

2022-2023 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 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 Chelcee Hendren, Program Technician. 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 provide 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 63 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).

2023 Survey Statistics

- ❖ Mail Carriers returned **376** survey cards
- ❖ Total miles driven = **143,279**
- ❖ Total quail seen = **650**
- ❖ Statewide observation rate = **0.45 quail/100 miles** traveled

Table 1. Mail Carrier indices and rates of change in Kentucky, 1960-2023.

REGION ¹	TOTAL QUAIL/100 MILES			PERCENT CHANGE	
	MEAN (average)			MEAN (average)	
	1960-2023	2022	2023	1960-2023	2022 to 2023
West	1.89	0.40	0.38	-86%	-5%
Central	1.09	0.80	0.66	-49%	-21%
Bluegrass	0.74	0.45	0.50	-39%	11%
East	0.52	0.30	0.22	-62%	-26%
Statewide	1.07	0.49	0.45	-67%	-8%

¹See Appendix 1 on page 11 for Region breakdown

Over the last 63 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 a slight decrease from last year’s index value. The Bluegrass Region saw an increase this year, but the Western, Central, and Eastern regions saw a decline, leading to a statewide decline overall. This is not unexpected, as research has shown bobwhite quail population numbers are cyclical (Figure 1). The 2023 index value still surpasses our lowest reported value of quail observed per 100 miles in 2018.

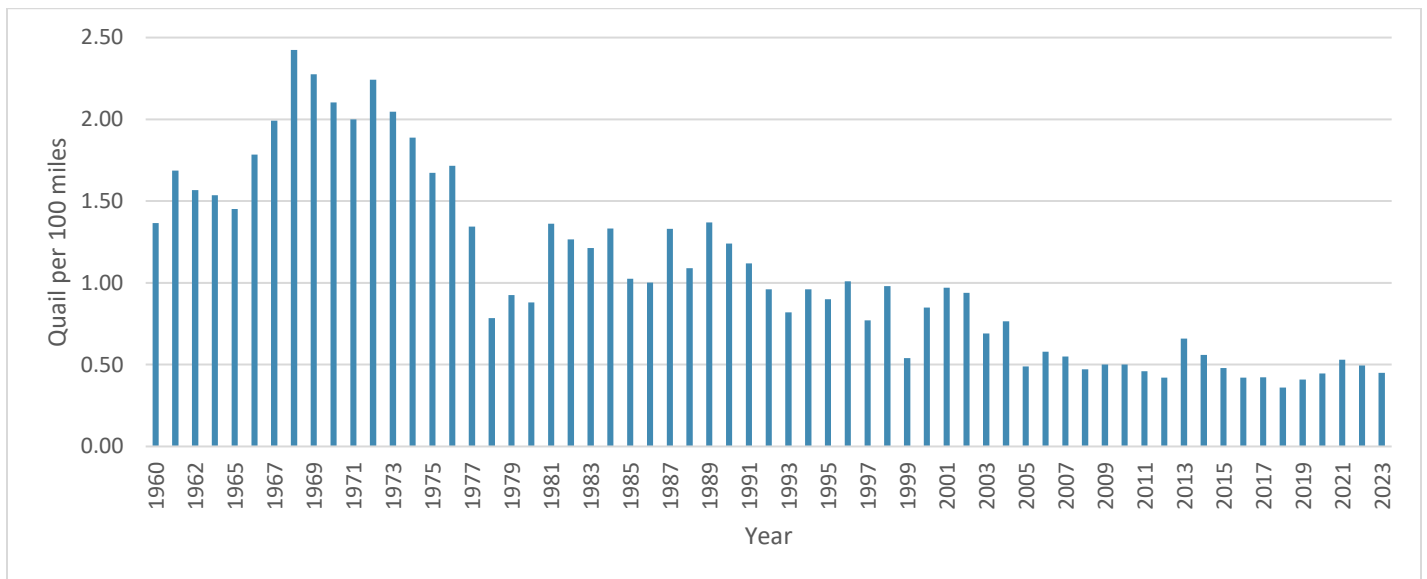


Figure 1. Quail observed per 100 miles of the Rural Mail Carrier Survey from 1960 through 2023. The 2023 population index saw a slight decrease from 2022.

