

Deer in Ohio: Results from the 2023 Survey of Hunters and Landowners

Produced by DJ Case & Associates and Southwick Associates



February 2024



Table of Contents

Table of Contents	i
Figures.....	ii
Tables.....	iii
Overview	1
Key Findings	1
Deer Hunting in Ohio.....	2
Study Purpose	3
Survey Sampling and Implementation	3
Hunter Survey	3
Landowner Survey.....	4
Response Rates	4
Results.....	7
Sample characteristics.....	7
Land ownership and hunting access.....	7
Perceptions about deer populations	9
Deer Population Preferences	11
Summary of hunter and landowner differences.....	14
Hunting-specific questions	16
Hunt Satisfaction	16
Season opening date and length	17
Youth deer season.....	20
Deer hunting access	21
Deer processing.....	24
Landowner-specific questions.....	24
Deer damage	24
Deer Damage Control Permits.....	26
Deer Management Assistance Program	26
Deer Conflict and Health Risk.....	27
Conclusions	29
Appendices.....	30

Figures

Figure 1. Proportion of 2022-23 Ohio deer harvests by season type. Note: “Controlled firearm hunts” are not included here because they represent less than 1% of total harvest.	2
Figure 2. Sampling scheme developed by the Ohio Division of Wildlife for surveying hunters and landowners	4
Figure 3. Deer hunter percent agreement/disagreement with three questions related to perceptions of deer where a respondent lived, worked, or commuted.	9
Figure 4. Landowner percent agreement/disagreement with three questions related to perceptions of deer where a respondent lived, worked, or commuted.	9
Figure 5. Deer population beliefs, based on where hunters lived (blue) and hunted (green), and where landowners farmed (yellow).	11
Figure 6. Deer population beliefs based on deer management unit (DMU) hunted, by age class.	13
Figure 7. Deer population preferences for farmers, by farm size.	13
Figure 8. Percent of farmers who think there are too many deer and percent of hunters who think there are too few, by deer management unit (DMU). Upper and lower bars are the confidence intervals.	14
Figure 9. ODOW deer population goals by deer management unit (DMU) resulting from survey findings.	15
Figure 10. Season preferences among hunters, by age group.	19
Figure 11. Season preferences among hunters and landowners. Thirty-five percent of landowners were excluded because they had no preference.	19
Figure 12. Age distribution of the 18% of respondents who took a youth hunting during the 2022 youth deer hunting season.	21
Figure 13. Percent of respondents who indicated they leased/contracted land for deer hunting, by age group.	23
Figure 14. Percent of respondents who indicated they purchased recreational hunting land within the last 5 years, by age group.	23
Figure 15. Comparison of deer damage rating by category of farm acreage.	25
Figure 16. Farmer opinions (percent) about creating and enrolling in a DMAP.	26
Figure 17. Level of concern about tick-borne illness and personal risk of tick-borne disease from hunting.	29

Tables

Table 1. Sampling scheme developed by the Ohio DNR for surveying hunters and landowners, by deer management unit (DMU).	5
Table 2. Percent of hunter and landowner respondents from each Ohio deer management unit ¹ .(DMU).....	6
Table 3. The average numbers of hunters allowed by relational category on land owned by farmers and non-farmers in Ohio in 2022.....	8
Table 4. Comparison of hunter density by property size in acres.....	8
Table 5. Percent agreement with three questions related to perceptions of deer where a deer hunter lived, worked, or commuted, by deer management unit (DMU). The blue cells represent the low values and green cells represent high values for each statement.....	10
Table 6. Deer population beliefs based on where hunters lived and hunted and where landowners farmed, by deer management unit (DMU). The blue cells represent the low values and green cells represent high values for each statement.	12
Table 7. Comparison of deer hunters’ population perceptions based on their level of agreement that they worry about deer-caused problems.	14
Table 8. Satisfaction with metrics related to deer hunting.	16
Table 9. Satisfaction with metrics related to deer hunting, by deer management unit (DMU). The blue cells represent the low values and green cells represent high values for each statement. The orange gradient is the range from low to high, by DMU.....	17
Table 10. Season preferences among hunters by deer management unit they hunt. The blue cells represent the low values and green cells represent high values for each statement.	18
Table 11. Support for three different youth deer season hunting dates.	20
Table 12. Support among respondents for youth season date options among individuals who participated in the season (18% of respondents), by age class.	21
Table 13. Percent of respondents who indicated they leased/contracted for deer hunting during the 2022-23 deer season or purchased land for recreational purposes within the last 5 years, by deer management unit (DMU). The blue cells represent the low values and green cells represent high values for each statement.	22
Table 14. Likelihood of changing hunting behavior if commercial deer processors were unavailable within the range (i.e., distance) you are willing ness to travel distance.	24
Table 15. Frequency of crop damage ratings among all farmers and the subset whose primary source of income is field crops.	25
Table 16. Comparisons of enrollment likelihood in a Deer Management Assistance Program by levels of support for its creation(DMAP) among Ohio farmers.....	27
Table 17. Percentage of respondents indicated they or someone in their immediate family had a deer-vehicle collision within the past 12 months for hunters and landowners, by deer management unit (DMU). The blue cells represent the low values and green cells represent high values for each statement.	28

Overview

Over the years, the Ohio Division of Wildlife (ODOW) has collected social science data from stakeholders for consideration in setting deer management goals and season frameworks for the state. This report presents the findings of two surveys conducted concurrently in the fall of 2023 to determine the attitudes of deer hunters and landowners toward deer and deer management in Ohio. Questionnaires for each group contained some questions that overlapped and some that were unique to their interests relative to deer. Deer hunters were sampled from those who purchased a deer permit in the 2022-23 season. Landowners were sampled from agricultural data because of an interest in getting the opinions of crop farmers in particular. When we use the terms “*deer hunters or hunters*” we are speaking specifically about respondents to the deer hunter survey, though there are certainly deer hunters among landowner respondents. The term “*landowners*” refers collectively to all respondents to the landowner survey, while the term “*farmers*” describes a subset of landowner respondents who farmed land they lease or own in Ohio. Farmers include individuals whose primary income is derived from a wide variety of commodities including field crops, alfalfa, cattle, and others. Meanwhile, non-farming respondents to the landowner survey are called “*property owners*” in reporting of results.

Key Findings

- Nearly all hunter respondents (97%) indicated that they did in fact deer hunt during the 2022-23 season. This percentage is consistent with other Ohio deer hunter studies, and other Midwestern states in general.
- Except for a few deer management units (DMUs), hunters and landowners held positive views of deer as most enjoyed seeing and having them around, while few respondents viewed them as a nuisance.
- Almost three-quarters (72%) of Ohio deer hunters were satisfied with their overall deer hunting experience. Satisfaction dropped slightly for metrics related to deer numbers, harvest availability, and how Ohio’s deer population is managed.
- More than half (57%) of hunters thought there were “about the right number of deer” in the area they hunted. As expected, more than twice as many believed there were “too few”, as compared to those who said there were “too many” deer.
- Among landowners that farmed in Ohio, 46% said there were “too many” deer in the county where most of their farming occurred; 41% thought there was “about the right number of deer”.
 - Most farmers reported “light” to no crop damage from deer in 2022. “Moderate” or “severe” deer damage was more frequently reported by those farming 300 acres or more.
 - Very few farmers (3%) received Deer Damage Control Permits in 2022. Those that did participate in the program harvested five deer on average with those permits.
 - A majority (57%) of farmers supported the creation of a Deer Management Assistance Program (DMAP) but many (40%) were unsure about whether they would enroll.
- Most landowners (76%) allow free hunting access to friends, family, or extended family in Ohio; only 4% charge lease fees to hunt land that they own.
- Potential change to firearm season dates:
 - A plurality of hunters (48%) supported the current 7-day firearm deer season, which opens the Monday after Thanksgiving. Support was lower for a 10-day season starting the Friday after Thanksgiving (31%), and a 9-day season starting the Saturday after Thanksgiving (21%).
 - Landowners were given a response option of “It does not matter when the season starts”, in addition to the options presented to hunters. Overall, 35% selected this option.

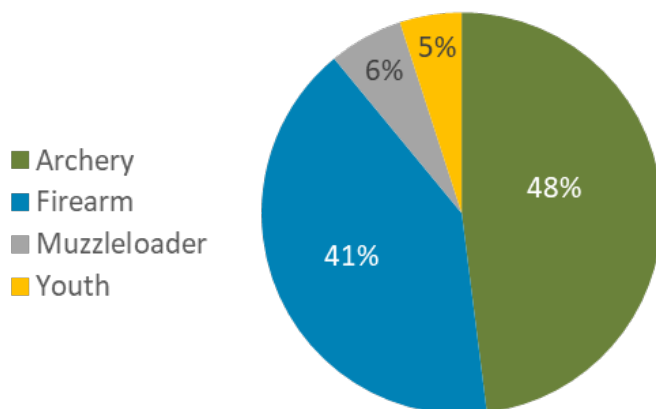
- There were statistically significant age differences on preferences for the youth season by age group; those 18-24 were most likely to choose the status quo (78%) as were respondents 65 years of age and older (72%)
- Almost 1 in 5 hunters took a youth out during the 2-day youth season. Most of these (85%) took a member of their immediate family. Respondents also preferred to keep the youth season within the current time frame, which is the weekend before Thanksgiving.
 - Only 15% of adults mentored someone other than a family member, and this represents a 5% decline in the past five years.
- A minority of deer hunters leased/contracted land for deer hunting (8%). Over the last 5 years, a slightly smaller percentage bought land specifically for recreational purposes (6%).
- One in five deer hunters was either involved or had a close family member who was involved with a deer-vehicle collision within the last 12 months.
- With the 2014 discovery of chronic wasting disease in Ohio, ODOW has been working to minimize risk of both prevalence (percent of animals infected) and spread (locations where the disease is found). To mitigate this risk, attempts are often made to reduce the number of potentially positive carcasses on the landscape. In Ohio, 6 in 10 hunters either landfill or bury their deer carcasses; the remaining people discard them without burying, often to feed other wildlife or hunt predators.
- Most respondents to both the hunter and landowner surveys expressed some level of concern for Lyme’s disease risk. Approximately one in twenty respondents have contracted or know someone who has had Lyme disease in the past five years.

Deer Hunting in Ohio

To provide some context to the study findings, the Division of Wildlife issued 409,672 deer permits during the 2022-23 deer season. Permit sales for 2022-23 were down more than 34% from the peak in 2009-10. The number of individuals purchasing at least one deer permit has decreased 19% over the last decade from 360,000 in 2011 to 289,000 in 2022-23.

Ohio hunters harvested 210,977 deer during the 2022-23 hunting seasons. That total marks the first time that the harvest total eclipsed 200,000 in ten years and represents an 8% increase over the previous three-year average. Forty-one percent of the harvest was composed of antlered bucks. More deer were harvested during the archery season than any other season type available in the state (Figure 1).

Figure 1. Proportion of 2022-23 Ohio deer harvests by season type. Note: “Controlled firearm hunts” are not included here because they represent less than 1% of total harvest.



Study Purpose

The Ohio Division of Wildlife (ODOW) frequently surveys stakeholders on an array of issues related to deer populations and management. This survey sought information on deer populations and satisfaction, deer seasons, carcass handling, deer-vehicle collisions, and public health. While deer population and satisfaction surveys are foundational to agency programs, issues such as changing seasons, wildlife, and public health are constantly evolving; thus, quantifiable stakeholder information is essential for effective program management. Additionally, information from agricultural producers is vital as deer can have a negative impact on their livelihood, thereby decreasing their overall value to an important stakeholder. Including producers in the process can lead to better stewardship of wildlife.

The primary goal of this study was to provide ODOW with information suitable to assist with decision-making, in a way that benefits the citizens of Ohio. ODOW approached DJ Case & Associates and Southwick Associates to conduct this research to obtain an unbiased, neutral assessment of opinions.

Survey Sampling and Implementation

For both deer hunters and landowners, contact information was provided by the ODOW. Additionally, ODOW developed the sampling stratification of 26 sampling blocks that encompassed all 88 Ohio counties (Figure 2, Table 1). The survey questions were developed in collaboration with ODOW, who provided example surveys from past projects.

Hunter Survey

The ODOW provided a sample of 24,100 hunters (aged 18 and over) who possessed a valid 2022-23 deer permit holders, segmented as follows:

- 15,830 individuals with an email on file
- 2,700 individuals designated as a supplemental 'email-only' group
- 5,570 individuals with no email on file

The sampling frame was based on information obtained from the 2015 and 2019 deer hunter/landowner surveys and included the Deer Management Unit (DMU) of the county of residence for mailing addresses on file. Since Ohio deer hunters are not obligated to report or designate any DMU that they plan to hunt at the time of purchase, we collected hunt locations as part of the survey.

We used a mixed-mode design to field the survey to people with and without an email on file. From August 30 to September 12, we invited 18,530 individuals with an email on file with up to four contacts using the online survey platform Qualtrics. In late September 2023, we mailed the survey, along with a cover letter and return envelope to email non-respondents (n = 6,477) and the individuals without an email address (n = 5,570). The supplemental 'email-only' sample did not receive a survey via mail. Those contacted by mail were given the opportunity to take the survey online, using an individualized code. In October 2023, we sent a reminder postcard to non-respondents and then made one final email solicitation.

Landowner Survey

The ODOW provided a sample of 11,300 landowners from a database of agriculture producers in Ohio. This survey was conducted by mail only because email addresses were not available as part of the sampling list. Names and addresses were randomly selected from the DMU strata. We chose not to sample landowners in DMUs 3,6, 17, and 26 because these units are primarily urban and contain fewer farms.

During the week of September 24th, we mailed the survey, along with a cover letter and return envelope to all landowners. The cover letter for the survey gave people the option of taking the survey online, but a mail merge error did not include the unique identifier code to gain access. We mailed the entire sample a letter containing the code on Oct 1. We mailed a reminder postcard to non-respondents during the week of October 23rd.

