

# 2018-2019 Quail 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 quail population in Kentucky is indexed in two ways: quail seen per 100 miles and coveys flushed 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 quail 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 quail 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 quail 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 59 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

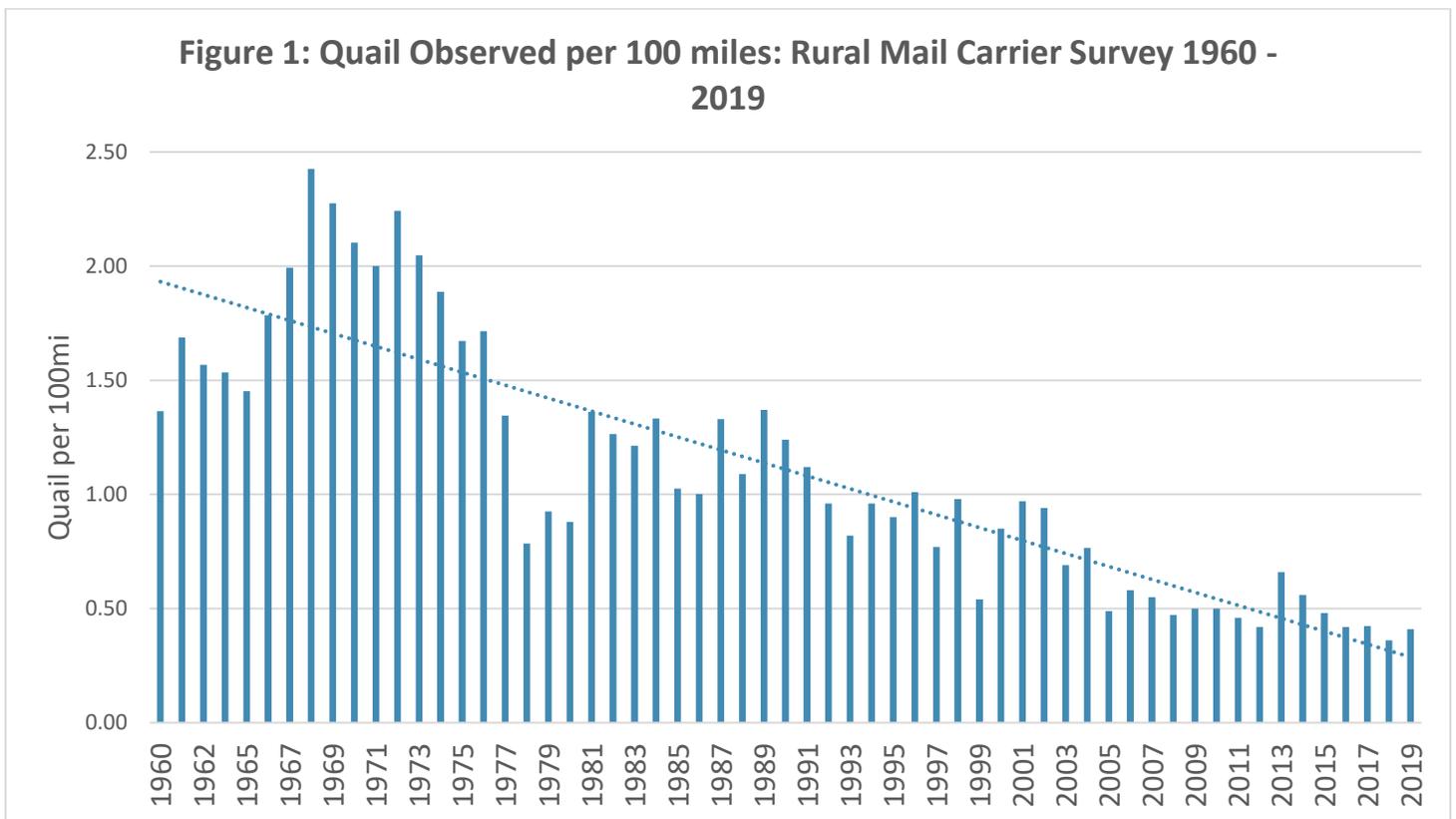
- ❖ Mail Carriers returned **588** survey cards
- ❖ Total miles driven = **202,948**
- ❖ Total quail seen = **896**
- ❖ Statewide observation rate = **0.41 quail/100 miles traveled**

**Table 1. Mail Carrier indices and rates of change in Kentucky, 1960-2019.**

REGION <sup>1</sup>	TOTAL QUAIL/100 MILES			PERCENT CHANGE	
	MEAN (average)			MEAN (average)	
	1960-2019	2018	2019	1960-2019	2017 to 2018
West	1.95	0.35	0.61	-220%	43%
Central	1.13	0.44	0.51	-122%	14%
Bluegrass	0.75	0.40	0.40	-90%	0%
East	0.53	0.23	0.18	-194%	-28%
<b>Statewide</b>	<b>1.11</b>	<b>0.36</b>	<b>0.41</b>	<b>-171%</b>	<b>12%</b>