Hunter Log Survey

The quail population in Kentucky appears to ebb and flow in roughly 7-year cycles. We are likely seeing the middle of the top of that cycle over the last years (Figure 2). The 2022 Rural Mail Carrier Survey was not in sync with the Hunter Log Survey for 2022-2023 (Figure 1). We would have expected the number of birds flushed and bagged per hour to decrease from last year as the 2022 Rural Mail Carrier Survey was relatively lower than the 2021 survey indicating fewer birds in the field for the 2022-2023 season; however, we did not see the flushes per hour and birds bagged per hour decrease in the most recent hunting season (2022-2023) compared to the 2021-2022 season in fact we saw an increase in the most recent hunter log survey.

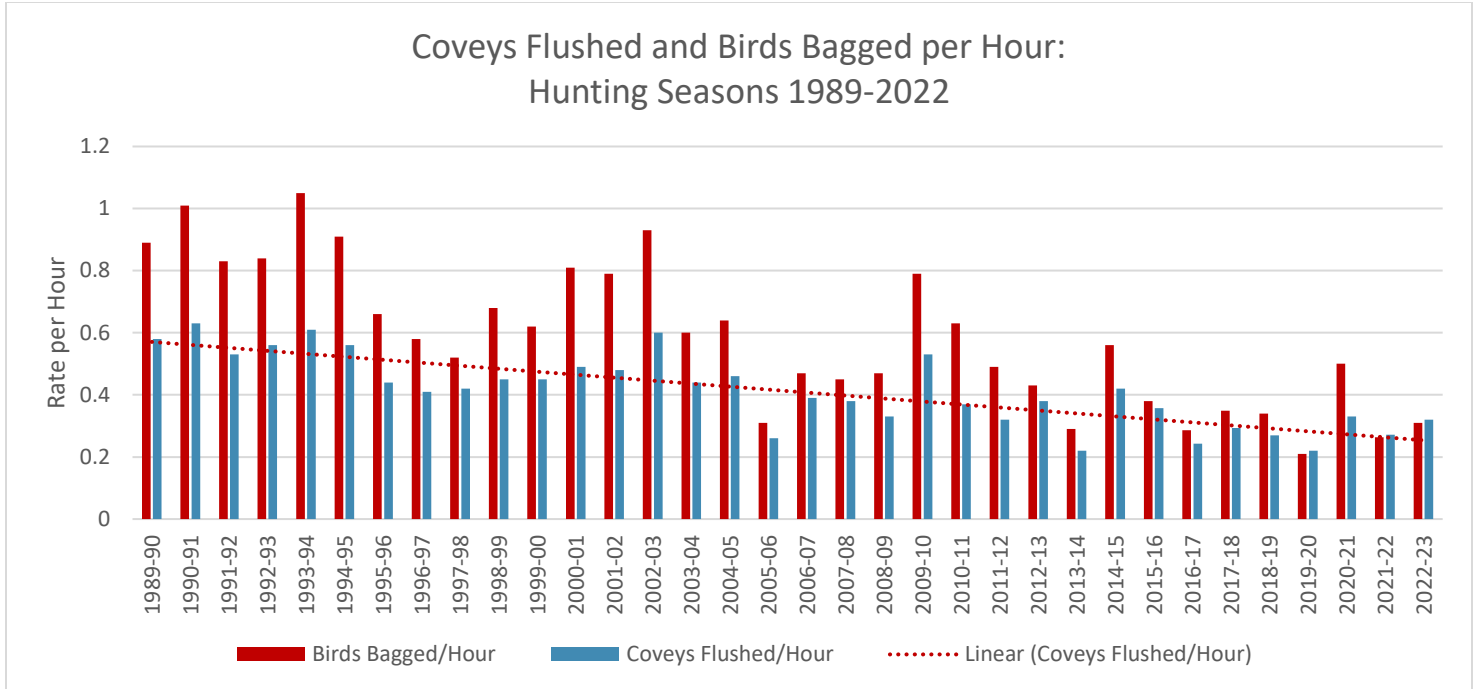


Figure 2. Coveys flushed and birds bagged per hour from the 1989 season through the 2022 season.

Quail Wing Survey

Envelopes were provided to quail hunters prior to the 2022-23 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.

2022-23 Wing Data

- 4 hunters mailed in 14 wings
- Juvenile: 75% | Adult: 25%
- Male: 62% | Female: 38% |

By compiling the wing data from the past 22 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.

