

# 2020-2021 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 400 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 Cody M. Rhoden, Program Coordinator and supported by Evan Moser, Small Game Program Technician. 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 61 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).

### 2021 Survey Statistics

- ❖ Mail Carriers returned **466** survey cards
- ❖ Total miles driven = **161,697**
- ❖ Total rabbits seen = **3,328**
- ❖ Statewide observation rate = **2.06 rabbits/100 miles traveled**

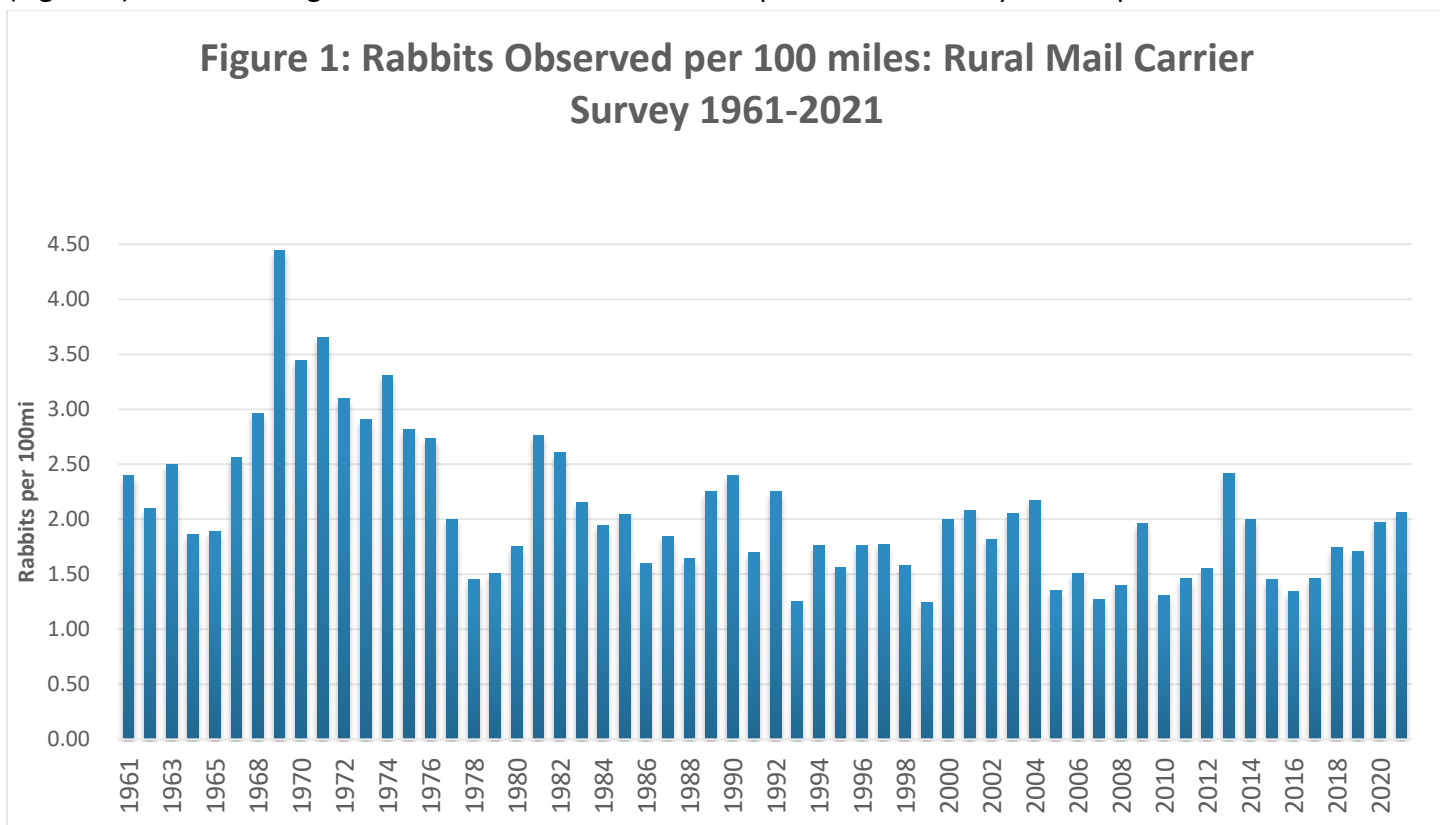
**Table 1. Mail Carrier indices and rates of change in Kentucky, 1961-2021.**

