

2019-2020 White-tailed Deer Report

Kentucky Department of Fish and Wildlife Resources



Photo Credit: Joe Lacefield, Private Lands Biologist

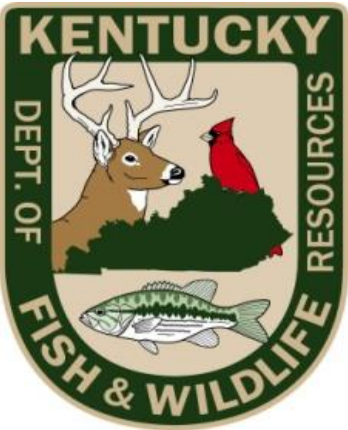


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Introduction

The Deer Program is administered under the Wildlife Division of Kentucky Department of Fish and Wildlife Resources (KDFWR). The KDFWR is an agency of the Kentucky Tourism, Arts & Heritage Cabinet. It is overseen by a nine-member commission who are nominated by Kentucky’s sportsmen and sportswomen. Commission members are appointed by the Governor. The department employs about 450 full-time staff, which includes conservation officers, wildlife and fisheries biologists, conservation educators, and information and technology, public relations, customer service and administrative professionals.

KDFWR funding is provided primarily by the sale of hunting and fishing licenses, boating registration fees and federal funds, including grants based on the number of licenses sold in the state.

The Deer Program is tasked with managing the white-tailed deer herd in the state to provide ample hunting opportunity while balancing the needs of consumptive and non-consumptive user groups. The Deer Program is comprised of one program coordinator, Gabe Jenkins, and two biologists, David Yancy and Kyle Sams. Deer Program staff are based out of the KDFWR Headquarters in Frankfort.

Deer in Kentucky

Deer are native to Kentucky and were present since Dr. Thomas Walker first reported in 1750 that the deer are “plentiful”. However, due to unregulated harvest, the deer population began to decline rapidly in subsequent years. In 1946, the Division of Game and Fish initiated a three-pronged white-tailed deer project to facilitate the restoration of this important species. Components of this project consisted of refuge establishment, trapping and translocation of live deer, and habitat improvement work. Active restoration efforts concluded in March of 1999. After 52 years of trapping and translocation, 10,096 white-tailed deer had been stocked around the state. Kentucky now has a high quality deer population and ranks in the top five for all time Boone & Crockett buck production.

General Information about the 2019-20 Season

License and Permit Fees

License	Resident	Nonresident
Annual Hunting License	\$27	\$140
Senior/Disabled License	\$12	N/A
Sportsman’s License	\$95	N/A
Youth Sportsman’s License	\$30	N/A
Statewide Deer Permit	\$35	\$120
Bonus Antlerless Permit	\$15	\$15
Youth Deer Permit	\$10	\$15

Season Dates and Bag Limits

	Statewide	Zone 1	Zone 2	Zone 3	Zone 4
Modern Firearm	Nov 9 – Nov 24				
Archery	Sept 7 - Jan 20				
Crossbow	Sept 21 - Jan 20				
Early Muzzleloader	Oct 19-20				
Late Muzzleloader	Dec 14-22				
Youth-Only Firearm	Oct 12-13				
Free Youth Weekend	Dec 28-29				
Antlered Bag Limit	1				
Antlerless Bag Limit	Based upon zone	Unlimited	Up to 4	Up to 4, only 1 deer with a firearm	Only 1 antlerless deer may be harvested during archery season, crossbow season, youth gun season, or the last three days of the late muzzleloader season.

Population Status

Overall, the statewide deer population estimate shows a stable to slightly increasing trend. The 2019 statewide estimate is 930,613 deer at the start of the 2019-20 hunting season, which is a 2.5% increase from 2018-19 (908,291). However, the 2019 population estimate was 1.1% above the 10-year average (920,295). This estimate is generated from harvest and age structure data, which is collected through telecheck reports and by KDFWR staff.

Deer management techniques have varied greatly across the state over the last decade. Of the 120 counties in Kentucky 51 are designated as zone 1, 34 as zone 2, 13 as zone 3, and 22 as zone 4. Zone 1 counties have the highest deer densities in the state, are considered reduction zones, and have an unlimited bag limit on antlerless deer. At the other end of the spectrum are zone 4 counties where the deer densities are the lowest and antlerless take is very limited. Zone 2 and 3 counties are at or near population goals.

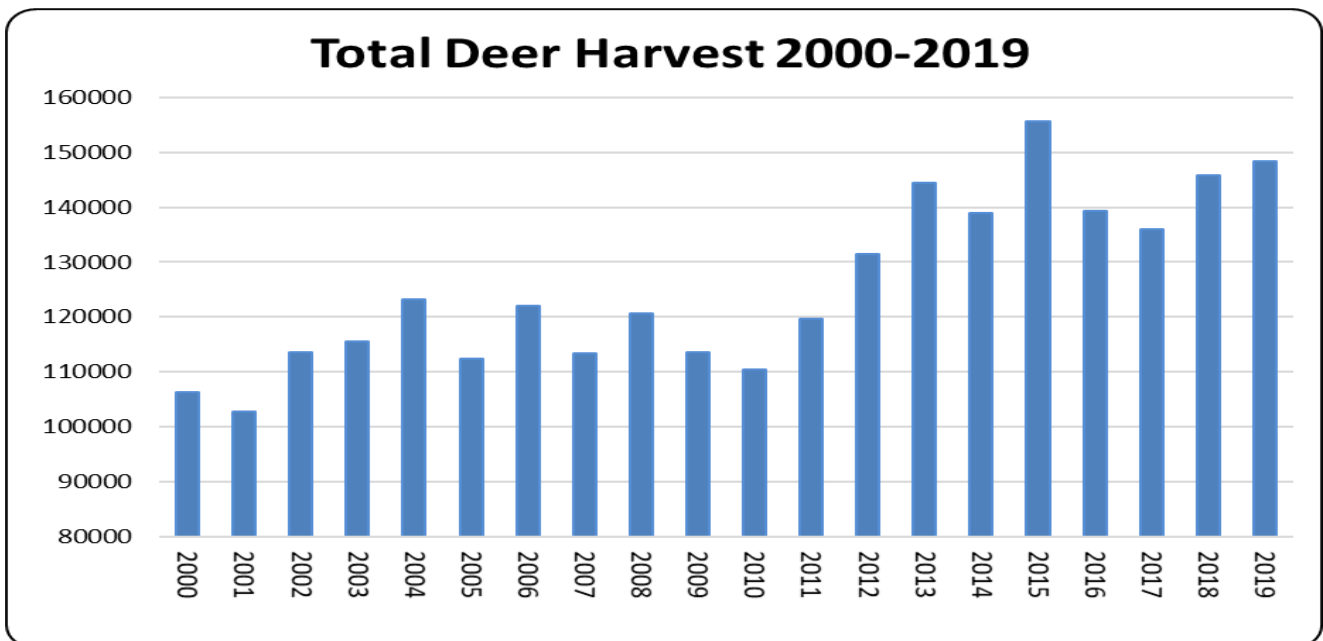
In the eastern portion of state, the deer population had increased to record high levels. During the late summer/early fall of 2017, the eastern portion of the state experienced an EHD outbreak. In response to the 2017 EHD outbreak, the antlerless bag limit was reduced from four to one antlerless deer in zone 4 counties.

