

2018-2019 Rabbit Report

Kentucky Department of Fish and Wildlife Resources



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Introduction

The Small Game 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 receives no money from the state’s General Fund. Funding is provided by the sale of hunting and fishing licenses, boating registration fees and federal funds, including grants based on the number of hunting and fishing licenses sold in the state.

The Small Game Program is tasked with managing squirrels (fox and gray), rabbits (swamp, eastern cottontail, and Appalachian cottontail), and northern bobwhite in the state to provide ample hunting opportunity while balancing the needs of consumptive and non-consumptive user groups. The Small Game

Program is led by John J. Morgan, Program Coordinator and supported by Cody M. Rhoden, Small Game Program Biologist. Program staff are based out of the KDFWR Headquarters in Frankfort.

Population Status

The rabbit population in Kentucky is indexed in two ways: rabbits seen per 100 miles and rabbits jumped per hour afield hunting. These two indices are based on the Rural Mail Carrier Survey and Hunter Cooperator Logs, respectively.

Rural Mail Carrier Survey

The Rural Mail Carrier Survey represents the first survey used to monitor rabbit populations across the state. Mail carriers recorded rabbit and quail observations as they traveled their rural delivery routes during the last full week of July (6 delivery days). Survey cards provided space for observations of rabbits for each of the survey days. Observers also recorded the number of days surveyed, the length of the route, and the total miles driven. The mail carrier data are used to forecast the upcoming hunting season, monitor the population, and estimate rabbit productivity.

The Mail Carrier Survey provides a glimpse of what we can expect for the upcoming hunting season. The survey is the oldest in the program being completed for 58 years. Although no population estimates can be derived from these data, it does provide valuable trend information showing whether the population is up, down, or stable (Table 1).

2019 Survey Statistics

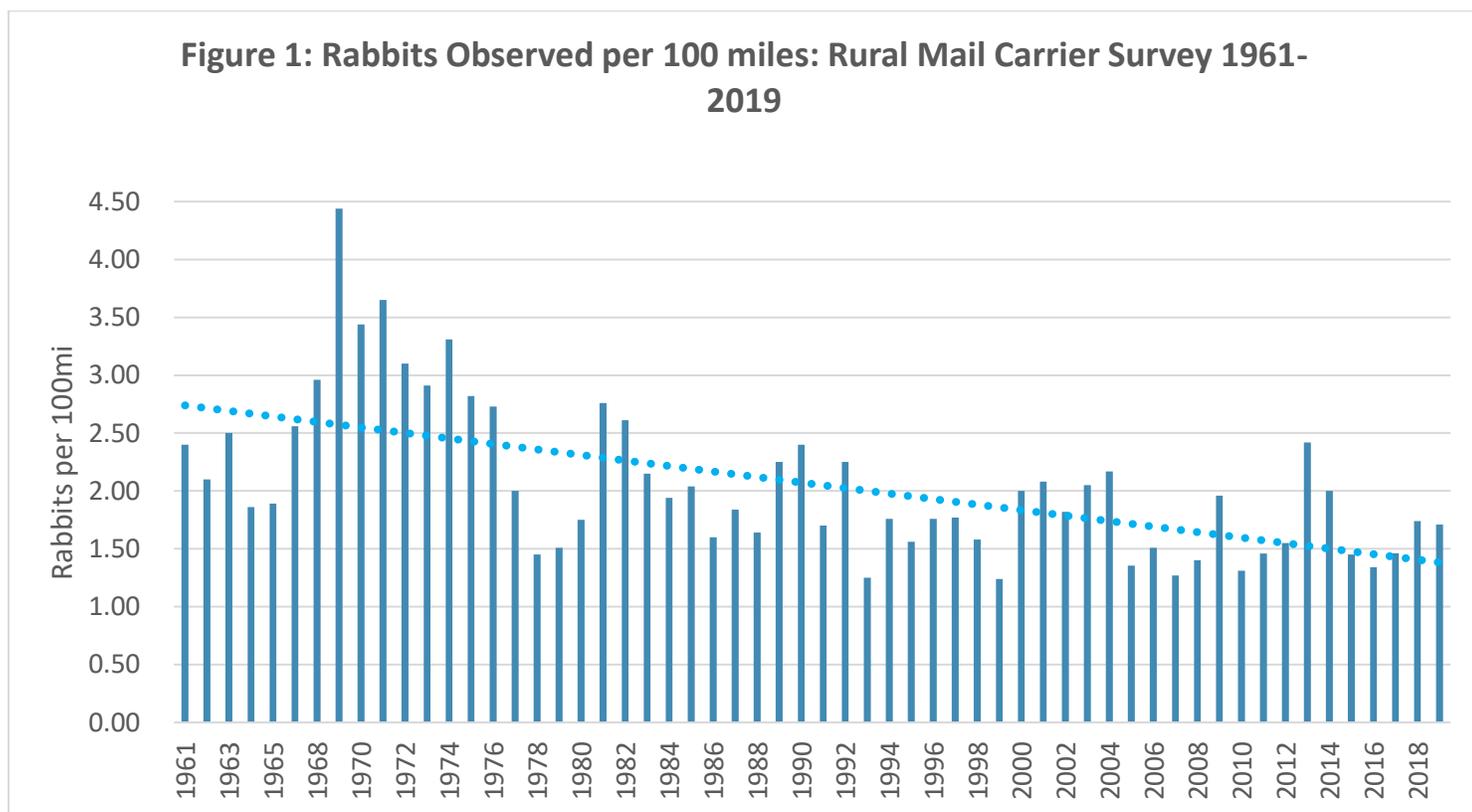
- ❖ Mail Carriers returned **601** survey cards
- ❖ Total miles driven = **208,246**
- ❖ Total rabbits seen = **3,556**
- ❖ Statewide observation rate = **1.71 rabbits/100 miles traveled**