Response Rates

Of the 24,100 hunters contacted, 6,693 responded, for an adjusted response rate of 28%¹. By mode, 66% completed the survey online, 26% returned a paper survey, and 8% completed it via the cover letter, which gave them an opportunity to complete the survey online. Of the 11,300 landowners contacted, 3,024 responded, for an adjusted response rate of 27%. Percent of hunter and landowner responses by DMU is presented in Table 2.

Figure 2. Sampling scheme developed by the Ohio Division of Wildlife for surveying hunters and landowners



¹ The response rate is the lower bound because 794 emails were undeliverable; however, some of those individuals received a paper survey follow-up, and some did not. Consequently, the modes of survey delivery, combined with an email-only supplemental sample preclude the ability to calculate a precise response rate.

Table 1. Sampling scheme developed by the Ohio DNR for surveying hunters and landowners, by deer management unit (DMU).

DMU	County	DMU	County	DMU	County	DMU	County
1	Defiance Fulton Williams	9	Carroll* Harrison Jefferson Tuscarawas *	15	Champaign Clark Logan Miami Shelby Union	21	Athens Gallia Meigs Morgan
2	Henry Paulding Putnam Wood	10	Holmes* Wayne	16	Clinton Fayette Greene Madison Pickaway	22	Hocking Jackson Vinton
3	Lucas	11	Ashland Delaware Knox* Morrow Richland	17	Franklin	23	Lawrence Pike Ross Scioto
4	Erie Ottawa Sandusky	12	Crawford Huron Marion Seneca Wyandot	18	Fairfield Licking* Perry	24	Adams Brown Clermont Highland
5	Lorain Medina	13	Allen Auglaize Hancock Hardin	19	Belmont Coshocton * Guernsey * Muskingum *	25	Butler Montgomer y Warren
6	Cuyahoga Summit	14	Darke Mercer Preble VanWert	20	Monroe Noble Washingto n	26	Hamilton
7	Ashtabula* Geauga Lake Portage Trumbull*						
8	Columbiana Mahoning Stark						

* Indicates a top ten harvest county during the 2022-2023 season.

Table 2. Percent of hunter and landowner respondents from each Ohio deer management unit ¹.(DMU).

DMU	Landowners by residence (N = 2,195)	Landowners by DMU farmed (N=2,602)	Hunters by residence (N =6,048)	Hunters by DMU hunted (N = 6,080)
1	5.4%	5.6%	3.0%	3.9%
2	6.1%	4.6%	4.4%	3.9%
3	--	--	3.0%	1.2%
4	5.0%	4.9%	6.8%	4.8%
5	4.4%	4.3%	6.0%	4.2%
6	--	--	3.4%	0.7%
7	4.1%	4.4%	4.2%	4.5%
8	3.9%	4.3%	5.5%	3.9%
9	5.5%	5.7%	2.3%	6.0%
10	4.2%	4.6%	8.1%	4.1%
11	4.9%	4.9%	3.3%	4.8%
12	5.4%	5.1%	2.7%	3.7%
13	4.9%	4.8%	4.2%	4.2%
14	4.6%	4.0%	4.3%	3.8%
15	4.8%	4.0%	3.5%	3.9%
16	4.3%	3.9%	4.6%	3.9%
17	--	--	3.1%	0.5%
18	4.2%	4.0%	3.2%	3.6%
19	4.7%	5.3%	2.1%	7.0%
20	4.6%	5.1%	2.2%	3.8%
21	4.8%	4.8%	2.4%	4.8%
22	3.2%	4.0%	2.4%	4.8%
23	3.6%	3.8%	2.2%	3.9%
24	3.6%	4.0%	2.7%	5.1%
25	3.6%	3.7%	7.0%	3.5%
26	--	--	3.1%	1.5%

1. Landowners in DMUs 3,6,17 and 26 were not sampled because these units are largely urban.

Results

Sample characteristics

When we use the terms “**deer hunters or hunters**” we are speaking specifically about respondents to the deer hunter survey, though there are certainly deer hunters among landowner respondents. The term “**landowners**” refers collectively to all respondents to the landowner survey, while the term “**farmers**” describes a subset of landowner respondents who farmed land they lease or own in Ohio. Farmers include individuals whose primary income is derived from a wide variety of commodities including field crops, alfalfa, cattle, and others. Meanwhile, non-farming respondents to the landowner survey are called “**property owners**” in reporting of results.

For hunters, nearly all respondents indicated they hunted during the 2022 Ohio deer season (97%). This was not surprising given most people in the Midwest who buy a deer license go hunting. There were also no differences in percentages based on county of residence (range = 92% - 100%)². Gender was not provided by ODNR; however, the average age of respondents was 48, which was slightly older than the mean age of the sampling frame ($M = 43$).

We received completed deer survey responses from 3,024 landowners. Of those, 76% ($n = 2,109$) said they farmed land that they own or lease in Ohio. This group will be referred to as “farmers” for subsequent analysis whereas non-farming landowners will be called “property owners”.

Most farmers reported growing field crops (64%) as their largest source of income, followed by livestock (mostly cattle, 15%), and hay/alfalfa (13%). Respondents who grew fruits or vegetables or raised poultry comprised less than 1 percent of respondents. The average reported farm size was 311 acres (range = 1 to 9,000, median = 98.0). We used quartiles to recode farm size into the following categories to run cross tabulations on several variables of interest:

- Small farm (1 - 29 acres)
- Medium farm (30 - 80 acres)
- Large farm (81 - 299 acres)
- Very large farm (300 or more acres)

Land ownership and hunting access

About nine in ten landowner survey respondents (91%) said they owned land in Ohio. The mean size of parcels owned by survey respondents was 167.5 acres with a median of 78.0 and mode of 40.0. One respondent reported owning 5,500 acres and another listed 4,400 acres. These two respondents were three standard deviations from the mean. To prevent these outliers from skewing results, we removed them from the analysis that follows in this section. Like the farmer categorization described above, we segmented landowners into category sizes based on quartiles as follows:

- Small ownership (1-24 acres)
- Medium ownership (25-78 acres)
- Large ownership (79-177 acres)
- Very large ownership (178 or more acres)

² DMU hunted was collected only after the respondent indicated they hunted during the 2022 deer season.

Three-quarters of Ohio landowners (76%) allowed deer hunting on the property they own in Ohio. Only 4% charged lease fees for hunting access. One-third of farmers said that immediate family members hunted the land they own compared to 27% of property owners who said so. This small but statistically significant difference is likely influenced by differences in the number of acres owned—farmers on average reported owning 202 acres in Ohio compared to 66 acres for non-farming property owners, and non-farming property owners were more likely to own relatively small parcels. There were no differences in allowing hunting access between farmers and property owners for those with 25 acres or more of land, but only one-third of small property owners said hunting occurred on their land.

The average number of hunters per property where access was allowed was 4.8 in 2022 (median = 4.0 with a mode = 2.0). Those that also farmed property allowed an average of five hunters compared to four for property owners (Table 3). Hunter density on private land where hunting was allowed worked out to one hunter for every 51 acres (Table 4).

Table 3. The average numbers of hunters allowed by relational category on land owned by farmers and non-farmers in Ohio in 2022.

Relationship to landowner	Land that is farmed		N	Mean	SD	SE
	Yes	No				
Immediate family, including self	Yes		1,573	1.52	1.74	0.044
	No		401	1.62	1.62	0.081
Extended family and friends	Yes		1,585	2.36	3.03	0.076
	No		403	1.6	2.50	0.125
Others	Yes		1,591	0.96	2.72	0.068
	No		402	0.56	1.79	0.089
Total hunters	Yes		1,494	5.06	4.37	0.113
	No		376	3.98	3.05	0.157

Table 4. Comparison of hunter density by property size in acres.

Farm size	n	Number of hunters		Acres per hunter	
		Mean	SD	Mean	SD
Small (1 - 24)	268	3.2	2.43	6.5	4.73
Medium (25 - 77)	444	3.6	2.56	17.5	12.4
Large (78 - 177)	522	4.6	3.34	34.5	25.0
Very Large (178 or more)	599	6.7	5.50	111.5	157.2
Total	1,833	4.8	4.17	51.4	100.6

Perceptions about deer populations

A majority of deer hunters enjoyed seeing and having deer around the areas they live, work, and commute (91%). Only 7% agreed with the statement, “I generally regard deer as a nuisance”; whereas 27% were worried about the problems deer cause (Figure 3). For landowners, 75% reported that they enjoyed seeing and having deer around. Only 10% of landowners agreed with the statement, “I generally regard deer as a nuisance”, whereas 50% were worried about the problems deer cause (Figure 4).

As expected, there was some regional variation, with residents of DMU 6 (Cleveland area) holding the most negative view of deer (Table 5).

Figure 3. Deer hunter percent agreement/disagreement with three questions related to perceptions of deer where a respondent lived, worked, or commuted.

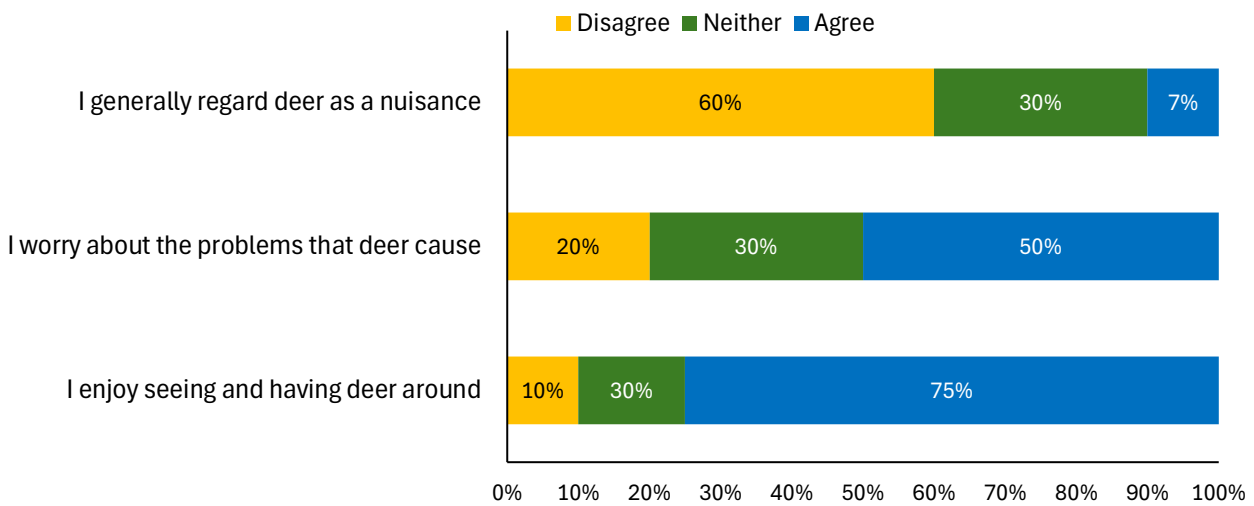


Figure 4. Landowner percent agreement/disagreement with three questions related to perceptions of deer where a respondent lived, worked, or commuted.

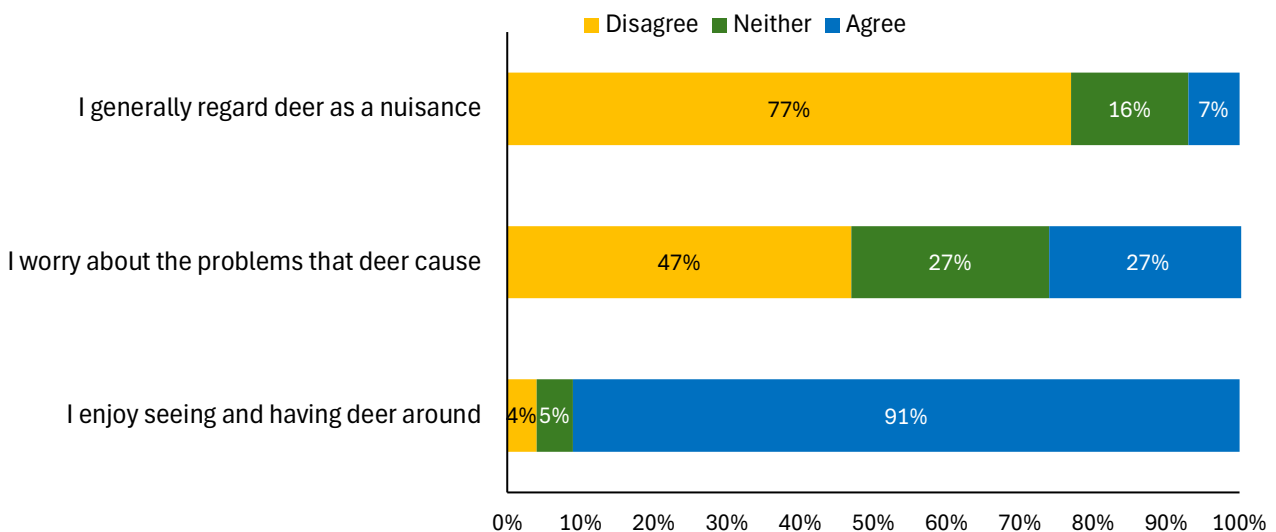


Table 5. Percent agreement with three questions related to perceptions of deer where a deer hunter lived, worked, or commuted, by deer management unit (DMU). The blue cells represent the low values and green cells represent high values for each statement.

DMU of Residence	Percent Agreeing with Statement					
	I enjoy seeing and having deer around		I worry about the problems that deer cause		I generally regard deer as a nuisance	
	Percent	N	Percent	N	Percent	N
1	89%	191	32%	191	13%	191
2	94%	282	25%	281	6%	281
3	94%	194	27%	193	5%	192
4	91%	436	22%	435	5%	435
5	91%	383	37%	382	12%	381
6	79%	217	51%	216	19%	216
7	92%	270	24%	263	5%	261
8	91%	347	31%	350	8%	349
9	94%	146	25%	147	4%	146
10	96%	520	13%	512	4%	513
11	87%	208	30%	209	7%	209
12	91%	168	33%	166	12%	166
13	93%	264	26%	264	7%	265
14	95%	275	19%	273	6%	275
15	92%	226	26%	225	4%	227
16	91%	291	24%	293	6%	293
17	84%	201	37%	200	11%	199
18	93%	205	28%	205	6%	205
19	88%	133	21%	132	7%	133
20	93%	139	23%	137	9%	137
21	93%	153	32%	154	8%	154
22	93%	151	23%	152	3%	152
23	94%	143	20%	140	5%	141
24	94%	169	25%	168	10%	167
25	91%	440	24%	439	4%	437
26	85%	199	41%	198	9%	199
Overall	91%	6,351	27%	6,325	7%	6,324

Deer Population Preferences

The focus of this project was to gather information to help ODOW refine the deer population goals for each county/DMU, as needed. Consequently, hunters were asked if they felt there were too few deer, about the right number of deer, too many deer, or don't know in the DMUs they 1) hunted most often, and 2) lived.