<sup>1</sup>See Appendix 1 on page 12 for Region breakdown

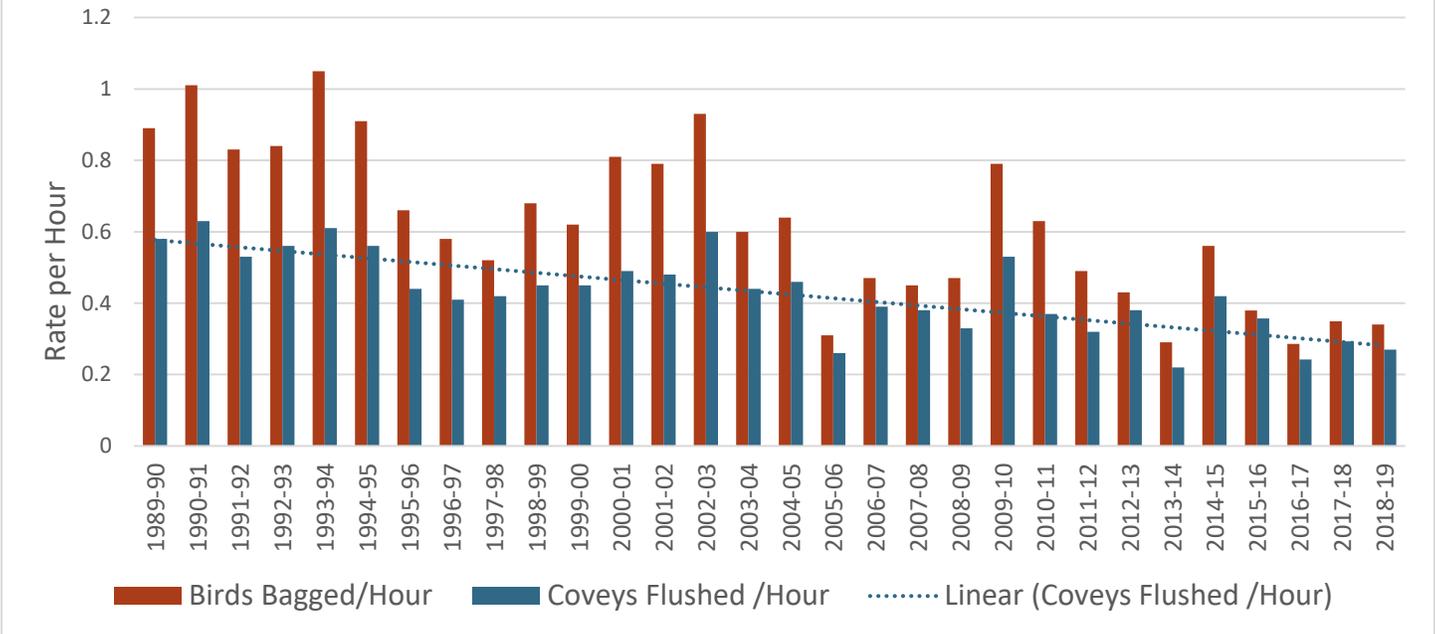
Over the last 59 years of this survey, the decline in the quail population is evident (Figure 1). The severe drop in population levels following the winters of 1977 and 1978 was dramatic and populations have been slow to recover. The overall drop in quail numbers since the late 1960’s can be generally attributed to habitat loss because of land use changes and cleaner agricultural practices. This most recent survey shows an increase from last year’s index value. This is a welcome sight, as our quail observed per 100 miles were reported as the lowest in history during last year’s survey (2018). We look forward to the next few years, as Kentucky’s statewide index rises to its natural peak in its normally 7-year cycle (Figure 1).



**Hunter Log Survey**

The quail population in Kentucky appears to ebb and flow in roughly 7-year cycles. The 2018 hunting season was likely the bottom of that cycle (Figure 2). As the 2018 Rural Mail Carrier predicted in summer of 2018, the number of birds bagged and encountered per hour was similar to the previous year (Figure 2).

**Figure 2: Coveys Flushed and Birds Bagged per Hour; Hunting Season 1989 - 2018**



### Quail Wing Survey

Envelopes were provided to quail hunters prior to the 2018-19 hunting season. Successful quail hunters mailed in one wing from each harvested bird.

