



# Michigan Deer Harvest Survey Report 2018 Seasons

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## ABSTRACT

*A survey of deer hunters was conducted following the 2018 hunting seasons to estimate hunter participation, harvest, and hunting effort. In 2018, an estimated 554,331 hunters spent 7.5 million days afield. Statewide, the number of people hunting decreased significantly by 3% between 2017 and 2018. Hunters harvested about 361,000 deer. Harvest decreased significantly by 4% between 2017 and 2018. Statewide, nearly 49% of hunters harvested a deer in 2018. About 22% of hunters took an antlerless deer and 35% took an antlered buck. Approximately 15% of deer hunters harvested two or more deer of any type. About 5% of hunters statewide harvested two antlered bucks. Levels of satisfaction with the number of bucks seen, deer harvested, and overall experience in 2018 were not significantly different from 2017; however, satisfaction with the number of deer seen decreased significantly in 2018. Statewide, 52% of hunters were satisfied with their overall hunting experience in 2018. About 202,600 hunters used a crossbow during the 2018 archery season, and they harvested approximately 74,700 deer with the crossbow. About 18% fewer individuals purchased a deer hunting license in 2018 than ten years ago in 2008. Although the overall number of license buyers declined from 2008, an increased number of people younger than 12 years of age and people older than 54 purchased a license in 2018. About 10% of the license buyers in 2018 were younger than 17 years old. Among hunters who harvested a deer in 2018, 84% shared their venison with somebody. Sharing occurred most frequently among members of hunters' households (58%), relatives (43%), and friends, neighbors, or coworkers (39%). Hunters who shared did so with an average of 5.5 people. The 2018 estimates of venison sharing were similar to estimates reported in 2013; thus, it doesn't appear that hunters have altered the frequency and extent that they share venison since CWD was discovered among Michigan wild deer in 2015. An estimated 134,644 hunters took 161,824 deer to a commercial meat processor in 2018 (i.e., 45% of the harvested deer). About 40% of hunters supported the new discounted antlerless license that was available for use on private land in the 16-county CWD*



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*Management Zone, and about 39% of hunters supported making this new license type available in their preferred hunting area.*

## **INTRODUCTION**

The Natural Resources Commission (NRC) and the Michigan Department of Natural Resources (DNR) have the authority and responsibility to protect and manage the wildlife resources of the state of Michigan. Harvest surveys are one of the management tools used to accomplish this statutory responsibility. Estimating hunter participation, harvest, and hunting effort (hereafter referred to as estimates) are the primary objectives of these surveys. Estimates derived from harvest surveys and information from deer (*Odocoileus virginianus*) harvest check stations, trends in deer-vehicle collisions, population modeling, and input received from the public are used to monitor deer populations and establish harvest regulations.

Although estimating harvest, hunter numbers, and hunting effort were the primary objectives of the deer harvest survey (Appendix A), this survey also provided an opportunity to collect information about management issues. Questions were added to investigate hunter satisfaction with the 2018 hunting season and deer numbers. Deer hunters were also asked their opinions about the new discounted antlerless license type that was available in 2018. This new antlerless license was only valid on private land in the 16-county Chronic Wasting Disease (CWD) Management Zone (Calhoun, Clinton, Eaton, Gratiot, Hillsdale, Ingham, Ionia, Isabella, Jackson, Kent, Mecosta, Montcalm, Muskegon, Newaygo, Ottawa, and Shiawassee counties). Hunters also were asked to report whether they used trail cameras to hunt deer. Finally, hunters were asked to indicate whether they had shared venison with anybody during the previous 12 months.

Deer were grouped into either antlered or antlerless deer when developing hunting regulations. Antlered deer included deer with at least one antler three inches or longer, and antlerless deer included deer without antlers and deer with antlers less than 3 inches in length. The type of deer that could be harvested by hunters depended upon the area hunted, hunting season, and license purchased (Tables 1 and 2). During 2018, deer could be harvested primarily during nine hunting seasons: Liberty, archery, regular firearm, muzzleloader, early antlerless, late antlerless, Independence, urban archery, and a disease surveillance hunt.

In order to harvest a deer, hunters had to possess a hunting license (deer, combination, antlerless, or mentored youth license) (Table 2). A harvest tag was issued as part of the hunting license. Deer, mentored youth, and antlerless licenses included one harvest tag, while combination licenses had two harvest tags.

Hunters could purchase a maximum of two licenses for taking antlered deer. Hunters wanting to harvest only one antlered deer could purchase a single deer license (one kill tag), while hunters wanting to take two antlered deer could purchase a combination license (two kill tags). Hunters who purchased a single deer license could not purchase a second deer license or a combination license.

If a hunter took two antlered deer, one needed to have at least one antler with four or more points (qualifying points must be at least one inch), except for deer taken by mentored youth hunters or in the 16-county CWD Management Zone. A person with a mentored youth license could use their one harvest tag to take a deer of either sex during the archery, regular firearm, muzzleloader, or Liberty seasons.

Antlerless licenses could be purchased in addition to deer, mentored youth, or combination licenses. Antlerless deer licenses allowed hunters to take antlerless deer during any season with equipment appropriate for the season. Use of each antlerless license was restricted to a single DMU designated at the time of purchase. Antlerless licenses were available for most of the state, except in seventeen DMUs (007, 017, 021, 022, 027, 031, 036, 042, 048, 066, 117, 127, 131, 152, 249, 252, and 349) in the UP. A limited number of antlerless licenses were issued specifically for either public or private lands. Public land antlerless licenses were not available in all DMUs that had private land licenses. A public-land antlerless deer license was required to hunt antlerless deer on Commercial Forest land. The number of licenses available in DMUs open to antlerless deer hunting was established by the NRC (Appendix B). Hunters could apply for an antlerless license through the drawing, purchase a private land license for selected areas without application, or wait to purchase a leftover license after the drawing, if available.

A private land antlerless deer hunting license was valid for taking antlerless deer only from privately-owned lands within the DMU specified on the license with landowner permission. A private land license was not valid on land enrolled in the Commercial Forest Act program (Commercial Forest Lands).

An additional discounted antlerless license type was available in 2018 that was only valid on private land in the 16-county CWD Management Zone. This license was available at a reduced cost (\$12 versus \$20); however, it expired on November 4, 2018. This discounted license was created to encourage hunters to take an antlerless deer during an early hunting season. This license did not replace the usual antlerless license. Instead, both antlerless license types were available and a hunter could purchase both types.

A public land antlerless deer hunting license allowed an individual to hunt for antlerless deer upon publicly-owned lands (including state, federal, and county lands) open to hunting and Commercial Forest Lands within the DMU for which it was issued. A public land license was invalid on any privately-owned lands except Commercial Forest Lands.

Deer Management Unit 487 included all of Alcona, Alpena, Iosco, Montmorency, Oscoda, and Presque Isle counties (DMUs 001, 004, 035, 060, 068, 071, and 452). An individual could purchase up to a season limit of 5 private-land antlerless deer licenses statewide, except for licenses valid in the 16-county CWD Management Zone and DMU 487. For these areas, an individual could purchase a maximum of ten antlerless deer licenses until the quota had been met. In addition, there was no seasonal limit for public land antlerless licenses in any DMU where licenses were available.

The Pure Michigan Hunt (PMH) was a unique multi-species hunting opportunity offered for the first time in 2010. Individuals could purchase an unlimited number of applications for the PMH. Three individuals were randomly chosen from all applications, and winners received elk, bear, spring turkey, fall turkey, and antlerless deer hunting licenses and could participate in a reserved waterfowl hunt on a managed waterfowl area. The antlerless deer hunting license was valid for all areas open for hunting antlerless deer and during all deer hunting seasons in which they were eligible to participate.

Deer Management Assistance (DMA) permits were special antlerless permits issued to landowners where the number of antlerless licenses was insufficient to meet the objective of specific landowners (e.g., controlling crop damage). These permits allowed hunters to take one antlerless deer per permit during any deer season on the land where issued or adjacent private lands with the landowner's permission. To use these permits, the hunter also must have purchased a valid deer hunting license for the season in which they were hunting and abide by all other hunting regulations.

Managed Deer Hunt permits were antlerless permits that could be used during special seasons on some public lands (e.g., state parks, state wildlife areas, and some federal land). These permits were issued by special random drawings. To use these permits, the hunter also must have purchased a valid deer hunting license and abide by all other hunting regulations.

The Liberty Season was held during September 22-23 on public and private lands statewide. Youth (less than 17 years old) and hunters with certain disabilities could take no more than one deer during the season. Eligible hunters to participate in this season included hunters issued a permit to use a laser-sighting device or to hunt from a standing vehicle, veterans with 100% disability or rated unemployable as defined by the United States Department of Veterans Affairs, or people who are legally blind. Hunters could take one deer of either sex using a deer or combination license, and antler point restrictions did not apply to taking antlered deer. Only an antlerless deer could be taken with an antlerless license or DMA permit. Youth less than 14 years of age could hunt with archery and crossbow equipment on public or private lands or with a firearm on private or Commercial Forest lands only. All hunters under age 17 hunting with a firearm had to be accompanied by a parent, guardian or someone designated by their parent or guardian. In addition, hunters under 10 years of age had to be licensed through the Mentored Youth Hunting Program and accompanied by a qualified mentor.

The archery season occurred statewide on public and private lands. This season was divided into early and late segments (October 1 through November 14 and December 1, 2018, through January 1, 2019). In addition, a January urban archery hunt also was held for the second consecutive year. This archery season occurred during January 2-31, 2019, in Macomb, Oakland, and Wayne counties. Deer licenses, antlerless deer licenses, combination licenses, mentored youth licenses, and DMA permits could be used to take deer during the archery seasons using archery equipment.

Deer could also be taken in the Independence Hunt during October 18-21, 2018. Hunters could take one deer of either sex on private lands or public lands requiring an access permit. Hunters could use a deer or combination license, and antler point restrictions did not apply to taking antlered deer. Only an antlerless deer could be taken with an antlerless license or DMA permit. Only hunters that were issued a permit to use a laser-sighting device or to hunt from a standing vehicle; veterans with 100% disability or rated unemployable as defined by the United States Department of Veterans Affairs; or people who are legally blind could participate in this season.

The statewide regular firearm season occurred November 15-30. The muzzleloader season was held December 7-16 in the UP and Northern LP, and December 7-23 in the Southern LP. Hunters were allowed to take deer on both public and private lands with mentored youth, deer and deer combo hunting licenses during the regular firearm and muzzleloader seasons. Antlerless licenses (including DMA permits) also could be used during the firearm seasons.

The early antlerless firearm season occurred on private land from September 22-23. Hunters pursuing deer during this season had to purchase an antlerless or mentored youth license, except for hunters in the CWD Management Zone and DMU 487 which could use any valid deer hunting license to take an antlerless deer. The area open to hunting during the early antlerless season was limited to all or portions of 50 counties in the LP (Alcona, Alpena, Antrim, Arenac, Bay, Benzie, Calhoun, Charlevoix, Clare, Clinton, Eaton, Genesee, Gladwin, Grand Traverse, Gratiot, Hillsdale, Huron, Ingham, Ionia, Iosco, Isabella, Jackson, Kent, Lapeer, Leelanau, Lenawee, Livingston, Macomb, Manistee, Mason, Mecosta, Midland, Monroe, Montcalm, Montmorency, Muskegon, Newaygo, Oakland, Oceana, Osceola, Oscoda, Ottawa, Presque Isle, St. Clair, Saginaw, Sanilac, Shiawassee, Tuscola, Washtenaw, and Wayne counties). Thirteen additional counties were open in 2018 than in 2017.

The late antlerless firearm season occurred on private land from December 17, 2018, through January 1, 2019. Hunters pursuing deer during this season had to purchase an antlerless or mentored youth license, except for hunters in the CWD Management Zone and DMU 487 which could use any valid deer hunting license to take an antlerless deer. All counties open during the early antlerless firearm season were also open for the late antlerless firearm season, as well as eight additional counties: Allegan, Barry, Berrien, Branch, Cass, Kalamazoo, St. Joseph, and Van Buren. Four additional counties were open in 2018 than in 2017.

A January firearm deer hunt occurred during January 3-6 and January 10-13 in portions of Alpena County. This special hunt was created to help with disease surveillance (i.e., bovine tuberculosis). The hunt was only held on private land and only antlerless deer could be harvested. Antlerless deer could be harvested with a deer license, deer combination license, or private land antlerless deer license for DMU 487. The area open to hunting during the disease surveillance season decreased from 2017 (i.e., Ionia and Montcalm counties were removed from the season).

Crossbows were legal to use during all archery and firearm seasons statewide, except in the UP, where crossbow use was prohibited during the late archery and muzzleloader seasons, unless the hunter was disabled.

## **METHODS**

The Wildlife Division provided all hunters the option to report information about their deer hunting activity voluntarily via the internet. This option was advertised through the hunting regulation booklet (digest) and on the DNR website, and an email message was sent to all license buyers that had provided an email address to the DNR (163,886). Hunters reported whether they hunted, the days spent afield, and whether they harvested a deer. Deer hunters were also asked whether they used a trail camera to hunt deer, whether they shared venison with anybody, and whether they supported the new discounted antlerless license type that was created in 2018. Following the 2018 deer hunting seasons, a questionnaire (Appendix A) was sent to 61,388 randomly selected individuals who had purchased a hunting license (deer, antlerless, mentored youth, or combination deer hunting licenses) and had not already voluntarily reported harvest information via the internet. Hunters receiving the mail questionnaire were asked the same questions as asked via the internet. Hunters were instructed not to report hunting effort and harvest associated with DMA permits because landowners obtaining these permits already were required to report the number of deer harvested to the DNR.

CWD is a fatal neurodegenerative disease affecting several species of wildlife in the Cervidae family including white-tailed deer. CWD is considered the most important disease currently threatening North American cervids (Gillin et al. 2018). Although no human CWD infections have been reported, human health authorities recommend that hunters avoid consuming any animal that has tested positive for CWD (Gillin et al. 2018). Goguen et al. (2017) described how often and to whom Michigan deer hunters shared venison in 2013. The questions used in 2013 were repeated for the current survey to determine whether hunter's behaviors had changed since 2013, especially in light of the discovery of CWD among wild Michigan deer in 2015 (Stewart et al. 2016).

Estimates were based primarily on information collected from random samples of hunting license buyers. Thus, these estimates were subject to sampling errors (Cochran 1977). Estimates were calculated using a stratified random sampling design (Cochran 1977) and were presented along with their 95% confidence limit (CL). In theory, this CL can be added and subtracted from the estimate to calculate the 95% confidence interval. The confidence interval is a measure of the precision associated with the estimate and implies the true value would be within this interval 95 times out of 100. Unfortunately, there are several other possible sources of error in surveys that are probably more serious than theoretical calculations of sampling error. They include the failure of participants to provide answers (nonresponse bias), question-wording, and question order. It is very difficult to measure these biases.

License buyers were assigned to one of five groups (strata) based on the type of license purchased and season that it was valid. The first stratum consisted of people eligible only for

the archery, regular firearm, and muzzleloader hunting seasons (N = 373,186). The second stratum consisted of people eligible to hunt during archery, regular firearm, muzzleloader, early antlerless, and late antlerless seasons (N = 173,579). The third stratum consisted of people eligible to hunt during archery, regular firearm, muzzleloader, late antlerless, and Liberty seasons (N = 41,873). The fourth stratum consisted of 8,236 people that were eligible to participate in the special disabled hunts. Beginning in 2013, veterans with disabilities could obtain a free deer hunting license (i.e., Disabled Veteran license type). A unique type of hunting license was not available for non-veteran hunters with disabilities; however, hunters with disabilities younger than 65 years were sold a discounted hunting license (i.e., sold a senior hunting license). The fifth stratum consisted of 5,110 people that had voluntarily reported information about their hunting activity via the Internet before the random sample was selected. The random sample consisted of 29,015 people from the first stratum; 13,148 from the second stratum; 11,193 from the third stratum; and 8,032 from the fourth stratum. The stratified sampling design accounted for the varying probabilities of being selected from the strata so estimates could be reliably extrapolated from the sample to all license buyers.

Estimates were calculated separately by the area where the hunt occurred. For consistency with previous surveys, the state was divided into eight areas that closely matched the DNR's previous wildlife management administrative units (Figure 1). The state was also divided into three ecological regions (UP, Northern LP, and Southern LP). These regions generally matched major ecoregions (Albert 1995), except in the UP where two ecoregions were combined. Ecoregions are regions having similar soils, vegetation, climate, geology, and physiography. Estimates were also calculated for each DMU (Figure 2, Appendix C). Deer harvested from unknown locations were allocated among areas in proportion to the known harvest.

Goguen et al. (2017) reported that many unsuccessful hunters skipped the questions related to sharing venison on the 2013 Michigan deer harvest survey because they had incorrectly assumed that these questions did not apply if they had not taken a deer in 2013. Thus, Goguen et al. (2017) only used the answers from successful hunters to characterize venison sharing among all hunters. To be consistent with this approach, only answers from successful hunters were used to derive estimates of venison sharing among hunters in 2018.

Statistical tests are used routinely to determine the likelihood that the differences among estimates are larger than expected by chance alone. The overlap of 95% confidence intervals was used to determine whether estimates differed significantly. Non-overlapping 95% confidence intervals were equivalent to stating that the difference between the means was larger than would be expected 95 out of 100 times, if the study had been repeated (Payton et al. 2003).

Questionnaires were initially mailed during mid-January 2019, and two follow-up questionnaires were mailed to nonrespondents. To increase the number of questionnaires returned, respondents that returned their questionnaire promptly became eligible to win a firearm or bow. Although 61,388 people were selected to receive a questionnaire,

1,895 surveys were undeliverable resulting in an adjusted sample size of 59,493. Questionnaires were returned by 27,980 people (47% adjusted response rate).

Estimates of harvest, hunting effort, and hunter participation are affected by the willingness of people to complete and return their questionnaires. This problem can confound comparisons of estimates made between years if response rates vary greatly. The percentage of people returning their questionnaire this year was lower than in many previous years. To reduce bias caused by this lower response rate, an adjustment was made on the 2018 estimates to make them comparable to the adjusted 2017 estimates (adjusted to a 74% response rate). Estimates of harvest, hunting effort, and hunter numbers were reduced by 7.4%, 5.5%, and 2.3%, respectively, to make estimates comparable to 2017. These reductions reflected the average decline noted between estimates calculated when 46% and 74% of the responses were used in 2000 and 2001 surveys.

## **RESULTS AND DISCUSSION**

In 2018, 601,984 people purchased a license to hunt deer in Michigan. The number of people buying a license in 2018 decreased by 3% from 2017 (620,932 people purchased a license in 2017). Most of the people buying a license were male (90%), and the average age of license buyers was 44 years (Figure 3). About 10% (61,741) of the license buyers were younger than 17 years old. About 4% (21,767) of the license buyers were younger than 12 years old.

The number of people buying a license in 2018 was about 18% less than the number of people who purchased a license ten years ago in 2008 (733,998 people purchased a license in 2008). There were fewer license buyers for all age classes between 12 and 54 years of age in 2018, compared to 2008 (Figure 4). However, there were increased hunter numbers among the youngest and oldest age classes in 2018. The increased hunter numbers in the oldest age classes likely represented the rising share of older people in the population as the baby-boom generation aged and life expectancies have increased. In addition, legalization of crossbow use during the archery season probably increased participation among hunters in the oldest age classes. The increased participation among the youngest hunters likely reflected the lowering of the minimum age requirements. In 2012, the minimum age requirement was eliminated to hunt deer with a firearm, while hunters had to be at least 10 years old to participate in 2008.

The number of 2018 deer harvest tags sold for all license types combined decreased by 1% from 2017 (Table 3). License buyers purchased an average of 2.1 harvest tags. About 91% of the license buyers obtained three or fewer harvest tags, and about 99% had five or fewer harvest tags (Figure 5). Hunters most frequently obtained antlerless and combination harvest tags (Figure 6). About 41% of the license buyers purchased at least one antlerless license (245,409 people), and greater than 99% of antlerless license buyers purchased three or fewer antlerless licenses, public and private licenses combined (Figure 7).

The antlerless license quota on private lands increased greatly because unlimited quotas were adopted in the 16-county CWD Management Zone (Appendix B). The quota for public land antlerless licenses also increased from 64,460 to 73,835 between 2017 and 2018

(i.e., 15% increase). Overall, the antlerless license quota for private and public lands combined was increased greatly; however, the number of antlerless licenses sold only increased by 3% in 2018 (Table 3).

About  $92.1 \pm 0.3\%$  (554,331 hunters) of the people buying a license in 2018 actually spent time hunting deer (Table 4). Statewide, the number of people hunting deer during all seasons combined declined significantly by 3% from 2017. Most hunters (483,341) pursued deer during the regular firearm season (Figure 8).

Significantly fewer people hunted during the regular firearm (-2%), archery (-5%), and disease surveillance (-88%) seasons during 2018 (Table 4). Significantly more people hunted in the early (14%), late (22%), and Liberty (47%) seasons. Participation in the muzzleloader, Independence, and the urban archery seasons were not significantly different between 2017 and 2018 (Figure 9). The addition of more counties for hunting during the early and late antlerless deer seasons was likely responsible for the increased participation noted during these seasons. Likewise, the removal of Ionia and Montcalm counties from the disease surveillance season probably contributed to the decline in participation during this season.

About 49% of the days that hunters spent pursuing deer throughout the state occurred in the archery season (Figure 10). About 39% of the hunting effort occurred during the regular firearm season. Nearly 11% of the hunting effort occurred in the muzzleloader and late antlerless seasons combined. Statewide, hunters devoted an average of 14.1 days afield hunting deer during all seasons combined (Table 5). Archers had the greatest number of days available to hunt deer (77 days) and devoted the greatest number of days afield ( $\bar{x} = 12.9$  days/hunter) (Figure 11, Table 5). Statewide, the number of days hunting deer during all seasons combined decreased significantly by 13% from 2017 (Table 4). Significantly fewer days were devoted to hunting during the muzzleloader (-12%), archery (-14%), regular firearm (-14%), and disease surveillance (-85%) seasons during 2018 (Table 4). In contrast, significantly more days (37% increase) were spent hunting during the Liberty Hunt. Hunting effort was not significantly different in the remaining seasons (i.e., early firearm, late firearm, Independence, and urban archery seasons).

About 367,652 deer were harvested statewide in 2018, which was a significant decrease of nearly 5% from 2017 (Figures 12-13, Tables 6-7). The number of deer harvested decreased significantly in the archery (-19%) and disease surveillance (-94%) seasons, while the harvest increased significantly in the Liberty (40%) and early antlerless (103%) seasons. The increased harvest during the early antlerless season likely reflected the addition of 13 counties during this season. Likewise, the decline in the harvest in the disease surveillance season probably reflected the decline in area open for hunting. In addition, the decline in harvest during the archery season likely reflected the above normal precipitation received in the UP and NELP during October 2018. Precipitation in these areas was at least 200% above normal (National Oceanic and Atmospheric Administration 2018). Harvest was not significantly changed in the remaining seasons (i.e., regular firearm, muzzleloader, late antlerless, Independence, and urban archery). Statewide harvest of antlered deer in 2018 for all seasons combined decreased significantly by 6%, but the harvest of antlerless deer was not significantly different from 2017 (Table 6).

About 53% of the deer harvested (sexes combined) in 2018 were taken during the regular firearm season (Figure 14). Nearly 44% of the antlerless deer and 60% of the antlered bucks were harvested in the regular firearm season. Hunters took 31% of the harvested deer (sexes combined) during archery season. These archers took 29% of the antlerless deer and 32% of the antlered bucks harvested. Few antlered bucks (5%) were taken in the muzzleloader season. The early and late antlerless and muzzleloader seasons combined accounted for about 24% of the antlerless deer harvested.

About 88% of the deer harvested (sexes combined) in 2018 were taken on private lands (Table 8). Statewide, most of the antlerless deer (88%) and antlered bucks (87%) were harvested on private lands.

