INTERIM PERFORMANCE REPORT

Federal Aid Grant No. F17AF00601 (W-190-R-1)

Upland Game Investigations

Oklahoma Department of Wildlife Conservation

July 1, 2017 through June 30, 2018

Interim Performance Report

State: Oklahoma **Grant Number:** F17AF00601 (W-190-R-1)

Grant Program: Wildlife Restoration Program

Grant Title: Game Harvest Survey

Project Leader: Corey Jager

Grant Period: July 1, 2017 – June 30, 2019

Report Period: July 1, 2017 – June 30, 2018

Project Description:
This grant allows the Oklahoma Department of Wildlife Conservation to monitor upland game harvest and hunter opinion.

Objective:
Resource Management Need: There is a need to monitor upland game harvest and hunter opinion on wildlife-related topics in order to inform wildlife management decisions.

Objective 1 – Data Collection and Analysis – Research, Survey of Monitoring - Utilization:
Complete a harvest survey of 2,000 hunting license holders annual from July 1, 2017 through June 30, 2018.

Summary of progress:

Abstract:
The Oklahoma Department of Wildlife Conservation (ODWC) has conducted telephone surveys since 1986 to estimate the number of hunters and game harvest statewide and regionally. A sample of hunting license holders (n = 1,384) was interviewed during February 2018. Fifty-seven percent of individuals interviewed hunted during 2017. Hunter and game harvest estimates and statistics were calculated statewide. Deer (*Odocoileus virginianus* and *O. hemionus*) season was most popular with hunters. Statewide harvest estimates for 2017 increased from 2016 estimates for dove (*Zenaida macroura*), jackrabbit (*Lepus californicus*), swamp rabbit (*S. aquaticus*), fall turkey (*Meleagris gallopavo silvestris* and *M. g. intermedia*), woodcock (*Scolopax minor*), raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), beaver (*Castor canadensis*), and river otter (*Lutra canadensis*). Harvest estimates decreased from 2016 estimates for quail (*Colinus virginianus* and *Callipepla squamata*), pheasant (*Phasianus colchicus*), crow (*Corvus brachyrhynchos*), cottontail (*Sylvilagus floridanus*), fox squirrel (*Sciurus niger*), gray squirrel (*S. carolinensis*), spring turkey, coyote (*Canis latrans*), and red fox (*Vulpes fulva*). Prairie chicken (*Tympanuchus cupido* and *T. pallidicinctus*) season remained closed during 2017. A series of human dimensions questions were asked to learn about hunter use of the new Oklahoma Land Access Program, opinions about purchasing and leasing land for public access, opinions about various aspects of WMA management, and to learn about what aspects of the deer hunting experience are most important.

Procedures:
The 2017-season game harvest survey was administered using a mixed-mode methodology (mail and telephone). The methodology for this project was developed as a result of methodological research conducted during the 2014-season survey (Jager 2014), and is a hybrid version of past methodologies. Results are considered comparable from 1986 to present.

A random sample of license holders, stratified by license category, was drawn from the database of annual, lifetime, and senior citizen license holders (Table A1). Five-year license holders were sampled with annual license holders. Within each license category, the sample was further stratified by county of residence. The specific license types included in each general category included “hunting only” and “combination hunting and fishing.”

Based on the sampling scheme above, a sample of 5,837 license holders (1,576 annual/five-year, 2,444 lifetime, and 1,817 senior citizen) was selected for interviewing. A goal of more than 3,000 completed interviews was set for this project. License holders were over-sampled to compensate for declining response rates found in the past few seasons of the Game Harvest Survey.

The survey (Appendix D) was mailed to sampled hunting license holders on January 25, 2018. The survey emphasized the importance of the study, described options for responding, and included a self-addressed, postage-paid envelope for those who preferred to participate in the survey through the mail.

License holders who did not respond by mail and had telephone numbers listed on their license application were contacted by telephone beginning February 1, 2018, otherwise license holders without telephone numbers were mailed a second survey on February 27, 2018. The ODWC utilized a contractor to collect telephone interview data and data enter mail surveys. A computer assisted telephone interview (CATI) system was used. If participants completed the survey by both telephone and mail, telephone interview data were used.

Interviews were conducted Monday through Thursdays between 5:00 p.m. and 9:00 p.m. with some afternoon (2:00 p.m.-5:00 p.m.) shifts on various days each week to catch those respondents not available during evening hours or by appointment. Friday shifts went from 4:00 p.m. until 8:00 p.m., Saturday shifts lasted from 10:00 a.m. to 2:00 p.m., and Sunday shifts went from 2:00 p.m. until 6:00 p.m. Before a phone number was retired as “over quota,” it was attempted at least 10 different times.

Survey participants answered questions regarding their hunting activities during 2017. Individuals that hunted were asked which species they hunted, the number of days they hunted each species, the number of each species harvested, the county which they hunted each species most, and whether they hunted each species on private or public land. Individuals that hunted on public land were asked the number of days they hunted on public land for each species and the number of each species harvested on public land. The harvest portion of the questionnaire was similar to previous years. Information regarding license holder opinion about current wildlife-related issues was also collected. The survey instrument was reviewed by wildlife division regional supervisors, the wildlife division research supervisor, the wildlife division assistant chief and chief, federal aid coordinator, and the assistant director. Modifications were incorporated as needed.

Statewide and regional (Figure A1) harvest estimates and public land use were calculated. Hunter and harvest estimates were determined by calculating the proportion of license holders hunting each species and their mean bag for that season. These estimates were extrapolated for all license holders. Differences between categorical variables were detected using the chi-square test. Multiple means were compared using a one-way ANOVA. All tests were considered significant at $P \leq 0.05$.

Results:
Interviews were completed for 24% (n = 1,384) of the 5,837 individuals we attempted to contact. The remaining license holders were not interviewed for a variety of reasons:

- Wrong, disconnected or no telephone number (n = 2,573)
- "Over quota" after ten attempts (n =1,317)
- Refused to complete the interview (n = 190)
- Unavailable during project (e.g., military duty, incarcerated, etc.; n = 63)
- Health issues or deceased (n = 73)
- Fax machine or pager (n = 26)
- Language barrier or hearing impaired (n = 4)

The final adjusted response rate was calculated by dividing the number of completed interviews by the number of all eligible individuals. "Eligible individuals" were individuals that could potentially have resulted in completed interviews. After eliminating phone numbers that could not possibly have resulted in completed interviews (deceased license holders, fax numbers, and wrong or disconnected numbers; n = 2,735), the final, adjusted survey response rate was 45%.

Twenty-one percent of the completed surveys were conducted by telephone and 79% by mail. To examine the impact of mixed methodology, survey responses were compared between mail and telephone respondents for seven variables. There were no statistically significant differences found between mail and telephone respondents for overall 2017-season hunting participation, public land use, participation in quail season, spring turkey season, dove season, 2017 deer seasons, and category of license held ($P > 0.05$).

Because the survey methodology included multiple contacts, regardless of invitation method, response-mode and invitation-mode biases were not considered a significant problem in data validity; results were not weighted.

The average length of the telephone interviews was 11 minutes, with a median time of 8.7 minutes. Call attempt data were not available from the telephone interview contractor, limiting the ability to compare early and late respondents to the survey.

The proportions of license types in the completed survey sample differed by 1.2% or less from the distribution of license types found in the population (Table A1), therefore weighting was deemed unnecessary.

Harvest Estimates (Tables and Figures in Appendix A)
Number of hunters and game harvest estimates and statistics were calculated statewide (Table A2). Statewide harvest estimates for 2017 increased from 2016 estimates for dove (+38%), jackrabbit (+39%), swamp rabbit (+399%), fall turkey (+27%), woodcock (+37%), raccoon (+11%), bobcat (+73%), beaver (+92%), gray fox (+44%), and river otter (+132%). Harvest estimates decreased from 2016 estimates for crow (-26%), pheasant (-19%), quail (-14%), cottontail (-12%), fox squirrel (-20%), gray squirrel (-2%), spring turkey (-2%), coyote (-21%), and red fox (-100%). Prairie chicken season remained closed during 2017. Statewide trends in estimated harvest and number of hunters by species from 1986 to 2017 are presented in Table A5 and Figures A2 – A20. Most hunters hunted within their region of residence (Table A2). The percentage of hunters that hunted within their home county ranged from 50% for jackrabbit to 87% for swamp rabbit.

Regional harvest estimates were calculated, but small sample sizes reduced the reliability of some estimates, as evidenced by the large confidence intervals (Table A3). Small samples sizes have traditionally been a problem for less-popular game seasons. Increasing the sample from previous years improved sub-samples for several species, yet it was still not enough to improve the reliability for certain species. Some regional estimates indicated harvest outside the geographic range of a species. These estimates could be a result of animals harvested on commercial hunting preserves, or simply erred memory.

Game harvest estimates, statistics, and estimated number of hunters for each species were calculated for all public lands collectively (Table A4). The percentage of game harvested on public land ranged from 0% for woodcock and jackrabbit to 42% for gray squirrel. These estimates were limited by small sample sizes. A larger sample would be needed to obtain more reliable estimates of game harvest and hunter numbers on public hunting lands.

Deer hunter participation was assessed. On average, deer hunters spent 17.7 days in the field during the 2017 deer season (Std. Error = 0.73, Table A6). The average number of days spent hunting deer differed by license category ($P < 0.001$). Deer hunters with a lifetime license averaged 20.2 deer hunting days, annual/five-year license holders averaged 14.7 days and senior citizen license averaged 10.7 days.

The average number of days archery hunters spent in pursuit of deer in 2017 was 16.7 days. Muzzleloader hunters averaged 4.6 days. Youth season hunters averaged 2.6 days. Gun hunters averaged 6.1 days and special antlerless (holiday) season hunters averaged 2.1 days. There was a significant difference found in the number of days hunted by license category during the regular gun season ($P = 0.003$). No differences were found by license type for days spent archery, muzzleloader or special antlerless (holiday) season hunting ($P \geq 0.05$).

Deer hunter success was also examined. On average, deer hunters harvested 0.51 bucks and 0.41 does during all of the 2017 deer seasons, for a total deer harvest of 0.92 per hunter (Table A7). Harvest did not differ by deer hunter license category ($P > 0.05$).

Human Dimensions Issues (Tables and Figures in Appendix B)

Human dimensions questions were designed to help ODWC become more familiar with hunting license holders and understand their hunting preferences. The rates of participation in different hunting seasons were analyzed for the various license holder categories (lifetime, annual/5-year and senior citizen license holders). Use of public land was examined. Several special management questions were also asked.

Hunting Activity

Overall, 57% of participants indicated that they hunted in 2017, but the rate of participation varied significantly according to license type ($P < 0.001$; Figure B1). Senior citizen license holders used their hunting privileges far less often than annual/five-year or lifetime license holders. To estimate the number of license holders that actually hunted, the total number of license holders in Table A1 (362,615) was multiplied by the ratio of active hunters interviewed (790/1,384). The estimated number of resident license holders who hunted in Oklahoma during 2017 was 206,984.

Rates of participation in the different hunting seasons, overall and by license type, are presented in Table B1. Combining all types of hunting license holders, the most popular season was deer (enjoyed by 46% of hunting license holders), followed by dove and turkey (17.3% and 16.6%, respectively). Although the ODWC does not manage feral swine (Sus scrofa), the ODWC has begun to was collect information about feral swine hunting and trapping participation. Feral swine are now the fourth most pursued species by Oklahoma licensed hunters, with 15.7% having spent time hunting or trapping them in 2017.

Land Use

Participants used a variety of land types when hunting different game species. Excluding seasons with small sample sizes, the use of private land exclusively among active hunters was most common for pursuit of crow (94% of crow hunters used only private land), dove (84%) and pheasant (82%; Figure B2).

Twenty percent of survey participants used public land for some portion of their hunting during 2017. As can be seen from Figure B3, this statistic also reflects 43% of participants who did not hunt at all. Focusing only on *active* hunting license holders (those who hunted during 2017), 36% hunted on public land in 2017 and 64% did not. Use of public land by active hunters did not vary by license category.

The problem with either of these approaches to measuring public land use is that they do not portray the *relative* importance of public land to Oklahoma's hunting license holders. A hunter who supplemented private land access with public land hunting once or twice during 2017 carried a weight equal to a hunter who relied on public land exclusively, although the relative importance of public land to those two hunters was probably much different. To more accurately capture the importance of public land, active hunters were asked to indicate how much of their hunting in 2017 occurred on public versus private land. Averaging across all active hunters, 19% of the hunting in 2017 occurred on public land (Figure B4). This measure of public land varied by license category ($P = 0.026$) with annual/5-year license holders spending the most amount of time on public land (24% of hunting in 2017).

Looking at the issue from another angle, the majority of active license holders used private land for at least some of their hunting during 2017. Only 6% relied exclusively on public land for hunting (see "overall" in Figure B2).

Active hunters who used public land were asked how important public land was to them for hunting. Eighty-two percent reported that public land was very important (Figure B5). Responses did not vary by license category ($P = 0.384$). Figure B5 shows the stability of this opinion over time (2008-2017).

In general, more public land is available for hunting in the eastern half of Oklahoma than the western half. Similarly, a greater proportion of active hunters said they used public land located in the eastern half of the state than in the western (Figure B6).

Deer Hunting

Deer season is the most popular hunting season in Oklahoma. Forty-six percent of *all* survey participants and 81% of *active* hunters (those who hunted at all 2017) hunted deer during 2017. Participation in deer season by active hunters in 2017 varied according to license category ($P < 0.001$). Ninety percent of active lifetime license holders hunted deer, while 76% of active annual/five-year license holders and 68% of active senior citizen license holders hunted deer during 2017.

The regular rifle season was the most popular among 2017 deer hunters (88% participating), followed by archery (60%), primitive firearms (48%), special antlerless (holiday) season (21%), and the youth rifle season (5% participating as a youth) (Figure B7). Deer hunter participation in the individual seasons was analyzed by license type. Archery season participation was most likely for lifetime license holders (67%), followed by annual/five-year license holders (51%) and senior citizen license holders (36%) ($P < 0.001$). Muzzleloader season participation was more likely for lifetime license holders (58%) than senior citizen license holders (44%) or annual/five-year license holders (31%) ($P < 0.001$). Rifle season, youth season and special antlerless (holiday) season participation did not vary by license category ($P > 0.05$).

Patterns in deer season participation were also examined. Most deer hunters participated in more than one season (68%), and some hunted all four (11%; Figure B8). The most common patterns were participation in gun season only (21%) and the three regular seasons – archery, muzzleloader and gun (21%; Figure B9). Youth deer season participation was not included in this analysis because it only applied to a small portion of surveyed hunters. Examined separately, 91% of youth season participants also hunted deer during other seasons: 97% hunted during rifle season, 50% hunted during archery, 41% hunted during muzzleloader, and 16% hunted during the special antlerless (holiday) deer gun season (Figure B10).

Just over half (53%) of all deer hunters successfully harvested a deer during the 2017 season (Figure B11). More hunters shot a buck (42%) than a doe (25%). Less than 1% of hunters filled the annual bag limit of deer for 2017 (six total during archery, youth, muzzleloader and gun seasons, plus one bonus doe allowable during the special antlerless (holiday) season; seven maximum).

An increasing proportion of archery hunters are using crossbows for their hunting. In 2015, 33% of archery hunters used crossbows for all of their archery hunting. That number increased to 40% in 2016, and 42% in 2017 (Figure B12).

Barriers to Participation

ODWC continues to assess barriers to hunting participation. Forty-three percent (n = 595) of hunting license holders did not hunt in 2017 and were asked to identify the main reason why they did not hunt. Thirty-one percent identified health issues, and another 20% indicated other priorities. Twelve percent were simply not interested in hunting (Figure B13). The finding of "health concerns" was unsurprising, given that nearly two-thirds of the inactive hunting license holders were senior citizen license holders. Similarly, the finding of "not interested" was expected, as over the years it has become apparent that many senior citizen license holders purchased the combination hunting and fishing license with no intent to hunt. Historically, the cost of a combination license was only slightly greater than the hunting-only or fishing-only license, leading many seniors to buy the combination "just in case" or in the interest of making a donation to ODWC. ODWC continues to face limitations in the things the agency can directly influence in order to remove barriers to hunting.

Special Management Issues

In 2017, the ODWC launched the Oklahoma Land Access Program (OLAP). This program leases private land for public hunting, fishing and wildlife-viewing access. ODWC sought to gather baseline information about use of these properties for hunting. Just over 4% of hunters used OLAP properties for their 2017-season hunting. Of the hunters that did not use OLAP for their hunting, about 28% said they planned to use OLAP properties in the future, and 72% said they had no plans to use OLAP properties for future hunting (Figure B14).

The majority of OLAP hunters harvested game on OLAP properties (79%; Figure B15). Successful hunters harvested a variety of species – deer, dove, pheasant, quail, turkey and other species. OLAP hunters were mostly satisfied with the OLAP properties they hunted (53% rated "moderately" or "extremely satisfied"; Figure B16).

All active hunters were asked their opinions about the Wildlife Department purchasing and leasing land for public use. Hunters generally favored the Wildlife Department acquiring land for public use. Seventy-seven percent of hunters either "moderately" or "strongly" supported the Wildlife Department purchasing land to expand current WMAs, while 76% supported the Department purchasing land to create new WMAs. A smaller, yet still considerable, number of hunters supported the Wildlife Department leasing private land for public access (68%; Figure B17). Public land hunters rated their support for land purchasing and leasing significantly higher than hunters that did not use public land during 2017 ($P < 0.001$ for each item).

Hunters were asked to rate their agreement or disagreement with a variety of statements about WMAs. Items that received the greatest level of agreement were that hunters understood the rules for hunting on WMAs (85% agreed), and that WMAs are easy to find (72% agreed). Hunters tended to disagree that hunting on WMAs is better than hunting on private lands that they have access to (50% disagreed; Figure B18).

The majority of hunters that used public land for their 2017-season hunting were satisfied with the land they used (70% rated either "moderately" or "extremely satisfied"; Figure B19)

Deer hunters were asked to rate the importance of a variety of attributes that may contribute to a successful deer hunting experience. Non-harvest aspects of deer hunting ranked most important to deer hunters. Ninety-six percent of deer hunters ranked "Being outdoors/in nature" as either "moderately" or "extremely important." Of least importance to hunters was "telling family/friends about my hunting experience online," with about half of hunters rating it as "not at all" or "slightly important" (Figure B20).

Discussion:
The Game Harvest Survey has been conducted for over 30 years and has provided valuable data for ODWC programs. However, the survey is not without its limitations. For years, ODWC managers and biologists have had reservations about the point estimates resulting from the Game Harvest Survey because the numbers of hunters and harvest estimates were inflated beyond what they felt was realistic. Over-estimation of hunter numbers and game harvest may have stemmed from several sources.

Recall Bias
Another significant source of estimation error was probably recall bias. Participants were asked questions about hunting seasons that may have begun 11 months prior to the interview (e.g., spring turkey). The majority of participants probably did not keep written records of the number of field days and harvest, and responded to questions based on memory. A 1998 mail survey found that participants in a one-day controlled quail hunt over-estimated their quail harvest almost a year after the event (Crews 1999). If hunters had trouble recalling an isolated one-day event, the problems of recall bias were surely magnified when hunters were asked to recall hunting activities for seasons spanning several months, as occurred during the Game Harvest Survey. Recall bias during the Game Harvest Survey might only be addressed by breaking the survey into smaller segments to be conducted throughout the year, immediately following the close of each season. At this time, such a change in methodology is cost prohibitive.

Social Desirability Bias
Yet another source of estimation error could have been social pressure, or the participant's desire to give socially acceptable answers. Participants may have felt uncomfortable admitting that they did not harvest any game, did not hunt very many days, harvested more game than legally allowed, harvested game without a tag, etc.

To minimize bias from social pressure, interviewers are trained to read the questions the same way during each interview, avoid discussion about the question items, and not reveal personal opinions. Although the desire to give socially acceptable answers may significantly impact the results of opinion questions, it is presumed that the effect on harvest data should be consistent from year to year and should not impact the trend data, except perhaps in scale.

It is assumed that respondents participating in the survey over the phone may be more likely to provide socially desirable answers than those participating by mail. This was examined on the 2014-season survey by comparing the percentage of respondents reporting unsuccessful hunts by their mode of response. The percentages of respondents who reported not harvesting, deer, spring turkey and dove were nearly identical for mail and phone responses, suggesting phone surveys may not be any more likely to introduce social desirability bias.

Rounding Bias (Digit Preference)
The exact number of game harvested for species with long seasons and/or large bag limits may have been difficult for participants to remember. For example, when successful hunters reported the number of animals harvested, they often respond with numbers ending in 0 or 5 (Crews 1999, 1998). Rounding bias, or digit preference, may have some unknown influence on harvest estimates. This bias was assessed and confirmed to exist on previous game harvest surveys (Jager 2014). It is presumed that any bias introduced by the tendency toward rounded numbers is consistent from year to year and should not impact the trend data, except perhaps in scale.

Non-Response Bias
Non-response bias (resulting when the proportion of the sample interviewed does not represent the proportion which could not be interviewed) can be formally addressed by a follow-up study of non-respondents, comparative analysis, and subsequent weighting of the original data if differences are found. Another way to detect non-response bias is to compare the responses of early and late respondents on a few key variables. The presumption is that the people who could not be interviewed (non-respondents) would be more similar to those that were difficult to interview (success after repeated attempts) than those that were successfully interviewed within the first few attempts. This second approach is typically used to assess non-response bias in the Game Harvest Survey; however data were unavailable for this analysis on the 2017-season survey. Past results of the assessment suggested that non-response bias was present on occasion, but not a significant problem.

Sample Size Limitations
The current number of completed surveys (n = 1,384) is more than adequate to analyze results of questions asked of all respondents (e.g., participation in hunting). A standard sample size of 400 is generally used for populations over 1,000, as the results from a random sample can be reported with 95% confidence at a level of precision of plus or minus 5% (Dillman 2000). Further increasing the sample size does not yield a significant return on investment in reduced sampling error.

However, during the Game Harvest Survey, estimates of hunter numbers and harvest are often calculated from a much smaller sub-sample (e.g., active hunters or participants in a particular season). The overall sample size for the 2017-seasons GHS was doubled from previous years. This helped increase certain sub-sample sizes, however, participant samples of less than 400 were still used for nearly all of the seasons listed in Table A2. Regional estimates and public land estimates are rarely based on data from more than 100 respondents (Tables A3 and A4). Variability in these small samples often yields wide confidence intervals.

The incidence of participation in some seasons is so low that an unrealistic number of completed surveys would be needed to yield a sub-sample size of 400 for estimating harvest. For example, based on 2017 season participation rates, over 10,000 completed surveys would be needed to identify 400 pheasant hunters (3.3% of completed 2017 surveys). For other seasons, almost an entire population census would be necessary (e.g., 1,048 woodcock hunters were estimated to exist statewide in 2017).

Recommendations:
The value of this project in collecting trend data on species harvest outweighs the cost, despite concerns about biases. Within the constraint of budget and time, ODWC should continue to sample at the rate necessary to complete more than 3,000 completed surveys, in order to yield the greatest amount of data possible from active hunters.

Literature Cited:

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Objective 2 - Data Collection and Analysis – Database Development and Management:
Construct 1 database of historic hunter information from all existing game harvest survey records and additional relevant data by June 30, 2019.

Summary of progress:
Progress has been made toward designing a database that allows for quick queries and visualization of hunter trends. The database design is in progress. Tables in the database will likely include both raw and calculated information, which will provide an archive for the data and quick access to trend information that is not presented in reports. Year 2 of this grant will focus on standardizing tables and importing into a database, as well as determining appropriate software for sharing queries and visualizing data.

Equipment:
None.

Significant Deviation:
None.

Date Prepared: August 14, 2018

Prepared by: Corey Jager

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APPENDIX A

Harvest Estimates – Tables and Graphs

Table A1. Distribution of license types for Game Harvest Survey population (Oklahoma resident hunting license holders), sample, and completed surveys, 2017.

	Population		Sampled		Completed	
LICENSE TYPE	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Lifetime						
Hunting	42,114	11.6	579	9.9	160	11.6
Combination	115,674	31.9	1,837	31.5	444	32.1
Hunting Over 60	545	0.2	3	0.1	1	0.1
Combination Over 60	1,950	0.5	25	0.4	9	0.7
Subtotal	*160,283*	44.2	*2,444*	41.9	*614*	44.4
Senior Citizen						
Hunting	2,314	0.6	35	0.6	12	0.9
Combination	116,192	32.0	1,782	30.5	431	31.1
Subtotal	*118,506*	32.7	*1,817*	31.1	*443*	32.0
Annual						
Hunting	35,573	9.8	749	12.8	121	8.7
Hunting Fiscal Year (FY)	8,266	2.3	166	2.8	28	2.0
Combination	14,459	4.0	231	4.0	63	4.6
Combination FY	3,709	1.0	62	1.1	18	1.3
Youth Hunting	2,768	0.8	51	0.9	4	0.3
Youth Hunting FY	1,126	0.3	28	0.5	6	0.4
Youth Combination	1,739	0.5	27	0.5	10	0.7
Youth Combination FY	641	0.2	9	0.2	1	0.1
Subtotal	*68,281*	18.8	*1,323*	22.7	*251*	18.1
Five-Year						
Hunting	4,717	1.3	101	1.7	26	1.9
Combination	10,828	3.0	152	2.6	50	3.6
Subtotal	*15,545*	4.3	*253*	4.3	*76*	5.5
Total	**362,615**		**5,837**		**1,384**	

Table A2. Statewide hunter and game harvest estimates and statistics by species/subspecies in Oklahoma, 2017.

SPECIES/SEASON	SAMPLE	MEAN BAG/ HUNTER	MEAN DAYS HUNTED	MEAN DAILY BAG	NUMBER OF HUNTERS	NUMBER OF DAYS HUNTED	TOTAL HARVEST	95% CONFIDENCE INTERVAL FOR TOTAL HARVEST	HUNTED IN OWN COUNTY (%)	HUNTED IN OWN REGION (%)
Crow	36	11.17	4.70	3.79	9,432	44,303	105,371	50,853 - 159,889	58.82	84.85
Dove	239	30.24	6.43	7.43	62,619	402,895	1,893,421	1,241,116 - 2,545,727	51.46	75.46
Furbearers	89	.	.	.	23,318[a]	.	278,419[b]	. - .	.	.
Coyote	71	8.12	26.09	0.64	18,602	485,352	151,074	95,992 - 206,156	.	.
Bobcat	31	3.52	18.73	0.30	8,122	152,155	28,559	14,809 - 42,308	.	.
Raccoon	31	9.79	22.56	0.63	8,122	183,200	79,481	50,182 - 108,780	.	.
Beaver	12	5.18	12.20	0.52	3,144	38,358	16,292	7,273 - 26,311	.	.
Gray Fox	6	1.17	16.67	0.13	1,572	26,201	1,834	364 - 3,305	.	.
Red Fox	4	0.00	23.00	0.00	1,048	24,104	0	0 - 0	.	.
Otter	3	1.50	6.00	0.27	786	4,716	1,179	479 - 1,949	.	.
Pheasant	45	3.36	3.31	1.19	11,790	39,039	39,563	18,774 - 60,351	28.89	55.00
Quail	117	14.33	5.91	2.95	30,655	181,262	439,291	341,199 - 537,384	36.75	56.86
Rabbits	66	.	.	.	17,292[a]	.	153,563[b]	. - .	.	.
Cottontail	65	7.10	5.67	1.72	17,030	96,505	120,887	83,517 - 158,257	58.46	83.33
Jackrabbit	5	3.60	9.20	0.77	1,310	12,052	4,716	0 - 10,016	40.00	50.00
Swamp Rabbit	9	11.86	13.50	1.13	2,358	31,834	27,960	4,020 - 51,899	75.00	87.50
Squirrels	125	.	.	.	32,750[a]	.	573,332[b]	. - .	.	.
Fox Squirrel	113	9.17	10.42	1.24	29,607	308,560	271,535	209,442 - 333,627	67.26	85.71
Gray Squirrel	95	12.13	10.80	1.34	24,890	268,817	301,797	21,694 - 391,900	66.32	85.39
Turkeys	230	.	.	.	60,261[a]	.	32,505[b]	. - .	.	.
Fall Turkey	82	0.26	10.71	0.16	21,484	230,152	5,640	3,555 - 7,724	45.12	67.53
Spring Turkey	202	0.51	5.42	0.17	52,925	286,655	26,865	21,248 - 32,483	43.78	70.00
Woodcock	4	3.33	1.67	1.67	1,048	1,747	3,493	0 - 10,340	25.00	66.67
Feral Swine	217	10.96	34.59	0.32	56,855[a]	1,966,614	623,132[b]	395,257 - 851,121	.	.
Hunting	170	6.67	17.39	0.38	44,541	74,568	296,642	132,242 - 461,889	.	.
Trapping	8	2.75	35.29	0.08	2,096	73,968	5,764	0 - 13,243	.	.