Table 1. Mail Carrier indices and rates of change in Kentucky, 1961-2019.

| REGION ¹ | TOTAL RABBITS/100 MILES | | | PERCENT CHANGE | |
|---------------------|-------------------------|-------------|-------------|----------------|--------------|
| | MEAN (average) | | | MEAN (average) | |
| | 1961-2019* | 2018 | 2019 | 1961-2019 | 2018 to 2019 |
| West | - | 0.74 | 0.98 | - | 24% |
| Central | - | 1.70 | 1.64 | - | -4% |
| Bluegrass | - | 1.77 | 1.56 | - | -13% |
| East | - | 2.90 | 2.93 | - | 1% |
| Statewide | 2.06 | 1.74 | 1.71 | -20% | -2% |

(-) = data was not analyzed by west, central, bluegrass, east until 2011
¹See Appendix 1 on page 11 for Region breakdown

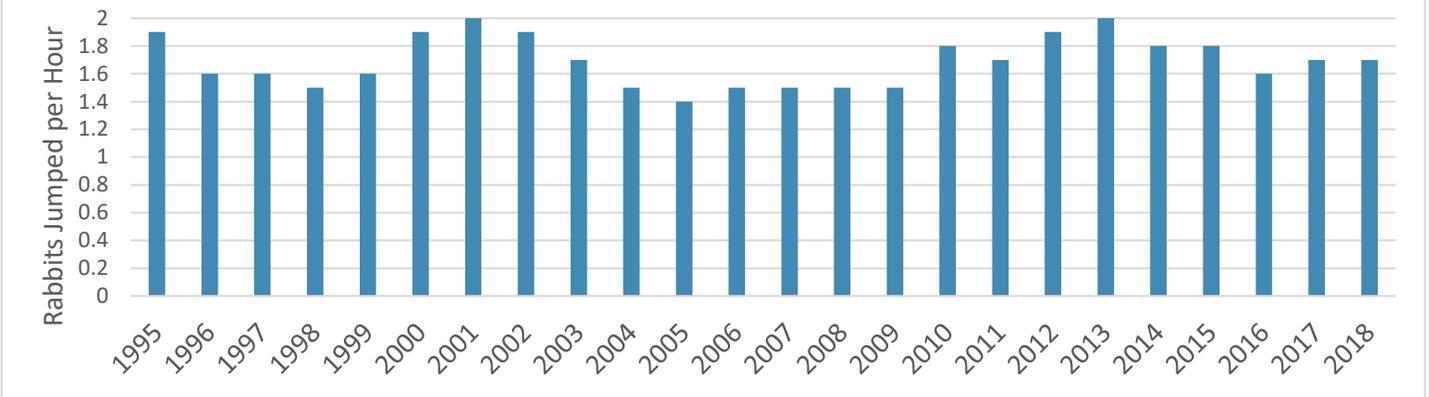
Over the last 58 years of this survey, the decline in the rabbit population is evident (Figure 1). The severe drop in population levels following the winters of 1977 and 1978 was dramatic and populations have been slow to recover. The overall drop in rabbit numbers since the late 1960’s can be generally attributed to habitat loss because of land use changes and cleaner agricultural practices. However, recent years have seen a nice increase in the number of rabbits observed. This year (2019) we observe a very slight decrease from 2018 (Table 1). The increase observed in the West weather region is a welcome sight at 24%. The winter was mild which potentially favored high overwinter survivorship and excellent breeding condition for does. This coupled with the fact that we are in an upswing of the roughly 7-year cycle (Figure 1) resulted in essentially the same number rabbits observed per 100 miles this year compared to last.