Statewide, 49% of deer hunters harvested at least one deer (all deer seasons and sexes combined) in 2018 (Figure 15, Table 9), compared to the 50% successful in 2017. About 22% of hunters took an antlerless deer, and 35% took an antlered buck in 2017. About 15% of deer hunters harvested two or more deer.

Hunters were most successful in taking a deer during the Liberty (36%), regular firearm (36%), and early antlerless (34%) seasons (Figure 16, Table 10). Hunter success was lowest in the muzzleloader (17%), disease surveillance (14%), and urban archery (6%) seasons. Nearly 26% of hunters took an antlered buck and 13% harvested an antlerless deer during the regular firearm season.

Deer hunters were asked to report how satisfied they were with (1) number of deer seen, (2) number of antlered deer [bucks] seen, (3) size of antlers seen, (4) number of deer taken, and (5) their overall hunting experience. Statewide,  $\leq 52\%$  of hunters were satisfied with numbers of deer seen, bucks seen, size of antlers seen, deer taken, and their overall hunting experience in 2018 (Tables 11-13). Statewide levels of satisfaction for most measures were not significantly different between 2017 and 2018. People hunting deer only on private lands were generally more satisfied than people hunting exclusively on public lands (Tables 14-16).

About 202,576 hunters used a crossbow during the archery season, and they harvested about 74,671 deer with the crossbow (Tables 17-19). The number of archers using a crossbow in 2018 did not change significantly in 2017 (205,958 archers in 2017). Harvest of deer by archers using a crossbow decreased significantly by 20% from last year (92,913 deer taken in 2017). About 32% of these archers using a crossbow in 2018 harvested a deer with a crossbow in the archery season, versus 39% success in 2017.

An estimated  $134,644 \pm 3,107$  hunters took  $161,824 \pm 4,226$  deer to a commercial meat processor in 2018. Thus, about 45% of the deer harvested in all seasons (161,824 of 360,666 deer) were handled by a processor. This proportion is the same proportion of Michigan deer hunters using a processor in 2017 (Frawley 2018).

About 48% of the deer hunters statewide used a trail camera to monitor deer activity in their hunt area (Table 20), and hunters in the UP used trail cameras most frequently. Among the

hunters using a trail camera, 98% reported they took a picture of a deer (Table 21). Hunters in the UP were more likely to see bear, fisher, marten, and a wolf than hunters in the LP. In contrast, hunters in the LP were more likely to see coyote and fox than hunters in the UP. Furthermore, bobcat were more frequently seen by hunters in the NLP than either the UP or SLP.

In 2018, 7,436 hunters purchased 9,276 discounted antlerless licenses for use on private land in the 16-county CWD Management Zone. A plurality of all hunters (40%) supported this new discounted antlerless license (Table 22), and the support was generally similar among regions throughout Michigan. Similarly, a plurality of hunters (39%) supported making this new license type available in their preferred hunting area (Table 22).

Among hunters who harvested a deer in 2018, 84% shared their venison with somebody (Table 23), which means about 463,983 hunters shared their venison (Table 24). Sharing occurred most frequently among members of hunters' households (58%), relatives (43%), and friends, neighbors, or coworkers (39%, Table 23). Hunters who shared did so with an average of 5.5 people (Table 25). Goguen et al. (2017) reported that 85% of Michigan hunters in 2013 shared their venison, and hunters that shared venison had shared their venison among an average of 5.6 people. The 2018 estimates of venison sharing were similar to estimates reported in 2013 by Goguen et al. (2017); thus, it doesn't appear that hunters have altered the frequency and extent that they share venison since CWD was discovered among Michigan wild deer in 2015, even in the 5-county Core CWD Area. An estimated 2,541,455 people received venison from a hunter in 2018 (Table 25). This estimate should be viewed cautiously because multiple hunters could have reported sharing venison with the same person; thus, the estimate does not represent the number of unique hunters that received venison.

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## **LITERATURE CITED**

- Albert, D. A. 1995. Regional landscape ecosystems of Michigan, Minnesota, and Wisconsin: a working map and classification. General Technical Report NC-178. U.S. Department of Agriculture, Forest Service, North Central Forest Experimental Station, St. Paul, Minnesota, USA.
- Cochran, W. G. 1977. Sampling techniques. John Wiley & Sons, New York, USA.
- Frawley, B. J. 2018. Michigan deer harvest survey report: 2017 seasons. Wildlife Division Report 3656. Michigan Department of Natural Resources, Lansing, USA.

- Gillin, C. M., and J. R. Mawdsley (editors). 2018. AFWA Technical Report on Best Management Practices for Surveillance, Management and Control of Chronic Wasting Disease. Association of Fish and Wildlife Agencies, Washington, D. C. USA.
- Goguen, A. D., S. J. Riley, J. F. Organ, and Rudolph, B. A. 2017. Wild-harvested venison yields and sharing by Michigan deer hunters. *Human Dimensions of Wildlife*. 23(3):197-212.
- National Oceanic and Atmospheric Administration National Centers for Environmental Information, State of the Climate: National Climate Report for October 2018, published online November 2018, retrieved on June 10, 2019, from <https://www.ncdc.noaa.gov/sotc/national/201810>.
- Payton, M. E., M. H. Greenstone, and N. Schenker. 2003. Overlapping confidence intervals or standard error intervals: what do they mean in terms of statistical significance? *Journal of Insect Science* 3:34.
- Stewart, C., M. Cosgrove, and J. Melotti. 2016. 2015-2016 Michigan chronic wasting disease management and surveillance report. Unpublished report. Michigan Department of Natural Resources, Lansing, USA.

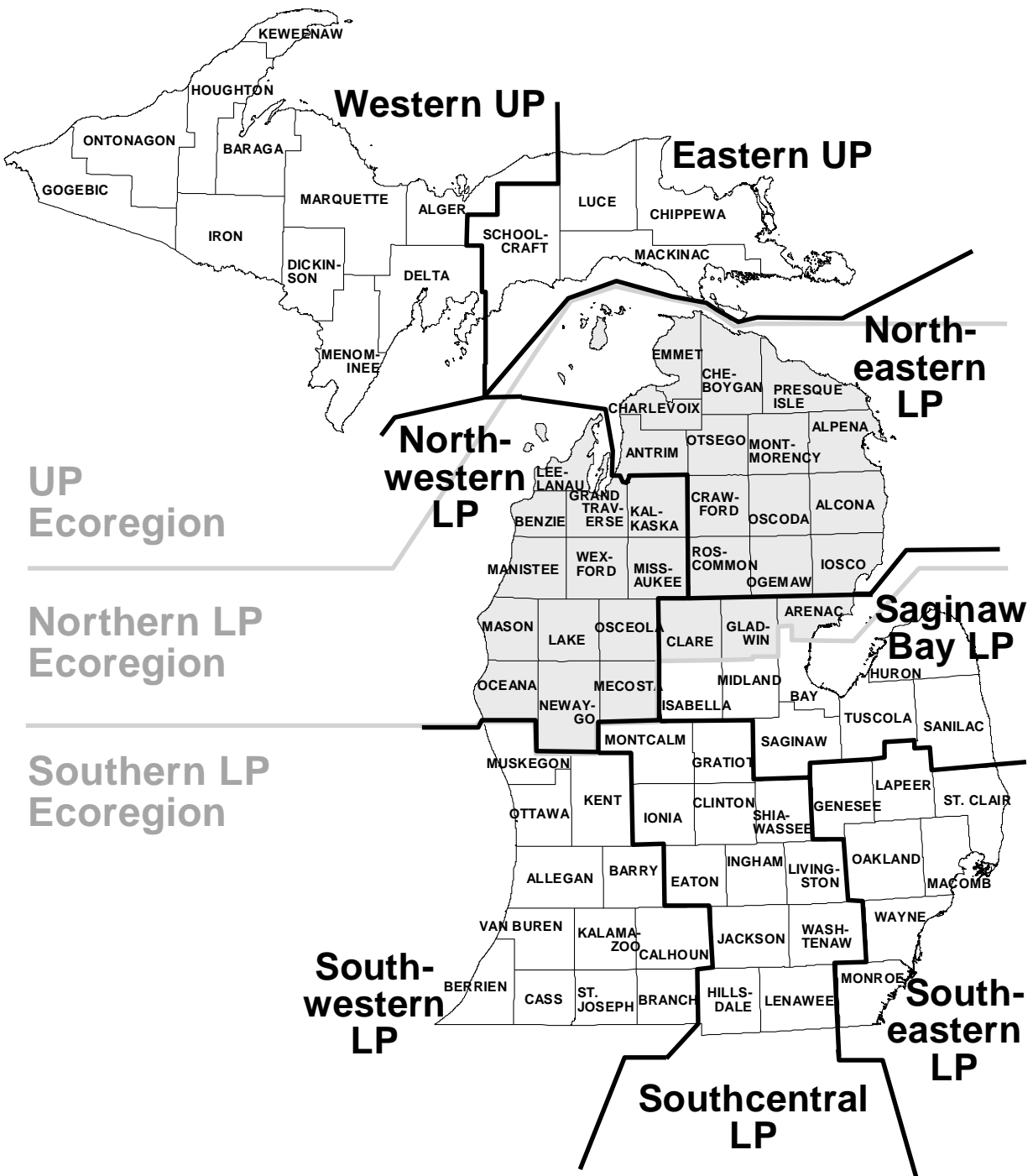


Figure 1. Areas used to summarize deer harvest in Michigan for the 2018 hunting seasons.

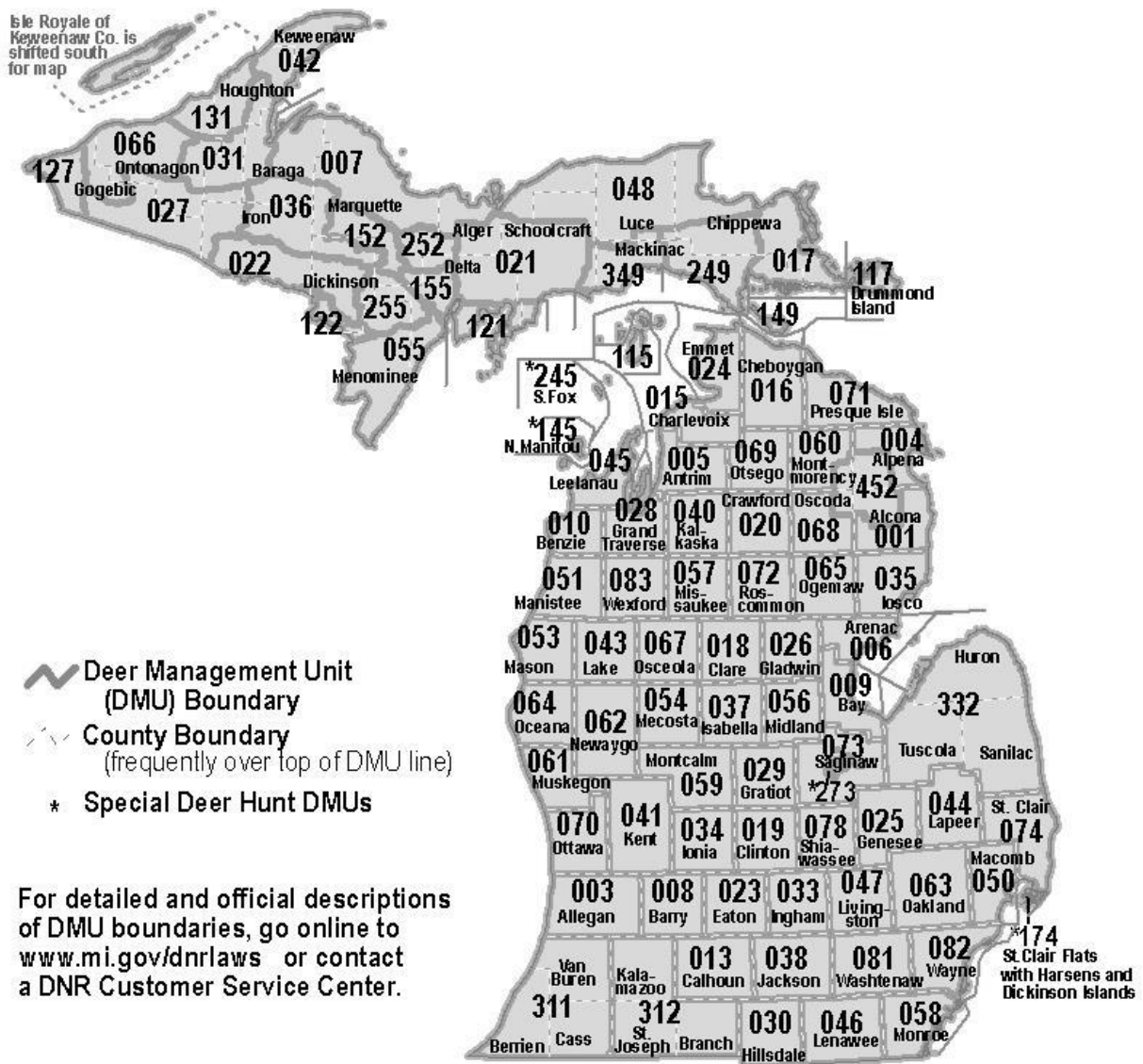


Figure 2. Deer management units in Michigan for the 2018 hunting seasons.

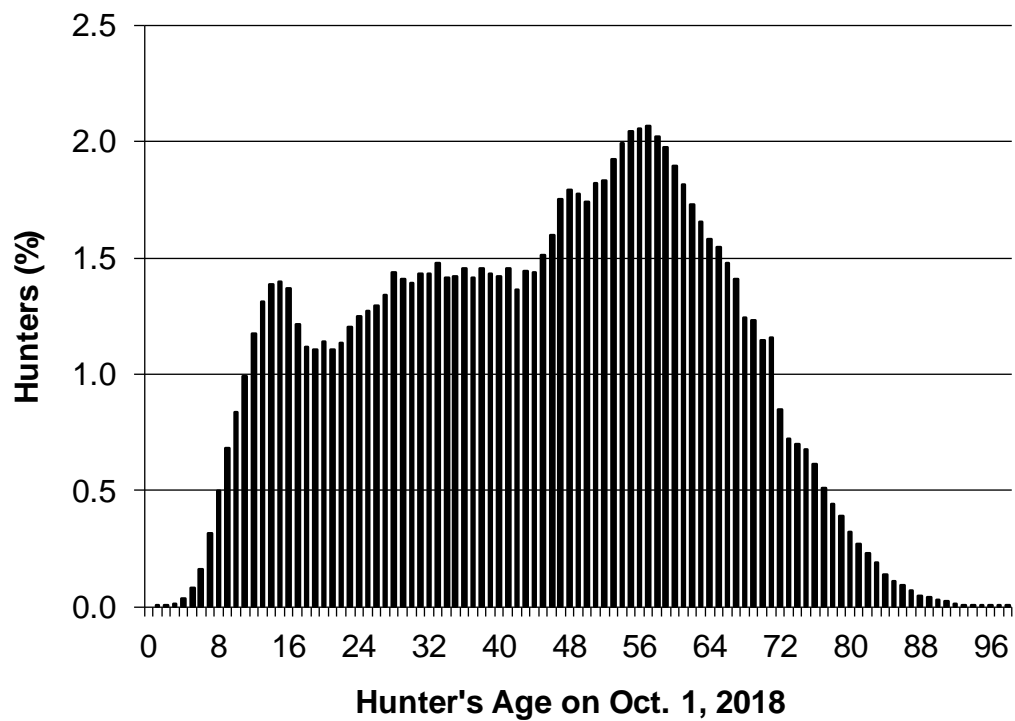


Figure 3. Age of people that purchased a deer hunting license in Michigan for the 2018 hunting seasons (mean = 44 years).

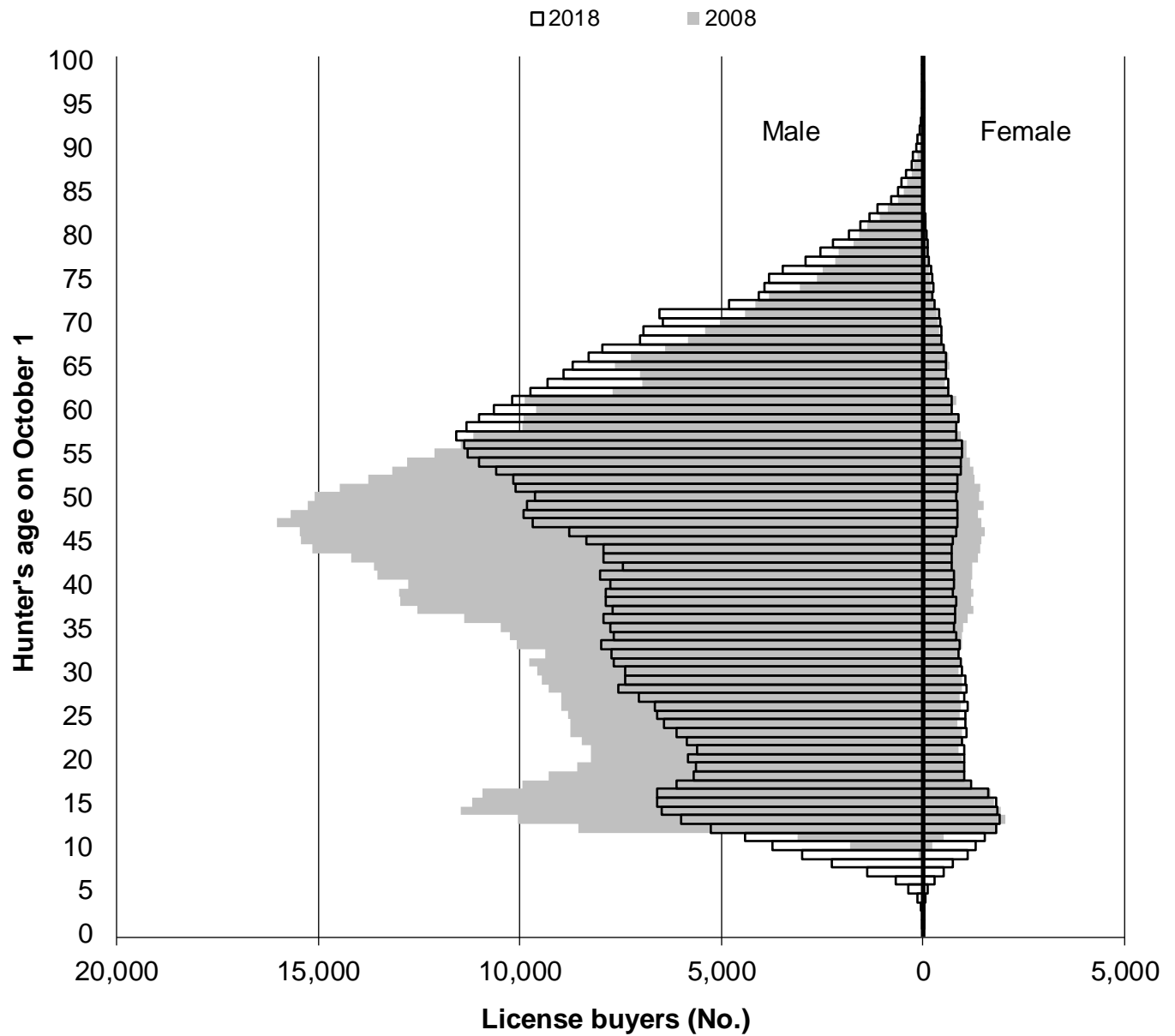


Figure 4. Number of deer hunting license buyers in Michigan by age and sex during the 2008 and 2018 hunting seasons. Deer hunting licenses were purchased by 733,998 people in 2008 and 601,984 people in 2018.

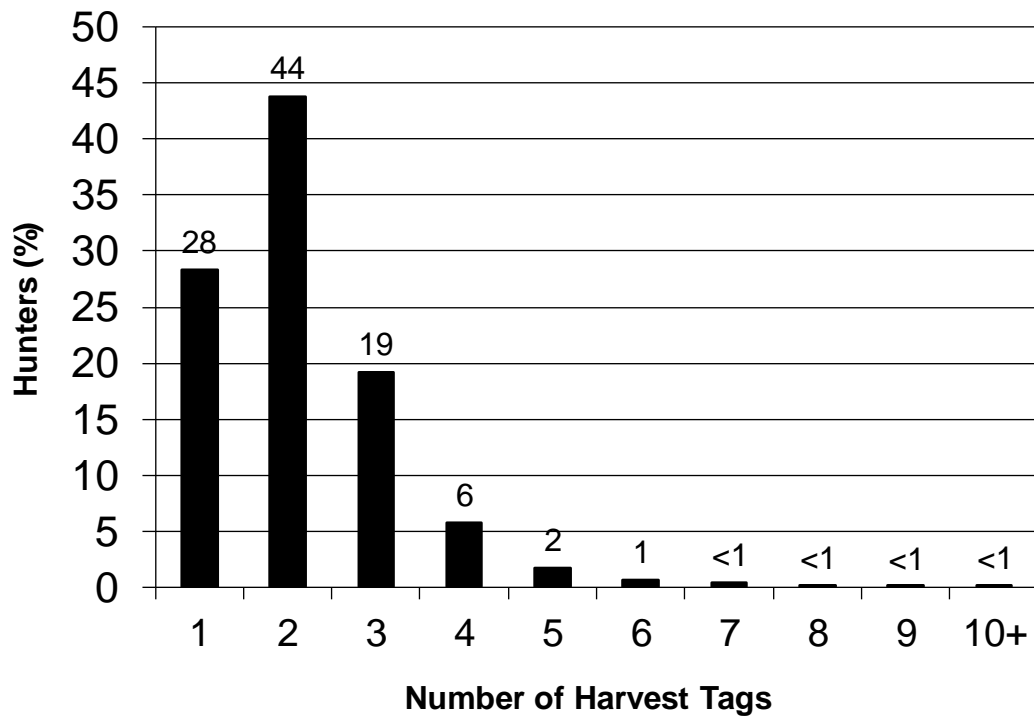


Figure 5. Number of harvest tags (all license and tag types) issued per person for hunting deer in Michigan during the 2018 hunting seasons (mean = 2.1 tags). Licenses were purchased by 601,984 people.

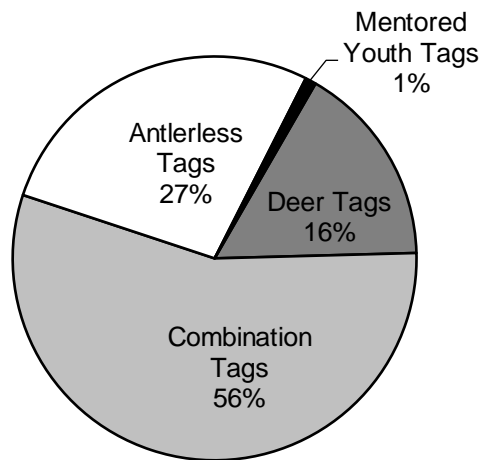


Figure 6. Types of harvest tags issued for deer hunting in Michigan during the 2018 hunting seasons.