Landowners were asked the same question as it pertained to where they farmed. As expected, there were differences between hunter and landowner perceptions of deer population size.

There were slight differences in population perceptions between those who hunted within or outside their DMU of residence. In general, hunters were slightly more likely to think there were too many deer where they lived, as compared to where they hunted (Figure 5). Of note, 64% of hunters' deer hunted in the same DMU where they lived.

A similar pattern emerged by DMU where hunters were slightly more likely to think there were too few deer where they hunted, as opposed to where they lived (Table 6). Also, beliefs from hunters that there were too few deer generally increased with age; i.e., the younger the respondent, the less likely they were to say there weren't enough deer (Figure 6).

Farmers were also more likely to think there were too many deer where they farmed (Figure 5) and there was a near linear relationship in that individuals with larger farms were more likely to indicate there were too many deer (Figure 7).

Figure 5. Deer population beliefs, based on where hunters lived (blue) and hunted (green), and where landowners farmed (yellow).

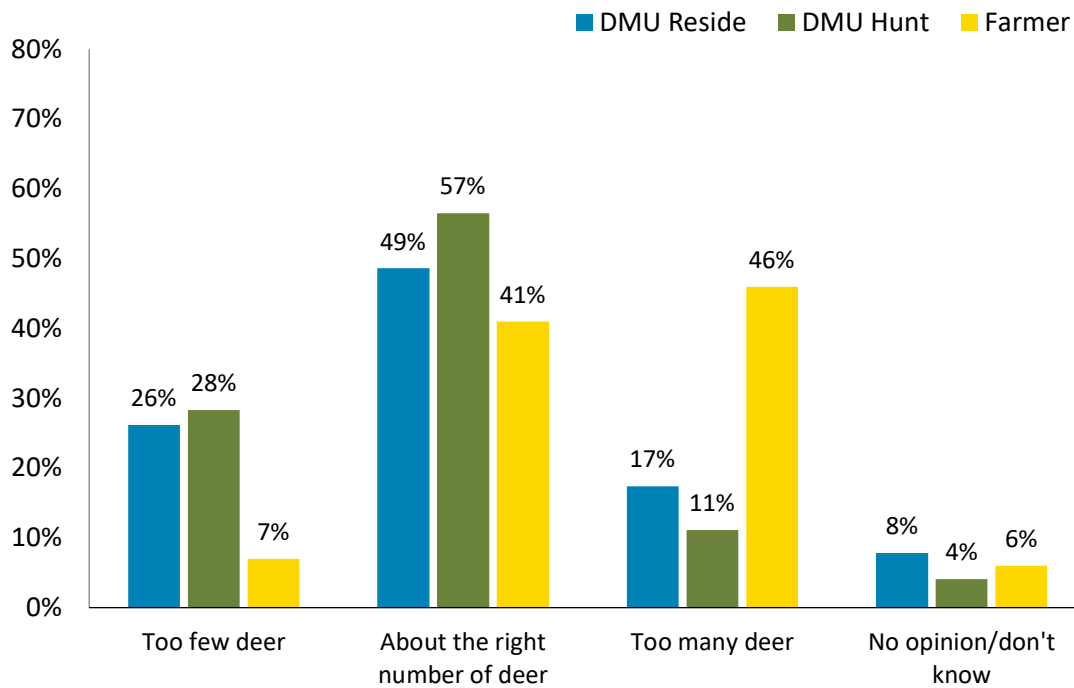


Table 6. Deer population beliefs based on where hunters lived and hunted and where landowners farmed, by deer management unit (DMU). The blue cells represent the low values and green cells represent high values for each statement.

DMU	Hunters - Where you live					Hunters - Where you hunt					Farmers- Where you farm				
	Too few deer	About the right number	Too many deer	No opinion / DK	N	Too few deer	About the right number	Too many deer	No opinion / DK	N	Too few deer	About the right number	Too many deer	No opinion / DK	N
1	22%	52%	21%	6%	191	25%	55%	15%	5%	248	4%	35%	57%	4%	113
2	32%	51%	11%	6%	284	28%	57%	11%	4%	253	3%	31%	51%	14%	127
3	24%	43%	20%	14%	193	27%	62%	5%	6%	79	--	--	--	--	--
4	33%	54%	6%	7%	436	30%	59%	6%	5%	305	5%	44%	42%	9%	113
5	16%	53%	24%	7%	383	21%	59%	14%	6%	268	6%	39%	45%	10%	98
6	7%	30%	55%	8%	215	13%	51%	27%	9%	45	--	--	--	--	0
7	34%	50%	10%	6%	268	32%	58%	5%	5%	283	11%	51%	35%	3%	80
8	20%	52%	18%	10%	352	17%	64%	13%	6%	254	4%	54%	41%	1%	83
9	18%	59%	20%	3%	149	23%	63%	11%	3%	386	4%	42%	52%	2%	118
10	31%	55%	7%	7%	519	25%	63%	11%	1%	256	9%	46%	43%	2%	91
11	24%	49%	20%	7%	210	25%	61%	12%	2%	310	7%	41%	49%	3%	102
12	11%	60%	22%	7%	168	16%	63%	17%	5%	235	4%	32%	59%	4%	113
13	32%	45%	18%	5%	264	26%	56%	16%	2%	271	4%	33%	56%	8%	106
14	40%	48%	7%	5%	277	39%	52%	6%	3%	244	8%	41%	40%	10%	97
15	26%	58%	11%	6%	227	28%	57%	10%	6%	246	6%	44%	42%	7%	95
16	35%	45%	12%	8%	293	32%	55%	9%	4%	249	7%	48%	38%	6%	94
17	17%	27%	35%	20%	201	30%	52%	12%	6%	33	--	--	--	--	--
18	20%	55%	18%	7%	208	26%	59%	14%	2%	234	8%	45%	41%	6%	93
19	21%	57%	18%	4%	131	28%	59%	10%	3%	449	7%	26%	62%	5%	99
20	29%	46%	24%	1%	140	28%	54%	13%	5%	240	9%	47%	44%	1%	105
21	23%	49%	24%	4%	154	34%	52%	11%	4%	309	10%	41%	42%	7%	92
22	39%	43%	14%	3%	153	42%	45%	8%	4%	306	8%	49%	42%	1%	72
23	31%	48%	13%	8%	143	39%	46%	12%	3%	246	13%	53%	32%	3%	72
24	28%	47%	19%	5%	169	30%	54%	10%	6%	329	13%	34%	49%	4%	76
25	29%	42%	11%	18%	442	31%	53%	11%	5%	227	6%	51%	30%	13%	79
26	19%	34%	39%	8%	198	30%	42%	21%	6%	99	--	--	--	--	--
Overall	26%	49%	17%	8%	6,368	28%	57%	11%	4%	6,414	7%	42%	46%	6%	2,118

Figure 6. Deer population beliefs based on deer management unit (DMU) hunted, by age class.

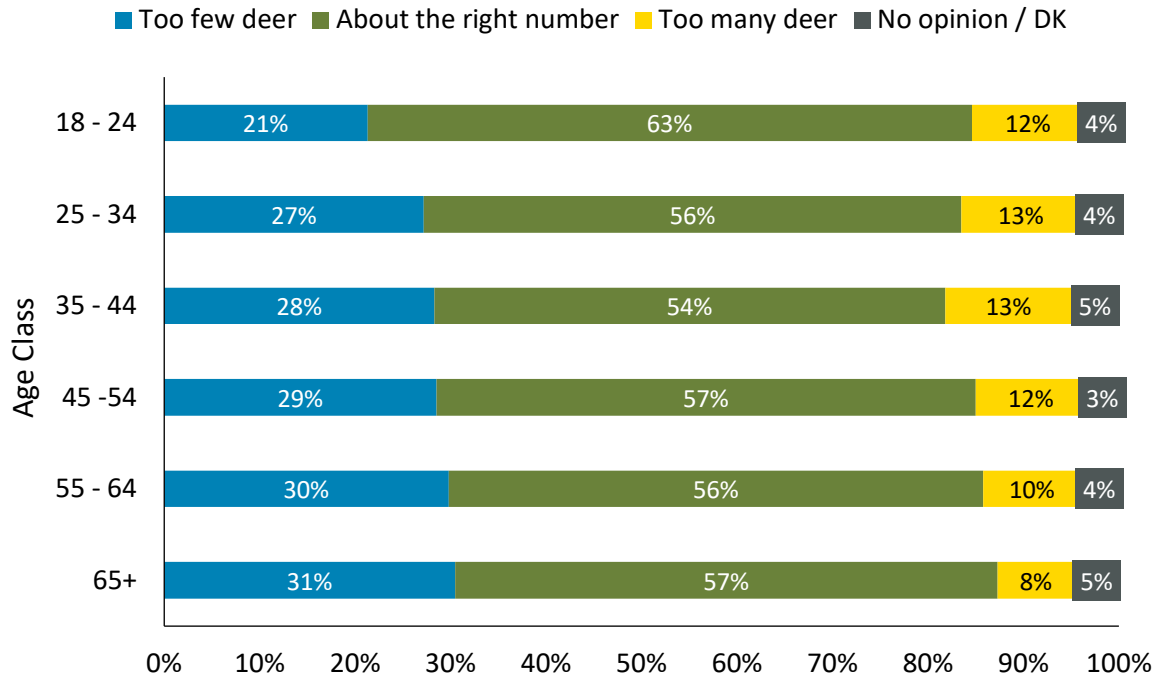
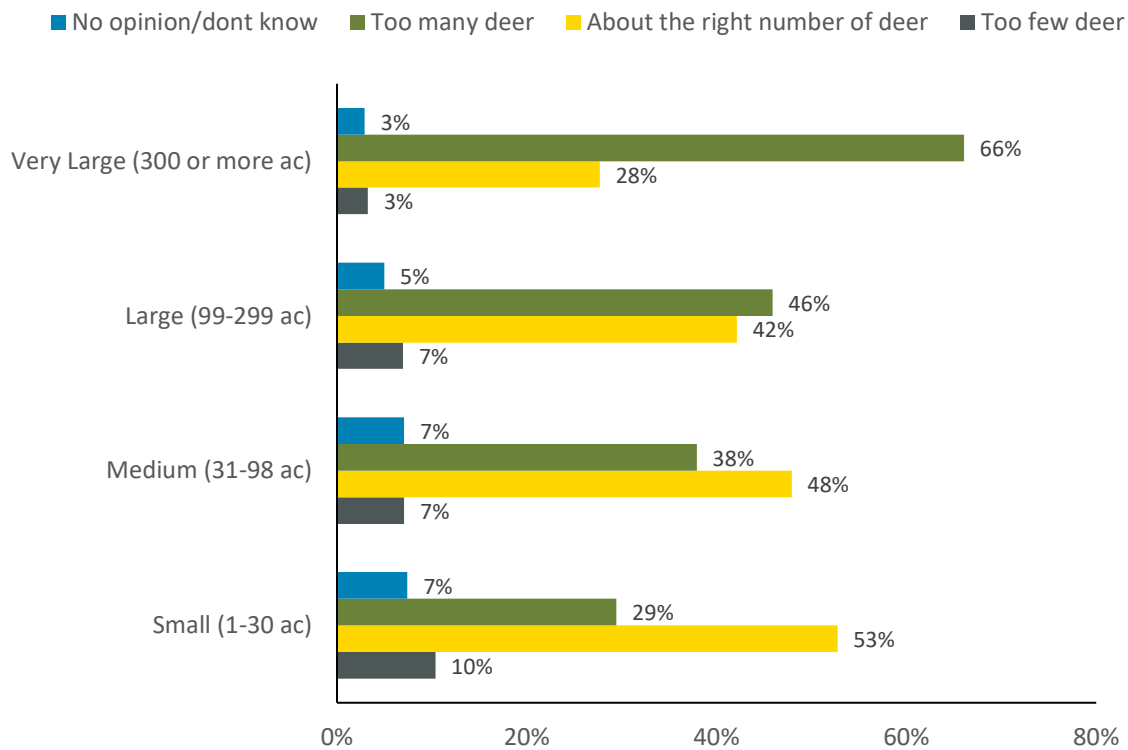


Figure 7. Deer population preferences for farmers, by farm size.



Deer hunter judgements about the number of deer in their county of residence was associated with their attitude towards problems created by deer. For example, two-thirds of hunters who strongly agreed that they worry about deer-related problems thought there were “too many” deer in their county of residence (Table 7). Meanwhile, most hunters who did not worry about deer problems said that deer numbers were about right.