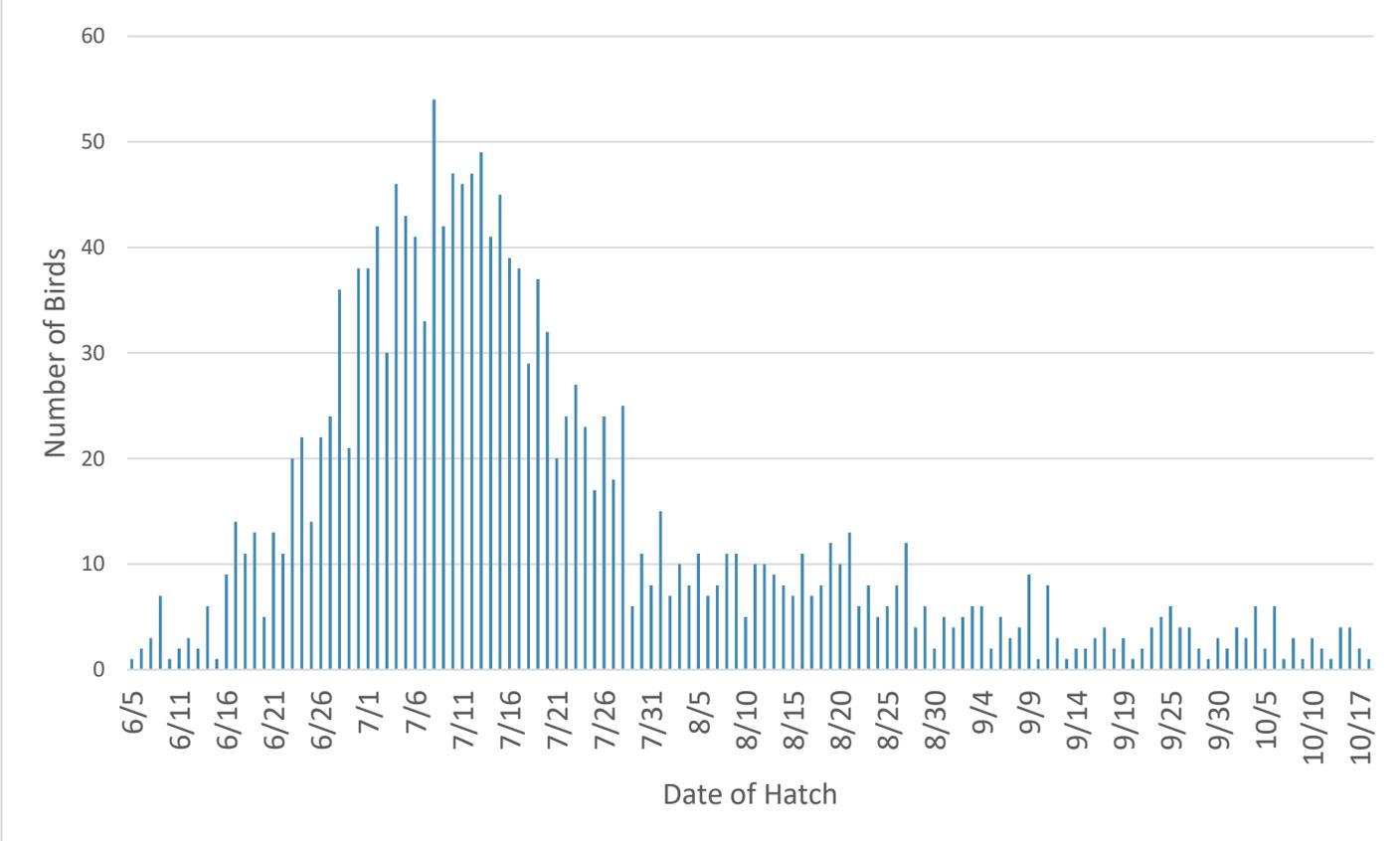
Age of the harvested birds was determined by measuring the length of certain primary feathers (Petrides 1942, Petrides and Nestler 1943, Rosene 1969). Juveniles were backdated from date of harvest to determine the primary hatching dates for the nesting season. Hunters in the field, utilizing instructions on the wing collection envelopes, determined the sex of collected individuals.

#### 2018-19 Wing Data

- ❖ 13 Hunters mailed in 70 wings
- ❖ Juvenile: 79% | Adult: 21%
- ❖ Male: 39% | Female: 61%

By compiling the wing data from the past 18 hunting seasons, we can get a good picture of the peak hatch in Kentucky (Figure 3). The peak hatch appears to occur in late June into early/mid July. Quail incubate their eggs for roughly 25 days before chicks begin to hatch. Taking this into account, most birds in Kentucky are nesting in May and early June. Keep this in mind when manipulating grassland habitat on your property next year around this time to limit disturbance when quail are incubating eggs.