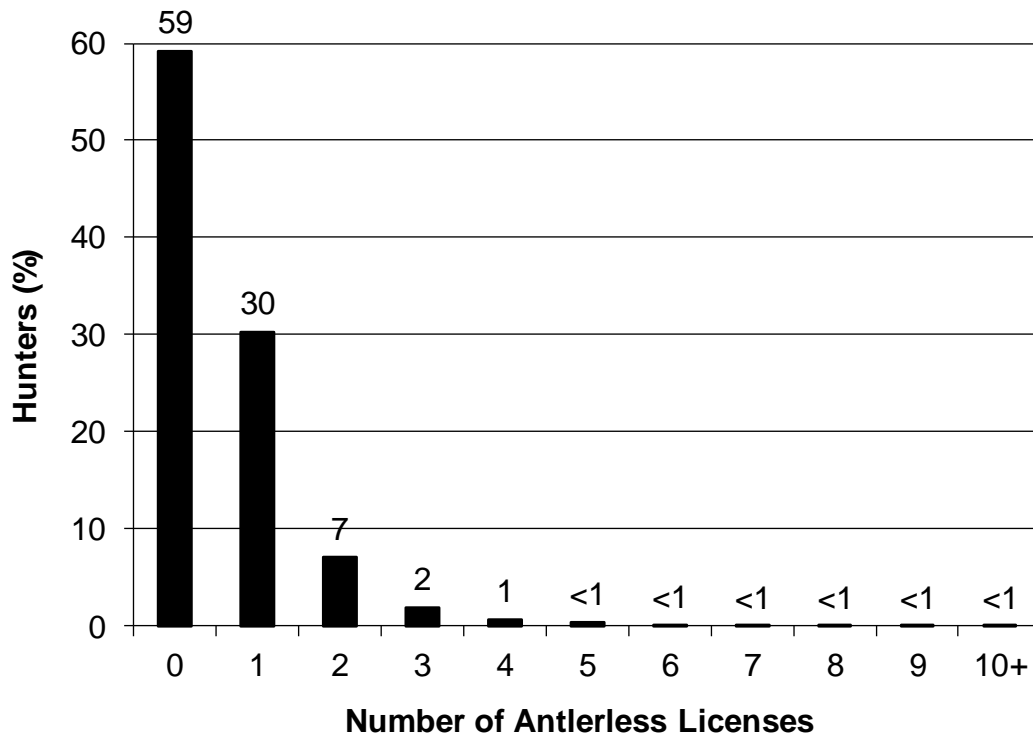


Figure 7. Percentage of deer hunting license buyers (all license types) purchasing an antlerless license in Michigan, 2018 (excluded mentored youth hunting license). Antlerless licenses were purchased by 245,409 of 601,984 people (41%) buying deer hunting licenses.

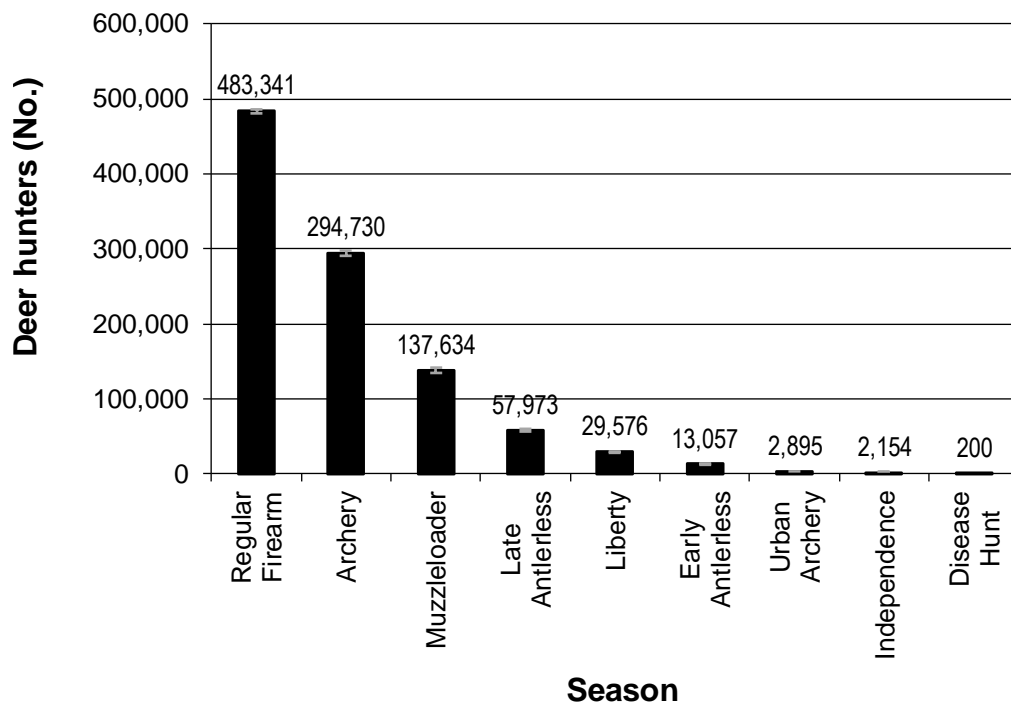


Figure 8. Number of people hunting deer in Michigan during the 2018 hunting seasons. Error bars represent the 95% CLs.

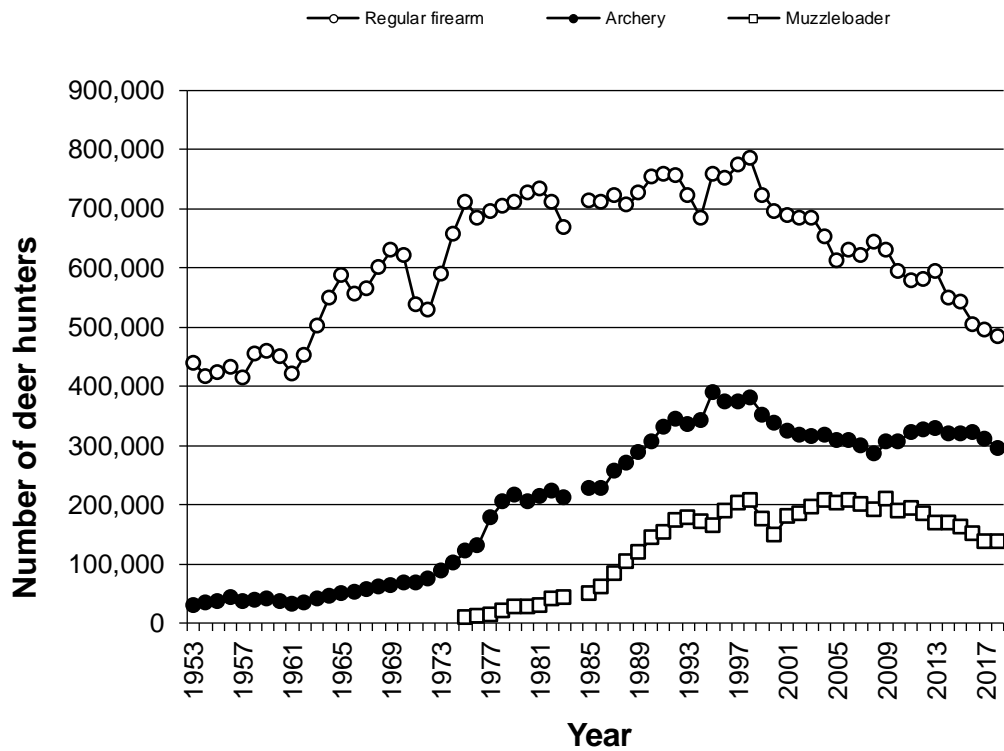


Figure 9. Number of people hunting deer in Michigan during the regular firearm, archery, and muzzleloader seasons, 1953-2018.

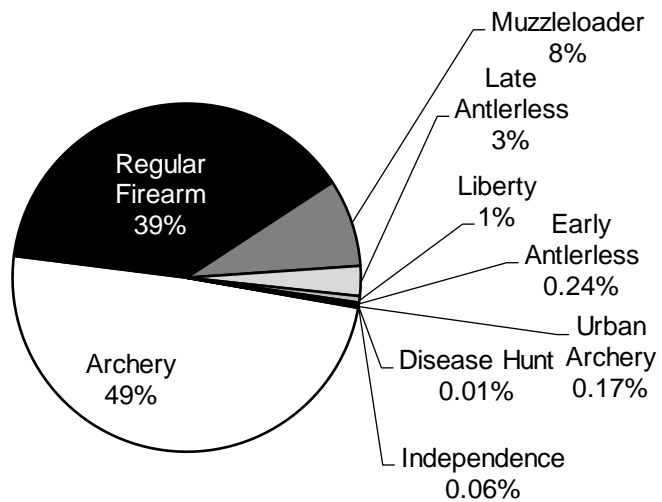


Figure 10. Distribution of hunting effort among deer hunting seasons in Michigan, 2018.

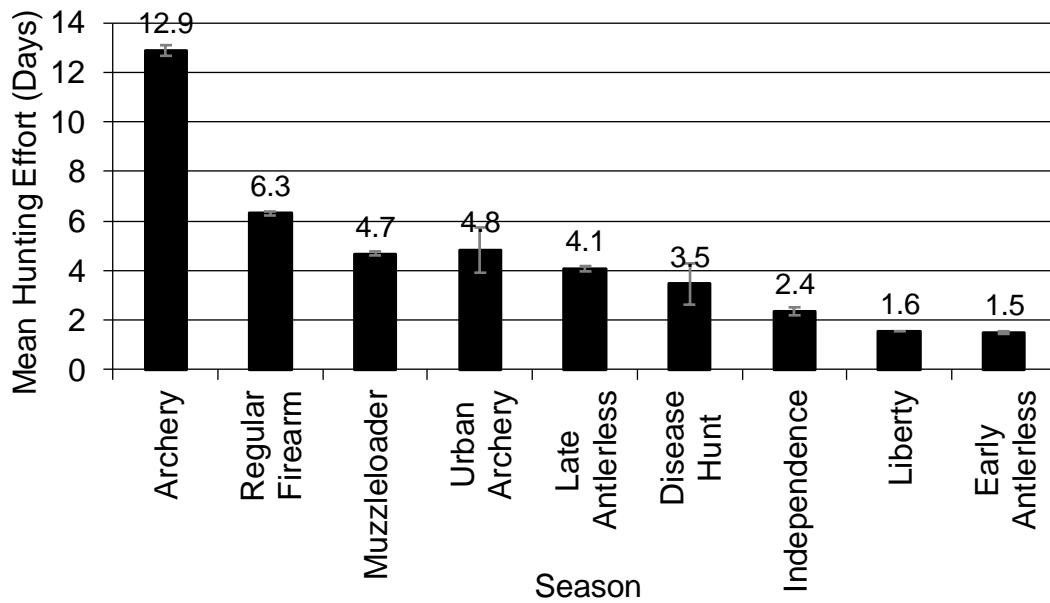


Figure 11. The mean number of days spent hunting deer in Michigan during the 2018 hunting seasons. Error bars represent the 95% CLs.

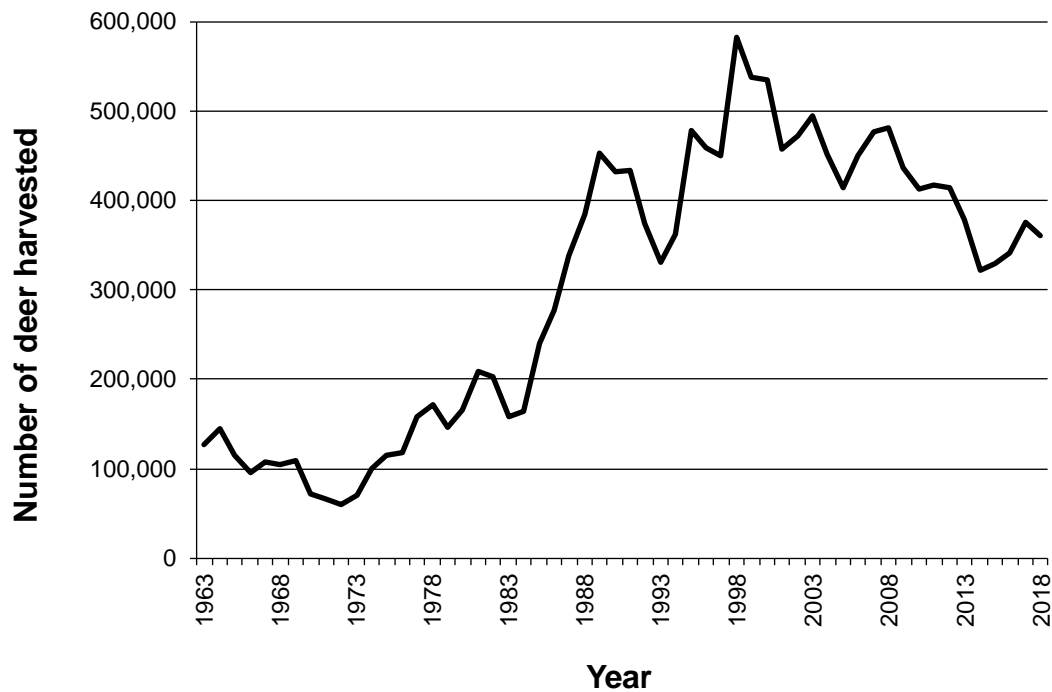


Figure 12. Number of deer harvested in Michigan's hunting seasons, 1963-2018. Harvest from all seasons and for all deer sexes was combined.

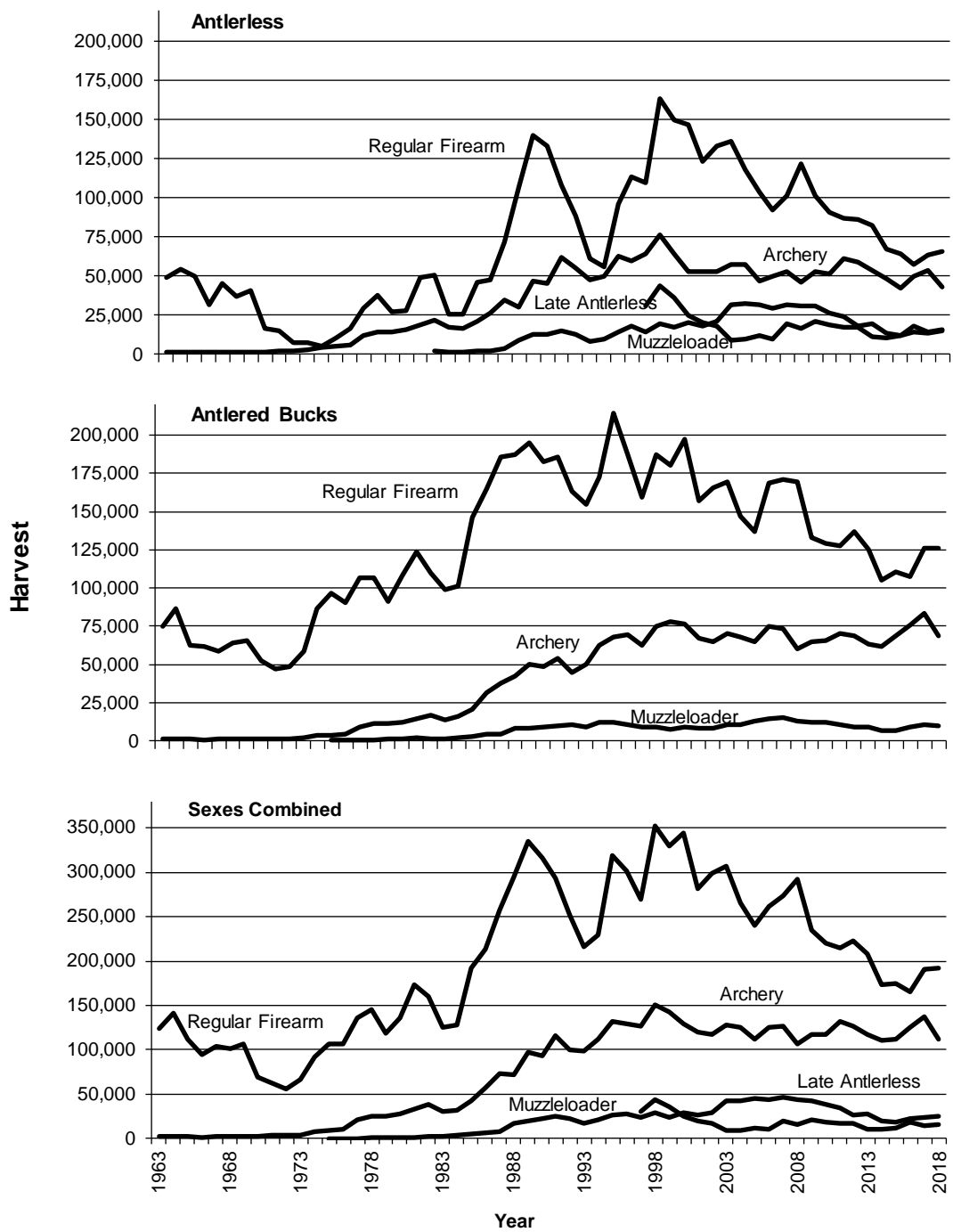


Figure 13. Number of deer harvested in Michigan's hunting seasons, 1963-2018. Harvests for early antlerless, youth, and hunters-with-disabilities seasons were not shown.

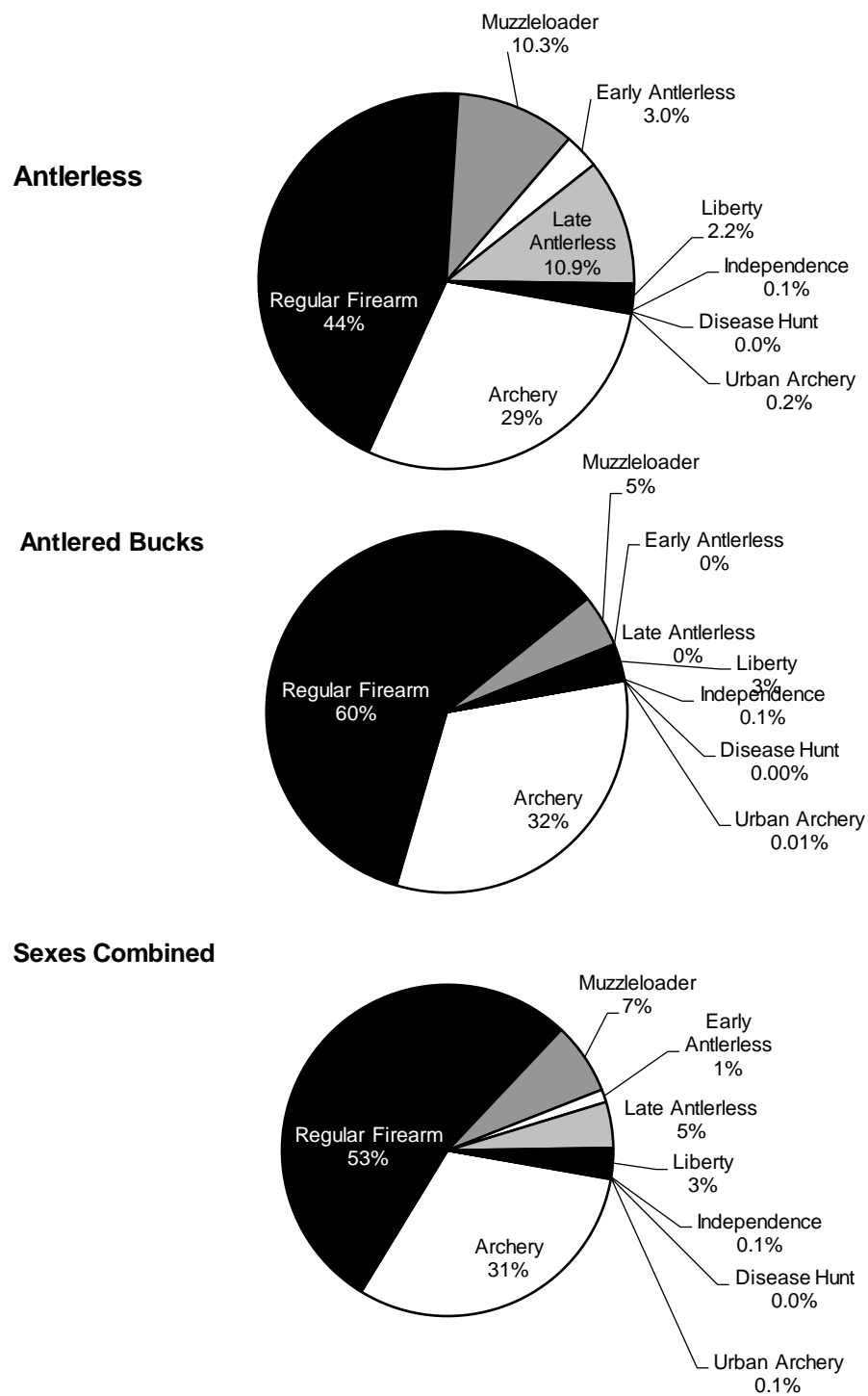


Figure 14. Distribution of harvest among deer hunting seasons in Michigan, 2018. Antlered deer had antlers at least 3 inches in length; antlerless deer included deer without antlers and deer with antlers less than 3 inches in length.

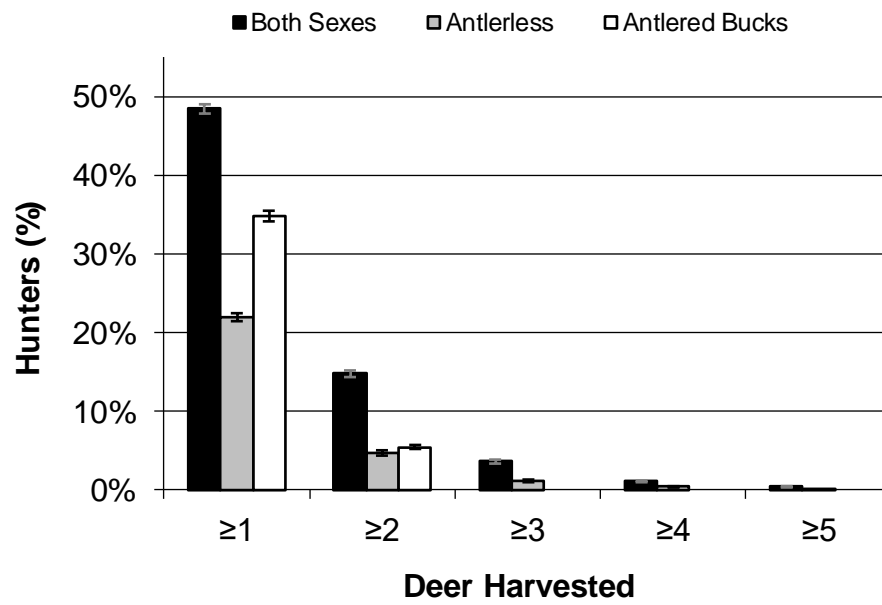


Figure 15. Percentage of hunters harvesting a deer in Michigan, 2018. Error bars represent the 95% CLs.

