

# 2015-2016 Kentucky Department of Fish and Wildlife Resources Elk Report



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## Introduction

The Elk 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. The nominees chosen by the sportsmen and sportswomen are sent to the Governor, who appoints the Commission members for each district. The department employs about 450 full-time staff, which includes conservation officers, wildlife and fisheries biologists, conservation educators, information and technology staff, public relations and administrative professionals.

KDFWR receives no money from the state’s General Fund. Agency funding is provided through the sale of hunting and fishing licenses, boating registration fees, and federal grants based on the number of licenses sold in the state.

The Elk Program is tasked with managing the elk herd in the state to provide ample hunting opportunity while balancing the needs of consumptive and non-consumptive user groups. The Elk Program is made up of one program coordinator, Gabe Jenkins, and three biologists: Dan Crank, Will Bowling, and a vacant position. Program staff are based out of headquarters in Frankfort as well as the elk zone in eastern Kentucky.

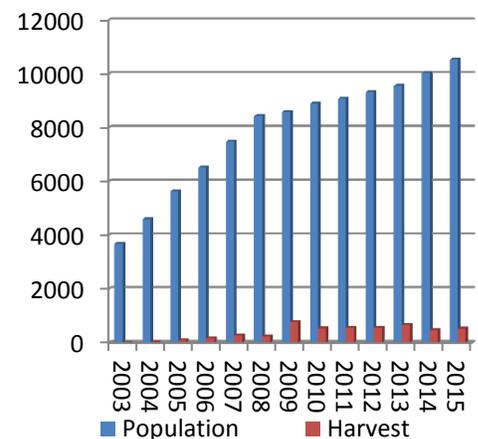
## Elk In Kentucky

Elk are native to KY and were present until the mid-1880’s, when the population was eliminated due to habitat degradation and overhunting. This is why the Kentucky elk program is considered a restoration, not an introduction. Kentucky’s present elk herd is a free-ranging, wild herd established from 1,550 wild elk captured out-of-state and released into southeast KY between December 1997 and March 2002. Contributing states included Utah, Kansas, Oregon, North Dakota, Arizona, New Mexico, with the majority of elk captured in Utah. Release sites were located in Harlan, Knott, Leslie, Letcher, Martin, Perry, and Pike counties. The elk restoration zone covers 16 counties in the southeast region of the state (approximately 4.1 million acres).

The current estimated population is approximately 10,000 animals. Kentucky has the highest elk population of any state east of the Mississippi River.

The first elk hunt was conducted in 2001. Six bulls and six cows were harvested, with all hunters filling their permit. The same number of permits was issued in 2002 and 2003. In 2004, the number of permits was increased to 40. Beginning that year, legal deer hunters were also allowed to harvest elk outside designated elk zones in order to control populations, keeping elk numbers low in agricultural areas or poor elk habitat. The number of elk permits has increased nearly every year since 2004, with a total of 910 permits available in 2015.

**Elk Population Estimate**



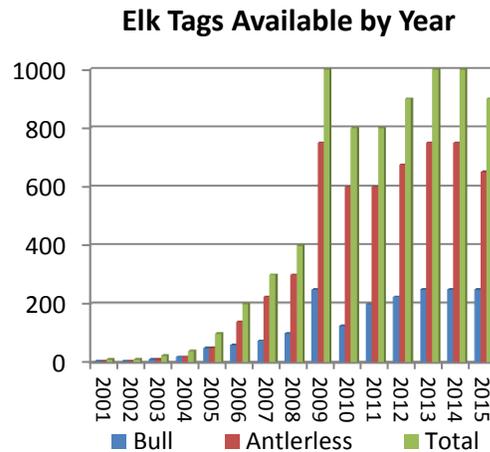
## Elk Hunting Permits

### General Quota Hunt Permits

The majority of KY elk permits are issued by way of a computer-randomized drawing.

Applicants must apply online between Jan 1 and April 30 each year. They may apply for four permits from the four permit types (bull archery/crossbow, bull firearm, antlerless archery/crossbow, and antlerless firearm), but no more than once for each type. Both resident and non-resident hunters may apply for the elk permit drawing. A maximum of 10% of the available permits may go to

non-resident applicants. During the month of May, applicants' names are drawn at random by a separate Kentucky government agency (the Commonwealth Office of Technology [COT]) and then randomly assigned a permit type based on their application choices.