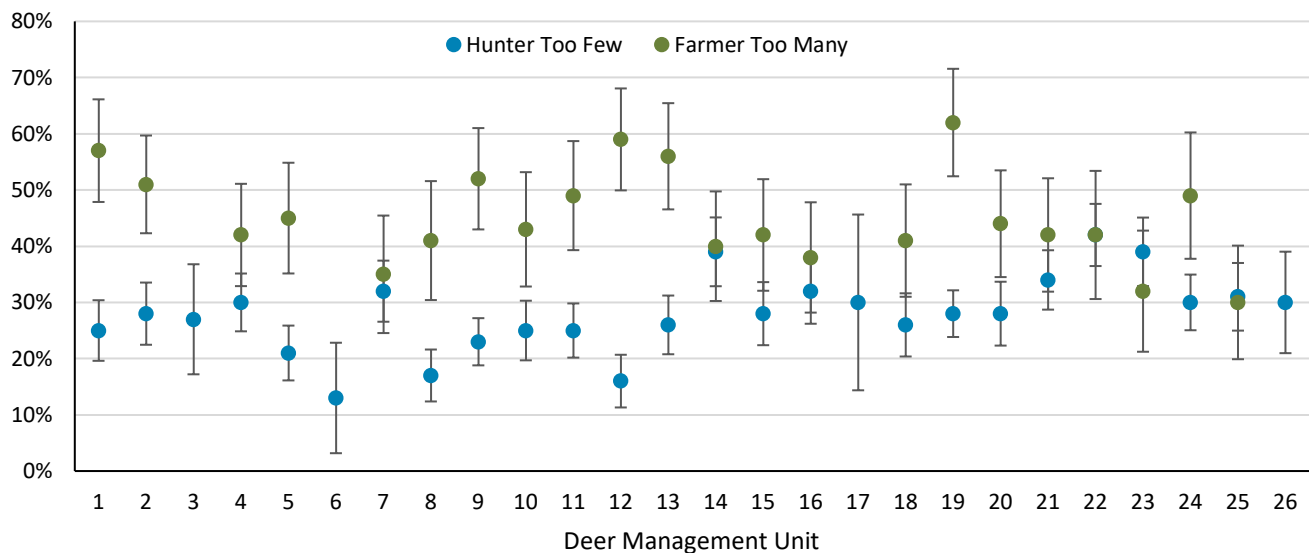
Table 7. Comparison of deer hunters’ population perceptions based on their level of agreement that they worry about deer-caused problems.

I worry about problems caused by deer	Status of deer numbers in county of residence			
	Too few deer	About the right number of deer	Too many deer	No opinion/ Don't know
Strongly disagree	41%	49%	5%	5%
Disagree	32%	55%	5%	8%
Neither agree nor disagree	24%	54%	13%	10%
Agree	14%	41%	37%	9%
Strongly agree	10%	19%	67%	5%
Total	26%	49%	18%	8%

Summary of hunter and landowner differences

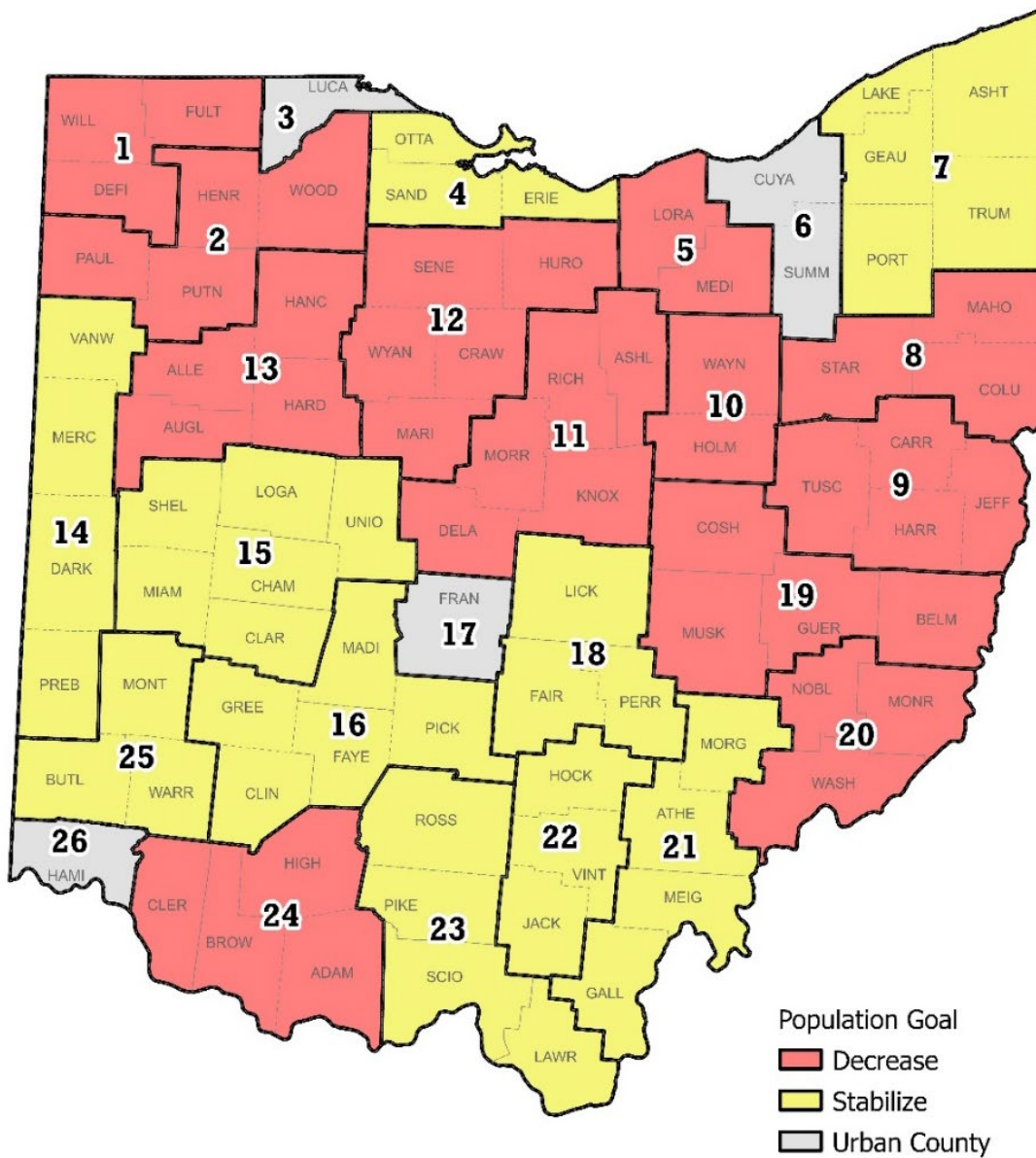
An important goal of any deer management program is to strike a balance among the many competing stakeholder priorities. One key metric is the proportion of landowners who think there are too many deer measured against the proportion of hunters who feel there are too few. In this study, roughly half of the confidence intervals overlapped or were close, which indicated similar opinions between farmers and landowners. One of the notable exceptions was the area of the state where chronic wasting disease (CWD) has been detected (DMUs 12 and 13), where the proportion of farmers indicating too many deer far exceeds the proportion of hunters reporting too few (Figure 8).

Figure 8. Percent of farmers who think there are too many deer and percent of hunters who think there are too few, by deer management unit (DMU). Upper and lower bars are the confidence intervals.



Revised deer population goals based on these survey findings and other important considerations including CWD management suggest a need to decrease deer numbers in twelve of the state’s DMUs (Figure 9).

Figure 9. ODOW deer population goals by deer management unit (DMU) resulting from survey findings.



Hunting-specific questions

Hunt Satisfaction

Hunters were asked a battery of questions related to metrics that contribute to hunt satisfaction. Overall, most hunters were satisfied with their overall deer hunting experience (72%). Slightly over half (55%) were satisfied with the number of deer on the property they hunt most often; nearly half (49%) were satisfied with management of the Ohio deer herd. Less than half were satisfied with the number of deer they personally harvested (47%), the number of antlered deer taken (42%), and hunting pressure (40%) (Table 8).

Table 8. Satisfaction with metrics related to deer hunting.

Satisfaction Metric	Dissatisfied	Neither	Satisfied	N
Deer numbers on property hunted most often	29%	16%	55%	5,906
Number of antlered deer on property hunted most often	40%	18%	42%	5,912
Number of deer you harvested	36%	17%	47%	5,820
Hunting pressure	28%	32%	40%	5,871
Management of Ohio deer herd	24%	27%	49%	5,898
Overall deer hunting experience	14%	14%	72%	5,916

While overall satisfaction with deer hunting experience exceeded 60% in all units, there was some variation (Table 9). Specifically, respondents in DMUs 21 and 22 expressed the lowest satisfaction (64%), as compared to respondents in DMU 12 who expressed the highest (84%). A few other patterns emerged in that respondents in DMU 12 were most satisfied with the number of antlered deer (51%) and the number of deer they personally harvested (56%). Respondents in DMU 6 were most satisfied with deer numbers (77%) and management of Ohio's deer herd (60%). Conversely, respondents in DMU 17 had the lowest satisfaction with hunting pressure (26%), antlered deer (28%), and personal deer harvest (29%); whereas respondents in DMU 22 were least satisfied with deer numbers (40%) (Table 9).

Table 9. Satisfaction with metrics related to deer hunting, by deer management unit (DMU). The blue cells represent the low values and green cells represent high values for each statement. The orange gradient is the range from low to high, by DMU.

Deer Management Unit	Metric					
	Deer numbers on property hunted most often	Number of antlered deer on property hunted most often	Number of deer you harvested	Hunting pressure	Management of Ohio deer herd	Overall deer hunting experience
1	57%	45%	48%	40%	46%	74%
2	53%	38%	44%	39%	48%	70%
3	49%	45%	46%	36%	59%	75%
4	55%	39%	45%	36%	50%	71%
5	62%	50%	50%	43%	54%	79%
6	77%	50%	54%	44%	60%	75%
7	54%	40%	39%	38%	55%	73%
8	61%	44%	55%	39%	55%	78%
9	64%	48%	55%	44%	55%	80%
10	65%	51%	47%	41%	56%	77%
11	62%	43%	52%	40%	54%	74%
12	67%	51%	56%	45%	53%	84%
13	55%	42%	47%	39%	48%	73%
14	46%	30%	40%	36%	35%	66%
15	60%	46%	51%	48%	51%	76%
16	52%	38%	38%	39%	43%	66%
17	44%	28%	29%	26%	47%	78%
18	55%	46%	50%	42%	49%	73%
19	56%	43%	47%	44%	56%	70%
20	54%	43%	49%	42%	46%	75%
21	48%	38%	47%	37%	47%	64%
22	40%	30%	41%	41%	42%	64%
23	49%	38%	44%	39%	42%	66%
24	52%	39%	43%	41%	45%	71%
25	49%	38%	38%	41%	51%	70%
26	53%	39%	40%	37%	48%	71%
Overall	55%	42%	47%	41%	50%	72%

Season opening date and length

The 7-day Ohio firearm deer season has been in place since 1966 and begins the Monday after Thanksgiving. Respondents were given the opportunity to evaluate two alternative season openers, contrasted against the status quo. Overall, a plurality of hunters (48%) preferred the current season structure. Thirty-one percent preferred a 10-day season starting the Friday after Thanksgiving, and 21% preferred a 9-day season (DMU range = 15% to 26%) (Table 10).

Interestingly, there were age differences among respondents for season preferences. Older hunters (age 55+), were much more inclined to prefer the traditional opening day option, as compared to the other two options. Conversely, hunters who were 44 years old and younger were more evenly split between the current season and the 10-day season starting the Friday after Thanksgiving. There were no discernable patterns among

respondents for the 9-day season; it was the least preferred alternative for all respondents, regardless of age (Figure 10).

Landowners were also asked about their season preferences; however, they were given an alternative response option of, “It does not matter to me when the season starts”. Overall, 35% of landowner respondents chose this option. For the landowners with a season preference, they also preferred the existing season (47%); however, a higher percentage chose the 10-day option than did hunters (40% vs. 31%) (Figure 11).

Table 10. Season preferences among hunters by deer management unit they hunt. The blue cells represent the low values and green cells represent high values for each statement.

Deer Management Unit	Monday following Thanksgiving and close on Sunday (7-day existing season structure)	Saturday following Thanksgiving and close the following Sunday (9-days)	Friday following Thanksgiving and close the following Sunday (10-days)	N
1	42%	19%	39%	244
2	47%	22%	32%	241
3	45%	15%	40%	78
4	50%	15%	35%	289
5	42%	23%	35%	258
6	51%	15%	33%	39
7	56%	18%	25%	280
8	46%	22%	32%	237
9	52%	25%	23%	374
10	54%	22%	24%	254
11	50%	21%	30%	300
12	45%	24%	32%	224
13	52%	16%	32%	258
14	44%	22%	34%	237
15	46%	18%	36%	243
16	43%	24%	34%	237
17	48%	16%	36%	31
18	53%	21%	26%	224
19	56%	20%	24%	438
20	47%	21%	31%	226
21	48%	26%	26%	294
22	56%	22%	23%	289
23	51%	17%	32%	237
24	37%	20%	44%	310
25	37%	21%	42%	215
26	28%	22%	50%	98
Total	48%	21%	31%	6,155

Figure 10. Season preferences among hunters, by age group.