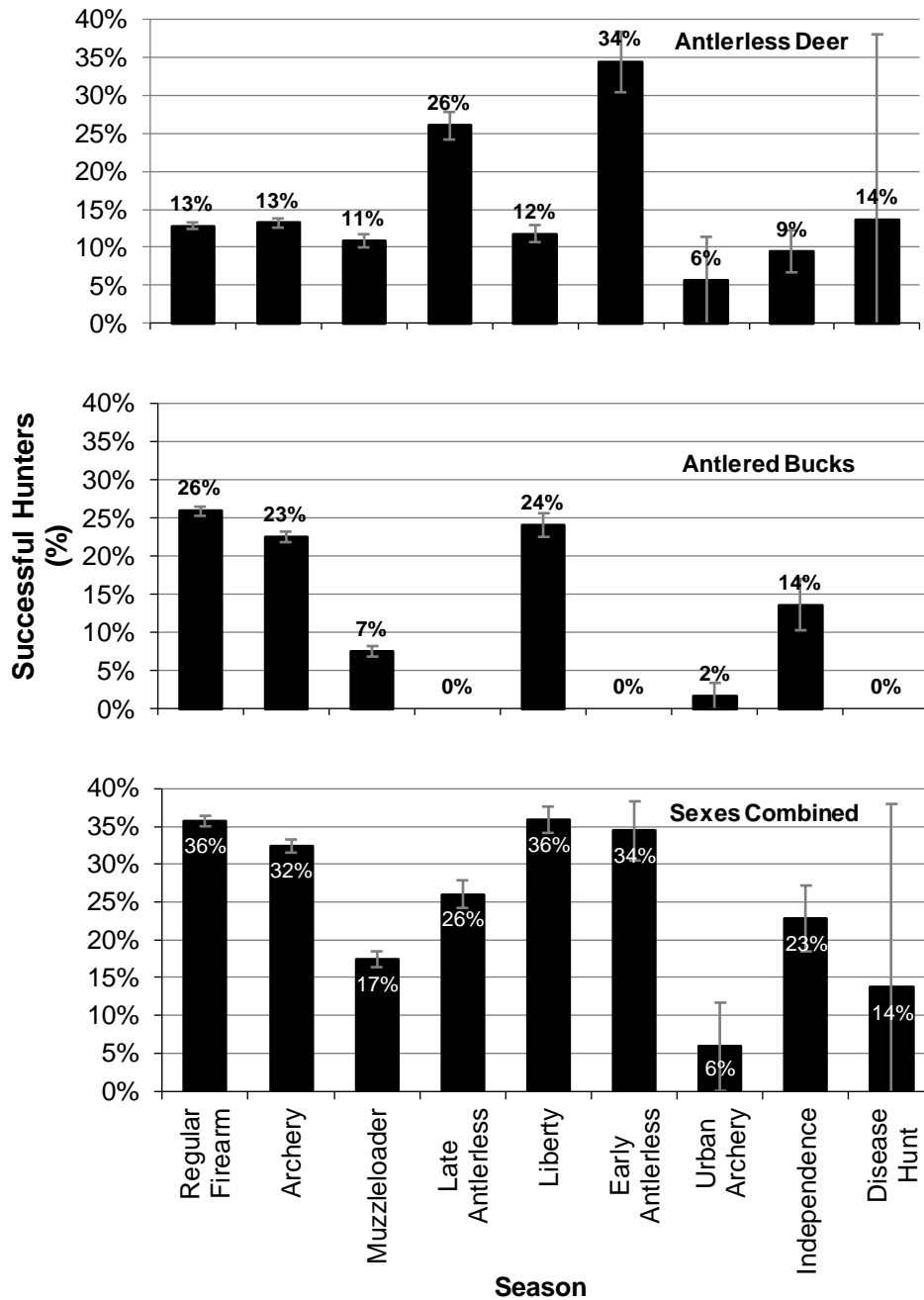


Figure 16. Percentage of hunters harvesting a deer in Michigan's deer hunting seasons, 2018. Error bars represent the 95% CLs. Antlered deer had at least one antler at least 3 inches in length; antlerless deer included deer without antlers and deer with antlers less than 3 inches in length.

Table 1. Deer hunting seasons in Michigan, 2018-2019.

Season	Bag limit	Area	Dates
Early Antlerless Firearm	1 per kill tag	Portions of the LP	September 22-23
Liberty/Youth Hunt	1	Statewide	September 22-23
Independence Hunt	1	Statewide	October 18-21
Archery	1 per kill tag	Statewide	October 1 – November 14 and December 1 – January 1
Regular Firearm	1 per kill tag	Statewide	November 15-30
Muzzleloader	1 per kill tag	Statewide	December 7-16 (UP & NLP) and December 7-23 (SLP)
Late Antlerless Firearm	1 per kill tag	Portions of the LP	December 17-January 1
Late Urban Archery	1 per kill tag	Macomb, Oakland, and Wayne counties	January 2-31
Disease Surveillance Hunt	1 per kill tag	Portions of Alpena County	January 3-6 and January 10-13

Table 2. Type of deer that could be taken during the 2018 Michigan deer hunting seasons for each combination of season and hunting license.

Type of license (harvest tag) or permit	Season	Type of deer that could be harvested <sup>a</sup> and area
Deer license or deer combination regular license	Archery seasons	Antlered deer <sup>b</sup> in the Upper Peninsula
Deer license or deer combination regular license	Archery seasons	Antlerless or antlered deer <sup>b</sup> in Lower Peninsula
Deer license or deer combination regular license	Regular Firearm or Muzzleloader seasons	Antlered deer statewide or antlerless deer in DMU 487, and the Core CWD Area <sup>c</sup>
Deer license or deer combination regular license	Liberty and Independence seasons	Antlerless or antlered deer statewide
Combination License <sup>d</sup> (Restricted harvest tag)	Archery seasons	Deer that has at least 1 antler with 4 or more antler points, 1 or more inches in length, in the Upper Peninsula
Combination License <sup>d</sup> (Restricted harvest tag)	Archery seasons	Antlerless deer or a deer that has at least 1 antler with 4 or more antler points, 1 or more inches in length, in the Lower Peninsula, except antler point restrictions do not apply in the CWD Management Zone or Core CWD Area
Combination License <sup>d</sup> (Restricted harvest tag)	Regular Firearm or Muzzleloader seasons	A deer that has at least 1 antler with 4 or more antler points (1 or more inches in length); Antler point restrictions do not apply in the CWD Management Zone <sup>e</sup> or Core CWD Area <sup>c</sup>
Combination License <sup>d</sup> (Restricted harvest tag)	Liberty and Independence seasons <sup>c</sup>	Antlerless or antlered deer statewide

<sup>a</sup>Antlered deer had antlers at least 3 inches in length; antlerless deer included deer without antlers and deer with antlers less than 3 inches in length. Hunters could harvest a maximum of 2 antlered deer per year (all seasons combined).

<sup>b</sup>If a person took 2 antlered deer during all seasons combined (except Mentored Youth hunters), one of the antlered deer must have had at least 1 antler with 4 or more antler points, each point being 1 or more inches in length.

<sup>c</sup>Core CWD area included Ionia, Kent, Mecosta, Montcalm, and Newaygo counties.

<sup>d</sup>Combination licenses included two harvest tags (i.e., regular and restricted harvest tags).

<sup>e</sup>CWD management zone included Calhoun, Clinton, Eaton, Gratiot, Hillsdale, Ingham, Ionia, Isabella, Jackson, Kent, Mecosta, Montcalm, Muskegon, Newaygo, Ottawa, and Shiawassee counties.

<sup>f</sup>Youth less than 14 years of age could hunt with archery and crossbow equipment on public or private lands or with a firearm on private or Commercial Forest lands only. Hunters could harvest only 1 deer in the Liberty and Independence seasons.

<sup>g</sup>Permits for special hunts on designated public lands (e.g., some state parks, game areas, and federal property). These permits valid only during specific dates, which varied among areas. Permits issued to applicants using a lottery (i.e., random selection). To use these permits, the hunter must also have purchased a valid deer hunting license.

Table 2 (continued). Type of deer that could be taken during the 2018 Michigan deer hunting seasons for each combination of season and hunting license.

Type of license (harvest tag) or permit	Season	Type of deer that could be harvested <sup>a</sup>
Mentored youth deer license	Archery , Regular Firearm, Muzzleloader, or Liberty seasons <sup>c</sup>	Antlerless or antlered deer statewide
Mentored Youth	Antlerless seasons	Antlerless deer only
Antlerless License <sup>e</sup>	All seasons	Antlerless deer only
Deer Management Assistance (DMA) permit <sup>f</sup>	All seasons	Antlerless deer only
Managed Deer Hunt permit <sup>g</sup>	Specified season	Antlerless deer only

<sup>a</sup>Antlered deer had antlers at least 3 inches in length; antlerless deer included deer without antlers and deer with antlers less than 3 inches in length. Hunters could harvest a maximum of 2 antlered deer per year (all seasons combined).

<sup>b</sup>If a person took 2 antlered deer during all seasons combined (except Mentored Youth hunters), one of the antlered deer must have had at least 1 antler with 4 or more antler points, each point being 1 or more inches in length.

<sup>c</sup>Core CWD area included Ionia, Kent, Mecosta, Montcalm, and Newaygo counties.

<sup>d</sup>Combination licenses included two harvest tags (i.e., regular and restricted harvest tags).

<sup>e</sup>CWD management zone included Calhoun, Clinton, Eaton, Gratiot, Hillsdale, Ingham, Ionia, Isabella, Jackson, Kent, Mecosta, Montcalm, Muskegon, Newaygo, Ottawa, and Shiawassee counties.

<sup>f</sup>Youth less than 14 years of age could hunt with archery and crossbow equipment on public or private lands or with a firearm on private or Commercial Forest lands only. Hunters could harvest only 1 deer in the Liberty and Independence seasons.

<sup>g</sup>Permits for special hunts on designated public lands (e.g., some state parks, game areas, and federal property). These permits valid only during specific dates, which varied among areas. Permits issued to applicants using a lottery (i.e., random selection). To use these permits, the hunter must also have purchased a valid deer hunting license.

Table 3. Michigan deer licenses purchased and harvest tags issued, 2016-2018.

Licenses or Harvest Tags	Number Purchased or Issued			Change Between 2017 and 2018 (%)
	2016	2017	2018	
<b>Deer Licenses</b>				
Resident	149,954	139,464	130,352	-6.5
Non-resident	13,345	13,746	14,103	2.6
Junior	32,775	31,587	29,737	-5.9
Senior	37,564	36,882	35,404	-4.0
Lifetime	436	432	422	-2.3
Active Military	455	411	362	-11.9
Disabled Veteran	478	492	531	7.9
Subtotal	235,007	223,014	210,911	-5.4
<b>Combination Licenses<sup>a</sup></b>				
Resident	282,707	282,308	276,579	-2.0
Non-resident	3,658	3,960	4,252	7.4
Junior	22,116	20,811	19,093	-8.3
Senior	44,388	46,878	48,703	3.9
Lifetime	134	135	143	5.9
Active Military	5,494	4,990	4,494	-9.9
Disabled Veteran	6,784	7,097	7,185	1.2
Subtotal	365,281	366,179	360,449	-1.6
<b>Antlerless Licenses</b>				
Resident	259,661	256,928	263,603	2.6
Non-resident	4,207	4,807	5,337	11.0
Junior	18,960	17,578	16,627	-5.4
Senior	41,371	43,597	45,270	3.8
Lifetime	162	177	168	-5.1
Active Military	4,238	4,411	4,587	4.0
Pure Michigan Hunt	3	3	3	0.0
Disabled Veteran	5,273	6,041	7,553	25.0
Deer Management Assistance	9,250	10,967	11,661	6.3
Managed Deer Hunt	786	743	685	-7.8
Subtotal	343,911	345,252	355,494	3.0
<b>Mentored Youth Licenses</b>	11,399	11,662	11,361	-2.6
<b>Total Licenses Sold</b>	<b>955,598</b>	<b>946,107</b>	<b>938,215</b>	<b>-0.8</b>

<sup>a</sup>Combination licenses included two harvest tags. Other license types had one harvest tag.

Table 3 (continued). Michigan deer licenses purchased and harvest tags issued, 2015-2018.

Licenses or Harvest Tags	Number Purchased or Issued			Change Between 2017 and 2018 (%)
	2016	2017	2018	
Harvest Tags Issued				
Deer <sup>a</sup>	235,007	223,014	210,911	-5.4
Combination <sup>b</sup>	730,562	732,358	720,898	-1.6
Antlerless	343,911	345,252	355,494	3.0
Mentored Youth <sup>b</sup>	11,399	11,662	11,361	-2.6
Total Harvest Tags	1,320,879	1,312,286	1,298,664	-1.0

<sup>a</sup>Combination licenses included two harvest tags. Other license types had one harvest tag.

Table 4. Number of deer hunters and hunting effort in Michigan by hunting season, 2017-2018.

Season and Area	Number of hunters <sup>a</sup>				Hunting effort (days)			
	2017	2018	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)	2017	2018	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)
Archery								
West UP	18,807	17,793	1,278	-5.4	219,946	189,752	17,764	-13.7
East UP	5,929	4,374	646	-26.2*	58,689	40,203	7,928	-31.5*
NE LP	52,273	46,329	2,011	-11.4*	575,286	461,699	28,273	-19.7*
NW LP	66,849	61,467	2,274	-8.1*	847,590	740,005	37,250	-12.7*
Sag. Bay	53,430	52,217	2,098	-2.3	680,851	601,818	32,841	-11.6*
SW LP	50,769	48,327	2,034	-4.8	695,741	588,032	33,353	-15.5*
SC LP	59,030	55,485	2,163	-6.0	784,793	667,495	35,488	-14.9*
SE LP	32,656	33,079	1,710	1.3	431,525	415,503	29,585	-3.7
UP	24,673	22,080	2,400	-10.5	278,635	229,955	19,453	-17.5*
NLP	135,485	121,729	3,537	-10.2*	1,646,619	1,378,516	50,001	-16.3*
SLP	172,368	167,355	3,475	-2.9	2,369,166	2,096,035	63,343	-11.5*
Statewide <sup>c</sup>	311,155	294,730	3,683	-5.3*	4,294,421	3,704,506	83,173	-13.7*
Regular Firearm								
West UP	54,907	55,781	2,160	1.6	401,349	360,908	17,323	-10.1*
East UP	16,918	16,147	1,230	-4.6	116,640	100,670	8,991	-13.7
NE LP	95,344	89,467	2,674	-6.2*	609,233	507,877	19,475	-16.6*
NW LP	99,300	95,414	2,740	-3.9	623,260	538,734	19,799	-13.6*
Sag. Bay	76,954	77,109	2,483	0.2	475,147	434,067	17,929	-8.6*
SW LP	65,889	64,018	2,312	-2.8	439,190	372,989	17,036	-15.1*
SC LP	83,035	75,816	2,464	-8.7*	540,127	422,567	17,933	-21.8*
SE LP	31,857	32,767	1,702	2.9	201,600	181,251	11,708	-10.1
UP	71,585	71,659	1,418	0.1	517,989	461,578	19,517	-10.9*
NLP	217,422	205,964	3,012	-5.3*	1,393,188	1,175,571	29,394	-15.6*
SLP	227,877	221,855	3,297	-2.6	1,495,370	1,281,914	31,267	-14.3*
Statewide <sup>c</sup>	494,366	483,341	2,716	-2.2*	3,406,546	2,919,063	47,346	-14.3*

<sup>a</sup>Excluded people that did not hunt during the season.<sup>b</sup>95 confidence limit for the 2018 estimate. \*P<0.05.<sup>c</sup>Number of hunters does not add up to statewide total because hunters can hunt in more than one area.

Table 4 (continued). Number of deer hunters and hunting effort in Michigan by hunting season, 2017-2018.

Season and Area	Number of hunters <sup>a</sup>				Hunting effort (days)			
	2017	2018	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)	2017	2018	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)
<b>Muzzleloader</b>								
West UP	11,323	10,467	999	-7.6	58,210	46,232	5,064	-20.6*
East UP	3,585	3,270	564	-8.8	18,219	15,510	3,046	-14.9
NE LP	16,624	15,703	1,219	-5.5	74,592	60,308	5,481	-19.1*
NW LP	19,142	19,463	1,338	1.7	78,676	77,199	6,259	-1.9
Sag. Bay	22,477	22,966	1,442	2.2	105,724	99,782	7,639	-5.6
SW LP	27,026	25,426	1,518	-5.9	139,861	119,341	8,679	-14.7*
SC LP	28,934	28,834	1,607	-0.3	150,326	128,072	8,986	-14.8*
SE LP	13,551	14,221	1,148	4.9	67,945	65,782	6,533	-3.2
UP	14,879	13,652	1,138	-8.2	76,429	61,742	5,909	-19.2*
NLP	41,291	39,804	1,885	-3.6	178,619	157,049	8,885	-12.1*
SLP	84,562	84,713	2,578	0.2	438,505	393,435	15,728	-10.3*
Statewide <sup>c</sup>	137,638	137,634	3,131	0.0	693,553	612,226	19,095	-11.7*
<b>Early Antlerless</b>								
West UP	0	0	0		0	0	0	
East UP	0	0	0		0	0	0	
NE LP	2,269	1,782	401	-21.4	3,731	2,762	663	-26.0
NW LP	704	2,061	423	192.7*	1,133	3,053	654	169.5*
Sag. Bay	2,833	3,693	573	30.4	4,749	5,235	875	10.2
SW LP	0	478	203		0	551	265	
SC LP	3,526	2,858	504	-18.9	5,212	3,905	753	-25.1
SE LP	2,006	1,707	387	-14.9	3,107	2,423	590	-22.0
UP	0	0	0		0	0	0	
NLP	3,350	4,526	629	35.1	5,516	6,934	1,019	25.7
SLP	7,932	8,025	836	1.2	12,416	10,995	1,257	-11.4
Statewide <sup>c</sup>	11,435	13,057	629	14.2*	17,931	17,929	1,634	0.0

<sup>a</sup>Excluded people that did not hunt during the season.<sup>b</sup>95 confidence limit for the 2018 estimate. \*P<0.05.<sup>c</sup>Number of hunters does not add up to statewide total because hunters can hunt in more than one area.

Table 4 (continued). Number of deer hunters and hunting effort in Michigan by hunting season, 2017-2018.

Season and Area	Number of hunters <sup>a</sup>				Hunting effort (days)			
	2017	2018	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)	2017	2018	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)
Late Antlerless								
West UP	0	0	0		0	0	0	
East UP	0	0	0		0	0	0	
NE LP	4,246	4,378	636	3.1	17,231	15,133	2,872	-12.2
NW LP	4,168	8,291	864	98.9*	16,457	32,136	4,256	95.3*
Sag. Bay	8,878	11,864	1,033	33.6*	38,198	42,453	4,866	11.1
SW LP	10,587	12,121	1,048	14.5	46,098	45,344	5,039	-1.6
SC LP	14,417	14,777	1,151	2.5	62,032	52,572	5,414	-15.3
SE LP	5,365	5,751	725	7.2	23,682	21,882	3,583	-7.6
UP	0	0	0		0	0	0	
NLP	8,833	15,163	1,158	71.7*	35,726	56,966	5,693	59.5*
SLP	38,563	41,482	1,840	7.6	167,971	152,552	9,229	-9.2
Statewide <sup>c</sup>	47,392	57,973	2,112	22.3*	203,698	209,519	10,891	2.9
Liberty/Youth <sup>d</sup>								
West UP	1,571	2,047	284	30.3	2,480	3,034	443	22.3
East UP	327	382	133	16.6	545	599	217	9.9
NE LP	2,321	3,373	370	45.3*	3,860	5,218	614	35.2*
NW LP	5,453	6,565	503	20.4*	9,005	10,398	860	15.5
Sag. Bay	3,740	5,814	459	55.5*	6,017	9,099	791	51.2*
SW LP	2,596	3,645	395	40.4*	4,108	5,464	631	33.0*
SC LP	2,737	4,755	432	73.7*	4,365	7,040	692	61.3*
SE LP	1,419	2,746	367	93.6*	2,401	4,187	575	74.4*
UP	1,898	2,429	312	27.9	3,025	3,633	494	20.1
NLP	9,167	11,386	635	24.2*	15,020	17,893	1,127	19.1*
SLP	9,075	15,464	738	70.4*	14,738	23,514	1,297	59.6*
Statewide <sup>c</sup>	20,166	29,576	887	46.7*	32,783	45,040	1,796	37.4*

<sup>a</sup>Excluded people that did not hunt during the season.<sup>b</sup>95 confidence limit for the 2018 estimate. \*P<0.05.<sup>c</sup>Number of hunters does not add up to statewide total because hunters can hunt in more than one area.<sup>d</sup>Estimates included results of both youth and disabled hunters.

Table 4 (continued). Number of deer hunters and hunting effort in Michigan by hunting season, 2017-2018.

Season and Area	Number of hunters <sup>a</sup>				Hunting effort (days)			
	2017	2018	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)	2017	2018	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)
Independence								
West UP	139	173	60	24.5	336	384	93	14.5
East UP	45	77	57	73.2	112	246	210	119.0
NE LP	348	270	95	-22.4	837	675	262	-19.3
NW LP	463	454	126	-1.8	1,187	968	248	-18.4
Sag. Bay	340	272	82	-20.0	775	614	195	-20.8
SW LP	164	226	86	38.5	375	491	177	30.9
SC LP	357	349	112	-2.4	789	801	315	1.5
SE LP	176	270	122	53.2	385	592	290	53.7
UP	184	251	83	36.3	448	630	230	40.7
NLP	917	827	167	-9.8	2,312	1,875	376	-18.9
SLP	910	997	196	9.5	2,036	2,267	491	11.3
Statewide <sup>c</sup>	2,012	2,154	280	7.1	4,796	4,772	691	-0.5
Urban Archery								
West UP	0	0	0		0	0	0	
East UP	0	0	0		0	0	0	
NE LP	0	0	0		0	0	0	
NW LP	0	0	0		0	0	0	
Sag. Bay	0	0	0		0	0	0	
SW LP	0	0	0		0	0	0	
SC LP	0	0	0		0	0	0	
SE LP	3,252	2,840	520	-12.6	15,138	12,787	3,435	-15.5
UP	0	0	0		0	0	0	
NLP	0	0	0		0	0	0	
SLP	3,252	2,840	520	-12.6	15,138	12,787	3,435	-15.5
Statewide <sup>c</sup>	3,252	2,895	526	-11.0	15,138	12,787	3,435	-15.5

<sup>a</sup>Excluded people that did not hunt during the season.

<sup>b</sup>95 confidence limit for the 2018 estimate. \*P<0.05.

<sup>c</sup>Number of hunters does not add up to statewide total because hunters can hunt in more than one area.

Table 4 (continued). Number of deer hunters and hunting effort in Michigan by hunting season, 2017-2018.

Season and Area	Number of hunters <sup>a</sup>				Hunting effort (days)			
	2017	2018	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)	2017	2018	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)
<b>Disease Hunt</b>								
West UP	0	0	0		0	0	0	
East UP	0	0	0		0	0	0	
NE LP	211	200	138	-5.2	454	708	523	56.0
NW LP	0	0	0		0	0	0	
Sag. Bay	0	0	0		0	0	0	
SW LP	0	0	0		0	0	0	
SC LP	1,471	0	0	-100.0*	4,106	0	0	-100.0*
SE LP	0	0	0		0	0	0	
UP	0	0	0		0	0	0	
NLP	211	200	138	-5.2	454	708	523	56.0
SLP	1,471	0	0	-100.0*	4,106	0	0	-100.0*
Statewide <sup>c</sup>	1,711	200	138	-88.3*	4,560	708	523	-84.5*
<b>All Seasons</b>								
West UP	61,030	62,148	2,256	1.8	682,106	600,104	31,822	-12.0*
East UP	19,452	18,051	1,292	-7.2	194,136	157,137	15,519	-19.1*
NE LP	111,813	103,668	2,824	-7.3*	1,285,095	1,054,324	45,138	-18.0*
NW LP	122,320	114,027	2,920	-6.8*	1,577,481	1,402,712	55,419	-11.1*
Sag. Bay	95,635	94,127	2,676	-1.6	1,311,491	1,193,020	51,814	-9.0*
SW LP	83,442	79,460	2,523	-4.8	1,325,456	1,132,198	52,240	-14.6*
SC LP	102,777	96,235	2,709	-6.4*	1,551,720	1,282,406	54,981	-17.4*
SE LP	47,069	48,438	2,029	2.9	745,941	704,649	43,437	-5.5
UP	79,936	79,571	2,497	-0.5	876,241	757,241	35,405	-13.6*
NLP	259,459	240,871	3,634	-7.2*	3,277,544	2,795,708	76,421	-14.7*
SLP	286,781	278,922	3,565	-2.7*	4,519,641	3,973,600	97,938	-12.1*
Statewide <sup>c</sup>	574,127	554,331	1,676	-3.4*	8,673,426	7,526,549	129,501	-13.2*

<sup>a</sup>Excluded people that did not hunt during the season.<sup>b</sup>95 confidence limit for the 2018 estimate. \*P<0.05.<sup>c</sup>Number of hunters does not add up to statewide total because hunters can hunt in more than one area.