[a]Estimated number of hunters that hunted at least one species/subspecies within a given season.
[b]Estimated total harvest within a given season.

Table A3. Hunter and game harvest estimates and statistics by region and species/subspecies in Oklahoma, 2017.

REGION	SPECIES/SEASON	SAMPLE	MEAN BAG/ HUNTER	MEAN DAYS HUNTED	MEAN DAILY BAG	NUMBER OF HUNTERS	NUMBER OF DAYS HUNTED	TOTAL HARVEST	95% CONFIDENCE INTERVAL FOR TOTAL HARVEST	HUNTED IN OWN COUNTY (%)	HUNTED IN OWN REGION (%)
NW											
	Crow	4	9.50	2.00	3.56	1,048	2,096	9,956	2,622 - 17,291	50.00	75.00
	Dove	37	32.92	6.84	5.44	9,694	66,287	319,122	190,854 - 447,391	48.65	54.05
	Pheasant	16	2.94	3.25	0.90	4,192	13,624	12,314	6,482 - 18,147	25.00	37.50
	Quail	36	12.47	4.83	3.25	9,432	42,589	117,640	80,743 - 154,537	36.11	38.89
	Rabbits: Cottontail	4	4.50	2.00	2.50	1,048	2,096	4,716	2,937 - 6,495	50.00	50.00
	Jackrabbit	2	4.00	2.00	1.67	524	1,048	2,096	0 - 5,177	0.00	0.00
	Swamp Rabbit	0	.	.	.	.	.	.	. - .	.	.
	Squirrels: Fox	1	7.00	1.00	7.00	262	262	1,834	. - .	.	.
	Gray	0	.	.	.	.	.	.	. - .	.	.
	Turkey: Fall	15	0.53	4.47	0.31	3,930	17,554	2,096	1,069 - 3,123	46.67	53.33
	Spring	21	0.90	3.20	0.38	5,502	17,607	4,952	2,369 - 7,535	28.57	28.57
	Woodcock	0	.	.	.	.	.	.	. - .	.	.
SW											
	Crow	0	.	.	.	.	.	.	. - .	.	.
	Dove	42	70.22	6.71	18.99	11,004	73,885	772,710	164,542 - 1,380,879	50.00	59.52
	Pheasant	0	.	.	.	.	.	.	. - .	.	.
	Quail	26	19.64	7.24	3.46	6,812	49,320	133,790	79,907 - 187,673	34.62	57.69
	Rabbits: Cottontail	4	5.50	6.75	0.98	1,048	7,074	5,764	0 - 12,603	75.00	100.00
	Jackrabbit	0	.	.	.	.	.	.	. - .	.	.
	Swamp Rabbit	0	.	.	.	.	.	.	. - .	.	.
	Squirrels: Fox	3	2.33	2.33	1.27	786	1,834	1,834	475 - 3,193	100.00	100.00
	Gray	0	.	.	.	.	.	.	. - .	.	.
	Turkey: Fall	9	0.33	3.56	0.18	2,358	8,384	786	16 - 1,556	33.33	55.56
	Spring	20	0.85	5.95	0.16	5,240	31,179	4,454	2,444 - 6,464	50.00	55.00
	Woodcock	0	.	.	.	.	.	.	. - .	.	.
NC											
	Crow	6	4.00	11.00	2.42	1,572	17,292	6,288	1,194 - 11,382	33.33	33.33
	Dove	60	21.51	6.13	4.78	15,720	96,418	338,120	243,263 - 432,977	55.00	78.33
	Pheasant	20	2.35	3.40	0.98	5,240	17,816	12,314	7,586 - 17,043	35.00	60.00
	Quail	25	15.03	6.03	2.83	7,860	47,423	118,173	52,399 - 183,947	46.67	66.67
	Rabbits: Cottontail	15	5.60	5.73	1.34	3,930	22,532	22,008	8,884 - 35,133	73.33	86.67
	Jackrabbit	0	.	.	.	.	.	.	. - .	.	.
	Swamp Rabbit	1	3.00	1.00	3.00	262	262	786	. - .	100.00	100.00
	Squirrels: Fox	23	11.87	11.43	1.16	6,026	68,907	71,527	36,735 - 106,319	60.87	69.57
	Gray	16	16.50	10.38	1.37	4,192	43,493	69,169	18,915 - 119,423	56.25	68.75
	Turkey: Fall	11	0.09	16.45	0.05	2,882	47,423	262	0 - 776	63.64	90.91
	Spring	34	0.42	5.00	0.16	8,908	44,541	3,779	1,626 - 5,932	50.00	73.53
	Woodcock	1	10.00	2.00	5.00	262	524	2,620	. - .	0.00	100.00

Table A3. Continued.

REGION	SPECIES/SEASON	SAMPLE	MEAN BAG/ HUNTER	MEAN DAYS HUNTED	MEAN DAILY BAG	NUMBER OF HUNTERS	NUMBER OF DAYS HUNTED	TOTAL HARVEST	95% CONFIDENCE INTERVAL FOR TOTAL HARVEST	HUNTED IN OWN COUNTY (%)	HUNTED IN OWN REGION (%)
SC											
	Crow	7	22.57	3.00	5.60	1,834	5,502	41,397	0 - 90,296	71.43	100.00
	Dove	25	17.00	7.28	5.08	6,550	47,685	111,352	83,608 - 139,096	68.00	88.00
	Pheasant	1	40.00	3.00	13.33	262	786	10,480	. - .	100.00	100.00
	Quail	2	2.50	2.50	0.83	524	1,310	1,310	0 - 3,878	50.00	50.00
	Rabbits: Cottontail	6	4.33	2.67	1.31	1,572	4,192	6,812	0 - 14,912	66.67	66.67
	Jackrabbit	0	.	.	.	.	.	.	. - .	.	.
	Swamp Rabbit	0	.	.	.	.	.	.	. - .	.	.
	Squirrels: Fox	10	6.11	3.89	0.94	2,260	10,189	16,011	1,450 - 30,573	70.00	80.00
	Gray	7	2.43	2.60	0.27	1,834	4,768	4,545	0 - 9,344	42.86	71.43
	Turkey: Fall	14	0.43	7.14	0.31	3,668	26,201	1,572	585 - 2,559	42.86	57.14
	Spring	37	0.54	5.22	0.20	9,694	50,567	5,240	3,211 - 7,269	43.24	75.68
	Woodcock	0	.	.	.	.	.	.	. - .	.	.
NE											
	Crow	8	10.00	3.14	3.05	2,096	6,588	20,960	7,513 - 34,408	50.00	100.00
	Dove	38	19.41	4.18	5.54	9,956	41,659	193,204	119,598 - 266,810	57.89	94.74
	Pheasant	3	2.33	1.67	1.33	786	1,310	1,834	475 - 3,193	33.33	100.00
	Quail	4	15.00	8.75	4.81	1,048	9,170	15,720	4,690 - 26,750	75.00	100.00
	Rabbits: Cottontail	19	7.47	4.17	2.46	4,978	20,742	37,189	17,512 - 56,866	52.63	89.47
	Jackrabbit	0	.	.	.	.	.	.	. - .	.	.
	Swamp Rabbit	3	3.00	16.00	0.25	486	12,567	2,358	0 - 6,980	100.00	100.00
	Squirrel: Fox	35	8.16	8.37	1.48	9,170	76,767	74,794	52,735 - 96,853	71.43	97.14
	Gray	34	8.59	8.06	1.33	8,908	71,805	76,555	48,279 - 104,831	76.47	97.06
	Turkey: Fall	18	0.06	20.28	0.00	4,716	95,632	277	0 - 821	55.56	83.33
	Spring	41	0.37	6.22	0.13	10,742	66,811	3,930	1,882 - 5,978	53.66	82.93
	Woodcock	1	0.00	1.00	0.00	262	262	0	. - .	100.00	100.00
SE											
	Crow	8	9.50	4.63	3.66	2,096	9,694	19,912	8,397 - 31,428	87.50	100.00
	Dove	14	17.08	13.93	3.17	3,668	51,091	62,639	24,160 - 101,119	85.71	92.86
	Pheasant	0	.	.	.	.	.	.	. - .	.	.
	Quail	4	6.33	4.75	1.44	1,048	4,978	6,637	0 - 15,849	75.00	100.00
	Rabbits: Cottontail	12	11.55	11.08	1.02	3,144	34,847	36,300	9,280 - 63,319	66.67	83.33
	Jackrabbit	2	5.00	20.00	0.25	524	10,480	2,620	0 - 7,755	100.00	100.00
	Swamp Rabbit	4	11.33	13.75	0.80	1,048	14,410	11,878	4,346 - 19,409	50.00	75.00
	Squirrels: Fox	33	8.65	14.85	0.92	8,646	128,382	74,748	42,878 - 106,617	81.82	87.88
	Gray	32	14.76	15.34	1.36	8,384	128,644	123,739	62,346 - 185,131	78.13	84.38
	Turkey: Fall	10	0.10	7.78	0.01	2,620	20,378	262	0 - 776	40.00	60.00
	Spring	27	0.33	6.15	0.10	7,074	43,493	2,358	400 - 4,316	62.96	81.48
	Woodcock	1	0.00	2.00	0.00	262	524	0	. - .	0.00	0.00

Table A4. Hunter and game harvest estimates and statistics for all public hunting land in Oklahoma, 2017.

SPECIES/SEASON	SAMPLE	MEAN BAG/ HUNTER	MEAN DAYS HUNTED	MEAN DAILY BAG	NUMBER OF HUNTERS	NUMBER OF DAYS HUNTED	TOTAL HARVEST	% OF STATEWIDE HARVEST	95% CONFIDENCE INTERVAL FOR TOTAL HARVEST
Crow	2	20.00	3.00	6.67	524	1,572	10,048	9.5	. - .
Dove	38	11.48	3.17	2.81	9,956	31,528	114,345	6.0	47,142 - 181,549
Pheasant	8	1.17	3.25	0.39	2,096	6,812	2,445	6.2	485 - 4,406
Quail	36	7.29	6.39	1.97	9,432	60,261	68,720	15.6	42,037 - 95,404
Rabbits: Cottontail	19	4.44	4.65	1.02	4,978	23,134	22,090	18.2	6,283 - 37,898
Jackrabbit	1	0.00	20.00	0.00	262	5,240	0	0.0	. - .
Swamp Rabbit	6	4.67	7.67	1.33	1,572	12,052	7,336	26.2	4,619 - 10,053
Squirrels: Fox	34	8.42	11.65	1.07	8,908	103,754	75,001	27.6	43,281 - 106,722
Gray	36	13.38	11.21	1.45	9,432	105,969	126,246	41.8	69,223 - 183,269
Turkey: Fall	21	0.22	13.21	0.10	5,502	72,686	1,223	21.7	135 - 2,310
Spring	47	0.44	3.93	0.14	12,314	48,417	5,441	20.2	1,020 - 9,863
Woodcock	1	0.00	2.00	0.00	262	524	0	0.0	. - .

Table A5. Statewide trends in estimated harvest and estimated number of hunters in Oklahoma, 1986-2017.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest	
Crow	1986	12,398	18.55	5.15	3.60	229,979	142,439 –	317,519
	1987	13,987	14.07	12.25	1.15	196,744	109,783 –	283,705
	1988	6,711	14.45	6.45	2.24	96,957	55,851 –	138,063
	1989	8,467	17.08	4.05	4.21	144,601	56,951 –	232,252
	1990	7,675	16.64	5.79	2.86	127,678	65,706 –	189,650
	1991	6,518	19.77	7.32	2.94	128,893	70,572 –	187,214
	1992	6,197	12.77	4.82	2.84	79,150	36,475 –	121,826
	1993	7,654	22.22	8.56	3.57	170,054	70,368 –	269,740
	1994	5,309	24.58	4.10	4.86	130,501	41,608 –	219,394
	1995	6,756	22.30	5.18	3.85	150,683	53,458 –	247,909
	1996	13,958	20.87	5.69	3.94	291,375	190,710 –	392,041
	1997	9,900	36.28	7.41	3.29	359,196	87,504 –	630,888
	1998	11,861	23.74	7.88	3.04	281,628	172,534 –	390,722
	1999	12,318	15.16	7.25	3.55	186,684	133,942 –	239,426
	2000	16,692	28.54	6.38	3.97	476,319	174,552 –	778,086
	2001	13,328	40.12	8.00	3.44	534,702	33,840 –	1,035,565
	2002	15,221	23.52	6.95	3.54	358,009	179,811 –	536,206
	2003	17,627	21.11	7.91	4.18	372,186	255,519 –	488,854
	2004	12,209	12.59	5.10	2.94	153,766	88,743 –	218,790
	2005	12,353	20.55	7.00	3.90	253,837	144,478 –	363,196
	2006	11,616	38.68	12.61	3.29	449,351	183,569 –	715,134
	2007	9,536	24.95	8.09	4.01	237,882	94,337 –	381,427
	2008	9,359	18.45	8.21	2.57	172,655	73,100 –	272,210
	2009	10,856	18.26	8.62	3.74	198,224	93,397 –	303,052
	2010	9,763	10.30	11.93	1.93	100,562	62,208 –	138,915
	2011	10,728	19.49	6.62	4.59	209,039	90,600 –	327,478
	2012	9,369	15.17	9.78	2.32	142,145	61,829 –	222,462
	2013	8,867	15.55	5.71	3.43	137,838	82,795 –	192,881
	2014	7,984	11.17	5.99	3.07	89,216	56,084 –	122,348
	2015	6,688	15.15	8.05	2.50	101,292	16,261 –	186,322
	2016	8,064	17.54	7.81	3.12	141,443	52,808 –	230,078
	2017	9,432	11.17	4.70	3.79	105,371	50,853 –	159,889

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest
Dove	1986	73,973	28.00	6.25	4.48	2,071,048	1,771,207 – 2,370,889
	1987	78,325	25.13	5.91	4.25	1,968,139	1,668,916 – 2,267,362
	1988	71,966	23.74	5.96	3.98	1,708,665	1,475,536 – 1,941,794
	1989	59,044	20.66	4.99	4.14	1,219,640	1,049,482 – 1,389,799
	1990	65,583	26.72	5.66	4.86	1,752,372	1,464,888 – 2,039,856
	1991	60,142	24.43	5.53	4.69	1,469,351	1,276,161 – 1,662,541
	1992	61,828	23.26	5.18	4.80	1,437,806	1,249,094 – 1,626,519
	1993	48,706	19.64	5.33	4.33	956,451	825,859 – 1,087,044
	1994	61,483	22.66	5.50	4.37	1,393,209	1,157,469 – 1,628,949
	1995	59,598	17.52	4.54	4.14	1,044,286	900,397 – 1,188,176
	1996	64,959	18.05	4.71	4.56	1,172,345	1,016,774 – 1,327,916
	1997	60,666	18.78	4.70	4.58	1,139,192	1,016,289 – 1,262,095
	1998	62,562	23.97	5.12	5.98	1,499,400	1,307,724 – 1,691,076
	1999	69,527	20.32	5.04	4.68	1,413,132	1,254,042 – 1,572,222
	2000	75,116	26.04	6.01	4.71	1,956,043	1,672,467 – 2,239,619
	2001	69,507	20.25	5.11	4.65	1,407,192	1,240,641 – 1,573,742
	2002	73,379	24.60	5.48	4.96	1,804,942	1,570,543 – 2,039,340
	2003	69,844	25.31	5.89	4.83	1,767,431	1,432,089 – 2,102,773
	2004	65,621	23.34	5.36	5.00	1,531,717	1,314,727 – 1,748,707
	2005	53,430	23.30	5.88	5.07	1,244,858	1,067,456 – 1,422,260
	2006	61,700	25.72	5.50	5.36	1,586,916	1,323,873 – 1,849,959
	2007	53,470	21.47	5.78	4.67	1,147,814	944,320 – 1,351,307
	2008	49,537	21.95	5.03	5.14	1,087,404	925,280 – 1,249,528
	2009	57,945	23.31	5.59	4.75	1,350,721	1,160,476 – 1,540,966
	2010	48,976	23.58	4.91	5.08	1,154,651	803,429 – 1,505,873
	2011	49,670	21.04	4.67	5.12	1,044,986	888,392 – 1,201,580
	2012	50,505	24.37	5.21	5.02	1,230,761	898,432 – 1,563,089
	2013	57,392	25.77	4.97	4.90	1,479,101	1,075,013 – 1,883,189
	2014	59,297	22.39	4.98	5.18	1,327,749	1,184,961 – 1,469,966
	2015	45,330	23.49	5.10	4.97	1,064,832	918,750 – 1,210,915
	2016	58,569	23.49	4.83	5.68	1,375,710	898,531 – 1,852,889
	2017	62,619	30.24	6.43	7.43	1,893,421	1,241,116 – 2,545,727

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest	
Pheasant	1986	20,043	4.12	4.16	0.99	82,652	60,345 –	104,959
	1987	19,348	3.01	3.83	0.79	58,277	46,072 –	70,482
	1988	16,429	3.27	3.35	0.98	53,769	40,807 –	66,731
	1989	15,819	3.00	3.56	0.84	47,458	37,129 –	57,787
	1990	16,280	2.89	3.21	1.07	46,978	33,790 –	60,166
	1991	13,775	2.95	4.01	0.94	40,586	30,920 –	50,253
	1992	16,478	4.00	4.71	1.05	65,912	47,535 –	84,288
	1993	18,787	3.55	5.19	0.97	66,658	54,001 –	79,315
	1994	16,441	2.96	3.71	0.94	48,638	36,766 –	60,510
	1995	17,131	3.13	4.37	0.90	53,566	38,927 –	68,205
	1996	13,690	2.84	3.80	0.98	38,922	27,664 –	50,179
	1997	15,195	3.89	4.36	1.17	59,170	47,167 –	71,173
	1998	13,946	3.86	4.24	1.02	53,830	39,450 –	68,210
	1999	18,203	4.06	5.20	1.15	73,907	59,268 –	88,546
	2000	22,592	5.32	7.14	0.91	120,203	86,005 –	154,401
	2001	16,194	4.52	4.42	0.94	73,233	37,037 –	109,429
	2002	14,740	3.89	4.55	1.41	57,358	35,876 –	78,840
	2003	20,621	4.76	4.77	1.26	98,114	77,301 –	118,927
	2004	21,823	3.79	3.38	1.36	82,713	65,053 –	100,373
	2005	19,348	5.02	3.87	1.56	97,037	72,896 –	121,178
	2006	17,047	4.17	3.65	1.30	71,053	52,350 –	89,756
	2007	18,391	4.39	3.54	1.37	80,783	63,519 –	98,046
	2008	18,072	4.25	4.61	1.18	76,807	60,512 –	93,102
	2009	18,924	6.06	3.81	1.63	114,725	83,682 –	145,769
	2010	19,366	4.57	3.82	1.39	88,440	65,260 –	111,621
	2011	12,344	3.86	3.48	1.20	47,613	34,745 –	60,481
	2012	11,711	2.29	3.14	0.91	26,789	18,965 –	34,614
	2013	10,640	3.26	3.45	1.08	34,661	25,063 –	44,259
	2014	10,887	2.64	2.95	1.09	28,741	20,824 –	36,658
	2015	10,616	3.20	2.95	1.27	33,950	26,496 –	41,404
	2016	13,157	3.67	3.62	1.39	48,241	32,215 –	61,268
	2017	11,790	3.36	3.31	1.19	39,039	18,774 –	60,351

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest		
Quail	1986	110,960	24.43	7.06	3.46	2,711,186	2,352,252	–	3,070,119
	1987	120,517	26.90	7.51	3.58	3,242,080	2,800,473	–	3,683,687
	1988	97,651	20.61	7.08	2.91	2,012,172	1,701,565	–	2,322,779
	1989	92,465	23.57	7.05	3.34	2,179,840	1,805,160	–	2,554,520
	1990	93,026	24.26	7.46	3.04	2,256,571	1,892,142	–	2,621,000
	1991	98,268	32.98	9.85	3.35	3,240,764	2,846,242	–	3,635,286
	1992	94,079	35.38	8.58	3.86	3,328,404	2,861,486	–	3,795,323
	1993	90,733	22.19	8.31	2.60	2,013,098	1,778,982	–	2,247,214
	1994	84,089	27.44	9.35	2.64	2,307,057	1,976,583	–	2,637,532
	1995	68,646	14.42	6.86	2.15	990,118	836,199	–	1,144,036
	1996	72,743	18.18	7.14	2.58	1,322,260	1,141,940	–	1,502,580
	1997	60,551	24.66	8.01	2.96	1,493,212	1,256,216	–	1,730,208
	1998	60,477	17.34	6.83	2.54	1,048,878	894,731	–	1,203,026
	1999	59,263	17.35	7.54	2.20	1,028,316	836,071	–	1,220,561
	2000	53,243	21.50	8.61	2.75	1,144,868	930,191	–	1,359,544
	2001	38,838	9.43	6.46	1.71	366,289	291,121	–	441,458
	2002	49,507	15.58	6.51	2.41	771,218	645,620	–	896,815
	2003	50,221	17.44	6.68	2.66	875,614	665,353	–	1,085,875
	2004	42,577	24.03	6.62	3.31	1,023,086	834,117	–	1,212,056
	2005	41,524	20.66	6.64	3.25	857,856	681,772	–	1,033,939
	2006	34,395	16.85	5.82	2.64	579,436	421,911	–	736,962
	2007	28,949	13.32	5.61	2.63	385,467	282,172	–	488,762
	2008	31,142	15.28	7.34	2.58	475,850	373,848	–	577,852
	2009	30,659	12.25	5.55	2.22	375,653	289,321	–	461,985
	2010	28,169	13.61	5.94	2.53	383,265	232,279	–	534,251
	2011	17,341	6.30	5.67	1.37	109,186	75,774	–	142,599
	2012	16,396	7.75	5.60	1.69	127,067	89,421	–	164,713
	2013	14,187	8.23	5.36	1.80	116,719	80,308	–	153,130
	2014	20,758	12.43	4.96	2.71	258,081	208,869	–	307,293
	2015	20,276	20.19	6.02	3.42	409,284	276,416	–	542,152
	2016	29,072	17.57	6.34	2.87	510,807	372,263	–	649,351
	2017	30,655	14.33	5.91	2.95	439,291	341,199	–	537,384

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest		
Cottontail Rabbit	1986	73,560	10.70	7.07	1.51	787,052	658,305	–	915,798
	1987	78,558	14.37	7.39	1.94	1,128,714	678,501	–	1,578,926
	1988	66,181	9.38	8.45	1.11	621,080	512,259	–	729,902
	1989	49,686	9.24	7.23	1.28	459,203	370,984	–	547,423
	1990	57,909	9.24	7.17	1.57	534,898	431,376	–	638,420
	1991	53,746	12.00	7.6	1.77	645,201	488,080	–	802,322
	1992	44,786	8.49	5.84	1.81	280,260	320,761	–	439,759
	1993	35,903	8.99	7.15	1.47	322,714	256,101	–	389,326
	1994	39,219	7.89	6.94	1.45	309,469	249,874	–	369,063
	1995	37,761	7.01	5.95	1.38	264,812	222,666	–	306,957
	1996	43,351	8.56	6.37	1.58	370,963	305,406	–	436,520
	1997	31,772	10.37	7.88	1.62	329,463	264,429	–	396,497
	1998	36,625	9.95	7.92	1.53	364,426	293,158	–	435,695
	1999	35,311	7.42	6.04	1.46	261,880	195,480	–	328,280
	2000	45,616	9.25	7.24	1.80	422,095	356,135	–	488,055
	2001	31,959	13.45	7.25	1.78	429,797	221,176	–	638,417
	2002	31,403	8.39	7.35	1.51	263,397	194,256	–	332,538
	2003	30,598	8.85	10.62	1.46	270,869	221,939	–	319,800
	2004	21,975	10.01	8.55	1.40	219,907	146,217	–	293,596
	2005	23,962	12.09	6.61	1.71	289,772	111,813	–	467,730
	2006	21,572	14.81	8.58	1.59	319,483	169,745	–	469,222
	2007	18,391	7.76	8.81	1.39	142,700	94,777	–	190,624
	2008	19,202	6.78	8.59	1.39	130,217	92,611	–	167,824
	2009	25,672	7.47	7.01	1.53	191,643	149,663	–	233,623
	2010	20,167	6.90	7.29	1.50	139,247	101,532	–	176,961
	2011	18,957	7.81	8.67	1.30	147,982	113,594	–	182,371
	2012	16,981	6.89	6.45	1.26	116,966	86,617	–	147,315
	2013	17,089	7.43	6.21	1.27	126,944	75,628	–	178,261
	2014	19,596	8.04	6.21	1.53	157,648	120,011	–	195,284
	2015	16,667	6.49	5.73	1.72	108,119	83,309	–	132,929
	2016	19,098	7.16	8.27	1.66	136,762	107,591	–	165,933
	2017	17,030	7.10	5.67	1.72	120,887	83,517	–	158,257

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest
Jackrabbit	1986	6,612	7.06	6.97	1.01	46,698	5,716 – 87,681
	1987	7,926	4.62	6.35	0.73	36,598	8,927 – 64,269
	1988	2,314	4.00	3.50	1.14	9,256	1,850 – 16,662
	1989	2,005	0.78	7.44	0.10	1,560	128 – 2,991
	1990	2,326	3.00	3.67	0.67	6,977	1,541 – 12,413
	1991	2,583	7.71	5.71	0.88	19,924	0 – 41,977
	1992	1,268	4.89	8.89	0.41	6,197	0 – 17,124
	1993	2,227	4.12	5.75	0.95	9,185	2,580 – 15,790
	1994	1,199	1.14	1.86	0.67	1,370	0 – 3,318
	1995	603	2.20	1.60	1.20	1,327	0 – 3,644
	1996	805	0.50	21.67	0.33	403	0 – 942
	1997	1,151	2.60	3.20	1.01	2,993	1,481 – 4,505
	1998	912	6.29	12.29	0.54	5,735	666 – 10,804
	1999	1,506	2.00	3.82	0.83	3,011	432 – 5,590
	2000	1,151	3.38	7.13	0.54	3,885	0 – 9,411
	2001	1,433	2.10	7.10	0.40	3,010	856 – 5,163
	2002	1,762	1.09	3.55	0.47	1,923	490 – 3,355
	2003	998	1.50	5.17	0.41	1,497	3 – 2,990
	2004	1,679	4.55	3.91	1.41	7,630	3,779 – 11,482
	2005	1,191	4.13	7.25	0.94	4,911	1,056 – 8,767
	2006	1,961	7.08	8.08	1.19	13,879	0 – 28,118
	2007	1,533	6.44	2.78	3.00	9,877	2,315 – 17,438
	2008	1,291	5.00	12.13	1.64	6,454	1,673 – 11,236
	2009	2,054	29.00	15.57	1.29	59,559	0 – 127,281
	2010	1,601	3.30	4.70	0.66	5,282	443 – 10,120
	2011	882	27.33	26.67	1.75	24,100	0 – 66,544
	2012	1,025	0.43	3.86	0.29	439	0 – 1,036
	2013	1,773	1.55	6.18	0.46	2,741	427 – 5,054
	2014	1,524	0.89	3.72	0.28	1,364	0 – 2,945
	2015	849	5.56	4.11	0.92	4,718	0 – 10,113
	2016	1,061	3.20	6.60	0.94	3,395	0 – 6,961
	2017	1,310	3.60	9.20	0.77	4,716	0 – 10,016

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest	
Swamp Rabbit	1986	8,885	7.53	7.37	1.02	66,948	36,672 –	97,224
	1987	12,122	3.85	7.62	0.51	46,622	30,227 –	63,016
	1988	10,876	4.23	9.02	0.47	46,049	32,353 –	59,744
	1989	12,032	4.13	10.22	0.40	49,686	31,287 –	68,084
	1990	9,535	5.68	8.80	0.70	54,187	23,908 –	84,466
	1991	10,454	7.45	10.60	0.96	77,852	41,742 –	113,962
	1992	8,028	9.75	10.21	1.28	78,305	35,583 –	121,027
	1993	9,045	7.31	9.32	0.83	66,101	43,944 –	88,259
	1994	7,535	6.11	7.57	0.96	46,069	28,701 –	63,438
	1995	7,721	5.95	8.22	0.78	45,965	27,923 –	64,007
	1996	10,737	3.66	6.21	0.69	39,324	23,196 –	55,452
	1997	5,641	6.33	8.53	0.81	35,686	19,760 –	51,612
	1998	7,560	5.76	10.19	0.90	43,533	29,328 –	57,738
	1999	6,980	5.80	10.24	0.93	40,512	27,075 –	53,950
	2000	5,036	3.94	8.29	0.69	19,858	12,309 –	27,407
	2001	7,309	4.36	9.24	0.83	31,867	21,768 –	41,966
	2002	4,486	3.57	9.39	0.78	16,022	8,368 –	23,676
	2003	5,820	9.91	19.11	0.68	57,690	23,946 –	91,433
	2004	3,357	6.36	5.33	0.65	21,365	775 –	41,955
	2005	2,977	3.70	6.51	0.62	11,013	4,333 –	17,694
	2006	3,319	6.05	21.00	0.50	20,064	10,216 –	29,912
	2007	2,725	2.88	24.25	0.34	7,833	3,060 –	12,607
	2008	2,420	5.73	9.40	0.69	13,877	7,081 –	20,673
	2009	2,347	4.19	10.47	0.52	9,829	4,021 –	15,636
	2010	3,041	2.74	11.05	0.59	8,323	3,250 –	13,395
	2011	2,645	5.50	12.28	0.51	14,548	6,908 –	22,188
	2012	2,489	3.24	9.00	0.69	8,051	4,072 –	12,031
	2013	2,418	8.20	8.27	0.92	19,829	3,520 –	36,138
	2014	2,250	5.35	6.30	0.91	12,048	5,338 –	18,758
	2015	1,592	2.14	4.69	0.61	3,412	945 –	5,879
	2016	2,334	2.40	7.64	0.67	5,602	966 –	10,238
	2017	2,358	11.86	13.50	1.13	27,960	4,020 –	51,899