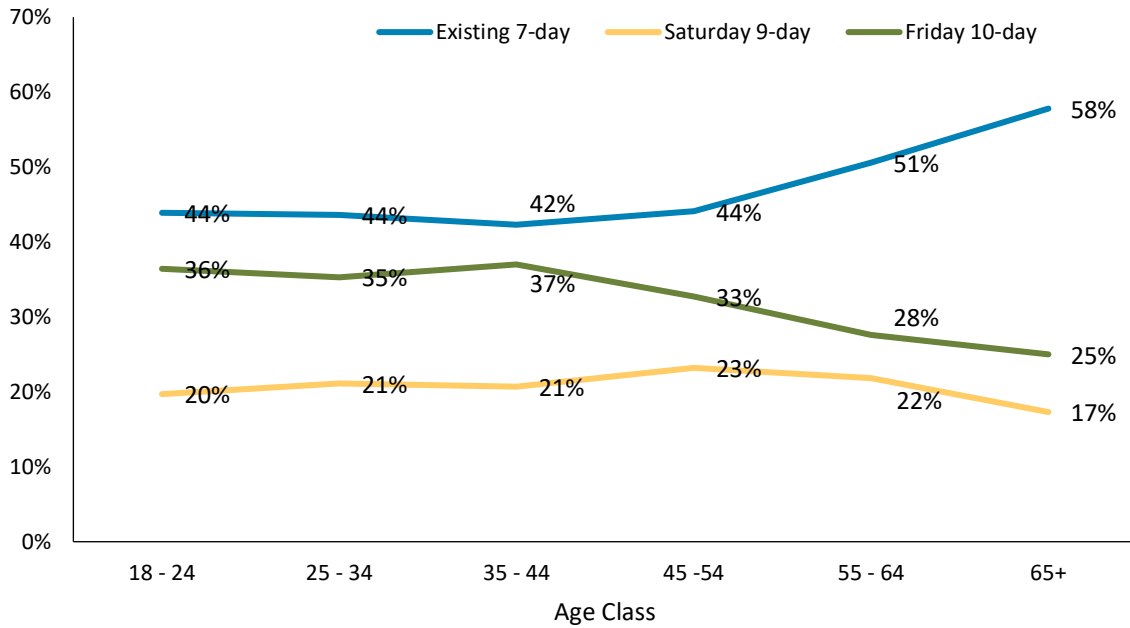
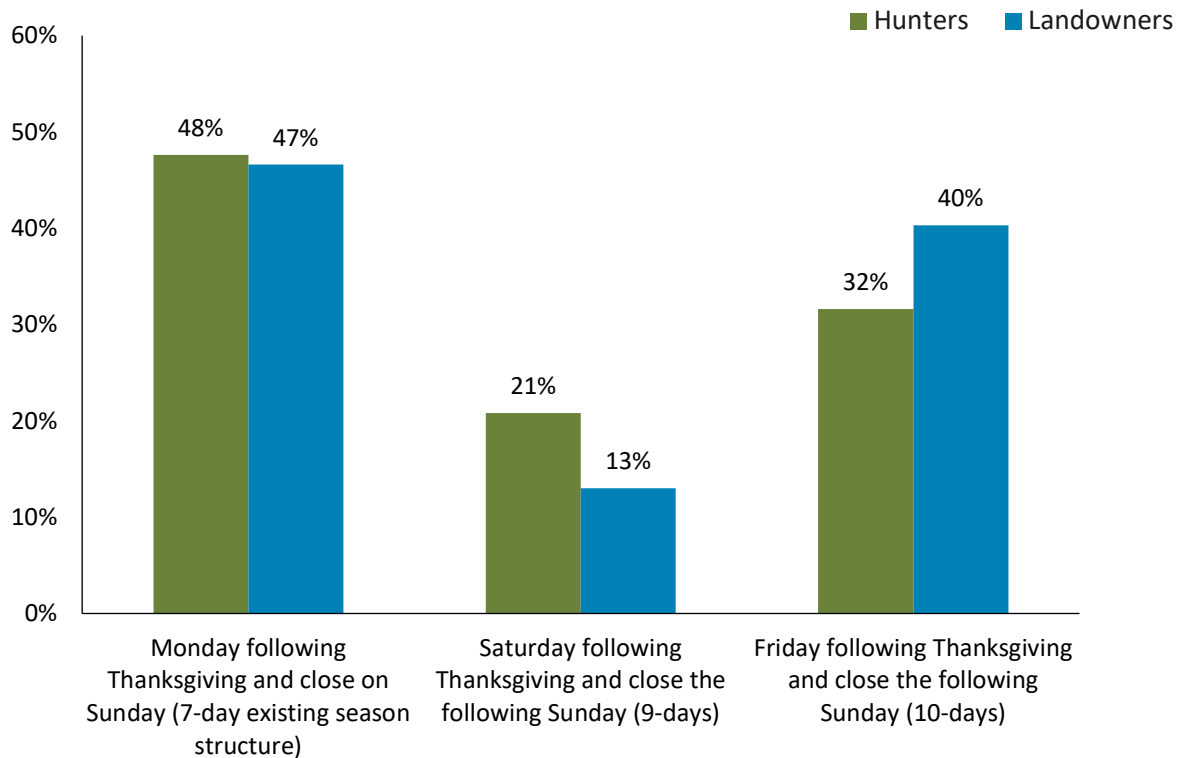


Figure 11. Season preferences among hunters and landowners. Thirty-five percent of landowners were excluded because they had no preference.



Youth deer season

The Ohio youth deer season started in 2003 and has occurred over the weekend prior to Thanksgiving. Hunters were asked a series of questions starting with whether or not they took a youth hunting during the previous youth season. Overall, 18% of respondents indicated they participated in the youth season in 2022. As expected, more than half of participants were between the ages of 35 – 44 (35%) and 45 – 54 (21%) (Table 11).

For respondents who participated in the 2022 youth season, 85% did so with a member of their immediate family. For the 15% of hunters who took someone other than an immediate family member, 40% said another person would have likely introduced them to deer hunting, 31% indicated the youth had multiple hunting opportunities, and 22% said the 2-day youth season likely provided their only hunting opportunity for the year.

Finally, respondents were asked about their support for the existing youth season structure, and two proposed alternatives. Overall, respondents were slightly more supportive of the existing season structure (49%), when compared to possible dates during the second (40%) or third (33%) weekend in October (Table 11). For the 18% who participated in the youth season, 64% supported keeping the current season dates. Among those same individuals, support for the second or third weekend was 39% and 41% respectively³. There were no real differences among participating age classes, with the exception that younger (aged 18 – 24) and older (65+) supported the current season more than respondents aged 25 to 64 (Table 12).

Table 11. Support for three different youth deer season hunting dates.

Season Framework	Strongly oppose	Oppose	Neutral	Support	Strongly support	Support without Neutral	N
Weekend prior to Thanksgiving (current time frame)	12%	10%	28%	26%	23%	68%	6,108
Second weekend in October	14%	12%	34%	21%	19%	61%	5,858
Third weekend in October	15%	14%	38%	20%	13%	53%	5,832

³ Data do not sum to 100% because we did a crosstabulation of the 18% who took a youth hunting, measured against support for the three season alternatives.

Figure 12. Age distribution of the 18% of respondents who took a youth hunting during the 2022 youth deer hunting season.

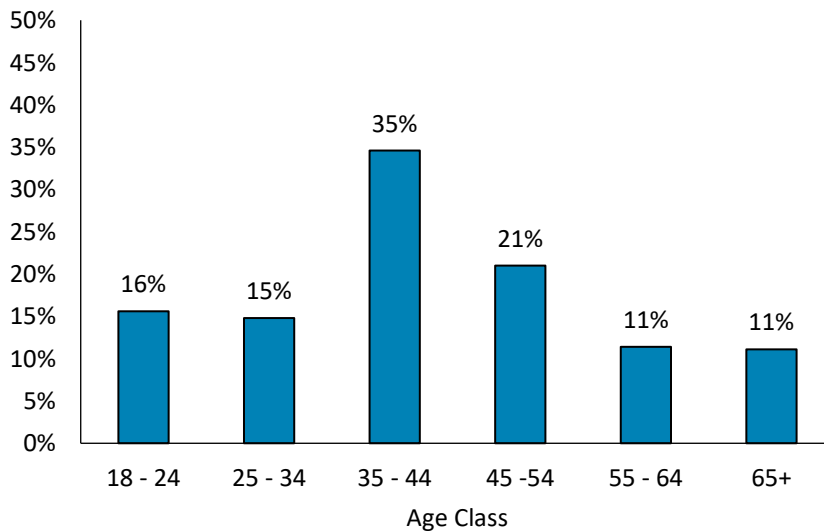


Table 12. Support among respondents for youth season date options among individuals who participated in the season (18% of respondents), by age class.

Age Class	Weekend prior to Thanksgiving (current time frame)	Second weekend in October	Third weekend in October	Average N
18 - 24	78%	26%	37%	75
25 - 34	61%	40%	39%	131
35 - 44	62%	40%	41%	374
45 - 54	65%	40%	41%	253
55 - 64	61%	42%	43%	141
65+	72%	45%	45%	99
Total	64%	40%	41%	1,073

Deer hunting access

Hunters were asked if they paid a private landowner a fee for a lease/contract to hunt deer during the 2022-23 hunting season. Overall, only 7.6% of respondents (n = 470) indicated they leased deer hunting land in Ohio. Although sample sizes are small, 17% of those hunting in DMU 9 and 13% each of respondents in DMUs 6 and 19 indicated they leased hunting access. Conversely, the DMUs with the lowest percentage of leasing were 1, 2, and 17 (3% each, Table 13). By age class, individuals aged 45 – 54 (9.2%) and 55 – 64 (7.9%) were most likely to lease land for deer hunting (Figure 13).

Much like leasing, only a small percentage of Ohio deer hunters purchased land for recreational purposes over the last five years (6%). Overall, only 3% of respondents in DMU 6 purchased recreational land, as compared to 11% of DMU 20 respondents who purchased recreational land (Table 11). Much like leasing, respondents tended to be 45 – 54 (7.6%) and 55 – 64 (6.8%) (Figure 14).

Table 13. Percent of respondents who indicated they leased/contracted for deer hunting during the 2022-23 deer season or purchased land for recreational purposes within the last 5 years, by deer management unit (DMU). The blue cells represent the low values and green cells represent high values for each statement.

Deer Management Unit	% Leasing	N	% Purchasing	N
1	3%	8	5%	12
2	3%	8	5%	11
3	5%	4	4%	3
4	5%	13	4%	12
5	5%	13	3%	8
6	13%	5	3%	1
7	4%	11	5%	13
8	3%	8	7%	17
9	17%	64	10%	37
10	12%	30	6%	15
11	6%	17	5%	14
12	4%	8	4%	10
13	5%	13	5%	13
14	5%	12	7%	17
15	5%	12	6%	15
16	4%	10	4%	10
17	3%	1	3%	1
18	9%	21	4%	9
19	13%	58	6%	28
20	7%	16	11%	24
21	9%	27	7%	19
22	12%	36	9%	27
23	11%	26	7%	17
24	9%	29	10%	31
25	7%	16	6%	13
26	4%	4	6%	6
Overall	7.6%	470	6.2%	383

Figure 13. Percent of respondents who indicated they leased/contracted land for deer hunting, by age group.

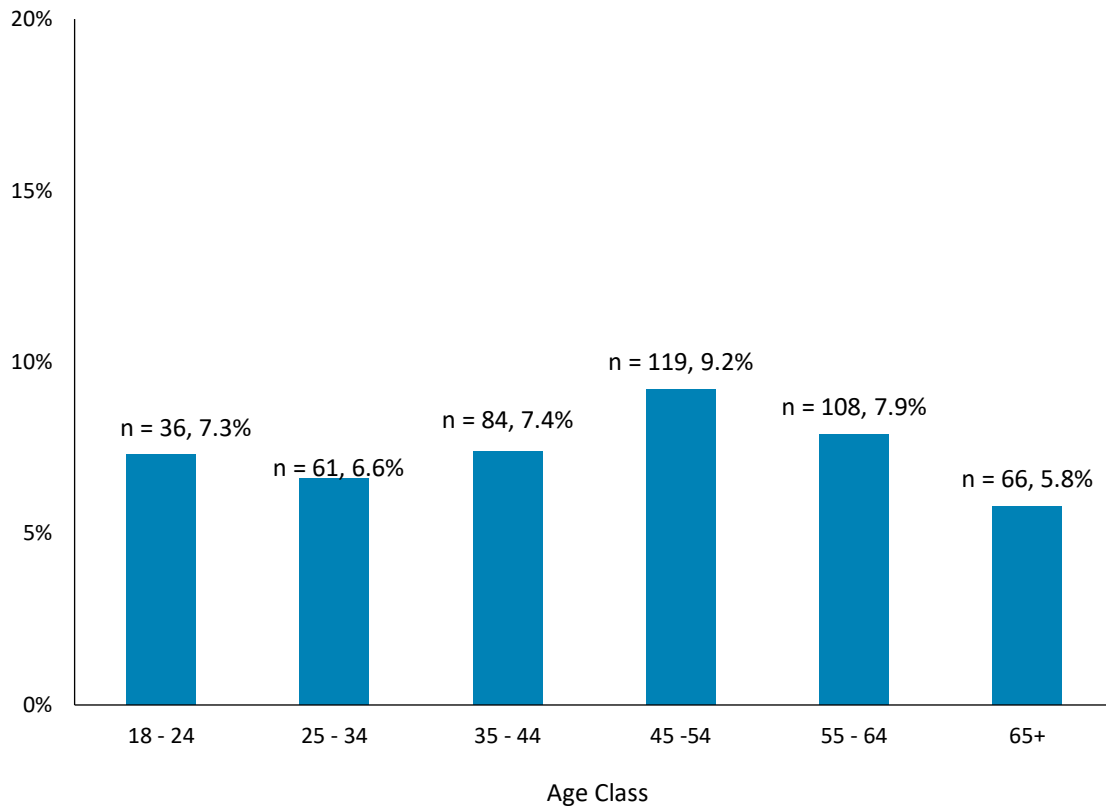
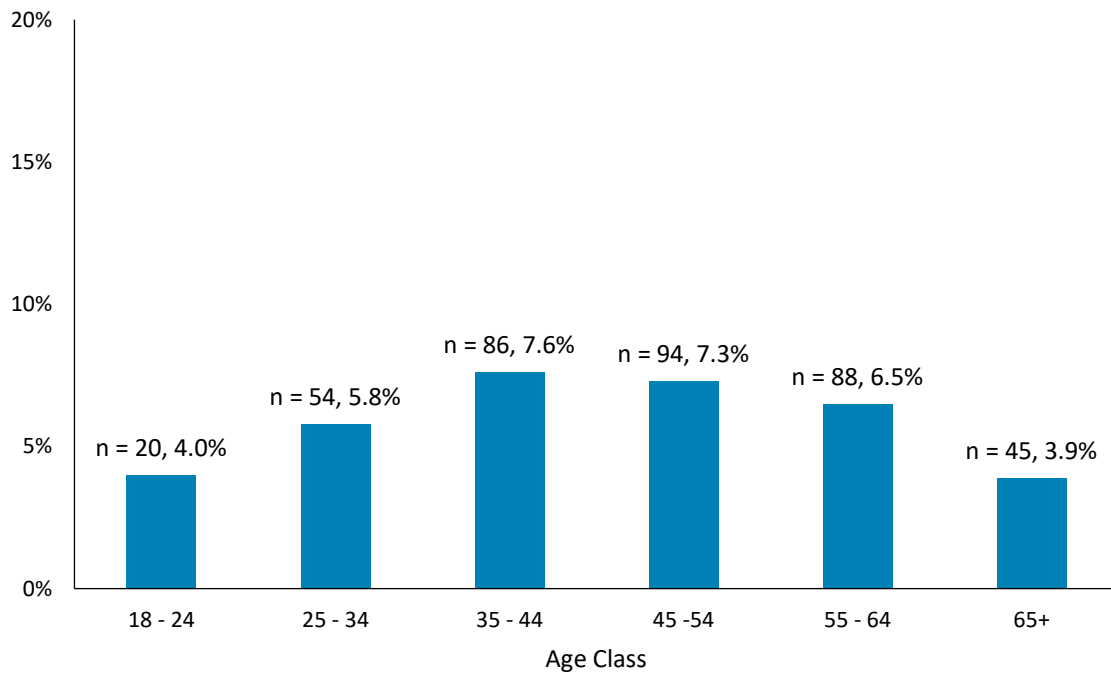


Figure 14. Percent of respondents who indicated they purchased recreational hunting land within the last 5 years, by age group.