Table 5. Mean number of days hunters spent hunting deer ( $\bar{x}$  hunting effort) in Michigan by hunting season, 2018.<sup>a</sup>

Area	Season							
	Archery		Regular Firearm		Muzzleloader		Early Antlerless	
	$\bar{x}$ days	95% CL <sup>b</sup>	$\bar{x}$ days	95% CL <sup>b</sup>	$\bar{x}$ days	95% CL <sup>b</sup>	$\bar{x}$ days	95% CL <sup>b</sup>
West UP	10.6	0.7	6.6	0.2	4.5	0.2	0.0	0.0
East UP	9.5	1.2	6.2	0.3	4.8	0.5	0.0	0.0
NE LP	10.1	0.4	5.8	0.1	4.0	0.2	1.7	0.1
NW LP	12.1	0.4	5.8	0.1	4.1	0.2	1.5	0.1
Sag. Bay	11.6	0.4	5.8	0.1	4.4	0.2	1.5	0.1
SW LP	12.4	0.5	6.1	0.1	4.9	0.2	1.4	0.2
SC LP	12.3	0.4	5.7	0.1	4.6	0.2	1.5	0.1
SE LP	12.8	0.6	5.8	0.2	4.7	0.3	1.5	0.1
UP	10.4	0.6	6.6	0.1	4.6	0.2	0.0	0.0
NLP	11.4	0.3	5.8	0.1	4.0	0.1	1.6	0.1
SLP	12.7	0.3	6.0	0.1	4.8	0.1	1.5	0.1
Statewide	12.9	0.2	6.3	0.1	4.7	0.1	1.5	0.0

<sup>a</sup>Excluded people that did not hunt during the season.

<sup>b</sup>95 confidence limit.

Table 5 (continued). Mean number of days hunters spent hunting deer ( $\bar{x}$  hunting effort) in Michigan by hunting season, 2018.<sup>a</sup>

Area	Season							
	Late Antlerless		Liberty (Youth)		Independence		Urban Archery	
	$\bar{x}$ days	95% CL <sup>b</sup>	$\bar{x}$ days	95% CL <sup>b</sup>	$\bar{x}$ days	95% CL <sup>b</sup>	$\bar{x}$ days	95% CL <sup>b</sup>
West UP	0.0	0.0	1.5	0.1	2.2	0.4	0.0	0.0
East UP	0.0	0.0	1.6	0.1	3.1	0.6	0.0	0.0
NE LP	3.9	0.4	1.6	0.0	2.5	0.3	0.0	0.0
NW LP	4.1	0.3	1.6	0.0	2.2	0.2	0.0	0.0
Sag. Bay	3.9	0.3	1.6	0.0	2.3	0.2	0.0	0.0
SW LP	4.2	0.3	1.5	0.1	2.4	0.3	0.0	0.0
SC LP	4.0	0.2	1.5	0.0	2.5	0.4	0.0	0.0
SE LP	4.1	0.4	1.5	0.1	2.1	0.5	4.8	0.9
UP	0.0	0.0	1.6	0.1	2.4	0.4	0.0	0.0
NLP	4.0	0.2	1.6	0.0	2.3	0.2	0.0	0.0
SLP	4.1	0.1	1.5	0.0	2.4	0.2	4.8	0.9
Statewide	4.1	0.1	1.6	0.0	2.4	0.1	4.8	0.9

<sup>a</sup>Excluded people that did not hunt during the season.

<sup>b</sup>95 confidence limit.

Table 5 (continued). Mean number of days hunters spent hunting deer ( $\bar{x}$  hunting effort) in Michigan by hunting season, 2018.<sup>a</sup>

Area	Season			
	Disease Hunt		All Seasons	
	$\bar{x}$ days	95% CL <sup>b</sup>	$\bar{x}$ days	95% CL <sup>b</sup>
West UP	0.0	0.0	9.8	0.4
East UP	0.0	0.0	8.7	0.6
NE LP	3.5	0.8	10.3	0.3
NW LP	0.0	0.0	12.5	0.4
Sag. Bay	0.0	0.0	12.9	0.4
SW LP	0.0	0.0	14.7	0.5
SC LP	0.0	0.0	13.6	0.4
SE LP	0.0	0.0	14.9	0.6
UP	0.0	0.0	9.7	0.3
NLP	3.5	0.8	11.8	0.2
SLP	0.0	0.0	14.6	0.3
Statewide	3.5	0.8	14.1	0.2

<sup>a</sup>Excluded people that did not hunt during the season.

<sup>b</sup>95 confidence limit.

Table 6. Number of deer harvested in Michigan, 2016-2018.

Season or permit	Type of deer	2016	2017	2018	Change from 2017 to 2018 (%)
<b>Season</b>					
Archery	Antlerless	50,103	53,404	43,235	-19.0*
	Antlered bucks	75,438	83,655	68,382	-18.3*
	Sexes combined	125,541	137,059	111,617	-18.6*
Regular firearm	Antlerless	57,513	63,898	65,824	3.0
	Antlered bucks	107,329	126,167	126,396	0.2
	Sexes combined	164,843	190,065	192,221	1.1
Muzzleloader	Antlerless	14,195	13,427	15,339	14.2
	Antlered bucks	9,083	10,632	9,915	-6.7
	Sexes combined	23,278	24,058	25,254	5.0
Early antlerless	Antlerless	2,840	2,231	4,523	102.7*
Late antlerless	Antlerless	18,035	14,340	16,167	12.7
Liberty/Youth <sup>a,b</sup>	Antlerless	2,227	2,282	3,308	45.0*
	Antlered bucks	4,113	4,911	6,753	37.5*
	Sexes combined	6,339	7,193	10,062	39.9*
Independence <sup>b</sup>	Antlerless	142	248	194	-21.9
	Antlered bucks	270	236	280	18.5
	Sexes combined	412	485	474	-2.2
Urban Archery	Antlerless	NA	477	295	-38.2
	Antlered bucks	NA	52	27	-48.7
	Sexes combined	NA	530	322	-39.2
Disease Hunt	Antlerless	NA	401	26	-93.5*
	Antlered bucks	NA	2	0	-100.0
	Sexes combined	NA	403	26	-93.6*
Special permits <sup>c</sup>	Antlerless	6,934	9,189	6,986	-24.0
Grand Total	Antlerless	151,988	159,898	155,898	-2.5
	Antlered bucks	196,233	225,656	211,754	-6.2*
	Sexes combined	348,222	385,554	367,652	-4.6*

<sup>a</sup>Estimates for Liberty hunt included results of both youth and hunters with disabilities.<sup>b</sup>Hunters with disabilities could hunt in both the Liberty and Independence seasons.<sup>c</sup>Includes deer harvested with DMA permits. These permits could be used during any deer hunting season.

\*P&lt;0.05.

Table 7. Number of deer harvested in Michigan by hunting season, 2017-2018.<sup>a</sup>

Season and Area	Antlerless				Antlered Bucks				Sexes Combined			
	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018
Archery												
West UP	1,022	1,240	375	21.3	4,798	4,237	646	-11.7	5,819	5,478	786	-5.9
East UP	30	29	48	-4.1	1,456	742	269	-49.1*	1,486	771	273	-48.1*
NE LP	8,840	5,708	822	-35.4*	10,344	6,661	813	-35.6*	19,186	12,368	1,238	-35.5*
NW LP	14,278	9,261	1,007	-35.1*	15,180	9,977	998	-34.3*	29,461	19,237	1,525	-34.7*
Sag. Bay	9,543	8,884	1,033	-6.9	15,243	12,397	1,114	-18.7*	24,786	21,281	1,647	-14.1
SW LP	6,606	6,081	843	-7.9	14,178	12,306	1,130	-13.2	20,782	18,388	1,533	-11.5
SC LP	8,771	7,632	950	-13.0	15,605	14,429	1,211	-7.5	24,374	22,061	1,680	-9.5
SE LP	4,314	4,400	714	2.0	6,851	7,633	879	11.4	11,165	12,033	1,214	7.8
UP	1,052	1,269	378	20.6	6,255	4,979	699	-20.4	7,305	6,248	832	-14.5
NLP	27,318	17,498	1,412	-35.9*	29,856	19,888	1,406	-33.4*	57,180	37,385	2,143	-34.6*
SLP	25,034	24,468	1,699	-2.3	47,544	43,515	2,107	-8.5	72,574	67,984	2,937	-6.3
Statewide	53,404	43,235	2,245	-19.0*	83,655	68,382	2,632	-18.3*	137,059	111,617	3,736	-18.6*
Regular Firearm												
West UP	2,682	2,542	515	-5.2	18,219	18,949	1,343	4.0	20,905	21,503	1,491	2.9
East UP	192	28	50	-85.3	4,614	4,573	658	-0.9	4,808	4,605	660	-4.2
NE LP	14,102	11,696	1,103	-17.1	23,594	20,198	1,425	-14.4*	37,695	31,892	1,913	-15.4*
NW LP	12,546	14,529	1,253	15.8	20,189	17,990	1,318	-10.9	32,733	32,510	1,964	-0.7
Sag. Bay	11,808	12,069	1,134	2.2	20,134	21,133	1,443	5.0	31,941	33,201	1,972	3.9
SW LP	7,390	8,964	979	21.3	14,118	15,932	1,260	12.9	21,508	24,895	1,723	15.7*
SC LP	11,758	12,439	1,179	5.8	19,671	20,795	1,456	5.7	31,428	33,231	2,024	5.7
SE LP	3,420	3,558	628	4.0	5,628	6,826	822	21.3	9,047	10,384	1,085	14.8
UP	2,874	2,570	517	-10.6	22,833	23,522	1,496	3.0	25,713	26,108	1,630	1.5
NLP	31,016	30,091	1,795	-3.0	49,712	43,935	2,081	-11.6*	80,724	74,013	2,946	-8.3*
SLP	30,008	33,163	1,896	10.5	53,623	58,940	2,429	9.9*	83,628	92,099	3,311	10.1*
Statewide	63,898	65,824	2,673	3.0	126,167	126,396	3,544	0.2	190,065	192,221	4,742	1.1

<sup>a</sup>Harvest estimates do not include deer taken with DMA permits. An additional 6,986 deer were taken with these permits.<sup>b</sup>95 confidence limit for the 2018 estimate. \*P<0.05.

Table 7 (continued). Number of deer harvested in Michigan by hunting season, 2017-2018.<sup>a</sup>

Season and Area	Antlerless				Antlered Bucks				Sexes Combined			
	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018
Muzzleloader												
West UP	637	642	258	0.9	614	1,000	301	63.0	1,250	1,642	407	31.3
East UP	1	26	50	2515.5	219	409	194	86.4	220	435	212	97.7
NE LP	1,709	1,584	420	-7.3	951	873	283	-8.3	2,661	2,457	520	-7.7
NW LP	1,444	2,315	483	60.3*	1,096	800	264	-27.0	2,540	3,115	567	22.6
Sag. Bay	2,860	2,863	537	0.1	1,829	1,464	358	-20.0	4,689	4,327	673	-7.7
SW LP	3,080	2,774	532	-9.9	2,187	2,154	450	-1.5	5,267	4,928	738	-6.4
SC LP	2,708	3,965	656	46.4*	2,530	2,432	481	-3.9	5,238	6,397	852	22.1
SE LP	988	1,170	328	18.4	1,206	785	271	-34.9	2,193	1,954	431	-10.9
UP	638	669	262	4.8	833	1,409	358	69.1	1,470	2,076	459	41.3
NLP	3,886	4,192	660	7.9	2,411	1,903	413	-21.0	6,298	6,096	802	-3.2
SLP	8,903	10,479	1,041	17.7	7,388	6,603	784	-10.6	16,290	17,082	1,363	4.9
Statewide	13,427	15,339	1,264	14.2	10,632	9,915	961	-6.7	24,058	25,254	1,653	5.0
Early Antlerless												
West UP	0	0	0		0	0	0	0	0	0	0	
East UP	0	0	0		0	0	0	0	0	0	0	
NE LP	546	603	235	10.4	0	0	0	0	546	603	235	10.4
NW LP	96	668	262	598.0*	0	0	0	0	96	668	262	598.0*
Sag. Bay	429	1,522	382	254.7*	0	0	0	0	429	1,522	382	254.7*
SW LP	0	166	120		0	0	0	0	0	166	120	
SC LP	879	1,181	332	34.5	0	0	0	0	879	1,181	332	34.5
SE LP	281	382	187	35.9	0	0	0	0	281	382	187	35.9
UP	0	0	0		0	0	0	0	0	0	0	
NLP	787	1,436	378	82.6	0	0	0	0	787	1,436	378	82.6
SLP	1,444	3,086	535	113.7*	0	0	0	0	1,444	3,086	535	113.7*
Statewide	2,231	4,523	662	102.7*	0	0	0	0	2,231	4,523	662	102.7*

<sup>a</sup>Harvest estimates do not include deer taken with DMA permits. An additional 6,986 deer were taken with these permits.<sup>b</sup>95 confidence limit for the 2018 estimate. \*P<0.05.

Table 7 (continued). Number of deer harvested in Michigan by hunting season, 2017-2018.<sup>a</sup>

Season and Area	Antlerless				Antlered Bucks				Sexes Combined			
	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018
Late Antlerless												
West UP	0	0	0		0	0	0	0	0	0	0	
East UP	0	0	0		0	0	0	0	0	0	0	
NE LP	2,045	1,198	390	-41.4	0	0	0	0	2,045	1,198	390	-41.4
NW LP	1,571	2,617	541	66.5*	0	0	0	0	1,571	2,617	541	66.5*
Sag. Bay	3,142	4,132	667	31.5	0	0	0	0	3,142	4,132	667	31.5
SW LP	2,737	2,734	557	-0.1	0	0	0	0	2,737	2,734	557	-0.1
SC LP	3,930	4,311	694	9.7	0	0	0	0	3,930	4,311	694	9.7
SE LP	915	1,177	348	28.5	0	0	0	0	915	1,177	348	28.5
UP	0	0	0		0	0	0	0	0	0	0	
NLP	3,779	4,743	738	25.5	0	0	0	0	3,779	4,743	738	25.5
SLP	10,562	11,424	1,121	8.2	0	0	0	0	10,562	11,424	1,121	8.2
Statewide	14,340	16,167	1,348	12.7	0	0	0	0	14,340	16,167	1,348	12.7
Liberty (Youth) <sup>c</sup>												
West UP	166	315	114	89.1	482	490	129	1.7	648	805	172	24.1
East UP	12	46	39	283.3	84	95	55	12.8	97	142	67	46.5
NE LP	287	415	119	44.6	554	704	177	27.1	841	1,119	213	33.1
NW LP	703	906	177	28.9	1,338	1,598	240	19.4	2,040	2,505	297	22.8
Sag. Bay	406	512	132	26.1	971	1,554	235	59.9*	1,377	2,064	270	49.9*
SW LP	274	359	126	31.3	461	624	156	35.5	734	984	200	34.0
SC LP	340	551	157	62.3	685	1,168	202	70.4*	1,025	1,719	256	67.8*
SE LP	95	204	97	114.5	336	521	127	55.0	431	724	159	67.9*
UP	178	361	120	102.3	566	585	140	3.3	745	947	185	27.0
NLP	1,244	1,542	228	24.0	2,169	2,684	324	23.8	3,411	4,227	396	23.9*
SLP	860	1,405	245	63.5*	2,176	3,484	347	60.1*	3,037	4,888	425	60.9*
Statewide	2,282	3,308	356	45.0*	4,911	6,753	497	37.5*	7,193	10,062	611	39.9*

<sup>a</sup>Harvest estimates do not include deer taken with DMA permits. An additional 6,986 deer were taken with these permits.<sup>b</sup>95 confidence limit for the 2018 estimate. \*P<0.05.<sup>c</sup>Estimates included results of both youth and hunters with disabilities.

Table 7 (continued). Number of deer harvested in Michigan by hunting season, 2017-2018.<sup>a</sup>

Season and Area	Antlerless				Antlered Bucks				Sexes Combined			
	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018
Independence												
West UP	13	25	10	87.5	31	30	10	-1.7	44	55	14	25.5
East UP	4	2	3	-49.5	4	10	6	153.3	8	12	7	51.8
NE LP	63	30	10	-52.3	49	26	10	-46.2	112	56	14	-49.6
NW LP	84	65	52	-22.2	45	69	54	52.5	129	134	75	3.9
Sag. Bay	31	23	9	-25.4	51	43	13	-15.8	82	66	16	-19.5
SW LP	30	4	4	-87.2*	11	43	20	310.3*	41	47	21	15.8
SC LP	15	29	11	89.3	27	37	20	34.0	43	66	23	53.9
SE LP	8	15	8	101.9	20	23	19	17.1	27	38	20	40.9
UP	17	27	10	57.0	34	40	12	15.5	52	67	16	29.4
NLP	158	105	53	-33.7	113	116	56	2.5	272	221	77	-18.6
SLP	73	62	16	-15.0	89	124	35	40.3	161	186	39	15.3
Statewide	248	194	57	-21.9	236	280	67	18.5	485	474	88	-2.2
Urban Archery												
West UP	0	0	0		0	0	0		0	0	0	
East UP	0	0	0		0	0	0		0	0	0	
NE LP	0	0	0		0	0	0		0	0	0	
NW LP	0	0	0		0	0	0		0	0	0	
Sag. Bay	0	0	0		0	0	0		0	0	0	
SW LP	0	0	0		0	0	0		0	0	0	
SC LP	0	0	0		0	0	0		0	0	0	
SE LP	477	295	165	-38.2	52	27	48	-48.7	530	322	171	-39.2
UP	0	0	0		0	0	0		0	0	0	
NLP	0	0	0		0	0	0		0	0	0	
SLP	477	295	165	-38.2	52	27	48	-48.7	530	322	171	-39.2
Statewide	477	295	165	-38.2	52	27	48	-48.7	530	322	171	-39.2

<sup>a</sup>Harvest estimates do not include deer taken with DMA permits. An additional 6,986 deer were taken with these permits.<sup>b</sup>95 confidence limit for the 2018 estimate. \*P<0.05.

Table 7 (continued). Number of deer harvested in Michigan by hunting season, 2017-2018.<sup>a</sup>

Season and Area	Antlerless				Antlered Bucks				Sexes Combined			
	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018
Disease Hunt												
West UP	0	0	0		0	0	0		0	0	0	
East UP	0	0	0		0	0	0		0	0	0	
NE LP	107	26	50	-75.8	0	0	0		107	26	50	-75.8
NW LP	0	0	0		0	0	0		0	0	0	
Sag. Bay	0	0	0		0	0	0		0	0	0	
SW LP	0	0	0		0	0	0		0	0	0	
SC LP	294	0	0	-100.0*	2	0	0	-100.0	296	0	0	-100.0*
SE LP	0	0	0		0	0	0		0	0	0	
UP	0	0	0		0	0	0		0	0	0	
NLP	107	26	50	-75.8	0	0	0		107	26	50	-75.8
SLP	294	0	0	-100.0*	2	0	0	-100.0	296	0	0	-100.0*
Statewide	401	26	50	-93.5*	2	0	0	-100.0	403	26	50	-93.6*
All Seasons												
West UP	4,523	4,768	728	5.4	24,141	24,693	1,578	2.3	28,670	29,477	1,837	2.8
East UP	239	132	94	-44.9	6,378	5,824	759	-8.7	6,619	5,961	771	-9.9
NE LP	27,698	21,259	1,660	-23.2*	35,491	28,454	1,747	-19.8*	63,187	49,711	2,633	-21.3*
NW LP	30,738	30,369	1,990	-1.2	37,849	30,435	1,778	-19.6*	68,584	60,793	2,977	-11.4*
Sag. Bay	28,215	29,995	2,000	6.3	38,228	36,593	1,978	-4.3	66,442	66,582	3,163	0.2
SW LP	20,118	21,086	1,692	4.8	30,955	31,067	1,880	0.4	51,073	52,153	2,875	2.1
SC LP	28,677	30,095	2,082	4.9	38,521	38,866	2,078	0.9	67,197	68,957	3,350	2.6
SE LP	10,502	11,209	1,203	6.7	14,092	15,823	1,317	12.3	24,594	27,032	1,990	9.9
UP	4,762	4,900	734	2.9	30,519	30,517	1,751	0.0	35,289	35,438	1,992	0.4
NLP	68,316	59,641	2,781	-12.7*	84,260	68,521	2,686	-18.7*	152,570	128,148	4,281	-16.0*
SLP	77,631	84,371	3,410	8.7	110,876	112,715	3,536	1.7	188,505	197,080	5,560	4.5
Statewide	150,709	148,912	4,481	-1.2	225,656	211,754	4,788	-6.2*	376,365	360,666	7,321	-4.2*

<sup>a</sup>Harvest estimates do not include deer taken with DMA permits. An additional 6,986 deer were taken with these permits.<sup>b</sup>95 confidence limit for the 2018 estimate. \*P<0.05.

Table 8. Number of deer harvested on public and private lands during all seasons combined in Michigan by management region, 2017-2018.<sup>a</sup>

Season and Area	Antlerless				Antlered Bucks				Sexes Combined			
	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018 (%)	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018	2017 Harvest	2018 Harvest	95% CL <sup>b</sup>	Change from 2017 to 2018
<b>Public Lands</b>												
West UP	556	757	266	36.1	6,396	5,964	769	-6.7	6,957	6,724	823	-3.4
East UP	83	5	4	-94.1	2,068	1,528	404	-26.1	2,153	1,534	404	-28.8
NE LP	6,691	4,873	709	-27.2*	8,100	6,173	798	-23.8*	14,789	11,045	1,148	-25.3*
NW LP	4,842	4,638	701	-4.2	6,799	5,170	735	-24.0*	11,641	9,806	1,078	-15.8
Sag. Bay	3,674	3,186	593	-13.3	3,123	3,520	594	12.7	6,794	6,705	942	-1.3
SW LP	1,393	879	311	-36.9	1,870	1,197	359	-36.0	3,263	2,076	522	-36.4
SC LP	2,157	2,199	548	2.0	2,012	2,725	536	35.5	4,167	4,924	842	18.2
SE LP	943	764	310	-19.0	1,089	819	297	-24.8	2,031	1,583	445	-22.1
UP	639	762	266	19.2	8,464	7,492	869	-11.5	9,110	8,258	917	-9.4
NLP	13,397	10,718	1,065	-20.0*	16,435	13,192	1,168	-19.7*	29,828	23,908	1,703	-19.8*
SLP	6,302	5,821	840	-7.6	6,558	6,411	818	-2.2	12,857	12,230	1,284	-4.9
Statewide	20,338	17,301	1,386	-14.9*	31,458	27,096	1,674	-13.9*	51,795	44,396	2,329	-14.3*
<b>Private Lands</b>												
West UP	3,966	4,011	674	1.1	17,742	18,728	1,369	5.6	21,711	22,751	1,625	4.8
East UP	157	127	94	-18.9	4,308	4,296	639	-0.3	4,466	4,427	653	-0.9
NE LP	21,009	16,384	1,454	-22.0*	27,387	22,280	1,549	-18.6*	48,395	38,663	2,314	-20.1*
NW LP	25,896	25,730	1,847	-0.6	31,047	25,265	1,612	-18.6*	56,942	50,985	2,737	-10.5*
Sag. Bay	24,541	26,809	1,899	9.2	35,108	33,073	1,876	-5.8	59,649	59,878	2,987	0.4
SW LP	18,724	20,208	1,658	7.9	29,087	29,871	1,846	2.7	47,812	50,081	2,821	4.7
SC LP	26,519	27,897	2,004	5.2	36,513	36,141	2,003	-1.0	63,032	64,036	3,219	1.6
SE LP	9,559	10,446	1,156	9.3	13,005	15,005	1,284	15.4	22,563	25,451	1,931	12.8
UP	4,123	4,138	681	0.4	22,050	23,024	1,510	4.4	26,176	27,177	1,752	3.8
NLP	54,922	48,919	2,530	-10.9*	67,819	55,327	2,409	-18.4*	122,738	104,235	3,864	-15.1*
SLP	71,326	78,554	3,291	10.1*	104,329	106,308	3,432	1.9	175,655	184,858	5,375	5.2
Statewide	130,371	131,612	4,226	1.0	194,198	184,658	4,472	-4.9*	324,569	316,270	6,873	-2.6

<sup>a</sup>Harvest estimates do not include deer taken with DMA permits. An additional 6,986 deer were taken with these permits.<sup>b</sup>95 confidence limit for the 2018 estimate. \*P<0.05.