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest
Fox Squirrel	1986	57,856	10.95	8.68	1.26	633,526	523,349 – 743,704
	1987	73,662	12.67	11.22	1.13	933,602	727,904 – 1,139,300
	1988	65,718	11.65	9.22	1.26	765,706	604,072 – 927,340
	1989	59,489	13.61	9.89	1.38	809,727	673,544 – 945,910
	1990	54,187	11.30	10.98	1.25	612,342	463,989 – 760,695
	1991	49,934	12.43	9.66	1.37	620,849	467,251 – 774,448
	1992	38,167	12.49	9.09	1.58	476,593	371,000 – 582,186
	1993	37,156	12.82	9.27	1.55	476,486	391,293 – 561,679
	1994	41,788	15.73	11.18	1.64	657,300	507,640 – 806,959
	1995	45,000	12.09	8.22	1.69	544,221	444,539 – 643,902
	1996	53,551	11.84	10.43	1.60	633,976	527,694 – 740,258
	1997	42,248	12.05	10.75	1.50	509,281	416,914 – 601,648
	1998	46,661	14.73	11.74	1.80	687,108	560,613 – 813,604
	1999	41,607	10.67	9.26	1.40	444,038	366,757 – 521,319
	2000	46,911	11.79	8.85	1.66	553,236	447,442 – 659,029
	2001	39,411	16.40	11.30	1.46	646,228	344,774 – 947,681
	2002	41,336	9.07	9.93	1.42	374,769	316,121 – 433,418
	2003	41,906	11.57	12.71	1.27	484,749	406,934 – 562,564
	2004	34,489	13.13	12.61	1.34	452,690	264,873 – 640,507
	2005	38,249	12.26	10.17	1.60	469,002	388,729 – 549,276
	2006	36,054	21.85	13.33	1.57	787,745	188,944 – 1,386,546
	2007	32,355	9.53	11.12	1.25	308,390	254,067 – 362,713
	2008	32,433	10.85	12.95	1.43	351,926	287,011 – 416,841
	2009	33,593	11.99	12.54	1.40	402,825	308,350 – 497,299
	2010	32,011	14.69	13.51	1.44	470,188	147,961 – 792,414
	2011	31,448	14.49	11.23	1.30	455,624	157,811 – 753,437
	2012	31,181	10.67	11.70	1.25	332,649	257,327 – 407,971
	2013	29,180	7.53	8.47	1.26	219,821	178,286 – 261,355
	2014	29,975	9.27	12.21	1.27	277,823	226,013 – 329,634
	2015	28,132	7.29	9.11	1.10	205,010	167,161 – 242,858
	2016	30,557	11.09	9.71	1.20	338,809	220,525 – 457,093
	2017	29,607	10.42	9.17	1.24	271,535	209,442 – 333,627

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest	
Gray Squirrel	1986	45,458	10.87	10.14	1.07	494,258	383,057 –	605,459
	1987	53,149	14.36	11.93	1.20	763,199	573,765 –	952,633
	1988	39,570	9.27	9.85	0.94	367,002	259,805 –	474,199
	1989	43,002	17.21	11.08	1.55	740,162	288,418 –	1,191,906
	1990	41,164	11.53	12.78	1.10	474,664	307,081 –	642,246
	1991	38,742	14.04	10.31	1.30	543,981	381,217 –	706,745
	1992	26,759	12.21	10.44	1.37	326,601	246,865 –	406,338
	1993	28,667	12.39	9.73	1.46	355,138	284,629 –	425,647
	1994	28,943	16.20	12.47	1.49	468,741	334,001 –	603,482
	1995	33,056	10.58	8.42	1.37	349,744	278,775 –	420,714
	1996	43,082	12.56	10.35	1.44	541,144	417,513 –	664,776
	1997	34,074	13.58	11.73	1.48	462,653	340,049 –	585,256
	1998	36,886	15.80	12.22	1.67	582,978	429,766 –	736,191
	1999	32,984	11.24	8.67	1.50	370,729	274,683 –	466,775
	2000	37,270	10.85	8.33	1.63	404,395	323,112 –	485,678
	2001	32,102	27.64	11.68	1.70	887,334	131,722 –	1,642,946
	2002	32,524	12.85	8.08	1.69	417,797	305,531 –	530,062
	2003	34,257	11.84	11.25	1.39	405,759	323,635 –	487,883
	2004	28,080	15.57	13.15	1.54	437,241	258,660 –	615,822
	2005	29,915	21.27	10.78	2.63	636,397	321,275 –	951,519
	2006	30,020	31.32	13.64	1.72	940,381	149,264 –	1,731,497
	2007	25,713	25.25	12.29	1.45	649,304	0 –	1,319,893
	2008	28,238	12.94	13.51	1.56	365,319	282,518 –	448,120
	2009	29,633	10.19	10.68	1.16	301,836	226,912 –	376,759
	2010	27,209	12.87	12.19	1.22	350,176	255,386 –	444,967
	2011	24,982	15.96	10.43	1.37	398,673	105,095 –	692,250
	2012	23,569	12.77	12.01	1.31	300,979	225,288 –	376,670
	2013	21,603	8.19	9.27	1.12	176,882	131,725 –	222,039
	2014	24,822	11.41	12.23	1.32	277,823	226,013 –	329,634
	2015	24,629	8.82	9.56	1.11	217,124	175,438 –	258,811
	2016	27,799	11.02	12.02	1.48	306,471	212,971 –	399,970
	2017	24,890	12.13	10.80	1.34	301,797	211,694 –	391,900

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest		
Turkey: Fall[a]	1986	25,607	0.42	4.56	0.09	10,755	.	–	.
	1987	24,568	0.39	3.99	0.10	9,589	.	–	.
	1988	21,057	0.24	3.34	0.07	5,054	.	–	.
	1989	18,199	0.30	4.08	0.07	5,460	.	–	.
	1990	19,574	0.24	3.92	0.10	4,698	.	–	.
	1991	20,049	0.34	3.68	0.19	6,817	.	–	.
	1992	16,247	0.35	3.33	0.20	5,687	.	–	.
	1993	12,664	1.10	4.11	0.27	13,930	.	–	.
	1994	11,746	0.21	6.21	0.10	2,467	.	–	.
	1995	13,150	0.19	9.28	0.08	2,557	1,571	–	3,543
	1996	19,863	0.22	6.81	0.10	4,429	3,092	–	5,766
	1997	17,267	0.26	6.78	0.14	4,434	3,214	–	5,653
	1998	17,596	0.27	5.13	0.15	4,763	3,429	–	6,096
	1999	21,625	0.25	4.59	0.15	5,406	3,392	–	6,880
	2000	20,434	0.26	4.49	0.13	5,217	3,741	–	6,693
	2001	21,354	0.22	5.99	0.11	4,617	3,196	–	6,038
	2002	27,557	0.35	5.27	0.16	9,669	7,692	–	11,646
	2003	27,605	0.26	6.79	0.14	7,151	5,305	–	8,996
	2004	28,690	0.34	5.06	0.18	9,614	7,673	–	11,555
	2005	22,920	0.37	4.40	0.20	8,483	6,730	–	10,237
	2006	22,628	0.28	6.99	0.13	6,336	4,705	–	7,967
	2007	16,688	0.21	8.88	0.12	3,576	2,213	–	4,939
	2008	20,977	0.20	8.28	0.07	4,195	2,747	–	5,643
	2009	22,444	0.32	7.11	0.14	7,188	5,523	–	8,853
	2010	20,967	0.26	8.67	0.12	5,442	3,862	–	7,022
	2011	16,753	0.32	9.31	0.15	5,290	3,855	–	6,726
	2012	17,860	0.25	9.77	0.08	4,538	3,153	–	5,924
	2013	16,927	0.20	6.46	0.08	3,385	2,084	–	4,687
	2014	20,467	0.27	7.12	0.12	5,600	4,336	–	6,865
	2015	12,421	0.19	9.27	0.10	2,421	1,529	–	3,313
	2016	20,372	0.22	8.83	0.12	4,429	2,703	–	6,155
	2017	21,484	0.26	10.71	0.16	5,640	3,555	–	7,724

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest	
Turkey: Spring[a]	1986	31,632	0.56	5.35	0.10	17,714	. –	.
	1987	30,909	0.55	5.62	0.10	17,000	. –	.
	1988	30,082	0.40	5.18	0.08	12,033	. –	.
	1989	45,244	0.58	6.00	0.10	27,146	. –	.
	1990	32,391	0.45	6.02	0.12	14,576	. –	.
	1991	32,564	0.46	6.12	0.13	14,980	. –	.
	1992	34,226	0.58	5.40	0.18	19,851	. –	.
	1993	28,667	0.52	5.66	0.16	14,906	. –	.
	1994	29,102	0.43	5.60	0.15	12,514	. –	.
	1995	43,190	0.48	5.64	0.14	20,751	17,509 –	23,992
	1996	46,706	0.38	6.41	0.09	17,582	14,337 –	20,826
	1997	45,011	0.38	6.08	0.10	17,196	14,349 –	20,044
	1998	44,315	0.46	5.40	0.13	20,393	16,967 –	23,818
	1999	47,903	0.45	5.71	0.14	21,549	18,012 –	25,087
	2000	49,502	0.49	5.89	0.14	24,390	20,678 –	28,102
	2001	53,456	0.48	5.15	0.15	25,866	22,072 –	29,659
	2002	64,407	0.50	5.97	0.13	32,123	27,553 –	36,694
	2003	73,502	0.56	5.7	0.14	41,241	36,135 –	46,347
	2004	63,027	0.54	6.00	0.14	33,879	29,532 –	38,225
	2005	58,490	0.62	6.23	0.17	36,463	31,824 –	41,102
	2006	66,075	0.63	6.20	0.17	41,485	36,636 –	46,334
	2007	61,984	0.50	6.86	0.11	30,992	26,092 –	35,893
	2008	56,799	0.55	6.97	0.14	31,142	26,628 –	35,657
	2009	65,720	0.57	6.65	0.13	37,407	32,609 –	42,206
	2010	54,578	0.47	5.83	0.12	25,769	21,519 –	30,018
	2011	56,283	0.51	6.23	0.12	28,954	24,701 –	33,207
	2012	52,554	0.42	5.21	0.13	22,251	18,760 –	25,743
	2013	49,331	0.45	5.17	0.12	22,394	18,527 –	26,261
	2014	51,894	0.38	5.32	0.11	19,835	17,385 –	22,286
	2015	41,296	0.45	5.34	0.14	18,781	16,019 –	21,543
	2016	57,083	0.48	5.20	0.16	27,460	22,091 –	32,830
	2017	52,925	0.51	5.42	0.17	26,865	21,248 –	32,483

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest		
Woodcock	1986	3,513	2.00	5.69	0.35	7,025	2,978	–	11,073
	1987	3,030	2.92	3.17	0.92	8,858	4,968	–	12,748
	1988	694	2.67	5.00	0.53	1,851	0	–	3,828
	1989	2,451	3.27	6.91	0.47	8,021	1,907	–	14,135
	1990	2,093	3.44	8.11	1.32	7,209	976	–	13,443
	1991	984	2.25	4.25	0.81	2,214	814	–	3,613
	1992	563	1.25	5.00	0.58	704	0	–	1,749
	1993	974	1.57	2.00	0.66	1,531	223	–	2,839
	1994	514	0.33	0.67	0.50	171	0	–	507
	1995	603	1.60	5.00	0.65	965	0	–	1,996
	1996	537	1.50	20.75	0.21	805	126	–	1,484
	1997	1,036	18.89	5.11	2.79	19,570	0	–	40,238
	1998	782	1.00	3.00	0.85	782	222	–	1,342
	1999	821	3.67	4.83	0.89	3,011	947	–	5,075
	2000	1,151	2.00	6.88	0.73	2,302	213	–	4,391
	2001	1,003	1.00	3.43	0.26	1,003	0	–	2,360
	2002	801	2.80	2.00	1.10	2,243	0	–	5,113
	2003	665	1.25	1.00	1.25	831	506	–	1,157
	2004	305	2.50	1.00	2.50	763	464	–	1,062
	2005	595	1.75	14.25	0.81	1,042	750	–	1,334
	2006	302	1.00	1.00	1.00	302	302	–	302
	2007	341	0.50	1.50	0.50	170	0	–	504
	2008	323	0.50	2.50	0.50	161	0	–	475
	2009	733	0.60	2.80	0.45	440	88	–	792
	2010	640	0	1.50	0	0	0	–	0
	2011	588	1.50	2.50	0.45	882	0	–	1,879
	2012	878	2.17	5.67	0.56	1,903	401	–	3,405
	2013	1,128	0.29	1.00	0.33	322	0	–	954
	2014	435	1.00	2.17	0.42	435	0	–	975
	2015	106	2.00	2.00	1.00	212	.	–	.
	2016	1,273	1.00	4.40	0.40	1,273	254	–	2,292
	2017	1,048	3.33	1.67	1.67	1,747	0	–	10,340

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest	
Coyote	2003	19,623	5.08	22.11	0.44	99,611	57,158 –	142,063
	2004	17,092	4.79	19.30	0.48	81,918	55,526 –	108,311
	2005	15,329	17.76	29.20	0.52	272,210	0 –	567,975
	2006	17,198	8.70	32.63	0.47	149,649	57,916 –	241,381
	2007	21,797	4.65	15.56	0.45	101,321	75,585 –	127,056
	2008	16,943	9.50	25.53	0.48	161,037	45,366 –	276,708
	2009	23,618	5.14	20.00	0.16	121,485	90,980 –	151,991
	2010	23,208	5.94	21.67	0.50	137,966	87,223 –	188,709
	2011	25,864	5.59	27.04	0.44	144,455	85,406 –	203,504
	2012	31,181	4.86	24.40	0.53	151,661	120,863 –	182,458
	2013	26,117	6.86	21.22	0.45	179,270	89,781 –	268,758
	2014	20,830	8.84	21.68	0.62	184,036	39,004 –	329,069
	2015	18,684	5.81	19.81	0.48	108,587	83,305 –	133,870
	2016	22,918	8.36	20.40	0.53	191,621	103,249 –	279,993
	2017	18,602	8.12	26.09	0.64	151,074	95,992 –	206,156
Bobcat	2003	7,650	1.93	16.00	0.22	14,800	6,817 –	22,783
	2004	7,173	1.06	12.96	0.16	7,630	3,702 –	11,559
	2005	8,781	1.90	15.14	0.16	16,669	8,636 –	24,701
	2006	9,051	2.50	23.95	0.20	22,628	14,734 –	30,523
	2007	9,706	1.51	17.16	0.18	14,645	9,647 –	19,642
	2008	8,229	1.76	15.80	0.25	14,522	7,258 –	21,786
	2009	10,415	1.44	14.17	0.21	14,963	8,225 –	21,701
	2010	12,164	1.57	14.01	0.25	19,138	12,287 –	25,990
	2011	10,581	1.15	16.06	0.13	12,220	7,650 –	16,789
	2012	10,101	1.52	17.93	0.13	15,371	7,449 –	23,293
	2013	9,673	0.93	20.49	0.14	9,028	5,751 –	12,305
	2014	7,621	1.44	19.83	0.13	10,950	7,075 –	14,826
	2015	6,263	0.97	16.53	0.09	6,047	3,297 –	8,798
	2016	10,186	1.63	22.48	0.13	16,552	6,665 –	26,439
	2017	8,122	3.52	18.73	0.30	28,559	14,809 –	42,308
Raccoon	2003	9,146	7.26	24.36	0.49	66,439	45,639 –	87,239
	2004	8,088	8.87	20.65	0.44	71,705	47,872 –	95,538
	2005	8,930	8.12	23.95	0.42	72,480	51,955 –	93,005
	2006	6,939	8.30	23.26	0.83	57,627	40,533 –	74,721
	2007	8,174	8.66	24.15	0.77	70,781	46,919 –	94,644
	2008	7,261	8.39	22.82	0.39	60,895	38,468 –	83,322
	2009	9,682	8.02	24.09	0.66	77,607	57,094 –	98,119
	2010	9,123	8.63	25.80	0.52	78,746	55,681 –	101,812
	2011	11,022	8.42	24.05	0.62	92,789	72,481 –	113,097
	2012	9,515	8.20	25.18	0.71	78,026	56,244 –	99,808
	2013	9,189	8.26	24.89	0.73	75,932	52,288 –	99,576
	2014	9,290	8.22	21.83	0.62	76,402	61,077 –	91,727
	2015	6,157	9.38	21.63	0.62	57,751	39,867 –	75,634
	2016	6,791	10.53	30.55	0.67	71,513	46,088 –	96,938
	2017	8,122	9.79	22.56	0.63	79,481	50,182 –	108,780

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest	
Beaver	2003	3,326	3.00	6.15	0.72	9,978	4,733 –	15,223
	2004	1,984	5.85	39.23	0.54	11,598	4,233 –	18,963
	2005	2,381	5.06	17.13	0.63	12,055	4,464 –	19,647
	2006	2,112	4.93	39.86	0.53	10,409	2,379 –	18,439
	2007	1,873	5.91	20.73	0.53	11,069	1,174 –	20,963
	2008	1,775	7.18	17.55	0.77	12,747	3,629 –	21,866
	2009	2,347	4.13	20.13	1.14	9,682	1,562 –	17,802
	2010	2,561	6.56	15.06	0.50	16,806	1,301 –	32,310
	2011	2,792	2.67	48.28	0.32	7,446	5,022 –	9,869
	2012	2,049	6.29	30.43	0.50	12,882	1,682 –	24,082
	2013	2,741	4.18	36.29	0.26	11,446	0 –	23,156
	2014	3,048	3.68	12.45	0.43	11,227	7,440 –	15,014
	2015	1,911	4.28	39.72	0.44	8,174	3,118 –	13,230
	2016	2,971	2.86	20.71	0.45	8,488	5,768 –	11,208
	2017	3,144	5.18	12.20	0.52	16,292	7,273 –	25,311
Gray Fox	2003	831	1.20	12.80	0.12	998	0 –	2,578
	2004	916	2.17	12.83	0.35	1,984	418 –	3,550
	2005	1,637	1.27	11.45	0.35	2,084	1,208 –	2,959
	2006	1,509	0.40	24.40	0.15	603	121 –	1,086
	2007	1,873	0.91	18.91	0.05	1,703	547 –	2,859
	2008	1,291	1.88	27.38	0.10	2,420	482 –	4,359
	2009	1,614	1.09	25.73	0.10	1,760	596 –	2,925
	2010	1,601	2.80	26.70	0.30	4,482	2,298 –	6,665
	2011	1,176	0.38	11.13	0.03	441	19 –	862
	2012	1,464	1.30	21.90	0.04	1,903	300 –	3,506
	2013	1,935	0.75	13.64	0.15	1,451	0 –	3,076
	2014	1,234	1.53	20.00	0.18	1,887	934 –	2,840
	2015	1,274	2.00	17.18	0.21	2,548	0 –	5,559
	2016	2,334	0.55	30.18	0.03	1,273	0 –	2,702
	2017	1,572	1.17	16.67	0.13	1,834	364 –	3,305
Red Fox	2007	851	0.40	21.40	0.04	341	0 –	1,008
	2008	484	1.00	12.67	0.43	484	0 –	1,032
	2009	1,027	0.67	31.86	0.20	685	14 –	1,355
	2010	320	0.50	36.00	0.01	160	0 –	474
	2011	735	0	10.20	0	0	0 –	0
	2012	1,610	0.64	20.64	0.23	1,025	255 –	1,795
	2013	1,290	0.13	14.88	0.01	161	0 –	477
	2014	653	0.44	15.44	0.04	290	0 –	600
	2015	743	0.43	24.29	0.03	319	24 –	613
	2016	1,061	0.60	12.60	0.06	637	0 –	1,468
	2017	1,048	0	23.00	0	0	0 –	–

Table A5. Continued.

	Year	Number Of Hunters	Mean Bag Per Hunter	Mean Days Hunted	Mean Daily Bag	Total Harvest	95% Confidence Interval for Total Harvest	
River Otter	2007	170	0	10.00	0	0	.	– .
	2008	645	1.50	8.75	1.02	968	336	– 1,601
	2009	293	1.00	50.00	0.10	293	0	– 868
	2010	320	0.50	3.00	0.10	160	0	– 474
	2011	588	0.75	14.75	0.03	441	0	– 992
	2012	0	0	0	0	0	.	– .
	2013	967	0.50	24.67	0.01	484	0	– 1,131
	2014	581	0.88	21.13	0.08	508	172	– 844
	2015	318	1.67	21.67	0.08	531	0	– 1,081
	2016	1,273	0.40	22.00	0.02	509	0	– 1,508
	2017	786	1.50	6.00	0.27	1,179	409	– 1,949
Bear	2014	1,452	0.22	4.17	0.19	323	36	– 609
Elk	2014	1,814	0.33	4.77	0.21	605	255	– 954
Antelope	2014	581	0.67	6.20	0.27	387	147	– 627
Prairie Chicken	1986	5,992	2.07	2.45	0.85	12,398	3,714	– 21,081
	1987	5,595	1.33	1.96	0.68	7,459	3,302	– 11,617
	1988	3,934	1.53	1.65	0.93	6,016	2,388	– 9,645
	1989	3,342	2.29	2.57	0.89	7,639	2,811	– 12,467
	1990	4,186	1.56	2.72	0.51	6,512	2,411	– 10,613
	1991	3,936	2.12	2.25	0.81	8,363	4,921	– 11,805
	1992	3,239	1.65	2.57	0.72	5,352	1,097	– 9,606
	1993	974	1.14	2.43	0.64	1,113	464	– 1,763
	1994	1,713	0.75	1.22	0.59	1,284	101	– 2,468
	1995	1,448	0.56	1.56	0.45	812	169	– 1,455
	1996	671	0.80	3.80	0.53	537	45	– 1,029
	1997	576	1.00	1.80	0.68	576	71	– 1,080

[a]Confidence intervals for turkey harvest estimates were not available for 1986-1994. A correction factor was applied to the turkey estimates during those years, but it was evaluated in 1996 and deemed inappropriate. The harvest estimates for turkey prior to 1995 were recalculated without the correction factor but confidence intervals could not be calculated.

Table A6. Mean number of days deer hunters participated in each deer season in Oklahoma, 1997-2017.

Year	Total Mean Days[a]	Archery Mean Days	Muzzleloader Mean Days	Youth Mean Days	Rifle Mean Days	Holiday Mean Days[b]
1997	15.1	.	.	.	.	N/A
1998	14.5	.	.	.	.	N/A
1999	15.4	.	.	.	.	N/A
2000	16.0	.	.	.	.	N/A
2001	16.2	.	.	.	.	.
2002	16.8	.	.	.	.	.
2003	19.1	18.6	4.7	1.9	6.5	2.1
2004	16.8	16.4	4.6	1.9	6.1	2.1
2005	16.6	16.5	4.5	1.8	6.0	2.1
2006	18.3	18.3	4.6	2.0	6.1	2.0
2007	17.3	17.9	4.7	1.8	6.3	2.5
2008	17.4	17.8	4.7	2.1	6.1	2.3
2009	17.9	17.7	4.6	2.1	6.3	2.3
2010	18.3	18.2	4.6	2.1	6.1	2.8
2011	18.4	18.6	4.7	2.2	6.2	2.8
2012	17.8	18.0	4.7	2.1	6.3	2.8
2013	17.7	16.7	4.5	2.0	5.9	2.9
2014	17.8	17.8	4.6	2.2	5.9	2.8
2015	19.1	18.9	4.6	2.2	6.0	2.7
2016	16.4	17.9	4.3	2.2	5.6	2.6
2017	17.7	16.7	4.6	2.6	6.1	2.1

[a]Number of days of deer hunting was collected as one aggregate variable in years 1997-2002. In years 2003-present, number of days of deer hunting was collected by season and summed to calculate total mean days.
[b]Holiday antlerless deer gun season began in 2001.

Table A7. Mean number of deer harvested by deer hunters in each deer season in Oklahoma, 2001-2017.

	Total: All-Seasons			Archery		Primitive		Youth		Rifle		Holiday
Year	Mean Number Deer	Mean Number Bucks	Mean Number Does	Mean Number Bucks	Mean Number Does	Mean Number Bucks	Mean Number Does	Mean Number Bucks	Mean Number Does	Mean Number Bucks	Mean Number Does	Mean Number Does
2001	0.91	0.46	0.46	0.13	0.21	0.22	0.16	N/A	N/A	0.27	0.20	0.21
2002	0.93	0.53	0.48	0.16	0.23	0.18	0.17	N/A	N/A	0.28	0.19	0.23
2003	0.98	0.49	0.49	0.19	0.19	0.20	0.17	N/A	0.32	0.29	0.22	0.22
2004	0.89	0.50	0.39	0.20	0.19	0.22	0.19	N/A	0.23	0.29	0.16	0.16
2005	0.84	0.45	0.39	0.13	0.18	0.20	0.15	N/A	0.42	0.29	0.18	0.17
2006	1.04	0.54	0.50	0.15	0.22	0.23	0.20	N/A	0.37	0.34	0.21	0.22
2007	0.86	0.47	0.39	0.14	0.19	0.20	0.13	0.18	0.30	0.28	0.18	0.22
2008	0.94	0.44	0.50	0.16	0.28	0.16	0.15	0.20	0.26	0.29	0.23	0.26
2009	0.92	0.45	0.47	0.17	0.28	0.20	0.13	0.23	0.15	0.27	0.22	0.24
2010	0.89	0.44	0.45	0.15	0.24	0.17	0.13	0.31	0.16	0.28	0.22	0.20
2011	0.95	0.47	0.48	0.20	0.26	0.17	0.17	0.17	0.23	0.31	0.23	0.19
2012	0.87	0.46	0.41	0.17	0.24	0.21	0.14	0.24	0.23	0.28	0.18	0.21
2013	0.72	0.36	0.35	0.16	0.18	0.17	0.13	0.12	0.08	0.20	0.17	0.16
2014	0.78	0.40	0.39	0.18	0.23	0.16	0.12	0.17	0.16	0.25	0.18	0.17
2015	0.74	0.39	0.35	0.16	0.22	0.19	0.12	0.10	0.22	0.24	0.15	0.14
2016	0.81	0.42	0.39	0.19	0.27	0.13	0.11	0.16	0.16	0.30	0.19	0.20
2017	0.92	0.51	0.41	0.18	0.23	0.22	0.11	0.44	0.23	0.32	0.21	0.19

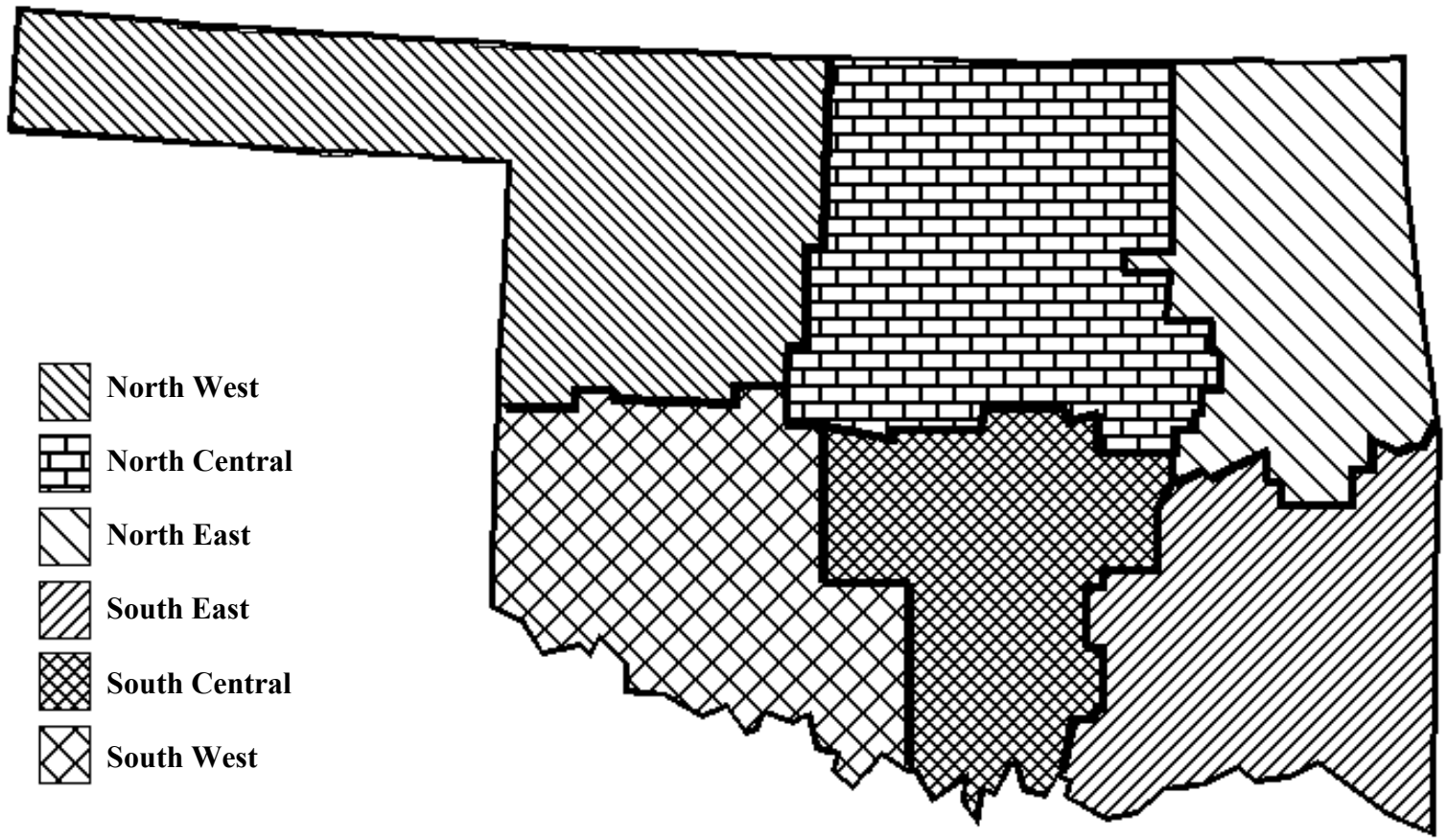


Figure A1. Regional boundaries for Oklahoma used in the Game Harvest Survey.