Deer processing

Overall, 47% of responding hunters indicated they used a commercial processor to butcher their deer. Of those, 52% used a processor in the county of harvest. At the DMU level, 60% had their deer processed in the same DMU it was killed. Respondents who used a commercial processor were asked the following question, “Suppose there were no processors available within the distance you are willing to travel. Please indicate how likely you would be to do the following ...”. The results indicate that although hunters *might* change some of their hunting behavior relative to the type of deer they would harvest (only bucks, fewer antlerless), they would not quit hunting. Alternatively, most hunters told us they would simply switch to processing their own deer (Table 14).

Conversely, respondents who processed their own deer were asked how they handle carcass disposal and 43% said they put unused parts in the garbage for landfill disposal and 19% indicated they buried the remains. However, 28% said they discarded the remains without burying, which may present a chronic wasting disease transmittal risk. Another 10% checked “other”, and those individuals said they left carcasses out for the birds and other wildlife, and to use them for coyote hunting bait. Taken together, up to 38% of hunters that process their own deer are presenting a potential environmental risk of CWD introduction/spread (28% + 10%).

Table 14. Likelihood of changing hunting behavior if commercial deer processors were unavailable within the range (i.e., distance) you are willing to travel distance.

Statement	Very unlikely	Unlikely	Neither	Likely	Very likely
Self-process all the deer that I harvest	7%	9%	6%	35%	43%
Hunt/harvest only adult bucks	18%	22%	25%	19%	16%
Harvest fewer antlerless deer	20%	25%	28%	18%	10%
Quit deer hunting	75%	13%	7%	3%	3%

Landowner-specific questions

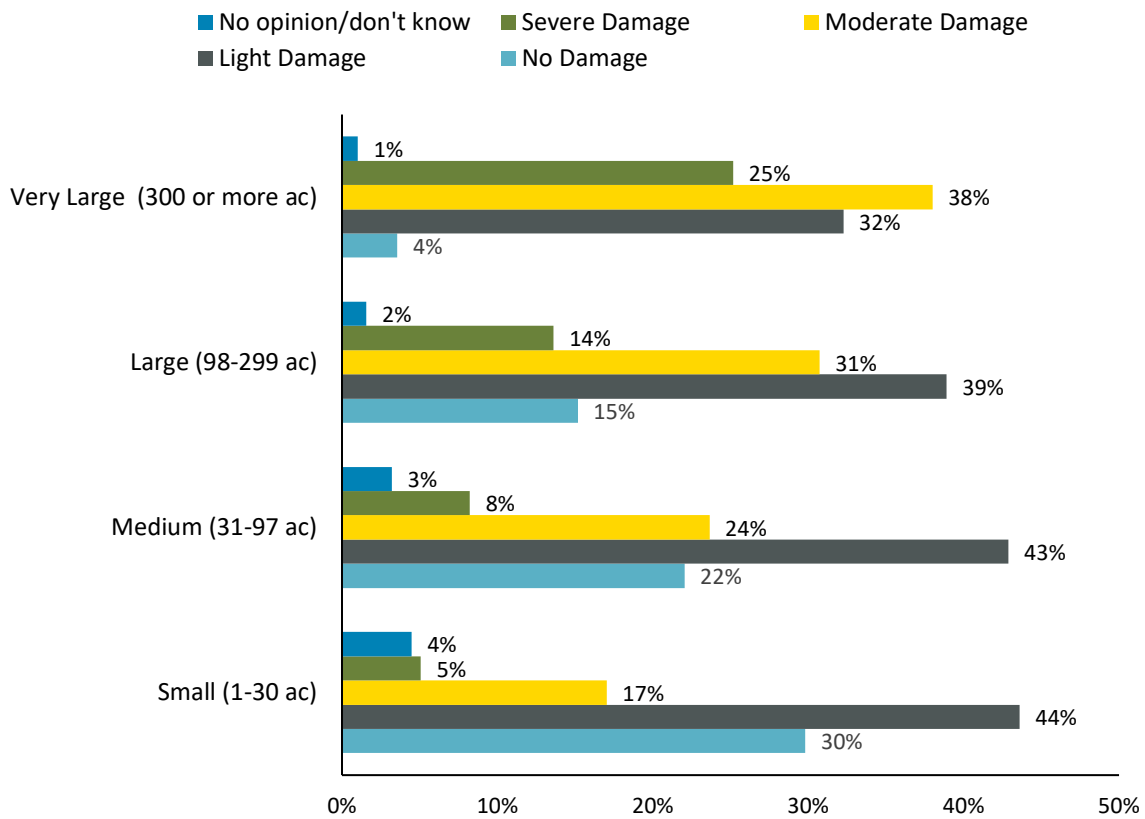
Deer damage

A majority of farmers reported “No” or “Light damage” associated with deer on the land that they farmed (Table 15). Fourteen percent of all farmers said they experienced “Severe” damage from deer. Damage ratings were very similar among those who relied on field crop as a major source of income. Similar to the results on deer population estimates, there was a statistically significant relationship between farm size and ratings of deer damage. Larger farms were more likely than small farms to report moderate or severe damage from deer (Figure 15). This finding may be attributed to the fact that farming is likely a higher proportion of income for large compared with those farming smaller parcels.

Table 15. Frequency of crop damage ratings among all farmers and the subset whose primary source of income is field crops.

Extent of damage from deer	All farmers (N=2,232)		Field crop as major source of income (N= 1,310)	
	N	Percent	N	Percent
No Damage	383	17%	156	12%
Light Damage	876	39%	525	40%
Moderate Damage	611	27%	389	30%
Severe Damage	303	14%	194	15%
No opinion/don't know	59	3%	46	4%
Total	2,232		1,310	

Figure 15. Comparison of deer damage rating by category of farm acreage.



Deer Damage Control Permits

Six percent of very large farm operators had Deer Damage Control Permits (DDCPs) in 2023. Only 3% of all farmers overall used DDCPs in 2023. Among these 57 respondents, 5 deer killed on these permits was the mean, median, and modal response. One respondent reported harvesting 17 deer. Nine percent killed more than 10 deer, while 8% did not kill any deer on their DDCPs.

Among the 97% of farmers who did not use the DDCP in 2023, four in ten said they “didn’t know it existed”. Another 15% said they heard of the program but “did not know how to use it”. Twenty-six percent checked that they did not need to use the program in 2023. Fifteen percent wrote in other reasons for not using the DDCP (see Appendix C for full list of responses). Some common themes among these write-in comments were that the program was a “hassle”, they did not want to interact with wildlife officers, they never received a response to their inquiry, or they were told they didn’t qualify.

Deer Management Assistance Program

Deer Management Assistance Programs or “DMAPs” refer to state agency efforts to engage landowners in active deer management by providing habitat consultation services and development of population objectives. Ohio does not currently have a formal DMAP, so we asked respondents who farmed in Ohio if they support developing one. Overall, 57% agreed that they would support the state creating a DMAP, 29% were neutral and 13% disagreed (Figure 16a). While the majority supported its creation, fewer (34%) said they were likely to enroll in it. A plurality of respondents (40%) were neutral about the prospect of enrollment (Figure 16b). Of course, supporting the creation of a DMAP did make it statistically more likely to indicate an interest in enrolling (Table 16). For example, 59% of those who *strongly agreed* that they support starting a DMAP in Ohio also said they were *very likely* to enroll. This enthusiastic segment comprised 13% of all farmer respondents. Conversely, 6% of farmers both strongly disagreed with starting a DMAP and said they were very unlikely to participate.

Figure 16. Farmer opinions (percent) about creating and enrolling in a DMAP.

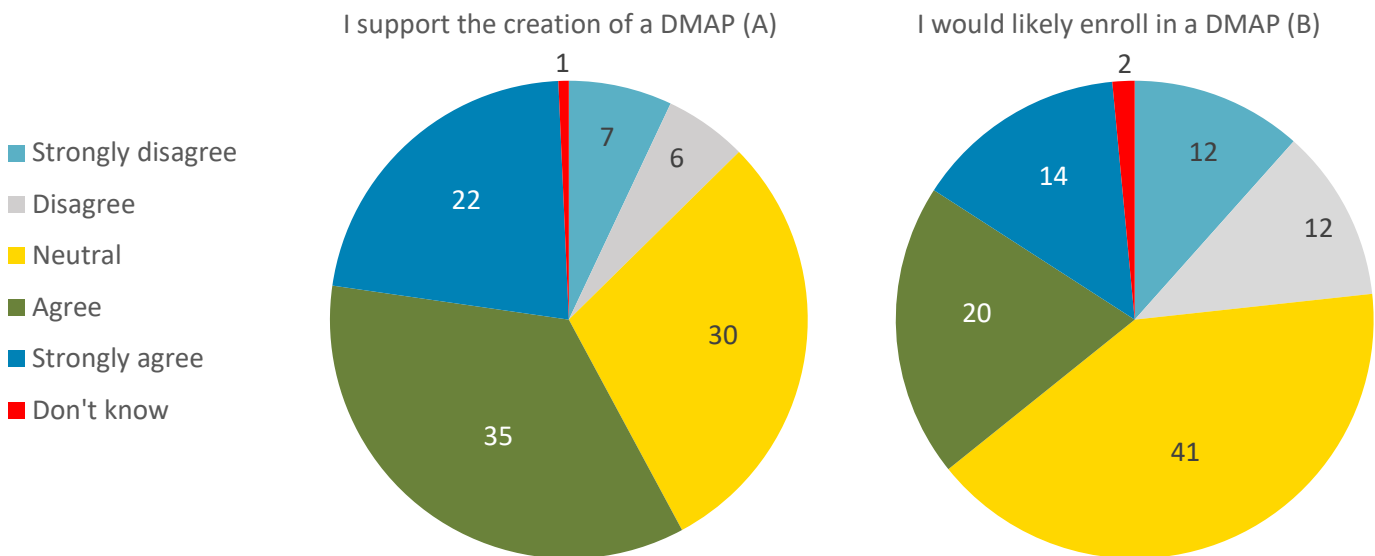


Table 16. Comparisons of enrollment likelihood in a Deer Management Assistance Program by levels of support for its creation (DMAP) among Ohio farmers.

Agreement Scale	Support Creation of DMAP Program	I would likely enroll in a DMAP						Total
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Don't know	
Strongly disagree	N	124	6	8	0	2	1	141
	Percent	88%	4%	6%	0%	1%	1%	100%
	% of Total	6%	0%	0%	0%	0%	0%	7%
Disagree	N	32	65	14	0	0	0	111
	Percent	29%	59%	13%	0%	0%	0%	100%
	% of Total	2%	3%	1%	0%	0%	0%	6%
Neutral	N	47	92	410	25	2	5	581
	Percent	8%	16%	71%	4%	0%	1%	100%
	% of Total	2%	5%	20%	1%	0%	0%	29%
Agree	N	20	68	321	275	18	8	710
	Percent	3%	10%	45%	39%	3%	1%	100%
	% of Total	1%	3%	16%	14%	1%	0%	35%
Strongly agree	N	7	6	74	95	266	2	450
	Percent	2%	1%	16%	21%	59%	0%	100%
	% of Total	0%	0%	4%	5%	13%	0%	22%
Don't know	N	0	2	1	1	0	12	16
	Percent	0%	13%	6%	6%	0%	75%	100.0%
	% of Total	0%	0%	0%	0%	0%	1%	0.8%
Overall	Count	230	239	828	396	288	28	2009
	% within I support the creation of a DMAP	11%	12%	41%	20%	14%	1%	100%
	% of Total	11%	12%	41%	20%	14%	1%	100%

Deer Conflict and Health Risk

About 1 in 5 hunters (19%) reported that they or someone in their immediate family had a deer-vehicle collision within the last 12 months. The highest percentages of respondents noting a deer-vehicle collision were in living in DMUs 19 (30%) and 20 (31%); conversely, the lowest percents came from hunters residing in DMU 25 (10%) and DMUs 7 and 17 (14% each) (Table 17).

Many landowners (30%) reported that they or someone in their immediate family had a deer-vehicle collision within the last 12 months. The highest percentages of respondents noting a deer-vehicle collision were residents of DMUs 9 (45%) and 13 (46%); conversely, the lower percents came from DMUs 19 and 25 (19% each) (Table 17).

Overall, 4% of hunters said they or someone in their immediate family had contracted Lyme’s disease in the last 12 months. About 5% said they either were (2%) or might have been (3%) diagnosed with any tick-borne disease (e.g., Lyme’s, Anaplasmosis, Ehrlichiosis). The data were similar for landowners in that 6% said they or someone in their immediate family had contracted Lyme’s disease in the last 12 months. About 3% said they either were (3%) or might have been (4%) diagnosed with any tick-borne disease.

Table 17. Percentage of respondents indicated they or someone in their immediate family had a deer-vehicle collision within the past 12 months for hunters and landowners, by deer management unit (DMU). The blue cells represent the low values and green cells represent high values for each statement.