Table 9. Percentage of deer hunters harvesting deer in Michigan during all seasons, 2018.<sup>a</sup>

Sex and Area	Number of deer harvested									
	≥1 deer		≥2 deer		≥3 deer		≥4 deer		≥5 deer	
	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>
<b>Antlerless</b>										
West UP	6.9	1.0	1.0	0.4	0.1	0.1	0.0	0.0	0.0	0.0
East UP	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE LP	17.5	1.1	2.9	0.5	0.6	0.2	0.2	0.1	0.1	0.1
NW LP	22.0	1.2	4.3	0.6	1.0	0.3	0.4	0.2	0.1	0.1
Sag. Bay	25.9	1.4	5.5	0.7	1.5	0.4	0.4	0.2	0.0	0.1
SW LP	21.4	1.4	4.8	0.7	0.9	0.3	0.4	0.2	0.2	0.2
SC LP	25.3	1.3	4.9	0.7	1.5	0.4	0.5	0.2	0.2	0.1
SE LP	19.5	1.7	3.6	0.8	0.7	0.4	0.2	0.2	0.1	0.1
UP	5.5	0.8	0.8	0.3	0.1	0.1	0.0	0.0	0.0	0.0
NLP	20.7	0.8	3.8	0.4	0.8	0.2	0.3	0.1	0.1	0.1
SLP	24.2	0.8	5.3	0.4	1.4	0.2	0.5	0.1	0.1	0.1
Statewide <sup>d</sup>	21.9	0.5	4.7	0.3	1.2	0.1	0.4	0.1	0.1	0.0
<b>Antlered bucks<sup>c</sup></b>										
West UP	38.5	1.9	3.1	0.7						
East UP	32.0	3.4	1.8	1.0						
NE LP	25.6	1.3	3.2	0.5						
NW LP	24.8	1.2	3.2	0.5						
Sag. Bay	35.6	1.5	5.1	0.7						
SW LP	34.6	1.6	6.4	0.8						
SC LP	36.2	1.5	6.1	0.7						
SE LP	29.6	2.0	4.6	0.9						
UP	37.3	1.7	2.9	0.6						
NLP	26.4	0.9	3.4	0.4						
SLP	36.0	0.9	6.3	0.4						
Statewide <sup>d</sup>	34.8	0.6	5.4	0.3						

<sup>a</sup>Excluded people that did not hunt during the season and deer taken with DMA permits.

<sup>b</sup>95 confidence limit.

<sup>c</sup>The season bag limit for antlered deer was two.

<sup>d</sup>The statewide estimate was derived from all hunters, including hunters that had failed to report where they hunted. In contrast, regional estimates were derived from only hunters that had reported hunting in the area.

Table 9 (continued). Percentage of deer hunters harvesting deer in Michigan during all seasons, 2018.<sup>a</sup>

Sex and Area	Number of deer harvested									
	≥1 deer		≥2 deer		≥3 deer		≥4 deer		≥5 deer	
	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>
Sexes Combined										
West UP	42.8	1.9	5.8	0.9	0.8	0.3	0.1	0.1	0.0	0.0
East UP	32.4	3.4	2.1	1.0	0.0	0.0	0.0	0.0	0.1	0.1
NE LP	38.2	1.5	9.6	0.9	1.6	0.4	0.5	0.2	0.2	0.2
NW LP	40.2	1.4	11.7	0.9	2.6	0.4	0.8	0.3	0.2	0.2
Sag. Bay	51.9	1.6	16.8	1.2	3.9	0.6	1.1	0.3	0.3	0.3
SW LP	47.3	1.7	15.4	1.2	3.8	0.7	1.3	0.4	0.3	0.3
SC LP	51.5	1.5	16.6	1.2	4.4	0.6	1.4	0.4	0.2	0.2
SE LP	42.2	2.2	12.4	1.4	2.8	0.7	0.8	0.4	0.0	0.0
UP	40.8	1.7	5.0	0.7	0.6	0.3	0.1	0.1	0.1	0.1
NLP	40.9	1.0	11.4	0.6	2.3	0.3	0.8	0.2	0.1	0.1
SLP	50.7	0.9	16.7	0.7	4.4	0.4	1.3	0.2	0.0	0.0
Statewide <sup>d</sup>	48.5	0.6	14.8	0.4	3.6	0.2	1.1	0.1	0.4	0.1

<sup>a</sup>Excluded people that did not hunt during the season and deer taken with DMA permits.<sup>b</sup>95 confidence limit.<sup>c</sup>The season bag limit for antlered deer was two.<sup>d</sup>The statewide estimate was derived from all hunters, including hunters that had failed to report where they hunted. In contrast, regional estimates were derived from only hunters that had reported hunting in the area.

Table 10. Percentage of deer hunters harvesting at least one deer in Michigan by hunting season, 2018.<sup>a</sup>

Sex and Area	Season											
	Archery		Regular Firearm		Muzzleloader		Early Antlerless		Late Antlerless		Liberty (Youth)	
	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>
<b>Antlerless</b>												
West UP	6.3	1.8	4.3	0.8	5.9	2.2	0.0	0.0	0.0	0.0	16.2	5.3
East UP	0.7	1.2	0.2	0.3	0.8	1.6	0.0	0.0	0.0	0.0	12.8	10.2
NE LP	11.3	1.4	12.4	1.1	9.5	2.3	33.3	10.7	23.0	6.1	13.0	3.5
NW LP	13.9	1.3	14.2	1.1	11.5	2.2	29.4	9.4	28.9	4.8	14.5	2.7
Sag. Bay	15.2	1.5	14.6	1.2	12.1	2.1	40.3	7.7	32.6	4.2	9.2	2.3
SW LP	11.4	1.4	13.2	1.3	10.6	1.9	35.8	20.8	21.3	3.6	10.4	3.4
SC LP	12.3	1.3	15.1	1.2	13.1	1.9	40.7	8.7	26.9	3.5	12.2	3.2
SE LP	12.0	1.7	9.9	1.6	8.4	2.3	21.3	9.3	19.5	5.0	7.8	3.6
UP	5.2	1.5	3.4	0.7	4.7	1.8	0.0	0.0	0.0	0.0	15.7	4.8
NLP	13.2	0.9	13.7	0.7	10.1	1.5	29.7	6.4	28.3	3.5	14.3	2.0
SLP	13.0	0.8	13.9	0.7	11.9	1.1	37.9	5.2	25.6	2.1	9.6	1.6
Statewide	13.2	0.6	12.8	0.4	10.8	0.8	34.4	4.0	26.0	1.8	11.8	1.2
<b>Antlered Bucks</b>												
West UP	23.7	3.1	34.3	2.0	10.0	2.9	0.0	0.0	0.0	0.0	25.0	5.9
East UP	17.2	5.6	28.9	3.5	13.1	5.8	0.0	0.0	0.0	0.0	26.1	13.8
NE LP	14.2	1.6	22.2	1.4	5.8	1.8	0.0	0.0	0.0	0.0	21.8	4.8
NW LP	15.9	1.4	18.7	1.2	4.3	1.4	0.0	0.0	0.0	0.0	25.4	3.4
Sag. Bay	23.2	1.8	27.0	1.5	6.7	1.6	0.0	0.0	0.0	0.0	27.9	3.7
SW LP	24.2	1.9	24.4	1.7	8.6	1.7	0.0	0.0	0.0	0.0	17.9	4.1
SC LP	25.3	1.8	26.6	1.6	8.5	1.6	0.0	0.0	0.0	0.0	25.7	4.0
SE LP	22.4	2.2	20.6	2.2	5.6	1.9	0.0	0.0	0.0	0.0	19.8	4.6
UP	22.5	2.8	33.2	1.7	10.8	2.6	0.0	0.0	0.0	0.0	25.2	5.4
NLP	16.1	1.0	21.0	0.9	5.0	1.1	0.0	0.0	0.0	0.0	24.6	2.6
SLP	25.1	1.0	26.0	0.9	7.9	0.9	0.0	0.0	0.0	0.0	23.6	2.1
Statewide	22.5	0.7	26.0	0.6	7.5	0.7	0.0	0.0	0.0	0.0	24.1	1.6

<sup>a</sup>Excluded people that did not hunt during the season and deer taken with DMA permits.<sup>b</sup>95 confidence limit.

Table 10 (continued). Percentage of deer hunters harvesting at least one deer in Michigan by hunting season, 2018.<sup>a</sup>

Sex and Area	Season											
	Archery		Regular Firearm		Muzzleloader		Early Antlerless		Late Antlerless		Liberty (Youth)	
	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>
Sexes combined												
West UP	28.7	3.3	37.3	2.0	15.3	3.5	0.0	0.0	0.0	0.0	41.2	6.9
East UP	17.9	5.7	29.1	3.5	13.1	5.8	0.0	0.0	0.0	0.0	38.9	16.1
NE LP	23.5	1.9	32.0	1.5	14.8	2.8	33.3	10.7	23.0	6.1	34.8	5.4
NW LP	27.0	1.7	30.1	1.4	15.3	2.5	29.4	9.4	28.9	4.8	40.0	3.9
Sag. Bay	34.6	2.0	37.9	1.7	17.8	2.5	40.3	7.7	32.6	4.2	37.2	4.0
SW LP	32.3	2.1	34.4	1.8	18.0	2.3	35.8	20.8	21.3	3.6	28.3	4.9
SC LP	34.1	2.0	38.1	1.7	20.4	2.3	40.7	8.7	26.9	3.5	37.9	4.5
SE LP	31.6	2.5	28.6	2.4	13.8	2.8	21.3	9.3	19.5	5.0	27.6	5.5
UP	26.6	2.9	35.5	1.8	14.9	3.0	0.0	0.0	0.0	0.0	40.9	6.4
NLP	26.5	1.2	31.9	1.0	14.6	1.7	29.7	6.4	28.3	3.5	38.9	2.9
SLP	34.5	1.1	36.5	1.0	18.8	1.3	37.9	5.2	25.6	2.1	33.1	2.4
Statewide	32.4	0.8	35.7	0.7	17.4	1.0	34.4	4.0	26.0	1.8	35.9	1.8

<sup>a</sup>Excluded people that did not hunt during the season and deer taken with DMA permits.

<sup>b</sup>95 confidence limit.

Table 10 (continued). Percentage of deer hunters harvesting at least one deer in Michigan by hunting season, 2018.<sup>a</sup>

Sex and Area	Season							
	Independence		Urban Archery		Disease Hunt		All Seasons	
	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>
<b>Antlerless</b>								
West UP	15.1	7.2	0.0	0.0	0.0	0.0	6.9	1.0
East UP	2.6	4.1	0.0	0.0	0.0	0.0	0.8	0.5
NE LP	11.6	5.4	0.0	0.0	13.7	24.4	17.5	1.1
NW LP	15.0	10.9	0.0	0.0	0.0	0.0	22.0	1.2
Sag. Bay	8.9	4.2	0.0	0.0	0.0	0.0	25.9	1.4
SW LP	1.8	1.9	0.0	0.0	0.0	0.0	21.4	1.4
SC LP	8.1	3.8	0.0	0.0	0.0	0.0	25.3	1.3
SE LP	6.0	3.9	5.8	5.8	0.0	0.0	19.5	1.7
UP	11.3	5.3	0.0	0.0	0.0	0.0	5.5	0.8
NLP	13.3	6.4	0.0	0.0	13.7	24.4	20.7	0.8
SLP	6.3	1.9	5.8	5.8	0.0	0.0	24.2	0.8
Statewide	9.4	2.8	5.7	5.7	13.7	24.4	21.9	0.5
<b>Antlered Bucks</b>								
West UP	18.0	8.1	0.0	0.0	0.0	0.0	38.5	1.9
East UP	13.0	11.9	0.0	0.0	0.0	0.0	32.0	3.4
NE LP	9.3	4.7	0.0	0.0	0.0	0.0	25.6	1.3
NW LP	15.7	11.3	0.0	0.0	0.0	0.0	24.8	1.2
Sag. Bay	16.3	6.4	0.0	0.0	0.0	0.0	35.6	1.5
SW LP	19.9	10.6	0.0	0.0	0.0	0.0	34.6	1.6
SC LP	10.9	6.4	0.0	0.0	0.0	0.0	36.2	1.5
SE LP	8.8	7.7	1.8	1.8	0.0	0.0	29.6	2.0
UP	16.5	6.9	0.0	0.0	0.0	0.0	37.3	1.7
NLP	14.4	6.6	0.0	0.0	0.0	0.0	26.4	0.9
SLP	13.0	4.1	1.8	1.8	0.0	0.0	36.0	0.9
Statewide	13.6	3.3	1.7	1.7	0.0	0.0	34.8	0.6

<sup>a</sup>Excluded people that did not hunt during the season and deer taken with DMA permits.<sup>b</sup>95 confidence limit.

Table 10 (continued). Percentage of deer hunters harvesting at least one deer in Michigan by hunting season, 2018.<sup>a</sup>

Sex and Area	Season							
	Independence		Urban Archery		Disease Hunt		All Seasons	
	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>	Success	95% CL <sup>b</sup>
Sexes combined								
West UP	33.2	12.6	0.0	0.0	0.0	0.0	42.8	1.9
East UP	15.6	13.7	0.0	0.0	0.0	0.0	32.4	3.4
NE LP	20.9	8.5	0.0	0.0	13.7	24.4	38.2	1.5
NW LP	30.8	13.8	0.0	0.0	0.0	0.0	40.2	1.4
Sag. Bay	25.2	8.8	0.0	0.0	0.0	0.0	51.9	1.6
SW LP	21.7	11.0	0.0	0.0	0.0	0.0	47.3	1.7
SC LP	18.4	8.0	0.0	0.0	0.0	0.0	51.5	1.5
SE LP	14.1	9.2	6.0	6.0	0.0	0.0	42.2	2.2
UP	27.8	10.2	0.0	0.0	0.0	0.0	40.8	1.7
NLP	27.6	8.6	0.0	0.0	13.7	24.4	40.9	1.0
SLP	18.8	4.9	6.0	6.0	0.0	0.0	50.7	0.9
Statewide	22.8	4.3	5.9	5.9	13.7	24.4	48.5	0.6

<sup>a</sup>Excluded people that did not hunt during the season and deer taken with DMA permits.

<sup>b</sup>95 confidence limit.

Table 11. Level of satisfaction and dissatisfaction with the number of deer seen and number of antlered deer (bucks) seen among Michigan deer hunters, 2017-2018.

Criteria and area	Satisfied hunters (%) <sup>a</sup>				Dissatisfied hunters (%) <sup>b</sup>			
	2017	2018	95% CL <sup>c</sup>	Difference from 2017 to 2018 (%)	2017	2018	95% CL <sup>c</sup>	Difference from 2017 to 2018 (%)
Number of deer seen								
West UP	49	51	2	3	35	33	2	-2
East UP	46	43	4	-3	37	41	4	4
NE LP	44	34	2	-9*	40	50	2	10*
NW LP	44	38	1	-6*	39	47	2	8*
Sag. Bay	49	45	2	-3*	34	38	2	5*
SW LP	43	47	2	4*	40	36	2	-5*
SC LP	47	53	2	6*	36	33	2	-4*
SE LP	43	46	2	2	36	37	2	2
UP	48	50	2	1	35	35	2	-1
NLP	44	36	1	-8*	39	48	1	9*
SLP	46	49	1	3*	36	35	1	-2
Statewide	45	44	1	-1*	37	40	1	3*
Number of antlered deer (bucks) seen								
West UP	32	34	2	2	51	48	2	-3
East UP	32	26	4	-6	50	56	4	6
NE LP	29	23	1	-6*	52	60	2	8*
NW LP	30	25	1	-5*	50	57	2	7*
Sag. Bay	33	31	2	-2	46	49	2	3*
SW LP	31	34	2	4*	49	47	2	-2
SC LP	35	38	2	3*	46	44	2	-2
SE LP	28	30	2	3	51	49	2	-2
UP	32	32	2	1	51	50	2	-1
NLP	29	24	1	-5*	51	58	1	7*
SLP	33	35	1	2*	47	46	1	-1
Statewide	31	30	1	-1	49	51	1	2*

<sup>a</sup>Included hunters who were "very satisfied" or "somewhat satisfied."

<sup>b</sup>Included hunters who were "somewhat dissatisfied" or "strongly dissatisfied."

<sup>c</sup>95 confidence limit for the 2018 estimate.

\*P<0.05.

Table 12. Level of satisfaction and dissatisfaction with the size of the antlers on antlered deer (bucks) and overall deer hunting experience among Michigan deer hunters, 2017-2018.

Criteria and area	Satisfied hunters (%) <sup>a</sup>				Dissatisfied hunters (%) <sup>b</sup>			
	2017	2018	95% CL <sup>c</sup>	Difference from 2017 to 2018 (%)	2017	2018	95% CL <sup>c</sup>	Difference from 2017 to 2018 (%)
Size of antlers								
West UP	20	21	2	1	54	51	2	-3
East UP	21	19	3	-2	50	52	4	1
NE LP	25	20	1	-5	45	51	2	6*
NW LP	29	22	1	-7	43	49	2	6*
Sag. Bay	27	25	1	-2	45	47	2	1
SW LP	27	31	2	5	43	41	2	-2
SC LP	29	31	2	2	42	41	2	-2
SE LP	24	26	2	2	46	45	2	-1
UP	20	21	1	1	53	51	2	-2
NLP	26	21	1	-6	44	50	1	6*
SLP	28	29	1	2	43	42	1	-1
Statewide	26	25	1	-1	45	47	1	2*
Overall deer hunting experience								
West UP	53	58	2	5*	25	22	2	-3
East UP	53	54	4	1	26	26	3	0
NE LP	53	49	2	-4*	25	30	2	5*
NW LP	53	46	2	-7*	26	32	1	5*
Sag. Bay	55	52	2	-3	22	26	1	4*
SW LP	51	55	2	4*	27	24	2	-2
SC LP	55	58	2	3*	24	22	1	-2
SE LP	52	54	2	2	24	23	2	-1
UP	53	57	2	4*	25	23	2	-2
NLP	53	47	1	-6*	26	31	1	5*
SLP	53	55	1	2*	24	23	1	-1
Statewide	53	52	1	-1	25	26	1	1*

<sup>a</sup>Included hunters who were "very satisfied" or "somewhat satisfied."

<sup>b</sup>Included hunters who were "somewhat dissatisfied" or "strongly dissatisfied."

<sup>c</sup>95 confidence limit for the 2018 estimate.

\*P<0.05.

Table 13. Level of satisfaction and dissatisfaction with overall deer hunting experience and number of deer harvested among Michigan deer hunters, 2017-2018.

Criteria and area	Satisfied hunters (%) <sup>a</sup>				Dissatisfied hunters (%) <sup>b</sup>			
	2017	2018	95% CL <sup>c</sup>	Difference from 2017 to 2018 (%)	2017	2018	95% CL <sup>c</sup>	Difference from 2017 to 2018 (%)
Number of deer harvested								
West UP	35	39	2	4	25	23	2	-2
East UP	31	30	4	-2	29	29	4	0
NE LP	35	31	2	-4*	26	32	2	6*
NW LP	35	32	1	-4*	27	34	1	6*
Sag. Bay	41	40	2	-1	24	27	1	2
SW LP	34	38	2	4*	28	28	2	-1
SC LP	37	42	2	5*	28	26	1	-3
SE LP	34	37	2	3	27	28	2	1
UP	34	37	2	3	26	24	2	-2
NLP	36	32	1	-4*	27	32	1	5*
SLP	37	40	1	3*	27	27	1	0
Statewide	36	36	1	0	27	29	1	2*

<sup>a</sup>Included hunters who were "very satisfied" or "somewhat satisfied."

<sup>b</sup>Included hunters who were "somewhat dissatisfied" or "strongly dissatisfied."

<sup>c</sup>95 confidence limit for the 2018 estimate.

\*P<0.05.

Table 14. Level of satisfaction and dissatisfaction with the number of deer seen and number of antlered deer (bucks) seen among Michigan deer hunters in 2018. Estimates provided separately for hunters hunting on private land only and public land only within the hunter's preferred hunt area.

Criteria and preferred hunt area	Satisfied hunters (%) <sup>a</sup>					Dissatisfied hunters (%) <sup>b</sup>				
	Private only	95% CL	Public only	95% CL	Difference between land types (%)	Private only	95% CL	Public only	95% CL	Difference between land types (%)
Number of deer seen										
West UP	56	3	47	5	-9*	30	2	36	4	6
East UP	47	5	33	8	-14*	38	5	49	8	11
NE LP	40	2	23	3	-17*	45	2	60	3	15
NW LP	43	2	26	3	-17*	42	2	59	4	17*
Sag. Bay	48	2	30	5	-19*	35	2	56	5	21*
SW LP	49	2	25	6	-24*	34	2	51	8	17*
SC LP	55	2	34	6	-20*	31	2	51	6	20*
SE LP	48	3	25	7	-23*	35	3	56	9	21*
UP	54	2	44	4	-10*	32	2	39	4	7*
NLP	42	1	25	2	-17*	43	1	59	2	16*
SLP	51	1	30	3	-21*	33	1	53	4	20*
Statewide	48	1	30	2	-18*	36	1	54	2	18*
Number of antlered deer (bucks) seen										
West UP	36	3	33	4	-4	46	3	50	5	5
East UP	27	5	22	7	-4	55	5	58	8	4
NE LP	26	2	15	2	-11*	57	2	65	3	9*
NW LP	28	2	18	3	-10*	53	2	64	3	10*
Sag. Bay	34	2	16	4	-17*	47	2	64	5	17*
SW LP	36	2	19	6	-17*	45	2	62	7	16*
SC LP	39	2	25	6	-14*	42	2	55	6	13*
SE LP	32	3	17	6	-15*	47	3	61	8	14*
UP	34	2	30	4	-4	48	2	52	4	5
NLP	27	1	16	2	-11*	55	1	65	2	10*
SLP	36	1	20	3	-16*	45	1	59	4	14*
Statewide	33	1	20	1	-13*	48	1	61	2	13*

<sup>a</sup>Included hunters who were "very satisfied" or "somewhat satisfied."

<sup>b</sup>Included hunters who were "somewhat dissatisfied" or "strongly dissatisfied."

\*P<0.05.

Table 15. Level of satisfaction and dissatisfaction with the size of antlers on antlered deer (bucks) and overall deer hunting experience among Michigan deer hunters in 2018. Estimates provided separately for hunters hunting on private land only and public land only within the hunter's preferred hunt area.

Criteria and preferred hunt area	Satisfied hunters (%) <sup>a</sup>					Dissatisfied hunters (%) <sup>b</sup>				
	Private only	95% CL	Public only	95% CL	Difference between land types (%)	Private only	95% CL	Public only	95% CL	Difference between land types (%)
Size of antlers										
West UP	24	2	21	4	-3	49	3	51	5	2
East UP	19	4	19	7	-1	51	5	50	8	-1
NE LP	21	2	16	3	-5*	51	2	48	3	-3
NW LP	24	2	18	3	-7*	47	2	51	4	5
Sag. Bay	27	2	18	4	-8*	46	2	49	6	3
SW LP	33	2	18	6	-15*	40	2	47	8	6
SC LP	32	2	23	5	-8*	40	2	44	6	4
SE LP	27	2	16	6	-12*	44	3	45	9	1
UP	23	2	21	3	-2	50	2	51	4	1
NLP	23	1	17	2	-6*	49	1	49	2	0
SLP	31	1	19	3	-11*	42	1	46	4	4
Statewide	27	1	18	1	-9*	45	1	49	2	4*
Overall deer hunting experience										
West UP	60	3	58	5	-1	19	2	22	4	3
East UP	57	5	49	8	-7	25	5	28	7	2
NE LP	52	2	42	3	-10*	27	2	35	3	7*
NW LP	50	2	37	3	-14*	28	2	38	3	10*
Sag. Bay	54	2	41	5	-14*	24	2	39	5	16*
SW LP	57	2	40	7	-17*	23	2	36	7	13*
SC LP	58	2	51	6	-7	21	1	34	6	13*
SE LP	55	3	41	9	-14*	22	2	33	8	12*
UP	59	2	56	4	-3	21	2	23	3	3
NLP	51	1	39	2	-12*	27	1	37	2	9*
SLP	57	1	44	4	-12*	22	1	35	4	13*
Statewide	55	1	44	2	-11*	24	1	33	2	10*

<sup>a</sup>Included hunters who were "very satisfied" or "somewhat satisfied."