**Figure 3: Hatch Dates Quail Harvested in November; Hunting Seasons 2000 - 2018**

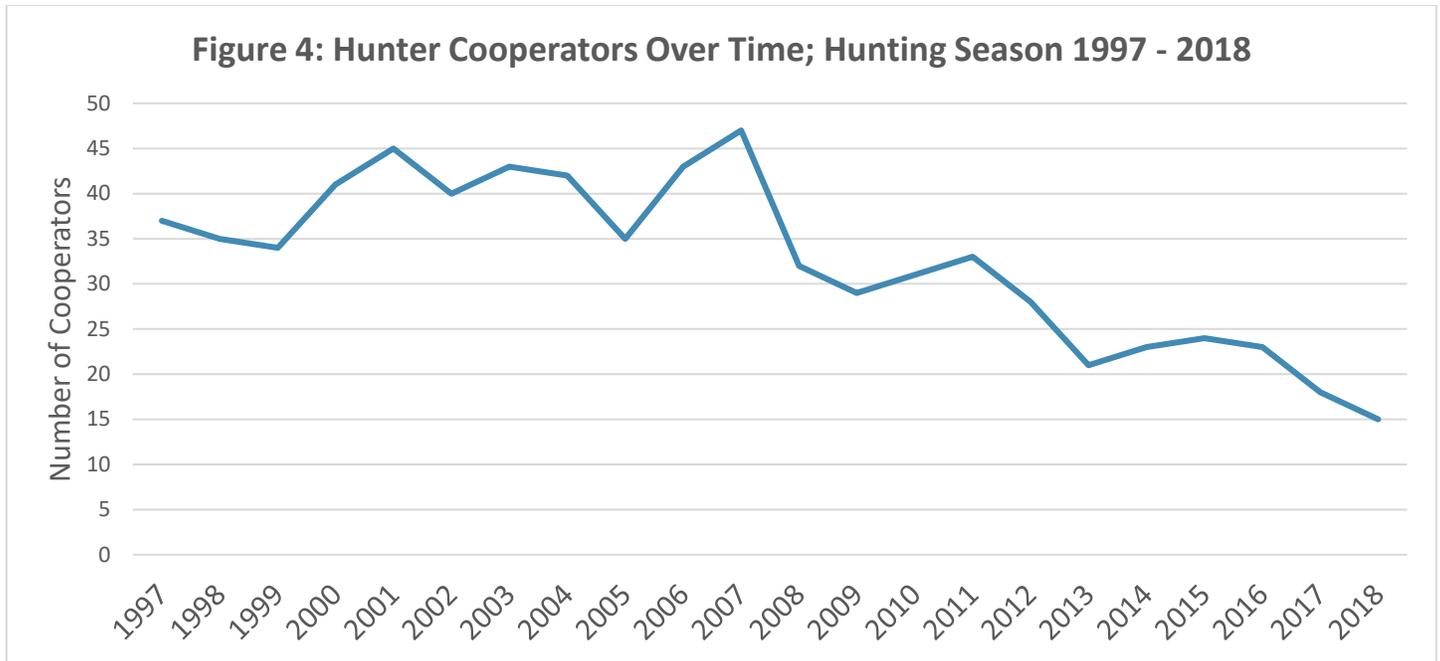


### 2018-2019 Quail Hunter Cooperator Survey

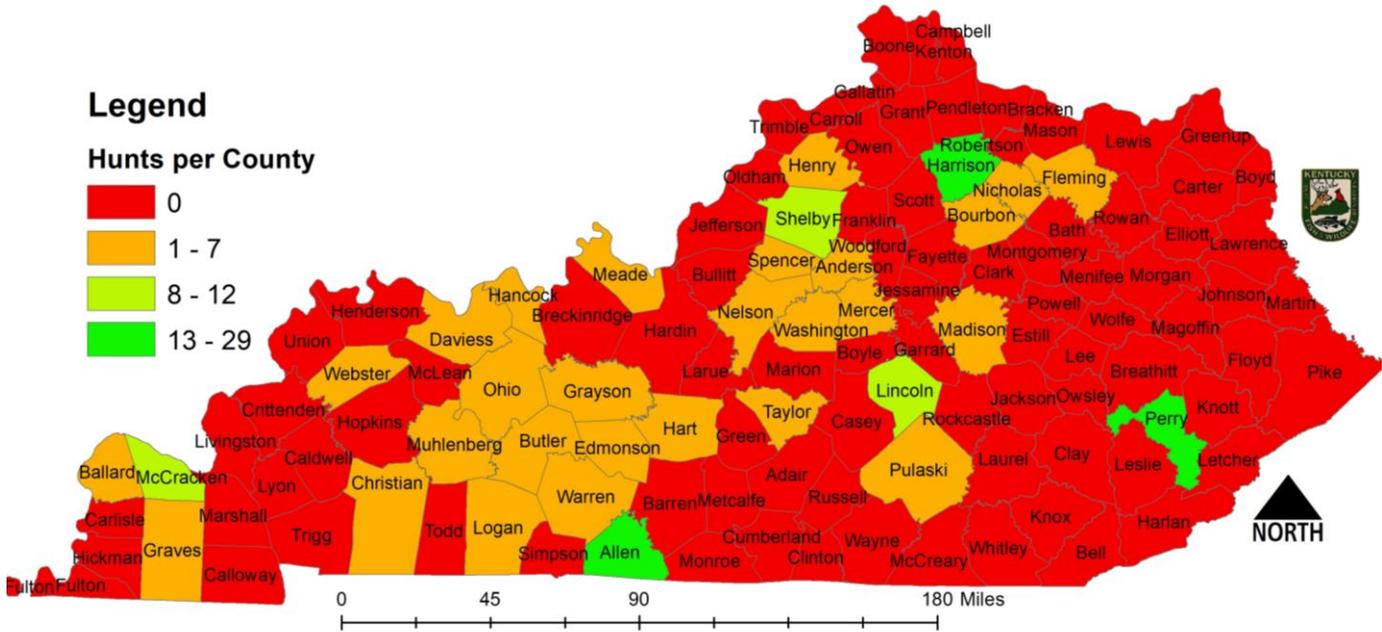
The quail survey was developed in 1989 as a voluntary initiative. Hunters are asked to record data including date of hunt, county hunted, hours hunted, number of hunters, number of dogs, number of coveys flushed, number of birds harvested, among others on a diary-type hunting log. Logs are available 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 gives the KDFWR information that can be used to monitor quail 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 Quail Hunter Cooperator Surveys**