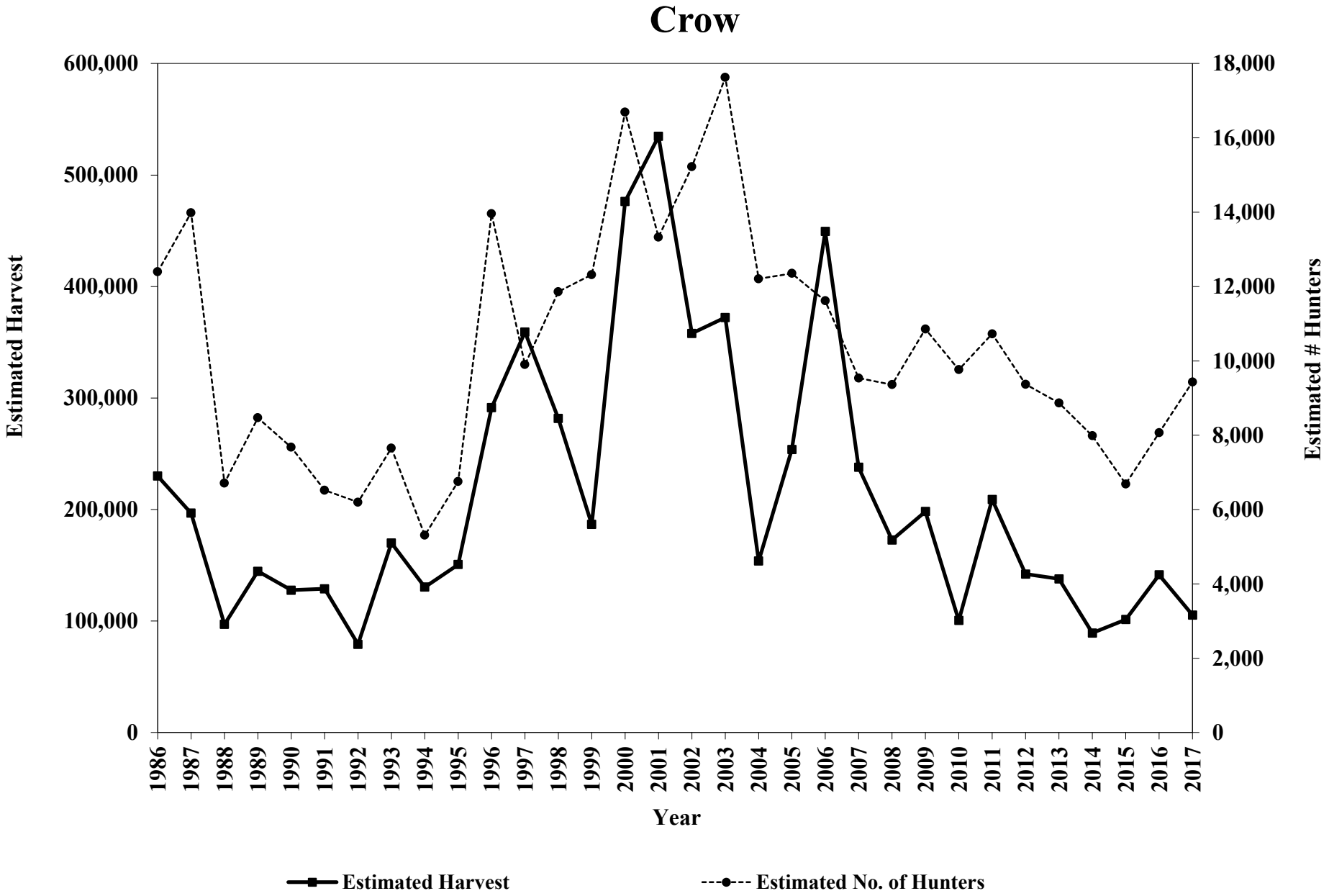


Figure A2. Statewide trends in estimated crow harvest and estimated number of crow hunters in Oklahoma, 1986-2017.

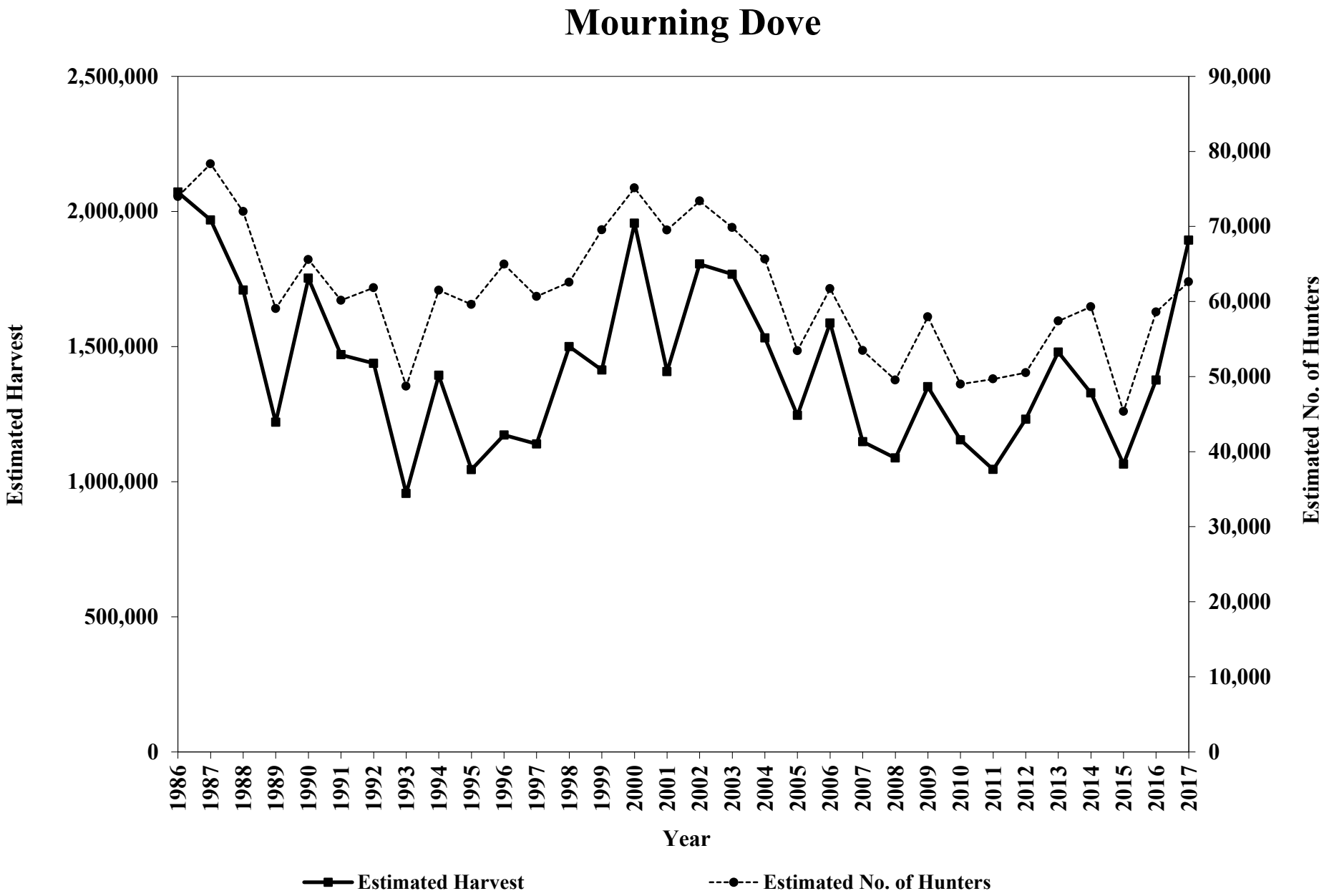


Figure A3. Statewide trends in estimated mourning dove harvest and estimated number of mourning dove hunters in Oklahoma, 1986-2017.

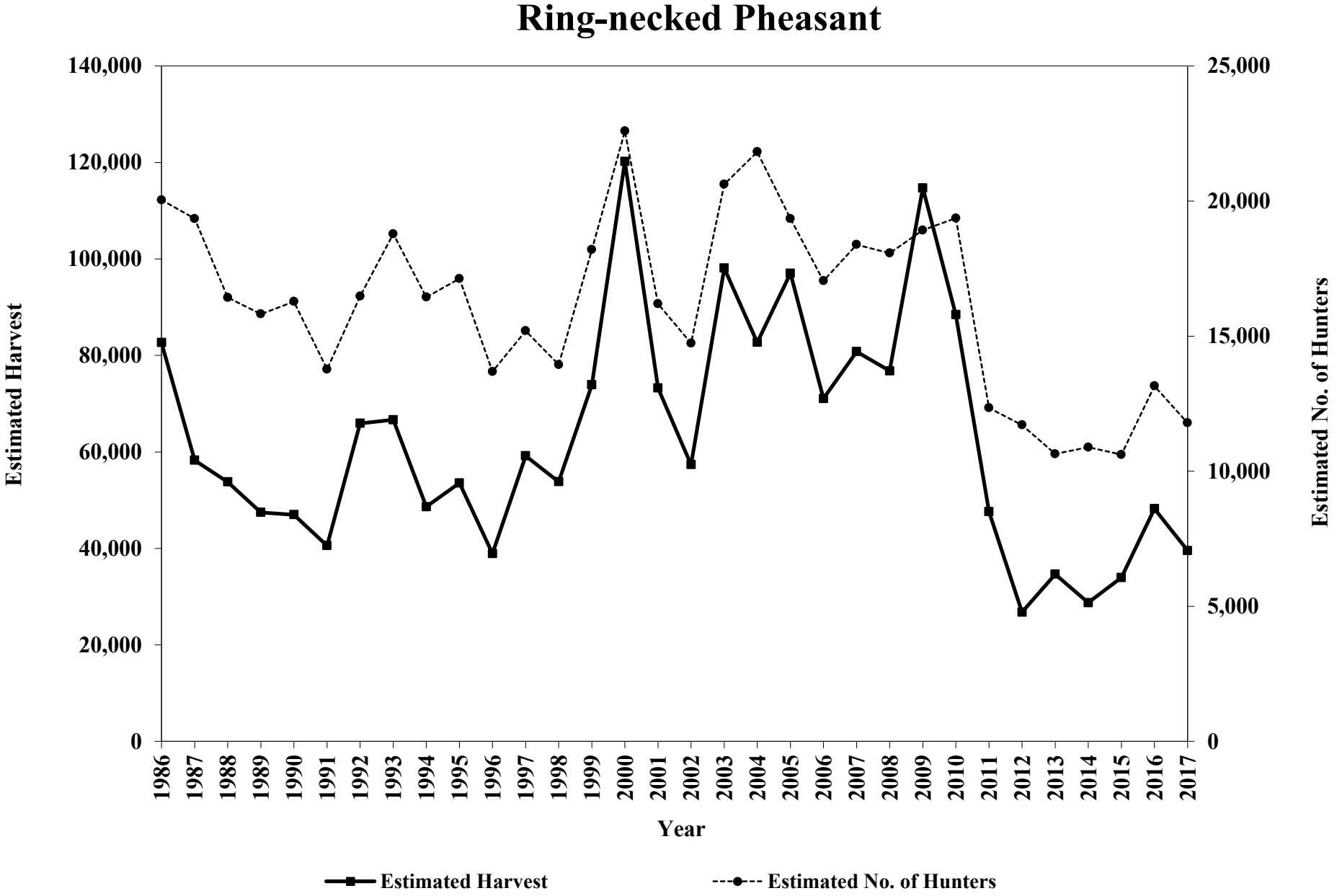


Figure A4. Statewide trends in estimated ring-necked pheasant harvest and estimated number of ring-necked pheasant hunters in Oklahoma, 1986-2017.

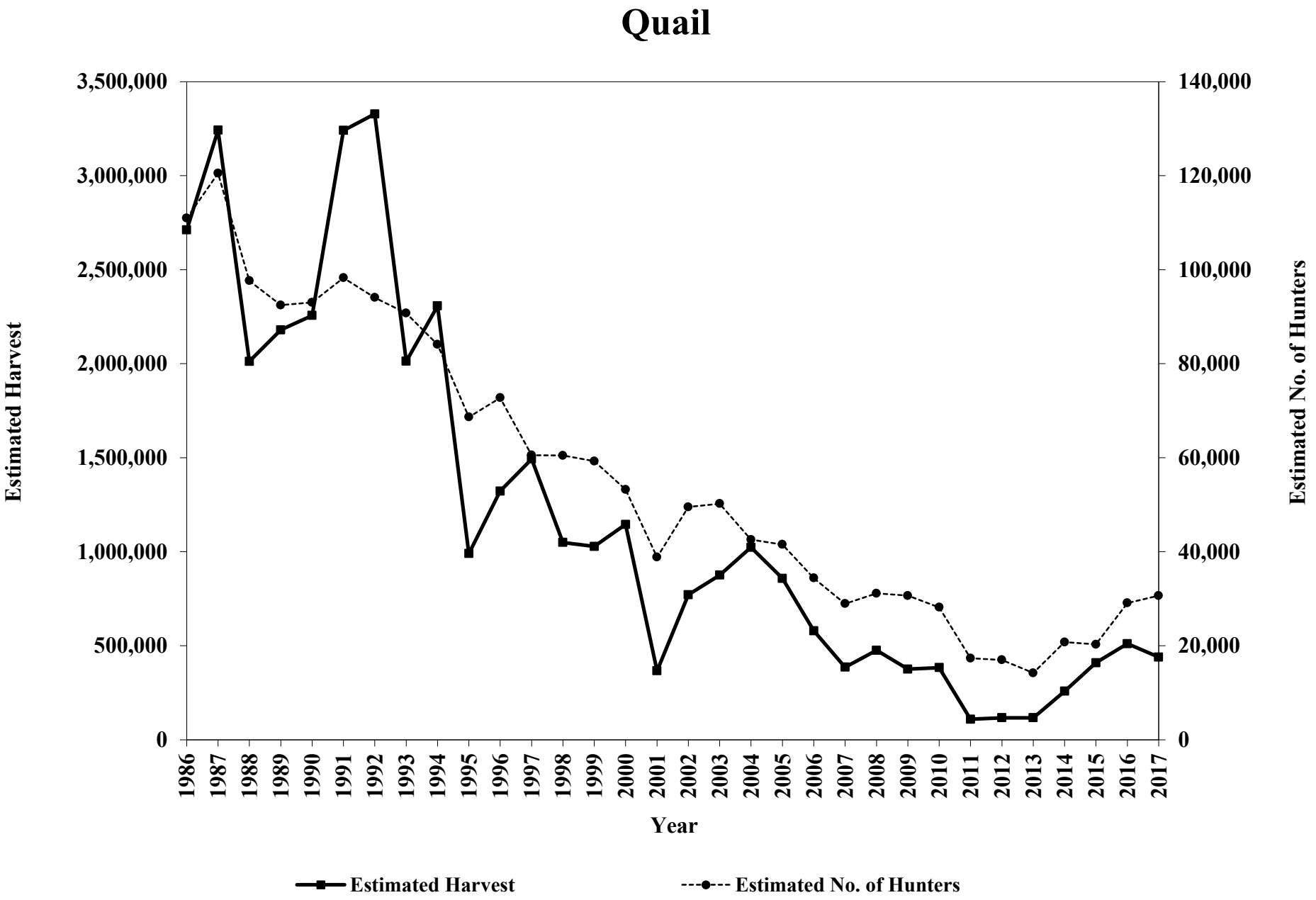


Figure A5. Statewide trends in estimated quail harvest and estimated number of quail hunters in Oklahoma, 1986-2017.

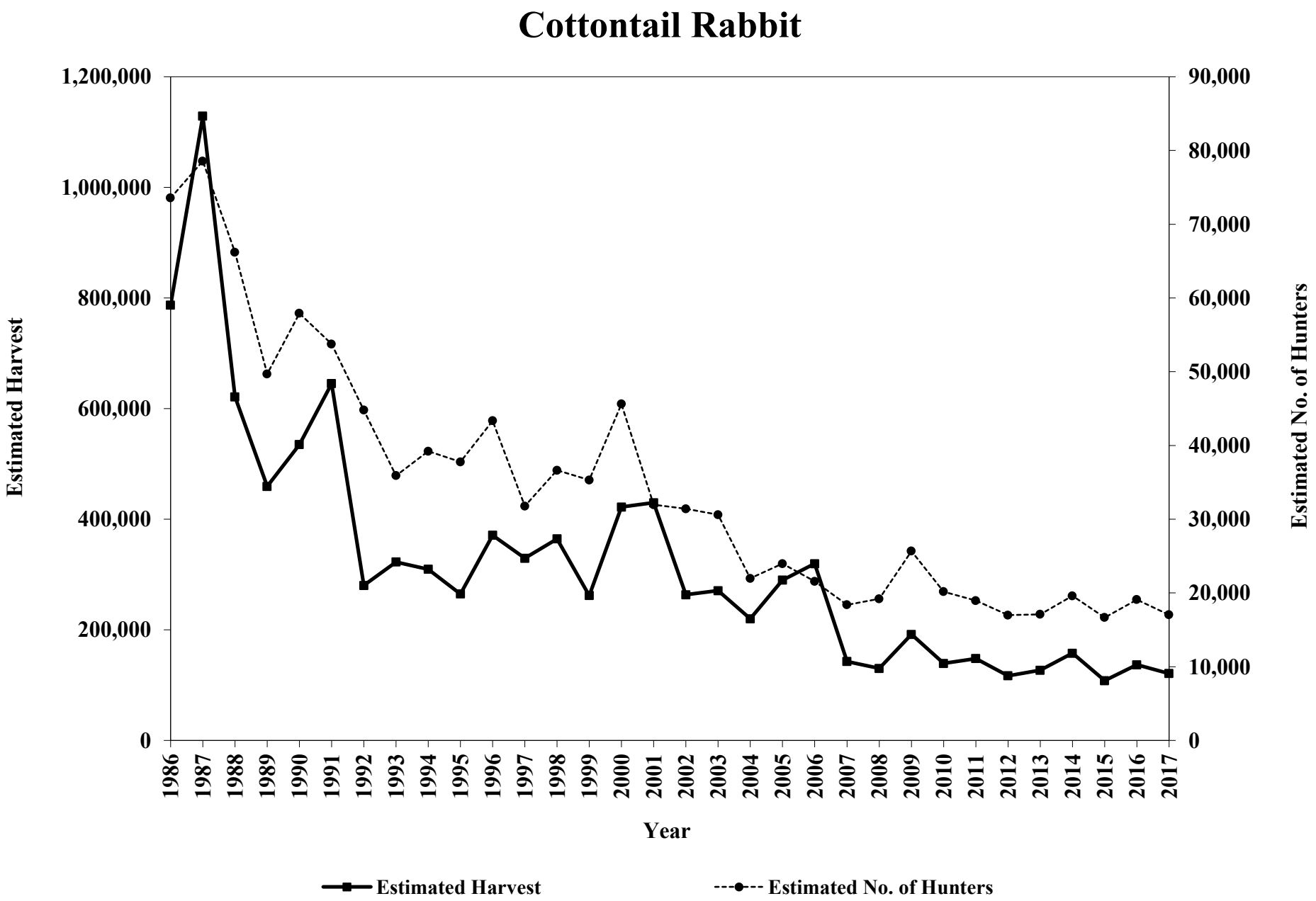


Figure A6. Statewide trends in estimated cottontail rabbit harvest and estimated number of cottontail rabbit hunters in Oklahoma, 1986-2017.

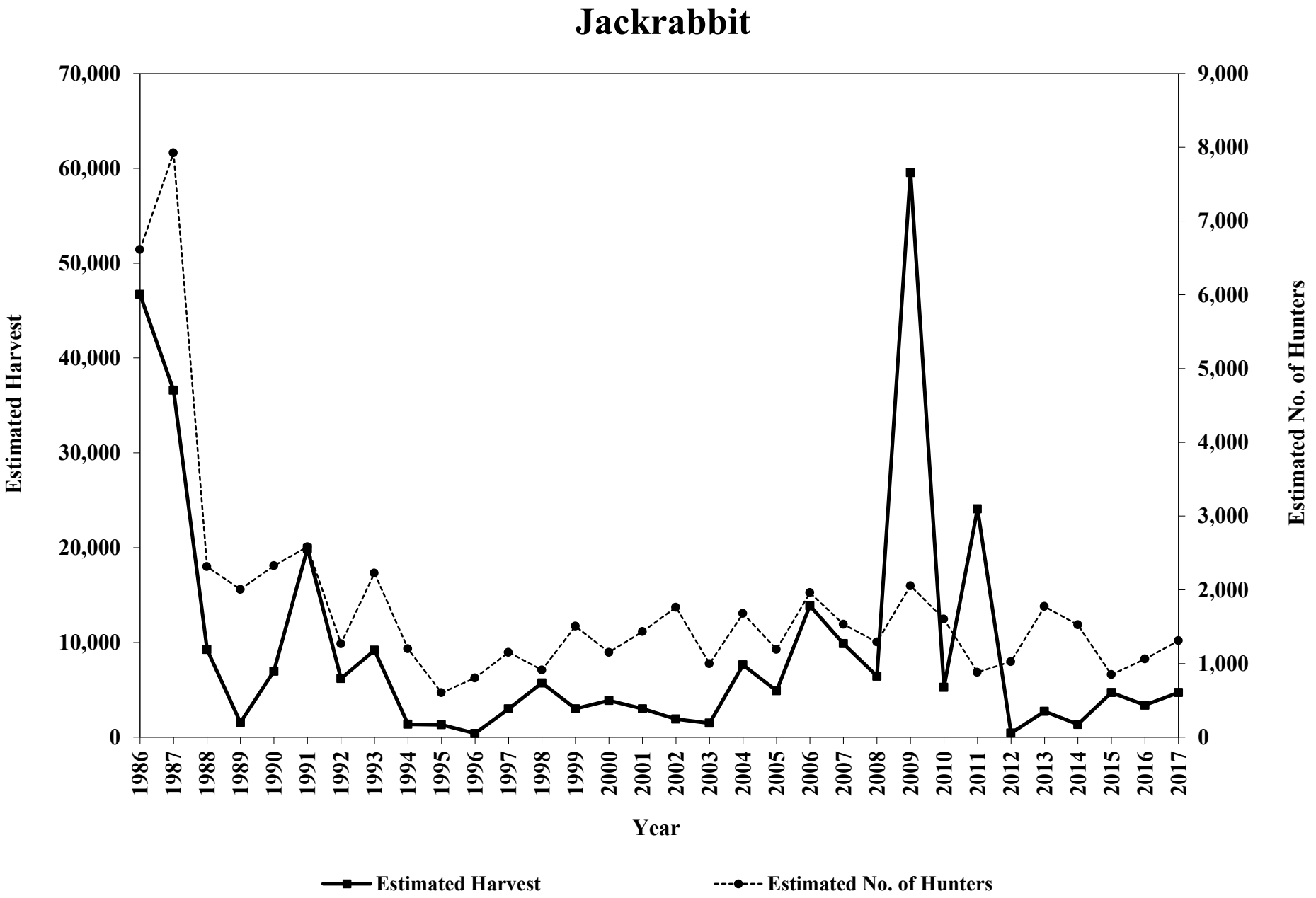


Figure A7. Statewide trends in estimated jackrabbit harvest and estimated number of jackrabbit hunters in Oklahoma, 1986-2017.

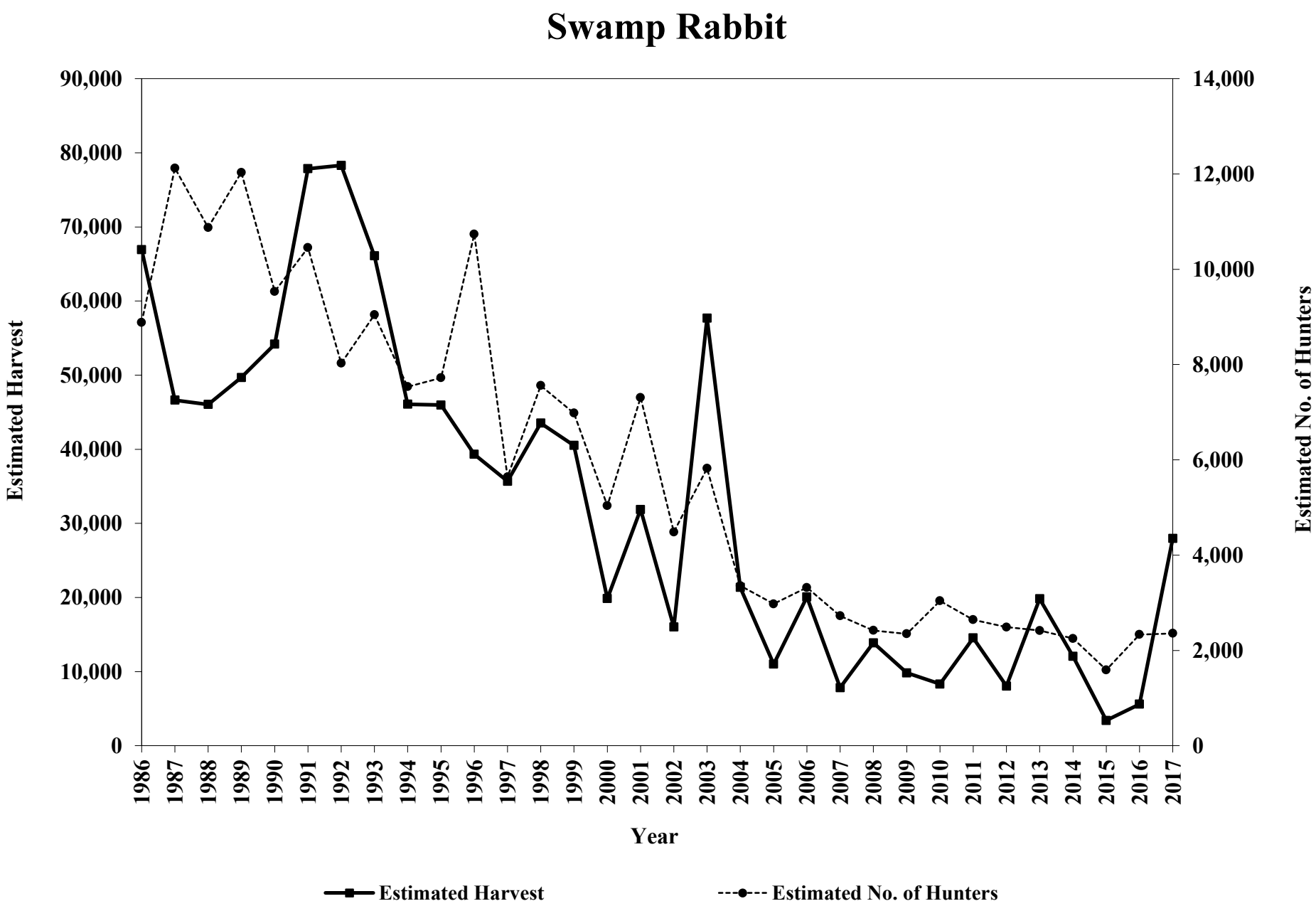


Figure A8. Statewide trends in estimated swamp rabbit harvest and estimated number of swamp rabbit hunters in Oklahoma, 1986-2017.