Hunter Log Survey

The rabbit population in Kentucky appears to ebb and flow in roughly 7-year cycles. Last hunting season (2017) was cycling up from the bottom in this cycle (2016), with this most recent hunting season (2018) on par with this trend (Figure 2).

Figure 2: Rabbits Jumped per Hour; Hunting Season 1995-2018



2018-2019 Rabbit Hunter Cooperator Survey

The rabbit survey was developed in 1995 as a voluntary initiative. Hunters are asked to record data including date of hunt, county hunted, hours hunted, number of hunters, number of dogs, and number of eastern cottontail, swamp, and Appalachian cottontail (seen, killed, and wounded), on a diary-type hunting log. Logs are available on the internet: <http://fw.ky.gov/Hunt/Pages/Game-Species.aspx> or by calling 1-800-858-1549. Hunters simply keep the log up-to-date as the hunting season progresses, and mail it to the KDFWR Headquarters when they are finished hunting for the season. Data collected from the survey give the KDFWR information that can be used to monitor rabbit population trends in Kentucky and better serve the hunters of the state. Each year participating hunter cooperators are mailed a new hunting log, the results of the survey, and a small gift. Hunters who wish to receive a copy of their log from the previous year may call 502-892-4521 or e-mail cody.rhoden@ky.gov.

Past Rabbit Hunter Cooperator Surveys

Participation has been decreasing over the last several years, with another decline in the 2018 hunting season (Table 2). Please take a look at the below map (Figure 3), if you hunt in any of the red counties please consider filling out a hunting log this year (even if you do not harvest any game). Once again, do not forget to mail in your log and encourage other rabbit hunters to do the same. Why not take someone new hunting this year? The future of hunting depends on it!

Figure 3: Hunter cooperator logs reporting hunts from each county in Kentucky in the 2018 season. Warmer colors equal less hunts and cooler colors equal more hunts per county.