| REGION <sup>1</sup> | TOTAL RABBITS/100 MILES |             |             | PERCENT CHANGE |              |
|---------------------|-------------------------|-------------|-------------|----------------|--------------|
|                     | MEAN (average)          |             |             | MEAN (average) |              |
|                     | 1961-2021*              | 2020        | 2021        | 1961-2021      | 2020 to 2021 |
| West                | -                       | 1.37        | 0.87        | -              | <b>-36%</b>  |
| Central             | -                       | 1.64        | 1.97        | -              | <b>30%</b>   |
| Bluegrass           | -                       | 1.92        | 2.56        | -              | <b>33%</b>   |
| East                | -                       | 3.18        | 2.84        | -              | <b>-12%</b>  |
| <b>Statewide</b>    |                         | <b>1.97</b> | <b>2.06</b> |                | <b>5%</b>    |

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

Over the last 61 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 (2021) we observe an increase from 2020 (Table 1). The increases observed in the Central and Bluegrass weather regions is a welcome sight at 30% and 33% respectively. 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 a great number of rabbits observed per 100 miles this year compared to last.

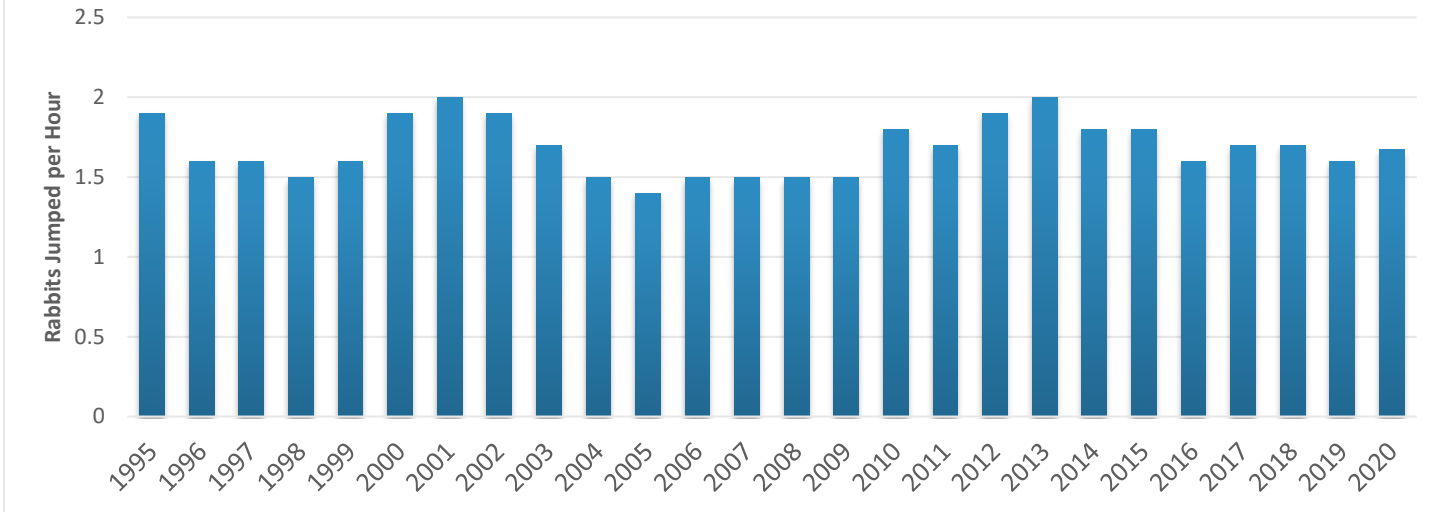
**Figure 1: Rabbits Observed per 100 miles: Rural Mail Carrier Survey 1961-2021**



### Hunter Log Survey

The rabbit population in Kentucky appears to ebb and flow in roughly 7-year cycles. The hunting season of 2019 was still near the bottom of the trend (Figure 2). We would expect the trend to begin increasing over the next few years out of this slump in the cycle.