### Youth Permits

Hunters that are 15 years of age or younger may apply for the youth-only drawing. There are currently 10 youth-only either-sex permits. Youth that are not chosen during the youth-only drawing are entered back into the general drawing pool in order to give them a chance at the remaining general quota hunt permits. Youth may also apply for the general drawing twice, giving them 3 chances.

### Commission Permits

There are 10 Commission permits that can be used for either bulls or cows. These permits are assigned each year by the KDFWR Commission members to conservation groups. Those groups then auction or raffle the permits in order to raise money for conservation projects.

### Landowner Access Permits

KDFWR has a program that allows large land holders in the elk zone to enter their land into management agreements, in order to provide hunters additional public access to huntable land. Landowners are issued an either-sex elk permit for every 5,000 acres enrolled in the public access program. Those permits may only be used on the land the landowner enrolled in the agreement. However, the landowner may transfer or sell the permit to whoever they choose, and many landowner permits are auctioned by conservation groups.

Voucher Cooperator Permits

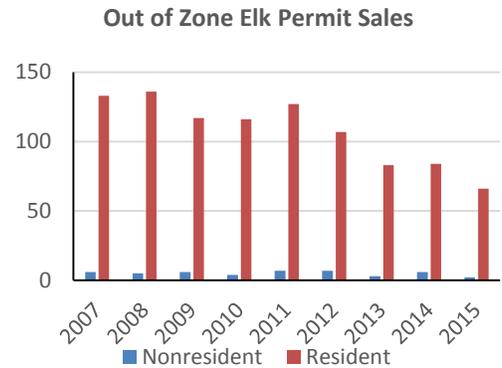
Beginning in 2015, landowners with 100 acres or more could enter their property into a program with KDFWR called the Voucher Cooperator Elk Permit Program. It links people who own or lease elk hunting land with hunters who have drawn an elk tag. Hunter access is accomplished by offering landowners/lessees an either sex, transferable elk permit when they accumulate 20 points (harvest bull = 2 points, harvested cow = 1 point). Hunters sign up to hunt voucher properties on a first come, first served basis though an automated online system after the area draw is complete. A total of 92,492 acres were entered in 2015, resulting in 37 elk being harvested by a total of 125 hunters on those properties. This also resulted in 2 tags being transferred to those landowners for the 2016 – 2017 season.

Late Season Hunt Permits

The late season hunt is designed to remove elk in areas that have had elk damage concerns over a number of years. The dates of the hunt correspond with the time of year when most damage occurs. This allows hunters to target elk that are likely causing damage, and to alleviate that burden to local landowners. Hunters are limited to the Knott County and Stony Fork EMU (Elk Management Unit). Only applicants that live inside the 6 counties within the two Elk Management Units are eligible to be drawn in the late season hunt. In 2015, 5 hunters were drawn for the late season hunt.