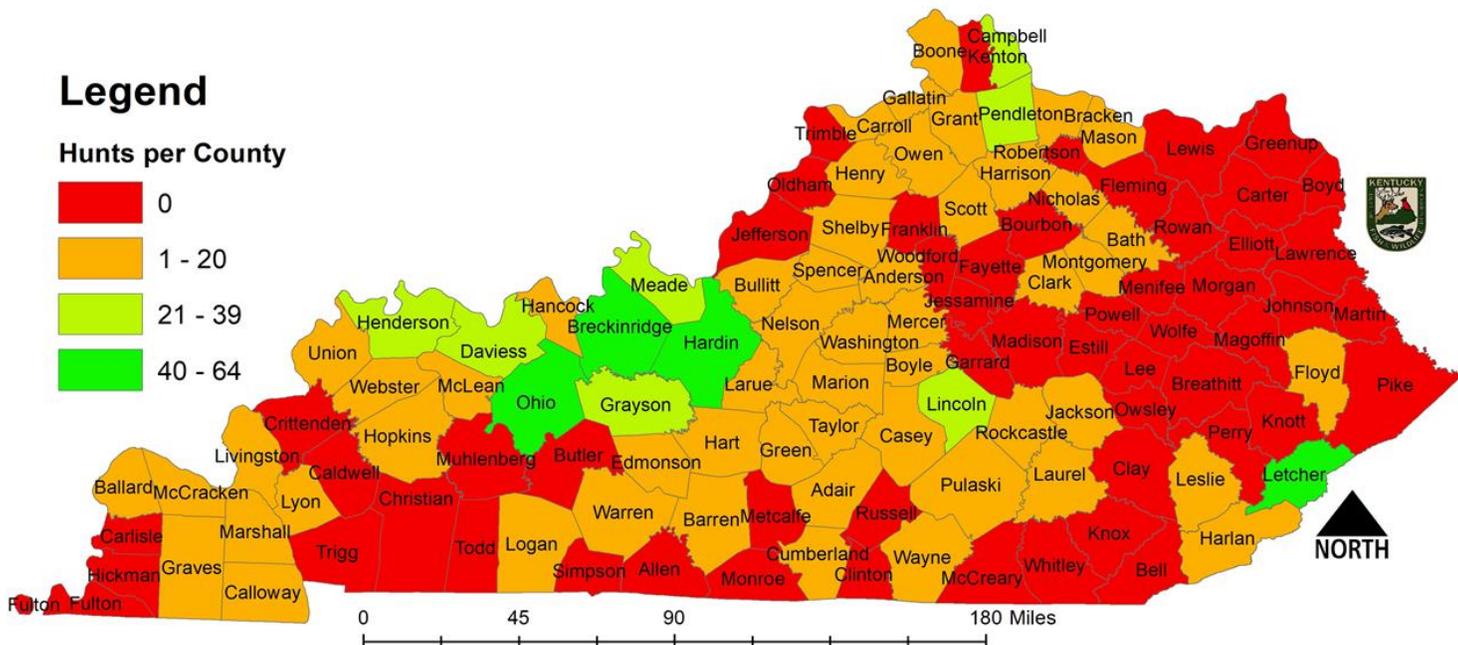


Table 2: Hunting statistics from past hunter cooperator surveys in Kentucky from the 2014 hunting season to present.

| Statistics | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|-------------------------|----------------|----------------|----------------|----------------|----------------|
| Cooperators | 98 | 87 | 72 | 56 | 50 |
| Hunts | 1,413 | 1,198 | 1,100 | 861 | 790 |
| Counties | 93 | 89 | 74 | 65 | 65 |
| Hunts/Hunter | 14 | 14 | 15 | 15 | 12 |
| Hours Hunted | 4,983 | 4,309 | 3,687 | 2,869 | 2,653 |
| Dogs Used | 5,518 | 4,899 | 4,144 | 3,579 | 3,305 |
| Total Rabbits Jumped | 9,173 | 7,579 | 5,851 | 4,878 | 4,397 |
| Total Rabbits Harvested | 3,797 | 3,193 | 2,317 | 1,902 | 1,911 |
| Total Rabbits Wounded | 297 | 236 | 91 | 74 | 74 |
| Hunting Mortality (%) | 45 | 45 | 42 | 41 | 45 |

Table 2.1. Breakdown of species harvested in recent hunting seasons. *Note: Three killed Appalachian and one reported jumped in 2014-2015. One Appalachian reported jumped in 2017-18 with one killed. Three Appalachian reported killed in 2018-19

| <i>Statistics</i> | E. Cottontail | | | Swamp | | |
|-------------------|---------------|-------------|-----------|------------|-----------|----------|
| | Jumped | Killed | Wounded | Jumped | Killed | Wounded |
| 2014-15* | 9012 | 3744 | 295 | 160 | 53 | 2 |
| 2015-16 | 7545 | 3183 | 236 | 34 | 10 | 0 |
| 2016-17 | 5806 | 2299 | 90 | 45 | 18 | 1 |
| 2017-18* | 4765 | 1870 | 71 | 112 | 31 | 3 |
| 2018-19* | 4201 | 1754 | 74 | 196 | 83 | 0 |