**Figure 2; Rabbits Jumped per Hour;  
Hunting Season 1995-2020**



## 2020-2021 Rabbit Hunter Cooperator Survey

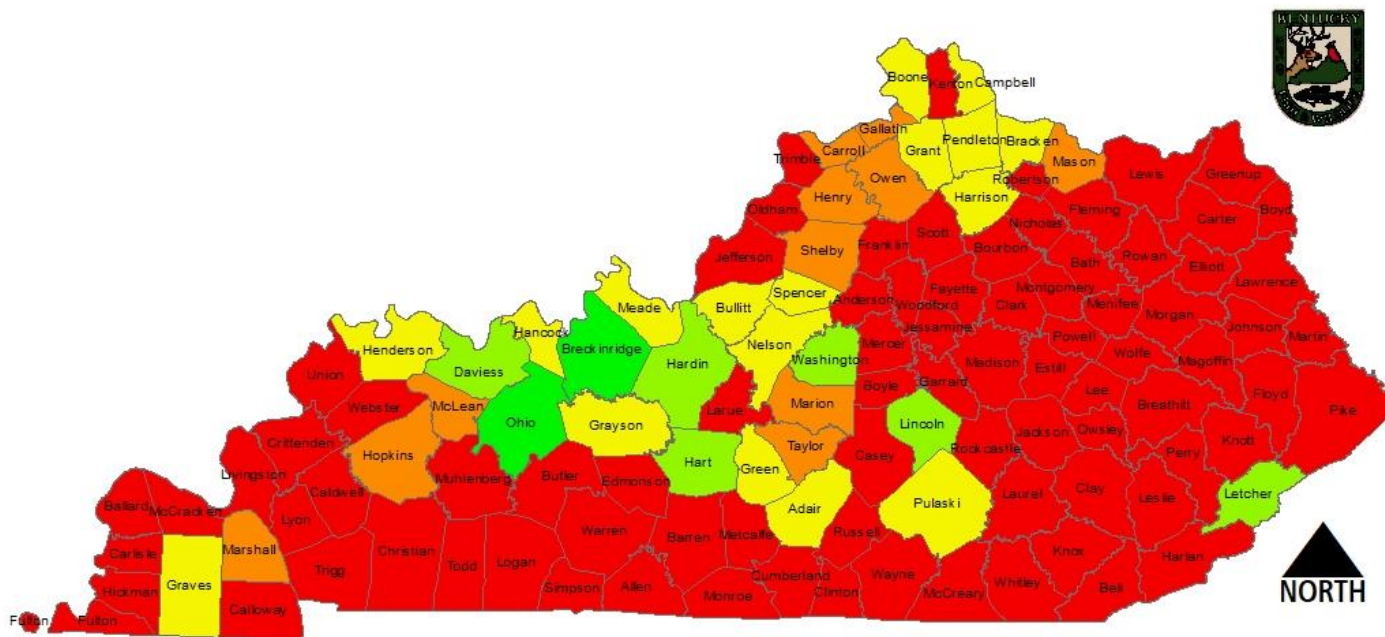
The rabbit survey was developed in 1995 as a voluntary initiative. Hunters are asked to record data including date of hunt, county hunted, hours hunted, number of hunters, number of dogs, and number of eastern cottontail, swamp, and Appalachian cottontail (seen, killed, and wounded), on a diary-type 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](mailto:cody.rhoden@ky.gov).

## Past Rabbit Hunter Cooperator Surveys

Participation has been decreasing over the last several years, with a 19% decrease in the 2020 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 2020 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 2016 hunting season to present.

| <b>Statistics</b>       | <b>2016-17</b> | <b>2017-18</b> | <b>2018-19</b> | <b>2019-20</b> | <b>2020-21</b> |
|-------------------------|----------------|----------------|----------------|----------------|----------------|
| Cooperators             | 72             | 56             | 50             | 54             | 44             |
| Hunts                   | 1,100          | 861            | 790            | 793            | 770            |
| Counties                | 74             | 65             | 65             | 57             | 55             |
| Hunts/Hunter            | 15             | 15             | 12             | 15             | 17.5           |
| Hours Hunted            | 3,687          | 2,869          | 2,653          | 2,753          | 2,758          |
| Dogs Used               | 4,144          | 3,579          | 3,305          | 3,369          | 3,173          |
| Total Rabbits Jumped    | 5,851          | 4,878          | 4,397          | 4,518          | 4,576          |
| Total Rabbits Harvested | 2,317          | 1,902          | 1,911          | 1,868          | 2,006          |
| Total Rabbits Wounded   | 91             | 74             | 74             | 52             | 80             |
| Hunting Mortality (%)   | 42             | 41             | 45             | 43             | 46             |