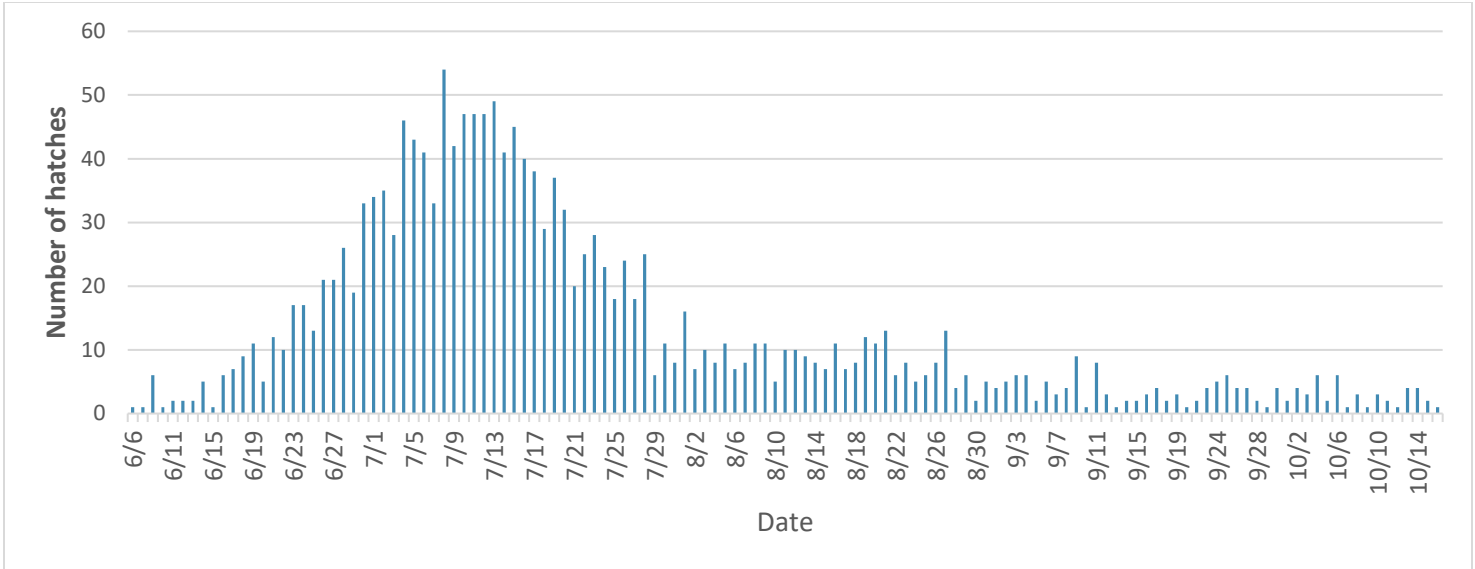


Figure 3. Hatch dates of quail harvested in November from 2000 through 2022. Quail are aged based on characteristics of wings sent in by hunters, and hatch dates are determined based on the age at harvest. Peak hatch appears to occur in late June and into early-mid July.

2022-2023 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. Hunting logs (for quail and other small game species) 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.

Past Quail Hunter Cooperator Surveys

Participation has been decreasing over the last several years. The 2022-23 season maintained a low number of participants from the previous 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!