Out of Zone Elk Permits

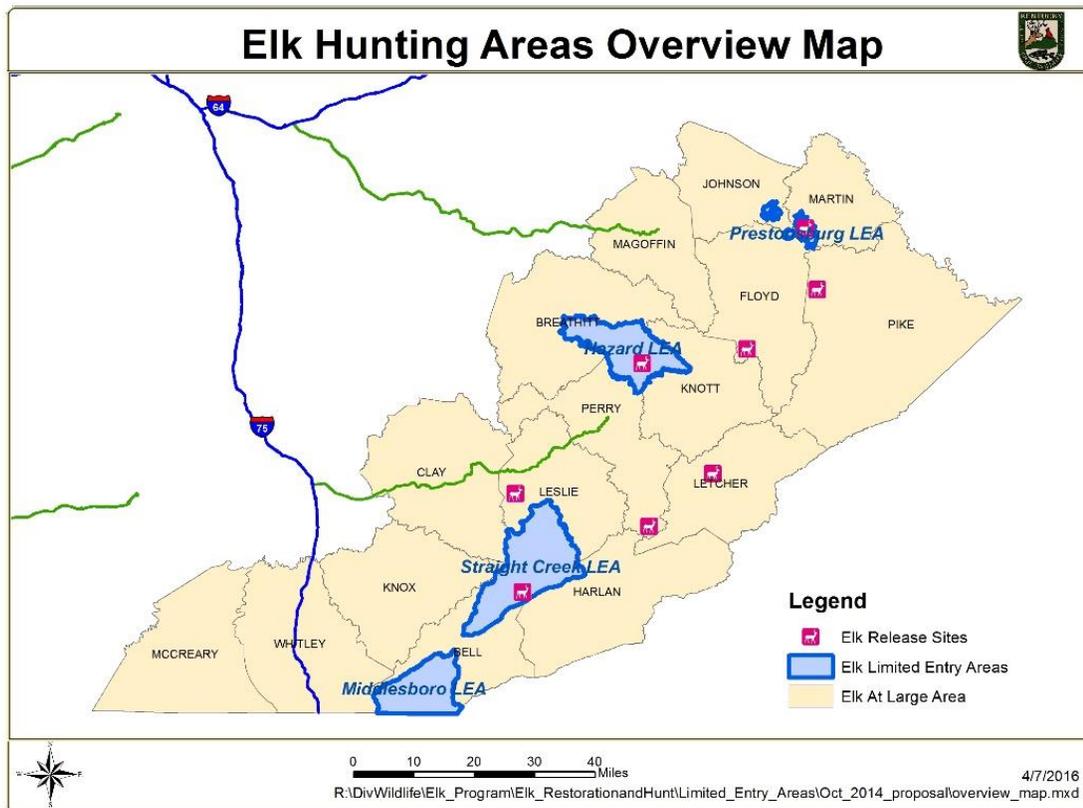
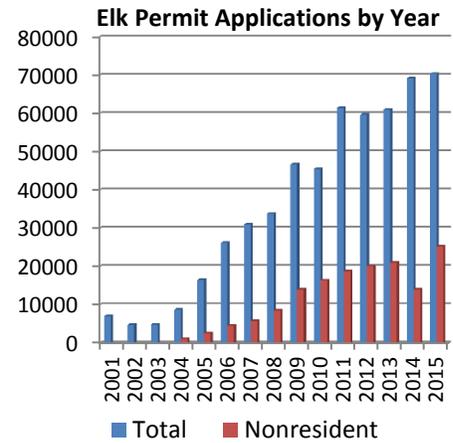
Elk may be taken from any county outside the 16-county Elk Restoration Zone by hunters who possess an annual Kentucky hunting license and an out-of-zone elk permit. These hunters must follow deer season and equipment regulations, but are not required to possess a deer permit.



## Quota Drawing Process and Statistics

### How Permits Are Drawn

Elk applications go on sale January 1 of each year and can only be purchased online at [fw.ky.gov](http://fw.ky.gov). Hunters can apply for four different permit types. The application period ended at midnight on April 30, 2014. After the application period, a computer drawing conducted by the COT randomly selects the hunters from the pool of applicants. All hunters were drawn for the At-Large area. If hunters wanted, they could then apply for one of the Limited Entry Areas (LEA) (Hazard LEA, Middlesboro LEA, Prestonsburg LEA, or Straight Creek LEA). A second computer drawing was then held to fill the LEA openings. If a small group (up to 5) of drawn applicants would like to hunt the same area, they were able to apply as a group.



Odds

The odds of drawing a permit for the 2015-2016 seasons are shown in the table below. These numbers are based on how many applicants were in each permit type and how many permits were issued.

Type	In State Odds	Out of State Odds
Bull Firearm	1/136	1/693
Cow Firearm	1/35	1/126
Bull Archery	1/93	1/668
Cow Archery	1/22	1/110
Either-sex – Youth	1/112	1/338

License and Permit Fees

Residents

Elk Lottery Application: \$10/application  
 Elk Permit: \$100 Bull, \$60 Antlerless  
 General Resident Hunting License: \$20

Non-residents

Elk Lottery Application: \$10/application  
 Elk Permit: \$550 Bull, \$400 Antlerless  
 General Non-resident Hunting License: \$140

**General Information about the 2015-2016 Season**

Season Dates

Archery Season Dates

Bull Only: September 19–October 2, 2015  
 Either-sex archery and crossbow: Oct 17–Dec 11, Dec 19–25.  
 Either-sex archery only: Oct 19–Dec 11, Dec 19–Jan 1, 2016, and Jan 9-18, 2016.