**Table 2.1. Breakdown of species harvested in recent hunting seasons.** \*Note: One Appalachian reported jumped in 2017-18 with one killed. Three Appalachian reported killed in 2018-19. One Appalachian cottontail jumped and one killed in 2019-20.

| <i>Statistics</i> | E. Cottontail |        |         | Swamp  |        |         |
|-------------------|---------------|--------|---------|--------|--------|---------|
|                   | Jumped        | Killed | Wounded | Jumped | Killed | Wounded |
| <b>2016-17</b>    | 5806          | 2299   | 90      | 45     | 18     | 1       |
| <b>2017-18*</b>   | 4765          | 1870   | 71      | 112    | 31     | 3       |
| <b>2018-19*</b>   | 4201          | 1754   | 74      | 196    | 83     | 0       |
| <b>2019-20*</b>   | 4488          | 1855   | 50      | 29     | 12     | 2       |
| <b>2020-21</b>    | 4532          | 1994   | 79      | 44     | 12     | 1       |

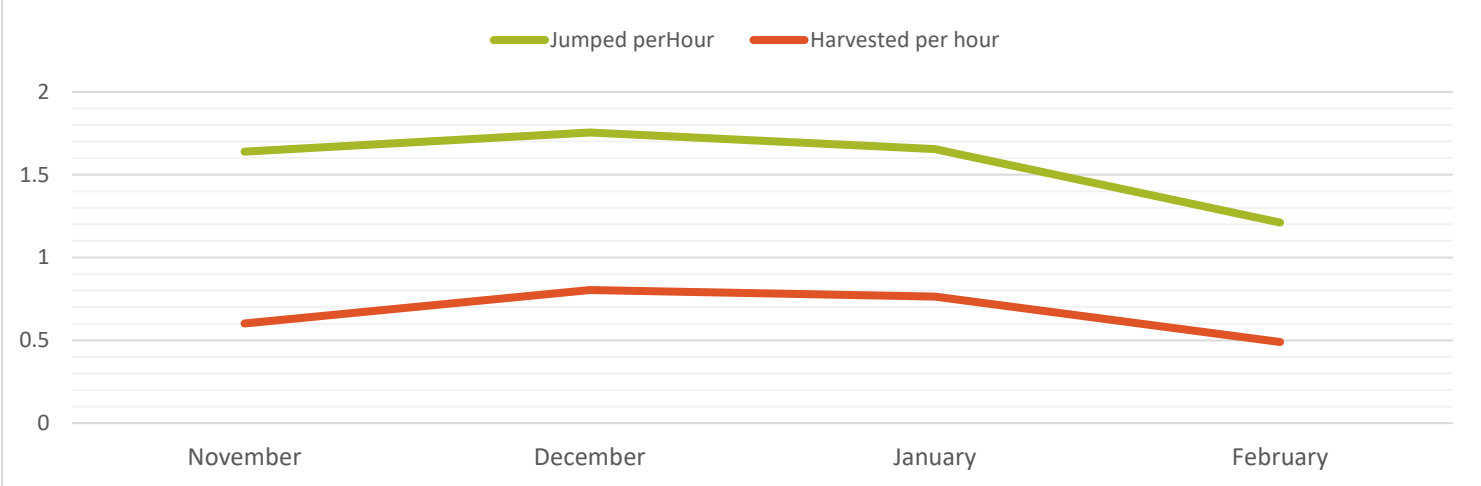
## 2020-21 Hunter Cooperator Results

Logs were received from 44 rabbit hunters this last hunting season (an 19% increase from last year). Hunters averaged 17.5 hunting trips throughout the season. Ninety-nine percent of rabbit hunters used dogs in their pursuit. Data were provided from 770 hunts, from 55 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 2020-21*

Hunters jumped an average of 5.94 rabbits per **hunt** and harvested 2.61 rabbits per **hunt**. Hunters jumped an average of 1.66 rabbits per **hour** hunted and harvested 0.73 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, with a slight upturn later in the season (Figure 3). Hunters harvested 44% of rabbits jumped and wounded 2% (Table 2). Assuming wounded rabbits did not survive, the hunting mortality rate was 46% of rabbits jumped in 2020-21.