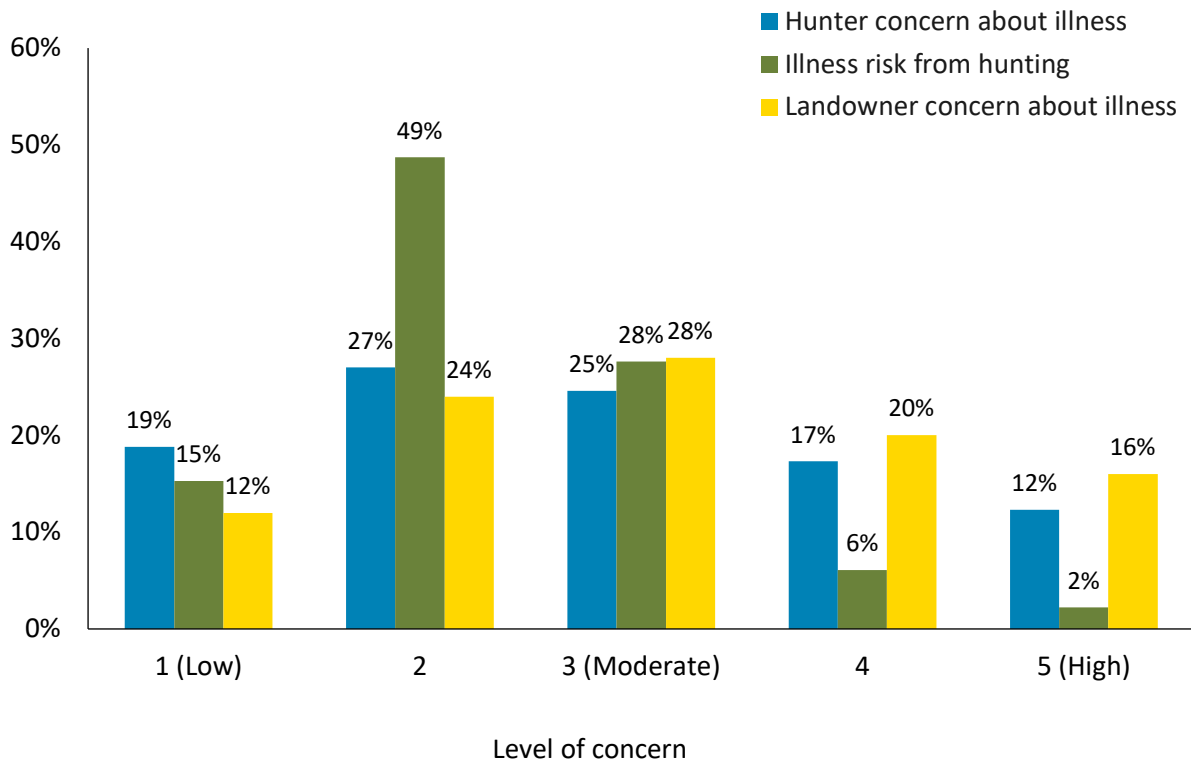
DMU of Residence	Hunters		Landowners		
	N Respondents	Percent	DMU of Residence	N Respondents	Percent
1	47	25%	1	42	36%
2	62	22%	2	47	36%
3	28	15%	3	--	--
4	74	17%	4	24	22%
5	72	19%	5	32	34%
6	43	20%	6	--	--
7	36	14%	7	22	25%
8	63	18%	8	27	33%
9	34	23%	9	53	45%
10	80	16%	10	20	22%
11	59	29%	11	31	29%
12	43	26%	12	45	38%
13	59	22%	13	49	46%
14	49	18%	14	31	32%
15	36	16%	15	25	26%
16	48	17%	16	17	18%
17	27	14%	17	2	67%
18	44	21%	18	17	19%
19	39	30%	19	39	38%
20	43	31%	20	42	42%
21	43	28%	21	39	38%
22	42	28%	22	23	34%
23	33	23%	23	24	31%
24	41	24%	24	36	46%
25	44	10%	25	15	19%
26	35	18%	26	--	--
Overall	1,224	19%		702	33%

Most hunters (81%) expressed some level of concern about acquiring a tick-borne illness. Almost one-third were moderately (17%) or very (12%) concerned. Moreover, hunters believed there was a slight (49%) or moderate (28%) risk of contracting a tick-borne illness from deer hunting (Figure 17).

For landowners, most (88%) expressed some level of concern about acquiring a tick-borne illness. About one third were moderately (20%) or very (16%) concerned (Figure 17). Ultimately, 54% of hunters and 64% of landowners were at least moderately concerned about tick-borne disease.

Finally, about half of hunters reported finding 1 – 5 ticks from themselves (49%); interestingly 29% said they did not find any ticks on their body, as similarly compared with landowners reporting half (52%) finding 1 – 5 ticks from themselves and 29% said they did not find any ticks on their body.

Figure 17. Level of concern about tick-borne illness and personal risk of tick-borne disease from hunting.



Conclusions

These data pose important implications for ODOW's deer management program. Notably, the relatively high levels of deer hunter satisfaction documented in this report is evidence that the program has done a good job of meeting expectations in providing hunting opportunities. Most deer hunters support the status quo where season dates are concerned for firearm and youth season, though age differences also hint that those preferences may shift in the future.

Challenges remain in balancing deer numbers to meet hunter expectations while also trying to mitigate some of negative consequences that deer can pose to economic, property, and public health concerns. Ongoing evaluations could consider using discrete choice experiments to reveal preferred trade-off among respondents as a tool to make policy changes.

Appendices

Appendix A. 2022 – 2023 Ohio Deer Hunter Survey



OHIO DEER HUNTER SURVEY

DEER HUNTING EXPERIENCE

1. Did you hunt the 2022-23 Ohio deer season?

- Yes
- No → Skip to Question 5

2. In the space below, please identify the ONE county where you hunted most often during the 2022-23 deer season:

_____ County

3. Where you deer hunted most often, do you feel there are (Please check one):

- Too few deer
- About the right number of deer
- Too many deer
- No opinion/don't know

4. How would you rate your level of satisfaction with each of the following during the 2022-23 deer season (Please circle one for each item)

	Dissatisfied	Somewhat dissatisfied	Neither	Somewhat satisfied	Satisfied
Deer numbers on property hunted most often	1	2	3	4	5
Number of antlered deer on property hunted most often	1	2	3	4	5
Number of deer you harvested	1	2	3	4	5
Hunting pressure	1	2	3	4	5
Management of Ohio's deer herd	1	2	3	4	5
Overall deer hunting experience	1	2	3	4	5

OPINIONS OF DEER WHERE YOU LIVE

5. In the space below, please identify the county where you currently live:

_____ County

- I no longer live in Ohio → Skip to question 8

6. Where you live, do you feel there are: (Please check one)

- Too few deer
- About the right number of deer
- Too many deer
- No opinion/don't know

7. Thinking about where you live, work, and/or commute, please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Neither	Agree	Strongly agree
I enjoy seeing and having deer around	1	2	3	4	5
I worry about the problems that deer cause	1	2	3	4	5
I generally regard deer as a nuisance	1	2	3	4	5

DEER SEASON STRUCTURE

8. Of the following options for the opening day of the traditional gun season, please choose the one you most prefer:

- Open on Monday following Thanksgiving and close on Sunday (7-days – current season structure).
- Open on Saturday following Thanksgiving and close the following Sunday (9-days).
- Open on Friday following Thanksgiving and close the following Sunday (10-days)

9. Did you take a youth hunting during the two-day, 2022-23 Youth Deer Season (Nov. 19-20, 2022)?

- Yes → Go to Question 10
- No → Skip to Question 12

10. Was the youth hunter a member of your immediate family?

- Yes → Skip to Question 12
- No → Go to Question 11

11. You indicated that you took a youth hunting during the youth season who is NOT a member of your immediate family. Considering this youth’s background, family, and interests, choose the statement that best describes their deer hunting opportunities:

- I would have already considered them to be a deer hunter, as they had multiple hunting opportunities prior to the 2022 Youth Season.
- The 2-day Youth Season likely provided their **ONLY** opportunity to be introduced to deer hunting.
- Even if there was no Youth Season, someone (me, a family member, or friend) would have likely introduced them to deer hunting at some point in the near future.
- I’m not sure.

12. Please indicate your level of support for holding the youth season in each of the following time frames:

	Strongly oppose	Oppose	Neutral	Support	Strongly support
Second weekend in October	1	2	3	4	5
Third weekend in October	1	2	3	4	5
Weekend prior to Thanksgiving (current time frame)	1	2	3	4	5

DEER HUNTING ACCESS

13. Did you pay a private landowner a fee for a lease/contract to hunt white-tailed deer during the 2022-23 Ohio hunting season?

- Yes
- No

14. In the last 5 years, have you purchased land exclusively for recreational purposes?

- Yes
- No

POST-HARVEST HANDLING OF CARCASSES

15. When you harvest a deer, do you typically take the whole deer to a commercial processor?

- Yes, I use a processor in _____ county → Go to Question 16
- No, I process it myself → Skip to Question 17

16. Suppose there were no processors available within the distance you are willing to travel. Please indicate how likely you would be to do

	Very unlikely	Unlikely	Neither	Likely	Very likely
Self-process all the deer that I harvest	1	2	3	4	5
Hunt/harvest only adult bucks	1	2	3	4	5
Harvest fewer antlerless deer	1	2	3	4	5
Quit deer hunting	1	2	3	4	5

17. How do you typically handle disposal of the carcass? (Please check one)

- The commercial processor handles disposal.
 I put all unused parts in the garbage or take them to a landfill.
 I bury all unused parts.
 I discard all unused parts without burying.
 Other _____ (please _____ explain)
-

POTENTIAL FOR CONFLICTS WITH DEER

18. Have you or someone in your immediate family experienced a deer-vehicle collision in Ohio in the past 12 months?

- Yes
 No

19. Have you or someone in your immediate family contracted Lyme disease in Ohio in the past 12 months?

- Yes
 No

20. Have you ever had a tick-borne illness?

- Yes, my doctor diagnosed me with a specific tick-borne illness
 Maybe, I or my doctor suspected a tick-borne illness and started treatment without a specific diagnosis
 No - I have not had a tick-borne illness

21. How concerned are you about tick-borne illnesses?

- Not at all concerned
 Slightly concerned
 Somewhat concerned
 Moderately concerned
 Very concerned

22. To what extent do you think participation in deer hunting activities presents a risk of acquiring a tick-borne illness?

- No risk
 Slight risk
 Moderate risk
 High risk
 Very high risk

23. About how many ticks have you found on yourself in the past 12 months?

- None
 1-5
 6-10
 More than 10

BOWHUNTER SURVEY

24. Participants in our annual bowhunter survey keep a log of hours spent hunting and number of deer and other wildlife species they observe. Would you like to participate in the 2024-25 survey? (Please check one)

- Yes, please send an electronic copy to: (email address):

- Yes, please send a paper copy to: (mailing address)

- No



OHIO LANDOWNER SURVEY

LAND IN AGRICULTURAL PRODUCTION

1. Do you currently **farm** land in Ohio that you either own or lease?

- Yes
- No → Skip to Question 10

2. In which **ONE** Ohio county do **MOST** of your farming activities occur? We realize you may farm in more than one county; however, please write only one.

I farm _____ acres in _____ county

3. Which of these categories represents the **LARGEST** portion of gross income for your operation? (*Please check one*)

- | | |
|--|---|
| <input type="checkbox"/> Field crops | <input type="checkbox"/> Cattle |
| <input type="checkbox"/> Fruit | <input type="checkbox"/> Hogs |
| <input type="checkbox"/> Vegetables | <input type="checkbox"/> Poultry |
| <input type="checkbox"/> Alfalfa / Hay | <input type="checkbox"/> Dairy |
| <input type="checkbox"/> Other crop: _____ | <input type="checkbox"/> Other livestock: _____ |

WHEN ANSWERING QUESTIONS 4 THROUGH 8, PLEASE REFER TO THE FARM IN THE COUNTY YOU IDENTIFIED IN QUESTION 2 ABOVE

4. Do you feel there are:

- Too few deer
- About the right number of deer
- Too many deer
- No opinion/don't know

5. Please indicate the extent to which you disagree or agree with each statement. (*Please circle one option for each item*)

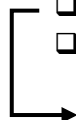
	Strongly disagree	Disagree	Neither	Agree	Strongly agree
I enjoy seeing and having deer around	1	2	3	4	5
I worry about the problems that deer cause	1	2	3	4	5
I generally regard deer as a nuisance	1	2	3	4	5

6. How would you describe the level of deer damage on the land you farm within the past 12 months? (*Please check one*)

- No Damage
- Light Damage
- Moderate Damage
- Severe Damage
- No opinion/don't know

7. For the land that you farm, did you receive a Deer Damage Control Permit (DDCP) in 2023 from the Ohio Division of Wildlife?

- Yes
- No → Go to Question 8



Please tell us how many deer have been removed using a DDCP in 2023 and then skip to Question 9

_____ deer

8. Which of the following best describes why you chose not to seek out a DDCP in 2023? (Please select one.

If you choose "Other reason" please briefly explain on the line provided.)

- Didn't know DDCPs existed
- Have heard about DDCPs, but did not need one
- Have heard about DDCPs, but did not understand how to get one
- Have used DDCPs in past years, but did not need one this year
- Other reason:

9. Previous research has shown some landowners are satisfied with existing deer seasons and county bag limits, while others need special permits to remove deer out-of-season using crop damage permits. We would like to know if you support the development of a new, supplemental program that would utilize property-specific permits to authorize additional deer harvest during the existing deer season. This program, often called 'DMAP - Deer Management Assistance Program' would also be available to landowners for other reasons, such as specific deer management objectives, habitat management, or forest restoration.