2019-2020 Total Harvest Summary

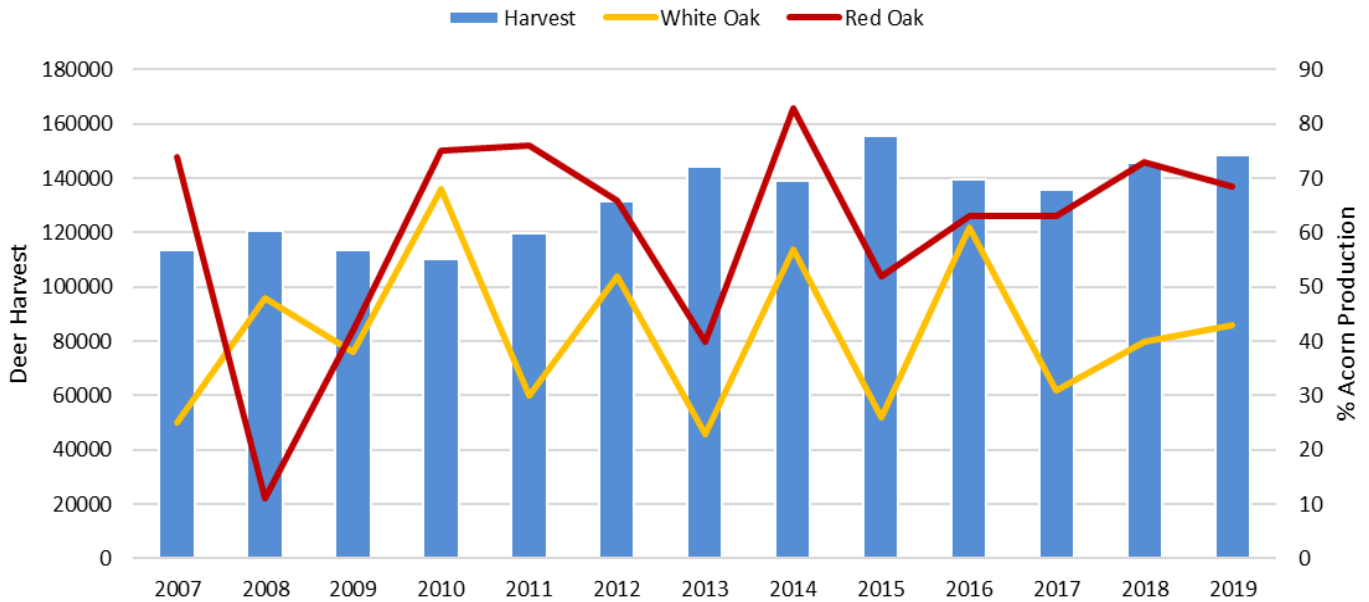
148,395 deer were harvested during the 2019-20 deer season, which is the second highest harvest on record. We observed a 2% increase from the 2018-19 season (145,745) and the 2019-20 season is 11% above the 10 year average (133,524).

In years with poor to average statewide acorn production (2019 white/red oak acorn production average was 56%), deer tend to travel more in search of food resulting in more deer sightings, which could be a contributing factor in the increase in harvest observed in the 2019-20 season. However, white oak acorn production seems to be more important in terms of deer movements because higher deer harvests tend to correlate with poor white oak acorn production years.

In addition, there were optimal hunting weather conditions during the major hunting timeframes, which also contributed to the near record setting harvest.



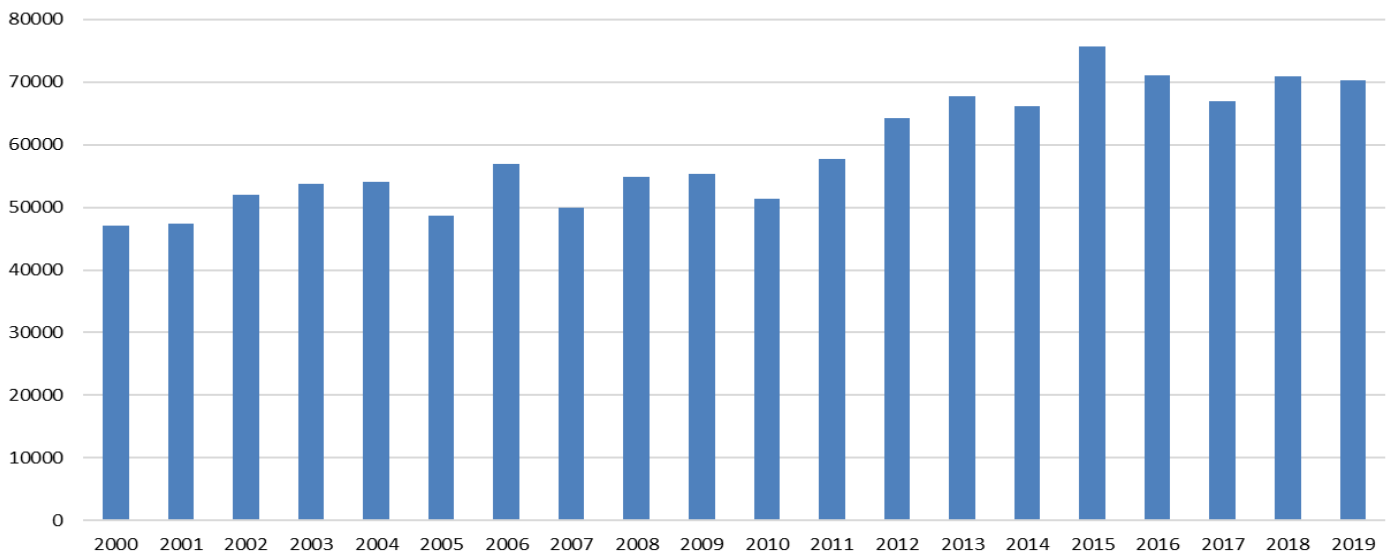
Statewide Harvest Results and Acorn Production