Figure 3; Rabbits Jumped & Harvested per Hour by Month:  
2020 Hunting Season



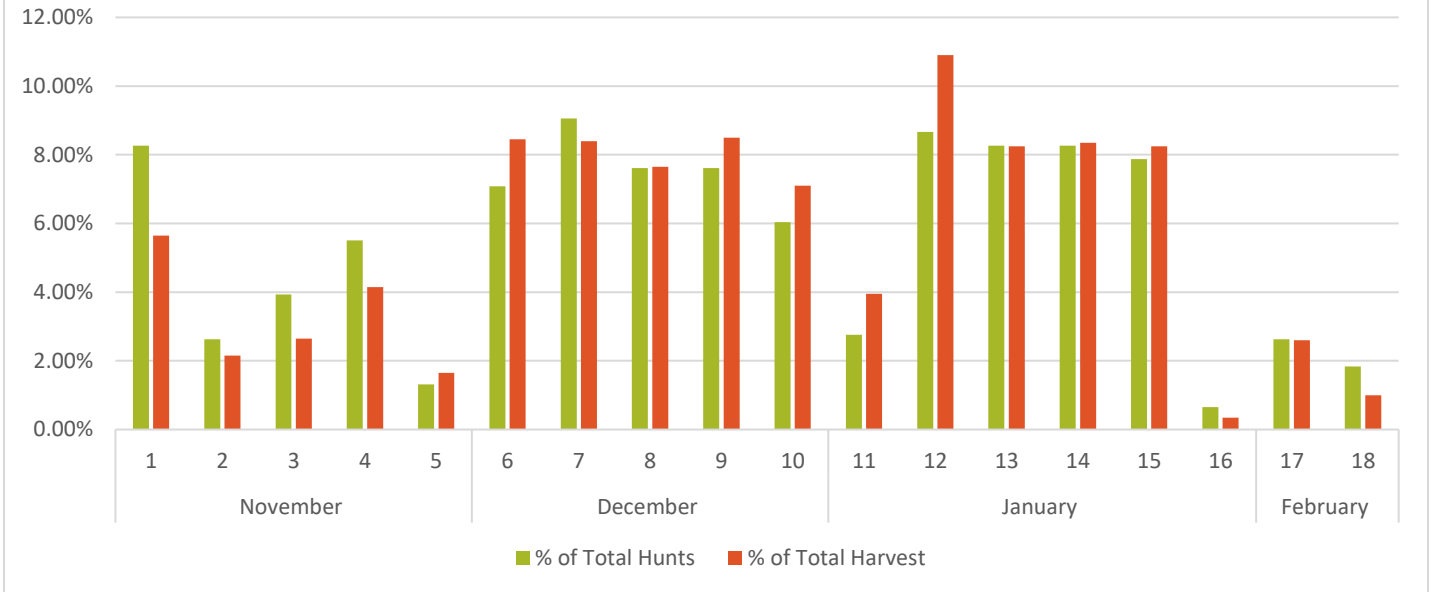
**Hunter Effort**

Hunting effort peaked in late December (Figure 4). The majority (37%) of all hunts took place in the month of January. February saw very few hunts relative to the earlier months of the season.