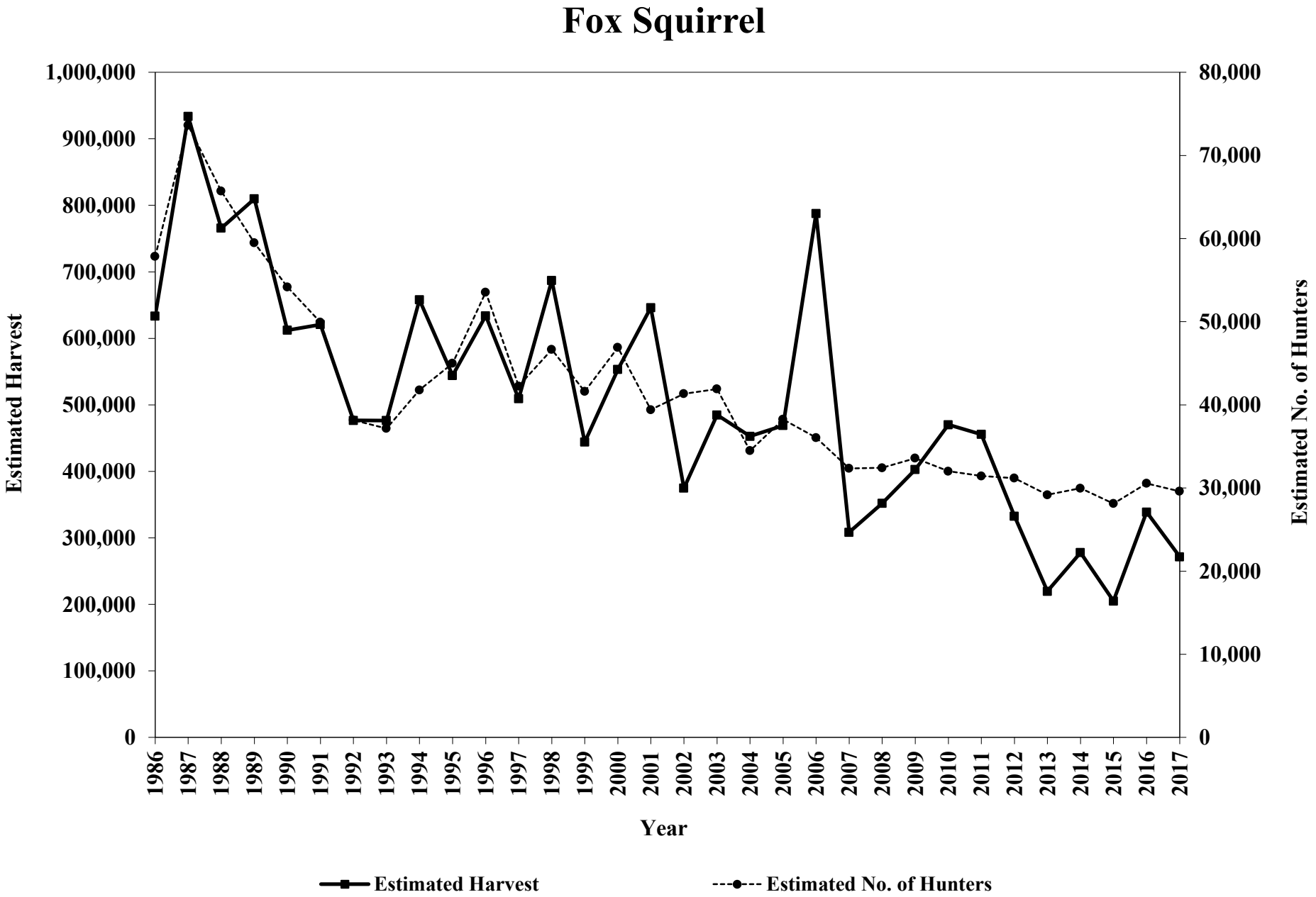


Figure A9. Statewide trends in estimated fox squirrel harvest and estimated number of fox squirrel hunters in Oklahoma, 1986-2017.

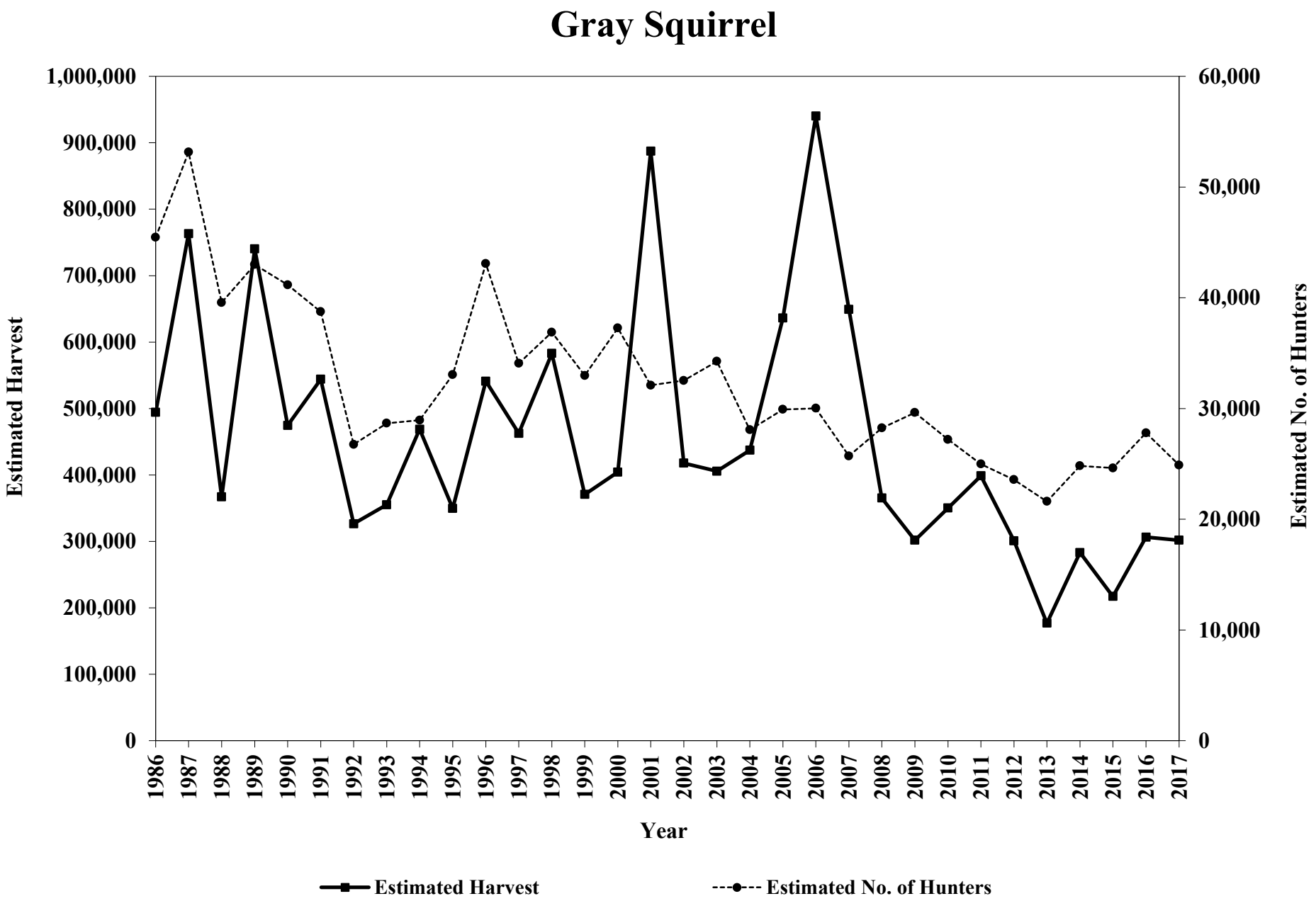


Figure A10. Statewide trends in estimated gray squirrel harvest and estimated number of gray squirrel hunters in Oklahoma, 1986-2017.

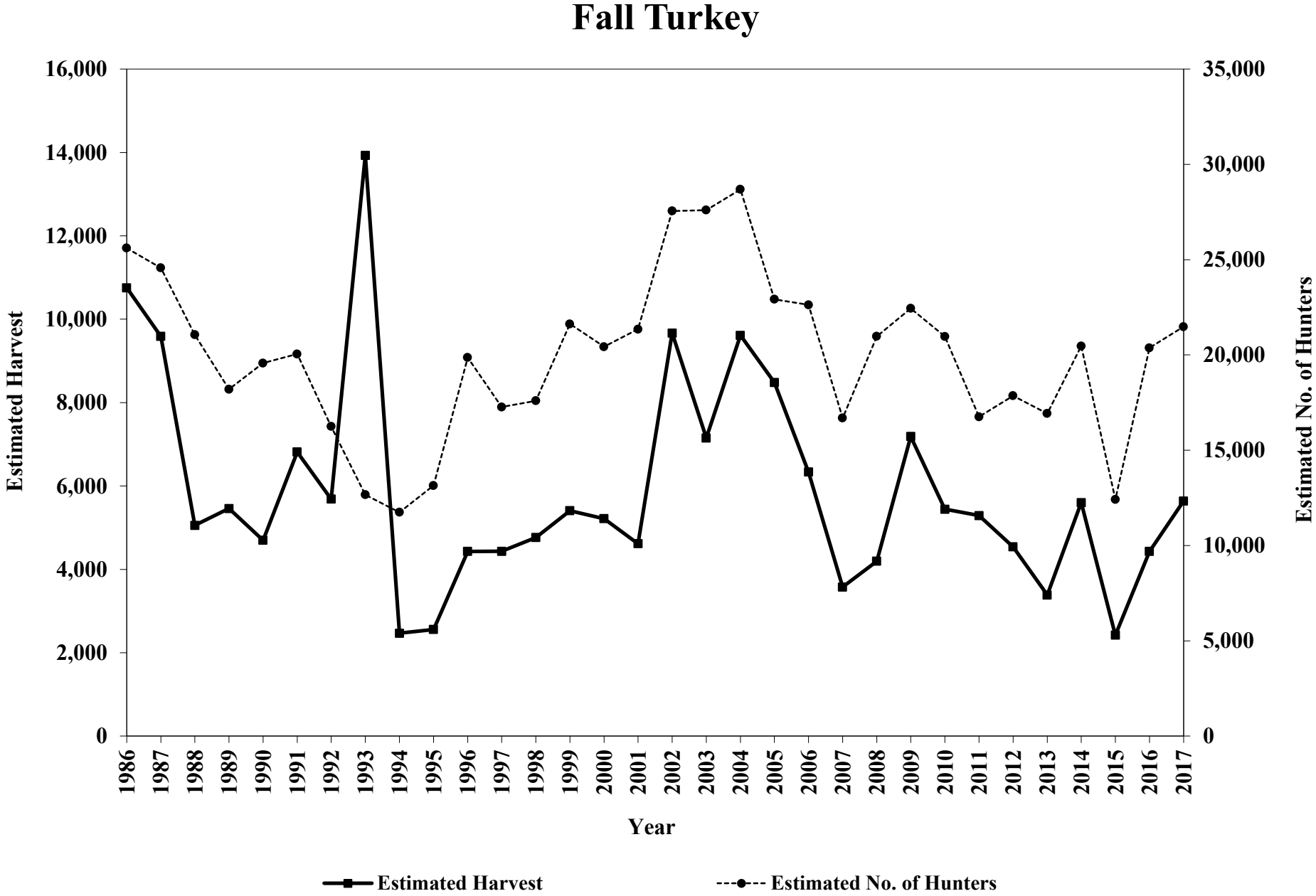


Figure A11. Statewide trends in estimated fall turkey harvest and estimated number of fall turkey hunters in Oklahoma, 1986-2017.

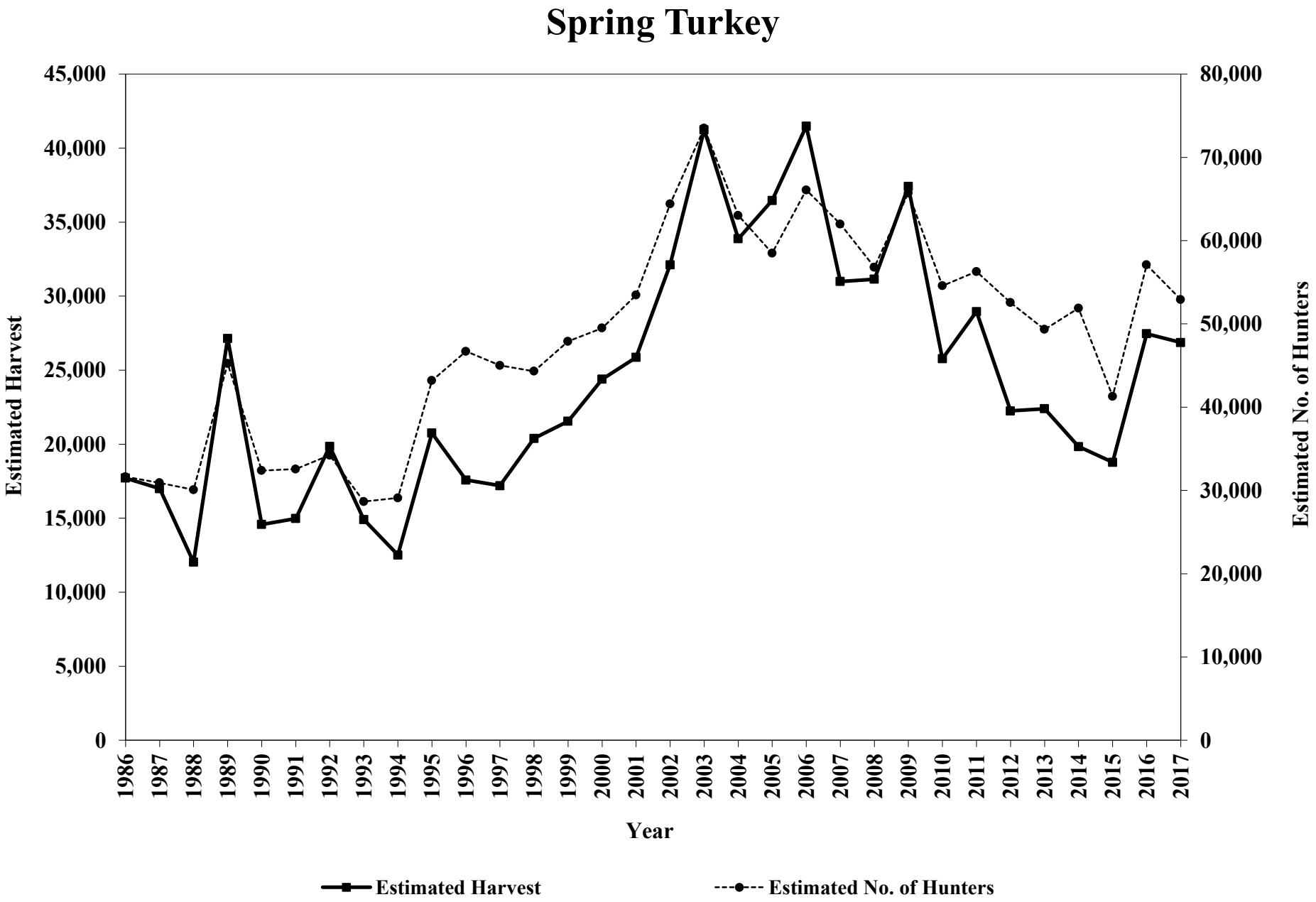


Figure A12. Statewide trends in estimated spring turkey harvest and estimated number of spring turkey hunters in Oklahoma, 1986-2017.

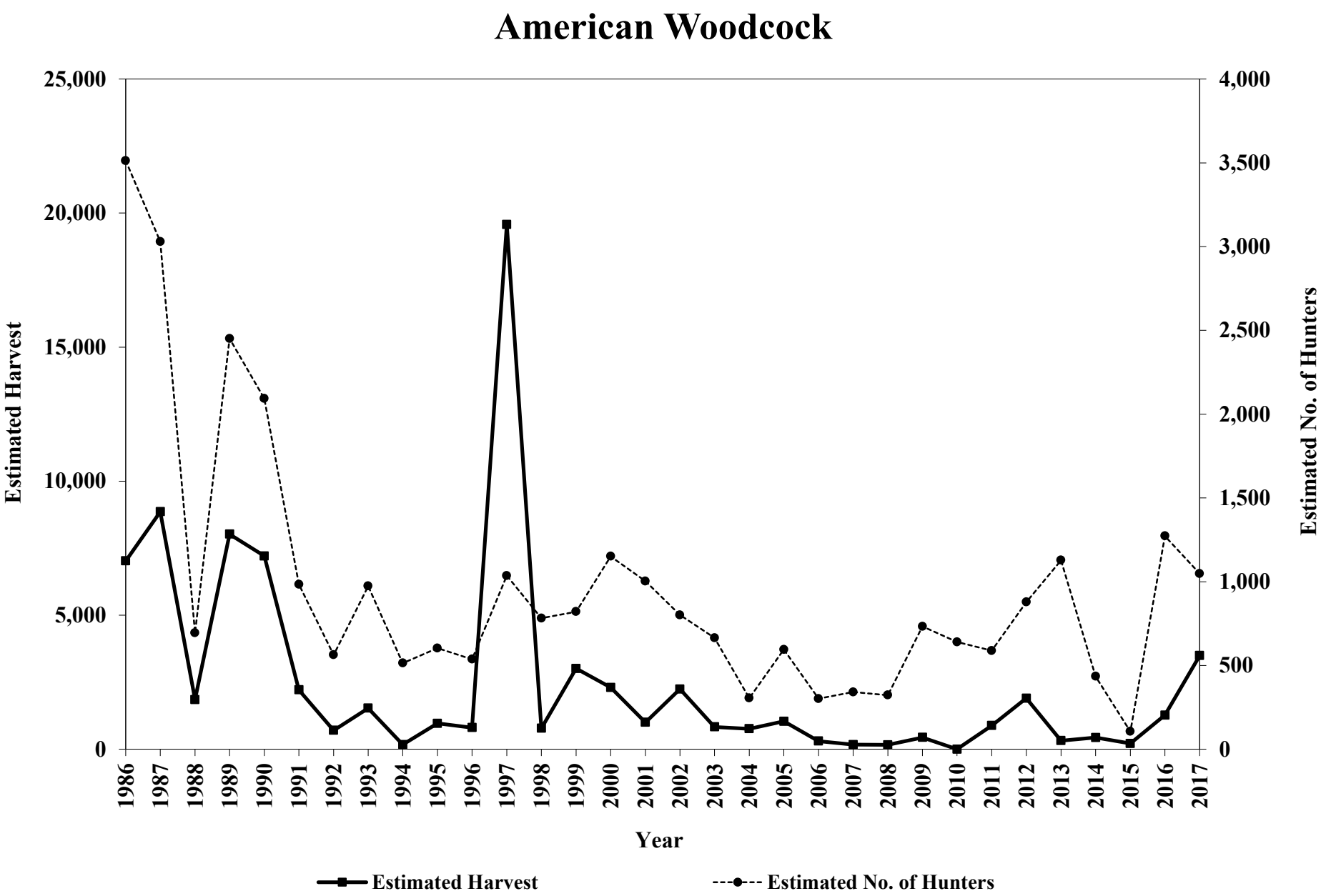


Figure A13. Statewide trends in estimated American woodcock harvest and estimated number of American woodcock hunters in Oklahoma, 1986-2017.

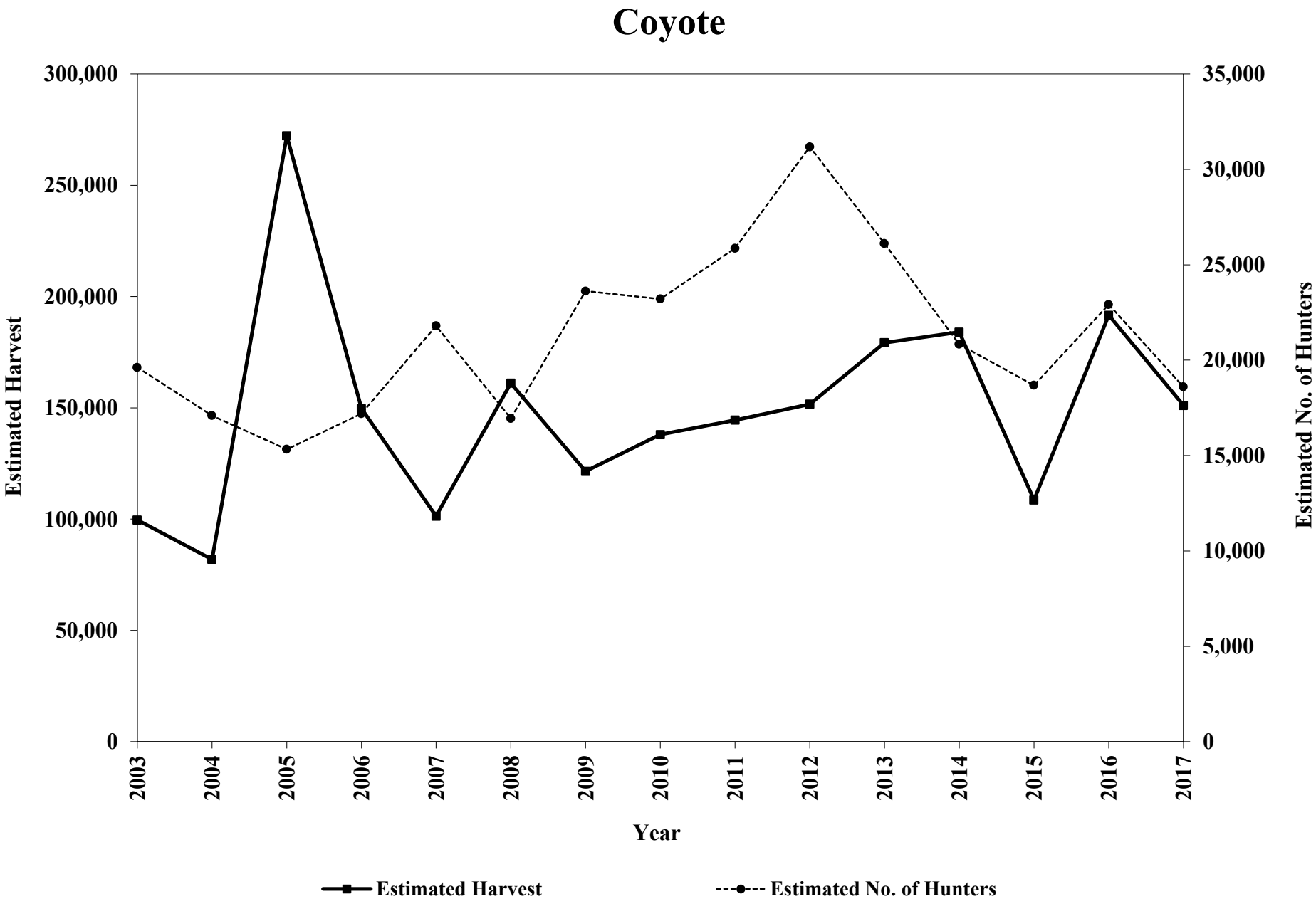


Figure A14. Statewide trends in estimated coyote harvest and estimated number of coyote hunters in Oklahoma, 2003-2017.

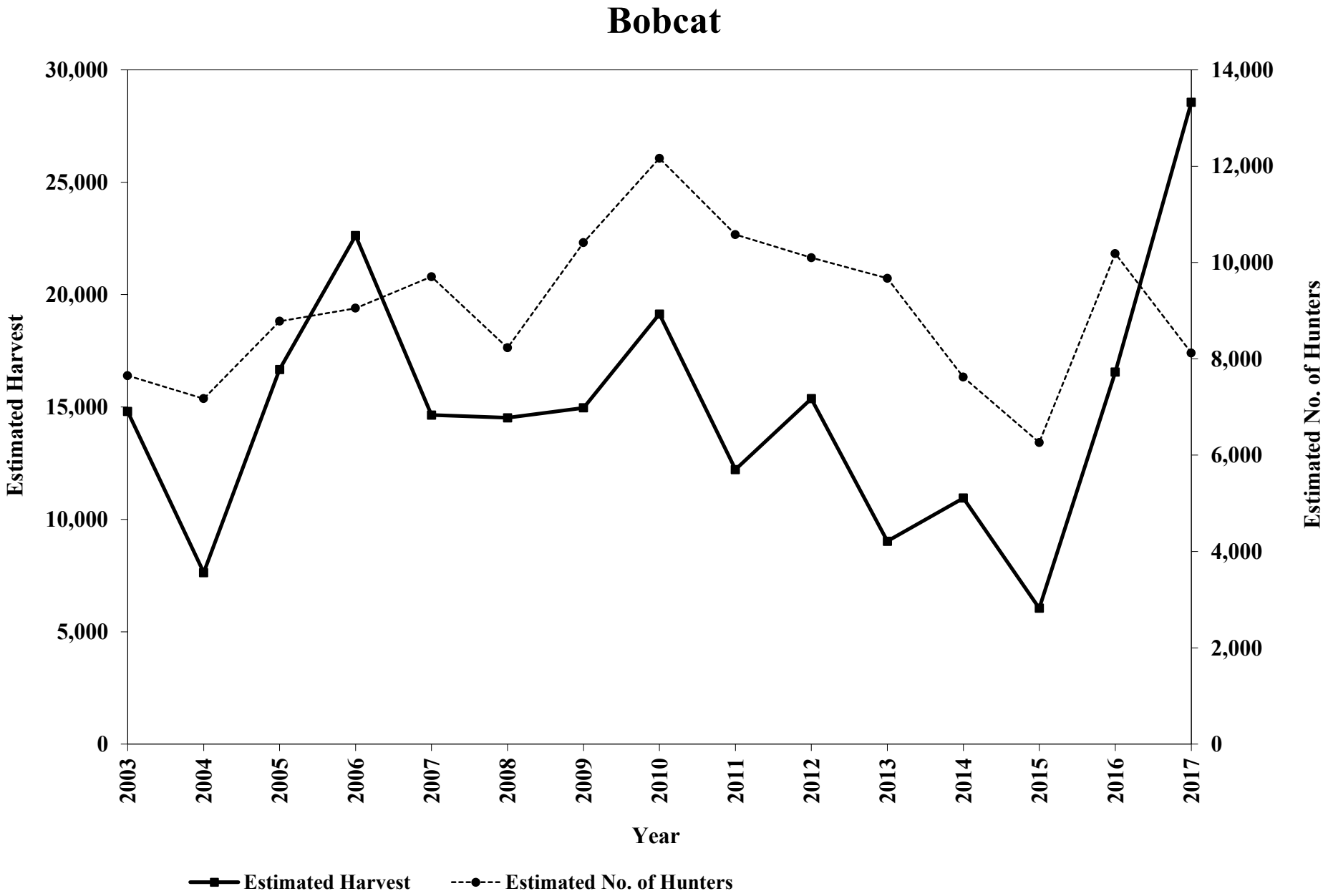


Figure A15. Statewide trends in estimated bobcat harvest and estimated number of bobcat hunters in Oklahoma, 2003-2017.