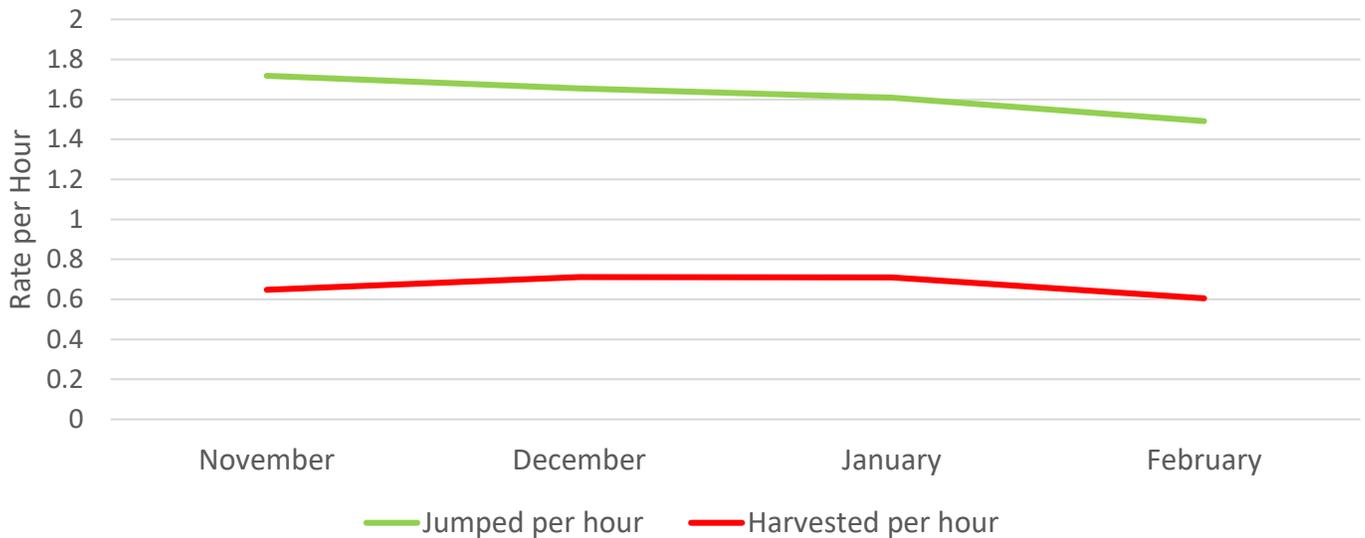
2018-19 Hunter Cooperator Results

Logs were received from 50 rabbit hunters this last hunting season (a 12% decrease from last year). Hunters averaged 12 hunting trips throughout the season. Ninety-eight percent of rabbit hunters used dogs in their pursuit. Data were provided from 790 hunts, from 65 counties, with good distribution across the Commonwealth (Figure 1). Hunters jumped an average of 6 rabbits per **hunt** and an average of 2 rabbits per **hour**.

Harvest Statistics 2018-19

Hunters jumped an average of 5.57 rabbits per **hunt** and harvested 2.33 rabbits per **hunt**. Hunters jumped an average of 1.66 rabbits per **hour** hunted and harvested 0.69 rabbits per **hour** hunted. The number of rabbits **jumped** per hour stayed consistent all season with a slight downward trend as the season progressed (Figure 3). The number of rabbits **harvested** per hour was also consistent throughout the hunting season (Figure 3). Hunters harvested 43% of rabbits jumped and wounded 2% (Table 2). Assuming wounded rabbits did not survive, the hunting mortality rate was 45% of rabbits jumped in 2018-19.