The hunter effort index reveals two peaks, one in late December and one in late 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 and Harvest by Week of Season:  
Fall 2020-2021**

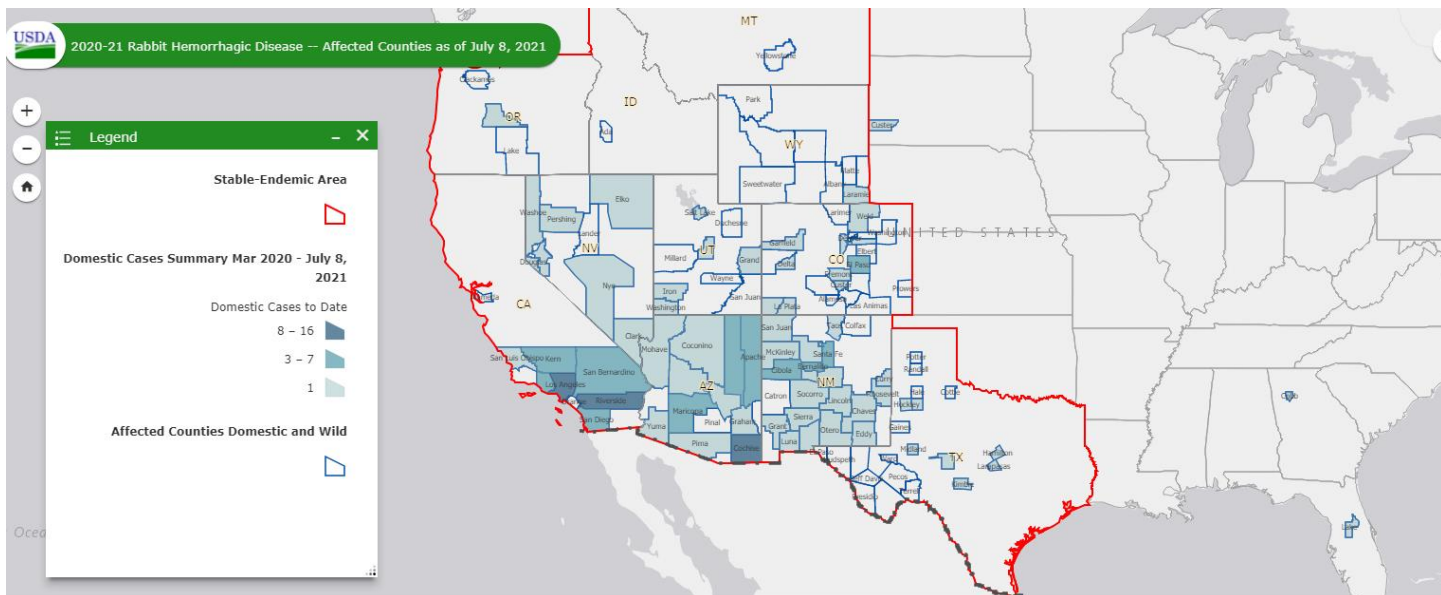


## Disease Surveillance

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. An emerging disease threat that could potentially affect rabbits in Kentucky is the highly contagious and fatal rabbit hemorrhagic disease, known as RHDV2.

RHDV2 is caused by a virus in the same family as Norovirus (which is the causative agent for half of all food poisoning sickness in the United States), however humans **cannot** contract RHDV2 and it is fatal in rabbit populations. RHDV2 likely originated in Europe and has been a known disease agent in domestic rabbits for many years. Until 2020, RHDV2 was not known to infect or cause illness in native rabbits in North America. Since earlier this year however, it has been documented in 2 southeastern states and appears to be moving east (image below). RHDV2 is transmitted by direct contact with infected rabbits, both live and dead animals. RHDV2 is also a swift killer, often times little to no symptoms are observed before sudden death. On some occasions, dead rabbits may have a bloody nose.

KDFWR has responded to this outbreak with the passage of an emergency regulation limiting the movement of rabbits and their parts into the state.



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](mailto:cody.rhoden@ky.gov); 502-892-4521.

## General Information about the 2021-22 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 2021-2022           | Statewide Bag Limit |
|-----------------|--------------|--|---------------------|
| Fall Season     | Eastern Zone | November 1-12 and November 15 – January 31 | 4                   |
|                 | Western Zone | November 15 – February 10                  |                     |
| Trapping Season | Eastern Zone | November 15 – January 31                   | 4                   |
|                 | Western Zone | November 15 – 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.

| <b>WMA</b>              | <b>Tract</b> | <b>Season Dates</b>                          | <b>Required Check In/Out</b> |
|-------------------------|--------------|--|------------------------------|
| <b>Peabody</b>          | Sinclair     | November 15 – February 10                    | Yes                          |
|                         | Ken          | November 15 – February 10                    |                              |
| <b>Clay</b>             | All Tracts   | November 1 – December 31<br>(Closed Nov. 6)  | Yes                          |
| <b>Rockcastle River</b> | All Tracts   | November 1 – December 31<br>(Closed Nov. 13) | Yes                          |