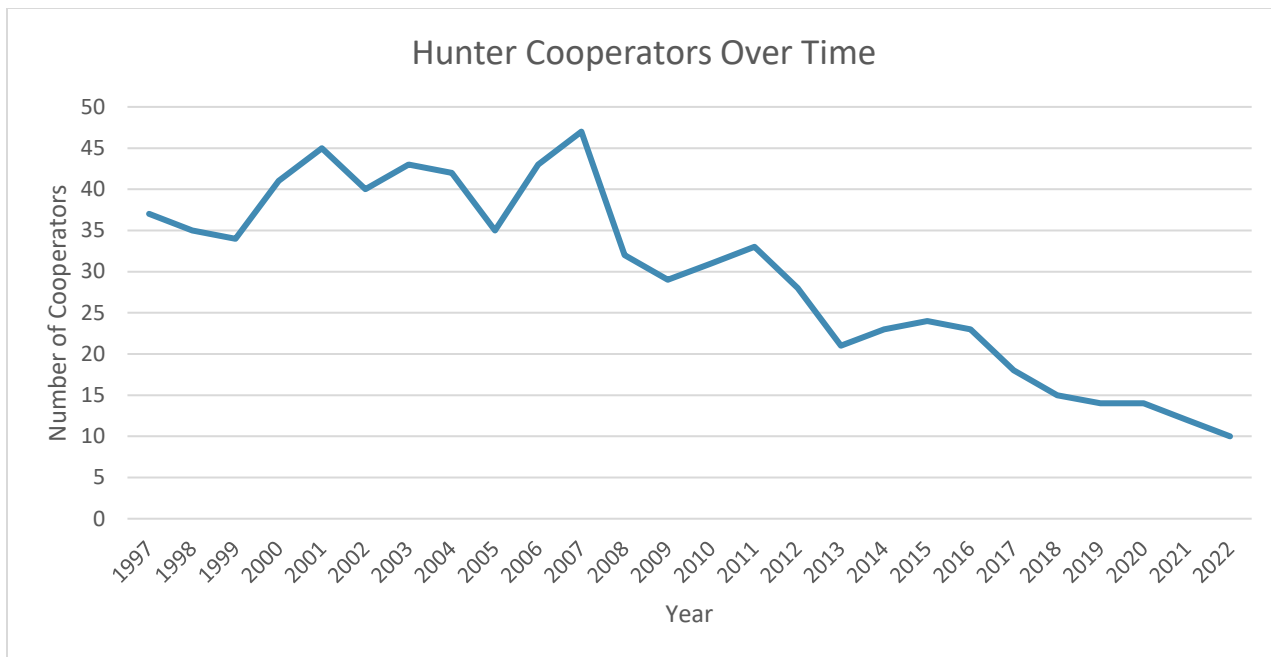


Figure 4. Number of hunter cooperators over time. We have steadily been losing hunters in the quail hunter cooperator survey since around 2001.