Figure 3: Rabbits Jumped & Harvested per Hour by Month; 2018 Hunting Season

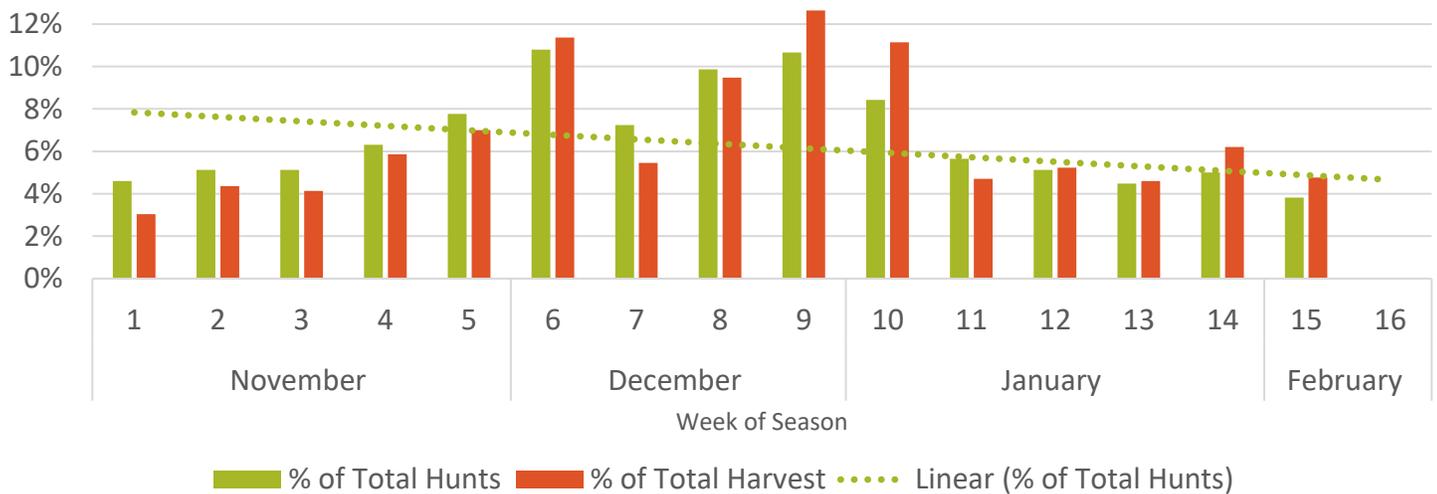


Hunter Effort

Hunting effort peaked in late December/early January (Figure 4). The majority (42%) of all hunts took place in the month of December. February

The hunter effort index reveals two peaks, one in early December and one in late December/early January. The hunting effort (green trend line; Figure 4) decreases as the season progresses. This is interesting, as in past hunting season the effort and harvest shows an increasing trend as the season progresses.

Figure 4: Percentage of Hunts & Harvest by Week of Season: Fall 2018-19



Disease Surveillance

The KDFWR handles disease outbreaks for wildlife across the Commonwealth. There are currently no widespread disease issues for rabbits in the state. Disease is a natural component of all healthy ecosystems. Generally speaking, disease is not considered an important driver of rabbit population fluctuations. One disease rabbits in Kentucky occasionally contract are cutaneous papillomas.

Cutaneous papillomas are essentially warts that rabbits can contract. The virus is transmitted most often by the rabbit tick (*Haemaphysalis leporispalustris*). Papillomatosis usually runs its course on infected rabbits and, if it does not interfere with normal movement such as eating or grooming, the rabbit will come out of the infection just fine. A study in western Kentucky in 1983 revealed 4% of rabbits tested harbored cutaneous papillomas. Rabbit papillomatosis is not transmissible to humans and is removed when the animal is skinned.

Richard Shope discovered a form of papillomas named Shope's papillomavirus in 1933 from harvested cottontail rabbits in Kansas and Iowa. Shope's papillomavirus produces warts and sometimes horn-like protrusions on the head or neck of infected rabbits. Sound vaguely familiar? It is thought this virus is the possible source of the mythical "jackalope"!

The Kentucky Department of Fish and Wildlife Resources encourages hunters who encounter wildlife acting strangely or that look sick to contact Cody M. Rhoden, cody.rhoden@ky.gov; 502-892-4521.



Plate XLVII of *Animalia Quadrupedia et Reptilia (Terra)* by Joris Hoefnagel, circa 1575, showing a "horned hare"

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 |
| Annual Trapping License | \$20 | \$130 |
| Annual Youth Trapping | \$5 | N/A |

Season Dates and Bag Limits

| Season | | Statewide Season Dates 2019-2020 | Statewide Bag Limit |
|-----------------|--------------|---|---------------------|
| Fall Season | Eastern Zone | November 1-8 and November 11 – January 31 | 4 |
| | Western Zone | November 11 – February 10 | |
| Trapping Season | Eastern Zone | November 11 – January 31 | 4 |
| | Western Zone | November 11 – February 10 | |

Continuing this year: Three WMAs will require rabbit hunters to check in/out using a Kiosk and vehicle HangTag system. Please see below or check the Hunting Guide for more information.

| WMA | Tract | Season Dates | Required Check In/Out |
|------------------|------------|--|-----------------------|
| Peabody | Sinclair | November 11 – February 10 | Yes |
| | Ken | November 11 – February 10 | |
| Clay | All Tracts | November 1 – December 31 (Closed Nov. 3-4 & Dec. 6-9) | Yes |
| Rockcastle River | All Tracts | November 1 – December 31 | Yes |