Firearms Bull week 1: October 3–9  
 Firearms Bull week 2: October 10–16

Firearms Cow week 1: December 12–18  
 Firearms Cow week 2: January 2–8, 2016

Bag Limits

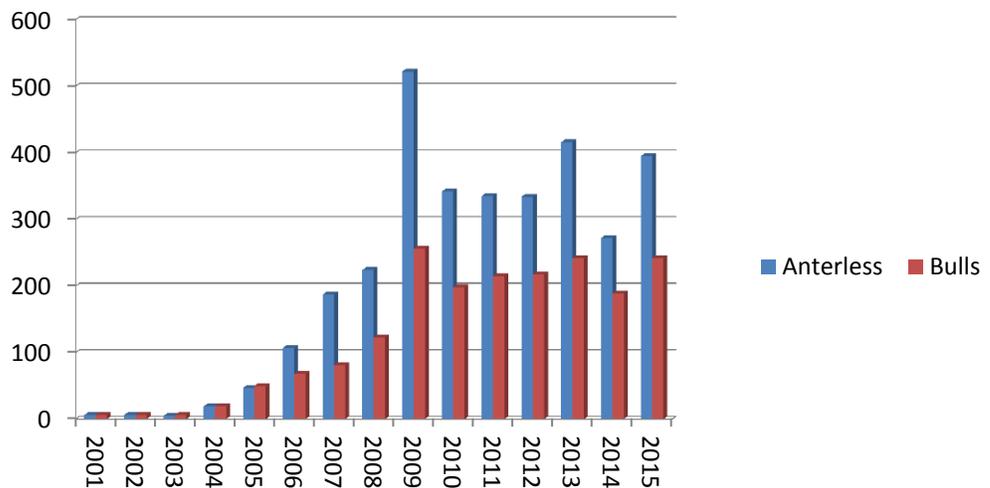
Elk hunters may only take one elk per year.

Area Permit Allotment

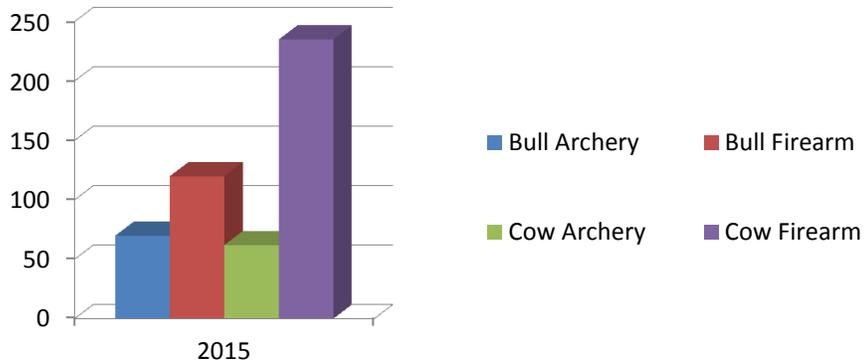
	Hazard LEA	Straight Creek LEA	At Large	Prestonsburg LEA	Middlesboro LEA	Total
Bull Archery	15	11	72	1	1	100
Cow Archery	45	22	186	1	5	259
Bull Firearm Week 1	8	4	61	2	1	76
Bull Firearm Week 2	7	9	57	1	1	75
Cow Firearm Week 1	30	23	136	4	2	195
Cow Firearm Week 2	15	14	160	4	2	195
Total	120	83	672	13	12	900