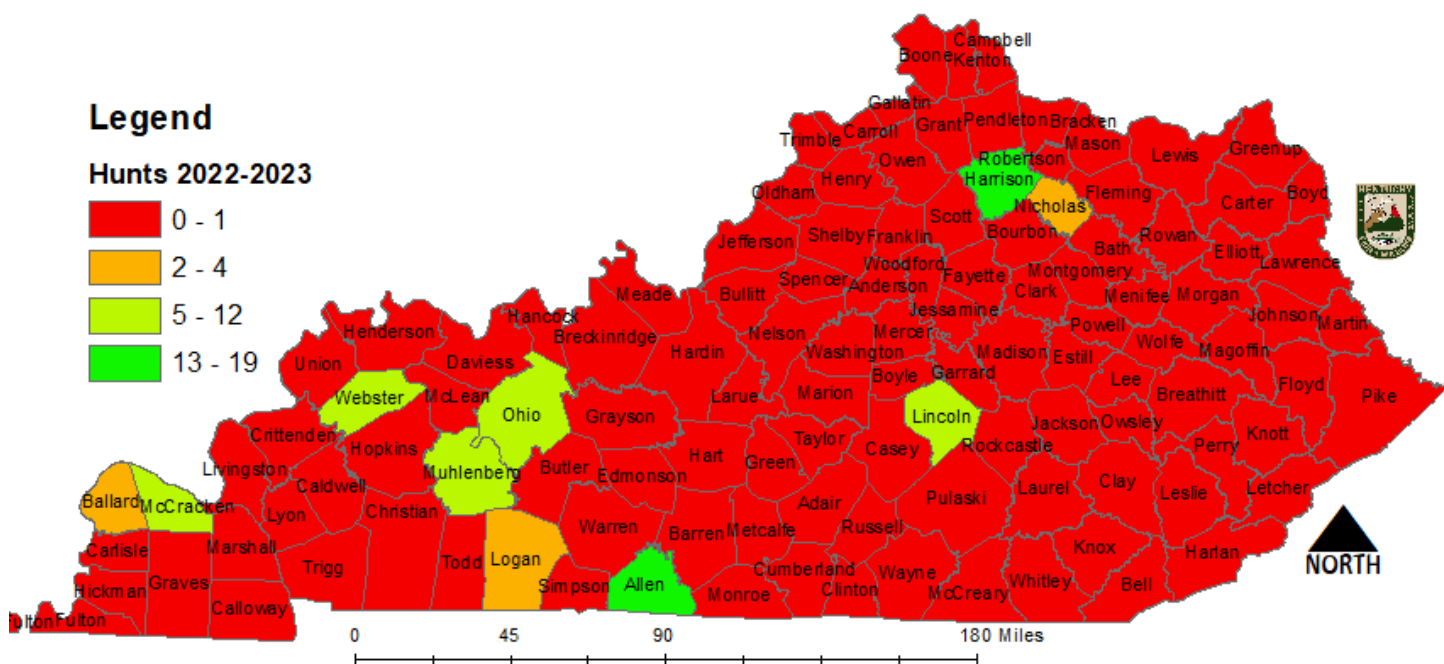


Figure 5: Hunter cooperator logs reporting hunts from each county in Kentucky in the 2022 season. Lighter colors equal less hunts and warmer colors equal more hunts per county.

2022-23 Hunter Cooperator Results

Logs were received from 10 quail hunters following the 2022 season. Hunters averaged 8.4 hunting trips throughout the season and spent an average of 3.2 hours afield each hunt. Data were provided from 84 hunts, from 11 counties, with good distribution across the Commonwealth (Figure 5). Hunters flushed an average of 1.01 coveys per **hunt** and an average of 0.32 coveys per **hour**.

Harvest Statistics 2022-23

Hunters flushed an average of 1.01 coveys per **hunt** and harvested 0.99 quail per **hunt**. Hunters flushed an average of 0.32 coveys per **hour** hunted and harvested 0.31 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).

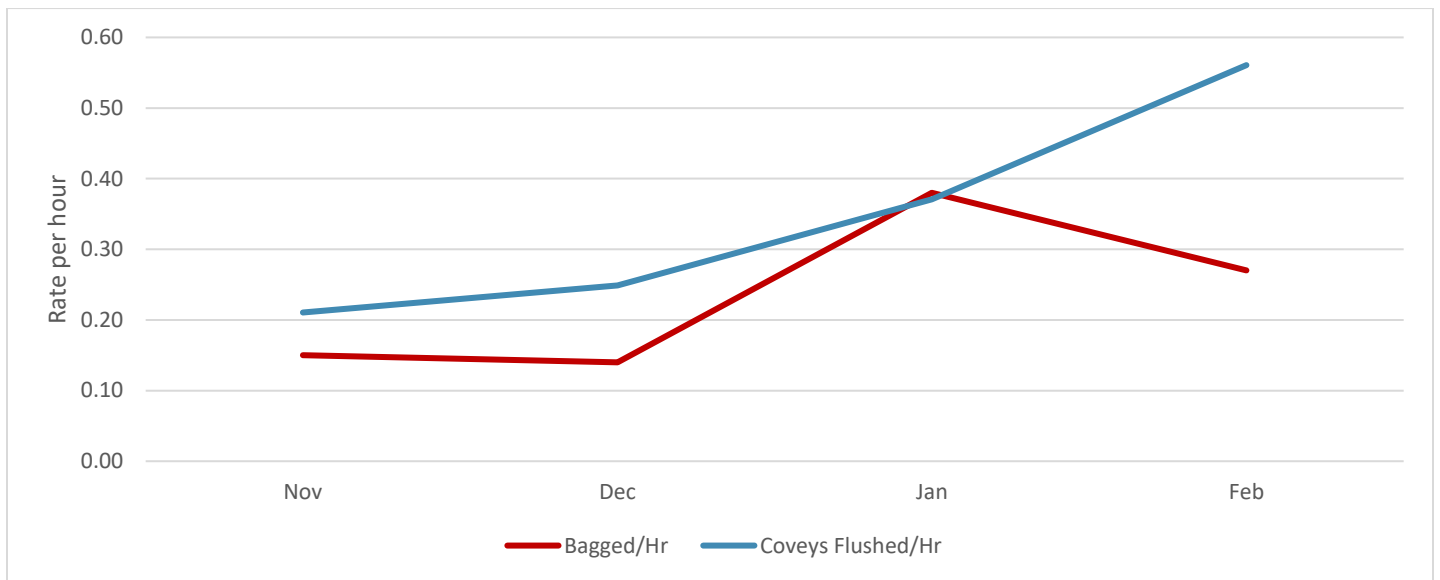


Figure 6. Coveys flushed and birds harvested per hour by month in the 2022 season. Covey flushes and birds harvested generally increased throughout the season.