Outlook for the 2019-2020 Rabbit Season

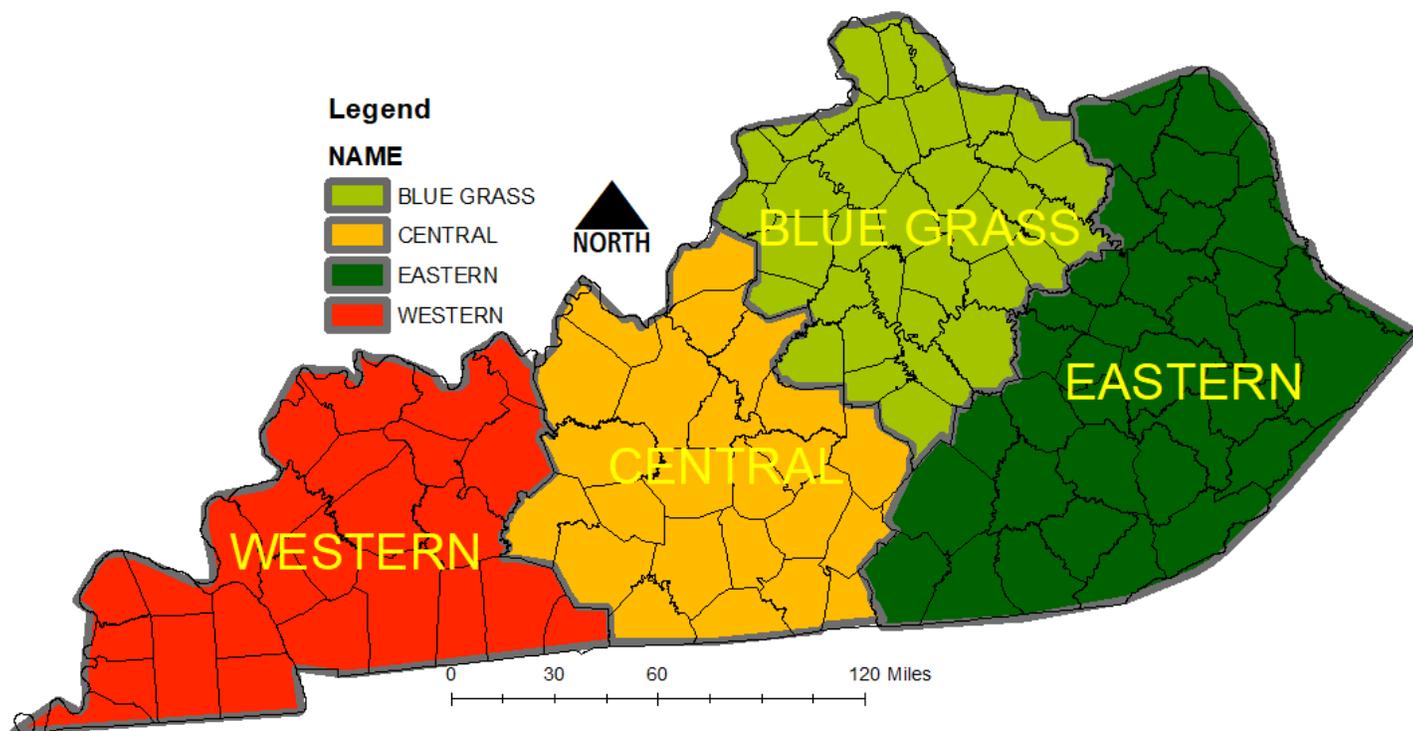
The Mail Carrier Survey and the Rabbit Hunter Log Survey appear to be tracking each other well. Therefore, we can make predictions based on the Mail Carrier Survey results. This year, the East Region of the state once again led all regions in the number of rabbits observed, followed by the Central Region.

Overall, the 2018-19 rabbit season was good. Over the last 20 years, the population has remained fairly stable with bumps up and down. Last year, harvest rates and jump rates are even when compared to the previous season. The Mail Carrier Survey shows a slight decrease in the number of observed rabbits statewide between 2018 and 2019. This result could lead to similar jump and harvest rates for rabbits in Kentucky for the 2019-2020 season. Hunters in the Commonwealth should expect a similar year for rabbit hunting in the upcoming season and potentially the next few seasons as our population cycle begins its uptick.

Don't forget to turn in your Hunter Cooperator log at the completion of this year's hunt. Logs should be returned no later than March 31, 2020. In return, we will send you a report and a small gift as a token of our appreciation.