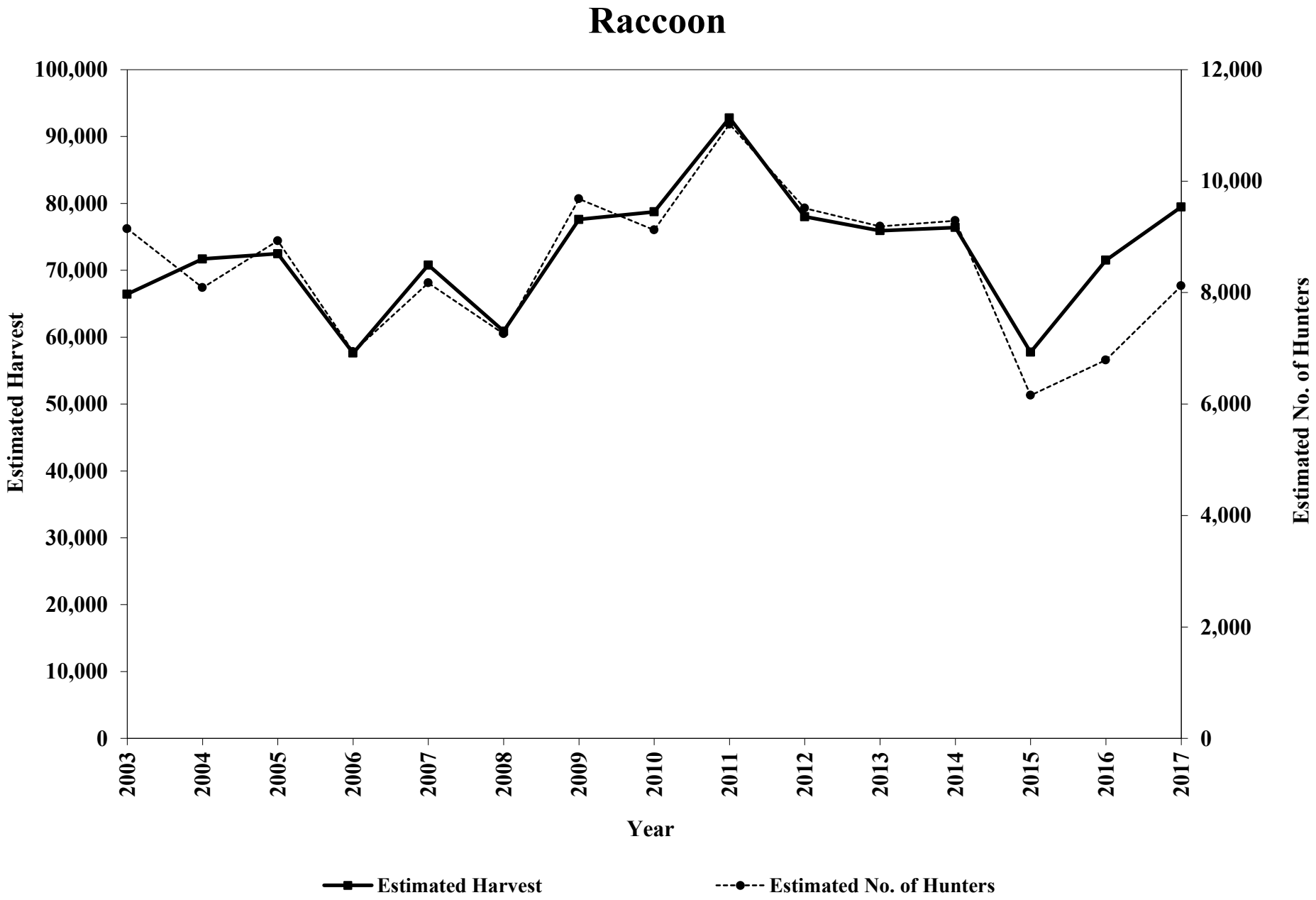


Figure A16. Statewide trends in estimated raccoon harvest and estimated number of raccoon hunters in Oklahoma, 2003-2017.

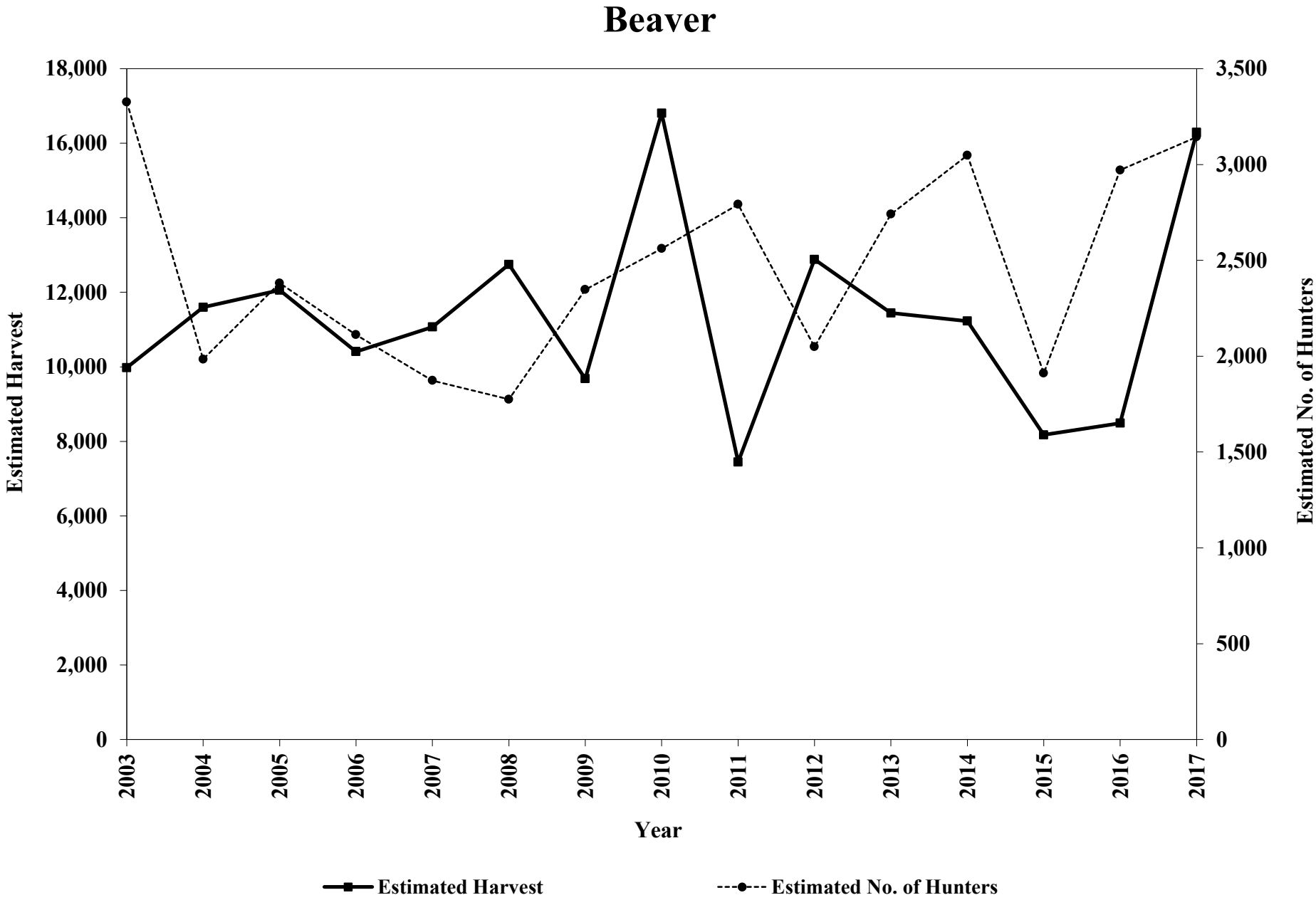


Figure A17. Statewide trends in estimated beaver harvest and estimated number of beaver hunters in Oklahoma, 2003-2017.

Figure A18. Statewide trends in estimated gray fox harvest and estimated number of gray fox hunters in Oklahoma, 2003-2017.

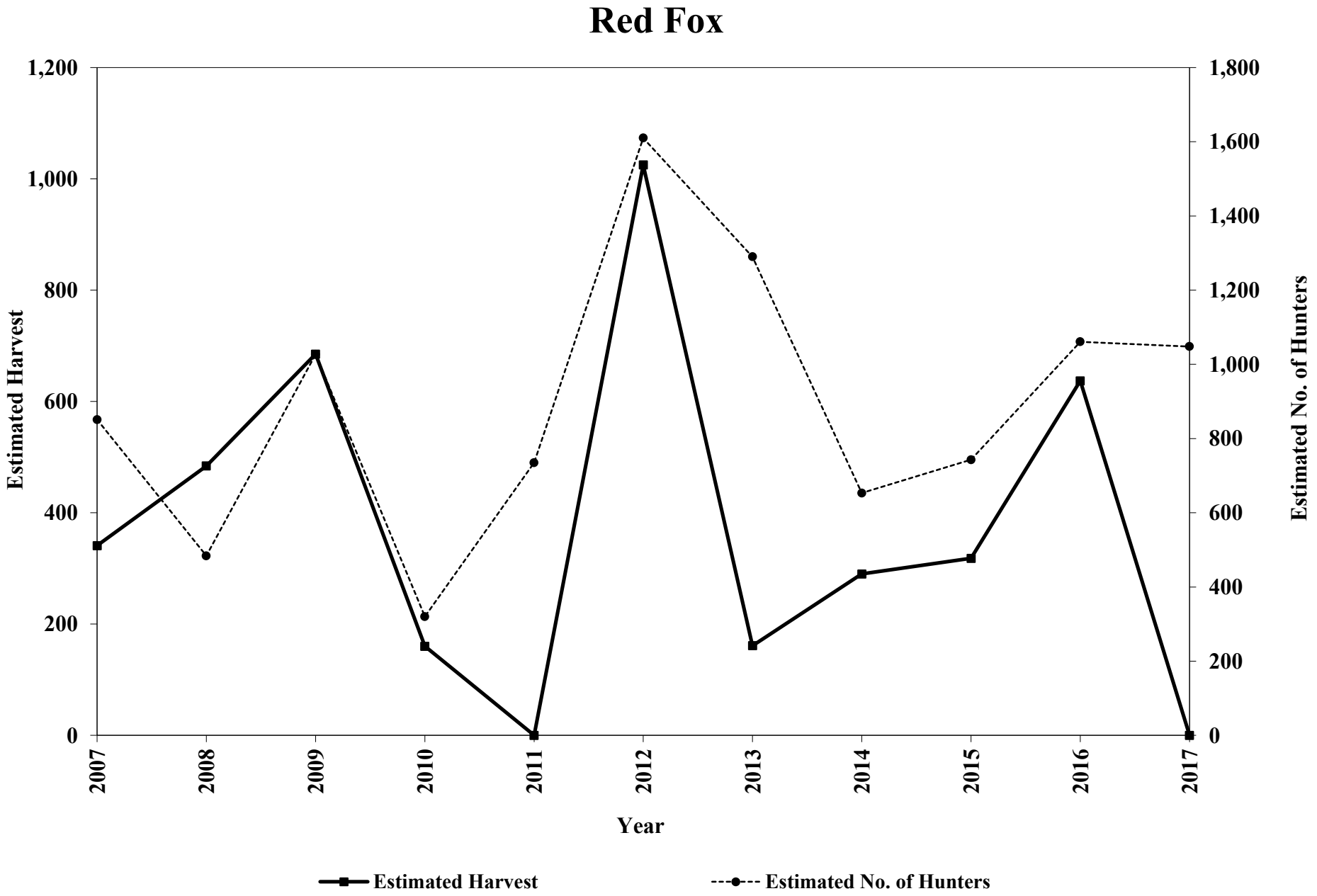


Figure A19. Statewide trends in estimated red fox harvest and estimated number of red fox hunters in Oklahoma, 2007-2017.

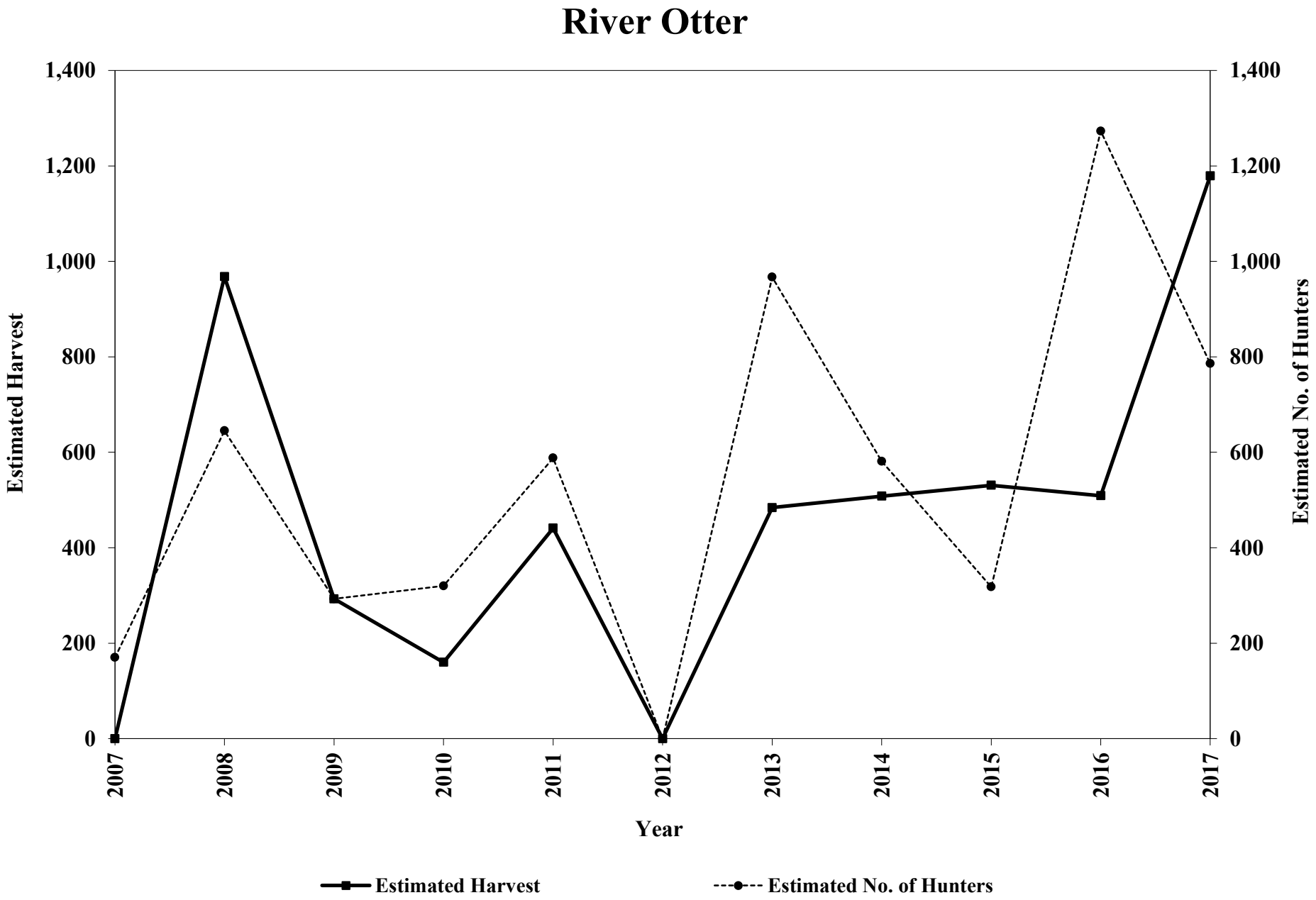


Figure A20. Statewide trends in estimated river otter harvest and estimated number of river otter hunters in Oklahoma, 2007-2017.

APPENDIX B

Human Dimensions Issues – Tables and Graphs

Table B1. Rate of participation in specific 2017 hunting seasons by all license holders, and by license type. (*Small sample size.)

Hunting Season	Total Sample Participation (n = 1,384)		Participation by License Type: Lifetime (n = 614)		Annual/Five-Year (n = 327)		Senior (n = 443)	
	Season *n*	Percent	Season *n*	Percent	Season *n*	Percent	Season *n*	Percent
Any Hunting	790	57.1	436	71.0	266	81.3	88	20.3
Deer (Overall)	637	46.0	387	63.0	195	59.6	55	12.7
Gun	557	40.2	345	56.2	163	49.8	49	11.3
Primitive Firearms	304	22.0	221	36.0	59	18.0	24	5.5
Archery	376	27.2	258	42.0	98	30.0	20	4.6
Special Antlerless	134	9.7	85	13.8	35	10.7	14	3.2
Youth Season	30	2.2	16	2.6	14	4.3	0	0.0
Dove	239	17.3	132	21.5	84	25.7	23	5.3
Turkey (Overall)	230	16.6	169	27.5	48	14.7	13	3.0
Spring Turkey	202	14.6	281	45.8	215	65.7	74	17.1
Fall Turkey	82	5.9	62	10.1	17	5.2	3	0.7
Feral Swine	217	15.7	142	23.1	57	17.4	18	4.2
Waterfowl (Overall)	148	10.7	82	13.4	55	16.8	11	2.5
Ducks	141	10.2	77	12.5	53	16.2	11	2.5
Geese	81	5.9	39	6.4	37	11.3	5	1.2
Squirrel (Overall)	125	9.0	70	11.4	33	10.1	22	5.1
Fox Squirrel	113	8.2	65	10.6	30	9.2	18	4.2
Gray Squirrel	95	6.9	53	8.6	25	7.6	17	3.9
Quail	117	8.5	68	11.1	32	9.8	17	3.9
Furbearers (Overall)	89	6.4	61	9.9	22	6.7	6	1.4
Coyote	71	5.1	53	8.6	15	4.6	3	0.7
Raccoon	31	2.2	21	3.4	6	1.8	4	0.9
Bobcat	31	2.2	28	4.6	3	0.9	0	0.0
Beaver*	12	0.9	9	1.5	3	0.9	0	0.0
Gray Fox*	6	0.4	4	0.7	2	0.6	0	0.0
Red Fox*	4	0.3	4	0.7	0	0.0	0	0.0
Otter*	3	0.2	3	0.5	0	0.0	0	0.0
Rabbit (Overall)	66	4.8	36	5.9	22	6.7	36	8.3
Cottontail Rabbit	65	4.7	35	5.7	22	6.7	8	1.8
Swamp Rabbit*	9	0.7	5	0.8	2	0.6	2	0.5
Jackrabbit*	5	0.4	2	0.3	3	0.9	0	0.0
Pheasant	45	3.3	28	4.6	16	4.9	1	0.2
Crow	36	2.6	24	3.9	9	2.8	3	0.7
Woodcock*	4	0.3	3	0.5	0	0.0	1	0.2

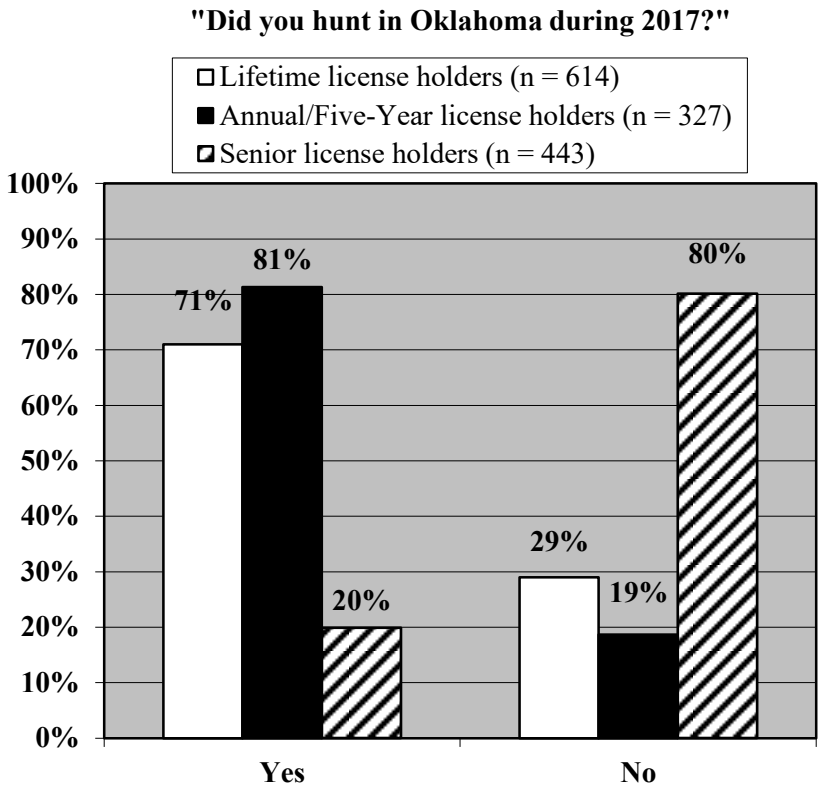


Figure B1. Distribution of hunting license holder participation in hunting activities during 2017, by license category. Both hunting and combination-hunting-and-fishing licenses were included in all license categories (*n* = 1,384).

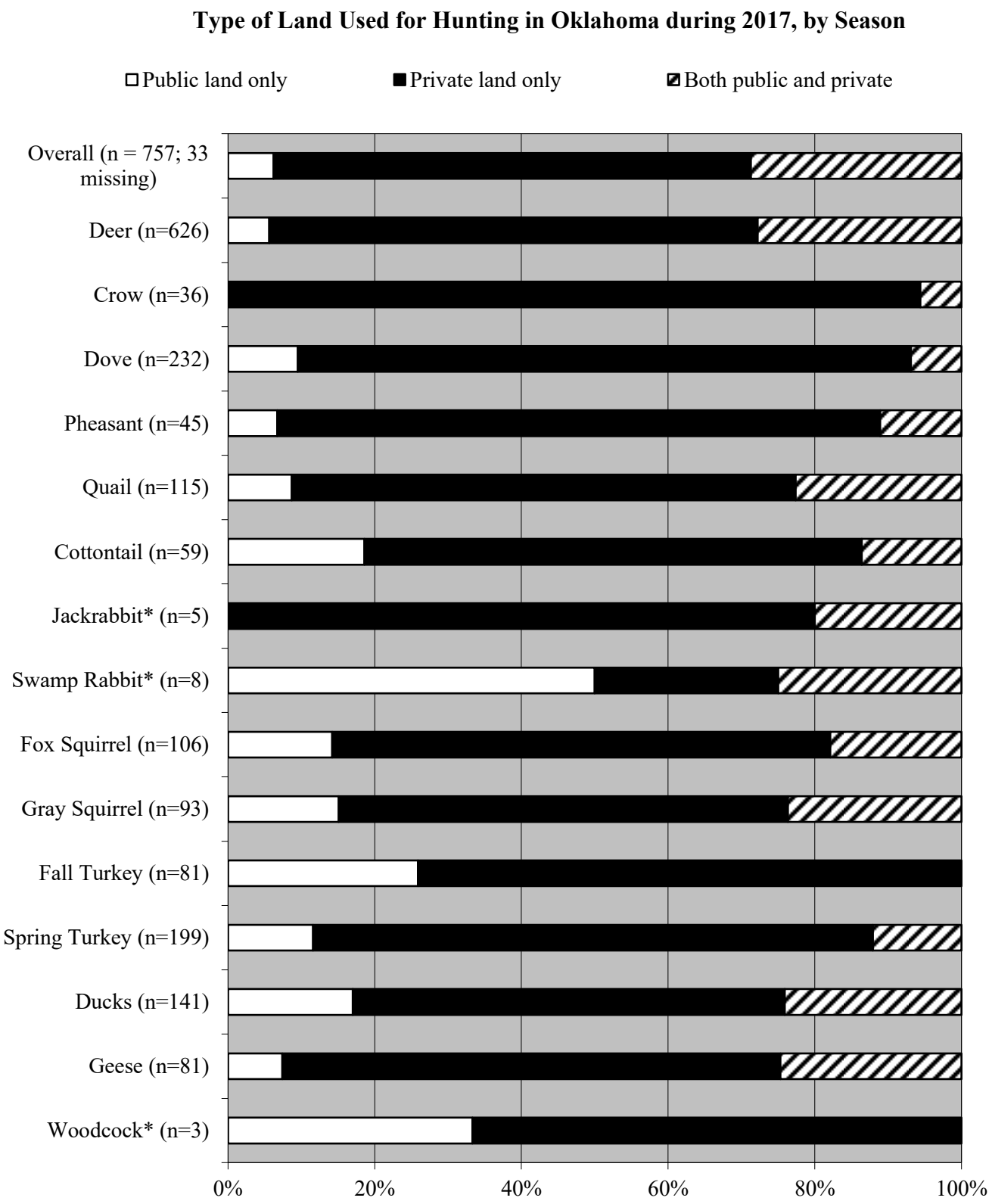


Figure B2. Distribution of land use for specific hunting seasons during 2017. Sample sizes and missing data vary for each species. *Small sample size.

"Did you use public land for any portion of your hunting in Oklahoma during 2017?"

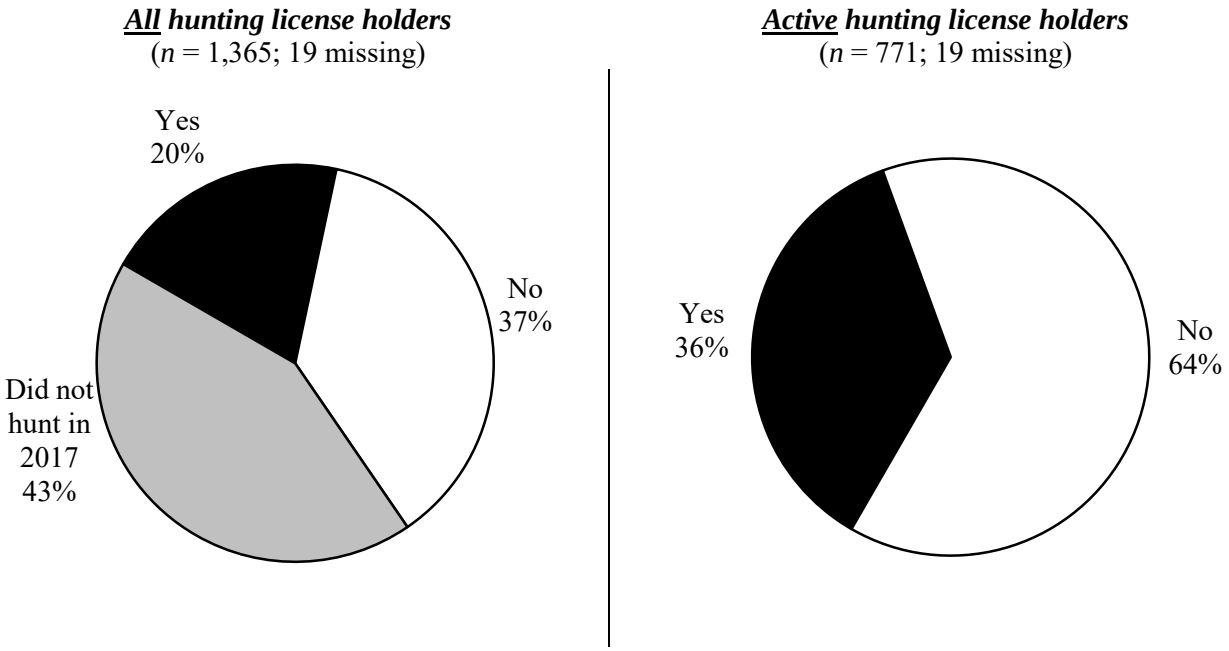


Figure B3. Distribution of hunting license holder use of public land during the 2017 hunting season.

"Considering all Oklahoma hunting seasons in 2017, how much of your hunting occurred on public vs. private land?"

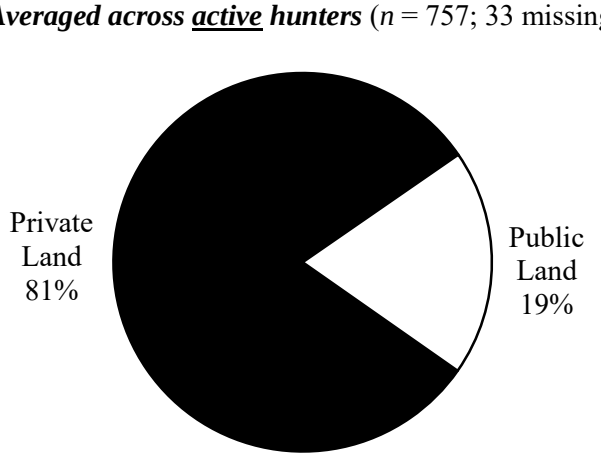


Figure B4. Average proportion of 2017-season hunting that occurred on public or private land, by license holders who hunted during 2017.

[Asked of hunters who used public land:]
"How important is public land to you for your hunting?"

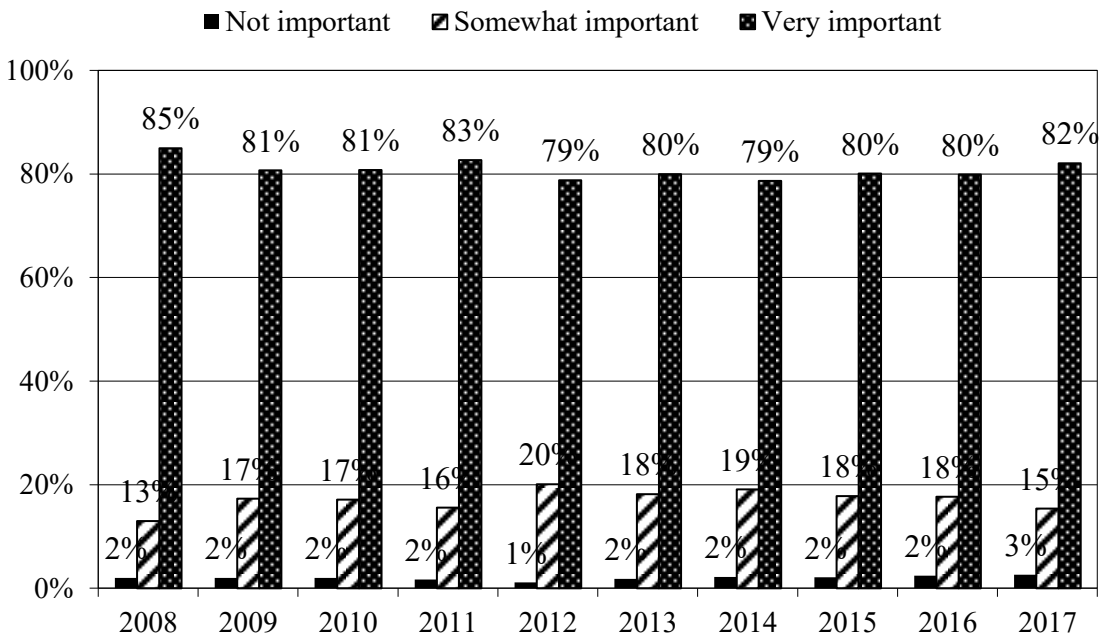


Figure B5. Importance of public land to active hunters who used public land (2008 *n* = 447, 5 missing; 2009 *n* = 497, 15 missing; 2010 *n* = 449, 7 missing; 2011 *n* = 474, 5 missing; 2012 *n* = 452, 4 missing; 2013 *n* = 385, 0 missing; 2014 *n* = 958, 6 missing; 2015 *n* = 512, 2 missing; 2016 *n* = 334, 3 missing; 2017 *n* =273, 5 missing).