<sup>b</sup>Included hunters who were "somewhat dissatisfied" or "strongly dissatisfied."

\*P<0.05.

Table 16. Level of satisfaction and dissatisfaction with the number of deer harvested among Michigan deer hunters in 2018. Estimates provided separately for hunters hunting on private land only and public land only within the hunter's preferred hunt area.

Criteria and preferred hunt area	Satisfied hunters (%) <sup>a</sup>					Dissatisfied hunters (%) <sup>b</sup>				
	Private only	95% CL	Public only	95% CL	Difference between land types (%)	Private only	95% CL	Public only	95% CL	Difference between land types (%)
Number of deer harvested										
West UP	44	3	33	4	-10*	19	2	26	4	7*
East UP	33	5	26	7	-7	28	5	33	8	5
NE LP	36	2	21	3	-15*	30	2	35	3	5
NW LP	36	2	18	3	-18*	31	2	37	4	5*
Sag. Bay	42	2	27	5	-15*	25	2	34	5	9*
SW LP	41	2	19	6	-22*	27	2	36	7	10*
SC LP	43	2	35	6	-8*	25	2	35	6	10*
SE LP	39	3	19	7	-20*	27	2	39	9	12*
UP	42	2	32	4	-10*	21	2	28	4	7*
NLP	37	1	20	2	-17*	30	1	36	2	6*
SLP	41	1	27	3	-15*	26	1	35	4	9*
Statewide	40	1	24	2	-16*	27	1	34	2	7*

<sup>a</sup>Included hunters who were "very satisfied" or "somewhat satisfied."

<sup>b</sup>Included hunters who were "somewhat dissatisfied" or "strongly dissatisfied."

\*P<0.05.

Table 17. Estimated proportion and number of archers that used a crossbow during 2018 archery season in Michigan, summarized by region.

Region	Archers using a crossbow during archery season			
	%	95% CL	Total	95% CL
UP	66.3	3.3	12,985	1,095
NLP	74.0	1.3	76,415	2,497
SLP	66.2	1.2	98,177	2,731
Unknown <sup>a</sup>	63.7	3.1	15,000	1,175
Statewide	68.7	0.8	202,576	3,512

<sup>a</sup>Region could not be determined when hunter did not report where they hunted or when hunter reported hunting in more than one region.

Table 18. Estimated hunter success of archers hunting with a crossbow during 2018 archery season in Michigan, summarized by type of deer and region.

Region	Antlerless		Antlered Bucks		Sexes Combined	
	% <sup>a</sup>	95% CL	% <sup>a</sup>	95% CL	% <sup>a</sup>	95% CL
UP	5.5	1.9	24.4	3.7	28.8	3.9
NLP	13.9	1.2	17.4	1.3	28.7	1.6
SLP	13.1	1.0	26.0	1.4	36.1	1.5
Unknown <sup>b</sup>	15.1	2.8	19.0	3.1	30.7	3.7
Statewide	13.1	0.7	22.2	0.9	32.4	1.0

<sup>a</sup>Percentage of crossbow hunters harvesting at least one deer.

<sup>b</sup>Region could not be determined when hunter did not report where they hunted or when hunter reported hunting in more than one region.

Table 19. Estimated number of deer harvested by archers with a crossbow during 2018 archery season in Michigan, summarized by type of deer and region.

Region	Antlerless		Antlered Bucks		Sexes Combined	
	No.	95% CL	No.	95% CL	No.	95% CL
UP	790	300	3,171	559	3,961	664
NLP	11,279	1,114	13,491	1,157	24,770	1,718
SLP	14,131	1,255	26,516	1,622	40,648	2,180
Unknown <sup>a</sup>	2,377	501	2,916	550	5,293	810
Statewide	28,577	1,751	46,094	2,093	74,671	2,873

<sup>a</sup>Region could not be determined when hunter did not report where they hunted or when hunter reported hunting in more than one region.

Table 20. Estimated proportion and number of deer hunters that used a trail camera to hunt deer in Michigan, summarized by area.

Area	Deer hunters using a trail camera <sup>a</sup>			
	%	95% CL	Total	95% CL
West UP	58	2	34,724	1,762
East UP	59	4	9,424	950
NE LP	46	2	43,184	1,953
NW LP	48	2	50,186	2,074
Sag. Bay	49	2	42,411	1,901
SW LP	47	2	33,963	1,735
SC LP	42	2	37,660	1,813
SE LP	52	2	20,692	1,363
UP	58	2	44,148	1,965
NLP	48	1	106,204	2,873
SLP	46	1	121,893	2,981
Statewide	48	1	273,939	3,767

<sup>a</sup>Excluded license buyers that did not hunt.

Table 21. Proportion of deer hunters using a trail camera that photographed the following animals with their trail camera in 2018, summarized by area.<sup>a</sup>

Area	Species									
	Bear		Bobcat		Coyote		Deer		Fisher	
	%	95% CL	%	95% CL	%	95% CL	%	95% CL	%	95% CL
West UP	48	3	11	2	42	3	98	1	11	2
East UP	34	5	12	3	36	5	97	2	8	3
NE LP	34	2	23	2	55	2	96	1	1	0.3
NW LP	33	2	32	2	55	2	97	1	0.4	0.3
Sag. Bay	10	1	12	2	54	2	98	1	0.3	0.3
SW LP	0.4	0.3	4	1	65	2	99	1	0.2	0.2
SC LP	1	0.4	5	1	64	2	99	1	1	0.4
SE LP	1	1	1	1	65	3	98	1	0.4	0.4
UP	45	2	11	1	41	2	97	1	10	1
NLP	33	1	27	1	55	1	97	1	0.5	0.2
SLP	1	0.3	4	1	62	1	98	0.3	0.3	0.2
Statewide	21	1	14	1	56	1	98	0.3	2	0.3

<sup>a</sup>Excluded hunters that did not use a trail camera.

Table 21 (continued). Proportion of deer hunters using a trail camera that photographed the following animals with their trail camera in 2018, summarized by area.<sup>a</sup>

Area	Species							
	Fox		Marten		Wild pig		Wolf	
	%	95% CL	%	95% CL	%	95% CL	%	95% CL
West UP	14	2	8	1	0.4	0.3	26	2
East UP	11	3	8	3	0.0	0.0	23	4
NE LP	23	2	1	1	0.3	0.2	1	0.4
NW LP	26	2	0.5	0.3	0.2	0.2	0.3	0.2
Sag. Bay	31	2	0.3	0.2	0.3	0.3	0.4	0.3
SW LP	35	3	1	0.4	0.3	0.3	0.3	0.3
SC LP	34	2	0.3	0.3	0.2	0.2	0.2	0.2
SE LP	32	3	0.4	0.4	0.0	0.0	0.1	0.3
UP	13	2	8	1	0.3	0.3	26	2
NLP	25	1	1	0.3	0.3	0.2	0.4	0.2
SLP	34	1	0.4	0.2	0.2	0.1	0.3	0.1
Statewide	27	1	2	0.2	0.2	0.1	4	0.4

<sup>a</sup>Excluded hunters that did not use a trail camera.

Table 22. The proportion of hunters supporting or opposing the discounted antlerless license.<sup>a</sup>

Statement and region	Hunter's opinion							
	Support		Neither		Oppose		Not sure	
	%	95% CL	%	95% CL	%	95% CL	%	95% CL
<i>Support for the 2018 discounted antlerless license.</i>								
West UP	38	2	23	2	20	2	19	2
East UP	40	4	23	3	19	3	18	3
NE LP	42	2	20	1	23	1	16	1
NW LP	39	1	22	1	25	1	15	1
Sag. Bay	40	2	23	1	20	1	17	1
SW LP	39	2	22	2	23	2	16	1
SC LP	41	2	20	1	25	1	13	1
SE LP	45	2	21	2	17	2	17	2
UP	39	2	23	2	20	1	19	1
NLP	40	1	21	1	23	1	16	1
SLP	41	1	22	1	22	1	15	1
Statewide	40	1	22	1	22	1	16	0
<i>Support for creating a statewide discounted antlerless license in 2019.</i>								
West UP	35	2	17	2	35	2	14	1
East UP	28	4	18	3	41	4	13	3
NE LP	38	2	17	1	33	2	12	1
NW LP	37	1	17	1	36	1	11	1
Sag. Bay	40	2	18	1	29	1	14	1
SW LP	39	2	20	1	29	2	12	1
SC LP	42	2	19	1	27	1	11	1
SE LP	45	2	19	2	25	2	11	2
UP	34	2	17	1	36	2	13	1
NLP	37	1	17	1	34	1	12	1
SLP	42	1	19	1	28	1	12	1
Statewide	39	1	18	1	31	1	12	0

<sup>a</sup>An additional antlerless license type was available in 2018 that was only valid on private land in the 16-county CWD Management Zone. This license was available at a reduced cost (\$12 versus \$20); however, it expired on November 4, 2018. This license did not replace the usual antlerless license. Instead both antlerless license types were available and a hunter could purchase both types.

Table 23. The proportion of Michigan deer hunters that shared venison during the previous 12 months.<sup>a</sup>

Management unit <sup>b</sup>	Did not share venison		Shared with members of immediate household		Shared with relatives not in the household		Shared with friends, neighbors, or co-workers		Shared with landowner whose property I hunted	
	%	95% CL <sup>c</sup>	%	95% CL <sup>c</sup>	%	95% CL <sup>c</sup>	%	95% CL <sup>c</sup>	%	95% CL <sup>c</sup>
West UP	18	2	59	3	42	3	38	3	5	1
East UP	18	5	55	7	45	7	31	6	3	2
NE LP	16	2	56	3	44	3	38	3	6	1
NW LP	18	2	56	2	41	2	37	2	7	1
Saginaw Bay	16	2	59	2	43	2	38	2	11	1
SW LP	14	2	59	3	44	3	39	3	14	2
SCLP	16	2	57	2	43	2	40	2	12	1
SE LP	13	3	60	4	48	4	46	4	13	2
Unknown	44	18	43	18	28	16	16	13	12	11
Core CWD Area <sup>d</sup>	18	2	55	3	41	3	35	3	8	2
Montcalm County	20	5	55	6	39	6	33	6	9	4
UP	18	2	58	3	43	3	36	3	5	1
NLP	17	1	57	2	42	2	38	2	6	1
SLP	15	1	58	1	44	1	40	1	13	1
Statewide	16	1	58	1	43	1	39	1	9	1

<sup>a</sup>Only answers from successful hunters were used to characterize venison sharing among all hunters.

<sup>b</sup>Estimates were calculated separately for hunter's preferred area.

<sup>c</sup>95% confidence limits.

<sup>d</sup>Included Ionia, Kent, Mecosta, Montcalm, and Newaygo counties.

Table 23 (continued). The proportion of Michigan deer hunters that shared venison during the previous 12 months.<sup>a</sup>

Management unit <sup>b</sup>	Shared at community game dinner		Donated to food bank		Other		Unknown		All types of sharing combined	
	%	95% CL <sup>c</sup>	%	95% CL <sup>c</sup>	%	95% CL <sup>c</sup>	%	95% CL <sup>c</sup>	%	95% CL <sup>c</sup>
West UP	1	1	1	1	0.0	0.1	3	1	82	2
East UP	1	1	0.3	1	1	2	7	4	82	5
NE LP	1	0.4	2	1	0.3	0.3	4	1	84	2
NW LP	1	1	1	0.5	0.3	0.3	4	1	82	2
Saginaw Bay	1	1	1	0.4	0.3	0.2	4	1	84	2
SW LP	1	1	1	1	0.2	0.3	4	1	86	2
SCLP	1	0.5	2	1	0.2	0.2	4	1	84	2
SE LP	1	1	1	1	0.1	0.1	3	1	87	3
Unknown	0.0	0.0	4	8	0.0	0.0	4	6	56	18
Core CWD Area <sup>d</sup>	1	0.5	1	1	0.1	0.1	5	1	82	2
Montcalm County	1	1	1	1	0.0	0.0	5	3	80	5
UP	1	1	1	0.5	0.3	0.3	4	1	82	2
NLP	1	0.3	1	0.4	0.3	0.2	4	1	83	1
SLP	1	0.3	1	0.3	0.2	0.1	4	1	85	1
Statewide	1	0.2	1	0.2	0.3	0.1	4	0.4	84	1

<sup>a</sup>Only answers from successful hunters were used to characterize venison sharing among all hunters.

<sup>b</sup>Estimates were calculated separately for hunter's preferred area.

<sup>c</sup>95% confidence limits.

<sup>d</sup>Included Ionia, Kent, Mecosta, Montcalm, and Newaygo counties.

Table 24. The number of Michigan deer hunters that shared venison during the previous 12 months.<sup>a</sup>

Management unit <sup>b</sup>	Did not share venison		Shared with members of immediate household		Shared with relatives not in household		Shared with friends, neighbors, or co-workers		Shared with landowner whose property I hunted	
	Total	95% CL <sup>c</sup>	Total	95% CL <sup>c</sup>	Total	95% CL <sup>c</sup>	Total	95% CL <sup>c</sup>	Total	95% CL <sup>c</sup>
West UP	11,522	1,705	38,470	2,981	27,698	2,566	24,658	2,444	3,124	875
East UP	2,572	815	7,851	1,394	6,360	1,268	4,336	1,051	474	340
NE LP	13,753	1,795	47,690	3,186	36,855	2,849	32,497	2,685	4,728	1,009
NW LP	17,140	1,967	52,363	3,188	37,892	2,759	33,952	2,650	6,391	1,107
Saginaw Bay	14,635	1,742	54,462	3,172	39,851	2,771	34,731	2,594	9,715	1,370
SW LP	9,525	1,435	41,469	2,808	30,619	2,446	27,718	2,337	9,958	1,380
SCLP	15,466	1,782	54,037	3,179	40,895	2,817	38,475	2,746	11,671	1,484
SE LP	5,023	1,030	22,880	2,139	18,512	1,938	17,750	1,916	4,974	968
Unknown	711	403	699	411	450	309	259	235	198	191
Core CWD Area <sup>d</sup>	9,828	1,499	30,707	2,482	22,938	2,179	19,168	2,016	4,509	952
Montcalm County	2,669	774	7,228	1,229	5,129	1,054	4,311	955	1,190	505
UP	14,094	1,879	46,321	3,232	34,058	2,822	28,994	2,634	3,598	938
NLP	34,700	2,750	114,472	4,487	85,752	4,032	76,084	3,848	13,044	1,600
SLP	40,843	2,849	158,429	4,834	118,874	4,401	109,038	4,274	34,393	2,499
Statewide	90,348	4,146	319,921	5,491	239,134	5,492	214,375	5,401	51,233	3,046

<sup>a</sup>Only answers from successful hunters were used to characterize venison sharing among all hunters.

<sup>b</sup>Estimates were calculated separately for hunter's preferred area.

<sup>c</sup>95% confidence limits.

<sup>d</sup>Included Ionia, Kent, Mecosta, Montcalm, and Newaygo counties.

Table 24 (continued). The proportion of Michigan deer hunters that shared venison during the previous 12 months.<sup>a</sup>

Management unit <sup>b</sup>	Shared at community game dinner		Donated to food bank		Other		Unknown		All types of sharing combined	
	Total	95% CL <sup>c</sup>	Total	95% CL <sup>c</sup>	Total	95% CL <sup>c</sup>	Total	95% CL <sup>c</sup>	Total	95% CL <sup>c</sup>
West UP	792	456	594	386	27	39	1,888	702	53,757	3,454
East UP	81	142	45	82	192	217	1,037	530	11,632	1,697
NE LP	645	370	1,849	673	248	232	3,002	839	70,751	3,793
NW LP	1,281	525	890	437	323	252	3,855	921	75,664	3,768
Saginaw Bay	1,062	489	721	365	251	217	3,280	845	77,430	3,713
SW LP	976	455	932	429	172	204	3,144	843	60,703	3,359
SCLP	1,144	478	1,934	651	155	201	3,421	882	79,955	3,788
SE LP	471	298	394	259	42	54	986	412	33,175	2,551
Unknown	0	0	73	142	0	0	62	90	917	446
Core CWD Area <sup>d</sup>	352	255	582	350	42	82	2,718	791	45,697	3,016
Montcalm County	73	142	123	164	0	0	670	413	10,499	1,501
UP	873	477	640	395	220	220	2,926	879	65,389	3,742
NLP	2,134	678	2,863	818	656	361	7,982	1,339	167,378	5,105
SLP	3,445	843	3,857	882	535	344	9,706	1,447	230,299	5,300
Statewide	6,452	1,179	7,433	1,269	1,410	545	20,676	2,134	463,983	4,146

<sup>a</sup>Only answers from successful hunters were used to characterize venison sharing among all hunters.

<sup>b</sup>Estimates were calculated separately for hunter's preferred area.

<sup>c</sup>95% confidence limits.

<sup>d</sup>Included Ionia, Kent, Mecosta, Montcalm, and Newaygo counties.

Table 25. Estimated mean and total number of people that Michigan deer hunters share their venison with during the previous 12 months, summarized by region.<sup>a</sup>

Region	People that hunters shared venison with			
	Mean	95% CL <sup>b</sup>	Total <sup>c</sup>	95% CL <sup>b</sup>
West UP	5.3	0.3	286,917	23,950
East UP	4.7	0.5	54,882	9,912
NE LP	5.2	0.3	367,356	26,255
NW LP	5.5	0.2	418,290	27,661
Saginaw Bay	5.5	0.2	425,506	25,944
SW LP	5.6	0.3	339,994	24,093
SCLP	5.7	0.3	459,091	28,923
SE LP	5.6	0.3	184,804	17,896
Unknown	5.0	1.1	4,616	2,406
Core CWD Area <sup>d</sup>	5.7	0.3	258,715	22,187
Montcalm County	5.7	0.7	59,338	11,082
UP	5.2	0.3	341,799	25,460
NLP	5.4	0.2	899,063	37,535
SLP	5.6	0.1	1,295,976	41,462
Statewide	5.5	0.1	2,541,455	44,910

<sup>a</sup>Only answers from successful hunters were used to characterize venison sharing among all hunters.

<sup>b</sup>95% confidence limits.

<sup>c</sup>This estimate should be viewed cautiously because multiple hunters could have reported sharing venison with the same person; thus, the estimate does not represent the number of unique hunters that received venison.

<sup>d</sup>Included Ionia, Kent, Mecosta, Montcalm, and Newaygo counties.

Appendix A. Questionnaire used to collect answers for the 2018 Michigan deer harvest survey.



Michigan Department of Natural Resources – Wildlife Division  
PO Box 30030 Lansing MI 48909-7530

2018 MICHIGAN DEER HARVEST STUDY

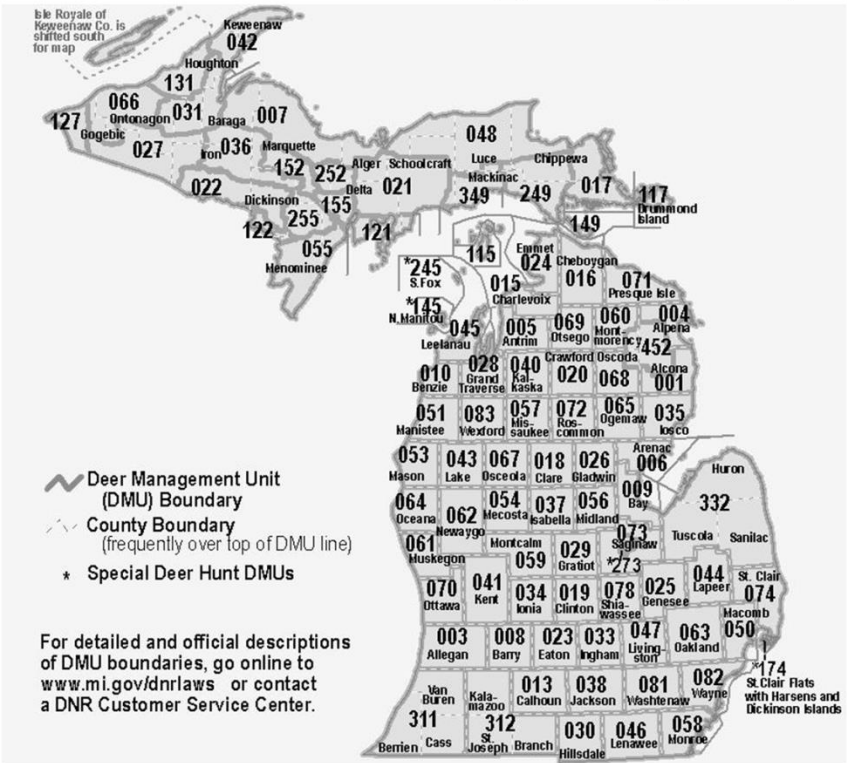
This information is requested under the authority of Part 435, 1994 PA 451, M.C.L. 324.43539.



It is important that you return this questionnaire even if you did not hunt or harvest a deer. Please report only your hunting activities, and only report taking a deer if your kill tag was attached to it. If you want to provide your answers via the internet, visit our website at [www.michigan.gov/deer](http://www.michigan.gov/deer).

1. Did you hunt deer in Michigan during the 2018 seasons?

☐ Yes.      ☐ No. Skip to Question #11.



Appendix A (continued). Questionnaire used to collect answers for the 2018 Michigan deer harvest survey.

2. In the following table, please report only your hunting activities and the deer that were tagged with your deer license. Report harvest and days hunted in different counties on separate rows. For each deer harvested, indicate the type of deer tagged (antlered buck or antlerless), and whether it was taken on public or private land. Antlered bucks have antlers at least 3 inches in length; antlerless deer include deer without antlers and deer with antlers less than 3 inches in length. Do not report hunting effort and harvest associated with Deer Management Assistance Permits.

SEASON HUNTED (Check box if you hunted during the season.)	LOCATION HUNTED (For each season hunted, list the management unit and county hunted on separate lines. See map on first page.)		NUMBER OF DAYS HUNTED	NUMBER OF DEER HARVESTED (Record by type of deer and land ownership type where each deer was taken.)			
	Deer Management Unit	County		Antlered Bucks		Antlerless	
				Public Land	Private Land	Public Land	Private Land
<input checked="" type="checkbox"/> <b>Example</b>	1 041	Kent	12	0	1	0	0
<input type="checkbox"/> <b>Archery</b> Oct 1-Nov 14 and Dec 1-Jan 1 (Statewide)	1						
	2						
	3						
<input type="checkbox"/> <b>Regular Firearm</b> Nov 15-30 (Statewide)	1						
	2						
	3						
<input type="checkbox"/> <b>Muzzleloader</b> Dec 7-16 (UP & NLP) Dec 7-23 (SLP)	1						
	2						
	3						
<input type="checkbox"/> <b>Early Firearm</b> Sept 22-23 (Portions of the Lower Peninsula)	1			Only antlerless deer could be taken on private land during the early firearm season			
	2						
	3						
<input type="checkbox"/> <b>Late Firearm</b> Dec 17-Jan 1 (Portions of the Lower Peninsula)	1			Only antlerless deer could be taken on private land during the late firearm season			
	2						
	3						
<input type="checkbox"/> <b>Liberty/Youth Hunt</b> Sept 22-23 (Statewide)	1						
	2						
	3						
<input type="checkbox"/> <b>Independence Hunt</b> Oct 18-21 (Statewide)	1						
	2						
	3						
<input type="checkbox"/> <b>Late Urban Archery Hunt</b> Jan 2-31 (Macomb, Oakland, & Wayne counties only)	1						
	2						
	3						
<input type="checkbox"/> <b>January Disease Hunt</b> Jan 3-6 & Jan 10-13 (Portions of Alpena county)	1						
	2						
	3						

Appendix A (continued). Questionnaire used to collect answers for the 2018 Michigan deer harvest survey.