Antlered Buck Harvest

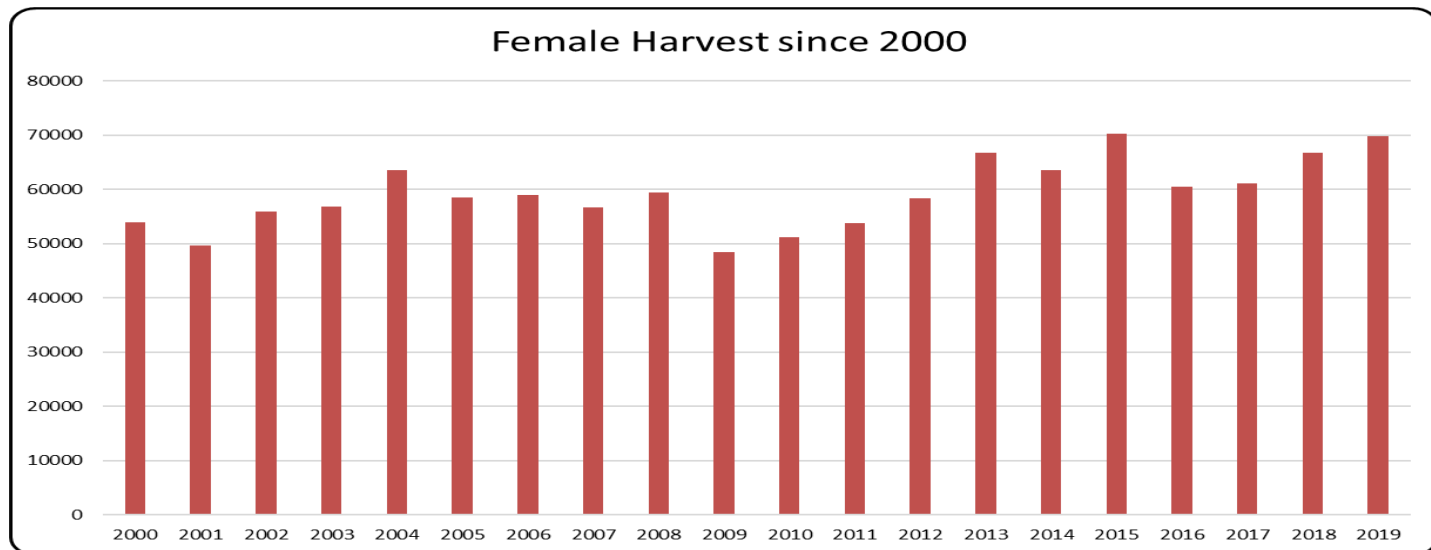
The total antlered buck harvest was 70,362 in the 2019-20 season, which is a <1% decrease from the five-year average and is the fourth highest antlered buck harvest on record. Overall, when comparing antlered deer harvested per square mile of habitat, Anderson County (4.4 antlered deer/sq. mi.) harvested the most antlered bucks with Pendleton County (4.1 antlered deer/sq. mi.) coming in second, and Bracken County (4.0 antlered deer/sq. mi.) coming in third. Fayette County (0.4 antlered deer/sq. mi.) harvested the fewest antlered bucks per square mile during the 2019-20 season.

Antlered Male Harvest since 2000



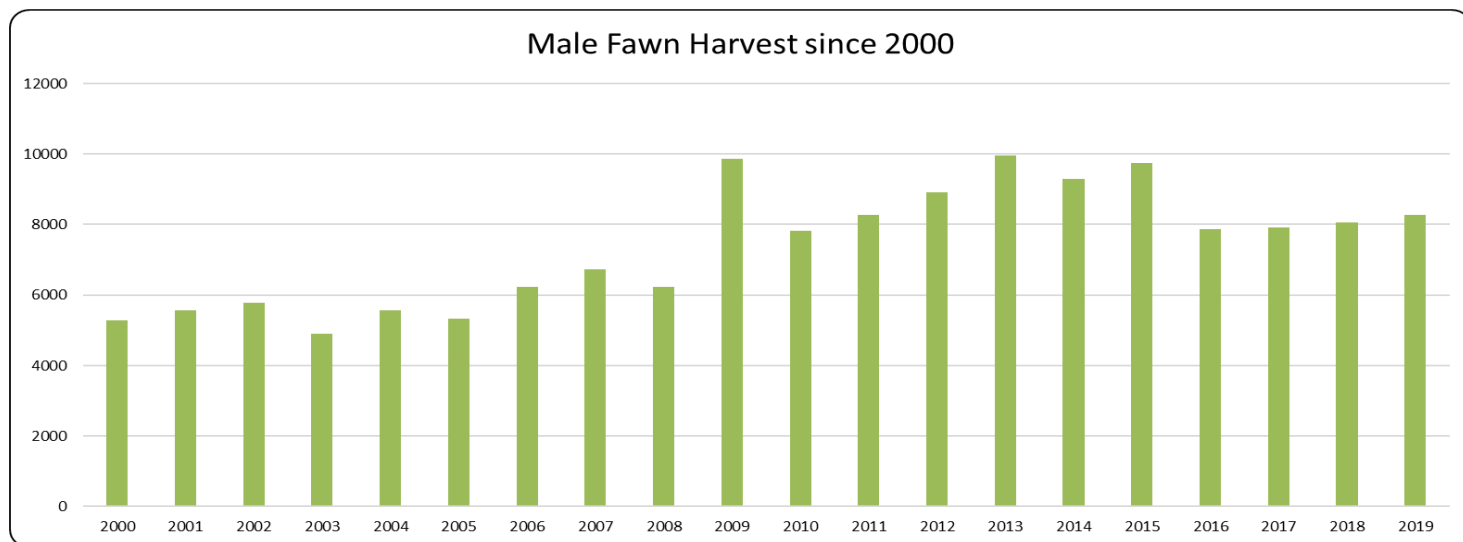
Female Harvest

The total female harvest was 69,762 in the 2019-20 season which is an 8% increase from the five-year average and a 5% increase from the 2018-19 season (66,727). Overall, when comparing female deer harvested per square mile of habitat, Pendleton County (6.1 female deer/sq. mi.) harvested the most female deer followed by Crittenden County (5.3 female deer/sq. mi.) and Bracken County (5.3 female deer/sq. mi). Martin County (0.1 female deer/sq. mi.) harvested the fewest female deer per square mile during the 2019-20 season.