"Please check the box for each part of Oklahoma where you hunted on public land during 2017, based on the major highways:"

Active hunters 2017 (*n* = 790)

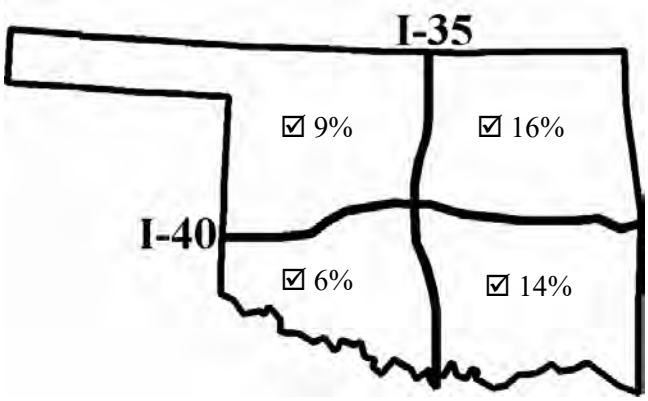


Figure B6. Use of public land located in each region, by active hunting license holders in 2017.

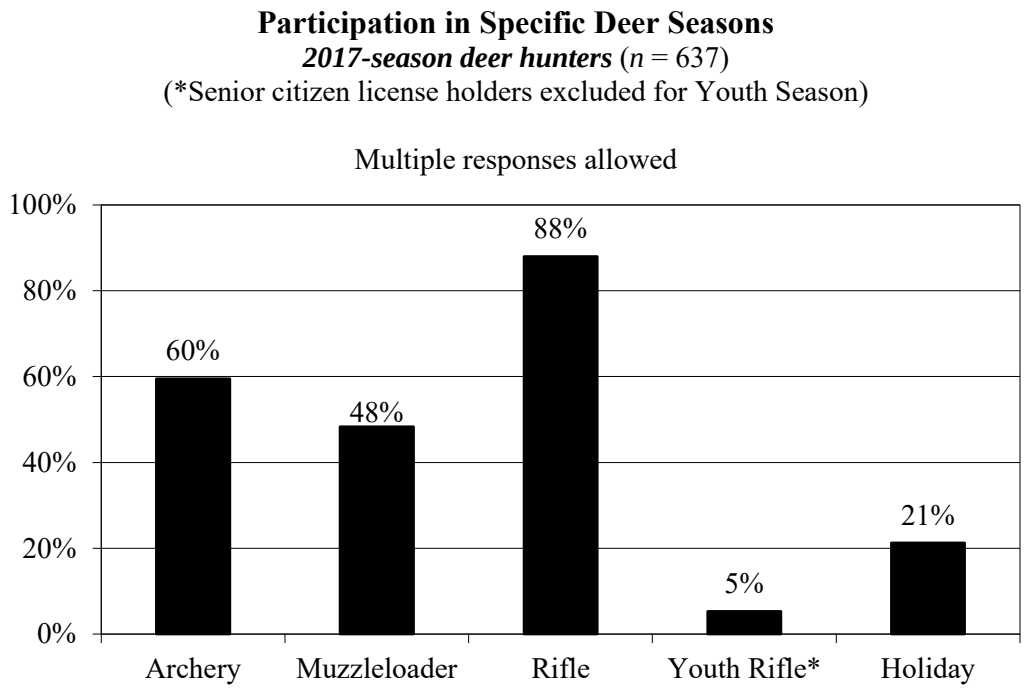


Figure B7. Participation in individual deer seasons, by 2017-season deer hunters.

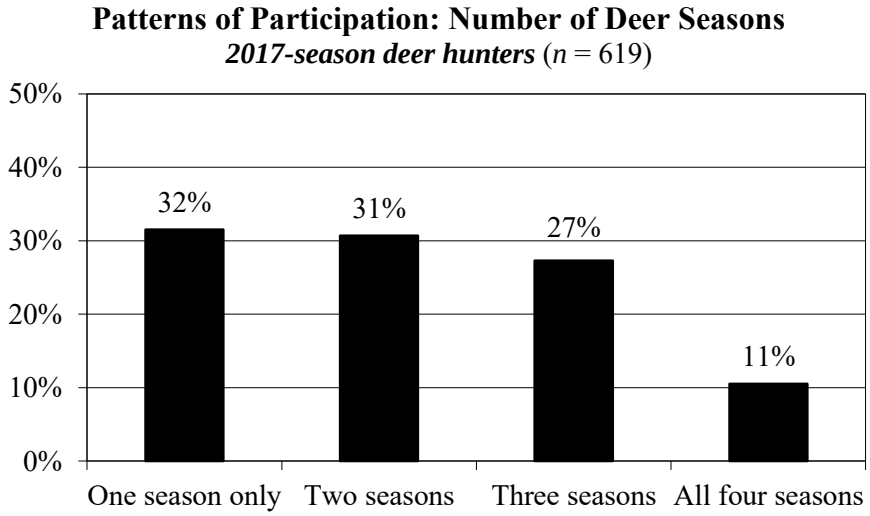


Figure B8. Number of deer seasons (archery, primitive, gun and holiday season; youth season excluded) participated in by 2017-season deer hunters.

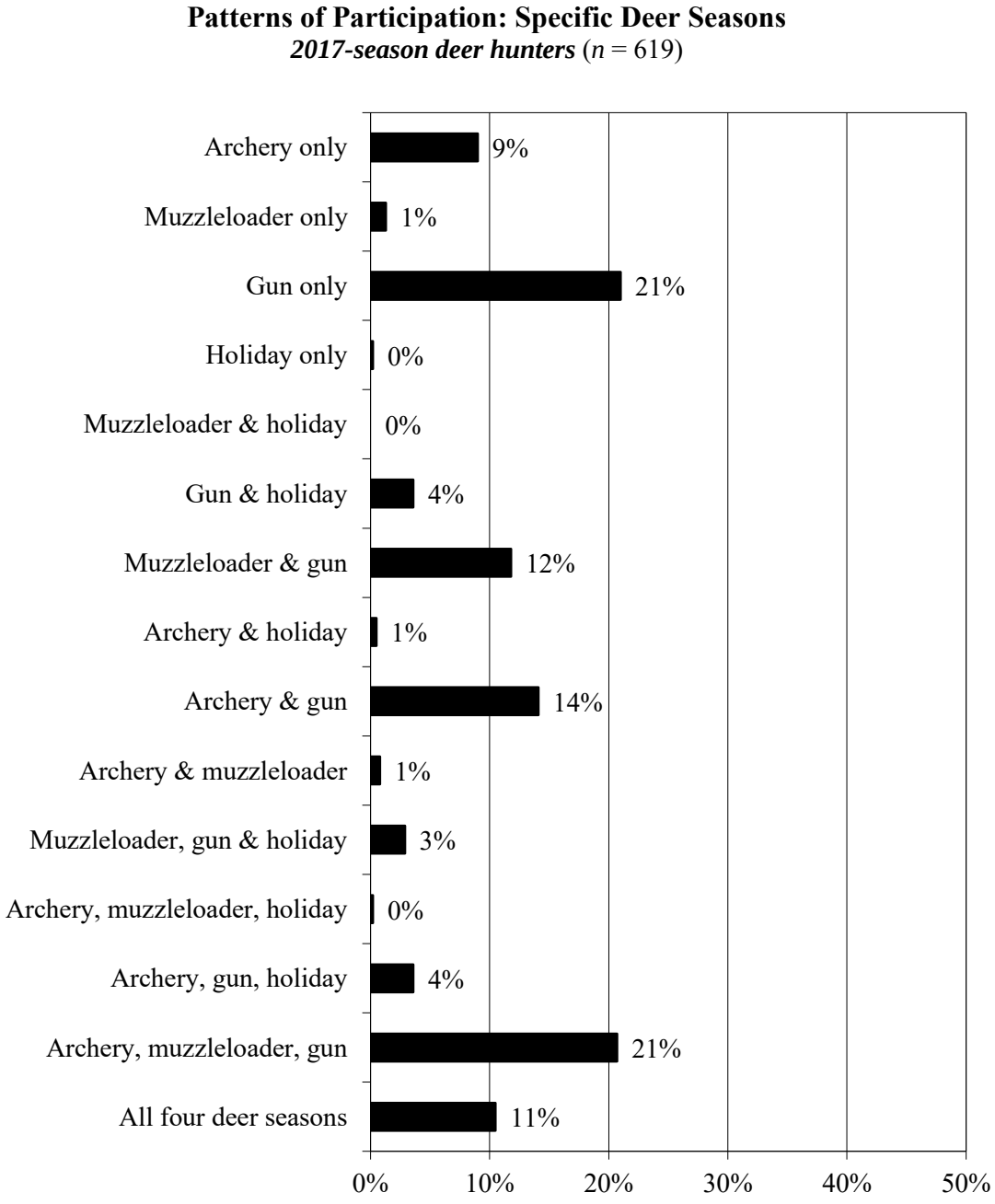


Figure B9. Specific deer seasons (archery, primitive, gun and holiday antlerless season; youth season excluded) participated in by 2017-season deer hunters.

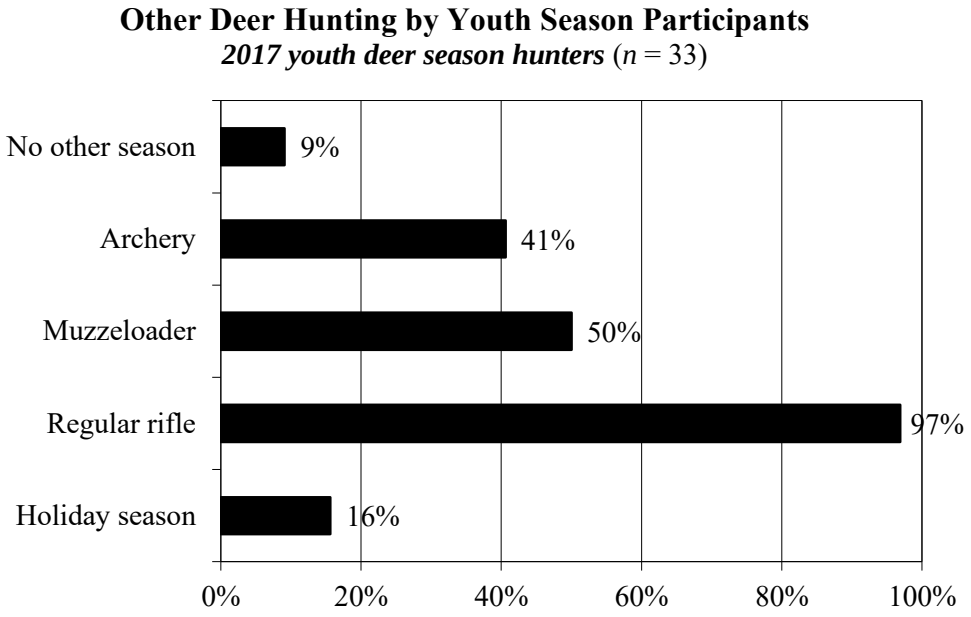


Figure B10. Participation in other deer seasons by 2017 youth deer season hunters.

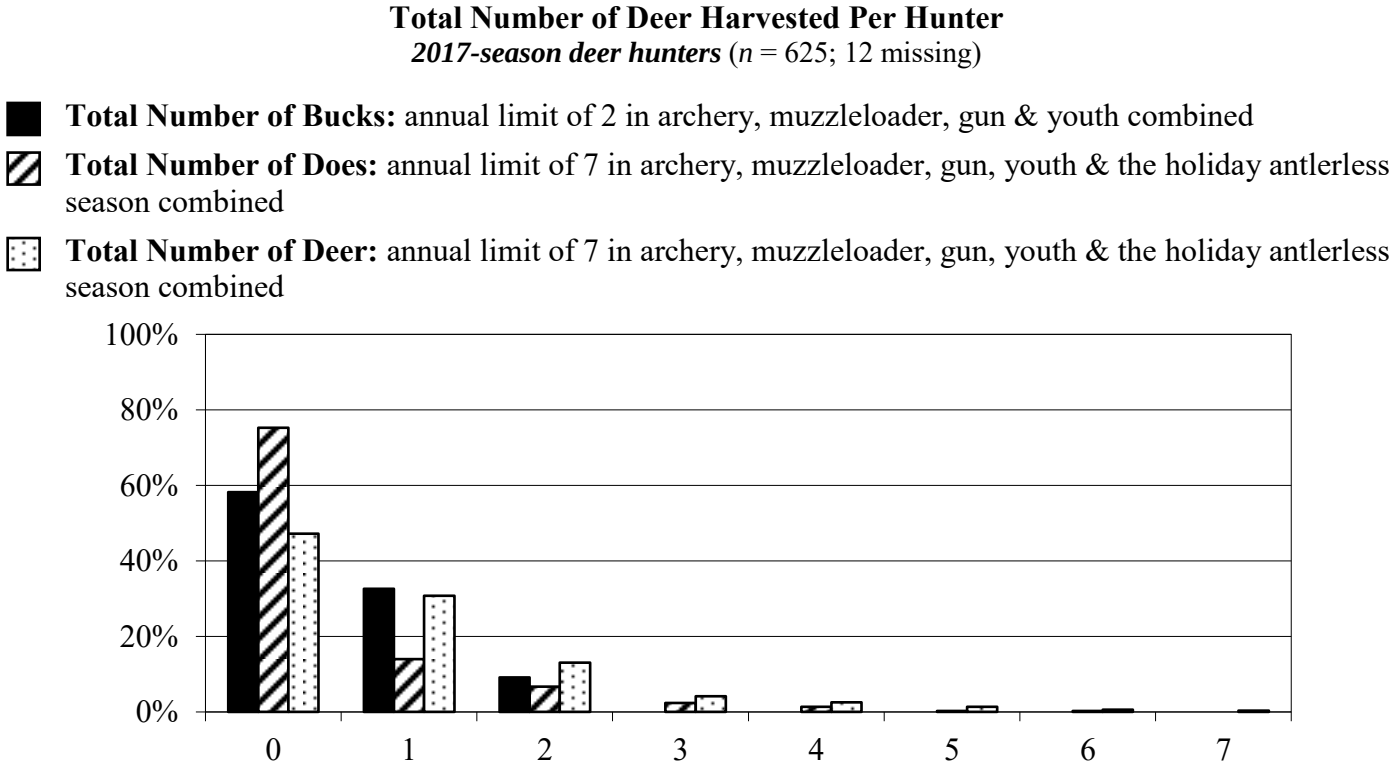


Figure B11. Total number of deer harvested per hunter across all 2017 seasons: archery, muzzleloader, gun, youth, and the holiday antlerless season.

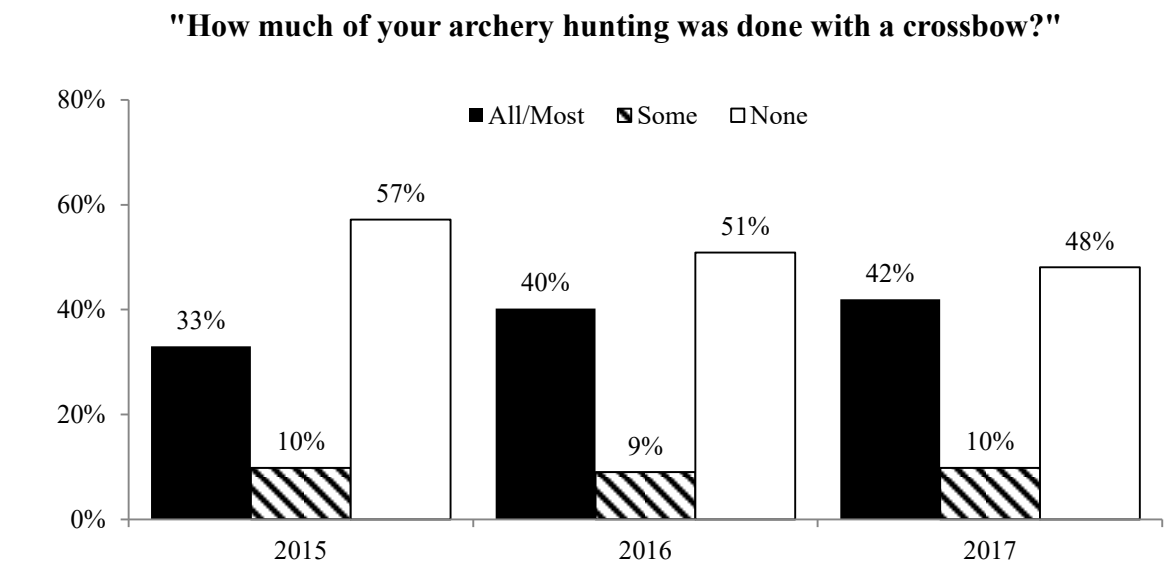


Figure B12. Crossbow use by 2015 archery deer hunters (*n* = 780); 2016 (*n* = 470); 2017 (*n* = 376).

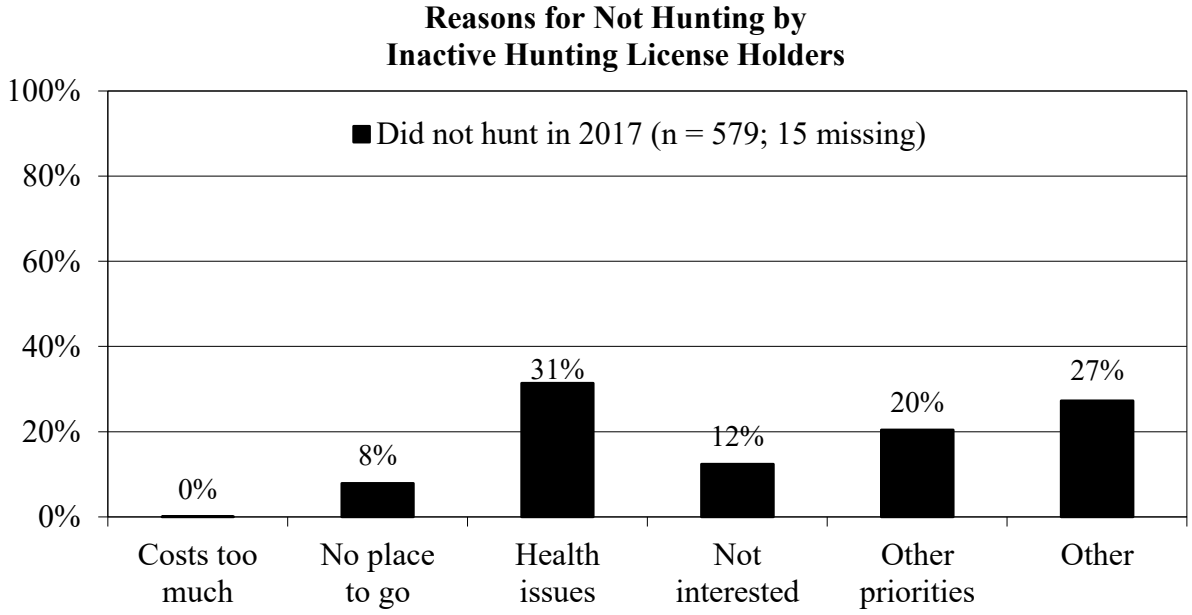


Figure B13. Barriers to hunting participation, by hunting license holders who were inactive in 2017.

"Did you use private land enrolled in the Oklahoma Land Access Program (OLAP) for any portion of your hunting during 2017?"
Active hunters 2017 (n = 741)

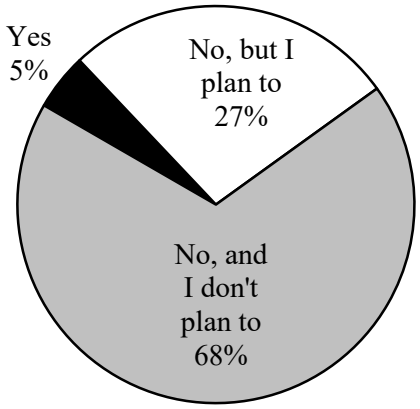


Figure B14. Use of Oklahoma Land Access Program lands for 2017 hunting, by active hunters.

[Asked of hunters who used OLAP land:]
"Did you harvest any of the following species on OLAP property?"

Multiple responses allowed.

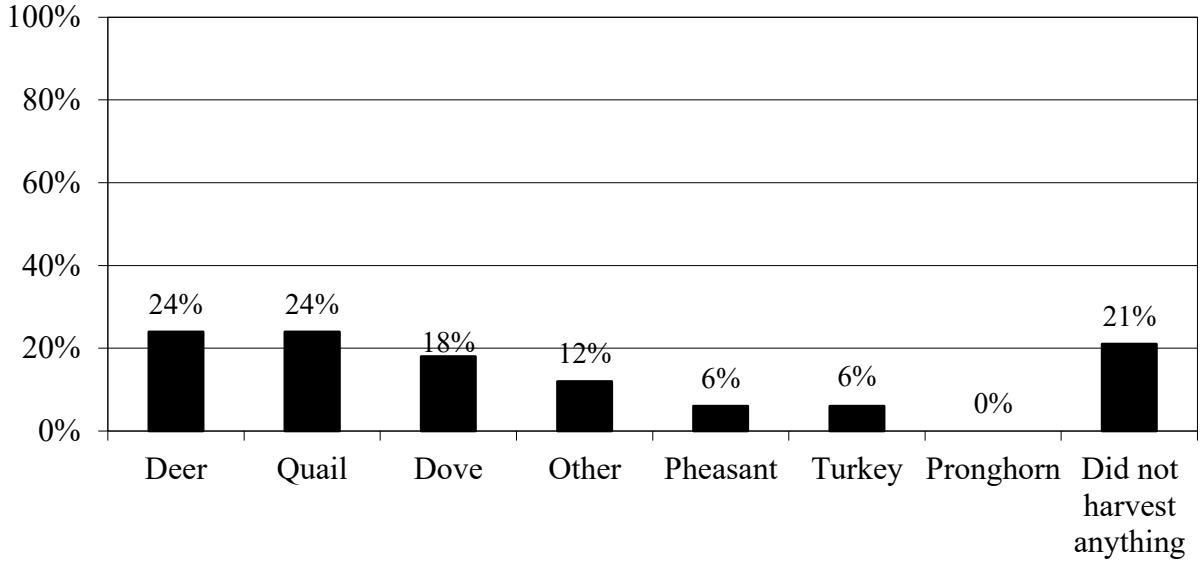


Figure B15. Species harvested and success by 2017 OLAP land (n = 34).

[Asked of hunters who used OLAP land:]
"How would you rate your satisfaction with the OLAP properties you hunted on?"

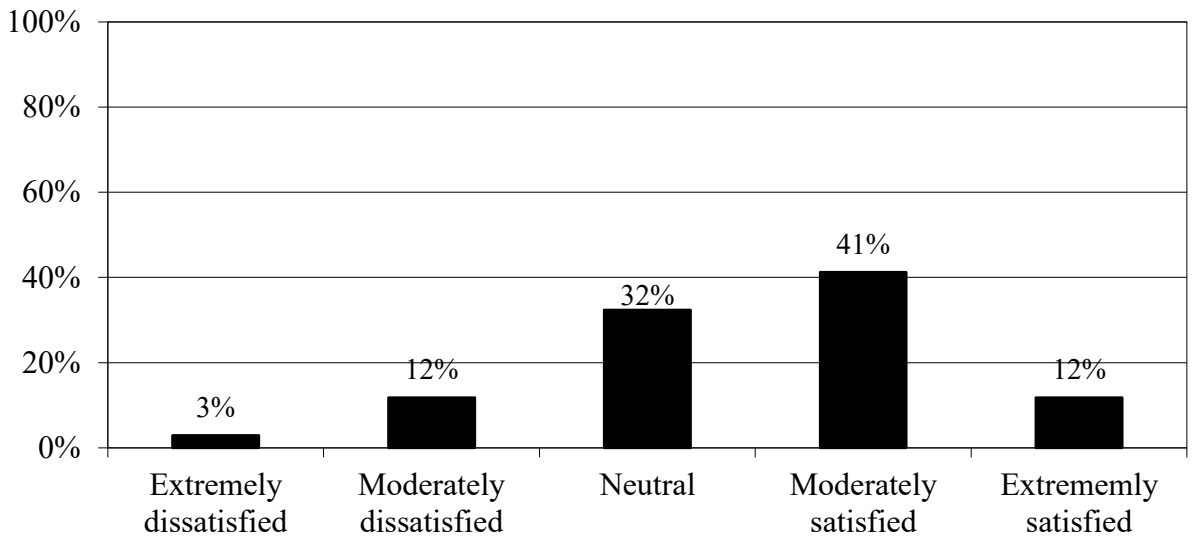


Figure B16. Satisfaction with OLAP property hunting, by 2017 OLAP hunters (*n* = 34).

"To what extent do you support or oppose the Wildlife Department doing each of the following..."

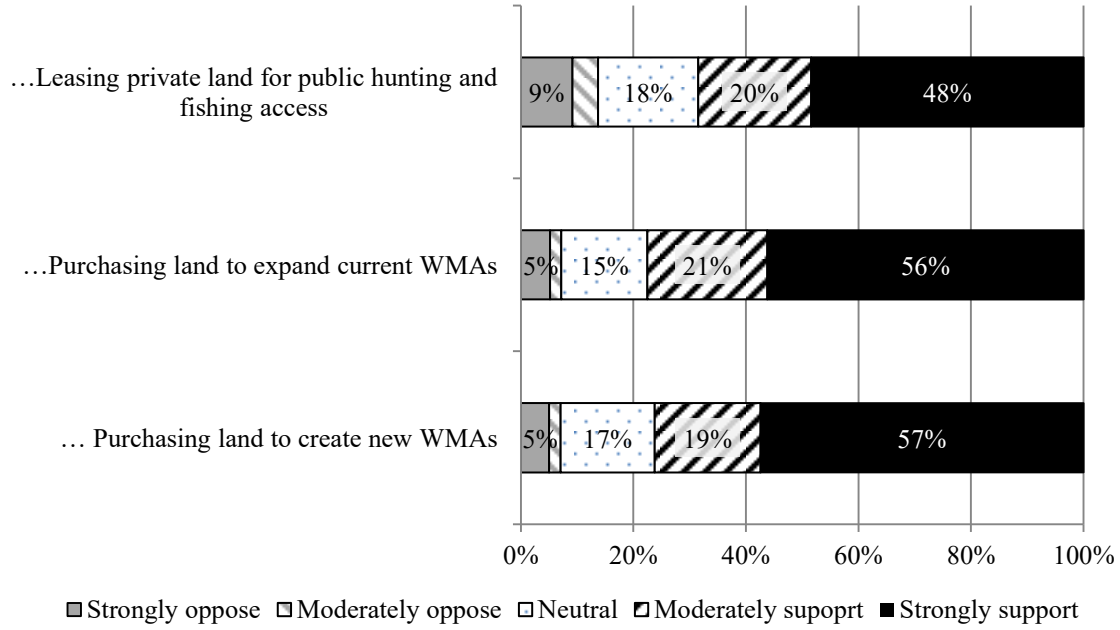


Figure B17. Hunter opinions about ODWC land purchasing and leasing (*n* = 708; excludes 82 respondents who selected "No opinion/Don't know").