Participation has been decreasing over the last several years, with another decline in the 2018 hunting season (Figure 4). Please take a look at the below map (Figure 5), 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 quail hunters to do the same. Why not take someone new hunting this year? The future of hunting depends on it!



**Figure 5:** 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.



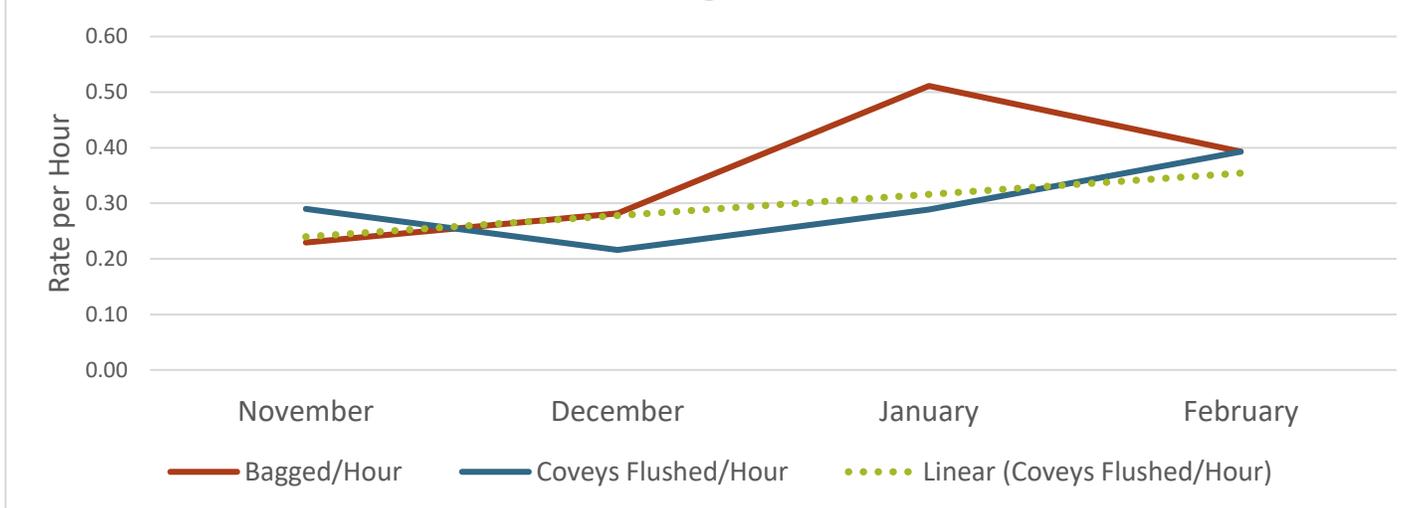
## 2018-19 Hunter Cooperator Results

Logs were received from 15 quail hunters this last hunting season (a 20% decrease from last year; Figure 4). Hunters averaged 12 hunting trips throughout the season and spent an average of 3 hours afield each hunt. Data were provided from 181 hunts, from 33 counties, with good distribution across the Commonwealth (Figure 5). Hunters flushed an average of 0.85 coveys per **hunt** and an average of 0.27 coveys per **hour**.

### *Harvest Statistics 2018-19*

Hunters flushed an average of 0.85 coveys per **hunt** and harvested 1.09 quail per **hunt**. Hunters flushed an average of 0.27 coveys per **hour** hunted and harvested 0.34 quail per **hour** hunted. The number of coveys **flushed** per hour peaked in February (Figure 6). The number of quail **harvested** per hour peaked in January (Figure 6).

