45	29

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
234	47	43	11
237	47	40	13
238	58	34	9
250	28	52	19
252	28	57	15
286	46	42	11
288	29	42	28
289	21	50	30
294	50	38	12
295	39	49	12
296	28	53	18
Block Average	37	46	17

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
234	52	43	5	32	43	25
237	55	40	5	31	39	30
238	68	32	0	42	36	22
250	31	63	6	26	39	35
252	28	64	8	26	39	35
286	51	42	7	29	44	27
288	39	47	14	43	42	16
289	25	61	14	16	36	48
294	60	35	5	34	44	22
295	45	50	4	27	48	24
296	27	66	7	31	36	33
Block Average	43	50	7	29	40	31

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
234	-13	0	-90	50
237	-9	0	-85	50
238	-17	-5	-90	50
250	-4	0	-100	50
252	-2	0	-80	50
286	-13	0	-100	50
288	-1	0	-100	100
289	1	0	-100	100
294	-13	0	-100	100
295	-9	0	-95	75
296	-4	0	-90	80
Block Average	-7	0	-100	100

Table 37. 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
234	24	11	27	23	23
237	31	14	33	22	28
238	12	8	8	40	11
250	23	19	16	20	20
252	21	33	24	22	24
286	26	42	45	32	36
288	38	31	41	29	27
289	41	29	27	35	33
294	21	24	31	32	27
295	23	26	22	23	23
296	30	32	15	13	21
Block Average	27	25	27	25	26

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
234	47	68	78	82	67
237	72	79	74	89	77
238	72	40	88	100	76
250	40	68	68	72	59
252	40	51	72	83	59
286	56	89	89	94	79
288	47	71	83	96	69
289	65	65	56	78	63
294	57	79	91	89	76
295	59	77	76	84	72
296	41	56	69	84	62
Block Average	53	68	76	85	69

values are the percent of respondents reporting each category

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

DPA	Yes	No
234	1	99
237	0	100
238	3	97
250	1	99
252	4	96
286	3	97
288	3	97
289	1	99
294	1	99
295	1	99
296	3	97
Block Average	2	98

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
234	2	1	1	90	6
237	1	2	3	92	1
238	0	1	0	95	4
250	0	2	7	89	2
252	5	9	1	78	7
286	4	6	2	84	4
288	4	9	3	81	3
289	3	4	5	87	2
294	4	3	0	87	6
295	2	6	2	81	8
296	5	7	2	79	7
Block Average	3	5	2	85	5

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

DPA	2017	2018	2019	Did not hunt these years	Do not hunt
234	16	14	12	12	72
237	19	21	20	10	65
238	31	29	30	9	60
250	30	32	27	8	51
252	25	25	22	11	60
286	35	34	33	8	51
288	34	33	30	14	47
289	40	39	35	4	51
294	28	29	26	7	60
295	70	30	28	6	60
296	31	31	28	11	56
Block Average	29	28	26	9	58

values are the percent of respondents reporting each category

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

	Response	234	237	238	250	252	286	288	289	294	295	296	Avg.
Private land that I own	None	22	13	28	28	34	10	11	24	7	26	12	19
	Some	31	20	28	14	18	28	26	21	40	11	20	23
	Most	25	29	29	18	14	18	31	11	27	28	19	22
	All	22	37	15	40	34	43	32	44	26	35	49	35
Private land that I lease for hunting	None	89	98	86	89	86	93	83	89	97	93	81	89
	Some	11	0	7	9	3	0	0	0	3	2	11	3
	Most	0	0	0	0	8	0	10	7	0	2	5	4
	All	0	2	7	2	3	7	7	5	0	3	4	4
Private land that I do not own or lease	None	26	28	45	43	55	36	44	45	24	41	41	40
	Some	37	38	37	14	19	33	26	21	34	39	20	28
	Most	38	18	12	13	19	21	21	26	36	2	28	21
	All	0	16	6	29	7	10	8	9	6	18	11	11
Public land	None	73	37	40	51	73	36	46	53	46	59	66	53
	Some	27	40	34	15	12	57	33	33	48	28	30	32
	Most	0	20	14	16	8	2	13	13	7	9	5	10
	All	0	2	12	19	7	5	2	2	0	4	0	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
234	71	29
237	83	17
238	65	35
250	74	26
252	63	37
286	82	18
288	79	21
289	78	23
294	65	34
295	76	27
296	67	33
Block Average	73	27