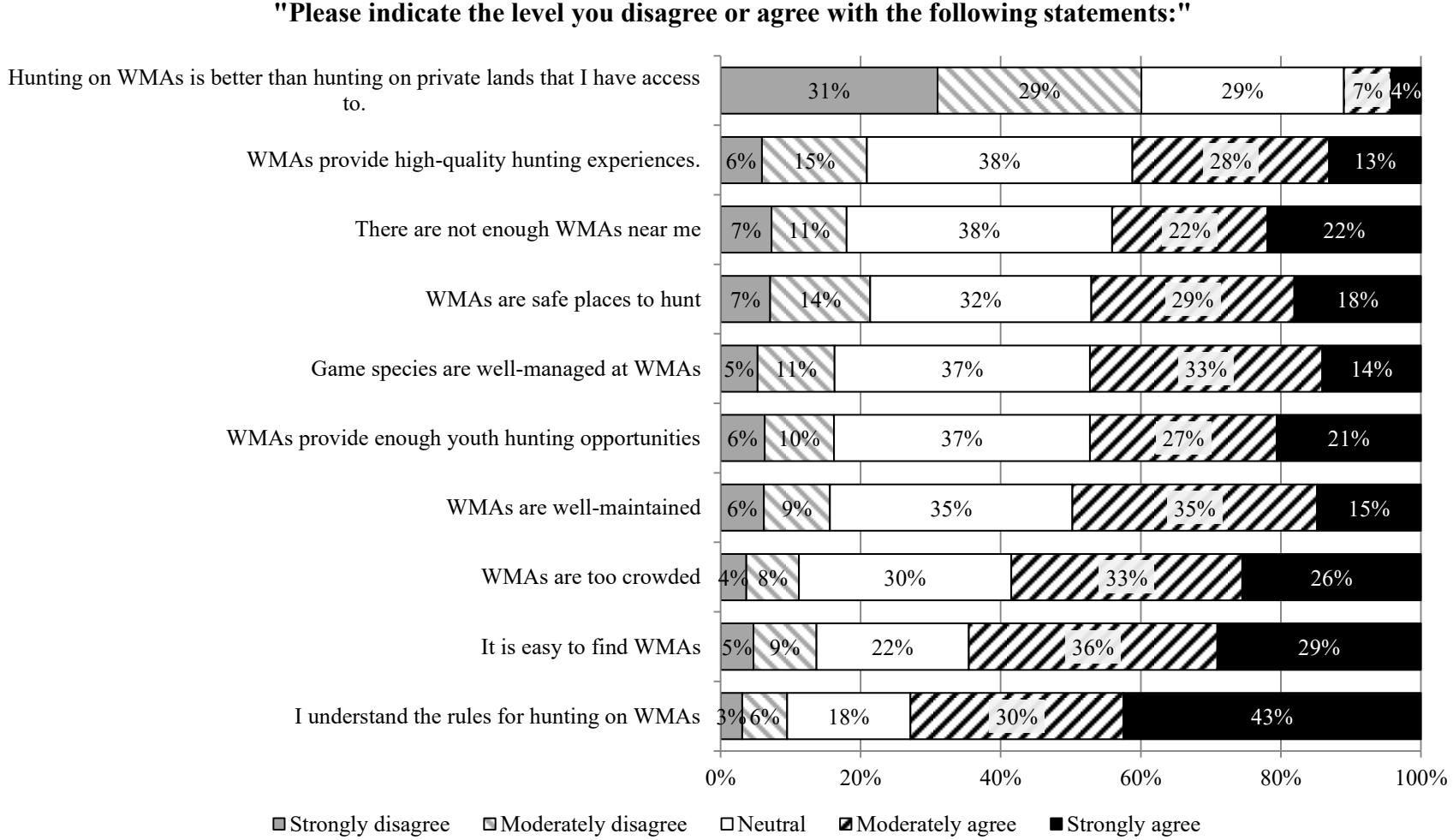


Figure B18. Hunter opinions about WMA attributes (n = 609 - 688; excludes 102-181 respondents who selected "No opinion/Don't know").

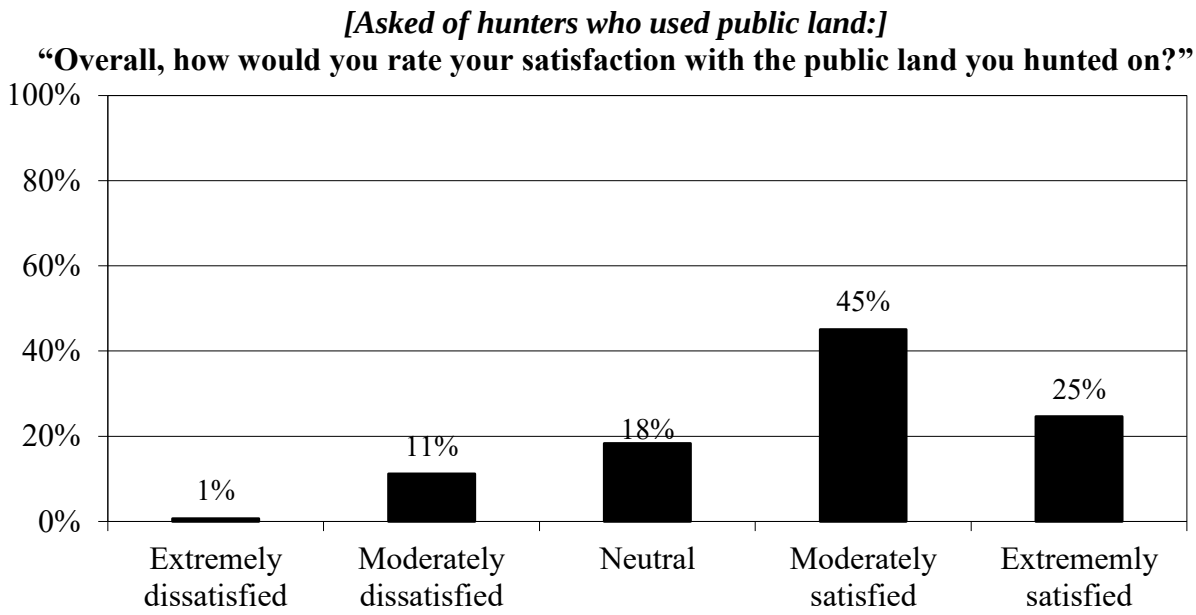


Figure B19. Satisfaction with public land hunting, by 2017 public land hunters (n = 268; excludes 10 respondents who selected "No opinion/Don't know").

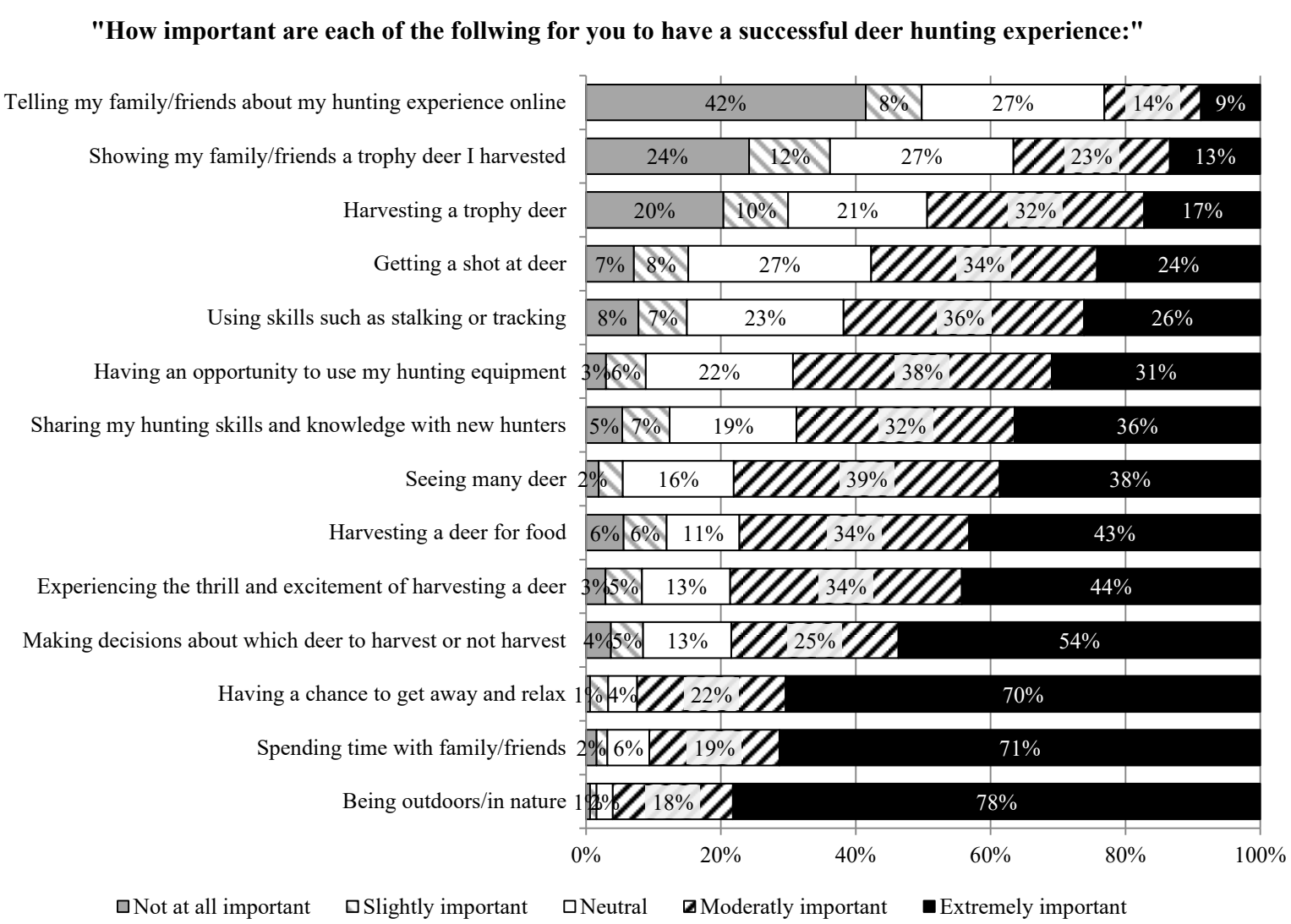


Figure B20. Deer hunter ratings of multiple aspects of a successful deer hunting experience (*n* = 620-628; 9-17 missing).

APPENDIX D
Survey Instrument

2017-Season Game Harvest Survey

Please help the Wildlife Department by participating in this study, **even if you did not hunt last year!**

The Oklahoma Department of Wildlife Conservation is conducting a statewide survey of hunting license holders. We are interested in learning about the seasons you hunted in 2017 (if any) and the game you harvested. Your answers will help us improve wildlife conservation in Oklahoma. Your answers will be kept confidential.

You are one of a few hunting license holders we have contacted, and we need your help -- even if you didn't hunt. You can complete the survey either by mail or by phone. If we do not receive your survey in the mail, we will try to contact you by phone.

If you have any questions or would like a report of this study's findings, please call Corey Jager at (405) 521-4651. Your help in this project is greatly appreciated, and we look forward to learning about your 2017 hunting experiences!

1. Did you hunt in Oklahoma during 2017?

☐ Yes → If yes, please continue with survey on the next page.

☐ No → **1a.** What was the **main** reason you did not hunt last year?

☐ Costs too much	☐ No place to go	☐ Health issues
☐ Not interested	☐ Other priorities	☐ Other

If you **did not hunt** in Oklahoma during 2017, your survey is complete! Please mail it today. Otherwise, please continue to question 2.

Public Land

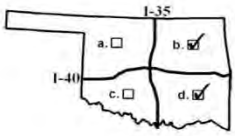
2. Did you use <u>public land</u> for any portion of your hunting in Oklahoma during 2017?

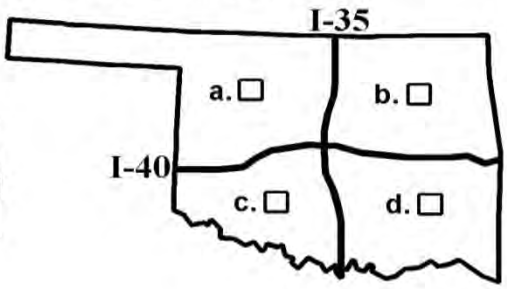
(Public land might include wildlife management areas, wildlife refuges, U.S. Army Corps of Engineers land, state parks, city-owned land, etc. NOT privately owned land or land enrolled in the Oklahoma Land Access Program (OLAP).)

☐ No → If no, go to question 9.
☐ Yes

3. Please check (☑) the box for **<u>each</u>** part of Oklahoma where you hunted on public land during 2017, based on the major highways:

Example:





4. How important is public land to you for hunting?

☐ Very important
☐ Somewhat important
☐ Not important

5. Considering all Oklahoma hunting seasons in 2017, how much of your hunting occurred on public vs. private land?

_____% **Public** land
_____% **Private** land
Total should equal: 100%

6. Check the box for each public land where you hunted during 2017:

☐ Altus-Lugert	☐ Drummond Flats	☐ Keystone	☐ Robbers Cave
☐ American Horse PFA	☐ Doc Hollis PFA	☐ Lexington	☐ Salt Plains NWR
☐ Arbuckle Springs	☐ Ellis County	☐ Little River NWR	☐ Sandy Sanders
☐ Arcadia CEA	☐ Elmer PFA	☐ Love Valley	☐ Schooler PFA
☐ Atoka	☐ Eufaula	☐ Lower Illinois River	☐ Schultz
☐ Beaver River	☐ Evans Chambers PFA	☐ Major County	☐ Sequoyah NWR
☐ Black Kettle	☐ Fobb Bottom	☐ McAlester AAP	☐ Shorb
☐ Blue River	☐ Fort Cobb	☐ McClellan-Kerr	☐ Skiatook
☐ Burtschi PFA	☐ Fort Gibson	☐ McCurtain County Wilderness Area	☐ Sparrow Hawk
☐ Broken Bow	☐ Fort Supply	☐ McGee Creek	☐ Spavinaw
☐ Camp Gruber	☐ Foss State Park	☐ Mountain Park	☐ Stringtown
☐ Candy Creek	☐ Gary Sherrer	☐ Nanih Waiya PFA	☐ Tenkiller
☐ Canton	☐ Gist	☐ Okmulgee	☐ Texoma Washita Arm
☐ Carl Etling PFA	☐ Grady County	☐ Oologah	☐ Three Rivers
☐ Cherokee	☐ Grassy Slough	☐ Optima	☐ Thunderbird State Park
☐ Chickasaw NRA	☐ Hackberry Flat	☐ Optima NWR	☐ Tishomingo NWR/WMU
☐ Cimarron Bluff	☐ Hall PFA	☐ Osage	☐ Vanderwork PFA
☐ Cimarron Hills	☐ Heyburn	☐ Ouachita	☐ Vincent PFA
☐ Cookson	☐ Hickory Creek	☐ Ozark Plateau	☐ Washita County WMA
☐ Cooper	☐ Honobia Creek	☐ Ozzie Cobb PFA	☐ Washita NWR
☐ Copan	☐ Hugo	☐ Packsaddle	☐ Watonga PFA
☐ Cross Timbers	☐ Hulah	☐ Pine Creek	☐ Waurika
☐ Dahlgren PFA	☐ James Collins	☐ Pushmataha	☐ Whitegrass Flats
☐ Deep Fork NWR	☐ Jap Beaver PFA	☐ Raymond Gary PFA	☐ Wichita Mountains NWR
☐ Deep Fork WMA	☐ John Dahl	☐ Red Slough	☐ Wister
☐ Dewey County	☐ Kaw	☐ Rita Blanca	☐ Yourman

7. During a *typical* public land hunt, how many people, including you, arrive together in the same vehicle?

☐ 1 (travel alone) ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7+

8a. Overall, how would you rate your satisfaction with the public land you hunted on? (*Check one*)

☐	☐	☐	☐	☐
Extremely dissatisfied	*Moderately dissatisfied*	*Neutral*	*Moderately satisfied*	*Extremely satisfied*

b. If *dissatisfied*: What could we do to improve your experience?

9. We would like to learn about your opinions about Wildlife Management Areas (WMAs) in Oklahoma. To what extent do you support or oppose the Wildlife Department doing each of the following... (*Circle one number per line*)

	Strongly oppose	Moderately oppose	Neutral	Moderately support	Strongly support	No opinion/ Don't know
...*Purchasing* land to create new WMAs.	1	2	3	4	5	☐
...*Purchasing* land to expand current WMAs.	1	2	3	4	5	☐
...*Leasing* private land for public hunting and fishing access.	1	2	3	4	5	☐

10. Please indicate the level to which you disagree or agree with the following statements. (*Circle one number per line)*

	Strongly disagree	Moderately disagree	Neutral	Moderately agree	Strongly agree	No opinion/ Don't know
It is easy to find Wildlife Management Areas (WMAs).	1	2	3	4	5	☐
Hunting on WMAs is better than hunting on private lands that I have access to.	1	2	3	4	5	☐
WMAs provide enough youth hunting opportunities.	1	2	3	4	5	☐
I understand the rules for hunting on WMAs.	1	2	3	4	5	☐
There are not enough WMAs near me.	1	2	3	4	5	☐
WMAs provide high-quality hunting experiences.	1	2	3	4	5	☐
WMAs are well-maintained.	1	2	3	4	5	☐
WMAs are too crowded.	1	2	3	4	5	☐
Game species are well-managed at WMAs.	1	2	3	4	5	☐
WMAs are safe places to hunt.	1	2	3	4	5	☐

Oklahoma Land Access Program

11. Did you use private land enrolled in the Oklahoma Land Access Program (OLAP) for any portion of your hunting during 2017?

- ☐ Yes
- ☐ No, and I don't plan to in the future
- ☐ No, but I plan to in the future

→ If no, go to question 15

12. Which OLAP walk-in area did you hunt on **most often**? Leave blank if unsure.

OLAP ID (ex: LOGAN_001):_____

County or nearest town:_____

13. Did you harvest any of the following species on OLAP property? (*Check all that apply*)

- ☐ Deer
- ☐ Dove
- ☐ Pheasant
- ☐ Pronghorn
- ☐ Quail
- ☐ Turkey
- ☐ Other: _____
- ☐ I did not harvest anything

14a. How would you rate your satisfaction with the OLAP properties you hunted on? (*Check one)*

☐	☐	☐	☐	☐
Extremely dissatisfied	*Moderately dissatisfied*	*Neutral*	*Moderately satisfied*	*Extremely satisfied*

b. If dissatisfied: What could we do to improve OLAP?

Hunting in Oklahoma during 2017

Please complete the box for each season <u>you</u> hunted in Oklahoma during 2017 (not others in your household or hunting party). If you are unsure about exact numbers, please estimate.

15. Quail

a. Did you hunt **quail** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)

b. How many days did you hunt quail? _____

c. How many quail did you harvest? _____Scaled quail
_____Bobwhite
_____Unsure of species
☐ None

d. County you hunted quail most often? _____
(If unsure, what town is closest?)

e. Land used for quail hunting? ☐Public ☐Private ☐Both

If you hunted quail on <u>public</u> land at all during 2017:

f. How many days did you hunt quail on public land? _____

g. How many quail did you harvest on public land? _____

16. Pheasant

a. Did you hunt **pheasant** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)

b. How many days did you hunt pheasant? _____

c. How many pheasant did you harvest? _____☐ None

d. County you hunted pheasant most often? _____
(If unsure, what town is closest?)

e. Land used for pheasant hunting? ☐ Public ☐ Private ☐ Both

If you hunted pheasant on <u>public</u> land at all during 2017:

f. How many days did you hunt pheasant on public land? _____

g. How many pheasant did you harvest on public land? _____

17. Dove

a. Did you hunt **dove** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)

b. How many days did you hunt dove? _____

c. How many dove did you harvest? _____ ☐ None

d. County you hunted dove most often? _____
(If unsure, what town is closest?)

e. Land used for dove hunting? ☐ Public ☐ Private ☐ Both

If you hunted dove on <u>public</u> land at all during 2017:

f. How many days did you hunt dove on public land? _____

g. How many dove did you harvest on public land? _____

18. Woodcock

a. Did you hunt **woodcocks** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)

b. How many days did you hunt woodcocks? _____

c. How many woodcocks did you harvest? _____ ☐ None

d. County you hunted woodcocks most often? _____
(If unsure, what town is closest?)

e. Land used for woodcock hunting? ☐ Public ☐ Private ☐ Both

If you hunted woodcocks on <u>public</u> land at all during 2017:

f. How many days did you hunt woodcocks on public land? _____

g. How many woodcocks did you harvest on public land? _____

19. Spring Turkey

a. Did you hunt **spring turkey** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)

b. How many days did you hunt spring turkey? _____

c. How many spring turkey did you harvest? _____ ☐ None

d. County you hunted spring turkey most often? _____
(If unsure, what town is closest?)

e. Land used for spring turkey hunting? ☐ Public ☐ Private ☐ Both

If you hunted turkey on <u>public</u> land at all during spring 2017:

f. How many days did you hunt spring turkey on public land? _____

g. How many spring turkey did you harvest on public land? _____

20. Fall Turkey

a. Did you hunt **fall turkey** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)

b. How many days did you hunt fall turkey? _____

c. What did you harvest? ☐ Hen ☐ Tom ☐ No fall turkey harvested

d. County you hunted fall turkey most often? _____
(If unsure, what town is closest?)

e. Land used for fall turkey hunting? ☐ Public ☐ Private ☐ Both

If you hunted turkey on <u>public</u> land at all during fall 2017:

f. How many days did you hunt fall turkey on public land? _____

g. How many fall turkey did you harvest on public land? _____

21. Gray Squirrel

a. Did you hunt **gray squirrels** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)

b. How many days did you hunt gray squirrels? _____

c. How many gray squirrels did you harvest? _____ ☐ None

d. County you hunted gray squirrels most often? _____
(If unsure, what town is closest?)

e. Land used for gray squirrel hunting? ☐ Public ☐ Private ☐ Both

If you hunted gray squirrels on <u>public</u> land at all during 2017:

f. How many days did you hunt gray squirrels on public land? _____

g. How many gray squirrels did you harvest on public land? _____

22. Fox Squirrel

a. Did you hunt **fox squirrels** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)

b. How many days did you hunt fox squirrels? _____

c. How many fox squirrels did you harvest? _____ ☐ None

d. County you hunted fox squirrels most often? _____
(If unsure, what town is closest?)

e. Land used for fox squirrel hunting? ☐ Public ☐ Private ☐ Both

If you hunted fox squirrels on <u>public</u> land at all during 2017:

f. How many days did you hunt fox squirrels on public land? _____

g. How many fox squirrels did you harvest on public land? _____

23. Cottontail Rabbit

a. Did you hunt **cottontail rabbits** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)
b. How many days did you hunt cottontail rabbits? _____
c. How many cottontail rabbits did you harvest? _____ ☐ None
d. County you hunted cottontail rabbits most often?_____
(If unsure, what town is closest?)
e. Land used for cottontail rabbit hunting? Public ☐ Private ☐ Both

If you hunted cottontail rabbits on public land at all during 2017:
f. How many days did you hunt cottontail rabbits on public land?_____
g. How many cottontail rabbits did you harvest on public land? _____

24. Jackrabbit

a. Did you hunt **jackrabbits** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)
b. How many days did you hunt jackrabbits? _____
c. How many jackrabbits did you harvest? _____ ☐ None
d. County you hunted jackrabbits most often?_____
(If unsure, what town is closest?)
e. Land used for jackrabbit hunting? ☐ Public ☐ Private ☐ Both

If you hunted jackrabbits on public land at all during 2017:
f. How many days did you hunt jackrabbits on public land?_____
g. How many jackrabbits did you harvest on public land?_____

25. Swamp Rabbit

a. Did you hunt **swamp rabbits** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)

b. How many days did you hunt swamp rabbits? _____

c. How many swamp rabbits did you harvest? _____ ☐ None

d. County you hunted swamp rabbits most often? _____
(If unsure, what town is closest?)

e. Land used for swamp rabbit hunting? ☐ Public ☐ Private ☐ Both

If you hunted swamp rabbits on <u>public</u> land at all during 2017:

f. How many days did you hunt swamp rabbits on public land? _____

g. How many swamp rabbits did you harvest on public land? _____

26. Crow

a. Did you hunt **crows** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)

b. How many days did you hunt crows? _____

c. How many crows did you harvest? _____ ☐ None

d. County you hunted crows most often? _____
(If unsure, what town is closest?)

e. Land used for crow hunting? ☐ Public ☐ Private ☐ Both

If you hunted crows on <u>public</u> land at all during 2017:

f. How many days did you hunt crows on public land? _____

g. How many crows did you harvest on public land? _____

27. Ducks

a. Did you hunt **ducks** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)
b. Land used for duck hunting? ☐ Public ☐ Private ☐ Both

28. Geese

a. Did you hunt **geese** in Oklahoma during 2017? ☐ Yes ☐ No
(If no, skip to next box.)
b. Land used for goose hunting? ☐ Public ☐ Private ☐ Both

29. Furbearers

a. Did you hunt or trap **furbearers** in Oklahoma during 2017?
☐ Yes ☐ No *(If no, skip to next box)*

b. Which did you hunt or trap?		**c.** How many days?		**d.** How many did you harvest?
☐ Coyote	→	_____	→	_____
☐ Bobcat	→	_____	→	_____
☐ Raccoon	→	_____	→	_____
☐ Beaver	→	_____	→	_____
☐ Otter	→	_____	→	_____
☐ Gray fox	→	_____	→	_____
☐ Red fox	→	_____	→	_____

Feral Swine Hunting/Trapping in 2017

30. Feral Swine

a.	Did you hunt or trap **free-ranging feral swine** in Oklahoma during 2017? (*If no, skip to question 31.*)	☐ Yes	☐ No
b.	Did you hunt, trap or do both? *Check all that apply and fill in columns below.*	☐ Hunt	☐ Trap
c.	How many days?	_____	_____
d.	How many did you harvest?	_____	_____
e.	County you hunted/trapped most often?	_____	_____

Deer Hunting in 2017

31. Deer

a. Did you hunt **deer** in Oklahoma during 2017?

☐ Yes ☐ No → *(If you did not hunt deer during 2017, your survey is complete!)*

b. County you hunted deer most often? _____
(If unsure, what town is closest?)

c. How many years have you been hunting deer in Oklahoma? _____

d. Land used for deer hunting? ☐ Public ☐ Private ☐ Both

32. Deer: Archery Season

a. Did you hunt **deer** during **archery** season? (Oct. 1 - Jan. 15)
☐ **Yes** ☐ No *(If no, skip to 33.)*

b. How much of your archery hunting was done with a crossbow?
☐All or most ☐Some ☐None

c. How many **days** did you hunt during archery? _____
d. Number of **bucks** harvested during archery? _____☐ None
e. Number of **does** harvested during archery? _____☐ None

33. Deer: Muzzleloader Season

a. Did you hunt **deer** during **muzzleloader** season? (Oct. 28 – Nov. 5)
☐ **Yes** ☐ No *(If no, skip to 34.)*

b. How many **days** did you hunt during muzzleloader? _____
c. Number of **bucks** harvested during muzzleloader? _____☐ None
d. Number of **does** harvested during muzzleloader? _____☐ None

34. Deer: Youth Gun Season

a. Did you participate in the **youth deer gun** season in October as a youth hunter? (Oct. 20 – 22) *(If no, skip to 35.)*
☐ Yes ☐ No

b. How many **days** did you hunt during youth season? _____
c. Number of **bucks** harvested during youth season? _____☐ None
d. Number of **does** harvest during youth season? _____☐ None

35. Deer: Regular Gun Season

a. Did you hunt **deer** during the **regular gun** season? (Nov. 18 – Dec. 3)
☐ Yes ☐ No *(If no, skip to 36.)*

b. How many **days** did you hunt during gun season? _____
c. Number of **bucks** harvested during gun season? _____☐ None
d. Number of **does** harvest during gun season? _____☐ None

36. Deer: Holiday Antlerless Gun Season

a. Did you hunt **deer** during the **holiday antlerless deer gun** season? (Dec. 22 - 31)
☐ Yes ☐ No

b. How many **days** did you hunt during holiday season? _____
c. Number of **does** harvested during holiday season? _____☐ None

37. How important are each of the following for you to have a successful deer hunting experience? (*Circle one number per line.*)

	Not at all Important	Slightly important	Neutral	Moderately important	Extremely Important
Harvesting a deer for food.	1	2	3	4	5
Harvesting a trophy deer.	1	2	3	4	5
Spending time with family/friends.	1	2	3	4	5
Being outdoors/in nature.	1	2	3	4	5
Seeing many deer.	1	2	3	4	5
Getting a shot at deer.	1	2	3	4	5
Using skills such as stalking or tracking.	1	2	3	4	5
Showing my family/friends a trophy deer I harvested.	1	2	3	4	5
Having an opportunity to use my hunting equipment.	1	2	3	4	5
Having a chance to get away and relax.	1	2	3	4	5
Telling my family/friends about my hunting experience online.	1	2	3	4	5
Sharing my hunting skills and knowledge with new hunters.	1	2	3	4	5
Experiencing the thrill and excitement of harvesting a deer.	1	2	3	4	5
Making decisions about which deer to harvest or not harvest.	1	2	3	4	5

The Wildlife Department is often interested in gathering input from hunters on a variety of issues. If you are interested in providing input through secure online communication, ***please provide your email below***. You may or may not be contacted for future follow-up studies.

_____@_____._____

Thank you! Your survey is complete. Please mail the survey today using the enclosed postage-paid envelope.