Hunter Effort

Hunting effort peaked in December (Figure 7). The majority (30%) of all hunts took place in the month of December, followed closely by January (21%).

The hunter effort index was highest in December and January; however, hunting success showed a slight upward trend as the season progressed (trend line; Figure 7). The peak of hunter success fell in the first week of February (Figure 7). The continual increase in hunter success may be because cover is continually decreasing as the season progresses, resulting in more successful hunting into the winter.

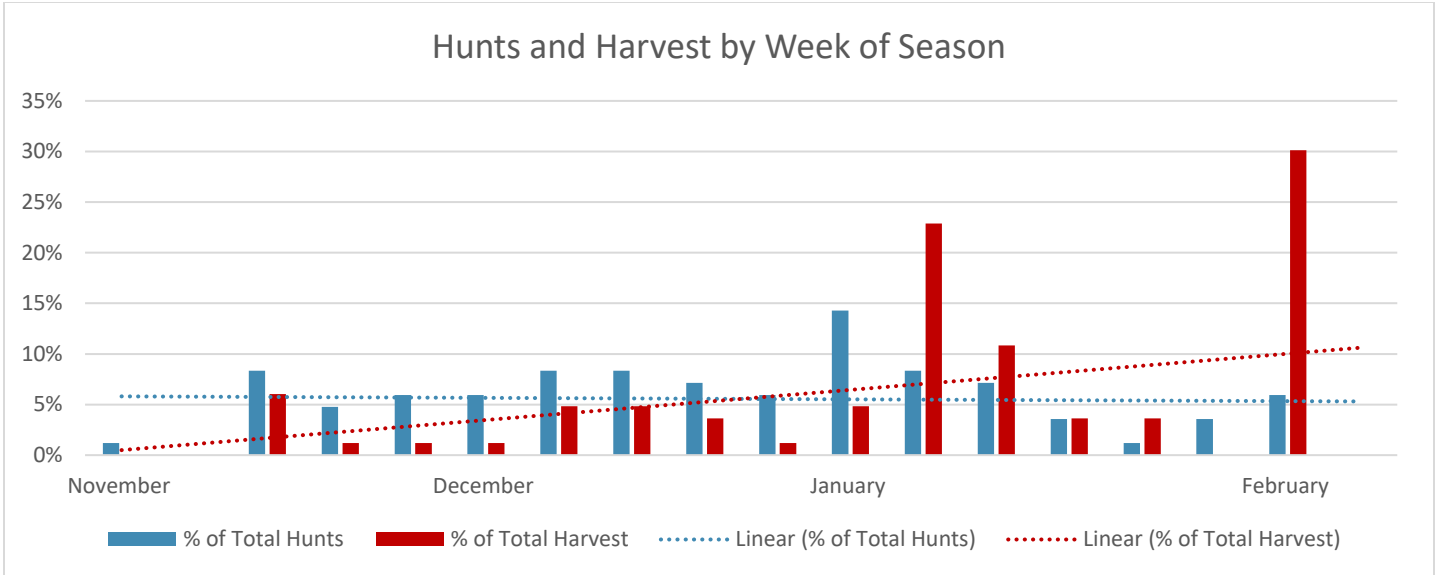


Figure 7. Hunts and harvest by week of season in 2022. Hunter effort (hunts) and harvest are broken into percentages. The hunter effort trendline shows effort remained consistent overall, but hunter success increased as the season went on.

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.

As ground-dwelling birds, quail come into direct contact with many parasites and disease-causing bacteria and viruses. Although there are over 100 described disease-causing agents, large die-offs from disease are very rare in quail. Most often, some individuals in a social group will become sickened and then predated. Sick quail often appear sluggish and may have lesions on the head or neck. Sick bobwhite may also be alone with ruffled or missing feathers. Although avian and mammalian predators are often blamed for taking a large number of healthy quail, in healthy systems these predators are mostly picking off sickened animals. A healthy adult quail should be able to out fly most if not all the predators chasing them in the Commonwealth.