Based on the above information, please indicate the extent to which you disagree or agree with the following statements: (Please circle one option for each item)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I support the creation of a DMAP	1	2	3	4	5
If it became available, I would likely enroll in a DMAP	1	2	3	4	5

DEER HUNTING ON YOUR LAND

10. Do you currently own land in Ohio? The land does not need to be farmed.

- Yes
- No → Skip to Question 16

11. Please tell us about how many acres you own in the county where most of your land is located:

I own _____ acres in _____ county

12. Does anyone (including yourself) hunt deer on the land you own in the county you identified in Question 11?

- Yes
- No → Skip to Question 16

13. On land you own in the county you identified in Question 11, please answer the following:

The number of people that hunt deer on your land: (write number in the space next to each category. If none, please write 0)

_____ Immediate family, including self
 _____ Extended family and friends
 _____ Others

The total number of deer harvested on your land by you and/or those that have permission to hunt there:

- 1 deer
- 2 deer
- 3 deer
- More than 3 deer
- I don't know

14. Do you charge fees for deer hunting on the land you own (i.e., lease hunting rights)?

- Yes
- No

15. Of the following options for the opening day of the traditional gun season, please choose the one you most prefer:

- Open on Monday following Thanksgiving and close on Sunday (7-days – current season structure).
- Open on Saturday following Thanksgiving and close the following Sunday (9-days).
- Open on Friday following Thanksgiving and close the following Sunday (10-days).
- The gun season start date does not matter to me

POTENTIAL DEER-RELATED CONFLICT

16. Have you or someone in your immediate family experienced a deer-vehicle collision in Ohio in the past 12 months?

- Yes
- No

17. Have you or someone in your immediate family contracted Lyme disease in Ohio in the past 12 months?

- Yes
- No

18. Have you ever had a tick-borne illness?

- Yes, my doctor diagnosed me with a specific tick-borne illness.
- Maybe, I or my doctor suspected a tick-borne illness and started treatment without a specific diagnosis.
- No - I have not had a tick-borne illness.

19. How concerned are you about tick-borne illnesses?

- Not at all concerned
- Slightly concerned
- Somewhat concerned
- Moderately concerned
- Very concerned

20. About how many ticks have you found on yourself in the past year?

- None
- 1 – 5
- 6 – 10
- More than 10

Appendix C. Write-in responses to why farmers did not enroll in the DDCP program (not edited).

Age - quit hunting several years ago.

Always heard it was a hassle.

Applied before never got a permit.

Ask the sc game warden for a nuisance permit 3 yers ago, and was told i couldn't have one until after hunting season because he needed to see how many harvested!! Would not have ask if didn't need one! They're destroying my crops, and he want to wait until? To see how many are harvested in nov. Game warden was a waste of my time.

Asked a permit a few years ago and we told I didn't have enough damage

Asked about one, but never got one

Asked but was refused - they stated they didn't see enough damage.

Big hassel

Cannt use ddcp because land is either leased or owned for deer hunting.

Crop was already destroyed by the time we found the deer damage.

Currently have no row crops-not sure they would issue any.

Damage not that bad, yet

Dead deer attract coyotes and black buzzards.

Deer and other wildlife are do not cause economic damage here.

Deer don't bother us.

Deer not a problem.

Deer only bothered hay until too late to get them.

Deer should be harvested in season. In the sumer is not the time to harvest a deer. Fawnss are still nursing anyway. Farmers that get the ddcp abuse it, and waste good deer meat. Do not like the ddcp idea.

Denied DDCP in past

Did a nuisance permit years ago. Odnr listed our name and we received at least 100 calls asking to hunt our property - worse nuisance than the deer!!

Did not feel the number of deer permitted would be high enough to make a difference.

Did not know dd p existed but did not need.

Did not know how much damage was needed and how to get one.

Did not like procedure. Used 1 year.

Appendix C (cont.). Write-in responses to why farmers did not enroll in the DDCP program (not edited).

Did not need any

Did not need it. Didn't know it existed.

Did not need one

Did not need or want.

Did not receive ddcp and am not interested!

Didn't get to organized in time.

Didn't give it much thought.

Didn't have time

Didn't have time to go kill them!

Didn't have time to hunt. Husband was on 4/10 hr days and farmed the rest.

Didn't know about them but had no need.

Didn't know ddcps existed, but didn't need one anyway.

Didn't know i needed one

Didn't take the time to get one. Also allow hunting on our property.

Didn't want to dispose of carass.

Difficult to get

Difficult to get deer to butrcher in hot water. Don't want them to go to waste.

Do not agree with the method of control.

Do not have time to hunt much

Do not hunt

Do not hunt

Do not hunt regularly

Do not hunt. Don't want more people on my land.

Do not like the idea.

Don't agree with shooting out of season.

Don't believe in it.

Don't expect cooperation from odnr.

Don't have the time. If were no deer, no worry.

Don't have time


Appendix C (cont.). Write-in responses to why farmers did not enroll in the DDCP program (not edited).

Don't have time or healthy enough to do it.

Don't have time to kill them.

Don't hunt

Don't like shooting out of season.

Don't like to kill 

Don't like to shoot deer in the summertime- especially with young. Also dealing with the meat in warm weather.

Don't need help.

Don't need.

Don't raise crop that they damage.

Don't take the time to get one.

Don't think they help - don't believe in it.

Don't want

Don't want to harvest deer

Don't want to kill does during the summer when they have fawns.

Don't feel damage amount warrants killing the deer

Dont have the spare time to hunt

Dont want to kill the animal and it go to waste

Enjoy controlling deer during regular hunting season.

Enjoy the deer

Even though deer damage the crops, i deer hunt and that's why i bough land. In the 1980's, i hunted a lot only to see handful of deer. Now i see them all the time.

Excessive viits from game warden the last time i got one.

Family members love seeing the deer and I am the one that has to build and maintain barriers around the gardens to have anything left

Farm is leased for deer hunting.

Figured we didn't have the deer population high enough to get it for our land

Friends got them and it turned out to be a big headache.

Game officer visited years ago did not want to give extra permit.

Game would not give me one.

Appendix C (cont.). Write-in responses to why farmers did not enroll in the DDCP program (not edited).

Geese are the problem not deer, do something!

Grand kids and great grand kids harvest on their tags.

Had for other farm with more damage.

Had in past. Didn't take time to get.

Had no need for one - no damage.

Had no time follow and get permit.

Had one in past. No one would use would rather poach.

Hard to contact game warden. Won't call back.

Hard to get.

Hard to shoot at deer safely anymore.

Hate to kill them if meat can't be used but numbers are climbing, will consider ddcp next year.

Have a lot of grandkids that want to shoot deer

Have a problem shooting deer to waste.

Have asked for one in the past and told to get more hunters.

Have considered just didn't follow through.

Have deer hunting lease.

Have farm mainly for recreation.

Have got them in the past but too busy this year.

Have had them in the past but do not have the time to fill them.

Have heard about DDCP but don't like taking deer in the summer months

Have heard about ddcp's but had no damage the previous 2 years. Severe damage in 2023.

Have heard but hate to waste the meat.

Have hunters taking some.

Have little damage

Have neighbor that kills deer year round illegally. Game warden is his friend he says.

Have not felt it was needed.

Have people to hunt in the woods.

Have used ddcp but did not have qualified hunter this year.

Have used ddcps in past years, but did not have willing shooters

Appendix C (cont.). Write-in responses to why farmers did not enroll in the DDCP program (not edited).

Haven't thought we needed on in the past, but damage is up a lot morwe this growing season.

Heard about the ddcps, but not sure on the rules

Heard about them but ran out of time to get one.

Hunting rights leased out.

Hunting season is best managment

Husband applied in 2022 onlineand received no response.

I also work away from the farm. No time.

I am a bad hot. I cannot hit the broadside of a barn.

I am not a hunter and didn't know where to go.

I am not a hunter.

I applied for 1 but didn't receive. Representative didn't know wht he was doing!

I applied for one but was ignored. No respone from odnr!

I cash rent.

I do not hunt or have a gun.

I do not hunt.

I do not understand how it work or what ti is.

I do not want deer control on my property.

I don't farm for profit.

I don't have time to kill deer.

I don't hunt

I don't hunt anymore because of out of state leasers.

I don't hunt neither do i have a big enough gun.

I don't hunt.

I don't like to kill deer and not use them.

I don't shoot

I don't think i see that many deer.

I feel i can make an impact by harvesting during the deer season.

I got permits years ago when you used them in season. I don't shoot deer in hot weather when they have babies.

Appendix C (cont.). Write-in responses to why farmers did not enroll in the DDCP program (not edited).

I had inquired about one and never heard back from our local warden

I have been disappointed in how some farmers use the ddc program in the past.

I have gotten before and then told not available any more.

I have hunter who comes in during season. Last year 15 deer were taken.

I have small amount of acerage, so it is not an issue.

I Just did not apply

I lease the crop land.

I lease the farm land to a larger farmer.

I personally don't hunt.

I rent out my farm land.

I think ddcp efncourage wasteful over harvest of deer.

I think they are misused. I have seen turkey do just as much damage.

I was told there were no permits.

I would rather the tag allotment went up so that way my family and friends could utilize the meat better.

I'm against hunting and torture of animals.

I'm not a hunter.

I'm okay with the damage.

I've GOT OTHER THINGS TO WORRY ABOUT.

I've seen more damage on other farms and they were denied a permit so I figured my damage wouldn't mean anything

Insufficient time to hunt.

It does not cover grass hay.

It is useless. Too many of them.

It's a pain - i don't want your public list. No calls

It's hard to prove deer damage in hay fields.

Just did not pursue this year.

Just didn't apply

Just didn't bother to go through the process.

Just didn't get around to requesting one.

Appendix C (cont.). Write-in responses to why farmers did not enroll in the DDCP program (not edited).

Just didn't get one

Just not my style

Just purchased/not familiar with program.

Land is in the village of wakeman.

Land is leased.

Landlords don't allow us to seek damage permits. We only lease the cropland, not tthe hunting rights.

Lease the ground

Leave deer for hunting in season.

Light damage on a few chestnut and fruit trees is acceptable. We harvest 2-3f deer a year.

Limited deer

Lots of hu ters near

Mentor kids or give more permission to hunt.

More hassle and time than i am willing to commmit too.

My family try to harvest at least 5 to 7 deer a year.

Nearby houses and cattle

Nearby land owner activity attracting deer.

Never called

Never used ddcp in auglaize co and don't need one.

No damage

No damage no need.

No damages done

No deer on my farm. Too many ddcp given to neighbors.

No need

No problem here.

No problem with them.

No reason

No row crops

No time

No time for hunting

Appendix C (cont.). Write-in responses to why farmers did not enroll in the DDCP program (not edited).

No time to harvest then

No time to mess with it

Nobody at other end of phone.

Not a deer hunter. I lease my acreage.

Not a deer hunter. Very busy.

Not a hunter

Not a hunter myself.

Not a hunter.

Not a problem

Not enough damage to be concerned.

Not enough damage to kill.

Not enough land owned to be able to think about.

Not enough of a problem.

Not enough time

Not interested

Not interested in removing deer.

Not much damage

Not my property - land owners do the hunting on them.

Not my responsibility to control deer population.

Not necessary for field crops, yes for landscape nurseries.

Not needed

Not needed.

Not significant damage

Not sure how the rules work

Not sure need one.

Not sure of all the rules.

Not worth the bother.

Not worth the hassle.

Noticed the damage at first of sept. Will probably get it next year depending on the number harvested this year.

Appendix C (cont.). Write-in responses to why farmers did not enroll in the DDCP program (not edited).

Other priorities

Our custom farmer applied for permit.

Out of town for 12 mmo and home caregiver did not want hunting on land.

Past experience

Paying hunters should get first chance at the deer before just shooting them

Personal

Prefer not to any permits

Prefer not to hunt them.

Probably can't get one for dry hay

Raccoon are a much bigger problem.

Raccoon do most damage

Raccoon problem, not deer.

Rather see deer hunted during the season

Really don't need one.

Recreational farmer/very active archer deer manager

Relying on hunters to harvest deer.

Rent to farmer - hasn't complained about crop loss.

Seems like the process is lengthy

Should extend season rather than slaughter deer.

Should have but didn't get it done (timing).

Shouldn't have to pay to protect my crops/fence/property from damage from deer.

Simply failed to see a permit - poor health this year!

Small acres not any safe directions to shoot.

Small farm, deer is not a concern.

The person who farms for me has one.

The worst area is in a village limits and not allowed to hunt.

The worst damage from deer are on acres where ddcp are not allowed (within city limits of avon).

They are not needed, not enough deer around to cause damage. Most damage is coon damage. Should openf season year round or provide bounty.

Appendix C (cont.). Write-in responses to why farmers did not enroll in the DDCP program (not edited).

They don't bother me so i don't bother them.

They don't damage hay.

They only mostly yard damage asparagus & plants

They release your name to the public.

Think regular deer hunting controls the deer population.

Time

Time - find someone to use it.

Too busy - no time

Too busy to fill out paperwork and too busy to deal with removing the deer with the permit.

Too close to town

Too difficult to obtain the permit.

Too few deer to begin with compare marion to morrow county.

Too much nuisance for me.

Too much paperwork - summertime heat.

Too much paperwork. Too difficult to obtain

Too much red tape.

Too much red tape/difficult to get one.

Too much time required to harvest an animal which already has a hunting season and people eager to harvest

Too old and never much of a hunter. Would like to use if my cousin could get one.

Tried and was unsuccessful. Too much red tape too as i recall.

Tried to get one fyears ago& told we couldn't because too close to the wildlife area.

Tried to harvest during open seaoon..

Try to do a lot of hunting.

Try to keep deer under control within regular seasons.

Unethical/not fair to hunters/hunting insudtry.

Unsportmans to just shoot and leave lay..

Use them in another county

Used in past and got bombarded by out of state hunters and hassle with local sherrif' dept. (after local game wrden lied to sheriff's dept!)

Appendix C (cont.). Write-in responses to why farmers did not enroll in the DDCP program (not edited).

Used to hunt but won't kill deer now.

Usually some fence repair

Was not able to deal with this myself.

Was told by neighbor farmer that had permit that permit can only be used in daytime. They were not able to harvest any deer. Thought it would be a waste of time to get permit with this change from night time to day time only.

Was too busy and all on permit have to be present when for is filled out.

Way too many deer and your permits don't do enough and the deer come at night.

We accept the crop damage so that we support the growth of the deer in our area.

We allow hunting

We can coexist nicely.

We don't hunt and have concerns about hunting and our cattle.

We don't need this in our area

We don't use all the tags we legally have available

We have had one in the past, but we don't have time for the buracracy.

We have hunting season to control the deer herd.

We hunt on our property to maintain balance.

We lease our deer hunting.

We like to hunt

We prefer to let license buying hunters killl the deer.

Why should i have to take the time to correct a problem you created.

Wife enjoys seeing the deer?

Would rather see increase in doe permits in deer season.

Would rather see the antlerless tags come back for landowners.