**Figure 6: Coveys Flushed & Birds Harvested per Hour by Month; 2018 Hunting Season**

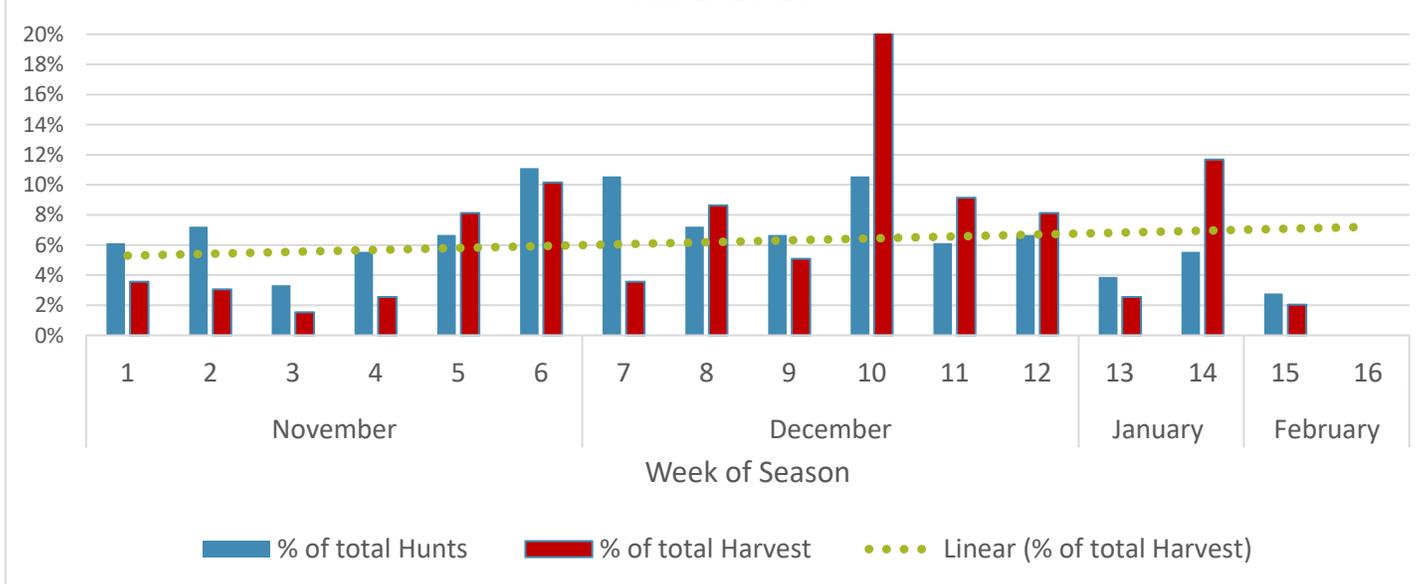


**Hunter Effort**

Hunting effort peaked in December (Figure 7). The majority (48%) of all hunts took place in the month of December.

The hunter effort index shows one clear peak in December, however hunting success showed a slight upward trend as the season progressed (trend line; Figure 7). This may be because cover is continually decreasing as the season progresses, resulting in more successful hunting into the winter.

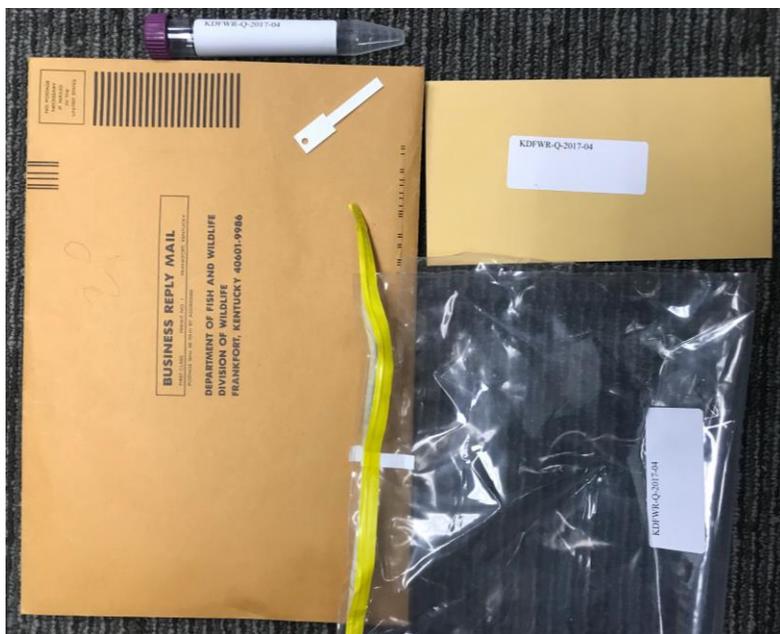
**Figure 7: Percentage of Hunts & Harvest by Week of Season: Fall 2017-18**



## Disease Surveillance

The KDFWR handles disease outbreaks for wildlife across the Commonwealth. There are currently no widespread disease issues for quail in the state. Disease is a natural component of all healthy ecosystems.