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

General Information about the 2023-24 Season

License and Permit Fees

License	Resident	Nonresident
Annual Hunting License	\$27	\$150
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 2023-2024	Statewide Bag Limit
Fall Season	Eastern Zone	November 1-10 and November 13 – January 31	8
	Western Zone	November 13 – 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 13 – February 10	Yes	4
	Ken	Wednesday & Saturday November 13 – February 10		
Clay	All Tracts	Tuesday & Saturday November 1 – December 31 (Closed Nov. 4)	Yes	4
Rockcastle River	All Tracts	Tuesday & Saturday November 1 – December 31 (Closed Nov. 11)	Yes	4

Outlook for the 2023-2024 Quail Season

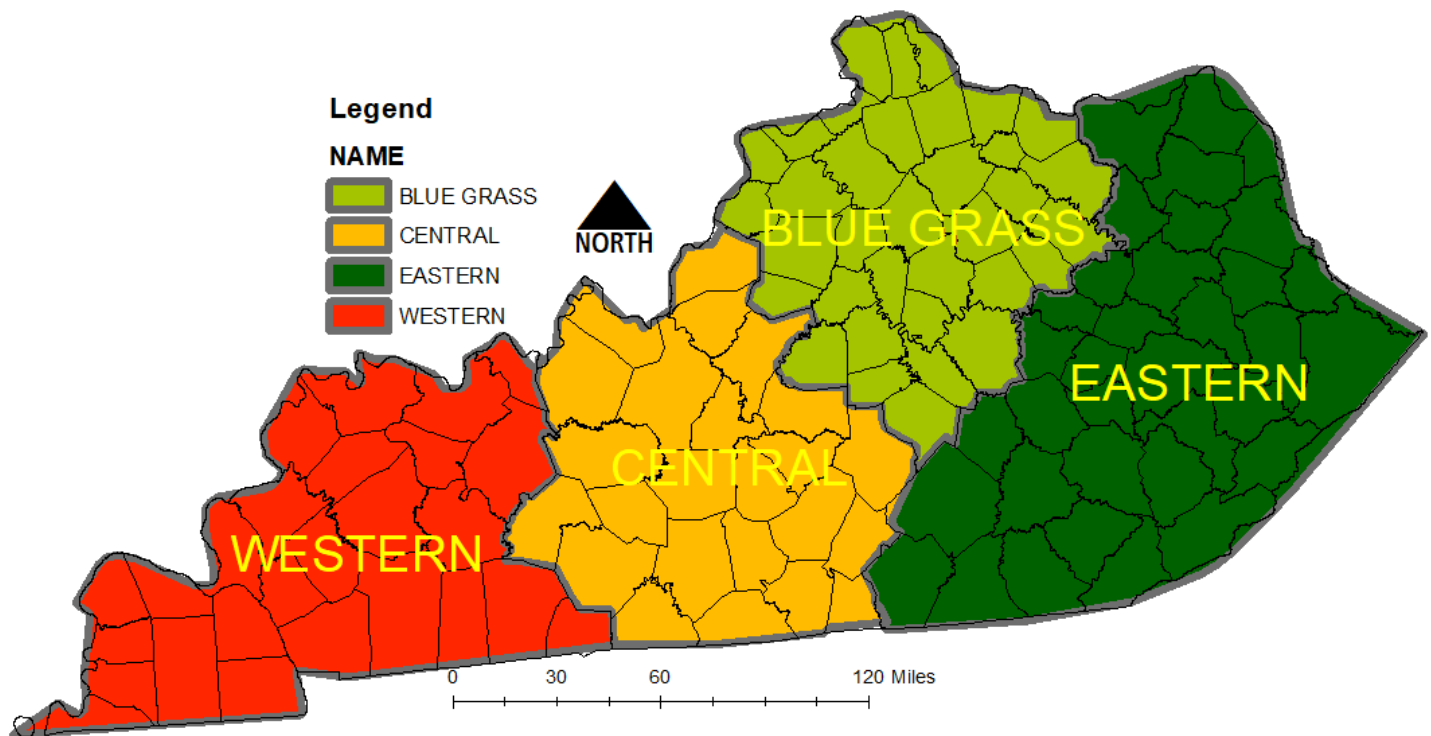
The winter of 2022-2023 saw at times lower than normal temperatures, but overall it was warmer and wetter than usual with a significant lack of snow. The Artic Blast just a few days before Christmas brought powerful winds and sub-zero temperatures, but this was likely did not last long enough to significantly impact bobwhite statewide. Winter was generally mild, and quail should have come out of winter similar to winter 2021-2022.