Male Fawn Harvest

The total male fawn harvest was 8,261 in the 2019-20 season which is 3.7% below the five-year average and a 2.4% increase from the 2018-19 season (8,066). Overall, when comparing male fawns harvested per square mile of habitat, Pendleton County (0.73 male fawns/sq. mi.) harvested the most male fawns with Spencer County (0.71 male fawns/sq. mi.) coming in second, and Gallatin County (0.63 male fawns/sq. mi.) coming in third. Martin County (0.005 male fawns/sq. mi.) harvested the fewest male fawns per square mile during the 2019-20 season.



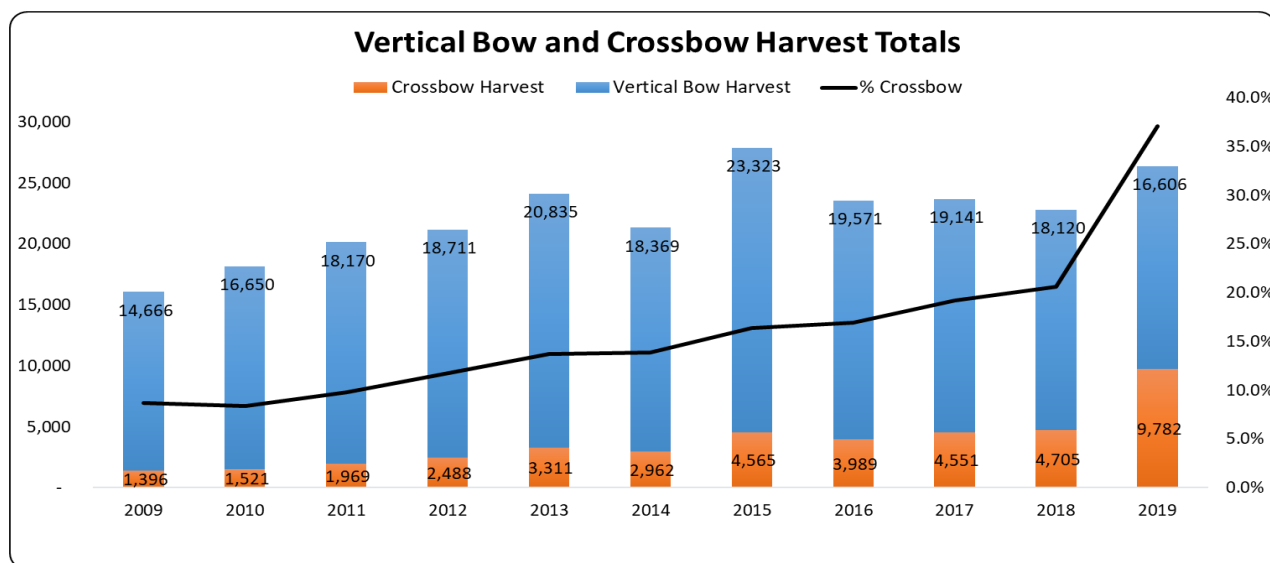
Weapon Type Harvest Summary

Weapon	Female	Male Fawn	Male	Total
Archery	10,080	794	5,735	16,609
Crossbow	5,754	647	3,383	9,784
Firearm	46,735	6,020	57,375	110,130
Muzzle-loader	7,192	811	3,869	11,872
Total	69,761	8,272	70,362	148,395