The Small Game Program, in cooperation with Lincoln Memorial University (Dr. Whitney Kistler), recently completed a quail health study on 51 hunter-harvested bobwhite from the western and northeastern portions of the state. The results were largely positive. The main finding was an intestinal nematode in 89% of the samples submitted for testing. This is not surprising, as many bird species living and eating off the ground come into contact with the infective stage of nematodes and other parasites. No eyeworms were present in any of the quail tested. The quail eyeworm has been blamed for quail population declines in Texas, however those studies have not shown conclusive evidence of eyeworms as the primary cause of decline. To date, no wild quail in Kentucky have contracted the eyeworms found elsewhere in their range.



Sampling Kit used for health testing for quail in Kentucky

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

## 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

***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	8
	Western Zone	November 11 – February 10	

***Continuing this year:*** Three WMAs will be open for quail hunting with a restricted season and/or bag. Please see below or check the Hunting Guide for more information.

WMA	Tract	Season Dates	Required Check In/Out	Bag Limit
Peabody	Sinclair	Thursday & Sunday November 11 – February 10	Yes	4
	Ken	Wednesday & Saturday November 11 – February 10		
Clay	All Tracts	Tuesday & Saturday November 1 – December 31 (Closed Nov. 3 & Dec. 7)	Yes	4
Rockcastle River	All Tracts	Tuesday & Saturday November 1 – December 31 (Closed Nov. 9)	Yes	4

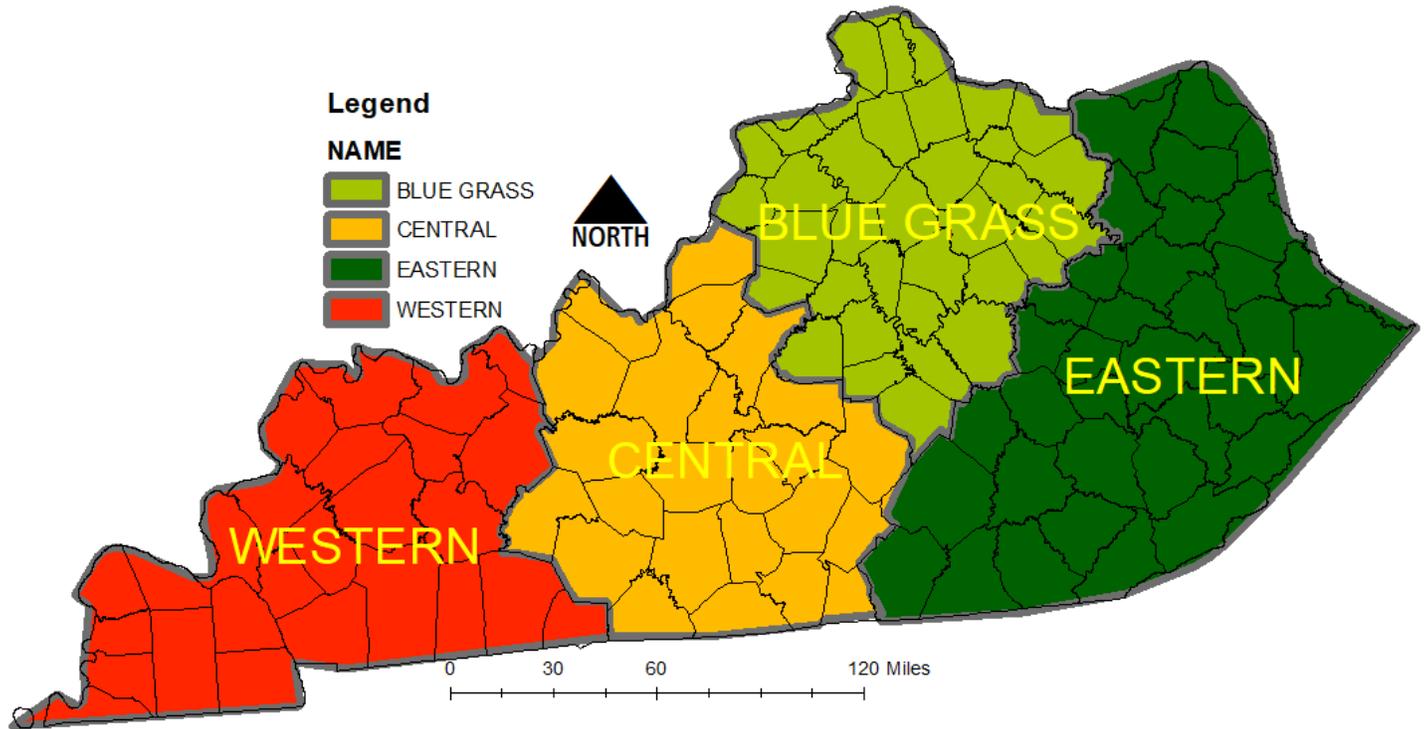
**Outlook for the 2019-2020 Quail Season**