Spring 2023 was drier and slightly warmer than 2022. Summer 2023 has also been average in precipitation and temperature. These conditions should have produced fair to good nesting and brood-rearing

in Kentucky this year. Hatch and brood rates appear to be on par with 2022. We are hopeful that quail flushes and harvest will increase in the 2023 season. Good luck!

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, 2024. 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. Our program biologist and technician enter all usable data, and hunting logs from any hunter are welcome! 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.

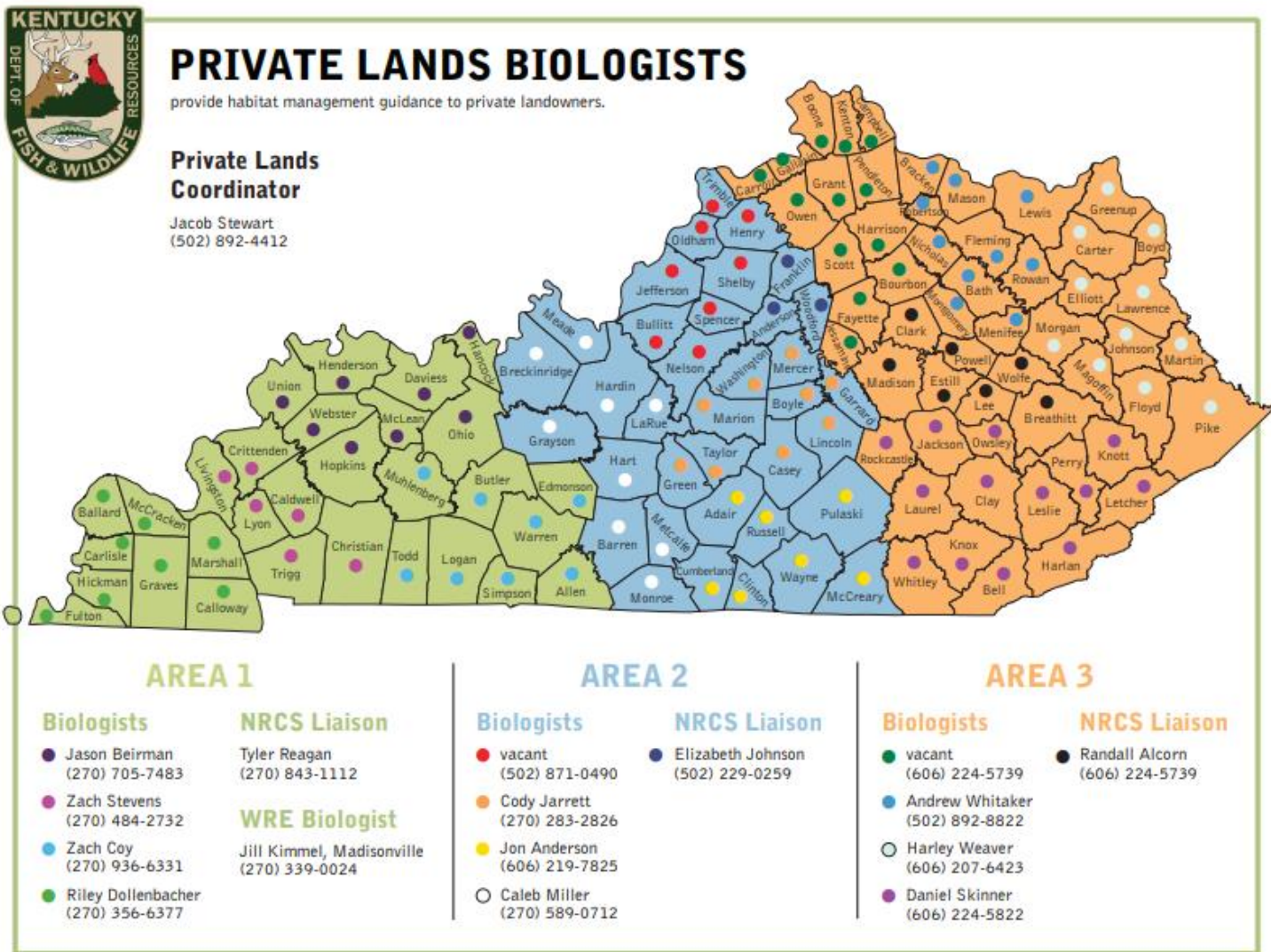
Appendix 1: Region Breakdown



Contacts

Approximately 93% 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.