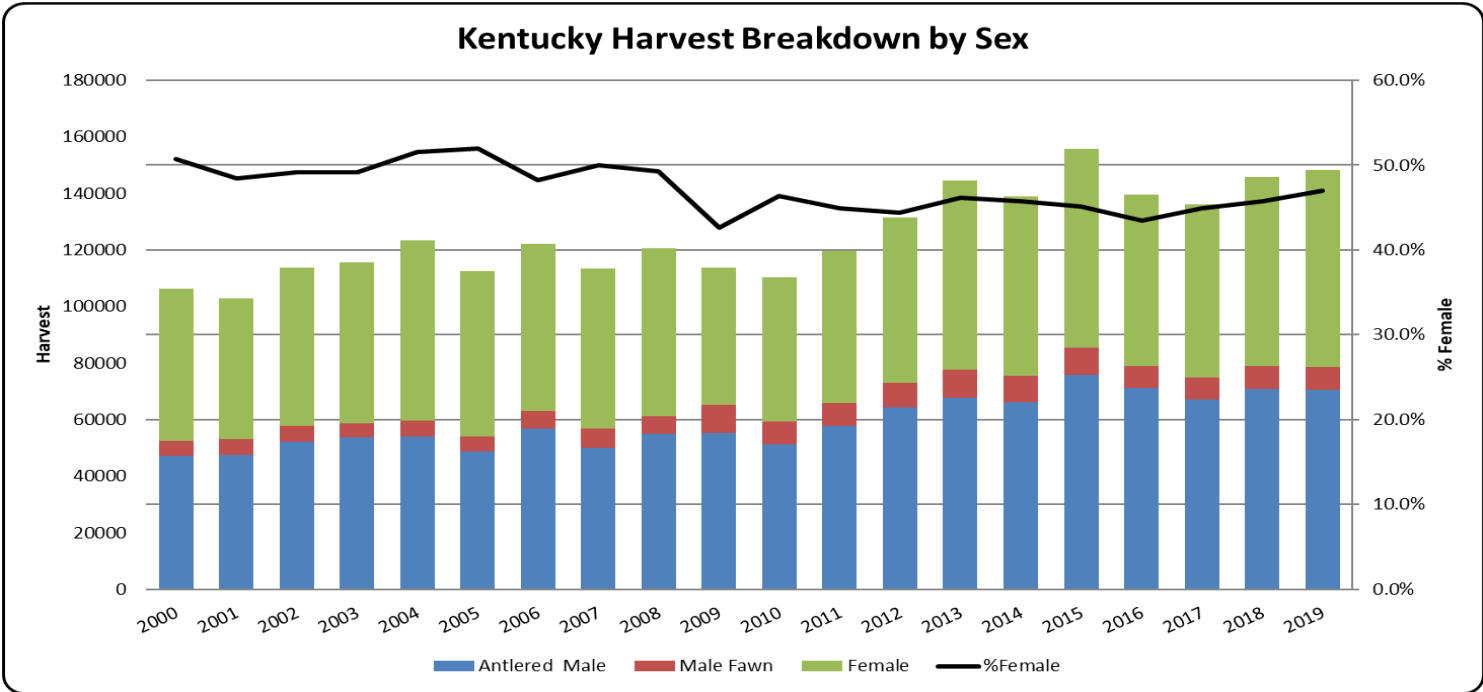
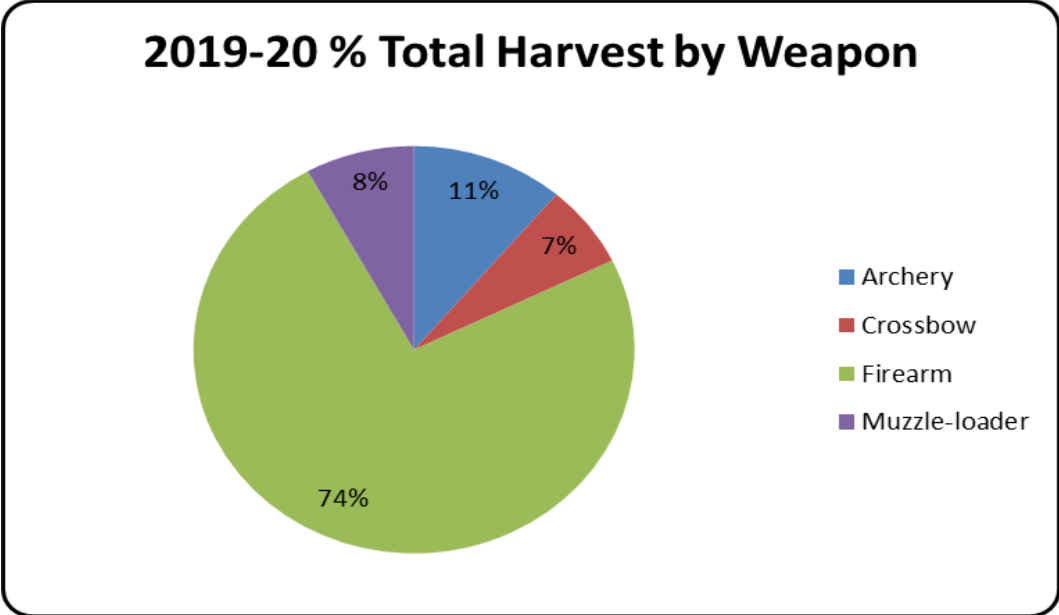
Despite a statewide bag limit that allows hunters to shoot more than one deer per year statewide, there appears to be a limit on the number of deer that hunters are willing to, or able to harvest, as 72.1% (74,661) of all hunters only harvest one deer. A smaller percentage of successful (27.9%, 28,946) hunters harvested two or more deer. Of the 103,607 total successful hunters in the 2019-20 season, the average hunter harvested 1.43 deer, which was a slight increase from last season and an all-time high. This rate has increased slightly in the last two seasons (2018-19 and 2019-20) to 1.4 where it had remained near or at the 1.3 level since 2007. This is likely due to the increase opportunities provided to hunters.

Deer harvest numbers can fluctuate greatly in a county or region due to harvest restrictions by zones. Even though the average hunter only harvests 1.43 deer, the successful hunters harvested approximately the same percentage of bucks and does (47.4%, 47.0%). When compared to previous hunting seasons, the percentage of does in the harvest has fluctuated minimally over the last 15 years but appears to be increasing slightly.

There were no significant changes in the percentage of the 2019-20 harvest by weapon type compared to the 2018-19 season, with the exception of the crossbow harvest (9,782) which had a 107.9% increase from the 2018-19 season (4,705) and was 135.5% above the five-year average (4,154). When comparing the 2019-20 crossbow harvest to the vertical bow harvest (16,606), the crossbow harvest was 37.1% of the total archery harvest.



Seventy-four percent of the overall harvest occurred during the 2019-20 modern firearm season. We observed a 8.3% decrease from the archery harvest in 2018-19 (18,119) to 2019-20 season (16,606), which was 15.7% below the five-year average (19,701). The 2019-20 muzzleloader harvest (11,872) decreased by 9.1% when compared to the 2018-19 season (13,059) and was 15.8% below the five-year average (14,101).