2015-2016 Harvest Results

Total Harvest by Year



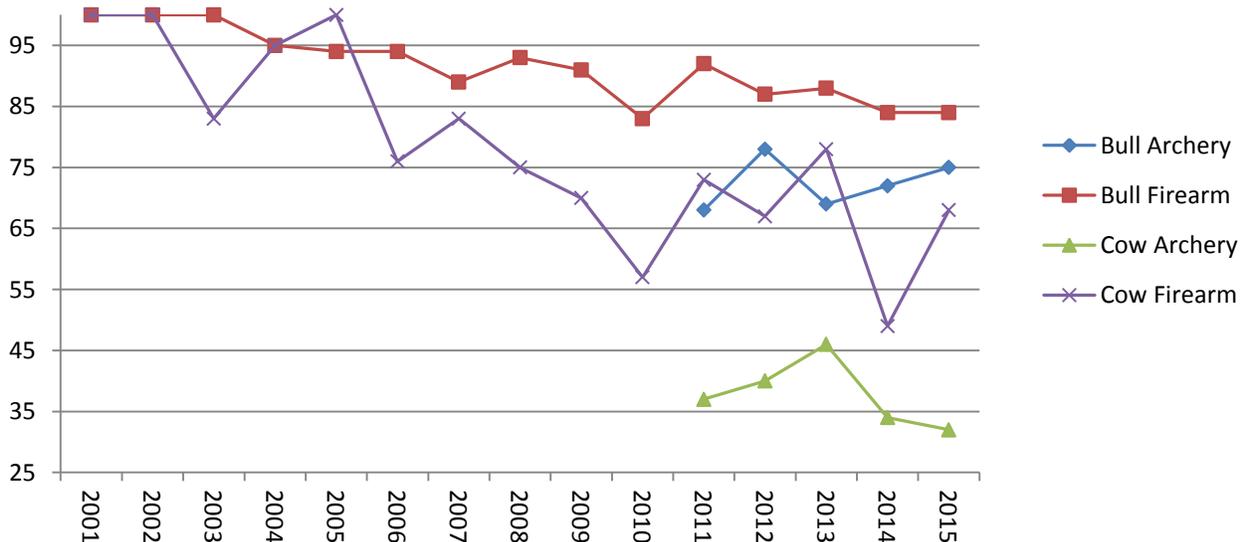
## Weapon Type Harvest Summary



## Success Rates by Area

	Hazard LEA	Middlesboro LEA	Prestonsburg LEA	Straight Creek LEA	At Large
<b>Bull Archery</b>	73%	100%	100%	73%	68%
<b>Bull Week 1</b>	88%	100%	100%	25%	80%
<b>Bull Week 2</b>	100%	100%	100%	67%	81%
<b>Cow Archery</b>	22%	40%	100%	18%	24%
<b>Cow Week 1</b>	73%	100%	100%	52%	56%
<b>Cow Week 2</b>	80%	100%	100%	57%	58%
<b>Youth</b>	100%	n/a	n/a	100%	100%

## Overall Success Rates by Weapon Type



## Kentucky Top 10 Trophy Bulls

SCORE	Hunter	County	Method	Year
*377 5/8	David Giles	Knott	Modern Gun	2015
*373 4/8	Anthony Brown	Letcher	Archery	2015
*372 6/8	Terrell Royalty	Knott	Modern Gun	2009
371 0/8	Greg Neff	Bell	Modern Gun	2007
*368 4/8	Bill Krider	Knott	Modern Gun	2015
*367 7/8	Kelvin Jackson	Harlan	Modern Gun	2008
367 0/8	Bill Auxier	Knott	Modern Gun	2007
*365 5/8	Brent Jones	Knott	Modern Gun	2013
*361 5/8	Ryan Wilson	Martin	Archery	2014
361 4/8	Franklin Scott	Knott	Modern Gun	2006

\* Indicates Non-typical

This list includes the 10 largest bull elk scored and reported to Kentucky Fish and Wildlife. The department is compiling a list of the top 100 elk taken in Kentucky. Please send copies of official (signed) score sheets to: Kentucky Trophy Elk List, KDFWR, 1 Sportsman's Lane, Frankfort, KY 40601. Emailed submissions to [info.center@ky.gov](mailto:info.center@ky.gov) also will be accepted.

## Changes to the 2016-2017 Elk Season

The number of tags available remained the same at 910.

Two new Limited Entry Areas were created for the 2015-2016 hunting season: Levisa Fork LEA and Tug Fork LEA. The Levisa Fork LEA surrounds Fishtrap WMA and is closed to all elk hunting because elk are still being restored to this area.

A new online Elk Hunter University training/education program was made available to all hunters on KDFWR's website. (<http://app.fw.ky.gov/elk101/default.aspx>)

## Disease Surveillance

Brainworm (*Parelaphostrongylus tenuis*)

Brainworm, or meningeal worm, is the common name for a parasite that affects elk and other deer species. White-tailed deer are carriers of the parasite, but have evolved

resistance to the disease. The parasites are limited only to deer species; therefore there is no disease risk to most livestock. Brainworms are small parasitic worms that travel through the body and end up in the spinal cord or brain, where they cause damage to nervous tissue. Elk infected with the parasite may become emaciated, disoriented, and show abnormal behavior such as a loss of fear for humans. Most affected individuals ultimately die from complications caused by the disease. Approximately 4-6% of elk in Kentucky contract the parasite. Brainworm symptoms are similar to those caused by Chronic Wasting Disease (CWD), but the two are in no way related. KDFWR biologists actively seek out animals showing brainworm symptoms and collect biological samples for testing. If you see an elk that fits the description, please contact your local biologist.