## Outlook for the 2021-2022 Rabbit Season

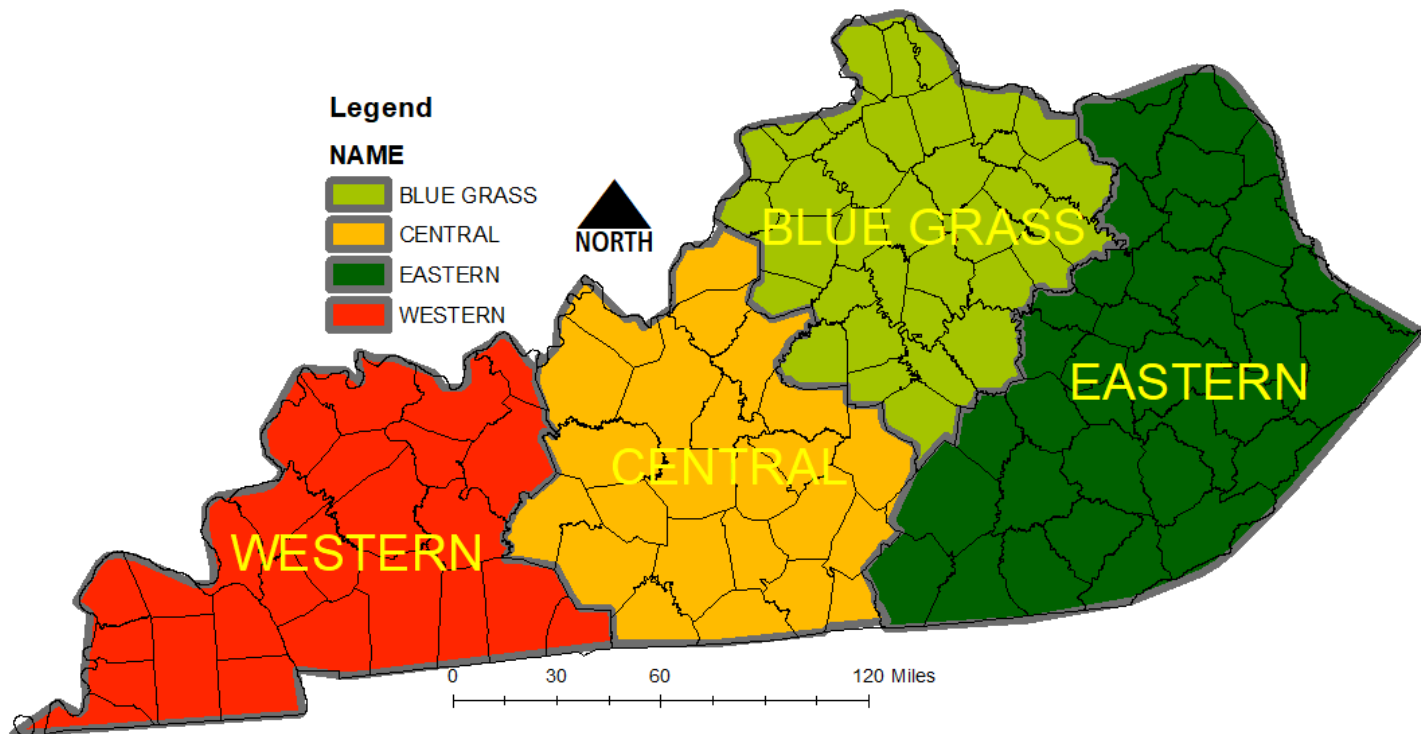
The Mail Carrier Survey and the Rabbit Hunter Log Survey appear to be tracking each other well. Therefore, we can make predictions based on the Mail Carrier Survey results. This year, the East Region of the state once again led all regions in the number of rabbits observed, followed by the Bluegrass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

Overall, the 2020-21 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 slightly up when compared to the previous season. The Mail Carrier Survey shows an uptick in the number of observed rabbits statewide between 2020 and 2021. This result should lead to better jump and harvest rates for rabbits in Kentucky for the 2021-2022 season. Hunters in the Commonwealth should expect a great year for rabbit hunting in the upcoming season and potentially the next few seasons as our population cycle continues 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, 2022. 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.