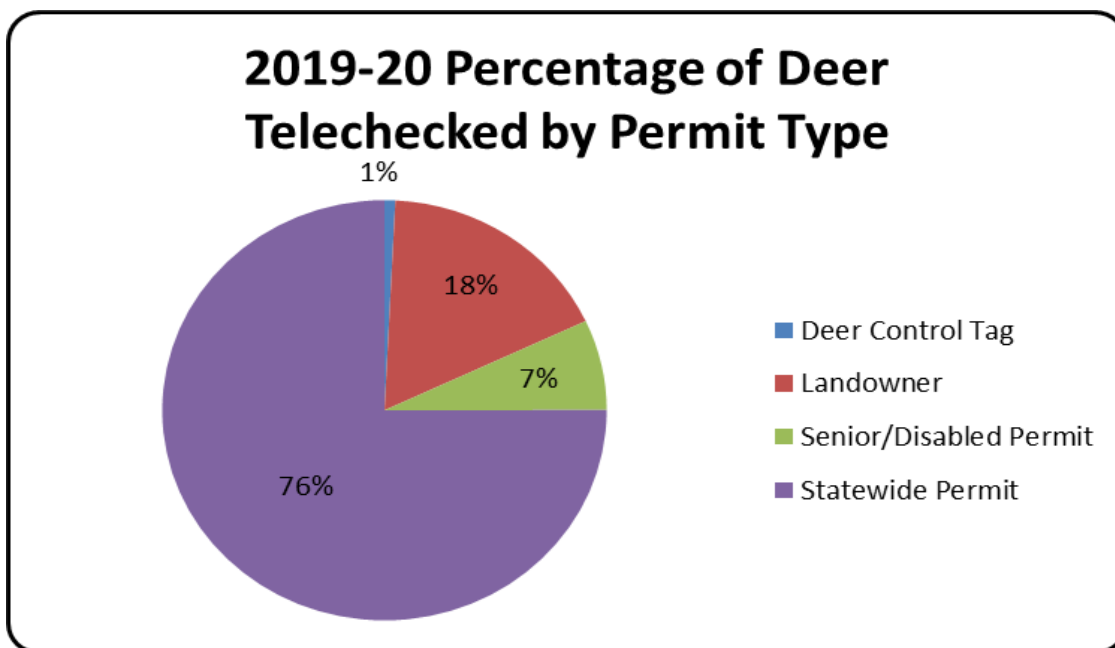


Monthly Harvest Rates

The 4,688 deer harvested in September is the ninth highest harvest on record for that month. October’s harvest of 17,110 deer was the sixth highest October harvest on record since 1999. Hunters harvested 113,229 deer during November, most of which occurred during the statewide modern gun season. This ranks as the highest November harvest on record. December’s harvest was the thirteenth highest record harvest with 10,468. January’s harvest was 14% above the five-year average (2,526) at 2,880, which was the third highest record, mostly due to better than normal weather conditions, which increased human activity afield. Optimal weather conditions for the modern gun season in November drove the harvest.

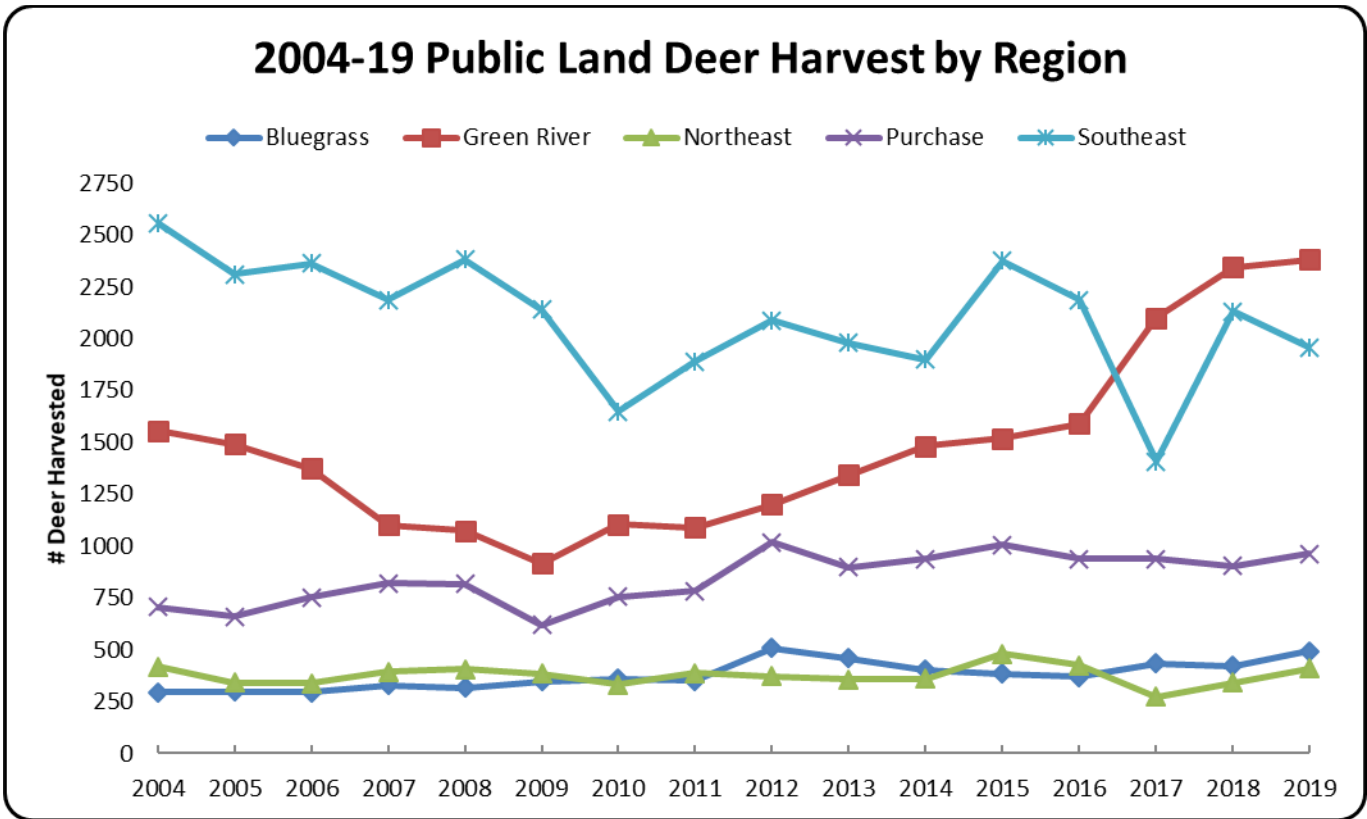
2019-20 Harvest Results by Permit Type

The percentage of deer telechecked by permit type has remained stable over the years. However, with the increasing number of senior/disabled licenses sold, we would expect to see the senior/disabled harvest increase and the statewide permit harvest to decrease over time. Landowners are not required to purchase a hunting license or deer permit if they are hunting deer on their own property but are still required to telecheck any harvested deer. Deer control tags are used in correlation with deer causing damage and have remained stable over the past years.



Public Land Harvest

KDFWR owns, leases, or manages more than 124 Wildlife Management Area’s (WMA), Hunting Access Areas (HAA), and Outdoor Recreation Areas (ORC) across the state for public use. Exceptions exist on some properties, but the majority of Kentucky’s public areas are open to public hunting through quota hunts or under statewide regulations. The public areas are separated between five wildlife regions and are managed by regional staff in the Wildlife Division.