Encourage all of your friends to log their hunts as well. Have a safe and enjoyable rabbit season and thanks again for your support! And don't forget to take someone new to hunting out with you this year.

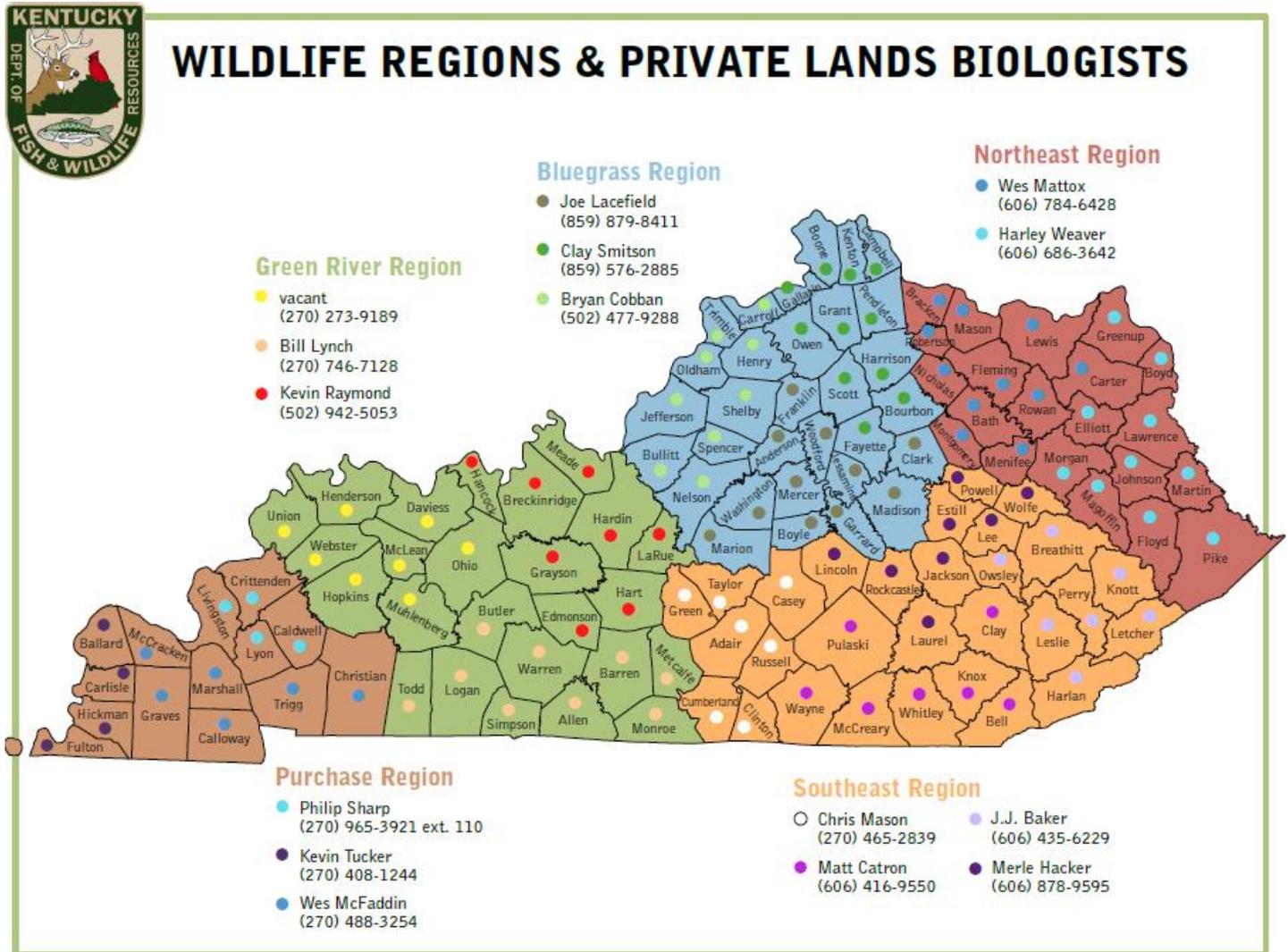
Appendix 1 Region Breakdown



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.



The Department of Fish and Wildlife Resources is funded through the sale of hunting and fishing licenses. It receives no general fund tax dollars.