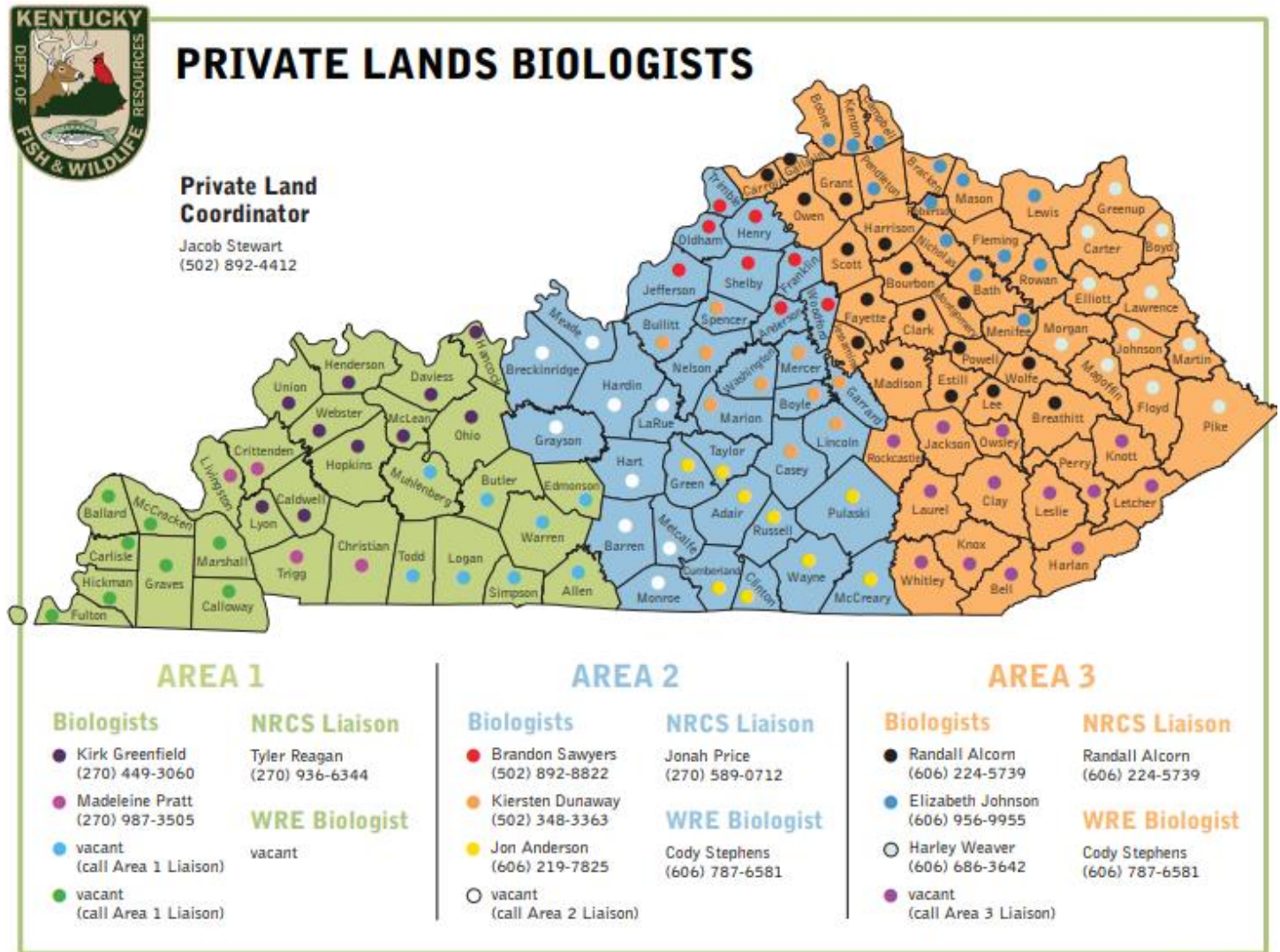
## Appendix 1 Region Breakdown



## 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.