Damage Issues

An overpopulation of deer can have a negative impact on the environment and humans alike. Overabundant deer populations may result in agricultural and landscape damage, be detrimental to forest health and regeneration, pose safety risks due to deer-vehicle collisions, and serve as vectors for the transmission of tick-borne illnesses. State, local and private groups all have a stake in helping to manage the state's deer population. The primary tool for deer management in Kentucky is hunting, but hunting within the season framework alone may not be enough to curtail the issues that some stakeholders experience. Deer populations have the ability to outgrow what their habitat can reasonably sustain, or surpass what is known as the environmental carrying capacity. However, a much less understood issue in modern deer management is social carrying capacity, which is essentially the number or density of deer that is socially acceptable. KDFWR staff can offer their assistance once this threshold has been reached (see Contacts map on page 15). The local Biologist or Conservation Officer will schedule an on-site visit to document the damage and provide technical guidance on potential solutions. Technical guidance can be offered in many ways; however, the best damage

mitigation strategy is a dedicated, long-term hunting regiment. In addition to hunting, assistance from KDFWR may come in the form of Deer Control Tags, Destruction Permits, and the use of KRS 150.170.

Deer Control Tags Used in 2019			
Region	DCT's Issued	DCT's Used	% Used
BG	1096	309	28%
GR	1017	400	39%
NE	185	30	16%
PR	701	133	19%
SE	920	292	32%
Total	3919	1164	30%

Destruction Permit Use from 2019		
Region	Destruction Permit Issued	Destruction Permits Used
BG	490	174
GR	30	0
NE	2	0
PR	140	0
SE	20	0
Total	682	174

Disease Surveillance

Hemorrhagic Disease (HD)

Hemorrhagic disease (HD), which is a vector-borne disease of white-tailed deer, is caused by two related orbiviruses: epizootic hemorrhagic disease virus (EHDV) and bluetongue virus (BTV). HD viruses are considered the most important viral agents affecting deer populations in the United States. The virus is transmitted from animal to animal through the bite of an infected midge which is active in the late summer and early fall. Severe outbreaks are often associated with drought conditions because drought creates an increased amount of breeding habitat for the midges. The midges die off for the year after a hard freeze, eliminating new cases of HD.

HD is reported in localized areas from at least a few counties nearly every year in Kentucky, although outbreaks can be considerably large and widespread as in 2017, where a large HD outbreak occurred in the eastern portion of Kentucky. Over 4,500 suspected cases were reported. In 2019, KDFWR biologists had 1,221 suspect HD deer reported across the entire state. There were 24 confirmed cases of HD occurring in the central, northern, and western portions of the state.

Chronic Wasting Disease (CWD)

CWD is a fatal, neurological disease in white-tailed deer, mule deer, elk, moose, and caribou. It causes a characteristic spongy degeneration of the brains of infected animals resulting in emaciation, abnormal behavior, loss of bodily functions, and ultimately death. CWD is categorized as a transmissible spongiform encephalopathy (TSE), a group that includes “mad cow” disease in cattle, Creutzfeldt-Jakob disease in humans, and scrapie in sheep and goats. CWD has been detected in 26 states, 4 Canadian provinces, Norway, and South Korea. Six states that border Kentucky have CWD present (West Virginia, Virginia, Missouri, Ohio, Illinois, and Tennessee). CWD has not been detected in Kentucky.

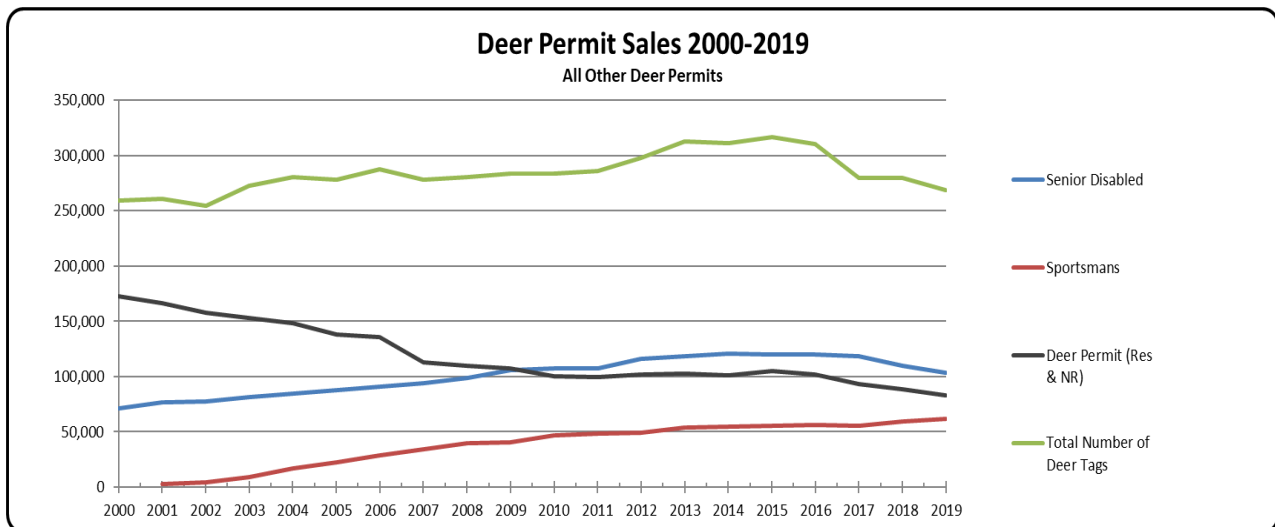
To detect CWD should it arrive in Kentucky, KDFWR adopted a CWD monitoring plan in 2002. That plan is a three-part monitoring program to test: 1) a random sampling of hunter-harvested deer, 2) target or suspect animals (i.e., animals that appear ill), and 3) a year round random sample of roadkill deer. In 2006, KDFWR adopted a contingency plan to deal with CWD if it was ever found in Kentucky. Since 2002, more than 32,000 deer samples have been tested. 2,000 deer were submitted for CWD testing in 2019-20, and all samples have tested negative for the disease.