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

DPA	Mean
234	25
237	30
238	31
250	28
252	29
286	34
288	32
289	34
294	30
295	37
296	29
Block Average	31

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

	234	237	238	250	252	286	288	289	294	295	296	Avg.
The MNDNR does a good job managing deer in MN	3.2	2.8	2.6	3.1	3.4	2.7	3.2	3.3	2.8	2.9	3.1	3.0
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	2.8	3.2	3.4	3.1	3.4	3.4	3.2	3.2	3.1	3.3
The MNDNR can be trusted to make decisions about deer management that are good for the resource	3.4	3.0	2.8	3.2	3.5	3.0	3.3	3.4	3.1	3.2	3.2	3.2
The MNDNR will make decisions about deer management in a way that is fair	3.4	3.2	2.8	3.4	3.5	3.1	3.4	3.4	3.0	3.2	3.2	3.3
The MNDNR has deer managers and biologists who are well-trained for their jobs	3.6	3.4	3.2	3.5	3.7	3.3	3.5	3.6	3.4	3.3	3.5	3.5
The MNDNR listens to the concerns of landowners	3.3	3.0	2.7	3.0	3.3	2.8	3.2	3.3	2.8	3.1	3.0	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

	234	237	238	250	252	286	288	289	294	295	296	Avg.
Amount of deer mortality during an average winter	2.9	3.2	3.2	3.2	3.4	3.2	3.4	3.2	3.3	3.1	3.3	3.2
Amount of deer mortality during a severe winter	3.2	3.4	3.4	3.3	3.6	3.5	3.8	3.8	3.6	3.4	3.6	3.5
Potential health risks to the deer herd	3.4	3.5	3.6	3.6	3.8	3.7	3.8	3.8	3.6	3.6	3.6	3.7
Public health (human-deer diseases)	3.6	3.7	4.0	3.7	3.8	3.9	3.8	3.8	3.9	3.8	3.7	3.8
Amount of crop damage from deer	3.7	3.7	3.9	3.5	3.3	3.9	3.3	3.4	3.7	3.6	3.2	3.6
Number of deer vehicle collisions	4.0	4.3	4.3	3.8	3.8	4.3	3.8	3.7	4.3	4.1	3.9	4.0
Deer over-browsing of forests	3.1	3.2	3.3	3.2	3.1	3.3	3.1	3.1	3.2	3.1	3.1	3.2
Impacts of deer on other wildlife species	2.9	3.0	3.1	3.0	3.1	3.2	3.0	3.0	3.1	2.9	3.0	3.1
Deer hunting heritage and tradition	2.9	3.3	3.2	3.2	3.3	3.3	3.5	3.4	3.2	3.3	3.2	3.3
Hunter satisfaction with deer numbers	2.8	3.1	3.1	3.2	3.2	3.2	3.4	3.2	3.1	3.2	3.2	3.2
Public satisfaction with deer numbers	3.0	3.2	3.2	3.1	3.1	3.2	3.2	3.2	3.1	3.2	3.2	3.1
Impact of deer hunting on the local economy	2.7	3.0	2.8	3.2	3.0	3.1	3.2	3.2	3.1	2.9	3.0	3.0
Quality of bucks (antler size)	2.8	2.9	2.7	2.9	3.0	3.0	3.4	3.1	3.0	2.9	2.9	3.0
Damage to gardens and landscaping	3.4	3.4	3.8	3.3	3.2	3.6	3.1	3.2	3.5	3.3	3.1	3.3
The ratio of bucks to does	3.1	3.2	3.1	3.2	3.3	3.3	3.5	3.2	3.2	3.3	3.3	3.3

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

DPA	Yes	No
234	4	96
237	9	91
238	6	94
250	2	99
252	6	94
286	4	96
288	9	91
289	6	94
294	4	96
295	7	93
296	9	91
Block Average	6	94

values are the percent of respondents reporting each category

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

DPA	Yes	No
234	6	94
237	12	88
238	10	90
250	12	88
252	11	89
286	6	94
288	15	85
289	17	83
294	7	93
295	15	85
296	18	82
Block Average	12	88

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*)

Strongly oppose	Slightly oppose	Neither	Slightly support	Strongly support
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*).

	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 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	
Agriculture	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Forest	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Residential	<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 average winter	1	2	3	4	5
Amount of deer mortality during a severe 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