#### Chronic Wasting Disease

Chronic Wasting Disease (CWD) is a disease of high concern to deer and elk across North America. It is caused by a certain type of protein (prion) and causes damage to brain tissue. KDFWR has tested thousands of deer and elk statewide and have not detected the disease.

## Current Research

### Cause-Specific Mortality, Behavior, and Group Dynamics of Cow Elk in Kentucky

*Brittany L. Slabach, John T. Hast, P.H. Crowley, John J. Cox. University of Kentucky Depts. of Forestry and Biology; R. Daniel Crank, Will Bowling, and Gabriel Jenkins, Kentucky Dept. of Fish and Wildlife Resources; Dr. Tina Johannsen, Georgia Dept. of Natural Resources*

Group dynamics - associations and relationships between individuals – are a key, yet often uninvestigated, parameter important to understanding population structure and persistence. Factors, such as selective take, have been shown to have differential effects on recruitment and fecundity, as well as connectedness and membership of groups. Yet short and long-term effects of these factors on group dynamics are not understood. Using standard very high frequency (VHF) mortality collars and behavioral observations we have been exploring group dynamics and the effects of human disturbance in cow elk.

A total of 94 cow elk have been outfitted with VHF collars and ear tags for individual identification (2013, N = 40; 2014, N = 54) since 2013. No additional animals were captured during the 2016 field season. Physiological parameters such as age, body condition, and morphological measurements were taken upon capture. Mortality is monitored weekly and behavioral observations occur during three biological time periods (winter herd, nursery herds, and rut harems).

Associations for 69 marked individuals have been quantified since 2013, including individuals marked in 2013 that survived the 2013-2014 hunting season (N = 6), and individuals captured in 2014 that survived the 2014-2015 hunting season (N = 27). Resident herds remained cohesive across the study area for both 2013 (E-I = -0.76,  $p < 0.05$ ) and 2014 (E-I = -0.71,  $p < 0.05$ ). A few individuals moved between resident herds after calving each year. A total of 26 overlapping subgroups (e.g., groups that compose the resident herd) were identified by hierarchical cluster analysis based on herd co-membership, where resident herds differed in the number of overlapping subgroups that occurred (level  $> 6.0$ ; Site 1, N = 8; Site 2, N = 17). Subgroups were more significantly spatially cohesive across years (avg. = 3.14, med = 1, N = 253) compared to overall group spatial proximity (avg. = 7.80, med = 8.5, N = 390,  $p < 0.005$ ); suggesting that socially mediated subgroups are the first social-tier in this population.

Genetic relatedness, using 16 microsatellite loci, is currently being analyzed to test the hypothesis that family groups compose the subgroups of the resident herds (e.g., individuals within subgroups are more related to each other than the rest of the herd).

A total of 46 marked individuals were on the landscape at the start of the 2015 hunting season. A mortality rate of 28% was observed (N= 13; 2 archery; 10 modern gun; 1 wounding loss); which is comparable to the 2013 and 2014 hunting season. An analysis of probability of mortality and herd membership is currently being conducted. Preliminary data suggests that age effects position in the dominance hierarchy and dominance status effects probability of mortality due to human harvest. The effect of selective take of key individuals (e.g., dominants) on herd association patterns and persistence over time is currently being analyzed. Continued investigation into how these populations are structured and influenced by human factors will help aid management of this state resource.

Funding Sources: Rocky Mountain Elk Foundation KDFWR Strategic Plan  
KDFWR Strategic Plan Goal

**Contacts**

If you have questions about the elk herd or elk hunting opportunities, please visit the elk webpage at [fw.ky.gov/Hunt/Pages/Elk-Hunting.aspx](http://fw.ky.gov/Hunt/Pages/Elk-Hunting.aspx) or call the KDFWR Info Center at 1-800-858-1549.

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. To contact your local wildlife biologist for assistance with wildlife management on your property see the map.