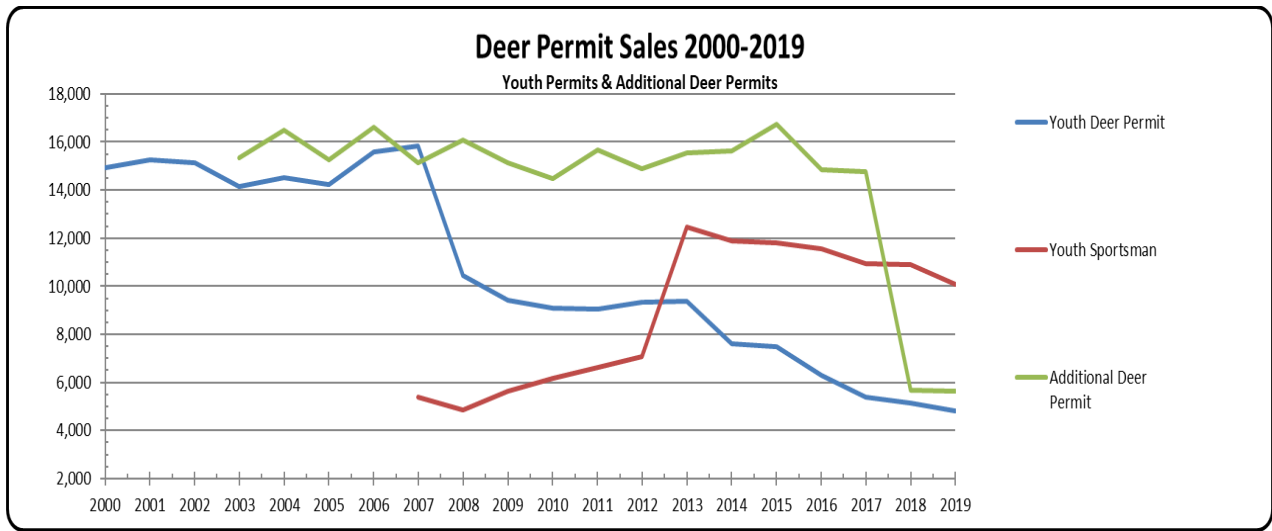
Carcass Importation Law

Intact deer carcasses from any state or other country may not be brought into Kentucky. Allowed parts from states and provinces include quarters or other portions of meat with no part of the spinal column or head attached, quarter or deboned meat, antlers, antlers attached to a clean skull plate, a clean skull, clean teeth, hides, and finished taxidermy products.

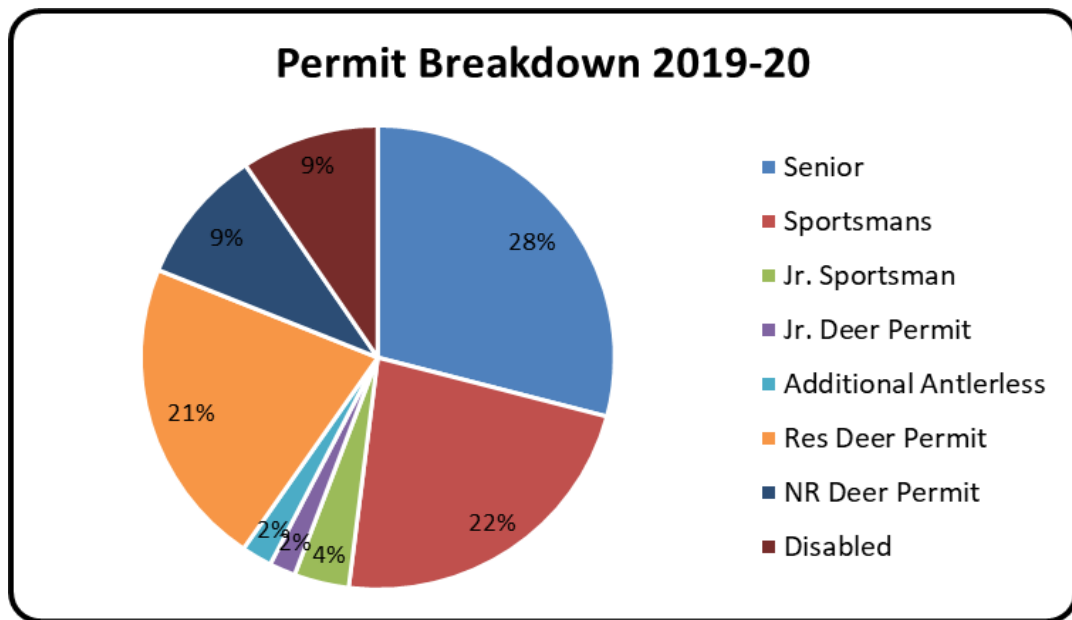
Deer Permit Sales

In recent years, the number of deer permits sold has remained stable. However, in the 2019-20 season (83,179) there was a decrease in deer permits sold compared to the 2018-19 season (88,558). When looking at the long-term outlook the 2019-20 season is 17% below the 10 year average (100,046). When including the license bundles (Sportsman’s, Jr. Sportsman’s, Jr. Deer Permit, Resident and Non-Resident Deer Permit, and Additional Deer Permit) in the total deer permit numbers, the 2019-20 season (268,506) is 9% below the 10 year average (296,267).





Upon further examination of license sales, the majority of deer permits are purchased by senior hunters (28%) followed closely by Sportsman License buyers (22%) and resident deer hunters (21%). Over the last few years, there has been a decrease in the number of senior licenses sold and a slow decrease in resident deer permit sales. The overall number of deer hunters is stable to declining. However, the number of senior licenses is increasing, indicating that a majority of Kentucky deer hunters are reaching the age of 65 (i.e., the age at which you can purchase as Senior License). The Additional Deer Permit decreased significantly due to an increase from two deer to four deer on the statewide deer permit.



Changes for the 2020-2021 Deer Season

No changes proposed.

Contacts

Approximately 95% of Kentucky is privately owned. To successfully manage our wildlife resources, the KDFWR works cooperatively with Kentucky’s private landowners. One of the essential ingredients in conserving Kentucky’s wildlife resources is habitat improvement. Wildlife biologists are available to work with interested individuals or groups on properties that they own or have management rights on.

Refer to the map below to contact your local wildlife biologist for assistance with wildlife management on your property.