The outlook for the 2019 quail hunting season is looking good! Kentucky missed much of the bad weather this winter and spring that plagued the states all around in the Midwest and south. With a relatively mild winter, enough dry days during peak hatch (late June to late July), and a 12% increase in the quail observer per 100 miles in the annual Rural Mail Carrier Survey, this upcoming season should be a good one! We should expect the flushes per hour and birds bagged per hour to increase relative to the 2018 season.

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 quail season and thanks again for your support! And don't forget to take someone new to hunting out with you this year.

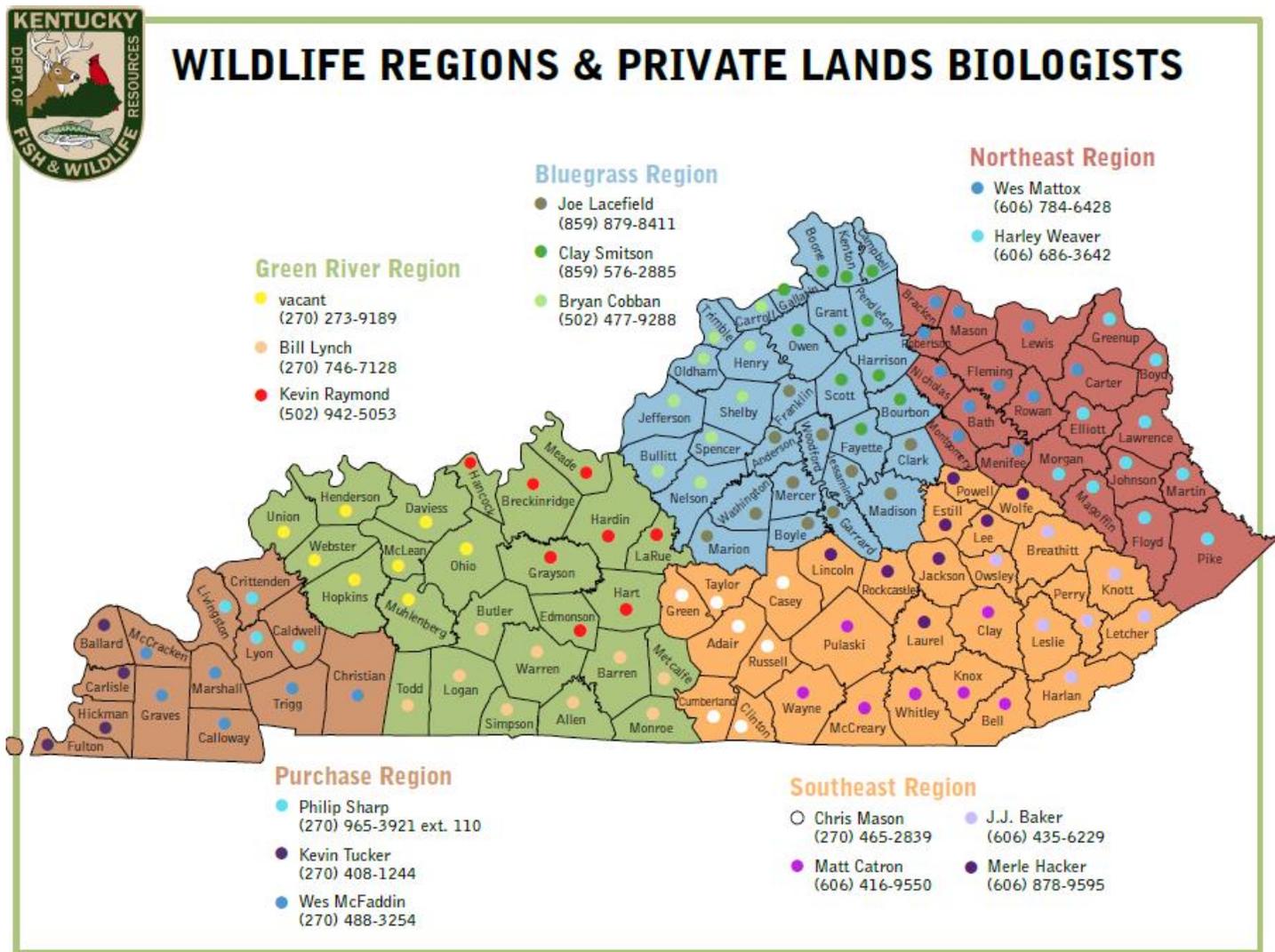
### Appendix 1 Region Breakdown



## 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.