3. Did you use a crossbow to hunt deer during the archery season (Oct 1- Nov. 14 and Dec. 1 - Jan. 1)?

<sup>1</sup> ☐ Yes      <sup>2</sup> ☐ No. Skip to Question #5.

4. If you used a crossbow to hunt deer during the archery season, how many deer did you take using the crossbow in 2018?

\_\_\_\_\_ Report the number of antlerless deer you took with a crossbow.

\_\_\_\_\_ Report the number of antlered deer (bucks) you took with a crossbow.

5. If you harvested a deer, how many of your deer were taken to a commercial meat processor for processing in 2018?

\_\_\_\_\_ Report the number of deer taken to a meat processor.

6. What is your preferred county to hunt deer in Michigan? Please select one county from the counties you reported hunting during the 2018 seasons in Question #2.

Please write county name

7. On what type of land did you hunt deer in your preferred county in 2018?

<sup>1</sup> ☐ Private      <sup>2</sup> ☐ Public      <sup>3</sup> ☐ Both private and public lands

8. Please indicate how satisfied or dissatisfied you were with the following for the 2018 deer hunting seasons in your preferred county:  
(Select one choice per item.)

	Very Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Very Dissatisfied	Not Applicable
a. Number of deer you saw.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
b. Number of antlered deer (bucks) you saw.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
c. The size of the antlers on the bucks you saw.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
d. Your overall deer hunting experience.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
e. Number of deer you harvested.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>

9. Did you use a trail camera to monitor deer activity in the county where you preferred to deer hunt in 2018?

<sup>1</sup> ☐ Yes      <sup>2</sup> ☐ No (If no, please skip to question 11.)

10. If you used a trail camera, which of the following animals did you photograph in the county where you preferred to deer hunt in 2018? (select all that apply.)

<sup>0</sup> ☐ None      <sup>1</sup> ☐ Bear      <sup>2</sup> ☐ Bobcat      <sup>3</sup> ☐ Coyote      <sup>4</sup> ☐ Deer  
<sup>5</sup> ☐ Fisher      <sup>6</sup> ☐ Fox      <sup>7</sup> ☐ Marten      <sup>8</sup> ☐ Wild pig      <sup>9</sup> ☐ Wolf

Appendix A (continued). Questionnaire used to collect answers for the 2018 Michigan deer harvest survey.

- 11. Michigan hunters share venison they harvest in a variety of ways. Sharing is defined as offering raw (meat) or prepared (cooked) venison to another person. If you shared venison during the past 12 months, to whom did you provide it?**

*(Please select all that apply.)*

- <sup>1</sup> ☐ I did not share any of my venison.  
<sup>2</sup> ☐ Members of my immediate household.  
<sup>3</sup> ☐ Relatives not in my household.  
<sup>4</sup> ☐ Friends, neighbors, or co-workers.  
<sup>5</sup> ☐ Landowner whose property I hunted.  
<sup>6</sup> ☐ Community group game dinner.  
<sup>7</sup> ☐ Food bank or other donation program.  
<sup>8</sup> ☐ Other (Please describe): \_\_\_\_\_.

- 12. During the past 12 months, to how many people did you directly provide venison? Do not include in your estimate large events such as community group game dinners or deer provided to a donation program.**

Total number of people to whom you provided venison: \_\_\_\_\_

- 13. An additional antlerless license type was available in 2018 that was only valid on private land in the 16-county Chronic Wasting Disease Management Zone. This license was available at a reduced cost (\$12 versus \$20); however, it expired on November 4, 2018. This discounted license was created to encourage hunters to take an antlerless deer during an early hunting season. This license did not replace the usual antlerless license. Instead both antlerless license types were available and a hunter could purchase both types. How much do you support or oppose the new discounted expiring antlerless license?**

- <sup>1</sup> ☐ Strongly support    <sup>2</sup> ☐ Support    <sup>3</sup> ☐ Neither    <sup>4</sup> ☐ Oppose    <sup>5</sup> ☐ Strongly oppose    <sup>6</sup> ☐ Unsure

- 14. How much do you support or oppose making the discounted expiring antlerless license available in the county where you preferred to deer hunt in 2019? This license would not replace the usual antlerless license. Instead both antlerless license types would be available and a hunter could purchase both types.**

- <sup>1</sup> ☐ Strongly support    <sup>2</sup> ☐ Support    <sup>3</sup> ☐ Neither    <sup>4</sup> ☐ Oppose    <sup>5</sup> ☐ Strongly oppose    <sup>6</sup> ☐ Unsure

*Please return questionnaire in the enclosed postage-paid envelope.*

*Thank you for your help!*

**[www.michigan.gov/dnr](http://www.michigan.gov/dnr)**

Appendix B. Antlerless deer hunting license quotas, number of antlerless licenses sold, and number of hunters purchasing an antlerless license in Michigan during 2018, summarized by Deer Management Unit and license type (public and private lands).

DMU <sup>a</sup>	DMU name	Public land			Private land		
		License quota	Licenses sold <sup>b</sup>	License buyers <sup>b</sup>	License quota	Licenses sold <sup>b</sup>	License buyers <sup>b</sup>
001	Alcona County <sup>d</sup>	0	0	0	0	0	0
003	Allegan County	50	56	56	4,000	3,935	3,013
004	Alpena County <sup>d</sup>	0	0	0	0	0	0
005	Antrim County	800	734	636	7,000	3,602	2,888
006	Arenac County	500	389	385	7,000	3,477	2,745
007	Big Bay Unit	0	0	0	0	0	0
008	Barry County	1,000	876	747	7,500	5,188	4,298
009	Bay County	200	185	128	3,000	2,214	1,757
010	Benzie County	400	361	361	1,600	1,462	1,143
013	Calhoun County	100	91	84	7,500	5,953	4,686
015	Charlevoix County	900	818	724	6,000	2,507	1,949
016	Cheboygan County	800	674	655	1,000	914	796
017	Sault Ste. Marie Unit	0	0	0	0	0	0
018	Clare County	1,000	817	771	8,000	7,076	5,546
019	Clinton County	1,600	1,021	808	Unlimited	4,999	3,937
020	Crawford County	1,000	894	894	1,100	930	893
021	Manistique Unit	0	0	0	0	0	0
022	Crystal Falls Unit	0	0	0	0	0	0
023	Eaton County	200	196	177	Unlimited	5,103	4,131
024	Emmet County	600	541	476	2,200	2,011	1,618
025	Genesee County	0	0	0	7,000	4,391	3,743
026	Gladwin County	1,200	953	953	8,000	6,043	4,651
027	Watersmeet Unit	0	0	0	0	0	0
028	Grand Traverse County	400	357	355	1,600	1,432	1,208
029	Gratiot County	2,200	1,619	1,226	Unlimited	4,328	3,244
030	Hillsdale County	400	354	296	12,000	6,395	5,016
031	Nisula Unit	0	0	0	0	0	0
033	Ingham County	800	570	482	Unlimited	4,550	3,532
034	Ionia County	1,200	908	751	Unlimited	4,525	3,529
035	Iosco County <sup>d</sup>	0	0	0	0	0	0

<sup>a</sup>See Figure 2 for the locations of DMUs.

<sup>b</sup>Number of license buyers does not add up to statewide total because hunters could purchase licenses in more than one DMU. Number of licenses sold could exceed the quota because junior licenses sold don't count against the quota.

<sup>c</sup>Special deer hunts on public land. Licenses for these DMUs were available on a local basis.

<sup>d</sup>Portion of a larger DMU.

Appendix B (continued). Antlerless deer hunting license quotas, number of antlerless licenses sold, and number of hunters purchasing an antlerless license in Michigan during 2018, summarized by Deer Management Unit and license type (public and private lands).

DMU <sup>a</sup>	DMU name	Public land			Private land		
		License quota	Licenses sold <sup>b</sup>	License buyers <sup>b</sup>	License quota	Licenses sold <sup>b</sup>	License buyers <sup>b</sup>
036	Amasa/Michigamme Unit	0	0	0	0	0	0
037	Isabella County	100	87	77	Unlimited	6,080	4,641
038	Jackson County	1,600	1,352	1,209	16,000	7,411	5,980
040	Kalkaska County	400	372	371	600	529	526
041	Kent County	1,400	804	729	Unlimited	4,207	3,505
042	Keweenaw Unit	0	0	0	0	0	0
043	Lake County	500	499	497	5,000	4,382	3,713
044	Lapeer County	2,000	1,137	1,022	12,000	7,384	5,919
045	Leelanau County	200	180	180	1,600	1,480	1,142
046	Lenawee County	400	363	302	7,500	5,003	4,117
047	Livingston County	2,000	1,365	1,217	10,000	5,006	4,169
048	Newberry Unit	0	0	0	0	0	0
050	Macomb County	200	181	157	4,000	2,084	1,749
051	Manistee County	500	457	457	3,500	3,052	2,644
053	Mason County	400	364	364	7,000	6,409	4,343
054	Mecosta County	400	312	278	Unlimited	4,478	3,564
055	Menominee Unit	850	743	645	6,500	5,942	4,618
056	Midland County	1,500	1,325	1,124	7,500	4,477	3,597
057	Missaukee County	400	351	351	3,200	2,875	2,272
058	Monroe County	100	75	75	1,000	891	847
059	Montcalm County	1,600	1,142	956	Unlimited	5,580	4,282
060	Montmorency County	0	0	0	0	0	0
061	Muskegon County	800	706	606	Unlimited	2,978	2,477
062	Newaygo County	1,000	736	736	Unlimited	7,600	5,706
063	Oakland County	2,500	2,286	2,013	6,000	3,237	2,689
064	Oceana County	1,000	909	771	5,500	4,982	3,786
065	Ogemaw County	700	610	610	6,000	5,499	4,282
066	Ontonagon County	0	0	0	0	0	0
067	Osceola County	300	258	257	9,000	8,307	5,990
068	Oscoda County	0	0	0	0	0	0
069	Otsego County	800	705	669	1,000	909	793
070	Ottawa County	450	408	362	Unlimited	3,609	3,001
071	Presque Isle County <sup>d</sup>	0	0	0	0	0	0
072	Roscommon County	600	543	543	1,000	831	759

<sup>a</sup>See Figure 2 for the locations of DMUs.

<sup>b</sup>Number of license buyers does not add up to statewide total because hunters could purchase licenses in more than one DMU. Number of licenses sold could exceed the quota because junior licenses sold don't count against the quota.

<sup>c</sup>Special deer hunts on public land. Licenses for these DMUs were available on a local basis.

<sup>d</sup>Portion of a larger DMU.

Appendix B (continued). Antlerless deer hunting license quotas, number of antlerless licenses sold, and number of hunters purchasing an antlerless license in Michigan during 2018, summarized by Deer Management Unit and license type (public and private lands).

DMU <sup>a</sup>	DMU name	Public land			Private land		
		License quota	Licenses sold <sup>b</sup>	License buyers <sup>b</sup>	License quota	Licenses sold <sup>b</sup>	License buyers <sup>b</sup>
073	Saginaw County	200	154	150	6,500	5,530	4,377
074	St. Clair County	700	629	559	9,500	6,516	5,355
078	Shiawassee County	200	174	163	Unlimited	5,300	4,141
081	Washtenaw County	1,500	1,111	980	15,000	4,602	3,721
082	Wayne County	100	84	72	1,200	813	694
083	Wexford County	1,000	866	864	3,700	3,434	2,725
115	Beaver Island	200	81	69	300	123	115
117	Drummond Island	0	0	0	0	0	0
121	Bay De Noc Unit	300	279	270	600	561	460
122	Norway Unit	100	101	79	850	803	636
127	Ironwood Unit	0	0	0	0	0	0
131	Twin Lakes Unit	0	0	0	0	0	0
145	North Manitou Island <sup>d</sup>	0	0	0	0	0	0
149	Round/Bois Blanc Island	100	92	71	100	97	82
152	Gwinn Unit	0	0	0	0	0	0
155	Gladstone Unit	250	228	201	1,650	1,512	1,179
174	St. Clair Flats <sup>d</sup>	0	0	0	300	114	95
245	South Fox Island <sup>d</sup>	0	0	0	0	0	0
249	Trout Lake Unit	0	0	0	0	0	0
252	Rock Unit	0	0	0	0	0	0
255	LaBranche Unit	375	327	282	750	712	572
273	Shiawassee Unit <sup>d</sup>	0	0	0	0	0	0
311	Keeler Unit	560	495	421	8,000	7,922	5,134
312	Sherwood Unit	1,000	961	832	16,000	13,209	10,124
332	Greenleaf Unit	5,200	4,304	3,519	35,000	19,125	14,965
349	Engadine Unit	0	0	0	0	0	0
452	Core TB Area <sup>c</sup>	3,000	1,884	1,673	0	0	0
487	Northern Multi-County	21,000	9,550	7,884	30,000	16,255	12,892
CWD <sup>e</sup>	CWD Management Area	0	0	0	Unlimited	9,276	7,436
NA	Deer Management Assistance Permits	NA	NA	NA	NA	11,661	1,015
NA	Managed Deer Hunt Permits <sup>c</sup>	NA	685	624	NA	NA	NA

<sup>a</sup>See Figure 2 for the locations of DMUs.

<sup>b</sup>Number of license buyers does not add up to statewide total because hunters could purchase licenses in more than one DMU. Number of licenses sold could exceed the quota because junior licenses sold don't count against the quota.

<sup>c</sup>Special deer hunts on public land. Licenses for these DMUs were available on a local basis.

<sup>d</sup>Portion of a larger DMU.

<sup>e</sup>New antlerless license type available in 2018 that was only valid on private land in the 16-county CWD Management Zone. This license was available at a reduced cost (\$12 versus \$20); however, it expired on November 4, 2018.

Appendix C. Estimated number of deer hunters, hunting effort, and deer harvested in Michigan during 2018, summarized by Deer Management Unit.

DMU <sup>d</sup>	Hunters <sup>b,c</sup>		Hunting effort (days) <sup>b</sup>		Deer harvested (all seasons combined) <sup>a</sup>					
					Antlerless		Antlered bucks		Sexes combined	
	No.	95% CL <sup>e</sup>	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL
001	5,209	704	47,483	8,907	1,130	416	1,088	322	2,218	565
003	10,579	984	143,505	18,780	2,266	558	3,633	653	5,899	975
004	4,165	624	46,117	10,512	1,129	543	1,520	418	2,649	728
005	5,767	726	51,875	9,348	1,604	490	1,870	448	3,474	779
006	6,402	764	69,740	12,477	1,655	475	2,528	529	4,183	795
007	6,694	797	58,755	9,407	41	35	2,496	505	2,537	506
008	9,225	923	111,159	15,580	1,780	440	2,734	533	4,514	749
009	4,115	607	51,716	10,474	1,172	401	1,543	402	2,715	622
010	3,893	605	49,542	11,256	920	374	1,104	350	2,024	587
013	8,754	897	123,574	17,841	2,601	629	3,487	643	6,088	1,032
015	4,191	625	51,901	11,544	1,263	427	1,482	403	2,745	661
016	7,075	814	70,880	11,167	864	286	2,286	496	3,150	602
017	3,833	602	32,067	6,402	9	17	1,218	358	1,227	358
018	12,349	1,057	139,156	17,214	3,326	632	4,030	657	7,356	1,027
019	8,331	870	107,410	15,734	3,139	685	3,986	674	7,125	1,147
020	7,244	818	73,209	12,347	895	281	1,053	329	1,948	461
021	6,040	756	58,163	9,482	29	30	2,169	466	2,198	467
022	5,301	705	50,291	10,126	31	30	2,523	499	2,554	500
023	7,142	805	94,847	14,698	2,076	494	2,555	529	4,631	790
024	4,158	625	43,754	10,044	1,366	413	1,414	386	2,780	627
025	8,115	866	121,220	18,233	1,512	422	2,737	559	4,249	744
026	11,295	1,011	131,878	16,719	3,044	625	3,147	539	6,191	920
027	2,081	449	14,007	3,613	9	17	631	239	640	239
028	5,994	739	75,305	13,447	1,457	424	1,388	359	2,845	615
029	7,084	806	73,474	11,929	1,874	477	3,480	621	5,354	892
030	7,523	831	98,958	14,948	2,331	584	2,864	553	5,195	951
031	3,646	587	27,389	5,827	11	17	1,284	344	1,295	344
033	6,644	783	85,049	13,789	1,898	500	2,367	509	4,265	809
034	8,289	867	107,471	15,659	2,413	616	3,969	690	6,382	1,049
035	7,224	825	80,385	13,428	1,289	390	1,937	452	3,226	659
036	4,115	629	31,167	6,111	11	17	1,490	376	1,501	376
037	9,203	914	118,405	16,712	3,045	656	4,127	698	7,172	1,078
038	11,614	1,029	148,507	18,432	3,027	604	3,599	626	6,626	980

<sup>a</sup>Harvest estimates do not include deer taken with DMA permits. An additional 6,986 deer were taken with these permits.

<sup>b</sup>Column totals for hunting effort and harvest may not equal regional and statewide totals because of rounding errors.

<sup>c</sup>Number of hunters does not add up to statewide total because hunters can hunt in more than one DMU.

<sup>d</sup>See Figure 2 for the locations of DMUs.

<sup>e</sup>95 confidence limit.

Appendix C (continued). Estimated number of deer hunters, hunting effort, and deer harvested in Michigan during 2018, summarized by Deer Management Unit.

DMU <sup>d</sup>	Hunters <sup>b,c</sup>		Hunting effort (days) <sup>b</sup>		Deer harvested (all seasons combined) <sup>a</sup>					
					Antlerless		Antlered bucks		Sexes combined	
	No.	95% CL <sup>e</sup>	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL
040	6,489	777	66,716	11,086	910	310	937	312	1,847	467
041	11,685	1,033	153,059	18,726	2,766	583	3,928	680	6,694	1,026
042	2,301	467	23,091	6,034	2	3	613	252	615	252
043	14,051	1,135	156,511	18,139	2,289	465	1,523	364	3,812	635
044	12,759	1,073	175,649	20,680	3,866	736	5,094	765	8,960	1,210
045	3,593	579	43,693	9,828	907	298	1,012	317	1,919	470
046	7,143	811	85,139	13,595	1,663	512	2,419	519	4,082	800
047	9,740	947	129,890	18,146	2,406	508	3,212	584	5,618	862
048	3,753	597	28,744	6,370	9	17	1,162	330	1,171	331
050	3,896	596	49,599	11,596	864	345	943	320	1,807	507
051	8,818	898	97,175	14,178	1,823	423	2,120	473	3,943	704
053	10,840	991	131,258	17,032	3,108	637	2,755	548	5,863	954
054	12,239	1,058	134,945	17,059	3,297	713	4,143	682	7,440	1,115
055	11,313	1,020	108,004	13,241	2,497	525	4,985	718	7,482	989
056	9,438	931	116,884	16,717	2,593	569	3,351	597	5,944	940
057	8,949	904	95,809	14,029	1,793	456	2,008	439	3,801	689
058	4,188	624	69,835	14,819	476	213	950	309	1,426	416
059	12,676	1,072	161,198	19,795	4,398	811	4,711	702	9,109	1,202
060	8,596	905	72,618	11,420	1,587	412	1,604	434	3,191	657
061	5,717	725	75,094	13,179	994	315	1,506	394	2,500	565
062	17,834	1,266	211,264	21,630	5,026	863	5,413	768	10,439	1,293
063	9,185	923	118,515	17,752	1,842	485	2,174	468	4,016	761
064	9,476	920	115,515	16,377	2,952	589	2,371	470	5,323	856
065	11,816	1,041	121,943	14,869	2,718	575	3,227	595	5,945	910
066	3,712	598	29,547	6,778	9	17	1,485	388	1,494	388
067	11,727	1,011	128,616	15,487	4,014	778	3,952	631	7,966	1,108
068	7,753	857	61,360	10,019	1,407	406	1,456	369	2,863	573
069	5,964	742	48,175	9,116	643	223	1,668	424	2,311	509
070	7,333	809	86,402	14,186	1,343	396	1,994	477	3,337	694
071	8,812	911	86,828	13,531	1,962	540	2,929	563	4,891	848
072	8,528	896	88,439	12,836	893	273	1,442	379	2,335	513
073	8,797	888	114,043	16,343	2,294	534	3,794	620	6,088	909
074	10,935	992	157,441	20,528	2,559	565	3,703	621	6,262	943
078	7,391	822	102,328	16,804	2,552	712	3,016	591	5,568	1,066
081	8,139	869	96,096	15,172	2,389	610	2,956	560	5,345	947
082	1,120	327	13,764	5,483	79	85	223	151	302	174
083	9,106	918	105,016	16,138	1,916	492	1,929	435	3,845	734

<sup>a</sup>Harvest estimates do not include deer taken with DMA permits. An additional 6,986 deer were taken with these permits.

<sup>b</sup>Column totals for hunting effort and harvest may not equal regional and statewide totals because of rounding errors.

<sup>c</sup>Number of hunters does not add up to statewide total because hunters can hunt in more than one DMU.

<sup>d</sup>See Figure 2 for the locations of DMUs.

<sup>e</sup>95 confidence limit.

Appendix C (continued). Estimated number of deer hunters, hunting effort, and deer harvested in Michigan during 2018, summarized by Deer Management Unit.

DMU <sup>d</sup>	Hunters <sup>b,c</sup>		Hunting effort (days) <sup>b</sup>		Deer harvested (all seasons combined) <sup>a</sup>					
					Antlerless		Antlered bucks		Sexes combined	
	No.	95% CL <sup>e</sup>	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL
115	544	229	5,597	3,031	110	122	345	228	455	286
117	1,054	319	6,692	2,726	2	3	288	158	290	158
121	2,753	512	31,121	8,327	376	207	1,173	335	1,549	441
122	1,960	430	18,906	5,553	425	207	824	285	1,249	388
127	1,182	339	10,287	3,961	13	18	351	180	364	181
131	3,201	547	32,396	7,868	4	4	827	273	831	273
145	1	0	19	0	1	0	0	0	1	0
149	661	256	4,423	2,148	28	50	292	177	320	184
152	2,629	500	24,929	6,325	9	17	1,050	329	1,059	329
155	4,419	648	46,247	9,051	762	295	1,768	427	2,530	566
174	163	119	1,837	1,752	10	17	13	17	23	24
245	2	0	34	0	2	0	2	0	4	0
249	2,431	484	20,174	5,795	0	0	587	239	587	239
252	1,716	409	16,468	5,666	36	51	411	205	447	222
255	3,315	560	34,053	7,811	417	213	1,269	355	1,686	454
273	1,288	343	13,880	5,460	452	241	419	214	871	375
311	14,855	1,167	218,654	23,075	3,455	686	6,454	863	9,909	1,255
312	16,682	1,228	231,864	24,280	5,955	968	7,677	911	13,632	1,527
332	36,189	1,760	445,523	31,473	12,632	1,322	14,024	1,208	26,656	2,016
349	2,229	464	20,101	5,451	2	3	503	207	505	207
452	10,585	985	94,787	12,148	2,156	509	3,032	546	5,188	804

<sup>a</sup>Harvest estimates do not include deer taken with DMA permits. An additional 6,986 deer were taken with these permits.

<sup>b</sup>Column totals for hunting effort and harvest may not equal regional and statewide totals because of rounding errors.

<sup>c</sup>Number of hunters does not add up to statewide total because hunters can hunt in more than one DMU.

<sup>d</sup>See Figure 2 for the locations of DMUs.

<sup>e</sup>95 confidence limit.